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## DrAFT MEMORANDUM

## TO: Distribution List

FROM: Division of Risk, Strategy, and Financial Innovation
DATE: November 24, 2009
RE: Evaluation of the empirical analyses in the comment file on the Uptick Rule Proposal

This memo summarizes and evaluates the empirical analyses that were submitted in or discussed in comments on the Uptick Rule Proposal (Release No. 34-59748). ${ }^{1}$ The empirical analyses submitted ranged from carefully constructed econometrics to simple plots of data points. In general, the analyses submitted in support of some form of an uptick rule are less rigorous than the analyses that oppose such a rule. In this memo, we discuss our assessments of the reliability of these analyses. Our assessments on reliability are based not only on rigor, but also on (1) whether the analysis provides sufficient evidence of the conclusions, (2) whether the analysis uses good quality empirical methods, and (3) the relevance of the analysis to the Uptick Rule Proposal.

We divide the analyses into seven main topics: market quality and liquidity, market efficiency and price discovery, investor confidence, form of the restriction, circuit breaker threshold levels, critiques of the Pilot, and other non-uptick short sale restrictions. Based on our assessment of reliability, we conclude the following about the comment letters.

## Market Quality and Liquidity

- The empirical analyses do not reliably indicate that an uptick-type rule would improve or harm market quality or liquidity. However, the analyses do reliably support the argument that a circuit breaker followed by a ban would reduce liquidity.


## Market Efficiency and Price Discovery

- The empirical analyses do not reliably support the argument that an uptick-type rule would harm price discovery and market efficiency.
- The empirical analyses on whether an uptick-type rule dampens price pressure from short sellers is mixed and generally not of good quality. However, the analyses that do not support the dampening arguments question the motivation for instituting an uptick rule to alleviate downward price pressure. ${ }^{2}$
- While the analyses on whether the elimination of the uptick rule increased market volatility were mixed, only one analysis was well executed and reliable. That study found that the removal of the uptick rule had no effect on market volatility.

[^0]
## Investor Confidence

- In our assessment, investor confidence analyses do not provide strong support for or against an uptick-type rule.


## Form of the Restriction

- The analyses examining particular forms of the uptick proposals do not support one form of rule over another, but they provide a rough estimate of the effect of the rule on the execution of short sale orders.
- The analyses cited by commenters show no clear evidence that a circuit breaker followed by an uptick-type rule would have a magnet effect.


## Circuit Breaker Threshold Level

- The analyses on the circuit breaker level generally conclude that (1) the threshold is too low, (2) low-priced stocks should have a higher threshold than high-priced stocks, and (3) the opening price should be the benchmark. These conclusions seem arbitrary as they are based on the number of stocks that would be triggered alone. We believe that other considerations are necessary to select a meaningful threshold.

Critiques of the Pilot

- Results that purport to critique the Pilot are subject to multiple interpretations, not all critical of the Pilot period. We continue to believe that studies taking advantage of the Pilot are relevant.

Other short sale restrictions

- Some commenters submitted evidence and analyses that were not related to the uptick rule and we do not believe that these studies have implications for the uptick rule.


## 1. Market quality

Several commenters cited or used empirical evidence to argue that an uptick rule would reduce liquidity (Alternative Investment Management Association, Citadel Investment Group, Credit Suisse, Coalition of Private Investment Companies, GETCO, Investment Company Institute, NSCP, and Allston ). Most of the conclusions are based on third party studies (i.e. written by someone other than the commenter) or anecdotal evidence. Some of the evidence focuses on how short selling in general promotes liquidity and not specifically on the uptick rule effects, while other commenters focus on implications from the short selling bans in 2008 for the circuit breaker halt proposal.

For example, some commenters (Alternative Investment Management Association, Coalition of Private Investment Companies, GETCO, Investment Company Institute, NSCP, TD Asset Management, Security Traders Association of New York, Hudson River Trading LLC and Allston) cite empirical evidence from markets around the world that shows how short selling substantially contributes to market liquidity and that restrictions
on short selling, particularly bans, impede liquidity and price discovery. ${ }^{3}$ This evidence is generally consistent with the literature published in the top finance journals, and as such, it has withstood serious scrutiny. Nevertheless, because a ban on short selling is more general than an uptick rule, these results do not necessarily imply that an uptick rule would reduce liquidity, instead they are more likely to be relevant for imposing a halt following a circuit breaker.

On the other hand, Overstock and Life Partner Holdings conclude that short selling does not provide liquidity in the market. They cite a flawed test in the Shapiro/Pham Study, which finds no relationship between changes in short interest and changes in trading volume. ${ }^{4}$ The cited Shapiro study also does not reconcile its results to a plethora of conflicting evidence such as Boehmer, Jones and Zhang (2009), who analyzed the SEC ban on short sales and found that it resulted in a significant deterioration in market quality. We believe that the methods in the academic literature are likely to be more reliable, because of the obvious flaws in the Shapiro study.

Other evidence includes predicting the loss in liquidity resulting from an uptick rule. Citadel Investment Group (in a joint letter with D.E. Shaw and Renaissance) further provides evidence that approximately $70 \%$ of short sales are done as part of a hedging trade and that the long position would not exist but for the ability to short. ${ }^{5}$ In addition, Credit Suisse forecasts a drop in overall market volume by $10-50 \%$ as a result of reinstituting a short sale price restriction; and attributed "the phenomenal volume growth [since the elimination of the uptick rule to] long/short traders that invested heavily in technology and built successful electronic market-making systems." These predictions are based on market data and broad assumptions. We are not comfortable with the assumptions, so we cannot conclude that the point predictions are accurate.

[^1]
## 2. Market efficiency and price discovery

## General

Several comment letters acknowledge that short selling is also a necessary tool in price discovery and market efficiency, particularly where a security is perceived by the market to be overvalued (NYSE, BATS, CBOE, Citadel Investment Group, Wolverine among others). As with the market quality evidence, most of the analysis on market efficiency and price discovery focuses on short sale restrictions in general, not necessarily on the uptick-type restrictions. Overall, these analyses fail to provide empirical evidence on how much an uptick restriction, as opposed to a ban, would impede short selling, therefore providing little support for their arguments.

Several studies conclude that short sellers improve the price discovery process to help keep markets efficient (Citadel, Coalition of Private Investment Companies, and Autore). For instance, Citadel Investment Group provides some evidence that the price discovery process did not operate efficiently when the short sale ban was in place, harming the investors who may pay prices that are unrelated to issuer fundamentals. Their analysis concludes that the frequency of distorted price movements during the short sale ban is consistent with the academic study showing that a significant number of buyers paid inflated prices because of the inability of liquidity providers to sell short, (Lawrence E. Harris, Ethan Narnvar \& Blake Phillips, Price Inflation and Wealth Transfer during the 2008 SEC Short-Sale Ban, 2009). We caution that the prices of banned stocks may depend on factors that the authors did not model so that the inflation they estimate may be due to factors other than the SEC ban. Coalition of Private Investment Companies and Goldman, Sachs \& Co cite the research of Jonathan Karpoff and Xiaoxia Lou, (Do Short Sellers Detect Overpriced Firms? Evidence from SEC Enforcement Actions, Working paper. 2008) that indicates that short sellers are able to anticipate the misrepresentation of financial information by companies before it is publicly revealed. In addition, Don Autore illustrates empirically that binding short sale constraints lead to overpricing especially when the level of disagreement in the market is higher. However, this conclusion is based on an analysis of analyst forecasts, which vary infrequently, making the forecasts not very useful to draw conclusions in short periods of high market turbulence such as the one analyzed by Don Autore.

## Price pressure

Several empirical analyses address the question of whether an uptick rule can help dampen downward price pressure, but the conclusions are mixed. The analyses concluding that the uptick rule would limit price pressure by short sellers were less rigorous than the studies drawing the opposite conclusion. However, while these latter studies question the motivation for an uptick rule, they failed to fully contradict the claim that the elimination of uptick rule may have aggravated the price declines

On one hand, some comment letters (Park National Corporation, General Electric Company, Aflac Incorporated, International Bancshares Corporation and Jeff Wang) conclude that the absence of an uptick rule has been detrimental to prices and generally provided information on share prices, volume, and/or short interest. We observe, however, that while some of the noted price declines coincide with increases in short interest, some do not. The Park National letter, in particular, noted a stock price increase associated with a decrease in short interest, supposedly resulting from the short selling ban. However, a closer look at the data reveals that the price increase occurred over a short window before the short selling ban started and coincided with an increase in the entire market. In fact, none of these letters analyze the data closely enough to ascertain whether the uptick rule would have made any difference to the stock prices analyzed. For these reasons, we do not believe that these empirical analyses are reliable enough to support the conclusion that the absence of an uptick rule and the actions of short sellers result in prices that are below their fundamental levels.

An analysis by Martin Napor shows that the average total negative return during years when the uptick was in place is lower compared to the average negative return when the rule wasn't in effect and Napor concludes that the presence of the uptick rule is sufficient to reduce the risk of lower returns. The study lacks statistical analysis and the conclusions fail to account for relevant economic differences between the time periods studied. Further, the methodology does not lend itself to a powerful analysis of the study's focus.

Other commenters provide compelling evidence to call into question the claim that the uptick rule can decrease downward price pressure (Dialectic Capital Management LLC, Managed Funds Association, and Security Traders Association). The main conclusions are based on evidence that short interest initially fell immediately after the repeal of the uptick rule and that either short interest or short selling volume fell for specific stocks over periods of increased worries about the effect of short selling in those stocks (see Credit Suisse analysis by Ana Avramovic ${ }^{6}$ ). The overall evidence provided by these studies is that the negative returns of financial securities cannot be attributed to short selling activities. Some of these studies suffer from the same weaknesses as studies generating the opposite conclusions in that they do not directly show that the uptick rule has no effect on downward price pressure. ${ }^{7}$ However, these results question the

[^2]motivation for instituting an uptick rule to alleviate downward price pressure because they create doubt about whether many price declines were caused by short sellers.

In a more recent comment letter, Professor Adam Reed provided evidence consistent with the idea that short sellers are no more likely to manipulate prices than any other type of trader. He finds that short sellers trade after news stories and are good at processing publicly available information, and as such, this conclusion calls into question whether short sellers disproportionately engage in information-based manipulation strategies. Like the analyses above, this calls into question the motivation for an uptick rule, but does not directly examine the uptick rule.

## Volatility

Several comment letters use data showing that volatility has increased in recent years to conclude that the absence of an uptick rule has caused an increase in market volatility to prices (National Association of Real Estate Investment Trusts, High Street Advisors, L.P. and European Investors Incorporated). Few would argue that the dramatic increase in volatility was not related to other market events and is not contemporaneous with the elimination of uptick rule. Therefore, the evidence is not sufficient to prove the connection between the repeal of the short sale restrictions and the increase in volatility.

Citadel Investment Group cites the academic study of Boehmer, et al., Unshackling Short Sellers: The Repeal of the Uptick Rule (2008) that analyzes of the volatile equity markets in the summer of 2007, both before and after the removal of the uptick rule and finds that the removal of the uptick rule did not exacerbate volatility. However, we should note that the study analyzes the potential effect on volatility for a six-week period after the uptick rule was repealed and the results have little statistical power.

OEA also analyzed the pattern of stock market volatility during the market crisis, and noticed that volatility declined substantially between November 2008 and December 2008, but remained above its long-run average. ${ }^{8}$ OEA also documented that the CBOE VIX index, which is forward looking measure of the market's forecast of future volatility, declined after peaking above 80 on November 20 to close at 40 at the end of December 2008, and it continued to decline to the low 20s from January 2009 to September 2009.

## 3. Investor Confidence

Many commenters have argued that re-instatement of short sale restrictions will help to restore investor confidence. In general, the evidence for any arguments on investor confidence is fairly weak. The analyses do contain measures of investor confidence, but

[^3]these measures are designed to capture other elements of investor confidence. ${ }^{9}$ In addition, survey results of issuers, CFAs, and investors do not find consistent results on whether an uptick rule would boost confidence.

As in the Schwab testimony at the May $5^{\text {th }}$ roundtable, the Schwab letter noted that investments in Schwab accounts have moved away from riskier assets. This could be consistent with a loss in investor confidence in the stock market, or it could be a "flight to quality" often seen when systematic risk rises or investors become more pessimistic about the economy. It may have been more useful had Schwab sent statistics showing how drastic the changes in investor behavior have been. Nonetheless, the Schwab evidence seems inconsistent with the TD Ameritrade data that show that its clients put more money into the markets (specifically Technology and Financial Services companies) between Fall of 2008 and Spring of 2009.

Other commenters also provided evidence from surveys (NYSE Euronext, CFA, and TD Ameritrade). For example, NYSE Euronext's survey among its issuers suggests that a price test would boost confidence. In fact, over $95 \%$ of NYSE issuers who participated in a recent survey believed that the market would function better with one of the proposed short sale price test restrictions. CFA Institute surveyed its members on short selling. The majority of the respondents agreed that short selling benefits the market by providing price discovery and market liquidity and also that the repeal of the uptick rule in the U.S. markets as the main check and balance on short selling contributed to market volatility in the shares of financial services firms. This evidence is in contrast with the TD Ameritrade's survey among its clients, the majority of which don't believe that an overhaul of Financial Services Regulation (for example, a tighter short sale regulation), would be a solution to restore investor confidence. When considering this survey evidence on investor confidence, the three surveys reflect different viewpoints and come to different conclusions. Therefore, we do not believe that these surveys provide strong evidence that investor confidence would improve with an uptick rule.

Other commenters produced evidence on indexes of investor confidence to argue that the re-instatement of an uptick-type rule is unnecessary (e.g. Ingrid Werner, SIFMA, RBC Capital Markets Corporation, Coalition of Private Investment Companies, and EWT). Professor Ingrid Werner showed that short interest was not related to either of two indices of investor confidence: State Street Confidence Indices and Yale investor confidence indices., More recent comment letters presented index evidence that market conditions have appeared to stabilize with concomitant positive impacts on investor confidence, despite the lack of an uptick-type rule (see SIFMA letter). For example, Coalition of Private Investment Companies, RBC Capital Markets Corporation, and EWT, LLC show that the State Street Investor Confidence Index and other indexes of investor confidence have recently experienced an increase ${ }^{10}$; and NAAIM cited a few press articles as

[^4]evidence. ${ }^{11}$ Both indexes are driven by fundamental risk and future economic prospects as opposed to trust in the markets. Therefore, we don't believe that this evidence tells us much about how an uptick rule would affect the investor trust component of investor confidence.

## 4. Form of the Restriction

A number of commenters submitted analyses that have implications for the different forms of uptick proposed (BATS, Professor Charles Jones, NASDAQ, and Credit Suisse). Some of these analyses highlighted the potential restrictiveness of the proposals based on the percentage of historical executions that would have been affected. Others highlighted the magnet effect evidence on circuit breakers.

BATS found that on its own market $12 \%$ to $13 \%$ of all executions were short sellers trading at a price less than the last execution price. At the same time, Professor Charles Jones found that an average of $37 \%$ of submitted short sale orders were priced at the bid or below. ${ }^{12}$ Together, if the samples are comparable, these results suggest that the alternative uptick rule would affect short sellers more than the traditional uptick rule. These numbers represent a rough estimate of the short sale transactions that would be affected by different forms of uptick rules. However, these numbers do not indicate how severely the short sellers would be affected, how this changes in different market conditions, or whether these numbers would result in changes in market quality. These analyses also necessarily suffer from the problem that they cannot account for how order submission strategies would differ from rule to rule and they may not generalize because they are based on data on certain market centers. However, this critique merely suggests that some effects could be weaker or stronger than those suggested by the commenters.

Some commenters (NYSE Euronext, Charles Schwab) have also speculated about a so called "magnet effect", where sellers - both long and short - push a stock to its Circuit Breaker out of fear of being unable to sell short once the Circuit Breaker is triggered. Both NASDAQ and Credit Suisse cited studies that there is no clear evidence supporting this effect. We agree with this conclusion. In fact, many academic studies that have analyzed circuit breakers in other contexts found no evidence of such trading patterns. ${ }^{13}$ We recognize, however, that some of studies were conducted in markets dissimilar from

[^5]the highly automated markets currently existing in the United States. Nonetheless, the most relevant studies fail to document a strong magnet effect.

## 5. Circuit breaker threshold level

A few commenters provided analysis to understand the impact of different thresholds for the circuit breaker proposal (Managed Funds Association, Jordan \& Jordan, SIFMA and Credit Suisse Securities). These analyses conclude that a circuit breaker triggered off a $10 \%$ decline across-the-board for all NMS stocks might be too aggressive. In addition, the commenters conclude that lower priced stocks should have a higher threshold. These conclusions are largely based on the number of stocks triggering the circuit breaker instead of the distribution of returns or how rare triggering a circuit breaker would be. As such, the selection of a trigger based only on a count of stocks seems arbitrary. In addition, these results are based on historical data, much of which is from a period of high volatility and during which many stocks experienced significant price drops. This can bias the analyses into overestimating the number of stocks that would trigger the circuit breaker on a typical day. However, we believe they provide some useful evidence to understand the impacts of the circuit breaker threshold level.

For example, based on Managed Funds Association and Jordan \& Jordan analysis, a 10\% threshold over the past 10 years would have captured more than a hundred stocks on average at any one time, many of which may have justified price drops based on important corporate announcements or investor concerns relating to economic stress for a company or sector. If the goal of a threshold level is to minimize the chances that stocks with routine news announcements trigger the threshold, then these analyses suggest that a $10 \%$ threshold may be triggered too often. However, while the analyses claim that many stocks triggering a $10 \%$ threshold have justified price drops, the analyses did not actually examine why prices dropped or produce statistics on what portion dropped because of announcements. Therefore, that part of the analysis is somewhat anecdotal as opposed to empirical, meaning that a careful empirical analysis may or may not lead to the same conclusion.

In addition, the SIFMA analysis concludes that the Commission should adopt a twotiered approach to setting the threshold, e.g., that a higher percentage be applied to stocks that regularly trade at low prices (i.e., using $15 \%$ or $20 \%$ as the threshold for stocks trading at $\$ 10$ or less) or incorporating a set dollar decline that must be attained before the circuit breaker is triggered. They estimate that such a two-tiered approach would significantly reduce the number of triggered stocks in the under $\$ 10$ category that would otherwise be triggered without any abnormal activity. As stated above, an understanding of the portion of triggered stocks that experienced abnormal activity would be useful in setting a threshold for the circuit breaker. However, SIFMA did not actually analyze how often the stocks triggering the threshold experienced abnormal activity, so this conclusion is not actually based on empirical evidence.

While low priced stocks may show greater volatility than high priced stocks, the motivation for having a two-tiered approach should be compatible with the goal of
having a circuit breaker followed by an uptick rule. If the goal is to reduce volatility, then the OEA Pilot Study shows that the uptick rule reduces daily volatility in small market capitalization stocks. If the goal is to minimize the number of stocks triggered under normal conditions, then the empirical analysis submitted by SIFMA is not strong enough to provide reliable evidence on the threshold level for low-priced stocks.

In addition, the empirical evidence provided generally advocates using the opening price as the benchmark for measuring the threshold. For example, Credit Suisse Securities shows that the circuit breaker approach would be more relevant for the purpose of preventing manipulation and abusive trading if the trigger was calculated based on the open price compared to the previous day's closing price. In fact, there are many instances in which an issuer announces negative news after the close or before the open and its stock price will open down significantly to reflect that news. If the goal of setting the threshold level is to minimize triggers resulting from news, then this evidence does support using the open. However, it is also possible that stocks are more susceptible to manipulations in the uncertainty following bad news announcements, so it is reasonable that the Commission would not want to base the circuit breaker on this goal.

## 6. Critiques of the Pilot Study

Some proponents of uptick-type rules attempt to characterize earlier studies (in particular, the Pilot Study) as flawed because they were conducted during a period when the market was not significantly volatile and therefore is not informative about the effects of the uptick rule during volatile markets. While Jim Angel's and several others comment letters defended the Pilot studies, ${ }^{14}$ only one comment letter contained an empirical analysis drawing a conclusion about the validity of the Pilot.

Professor Kevin Zhao found that during the Regulation SHO Pilot, short selling became less informative in pilot stocks than in control stocks and concluded that informed short sellers may have intentionally altered their shorting behavior to avoid regulatory scrutiny during that two-year period. For this reason he claimed that the Pilot Program may not be a clean experiment. This result can actually be interpreted several ways and at a recent conference, Professor Zhao stated that a different interpretation was more likely: that the elimination of the uptick rule results in improved price efficiency. In addition, the study itself does not conclude that the uptick rule has benefits and discussions with the authors did not impress the staff that the authors have a good handle on their own methodology.

## 7. Other short sale restrictions

Some commenters (Overstock, Life Partners, Michael Lipkin, The European Investor Association, Vadim Timkovsky, Professor Austin Murphy and Quadriserv, Inc)

[^6]submitted analyses that are not directly relevant for the uptick rule proposal. They are included in the present discussion to illustrate why they are not relevant.

## Pre-borrow requirement and hard-to-borrow stocks

Several issuers (Overstock, Life Partners) claim that the reinstatement of some form of uptick rule may not be sufficient to solve the problem of abusive short selling and they refer to analysis provided by the Shapiro and Pham Study, which advocates a pre-borrow requirement. The Shapiro study focuses on failures to deliver and Rule 204T, not on the uptick rule. It is flawed for many reasons and is not reliable for a pre-borrow decision, but it should be viewed as irrelevant for the uptick proposal.

On a related issue, Michael Lipkin, provided a theoretical study of the price-evolution of hard-to-borrow stocks, which are either subject to regulatory short-selling restrictions or have insufficient float available for lending, and concluded that short-sale restrictions result in inflated prices and volatilities. The constraint modeled in this study is much broader than the uptick rule; so we doubt that the results would apply to the less restrictive uptick-type rules.

ETF
In its comment letter, The European Investor Association claimed that the removal of the uptick rule has caused destabilizing growth of REIT market associated with ETF development. Many ETFs were not subject to the uptick rule. We therefore doubt that ETFs grew out of a removal of the uptick rule. A destabilizing growth in the REIT market is, however, something that may require additional study to determine if there is a regulatory cause or solution.

## Other regulatory events

Vadim Timkovsky provided a study that compares strategy-based margining to riskbased margining. He claims that high volatility and price declines of October 2008 have a direct link to this alternative approach to portfolio margining of customer accounts. However, the analysis studies a Pilot program that gradually introduced the use of the risk-based approach to margin accounts, but has no relevance to the uptick debate.

## Rule 105

Professor Austin Murphy concluded that short selling can harm companies that need to raise capital. However, this study provides no empirical analysis of short selling or short interest. If anything, the concerns expressed in the paper are most relevant to Rule 105 but not the uptick rule.

## Rule $204 T$

Quadriserv submitted the same comment letter as for the final Rule 204T. They believe that confidence in the markets is best restored by ending abusive naked short selling without impairing other short selling.

## List of Letters Containing Empirical Information

Aflac Incorporated (Daniel P. Amos, Chairman and CEO)
http://www.sec.gov/comments/s7-08-09/s70809-4006.pdf
Allston Trading LLC (William Connell, President \& CEO)
http://www.sec.gov/comments/s7-08-09/s70809-3736.pdf
Alternative Investment Management Association (Mary Richardson, Director of
Regulatory and Tax Department)
http://www.sec.gov/comments/s7-08-09/s70809-3756.pdf
TD Ameritrade ${ }^{15}$
http://www.sec.gov/comments/s7-08-09/s70809-3154.pdf
James J. Angel, PhD., Associate Professor of Finance, McDonough School of Business, Georgetown University ${ }^{16}$
http://www.sec.gov/comments/s7-08-09/s70809-3758.pdf
http://www.sec.gov/comments/4-581/4581-2.pdf
Don M. Autore, Assistant Professor of Finance, College of Business, Florida State
University ${ }^{17}$
http://www.sec.gov/comments/s7-08-09/s70809-3779.pdf
BATS Exchange, Inc. (Eric Swanson, SVP \& General Counsel)
http://www.sec.gov/comments/s7-08-09/s70809-2374.pdf
http://www.sec.gov/comments/s7-08-09/s70809-4639.pdf
Charles Schwab (Jeffrey T. Brown, SVP, Schwab Office of Legislative and Regulatory Affairs)
http://www.sec.gov/comments/s7-08-09/s70809-3718.pdf

[^7]The CFA Institute Centre for Financial Market Integrity (the "CFA Institute Centre")
(Kurt N. Schacht, CFA Managing Director and Linda L. Rittenhouse Director, Capital Markets Policy)
http://www.sec.gov/comments/s7-08-09/s70809-4431.pdf
Chicago Board Options Exchange (William J. Brodsky, Chairman \& CEO; Edward J. Joyce, President \& COO)
http://www.sec.gov/comments/s7-08-09/s70809-3804.pdf
Citadel Investment Group (John C. Nagel, Managing Director and Deputy General Counsel) ${ }^{18}$
$\underline{\text { http://www.sec.gov/comments/s7-08-09/s70809-3796.pdf }}$
Coalition of Private Investment Companies (James S. Chanos, Chairman) http://www.sec.gov/comments/s7-08-09/s70809-3752.pdf

Credit Suisse Securities (USA) LLC (Dan Mathisson, Managing Director) ${ }^{19}$ http://www.sec.gov/comments/s7-08-09/s70809-3673.pdf
http://www.sec.gov/comments/s7-08-09/s70809-276.pdf http://www.sec.gov/comments/s7-08-09/s70809-4014.pdf http://www.sec.gov/comments/s7-08-09/s70809-4635.pdf

Dialectic Capital Management LLC (Luke Fichthorn, Managing Member; John Fichthorn, Managing Member)
http://www.sec.gov/comments/s7-08-09/s70809-3787.pdf
European Investors Incorporated (Richard J. Adler, Managing Director)
http://www.sec.gov/comments/s7-08-09/s70809-3789.pdf
http://www.sec.gov/comments/s7-08-09/s70809-4649.pdf
EWT, LLC,Peter Kovac, Chief Operating Officer and Financial and Operations Principal, http://www.sec.gov/comments/s7-08-09/s70809-3798.pdf
http://www.sec.gov/comments/s7-08-09/s70809-4656.pdf
General Electric Company (Michael R. McAlevey, Vice President and Chief Corporate, Securities \& Finance Counsel)
http://www.sec.gov/comments/s7-08-09/s70809-3757.pdf
Global Electronic Trading Company (Stephen Schuler, Managing Member; Daniel Tierney, Managing Member)
http://www.sec.gov/comments/s7-08-09/s70809-3793.pdf

[^8]Goldman, Sachs \& Co. (Paul M. Russo, Managing Director, Head of U.S. Equity
Trading)
http://www.sec.gov/comments/s7-08-09/s70809-4653.pdf

High Street Advisors, L.P. (William Furber)
http://www.sec.gov/comments/s7-08-09/s70809-3807.pdf
International Bancshares Corporation (Dennis Nixon, CEO and Chairman)
http://www.sec.gov/comments/s7-08-09/s70809-3390.pdf
Investment Company Institute (Karrie McMillan, General Counsel)
http://www.sec.gov/comments/s7-08-09/s70809-3767.pdf
Charles M. Jones, Robert W. Lear Professor of Finance and Economics, Columbia Business School, New York, New York
http://www.sec.gov/comments/s7-08-09/s70809-4666.pdf

Jordan \& Jordan (Mary Lou Von Kaenel, Managing Director, Management Consulting) http://www.sec.gov/comments/s7-08-09/s70809-3777.pdf

Hudson River Trading LLC (Suhas Daftuar, Managing Director)
http://www.sec.gov/comments/s7-08-09/s70809-4659.pdf
Life Partners Holdings, Inc. (Brian D. Pardo, Chairman \& CEO)
http://www.sec.gov/comments/s7-08-09/s70809-4497.pdf
Michael D. Lipkin, Adjunct Professor of Finance, Columbia University http://www.sec.gov/comments/s7-08-09/s70809-1840.htm

Managed Funds Association (Stuart J. Kaswell, Executive Vice President, Managing Director and General Counsel)
http://www.sec.gov/comments/s7-08-09/s70809-3822.pdf
J. Austin Murphy, Professor of Finance at Oakland University, School of Business

Administration, Rochester, MI
http://www.sec.gov/comments/s7-08-09/s70809-13.pdf
Martin B. Napor
http://www.sec.gov/comments/s7-08-09/s70809-3747.pdf
NASDAQ OMX Group (Jeffrey S. Davis, Vice President and Deputy General Counsel) http://www.sec.gov/comments/s7-08-09/s70809-4896.pdf

National Association of Active Investment Managers (Renee M. Toth, President) http://www.sec.gov/comments/s7-08-09/s70809-3435.pdf

National Association of Real Estate Investment Trusts (Michael R. Grupe, Executive VP, Research \& Investor Outreach)
http://www.sec.gov/comments/s7-08-09/s70809-3792.pdf
National Society of Compliance Professionals (Joan Hinchman, Executive Director, President and CEO)
http://www.sec.gov/comments/s7-08-09/s70809-3765.pdf
NYSE Euronext (Janet M. Kissane, Senior Vice President, Legal \& Corporate Secretary)
http://www.sec.gov/comments/s7-08-09/s70809-3786.pdf
http://www.sec.gov/comments/s7-08-09/s70809-4638.pdf
Overstock.com (Patrick M. Byrne, Chairman and CEO) ${ }^{20}$
http://www.sec.gov/comments/s7-08-09/s70809-2850.pdf
http://www.sec.gov/comments/s7-08-09/s70809-3984.pdf
Park National Corporation (John Kozak, CFO)
http://www.sec.gov/comments/s7-08-09/s70809-2591.pdf
Pershing Square Capital Management, L.P. (Roy J. Katzovicz, Chief Legal Officer)
http://www.sec.gov/comments/s7-08-09/s70809-3801.pdf
Quadriserv, Inc. (Thomas J. Perna, CEO)
http://www.sec.gov/comments/s7-08-09/s70809-3808.pdf
RBC Capital Markets Corporation (Richard T. Chase, Managing Director \& General Counsel)
http://www.sec.gov/comments/s7-08-09/s70809-4665.pdf
Adam V. Reed, Ph.D., Associate Professor of Finance, University of North Carolina, Chapel Hill, North Carolina
http://www.sec.gov/comments/s7-08-09/s70809-4636.pdf
Security Traders Association (Peter J. Driscoll, Chairman; John C. Giesea, President \& CEO)
http://www.sec.gov/comments/s7-08-09/s70809-4662.pdf
Security Traders Association of New York (Kimberly Unger, Executive Director) http://www.sec.gov/comments/s7-08-09/s70809-3754.pdf

[^9]SIFMA (Ira D. Hammerman, Senior Managing Director and General Counsel)
http://www.sec.gov/comments/s7-08-09/s70809-3776.pdf
http://www.sec.gov/comments/s7-08-09/s70809-4654.pdf
TD Asset Management
http://www.sec.gov/comments/s7-08-09/s70809-4618.pdf
Vadim Timkovsky, Senior Lecturer, Operations Management and Econometrics, University of Sydney ${ }^{21}$
http://www.sec.gov/comments/s7-08-09/s70809-3727.pdf
Jeff Wang
http://www.sec.gov/comments/s7-08-09/s70809-1646.pdf
Ingrid M. Werner, Martin and Andrew Murrer Professor of Finance, Fisher College of Business, The Ohio State University
http://www.sec.gov/comments/s7-08-09/s70809-3740.pdf
Wolverine Trading, LLC (Megan A. Flaherty, Chief Legal Counsel)
http://www.sec.gov/comments/s7-08-09/s70809-3811.pdf
Kevin M. Zhao, Assistant Professor
Department of Economics and Finance, Middle Tennessee State University, Murfreesboro, TN
http://www.sec.gov/comments/s7-08-09/s70809-2628.htm

[^10]
## Office of Economic Analysis <br> Memorandum

To: Chairman Christopher Cox
Through: James Overdahl
From: Daniel Aromi and Cecilia Caglio
Date: $\quad$ December 17, 2008
Re: Analysis of a short sale price test using intraday quote and trade data.

You have asked us to summarize the previous work of our office concerning the uptick rule and variants of it for purposes of responding to Congressional inquiries on these subjects. This memo reports a series of analyses aimed at understanding how restrictive a short sale price test rule structured in a similar manner to that described in the attached document produced for discussion purposes (see specifically the section on "Liquidity Add Plus Penny Uptick") would be. For this purpose, we used consolidated intraday quote and trade data corresponding to six trading days during the month of September 2008. During this high volatility period, we examined how the short selling restrictions from a "liquidity add plus uptick" rule vary for stocks with different characteristics, for different price increments in the rule ("bid increments"), and for different market conditions.

We conducted three analyses, each designed to gauge different aspects of the potential restriction. First, we examined whether the short sales executed during this period were executed at prices allowed by the rule. Next, we examined how often the rule would force short sellers to wait behind an order book because their short sales cannot be priced below the best ask price. Finally, we simulated the submission of short sales to study how such a rule would affect execution rates and times to execution of short sale orders.

Our findings from each of these analyses indicate that the restrictions imposed by a "liquidity add plus uptick" rule depend on the number of bid increments, market conditions and stock characteristics. A short sale price test would be more restrictive for lower priced stocks and more active stocks. Counter to the intent of such a rule, we also found that a short sale price test would be most restrictive during periods with little volatility. The rule would be less restrictive on short sale orders during periods of large positive returns and large negative returns, though the restrictions are greater in rapidly declining markets compared to rapidly advancing markets.

Finally, our analyses showed that even moderate changes in bid increments can have a big impact on the constraints imposed on short selling activity. Short selling activity was deeply constrained in actively traded stocks even for low values of the bid increment (such as one to three cents) because these stocks were characterized by narrow bid ask spreads. For example, we found that for lower-priced stocks in the actively traded category, a bid increment of three
cents would restrict short sales to prices above the best ask 99\% of the time. This means that short sellers would need to place orders at prices above the ask resulting in lower execution rates and longer time to execution. For the same group of stocks, for periods of moderate volatility, a three cent bid increment level results in less than $20 \%$ of our simulated orders being executed. With a one-cent bid increment, the execution rate would be approximately $60 \%$. These statistics suggest that, for practical purposes, high bid increments, such as five or ten cents, might be equivalent to a ban on short selling in some stocks, especially during periods when prices are not changing rapidly.

## Analysis

## Proposed Tests

A short sale price test would limit the prices at which short sales could be submitted. For a given stock, the impact of such a rule is a function of market characteristics such as bid ask spreads, arrival rate of incoming orders and volatility in the price of the stock.

For stocks with narrow bid ask spreads, or for short selling rules requiring multiple price increments, a short sale price test might require short sale orders to be placed only at prices that are higher than the best ask. This means that the order will be standing in line behind better priced sell orders. Trading centers have established policies that are designed to prevent an order from executing before any standing order with higher price priority or any standing order with equal price but higher time priority. In periods of low volatility or low arrival rate of incoming orders the execution rate of sell orders submitted at prices that are higher than the best ask can be very low.

Reg NMS established that orders placed at the best ask and best bid in each exchange are protected orders. This means that SROs implement procedures that prevent the execution of trades at a price that is inferior to the best bid or offer displayed by another market center at the time of execution. This means that a short sale order cannot be executed before any better priced sell orders displayed at the best ask of any exchange. These observations call attention to the ways in which a short sale price test restricts the submission and the execution rate of short sale orders.

The objective of this memo is to assess restrictions that would be imposed by a short sale price test rule. We use historical data to determine the impact of such a rule.

A short sale price test rule would effectively create a "minimum shortable price" (MSP) below which no short sale orders can be priced. The MSP from a "liquidity add plus uptick" rule would satisfy the following two restrictions:
(1) Greater Than Best Bid - at least $n$ cents above the national best bid.
(2) Greater Than Last Different Tick -at least 1 cent above the last trade reported to the consolidated tape, or the last sale price if it was higher than the last different price (i.e., a zero-plus tick).

In our analyses, (described in further detail below), we build a hypothetical MSP from past order book data. This price is a function of the quoting and trading activity as well as the price increment of the short sale price test. We also calculate a "best ask price" using data from consolidated quotes.

We propose three tests that would analyze the impact of a short sale price test. The first test, estimates the fraction of short sale trades that would occur with a price below the MSP (MSP vs. price of short sales). A low proportion of trades occurring at prices below the MSP threshold would be an indication that the short sale price test is not significantly restrictive. In other words, the rule would be unlikely to delay the execution of short sales if most of the short sales are already executed at high enough prices.

The second test computes the fraction of the day in which the MSP was above, equal to or below the "best ask price" (MSP vs. Best Ask). According to the short sale price test, if the MSP was above the "best ask price" no order can be placed at or below the best ask.

As stated above, under the existing market rules and Reg NMS regulations, the ability to submit orders at or below the best ask has a first order impact on order execution. Not being able to place orders at the best ask, could result in an important restriction on short selling activity, since sell orders placed above the best ask may take more time to execute or might not be executed at all.

The last test simulates the submission of short sale orders and computes the probability that an order would execute and the time to execution. Different bid increment levels were considered. The types of orders considered were limited, but the analysis still improves our understanding of the constraints imposed by a short sale price test.

Our analysis was based on historical trade and quote data. We acknowledge that if a short sale price test had been in place, the shape of the order book and the sequence of trades may be different than what we currently observe using historical trade and quote data. Nevertheless, we believe that our analysis was a good benchmark that can be used to assess the impact of a short sale price test.

## Methods and Data

We used intraday quote and trade data from TAQ for six trading days during September 2008 (09/11/2008 through 09/18/2008). These days were characterized by high volatility; so, as a result, our analysis sheds light on the constraints imposed by a short sale price test in a high volatility environment. ${ }^{1}$

[^11]We calculated the "best ask price" and "best bid price" using data for Nasdaq, NYSE, NYSE Arca and ADF. ${ }^{2}$ We used this information, together with last trade information, to generate an MSP. If the latest tick was an uptick, then the

- MSP was equal to the maximum of "best bid price + n cents", where " $n$ " is the short sale price test increment from 1 to 5 cents, and "Last Trade Price".

If the latest tick was a downtick, then the

- MSP was equal to the maximum of "best bid price + n cents", where " n " is the short sale price test increment from 1 to 5 cents, and "Last Trade Price +1 cent".

For our analysis we focused only on ordinary common stocks as classified by CRSP. We examined only NYSE, Amex and Nasdaq listed stocks and we excluded OTCBB or pink sheets stocks. We also eliminated any stock whose average quoted price on the day of the analysis was below \$1.

To show how the price test affected different stocks, we grouped stocks by liquidity and price levels. We first classified stocks by the average number of shares traded in the month of July 2008. We used that variable to form five subgroups. Since the distribution of share volume of stocks is highly skewed, we chose to form smaller groups for highly traded stocks. Each of these subgroups were, in turn, divided into terciles according to the average price level on the trading day for a total of 15 different categories. The average price level equals the time weighted average of the midquote as calculated from the best ask and best bid.

The 6 day period ranging from September $11^{\text {th }}$ to September $18^{\text {th }} 2008$ was characterized by large up and down market movements. In order to better understand how the short sale price test would affect the execution of short sales, we ran the analysis by looking at impact of such a rule under different market conditions. The impact of the rule is likely to depend on the market conditions that are associated with changes in bid ask spreads, volatility and the patience of market participants. ${ }^{3}$

We computed stock returns $r_{i}$ for five minute intervals for each stock and we classify them into the following five categories:

1. $r_{i}<-100 \mathrm{bp}$
2. $-100 b p<r_{i}<0$
3. $r_{i}=0$

[^12]4. $0<r_{i}<100 \mathrm{bp}$
5. $r_{i}>100 b p$
where $b p$ is basis points.
This classification will be used to report the results of our different measures of the level of restriction imposed by a short sale price test.

## Results on Historical Data

a-MSP vs. price of short sales
In this subsection, we analyzed the fraction of short sale trades that would occur with a price below the MSP. A low proportion of trades occurring at prices below the MSP threshold would be an indication that the short sale price test would not be significantly restrictive. In other words, the rule would be unlikely to delay the execution of short sales if most of the short sales are executed at high enough prices already.

The computed statistics are shown on Table 1. Our findings indicate that the short sale price test would be more restrictive for highly liquid stocks and for lower-priced stocks. According to the computed statistics, for actively traded stocks, the fraction of short sales with price below MSP ranged between $99 \%$ (for 5 cent increment) and $61 \%$ (for 1 cent increment).

For less active stocks, the short sale price test rule would generally be less restrictive. Based on our analysis, the fraction of short sales with prices below MSP ranged between 59\% (for 1 cent increment) and $83 \%$ (for 5 cents increment). When we considered the size of the increment relative to the size of the spread, the analysis suggested that the short sell price test was more restrictive for lower spread stocks. Moreover, short selling in low price stocks was prohibited more often than in high price stocks.

The data showed that a one cent increment would be restrictive for more than $60 \%$ of the short sales submitted. We also noticed that a five cents increment would be close to an outright ban on short selling for highly- and moderately-active stocks. In particular, for low-priced active stocks between $68 \%$ (one cent increment) to $99 \%$ (five cent increment) of short sales had a price below the MSP and thus, would not have executed at the same price.

In order to analyze the impact of the rule in down markets as opposed to up markets, we computed the fraction of short sale trades that occurred at prices below the MSP, based on contemporaneous five minute return categories. These results are presented in Table 2. To understand whether momentum type strategies were restricted more than contrarian strategies, we present the same data classified by the return in the previous five minute period. These results are presented in Table 3.

Table 2 indicates that the short sale price test would be more restrictive during extreme negative market returns than during extreme positive market returns. This was true across all groups of
stocks as the fraction of short sales with prices below MSP ranged between $76 \%$ and $69 \%$. For the case of one cent bid increment in the group of the most liquid stocks with the lowest prices, the fraction of trades at prices below MSP is approximately $75 \%$ for periods of negative returns and between $63 \%$ and $56 \%$ for periods of positive returns. Short selling was less restricted for upward markets as the fraction of short sales with price below MSP ranged between $39 \%$ and $56 \%$. We also noticed that for larger price increments, the differences in the percentage of restricted short sales did not appear to be monotonic. This is also true for one cent increments in many of the more active groups. The results seem more monotonic for the less active stocks than for the active stocks.

When comparing different groups of stocks, we found that a short sale price test would be more restrictive for highly traded stocks and for the group of stocks with low prices. When analyzing the difference in the fraction of restricted short sales between the extreme positive and extreme negative market movements we noticed a larger difference as we move from high to medium and low traded stocks.

The analysis for the five minutes lagged returns in Table 3 showed a reduced asymmetry of high versus low returns. The result suggests that the price test does not restrict momentum traders more than contrarian traders. ${ }^{4}$

Increasing bid increments results in significant variation in our measure. For highly traded stocks, under bid increment of 3 cents, around $90 \%$ of the short sales occurred at a price that was below the computed MSP and thus, the majority of short sales could not be executed by an incoming sell order.

In discussing the results we should again keep in mind that had the short sale price test actually been in place, the short seller submission strategies would most likely have been different.

## b- MSP vs. Best Ask

In this part of the analysis, we examined the relationship of the MSP and the best ask spread. The purpose of this analysis was to understand whether the short sellers can place an order in the limit order book that is likely to be executed or can set a lower ask price. While the previous section focused on the price of executed short sales, here the focus is on the restrictions on order submission. The restriction will result from an interaction between already established Reg NMS rules on order protection and the hypothetical short sale price tests. The comparison between MSP and best ask price results in similar general conclusions to the analysis above. Our findings, in Table 4, indicate that the short sale price test would be more restrictive for more active stocks and for lower-priced stocks. For example, for highly traded stocks with a low price, the MSP was lower or equal to the best ask price with 1 cent increment $39 \%$ of the time while for the subgroup of stocks with low level of volume and low price level that number equaled $63 \%$.

[^13]We also found that changes in the price test increment in the MSP formula would have a significant impact on how restrictive the short sale price would be. For example, for highly traded stocks with low prices, increasing the bid increment from 1 cent to 2 cents reduced the time that the MSP was lower or equal to the "best ask price" from $39 \%$ to $5 \%$ of the time. For the same group, a bid increment of 3 cents resulted in the MSP being lower or equal to the "best ask price" only $1 \%$ of the time.

We repeated the analysis on the relation between the MSP and the best ask spread above by looking at the five minute contemporaneous and lagged return. These second set of statistics are reported in Tables 5 and 6.

When we compared the MSP vs. Best Ask Price for different return levels, we observed an almost symmetric effect for the restriction on highly traded stocks. For this group, more volatile periods were associated with a lower level of restriction.

For stocks with medium and low levels of trading activity the results indicated that the rule would be more restrictive for negative market returns. Overall, the analysis showed that the rule would be more restrictive for highly liquid stocks. The results were confirmed for the five minutes lagged returns.

The analysis confirms that changes in the price test increment in the MSP formula would have a significant impact on how restrictive the short sale price test would be.

## Simulation Results

In this section, the impact of a short sale price test was appraised by simulating the submission of short sale orders. In the previous analysis, we provided indirect calculations of the impact of the rule. We showed how the rule would constrain the ability to submit short sale orders. With the simulations, we computed the direct impact of the rule on short sale orders. We compute how the constraints imposed on order submission would have an effect on the probability of executing a short sale.

We simulated independent submission of small short sale orders to NYSE Arca. By independent, we mean that each order submitted was an unrelated event. We selected a small order size because it allowed for a more precise estimation of execution rates and time to execution. We have not considered sequence-connected orders because this would require modeling the dynamics of an order book. That is, we would have had to make assumptions about how the submission of one order would impact the ability to submit and execution rates of subsequent orders. Again, the assumptions made would have compromised the precision of the estimates.

Any interpretation of the results should take into account the fact that we simulated the type of order that exhibits the highest execution rate. Larger orders or a sequence of small orders would
be more negatively affected by a short sale price test, and thus, we would observe lower execution rates. Having this in mind, the statistics below should be viewed as a lower bound on the potential impact of the rule.

## a. Outline of the algorithm:

For each stock we ran as many independent simulations as minutes during the trading day. At the beginning of each 60 second period, a new simulation was started. The input quote and trade data was the original information, unaffected by any simulation computed for a previous period. The order size was 100 shares. ${ }^{5}$

In our exercise, the order was priced at submission to satisfy the liquidity add plus uptick restriction described above for increments of one to three cents. TAQ data on quotes and trades was also used to calculate the initial price of the order and if, or when, the order was executed.
i- Order submission:

At the beginning of each one-minute period, the first step of the algorithm is to observe whether an order can be submitted at the best ask or better. ${ }^{6}$

An order was submitted at MSP (minimum shortable price) if that price was equal to or below the "best ask" at ARCA. If this was not the case, then the order was submitted at the MSP once MSP was equal or below the "best ask" at ARCA. No order was submitted if the MSP was always higher that the "best ask" at ARCA. In our statistics, this case counts as a period in which there was no trade execution.

We do not consider the submission of an order at a price that was higher than the "best ask". We were not able to observe depth levels at prices that were worse than the "best ask" which limits our ability to calculate when the order would be executed. This choice reduced the calculated rates of execution in our exercise.
ii- Order execution:
Once a simulated order was submitted, it was executed at the moment in which any of the following conditions were met:

- ARCA's "best bid" was higher than or equal to the price of the order.
- TAQ's trade file reported a trade at a price higher than the order's price.
- If the order was submitted below ARCA's "best ask" and TAQ's trade file reports, when a trade at ARCA at a price higher or equal to the order's price.

[^14]- If the order was submitted at the "best ask" and ARCA's "best ask" did not change since the order was submitted, when "cumulative volume of trades reported by ARCA at the best ask since the order was submitted" was higher than the "size of ARCA's best ask at the moment of the order submission +100 ".
- If the order was submitted at the "best ask" and ARCA's "best ask" had increased since the order was submitted, when a trade reported by ARCA has a price equal or higher than the order's price.


## iii- Order cancellation:

If a simulated order was not executed at the end of the one minute period, the order was canceled.

The simulations we computed cannot be easily compared to other studies that use historic order submission and execution. (See for example, Alexander, Gordon and Mark Peterson, "Implications of a Reduction in Tick Size on Short-Sell Order Execution", Journal of Financial Intermediation 11, 37-60 (2002) or Alexander, Gordon and Mark Peterson, "Short Selling in the New York Stock Exchange and the Effects of the Uptick Rule", Journal of Financial Intermediation 8, 90-116(1999).) In our exercise orders were submitted at a constant rate and only when the MSP allowed for submission at the best ask or better. In real markets, the submission of short sale orders occurs at different rates depending of market conditions. In addition orders might be canceled at high frequencies as changes in the order book dictate changes in the limit orders. In our exercise, orders were canceled only when the 60 second period had closed.

Another reason why a comparison with the above mentioned work by Alexander and Peterson is difficult is that the markets have greatly changed since the period analyzed by those studies. Among other characteristics, these changes include fragmentation, significantly thinner bid-ask spreads and higher speed of execution, submission and cancellation of orders.

## b. Results

The simulations showed that bid increments, stock characteristics and market conditions had a significant influence on the execution statistics. Higher bid increments reduced the rate of execution and increased the time to execution in a very significant way. Execution statistics were notably more affected for lower priced stocks. Periods of high volatility (five minute periods with positive returns above $1 \%$ or negative returns below $-1 \%$ ) showed higher execution rates. Finally, for a given absolute level of returns, execution rates were higher for periods of positive returns than for periods of negative returns.

Table 7 shows summary statistics on this simulation for a sample of 18 stocks. The sample consisted of 9 stocks of the highly traded group, as classified in the previous section and 9 stocks of the group with medium trading activity. For each of these groups, 3 stocks belonged to each of the price categories as detailed in the previous section (high, medium and low price).

The table presents simulations of short sale order submission under the rule for 1,2 and 3 cents increments. In addition to that, we report statistics for a simulation in which the only restriction is that at the time of submission, the order cannot interact with displayed liquidity. The order was submitted at a price equal to "Best Bid +1 cent" and these simulations are reported under the label "Liquidity Provider."

The first two columns of the table contain information describing the subgroup of stocks to which the data corresponds. The number of simulations for each return level is reported in the fourth column.

For the simulation group, execution rates and time to execution were reported. The time to execution column calculates, for executed orders, the difference between the time in seconds at which the order was executed and the start of the one minute period of each simulation. Note that since we assume that orders were submitted only once and the MSP was equal or below the best ask, this is not time to execution since the order was submitted but rather time to execution since the simulation period started.

Not surprisingly, active stocks were associated with higher execution rates and lower time to execution. The table shows that this holds for all market conditions and price level of stocks.

Bid increments had a significant impact on the statistics. For example, for a " 3 cents bid increment" during periods with moderate volatility (between $-1 \%$ and $1 \%$ five minute return) execution rates were remarkably low. For highly traded low price stocks, execution rates for moderate volatility periods are below $20 \%$. For those $20 \%$ executed orders, the average time to execution was approximately 28 seconds. This indicates not only that few orders were executed but also that the average time to execution of the simulated orders was significantly increased with an increase in the number of bid increments.

We observed that execution rates were higher for stocks with a high price. For one cent increments, execution rates were near $90 \%$ for stocks with high prices. For low price stocks, that number was below $70 \%$ if we excluded periods with high return levels (higher than $1 \%$ five minute return). This difference was more noticeable for higher bid increments. For three bid increments and with moderate volatility (between $-1 \%$ and $1 \%$ five minute return) the execution rates were approximately $20 \%$ for lower priced stocks and $60 \%$ for higher priced stocks.

The analysis of periods characterized by different return levels showed that market conditions had a visible influence on execution statistics. Periods of low volatility (five minute periods with positive returns below $1 \%$ or negative returns above -1\%) showed lower execution rates and lower time to execution. This difference was more evident for lower priced stocks and higher bid increments.

While volatility resulted in higher execution rates, we observed that the effect was not symmetric. For a given level in absolute returns, five minute periods with positive returns exhibited execution rates that were higher than in periods of negative returns. For example, with a bid increment of 3 cents and for highly traded lower priced stocks, a period of returns below $1 \%$ had $33 \%$ execution rates while for five minute periods with returns above $1 \%$ the execution
rates were $56 \%$. This asymmetry holds for all groups of stocks but was more evident for lower priced stocks.

We also run simulations for a subset of stocks corresponding to leading financial institutions. This selection was made with the objective of analyzing the restriction imposed by a short sale price test on stocks of great relevance during the period of the study. The statistics for these stocks were consistent with what we have detailed above for the sample of 18 stocks.

## Appendix

Table 1 - Minimum Shortable Price(MSP) vs. Actual Short Sale Price (9/11/20089/18/2008)

This table summarizes the percentage of short sales with price below the Minimum Shortable Price (MSP) for different price increments for the dates between September $11^{\text {th }}$ and September $18^{\text {th }}$ 2008.. If the latest tick was an uptick, MSP was equal to the maximum of "best bid +n cents" and "Last Trade Price". If the latest tick was a downtick, MSP was equal to the maximum of "best bid +n cents" and "Last Trade Price +1 1cent". We focused only on ordinary common stocks and we excluded stocks whose price on the day of the analysis was below $\$ 1$. We grouped stocks by liquidity and price levels. We first classified stocks in five groups by the average number of shares traded in the month of July 2008. Each of these subgroups were then divided into terciles according to the average price level on the trading day. The average price level equaled the time weighted average of the midquote. Best Bid and Offer calculated from Daily TAQ data corresponding to ADF, NASDAQ, NYSE and NYSE Arca. Share Volume Information corresponded to daily averages for July 2008.

| Share Volume <br> Group | Price <br> Group | $\#$ <br> Obs | \% of Short Sales w/price below MSP <br> (for different increment levels) | Average <br> Bid Ask <br> Spread | Average <br> Price |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |  |

## Table 2 - Minimum Shortable Price(MSP) vs. Actual Short Sale Price (9/11/2008-9/18/2008) contemporaneous returns

This table summarizes the percentage of short sales with price below the Minimum Shortable Price (MSP) for different price increments and for different levels of contemporaneous returns, for the dates between September $11^{\text {th }}$ and September 18 $8^{\text {th }}$ 2008. If the latest tick was an uptick, MSP was equal to the maximum of "best bid +n cents" and "Last Trade Price". If the latest tick was a downtick, MSP was equal to the maximum of "best bid +n cents" and "Last Trade Price +1 cent". We compute stock returns ri on a five minute intervals for each stocks and we classify them into the following five categories: 1) ri <-100 bp; 2) -100 bp < ri $<0$; ri $=0 ; 0<\mathrm{ri}<100 \mathrm{bp} ;$ ri $>100 \mathrm{bp}$. We focus only on ordinary common stocks and we exclude stocks whose price on the day of the analysis was below $\$ 1$. We grouped stocks by liquidity and price levels. We first classified stocks in five groups by the average number of shares traded in the month of July 2008. Each of these subgroups were then divided into terciles according to the average price level on the trading day. The average price level equaled the time weighted average of the midquote. Best Bid and Offer calculated from Daily TAQ data corresponding to ADF, NASDAQ, NYSE and NYSE Arca. Share Volume Information corresponded to daily averages for July 2008.

| Share Volume Group | Price Group | Return (basis points) | \# Obs. | Average Bid Ask Spread | \% of Short Sales w/price below MSP (for different increment levels) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Price increment for rule: |  |  |  |  | 1 cent | 2 cents | 3 cents |
| $\begin{aligned} & \text { High } \\ & (>7 \mathrm{~m}) \end{aligned}$ | low | $r_{i}<-100 \mathrm{bp}$ | 2419 | 1.1 | 74\% | 93\% | 97\% |
|  |  | $-100 \mathrm{bp}<r_{i}$ | 10544 | 0.98 | 75\% | 96\% | 99\% |
|  |  | $r_{i}=0$ | 3605 | 0.99 | 65\% | 98\% | 100\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 10218 | 1 | 63\% | 94\% | 99\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 2620 | 1.12 | 56\% | 87\% | 95\% |
| $\begin{aligned} & \text { High } \\ & (>7 \mathrm{~m}) \end{aligned}$ | med | $r_{i}<-100 \mathrm{bp}$ | 1096 | 1.7 | 73\% | 84\% | 91\% |
|  |  | $-100 \mathrm{bp}<\mathrm{r}_{i}$ | 13505 | 1.13 | 76\% | 91\% | 97\% |
|  |  | $r_{i}=0$ | 1709 | 1.04 | 73\% | 94\% | 99\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 13372 | 1.16 | 69\% | 88\% | 96\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 1284 | 1.36 | 60\% | 74\% | 87\% |
| $\begin{aligned} & \text { High } \\ & (>7 \mathrm{~m}) \end{aligned}$ | high | $r_{i}<-100 \mathrm{bp}$ | 1028 | 3.76 | 64\% | 72\% | 78\% |
|  |  | $-100 \mathrm{bp}<r_{i}$ | 13899 | 2.24 | 65\% | 78\% | 85\% |
|  |  | $r_{i}=0$ | 621 | 1.37 | 69\% | 88\% | 94\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 13990 | 2.31 | 58\% | 73\% | 82\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 1350 | 3.43 | 50\% | 61\% | 67\% |
| $\qquad$ | low | $r_{i}<-100 \mathrm{bp}$ | 2942 | 2.26 | 75\% | 89\% | 95\% |
|  |  | $-100 \mathrm{bp}<r_{i}$ | 22663 | 1.38 | 76\% | 92\% | 97\% |
|  |  | $r_{i}=0$ | 9913 | 1.05 | 67\% | 98\% | 99\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 21916 | 1.39 | 62\% | 89\% | 96\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 3406 | 1.96 | 51\% | 79\% | 90\% |
|  | med | $r_{i}<-100 \mathrm{bp}$ | 1769 | 4.96 | 69\% | 76\% | 82\% |
|  |  | $-100 \mathrm{bp}<r_{i}$ | 27525 | 2.08 | 71\% | 84\% | 91\% |
|  |  | $r_{i}=0$ | 1797 | 1.58 | 71\% | 88\% | 95\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 26939 | 2.08 | 62\% | 78\% | 88\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 2342 | 3.75 | 52\% | 63\% | 72\% |
| Medium High (2.3m-7m) | high | $r_{i}<-100 \mathrm{bp}$ | 1718 | 9.05 | 63\% | 68\% | 71\% |
|  |  | $-100 \mathrm{bp}<r_{i}$ | 29112 | 4.3 | 62\% | 72\% | 78\% |
|  |  | $r_{i}=0$ | 874 | 2.53 | 63\% | 79\% | 86\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 28762 | 4.38 | 54\% | 65\% | 72\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 2246 | 7.95 | 47\% | 52\% | 57\% |
| Medium$(.6 m-2.3 m)$ | low | $r_{i}<-100 \mathrm{bp}$ | 5996 | 2.99 | 76\% | 86\% | 92\% |
|  |  | $-100 \mathrm{bp}<r_{i}$ | 44353 | 1.92 | 73\% | 87\% | 94\% |
|  |  | $r_{i}=0$ | 23822 | 1.2 | 66\% | 96\% | 99\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 43056 | 1.93 | 54\% | 79\% | 91\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 6791 | 2.99 | 46\% | 69\% | 82\% |
| Medium$(.6 m-2.3 m)$ | med | $r_{i}<-100 \mathrm{bp}$ | 3308 | 7.77 | 72\% | 76\% | 81\% |
|  |  | $-100 \mathrm{bp}<r_{i}$ | 56220 | 3.25 | 71\% | 80\% | 86\% |
|  |  | $r_{i}=0$ | 4858 | 2.33 | 69\% | 84\% | 91\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 55886 | 3.29 | 58\% | 70\% | 80\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 4216 | 7.5 | 47\% | 54\% | 62\% |

Table 2 (cont'd)- Minimum Shortable Price(MSP) vs. Actual Short Sale Price (9/11/2008$9 / 18 / 2008$ ) contemporaneous returns
This table summarizes the percentage of short sales with price below the Minimum Shortable Price (MSP) for different price increments and for different levels of contemporaneous returns, for the dates between September $11^{\text {th }}$ and September $18^{\text {th }}$ 2008. If the latest tick was an uptick, MSP was equal to the maximum of "best bid +n cents" and "Last Trade Price". If the latest tick was a downtick, MSP was equal to the maximum of "best bid +n cents" and "Last Trade Price +1 cent". We compute stock returns ri on a five minute intervals for each stocks and we classify them into the following five categories: 1) ri <-100 bp; 2) -100 bp < ri $<0$; ri $=0 ; 0<\mathrm{ri}<100 \mathrm{bp}$; ri>100 bp. We focus only on ordinary common stocks and we exclude stocks whose price on the day of the analysis was below $\$ 1$. We grouped stocks by liquidity and price levels. We first classified stocks in five groups by the average number of shares traded in the month of July 2008. Each of these subgroups were then divided into terciles according to the average price level on the trading day. The average price level equaled the time weighted average of the midquote. Best Bid and Offer calculated from Daily TAQ data corresponding to ADF, NASDAQ, NYSE and NYSE Arca. Share Volume
Information corresponded to daily averages for July 2008.

| Share Volume Group | Price Group | Return (basis points) | \# Obs. | Average Bid Ask Spread | \% of Short Sales w/price below MSP (for different increment levels) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Price increment for rule: |  |  |  |  | 1 cent | 2 cents | 3 cents |
| Medium | high | $r_{i}<-100 \mathrm{bp}$ | 2278 | 16.84 | 67\% | 71\% | 73\% |
| (.6m-2.3m) |  | $-100 \mathrm{bp}<r_{i}$ | 57717 | 5.95 | 64\% | 71\% | 75\% |
|  |  | $r_{i}=0$ | 2306 | 4.12 | 62\% | 74\% | 79\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 57722 | 5.92 | 52\% | 60\% | 66\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 3059 | 14 | 43\% | 48\% | 51\% |
| Medium | low | $r_{i}<-100 \mathrm{bp}$ | 7970 | 3.84 | 76\% | 86\% | 91\% |
| Low |  | $-100 \mathrm{bp}<r_{i}$ | 46141 | 2.45 | 68\% | 83\% | 92\% |
| (180k |  | $r_{i}=0$ | 45645 | 1.61 | 61\% | 89\% | 96\% |
| -632k) |  | $0<r_{i}<100 \mathrm{bp}$ | 44820 | 2.4 | 48\% | 74\% | 89\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 8108 | 3.7 | 39\% | 63\% | 78\% |
| Medium | med | $r_{i}<-100 \mathrm{bp}$ | 4278 | 8.79 | 77\% | 81\% | 84\% |
| Low |  | $-100 \mathrm{bp}<r_{i}$ | 66227 | 3.66 | 71\% | 78\% | 85\% |
| (180k |  | $r_{i}=0$ | 13391 | 2.55 | 66\% | 79\% | 88\% |
| -632k) |  | $0<r_{i}<100 \mathrm{bp}$ | 65788 | 3.64 | 53\% | 64\% | 76\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 5147 | 7.85 | 41\% | 48\% | 57\% |
| Medium | high | $r_{i}<-100 \mathrm{bp}$ | 2644 | 19.49 | 73\% | 75\% | 77\% |
| Low |  | $-100 \mathrm{bp}<r_{i}$ | 71499 | 7.09 | 68\% | 73\% | 77\% |
| (180k |  | $r_{i}=0$ | 4548 | 5 | 61\% | 71\% | 77\% |
| -632k) |  | $0<r_{i}<100 \mathrm{bp}$ | 71607 | 7.08 | 50\% | 57\% | 63\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 3672 | 19.21 | 40\% | 44\% | 48\% |
| Low | low | $r_{i}<-100 \mathrm{bp}$ | 15129 | 12.48 | 69\% | 76\% | 81\% |
| (363 |  | $-100 \mathrm{bp}<r_{i}$ | 60360 | 8.74 | 63\% | 74\% | 81\% |
| -180k) |  | $r_{i}=0$ | 102937 | 8.12 | 63\% | 77\% | 84\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 55498 | 8.61 | 58\% | 71\% | 80\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 13769 | 12.62 | 53\% | 64\% | 71\% |
| Low | med | $r_{i}<-100 \mathrm{bp}$ | 8934 | 29.09 | 72\% | 76\% | 80\% |
| (363 |  | $-100 \mathrm{bp}<r_{i}$ | 77851 | 12.49 | 63\% | 71\% | 78\% |
| -180k) |  | $r_{i}=0$ | 71691 | 16.45 | 58\% | 70\% | 79\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 74281 | 12.16 | 52\% | 62\% | 73\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 8887 | 37.92 | 42\% | 51\% | 61\% |
| Low | high | $r_{i}<-100 \mathrm{bp}$ | 7596 | 100.25 | 71\% | 73\% | 75\% |
| (363 |  | $-100 \mathrm{bp}<r_{i}$ | 107149 | 24.56 | 64\% | 67\% | 71\% |
| -180k) |  | $r_{i}=0$ | 41957 | 43.11 | 59\% | 64\% | 69\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 108213 | 28.89 | 50\% | 54\% | 59\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 8364 | 276.42 | 40\% | 44\% | 48\% |

Table 3 Minimum Shortable Price(MSP) vs. Actual Short Sale Price (9/11/2008-9/18/2008) lagged returns

This table summarizes the percentage of short sales with price below the Minimum Shortable Price (MSP) for different price increments and for different levels of lagged returns, for the dates between September $11^{\text {th }}$ and September $18^{\text {th }}$ 2008. If the latest tick was an uptick, MSP was equal to the maximum of "best bid +n cents" and "Last Trade Price". If the latest tick was a downtick, MSP was equal to the maximum of "best bid +n cents" and "Last Trade Price + 1cent". We computed stock returns ri on a five minute intervals for each stocks and we classified them into the following five categories: 1) ri $<-100 \mathrm{bp} ; 2$ ) $-100 \mathrm{bp}<\mathrm{ri}<0$; ri $=0 ; 0<$ ri $<100 \mathrm{bp}$; ri>100 bp . We focused only on ordinary common stocks and we excluded stocks whose price on the day of the analysis was below $\$ 1$. We grouped stocks by liquidity and price levels. We first classified stocks in five groups by the average number of shares traded in the month of July 2008. Each of these subgroups were then divided into terciles according to the average price level on the trading day. The average price level equaled the time weighted average of the midquote. Best Bid and Offer calculated from Daily TAQ data corresponding to ADF, NASDAQ, NYSE and NYSE Arca. Share Volume Information corresponded to daily averages for July 2008.


Table 3 (cont'd) Minimum Shortable Price(MSP) vs. Actual Short Sale Price (9/11/20089/18/2008) lagged returns

| Share Volume | Price Group | Return (basis points) | \# Obs. | Average Bid Ask Spread | \% of Short Sales w/price below MSP (for different increment levels) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Price increment for rule: |  |  |  |  | 1 cent | 2 cents | 3 cents |
| $\begin{aligned} & \hline \text { Medium } \\ & (.6 m-2.3 m) \end{aligned}$ | low | $r_{i}<-100 \mathrm{bp}$ | 5996 | 2.29 | 62\% | 79\% | 88\% |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 44353 | 1.82 | 65\% | 84\% | 92\% |
|  |  | $r_{i}=0$ | 23822 | 1.2 | 66\% | 95\% | 98\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 43056 | 1.84 | 63\% | 83\% | 92\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 6791 | 2.35 | 60\% | 78\% | 87\% |
| Medium (.6m-2.3m) | med | $r_{i}<-100 \mathrm{bp}$ | 3308 | 5.02 | 60\% | 66\% | 72\% |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 56220 | 3.02 | 65\% | 75\% | 83\% |
|  |  | $r_{i}=0$ | 4858 | 2.21 | 68\% | 83\% | 90\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 55886 | 3.08 | 65\% | 75\% | 83\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 4216 | 5.11 | 60\% | 65\% | 72\% |
| Medium (.6m-2.3m) | high | $r_{i}<-100 \mathrm{bp}$ | 2278 | 9.44 | 55\% | 59\% | 62\% |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 57717 | 5.49 | 58\% | 66\% | 71\% |
|  |  | $r_{i}=0$ | 2306 | 3.73 | 62\% | 74\% | 79\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 57722 | 5.55 | 58\% | 66\% | 71\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 3059 | 9.48 | 55\% | 59\% | 62\% |
| MediumLow$(180000$$-632000)$ | low | $r_{i}<-100 \mathrm{bp}$ | 7970 | 3.06 | 63\% | 78\% | 87\% |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 46141 | 2.32 | 62\% | 80\% | 91\% |
|  |  | $r_{i}=0$ | 45645 | 1.64 | 60\% | 89\% | 96\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 44820 | 2.3 | 54\% | 77\% | 90\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 8108 | 3.07 | 53\% | 72\% | 84\% |
| MediumLow$(180000$$-632000)$ | med | $r_{i}<-100 \mathrm{bp}$ | 4278 | 5.59 | 61\% | 66\% | 73\% |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 66227 | 3.44 | 64\% | 72\% | 81\% |
|  |  | $r_{i}=0$ | 13391 | 2.51 | 65\% | 78\% | 88\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 65788 | 3.45 | 60\% | 69\% | 79\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 5147 | 5.54 | 57\% | 63\% | 71\% |
| MediumLow$(180000$$-632000)$ | high | $r_{i}<-100 \mathrm{bp}$ | 2644 | 11.94 | 56\% | 60\% | 63\% |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 71499 | 6.57 | 60\% | 66\% | 71\% |
|  |  | $r_{i}=0$ | 4548 | 4.56 | 61\% | 71\% | 77\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 71607 | 6.66 | 58\% | 64\% | 69\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 3672 | 11.85 | 56\% | 60\% | 63\% |
| Low(363$-180000)$ | low | $r_{i}<-100 \mathrm{bp}$ | 15129 | 11.28 | 66\% | 74\% | 79\% |
|  |  | $-100 \mathrm{bp}<\mathrm{r}_{i}<0$ | 60360 | 8.63 | 63\% | 73\% | 81\% |
|  |  | $r_{i}=0$ | 102937 | 8.13 | 63\% | 77\% | 84\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 55498 | 8.5 | 58\% | 71\% | 80\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 13769 | 11.91 | 57\% | 67\% | 74\% |
| Low (363 -180000) | med | $r_{i}<-100 \mathrm{bp}$ | 8934 | 24.63 | 65\% | 71\% | 76\% |
|  |  | $-100 \mathrm{bp}<\mathrm{r}_{i}<0$ | 77851 | 12.09 | 61\% | 69\% | 77\% |
|  |  | $r_{i}=0$ | 71691 | 17.79 | 58\% | 70\% | 79\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 74281 | 12 | 54\% | 63\% | 74\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 8887 | 24.99 | 51\% | 59\% | 67\% |
| Low(363-180000 ) | high | $r_{i}<-100 \mathrm{bp}$ | 7596 | 103.35 | 61\% | 63\% | 66\% |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 107149 | 23.57 | 60\% | 64\% | 67\% |
|  |  | $r_{i}=0$ | 41957 | 52.55 | 59\% | 64\% | 69\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 108213 | 30.42 | 53\% | 58\% | 62\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 8364 | 122.77 | 51\% | 55\% | 57\% |

## Table 4 - Minimum Shortable Price(MSP) vs. Best Ask Price (9/11/2008-9/18/2008)

This table summarizes the percentage of time the Minimum Shortable Price (MSP) was equal to the best ask price (Panel I) and lower than the best ask price(Panel II) for different price increments, for the dates between September $11^{\text {th }}$ and September $18^{\text {th }}$ 2008. If the latest tick was an uptick, MSP was equal to the maximum of "best bid +n cents" and "Last Trade Price". If the latest tick was a downtick, MSP was equal to the maximum of "best bid +n cents" and "Last Trade Price + 1cent". We focused only on ordinary common stocks and we excluded stocks whose price on the day of the analysis was below $\$ 1$. We grouped stocks by liquidity and price levels. We first classified stocks in five groups by the average number of shares traded in the month of July 2008. Each of these subgroups were then divided into terciles according to the average price level on the trading day. The average price level equaled the time weighted average of the midquote. Best Bid and Offer calculated from Daily TAQ data corresponding to ADF, NASDAQ, NYSE and NYSE Arca. Share Volume Information corresponded to daily averages for July 2008.

| Share Volume Group | Price Group | \# Obs | \% of the time MSP=Ask (for different increment levels) |  |  |  |  | Average Bid Ask | Average Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1 cent | 2 cents | 3 cents | 4 cents | 5 cents |  |  |
| High | Low | 65 | 28\% | 3\% | 0\% | 0\% | 0\% | 1.02 | 9.37 |
| (>7m) | Med | 67 | 16\% | 2\% | 3\% | 1\% | 0\% | 1.17 | 23.05 |
|  | High | 67 | 12\% | 6\% | 12\% | 1\% | 2\% | 2.37 | 62.30 |
| Medium High | Low | 133 | 28\% | 8\% | 2\% | 1\% | 0\% | 1.40 | 10.33 |
| (2.3m-7m) | med | 133 | 15\% | 5\% | 13\% | 3\% | 1\% | 2.25 | 28.58 |
|  | high | 134 | 12\% | 8\% | 18\% | 3\% | 4\% | 4.57 | 64.85 |
| Medium | low | 266 | 28\% | 17\% | 3\% | 4\% | 1\% | 1.89 | 8.77 |
| (.6m-2.3m) | med | 267 | 14\% | 8\% | 19\% | 10\% | 1\% | 3.49 | 24.43 |
|  | high | 267 | 11\% | 9\% | 17\% | 4\% | 8\% | 6.49 | 53.14 |
| Medium Low | low | 333 | 33\% | 18\% | 2\% | 3\% | 1\% | 2.32 | 4.95 |
| (180k-632k) | med | 333 | 14\% | 18\% | 12\% | 12\% | 4\% | 3.83 | 14.87 |
|  | high | 334 | 10\% | 8\% | 15\% | 9\% | 6\% | 7.53 | 39.77 |
| Low | low | 667 | 12\% | 10\% | 5\% | 8\% | 4\% | 11.12 | 2.55 |
| (363-180k) | med | 666 | 10\% | 12\% | 5\% | 6\% | 5\% | 21.31 | 7.74 |
|  | high | 667 | 7\% | 8\% | 8\% | 8\% | 5\% | 50.07 | 31.53 |

Table 4 (cont'd)- Minimum Shortable Price(MSP) vs. Best Ask Price (9/11/2008-9/18/2008)

| Share Volume Group | Price Group | \# Obs | \% of the time MSP<Ask (for different increment levels) |  |  |  |  | Average Bid Ask | Average Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1 cent | 2 cents | 3 cents | 4 cents | 5 cents |  |  |
| High | low | 65 | 10\% | 2\% | 1\% | 0\% | 0\% | 1.02 | 9.37 |
| (>7m) | med | 67 | 30\% | 5\% | 2\% | 1\% | 0\% | 1.17 | 23.05 |
|  | high | 67 | 41\% | 31\% | 15\% | 12\% | 9\% | 2.37 | 62.30 |
| Medium High | low | 133 | 22\% | 7\% | 4\% | 1\% | 1\% | 1.40 | 10.33 |
| ( $2.3 \mathrm{~m}-7 \mathrm{~m}$ ) | med | 133 | 46\% | 25\% | 11\% | 7\% | 4\% | 2.25 | 28.58 |
|  | high | 134 | 59\% | 52\% | 33\% | 27\% | 22\% | 4.57 | 64.85 |
| Medium | low | 266 | 31\% | 17\% | 13\% | 4\% | 2\% | 1.89 | 8.77 |
| (.6m-2.3m) | med | 267 | 57\% | 41\% | 26\% | 19\% | 10\% | 3.49 | 24.43 |
|  | high | 267 | 68\% | 64\% | 49\% | 42\% | 35\% | 6.49 | 53.14 |
| Medium Low | low | 333 | 37\% | 20\% | 17\% | 6\% | 5\% | 2.32 | 4.95 |
| (180k-632k) | med | 333 | 57\% | 46\% | 38\% | 20\% | 12\% | 3.83 | 14.87 |
|  | high | 334 | 70\% | 65\% | 56\% | 49\% | 40\% | 7.53 | 39.77 |
| Low | low | 667 | 51\% | 44\% | 41\% | 31\% | 28\% | 11.12 | 2.55 |
| (363-180k) | med | 666 | 58\% | 53\% | 51\% | 41\% | 39\% | 21.31 | 7.74 |
|  | high | 667 | 71\% | 69\% | 66\% | 61\% | 57\% | 50.07 | 31.53 |

## Table 5 Minimum Shortable Price(MSP) vs. Best Ask Price (9/11/2008-9/18/2008) contemporaneous returns

This table summarizes the percentage of time the Minimum Shortable Price (MSP) was equal to, lower than, or higher than the best ask price for different price increments and for different levels of contemporaneous returns, for the dates between September $11^{\text {th }}$ and September $18^{\text {th }}$ 2008. If the latest tick was an uptick, MSP was equal to the maximum of "best bid +n cents" and "Last Trade Price". If the latest tick was a downtick, MSP was equal to the maximum of "best bid +n cents" and "Last Trade Price +1 cent". We computed stock returns, $r_{i,}$ in five minute intervals for each stocks and we classified them into the following five categories: 1) $r_{i}<-100 \mathrm{bp}$; 2) $-100 \mathrm{bp}<r_{i}$ $<0 ; 3) r_{i}=0$; 4) $\left.0<r_{i}<100 \mathrm{bp} ; 5\right) r_{i}>100 \mathrm{bp}$. We focused only on ordinary common stocks and we excluded stocks whose price on the day of the analysis was below $\$ 1$. We grouped stocks by liquidity and price levels. We first classified stocks in five groups by the average number of shares traded in the month of July 2008. Each of these subgroups were then divided into terciles according to the average price level on the trading day. The average price level equaled the time weighted average of the midquote. Best Bid and Offer calculated from Daily TAQ data corresponding to ADF, NASDAQ, NYSE and NYSE Arca. Share Volume Information corresponded to daily averages for July 2008.

| Share Volume Group | Price Group | Return (basis points) | \# Obs. | \% of the time MSP > Ask (for different increment levels) |  |  | \% of the time MSP=Ask (for different increment levels) |  |  | \% of the time MSP<Ask (for different increment levels) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Price increment for rule: |  |  |  | $\begin{gathered} 1 \\ \text { cent } \end{gathered}$ | $\begin{gathered} 2 \\ \text { cents } \end{gathered}$ | $\begin{gathered} 3 \\ \text { cents } \end{gathered}$ | $\begin{gathered} \hline 1 \\ \text { cent } \end{gathered}$ | $\begin{gathered} 2 \\ \text { cents } \end{gathered}$ | $\begin{gathered} 3 \\ \text { cents } \end{gathered}$ | $\begin{gathered} \hline 1 \\ \text { cent } \end{gathered}$ | $\begin{gathered} 2 \\ \text { cents } \end{gathered}$ | $\begin{gathered} 3 \\ \text { cents } \end{gathered}$ |
| $\begin{aligned} & \text { High } \\ & (>7 \mathrm{~m}) \end{aligned}$ | Low | $r_{i}<-100 \mathrm{bp}$ | 2419 | 57\% | 91\% | 97\% | 31\% | 6\% | 0\% | 13\% | 3\% | 2\% |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 10544 | 64\% | 96\% | 99\% | 26\% | 3\% | 0\% | 10\% | 1\% | 0\% |
|  |  | $r_{i}=0$ | 3605 | 50\% | 99\% | 100\% | 43\% | 1\% | 0\% | 7\% | 0\% | 0\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 10218 | 64\% | 96\% | 99\% | 26\% | 3\% | 0\% | 10\% | 1\% | 0\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 2620 | 56\% | 91\% | 97\% | 31\% | 6\% | 0\% | 13\% | 4\% | 2\% |
| $\begin{aligned} & \text { High } \\ & (>7 \mathrm{~m}) \end{aligned}$ | Med | $r_{i}<-100 \mathrm{bp}$ | 1096 | 49\% | 83\% | 87\% | 15\% | 4\% | 7\% | 36\% | 13\% | 6\% |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 13505 | 55\% | 95\% | 96\% | 16\% | 1\% | 2\% | 29\% | 4\% | 1\% |
|  |  | $r_{i}=0$ | 1709 | 52\% | 98\% | 99\% | 20\% | 0\% | 1\% | 28\% | 1\% | 0\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 13372 | 53\% | 95\% | 96\% | 16\% | 1\% | 2\% | 31\% | 4\% | 1\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 1284 | 47\% | 83\% | 87\% | 15\% | 4\% | 8\% | 38\% | 13\% | 6\% |
| $\begin{aligned} & \text { High } \\ & (>7 \mathrm{~m}) \end{aligned}$ | High | $r_{i}<-100 \mathrm{bp}$ | 1028 | 36\% | 48\% | 56\% | 11\% | 7\% | 14\% | 52\% | 45\% | 30\% |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 13899 | 49\% | 65\% | 74\% | 11\% | 6\% | 11\% | 40\% | 29\% | 14\% |
|  |  | $r_{i}=0$ | 621 | 70\% | 86\% | 92\% | 9\% | 2\% | 4\% | 22\% | 12\% | 4\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 13990 | 48\% | 65\% | 74\% | 12\% | 6\% | 12\% | 41\% | 30\% | 14\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 1350 | 34\% | 46\% | 54\% | 12\% | 8\% | 16\% | 53\% | 46\% | 30\% |
| MediumHigh$(2.3 m$$-7 m)$ | Low | $r_{i}<-100 \mathrm{bp}$ | 2942 | 43\% | 73\% | 86\% | 31\% | 13\% | 3\% | 27\% | 13\% | 11\% |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 22663 | 53\% | 84\% | 94\% | 25\% | 9\% | 2\% | 23\% | 7\% | 4\% |
|  |  | $r_{i}=0$ | 9913 | 53\% | 96\% | 99\% | 36\% | 3\% | 0\% | 10\% | 1\% | 1\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 21916 | 50\% | 84\% | 94\% | 26\% | 9\% | 2\% | 25\% | 7\% | 4\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 3406 | 37\% | 72\% | 86\% | 32\% | 14\% | 3\% | 30\% | 14\% | 11\% |
| Medium High <br> (2.3m <br> $-7 m$ ) | Med | $r_{i}<-100 \mathrm{bp}$ | 1769 | 33\% | 51\% | 55\% | 13\% | 7\% | 17\% | 54\% | 42\% | 28\% |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 27525 | 42\% | 71\% | 78\% | 15\% | 5\% | 13\% | 44\% | 23\% | 9\% |
|  |  | $r_{i}=0$ | 1797 | 45\% | 83\% | 89\% | 16\% | 3\% | 8\% | 38\% | 14\% | 4\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 26939 | 38\% | 70\% | 77\% | 15\% | 5\% | 13\% | 47\% | 25\% | 9\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 2342 | 29\% | 51\% | 55\% | 13\% | 7\% | 19\% | 58\% | 42\% | 26\% |
| MediumHigh$(2.3 m$$-7 m)$ | High | $r_{i}<-100 \mathrm{bp}$ | 1718 | 25\% | 29\% | 34\% | 10\% | 8\% | 14\% | 66\% | 63\% | 52\% |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 29112 | 30\% | 42\% | 51\% | 12\% | 8\% | 18\% | 58\% | 50\% | 31\% |
|  |  | $r_{i}=0$ | 874 | 46\% | 60\% | 71\% | 11\% | 6\% | 13\% | 43\% | 34\% | 15\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 28762 | 28\% | 40\% | 49\% | 13\% | 9\% | 19\% | 60\% | 52\% | 32\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 2246 | 22\% | 27\% | 32\% | 10\% | 9\% | 16\% | 67\% | 64\% | 53\% |

Table 5 (cont’d) Minimum Shortable Price(MSP) vs. Best Ask Price (9/11/2008-9/18/2008) contemporaneous returns

| Share Volume Group | Price Group | Return (basis points) | \# Obs. | \% of the time MSP > Ask <br> (for different increment levels) |  |  | \% of the time MSP=Ask <br> (for different increment levels) |  |  | \% of the time MSP<Ask (for different increment levels) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Price increment for rule: |  |  |  | $\begin{gathered} 1 \\ \text { cent } \end{gathered}$ | $\begin{gathered} 2 \\ \text { cents } \end{gathered}$ | $\begin{gathered} 3 \\ \text { cents } \end{gathered}$ | $\begin{gathered} 1 \\ \text { cent } \end{gathered}$ | $\begin{gathered} 2 \\ \text { cents } \end{gathered}$ | $\begin{gathered} 3 \\ \text { cents } \end{gathered}$ | $\begin{gathered} 1 \\ \text { cent } \end{gathered}$ | $2$ cents | 3 cents |
| Medium | Low | $r_{i}<-100 b p$ | 5996 | 41\% | 60\% | 75\% | 23\% | 17\% | 4\% | 35\% | 24\% | 21\% |
| (.6m-2.3m) |  | $-100 b p<r_{i}<0$ | 44353 | 42\% | 63\% | 83\% | 26\% | 19\% | 3\% | 33\% | 18\% | 14\% |
|  |  | $r_{i}=0$ | 23822 | 48\% | 90\% | 97\% | 39\% | 7\% | 1\% | 13\% | 4\% | 3\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 43056 | 36\% | 60\% | 81\% | 27\% | 20\% | 3\% | 37\% | 20\% | 15\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 6791 | 31\% | 54\% | 73\% | 26\% | 19\% | 4\% | 42\% | 27\% | 24\% |
| Medium | Med | $r_{i}<-100 \mathrm{bp}$ | 3308 | 29\% | 40\% | 41\% | 11\% | 8\% | 15\% | 60\% | 52\% | 43\% |
| (.6m-2.3m) |  | $-100 b p<r_{i}<0$ | 56220 | 32\% | 54\% | 57\% | 14\% | 8\% | 19\% | 54\% | 38\% | 24\% |
|  |  | $r_{i}=0$ | 4858 | 35\% | 70\% | 74\% | 19\% | 5\% | 14\% | 46\% | 24\% | 13\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 55886 | 26\% | 50\% | 54\% | 14\% | 8\% | 20\% | 60\% | 42\% | 26\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 4216 | 20\% | 33\% | 35\% | 11\% | 8\% | 18\% | 69\% | 59\% | 48\% |
| Medium | High | $r_{i}<-100 \mathrm{bp}$ | 2278 | 23\% | 26\% | 28\% | 8\% | 7\% | 11\% | 68\% | 67\% | 61\% |
| (.6m-2.3m) |  | $-100 b p<r_{i}<0$ | 57717 | 23\% | 29\% | 35\% | 11\% | 9\% | 17\% | 66\% | 62\% | 48\% |
|  |  | $r_{i}=0$ | 2306 | 31\% | 41\% | 50\% | 12\% | 8\% | 18\% | 57\% | 51\% | 33\% |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 57722 | 19\% | 25\% | 31\% | 11\% | 9\% | 18\% | 70\% | 66\% | 51\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 3059 | 16\% | 18\% | 21\% | 9\% | 8\% | 12\% | 75\% | 74\% | 67\% |
| Medium | Low | $r_{i}<-100 \mathrm{bp}$ | 7970 | 41\% | 59\% | 72\% | 21\% | 13\% | 3\% | 39\% | 28\% | 25\% |
| Low |  | $-100 b p<r_{i}<0$ | 46141 | 33\% | 58\% | 78\% | 29\% | 20\% | 3\% | 37\% | 22\% | 19\% |
| (180k |  | $r_{i}=0$ | 45645 | 35\% | 79\% | 92\% | 43\% | 13\% | 1\% | 22\% | 9\% | 7\% |
| -632k) |  | $0<r_{i}<100 \mathrm{bp}$ | 44820 | 21\% | 52\% | 76\% | 32\% | 22\% | 2\% | 48\% | 26\% | 22\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 8108 | 21\% | 48\% | 66\% | 26\% | 17\% | 3\% | 53\% | 35\% | 31\% |
| Medium | Med | $r_{i}<-100 b p$ | 4278 | 34\% | 37\% | 45\% | 10\% | 12\% | 8\% | 55\% | 50\% | 47\% |
| Low |  | $-100 b p<r_{i}<0$ | 66227 | 33\% | 40\% | 53\% | 14\% | 17\% | 12\% | 53\% | 43\% | 35\% |
| (180k |  | $r_{i}=0$ | 13391 | 39\% | 50\% | 68\% | 16\% | 20\% | 9\% | 44\% | 30\% | 23\% |
| -632k) |  | $0<r_{i}<100 \mathrm{bp}$ | 65788 | 23\% | 32\% | 46\% | 13\% | 18\% | 12\% | 63\% | 50\% | 41\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 5147 | 19\% | 23\% | 32\% | 10\% | 14\% | 9\% | 71\% | 63\% | 59\% |
| Medium | High | $r_{i}<-100 \mathrm{bp}$ | 2644 | 29\% | 31\% | 32\% | 7\% | 6\% | 9\% | 65\% | 63\% | 59\% |
| Low |  | $-100 b p<r_{i}<0$ | 71499 | 24\% | 30\% | 32\% | 10\% | 8\% | 15\% | 66\% | 62\% | 53\% |
| (180k |  | $r_{i}=0$ | 4548 | 22\% | 37\% | 41\% | 15\% | 9\% | 18\% | 62\% | 53\% | 41\% |
| -632k) |  | $0<r_{i}<100 \mathrm{bp}$ | 71607 | 16\% | 23\% | 25\% | 11\% | 9\% | 16\% | 74\% | 69\% | 59\% |
|  |  | $r_{i}>100 \mathrm{bp}$ | 3672 | 14\% | 17\% | 18\% | 8\% | 7\% | 10\% | 78\% | 76\% | 71\% |

Table 5 (cont'd) Minimum Shortable Price(MSP) vs. Best Ask Price (9/11/2008-9/18/2008) contemporaneous returns

| Share Volume Price <br> Group Group | Return (basis points) | \# Obs. | \% of the time MSP > Ask (for different increment levels) |  |  | \% of the time MSP=Ask <br> (for different increment levels) |  |  | \% of the time MSP<Ask (for different increment levels) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Price increment for rule: |  |  | $\begin{gathered} 1 \\ \text { cent } \end{gathered}$ | 2 cents | 3 cents | $\begin{gathered} 1 \\ \text { cent } \end{gathered}$ | $\begin{gathered} 2 \\ \text { cents } \end{gathered}$ | 3 cents | $\begin{gathered} 1 \\ \text { cent } \end{gathered}$ | $\begin{gathered} 2 \\ \text { cents } \end{gathered}$ | 3 cents |
| Low Low | $r_{i}<-100 \mathrm{bp}$ | 15129 | 43\% | 46\% | 51\% | 9\% | 8\% | 5\% | 49\% | 46\% | 44\% |
| (363- | $-100 b p<r_{i}<0$ | 60360 | 35\% | 44\% | 52\% | 11\% | 10\% | 4\% | 53\% | 46\% | 44\% |
| 180000) | $r_{i}=0$ | 102937 | 36\% | 49\% | 59\% | 15\% | 11\% | 4\% | 48\% | 40\% | 37\% |
|  | $0<r_{i}<100 \mathrm{bp}$ | 55498 | 28\% | 39\% | 49\% | 12\% | 10\% | 4\% | 60\% | 50\% | 47\% |
|  | $r_{i}>100 \mathrm{bp}$ | 13769 | 26\% | 33\% | 40\% | 9\% | 8\% | 4\% | 65\% | 59\% | 56\% |
| Med | $r_{i}<-100 b p$ | 8934 | 40\% | 41\% | 45\% | 7\% | 8\% | 5\% | 53\% | 51\% | 50\% |
|  | $-100 b p<r_{i}<0$ | 77851 | 31\% | 34\% | 43\% | 11\% | 13\% | 5\% | 58\% | 53\% | 51\% |
|  | $r_{i}=0$ | 71691 | 29\% | 36\% | 45\% | 14\% | 13\% | 5\% | 57\% | 51\% | 49\% |
|  | $0<r_{i}<100 \mathrm{bp}$ | 74281 | 22\% | 26\% | 38\% | 12\% | 15\% | 5\% | 66\% | 59\% | 57\% |
|  | $r_{i}>100 \mathrm{bp}$ | 8887 | 21\% | 25\% | 32\% | 8\% | 9\% | 4\% | 71\% | 66\% | 65\% |
| High | $r_{i}<-100 b p$ | 7596 | 32\% | 33\% | 34\% | 5\% | 5\% | 5\% | 63\% | 62\% | 61\% |
|  | $-100 b p<r_{i}<0$ | 107149 | 25\% | 27\% | 29\% | 8\% | 8\% | 8\% | 67\% | 65\% | 63\% |
|  | $r_{i}=0$ | 41957 | 24\% | 26\% | 29\% | 9\% | 10\% | 9\% | 67\% | 64\% | 62\% |
|  | $0<r_{i}<100 \mathrm{bp}$ | 108213 | 15\% | 18\% | 21\% | 9\% | 9\% | 9\% | 76\% | 73\% | 70\% |
|  | $r_{i}>100 \mathrm{bp}$ | 8364 | 14\% | 16\% | 17\% | 6\% | 6\% | 6\% | 80\% | 78\% | 77\% |

## Table 6 Minimum Shortable Price(MSP) vs. Best Ask Price (9/11/2008-9/18/2008) lagged returns

This table summarizes the percentage of time the Minimum Shortable Price (MSP) was equal to, lower than, or higher than the best ask price for different price increments and for different levels of contemporaneous returns, for the dates between September $11^{\text {th }}$ and September $18^{\text {th }}$ 2008. If the latest tick was an uptick, MSP was equal to the maximum of "best bid +n cents" and "Last Trade Price". If the latest tick was a downtick, MSP was equal to the maximum of "best bid +n cents" and "Last Trade Price + 1 cent". We computed stock returns, $r_{i}$, in five minute intervals for each stocks and we classified them into the following five categories: 1) $\left.r_{i}<-100 \mathrm{bp} ; 2\right)-100 \mathrm{bp}<r_{i}$ $<0$;3) $r_{i}=0$; 4) $0<r_{i}<100 \mathrm{bp}$; 5) $r_{i}>100 \mathrm{bp}$. We focused only on ordinary common stocks and we excluded stocks whose price on the day of the analysis was below $\$ 1$. We grouped stocks by liquidity and price levels. We first classified stocks in five groups by average number of shares traded in the month of July 2008. Each of these subgroups were then divided into terciles according to the average price level on the trading day. The average price level equaled the time weighted average of the midquote. Best Bid and Offer calculated from Daily TAQ data corresponding to ADF, NASDAQ, NYSE and NYSE Arca. Share Volume Information corresponded to daily averages for July 2008.

| Return <br> (basis points) <br> Price increment for rule: |  |  | \# Obs. | Average Bid Ask Spread | \% of the time MSP > Ask <br> (for different increment levels) |  |  | \% of the time MSP=Ask (for different increment levels) |  |  | \% of the time MSP<Ask (for different increment levels) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | $\begin{gathered} 1 \\ \text { cent } \end{gathered}$ | $\begin{gathered} 2 \\ \text { cents } \end{gathered}$ | $\begin{gathered} 3 \\ \text { cents } \end{gathered}$ | $\begin{gathered} 1 \\ \text { cent } \end{gathered}$ | $\begin{gathered} 2 \\ \text { cents } \end{gathered}$ | $\begin{gathered} 3 \\ \text { cents } \end{gathered}$ | $\begin{gathered} 1 \\ \text { cent } \end{gathered}$ | $\begin{gathered} 2 \\ \text { cents } \end{gathered}$ | $\begin{gathered} 3 \\ \text { cents } \end{gathered}$ |
| $r_{i}<-100 \mathrm{bp}$ | High | Iow | 2419 | 0.88 | 56\% | 92\% | 98\% | 32\% | 5\% | 0\% | 12\% | 3\% | 1\% |
| $-100 b p<r_{i}<0$ | (>7m) | low | 10544 | 0.98 | 63\% | 96\% | 100\% | 27\% | 3\% | 0\% | 10\% | 1\% | 0\% |
| $r_{i}=0$ |  | low | 3605 | 0.97 | 51\% | 99\% | 100\% | 42\% | 1\% | 0\% | 7\% | 0\% | 0\% |
| $0<r_{i}<100 \mathrm{bp}$ |  | low | 10218 | 0.99 | 64\% | 96\% | 100\% | 26\% | 3\% | 0\% | 10\% | 1\% | 0\% |
| $r_{i}>100 \mathrm{bp}$ |  | low | 2620 | 1.04 | 57\% | 91\% | 98\% | 31\% | 6\% | 0\% | 13\% | 3\% | 2\% |
| $r_{i}<-100 \mathrm{bp}$ |  | med | 1096 | 1.11 | 49\% | 84\% | 88\% | 15\% | 4\% | 7\% | 36\% | 12\% | 5\% |
| $-100 b p<r_{i}<0$ |  | med | 13505 | 1.09 | 54\% | 95\% | 97\% | 16\% | 1\% | 2\% | 30\% | 4\% | 1\% |
| $r_{i}=0$ |  | med | 1709 | 0.98 | 54\% | 99\% | 99\% | 19\% | 0\% | 0\% | 27\% | 1\% | 0\% |
| $0<r_{i}<100 \mathrm{bp}$ |  | med | 13372 | 1.13 | 54\% | 95\% | 97\% | 16\% | 1\% | 2\% | 30\% | 4\% | 1\% |
| $r_{i}>100 \mathrm{bp}$ |  | med | 1284 | 1.3 | 48\% | 84\% | 88\% | 15\% | 4\% | 7\% | 37\% | 12\% | 5\% |
| $r_{i}<-100 \mathrm{bp}$ |  | high | 1028 | 2.88 | 36\% | 48\% | 56\% | 12\% | 7\% | 15\% | 52\% | 44\% | 29\% |
| $-100 b p<r_{i}<0$ |  | high | 13899 | 2.17 | 49\% | 65\% | 75\% | 11\% | 6\% | 11\% | 40\% | 29\% | 14\% |
| $r_{i}=0$ |  | high | 621 | 1.32 | 69\% | 86\% | 92\% | 9\% | 3\% | 5\% | 22\% | 12\% | 3\% |
| $0<r_{i}<100 \mathrm{bp}$ |  | high | 13990 | 2.27 | 48\% | 65\% | 75\% | 12\% | 6\% | 11\% | 40\% | 29\% | 14\% |
| $r_{i}>100 \mathrm{bp}$ |  | high | 1350 | 3.43 | 35\% | 46\% | 54\% | 12\% | 8\% | 16\% | 54\% | 46\% | 30\% |
| $r_{i}<-100 b p$ | Medium | low | 2942 | 1.61 | 39\% | 74\% | 87\% | 33\% | 14\% | 3\% | 27\% | 13\% | 10\% |
| $-100 b p<r_{i}<0$ | High | low | 22663 | 1.28 | 51\% | 85\% | 94\% | 26\% | 9\% | 2\% | 23\% | 7\% | 4\% |
| $r_{i}=0$ | (2.3m- | low | 9913 | 1.05 | 54\% | 96\% | 99\% | 36\% | 3\% | 0\% | 10\% | 1\% | 1\% |
| $0<r_{i}<100 \mathrm{bp}$ | 7m) | low | 21916 | 1.3 | 51\% | 85\% | 94\% | 25\% | 9\% | 2\% | 23\% | 7\% | 4\% |
| $r_{i}>100 \mathrm{bp}$ |  | low | 3406 | 1.62 | 40\% | 74\% | 88\% | 32\% | 14\% | 3\% | 28\% | 13\% | 9\% |
| $r_{i}<-100 \mathrm{bp}$ |  | med | 1769 | 3.15 | 30\% | 50\% | 54\% | 14\% | 8\% | 19\% | 57\% | 42\% | 27\% |
| $-100 \mathrm{bp}<r_{i}<0$ |  | med | 27525 | 1.95 | 40\% | 71\% | 78\% | 15\% | 5\% | 13\% | 45\% | 24\% | 8\% |
| $r_{i}=0$ |  | med | 1797 | 1.56 | 45\% | 83\% | 89\% | 16\% | 3\% | 8\% | 39\% | 14\% | 3\% |
| $0<r_{i}<100 \mathrm{bp}$ |  | med | 26939 | 1.98 | 40\% | 71\% | 78\% | 15\% | 5\% | 13\% | 45\% | 24\% | 8\% |
| $r_{i}>100 \mathrm{bp}$ |  | med | 2342 | 3.04 | 31\% | 52\% | 57\% | 14\% | 8\% | 19\% | 55\% | 40\% | 24\% |
| $r_{i}<-100 \mathrm{bp}$ |  | high | 1718 | 6.64 | 23\% | 28\% | 32\% | 10\% | 9\% | 16\% | 67\% | 63\% | 52\% |
| $-100 \mathrm{bp}<r_{i}<0$ |  | high | 29112 | 4.07 | 29\% | 41\% | 50\% | 12\% | 8\% | 18\% | 58\% | 51\% | 31\% |
| $r_{i}=0$ |  | high | 874 | 2.5 | 45\% | 59\% | 71\% | 12\% | 7\% | 14\% | 43\% | 34\% | 15\% |
| $0<r_{i}<100 \mathrm{bp}$ |  | high | 28762 | 4.21 | 29\% | 41\% | 50\% | 12\% | 8\% | 18\% | 58\% | 51\% | 32\% |
| $r_{i}>100 \mathrm{bp}$ |  | high | 2246 | 7.01 | 23\% | 28\% | 32\% | 10\% | 9\% | 16\% | 67\% | 64\% | 52\% |

Table 6 (Cont'd) Minimum Shortable Price(MSP) vs. Best Ask Price (9/11/2008-9/18/2008) lagged
returns

| Return (basis points) |  |  | $\begin{gathered} \# \\ \text { Obs. } \end{gathered}$ | Average Bid Ask Spread | \% of the time MSP > Ask (for different increment levels) |  |  | \% of the time MSP=Ask <br> (for different increment levels) |  |  | \% of the time MSP<Ask (for different increment levels) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Price increme | t for rule: |  |  |  | $\begin{gathered} 1 \\ \text { cent } \end{gathered}$ | 2 cents | 3 cents | 1 cent | 2 cents | 3 cents | $\begin{gathered} 1 \\ \text { cent } \end{gathered}$ | $2$ cents | $3$ cents |
| $r_{i}<-100 \mathrm{bp}$ | Medium | low | 5996 | 2.29 | 35\% | 56\% | 75\% | 26\% | 19\% | 4\% | 39\% | 25\% | 22\% |
| $-100 b p<r_{i}<0$ | (.6m- | low | 44353 | 1.82 | 39\% | 62\% | 83\% | 26\% | 19\% | 3\% | 34\% | 19\% | 14\% |
| $r_{i}=0$ | 2.3m) | low | 23822 | 1.2 | 49\% | 89\% | 97\% | 38\% | 7\% | 1\% | 13\% | 4\% | 3\% |
| $0<r_{i}<100 \mathrm{bp}$ |  | low | 43056 | 1.84 | 38\% | 62\% | 82\% | 27\% | 20\% | 3\% | 35\% | 19\% | 14\% |
| $r_{i}>100 \mathrm{bp}$ |  | low | 6791 | 2.35 | 35\% | 56\% | 75\% | 27\% | 19\% | 4\% | 38\% | 25\% | 21\% |
| $r_{i}<-100 b p$ |  | med | 3308 | 5.02 | 23\% | 35\% | 37\% | 12\% | 9\% | 18\% | 65\% | 56\% | 45\% |
| $-100 b p<r_{i}<0$ |  | med | 56220 | 3.02 | 29\% | 53\% | 56\% | 14\% | 8\% | 20\% | 57\% | 40\% | 24\% |
| $r_{i}=0$ |  | med | 4858 | 2.21 | 35\% | 70\% | 73\% | 18\% | 5\% | 14\% | 47\% | 25\% | 13\% |
| $0<r_{i}<100 \mathrm{bp}$ |  | med | 55886 | 3.08 | 29\% | 52\% | 55\% | 14\% | 8\% | 20\% | 57\% | 40\% | 25\% |
| $r_{i}>100 \mathrm{bp}$ |  | med | 4216 | 5.11 | 24\% | 36\% | 38\% | 12\% | 9\% | 18\% | 64\% | 55\% | 44\% |
| $r_{i}<-100 b p$ |  | high | 2278 | 9.44 | 19\% | 21\% | 24\% | 10\% | 9\% | 13\% | 72\% | 70\% | 64\% |
| $-100 \mathrm{bp}<r_{i}<0$ |  | high | 57717 | 5.49 | 21\% | 28\% | 34\% | 11\% | 9\% | 18\% | 68\% | 63\% | 49\% |
| $r_{i}=0$ |  | high | 2306 | 3.73 | 32\% | 42\% | 50\% | 12\% | 8\% | 17\% | 57\% | 50\% | 33\% |
| $0<r_{i}<100 \mathrm{bp}$ |  | high | 57722 | 5.55 | 21\% | 27\% | 33\% | 11\% | 9\% | 18\% | 68\% | 64\% | 49\% |
| $r_{i}>100 \mathrm{bp}$ |  | high | 3059 | 9.48 | 18\% | 21\% | 23\% | 9\% | 8\% | 12\% | 72\% | 71\% | 64\% |
| $r_{i}<-100 b p$ | Medium | low | 7970 | 3.06 | 31\% | 54\% | 70\% | 24\% | 16\% | 3\% | 45\% | 30\% | 26\% |
| $-100 \mathrm{bp}<r_{i}<0$ | Low | low | 46141 | 2.32 | 30\% | 57\% | 78\% | 31\% | 21\% | 3\% | 40\% | 22\% | 19\% |
| $r_{i}=0$ | (180000 | low | 45645 | 1.64 | 35\% | 77\% | 91\% | 41\% | 13\% | 1\% | 24\% | 10\% | 8\% |
| $0<r_{i}<100 \mathrm{bp}$ | -632000) | low | 44820 | 2.3 | 24\% | 55\% | 77\% | 32\% | 22\% | 3\% | 44\% | 24\% | 20\% |
| $r_{i}>100 \mathrm{bp}$ |  | low | 8108 | 3.07 | 27\% | 52\% | 69\% | 26\% | 18\% | 4\% | 47\% | 31\% | 27\% |
| $r_{i}<-100 b p$ |  | med | 4278 | 5.59 | 25\% | 28\% | 37\% | 11\% | 15\% | 9\% | 64\% | 57\% | 53\% |
| $-100 \mathrm{bp}<r_{i}<0$ |  | med | 66227 | 3.44 | 30\% | 37\% | 51\% | 14\% | 18\% | 12\% | 57\% | 45\% | 37\% |
| $r_{i}=0$ |  | med | 13391 | 2.51 | 39\% | 49\% | 67\% | 16\% | 19\% | 9\% | 46\% | 31\% | 24\% |
| $0<r_{i}<100 \mathrm{bp}$ |  | med | 65788 | 3.45 | 27\% | 35\% | 49\% | 14\% | 18\% | 12\% | 59\% | 47\% | 39\% |
| $r_{i}>100 \mathrm{bp}$ |  | med | 5147 | 5.54 | 23\% | 27\% | 36\% | 12\% | 15\% | 10\% | 65\% | 58\% | 53\% |
| $r_{i}<-100 b p$ |  | high | 2644 | 11.94 | 20\% | 23\% | 24\% | 8\% | 7\% | 10\% | 72\% | 70\% | 66\% |
| $-100 b p<r_{i}<0$ |  | high | 71499 | 6.57 | 21\% | 27\% | 30\% | 10\% | 8\% | 16\% | 69\% | 64\% | 55\% |
| $r_{i}=0$ |  | high | 4548 | 4.56 | 23\% | 37\% | 41\% | 14\% | 9\% | 18\% | 63\% | 54\% | 41\% |
| $0<r_{i}<100 \mathrm{bp}$ |  | high | 71607 | 6.66 | 19\% | 26\% | 28\% | 11\% | 9\% | 16\% | 70\% | 66\% | 56\% |
| $r_{i}>100 \mathrm{bp}$ |  | high | 3672 | 11.85 | 19\% | 22\% | 23\% | 8\% | 7\% | 11\% | 73\% | 71\% | 66\% |

Table 6 (Cont’d) Minimum Shortable Price(MSP) vs. Best Ask Price (9/11/2008-9/18/2008) lagged returns

| $\begin{gathered} \text { Return } \\ \text { (basis points) } \end{gathered}$ |  |  | \# Obs. | Average Bid Ask Spread | \% of the time MSP > Ask (for different increment levels) |  |  | \% of the timeMSP=Ask(for differentincrement levels) |  |  | \% of the timeMSP<Ask(for differentincrement levels) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Price increment for rule: |  |  | 1 cent | 2 cents | 3 cents | 1 | 2 | 3 | 1 | 2 | 3 |
|  |  |  |  |  |  |  |  | cent | cents | cents | cent | cents | cents |
| $r_{i}<-100 \mathrm{bp}$ | Low | low | 15129 | 11.28 | 38\% | 43\% | 48\% | 9\% | 9\% | 5\% | 53\% | 49\% | 47\% |
| $-100 \mathrm{bp}<r_{i}<0$ | (363 | low | 60360 | 8.63 | 34\% | 43\% | 51\% | 11\% | 10\% | 4\% | 55\% | 48\% | 45\% |
| $r_{i}=0$ | -180000) | low | 102937 | 8.13 | 36\% | 49\% | 58\% | 15\% | 11\% | 4\% | 49\% | 40\% | 38\% |
| $0<r_{i}<100 \mathrm{bp}$ |  | low | 55498 | 8.5 | 29\% | 40\% | 50\% | 13\% | 11\% | 5\% | 58\% | 49\% | 45\% |
| $r_{i}>100 \mathrm{bp}$ |  | low | 13769 | 11.91 | 27\% | 34\% | 41\% | 10\% | 9\% | 5\% | 63\% | 57\% | 54\% |
| $r_{i}<-100 \mathrm{bp}$ |  | med | 8934 | 24.63 | 34\% | 36\% | 41\% | 8\% | 9\% | 5\% | 58\% | 55\% | 54\% |
| $-100 \mathrm{bp}<r_{i}<0$ |  | med | 77851 | 12.09 | 29\% | 33\% | 43\% | 11\% | 13\% | 5\% | 59\% | 54\% | 52\% |
| $r_{i}=0$ |  | med | 71691 | 17.79 | 29\% | 35\% | 45\% | 14\% | 13\% | 5\% | 57\% | 51\% | 50\% |
| $0<r_{i}<100 \mathrm{bp}$ |  | med | 74281 | 12 | 23\% | 27\% | 39\% | 12\% | 15\% | 6\% | 65\% | 58\% | 56\% |
| $r_{i}>100 \mathrm{bp}$ |  | med | 8887 | 24.99 | 23\% | 26\% | 33\% | 9\% | 10\% | 4\% | 68\% | 64\% | 62\% |
| $r_{i}<-100 \mathrm{bp}$ |  | high | 7596 | 103.35 | 27\% | 27\% | 28\% | 5\% | 6\% | 5\% | 68\% | 67\% | 66\% |
| $-100 \mathrm{bp}<r_{i}<0$ |  | high | 107149 | 23.57 | 23\% | 25\% | 28\% | 8\% | 8\% | 8\% | 69\% | 67\% | 64\% |
| $r_{i}=0$ |  | high | 41957 | 52.55 | 24\% | 26\% | 29\% | 9\% | 9\% | 8\% | 68\% | 65\% | 63\% |
| $0<r_{i}<100 \mathrm{bp}$ |  | high | 108213 | 30.42 | 17\% | 19\% | 22\% | 9\% | 9\% | 10\% | 74\% | 72\% | 68\% |
| $r_{i}>100 \mathrm{bp}$ |  | high | 8364 | 122.77 | 17\% | 18\% | 20\% | 6\% | 6\% | 6\% | 77\% | 75\% | 74\% |

## Table 7-A

## Stocks: Three sampled stocks from each subgroup of stocks

## Period: 09/12/2008-09/18/2008

This table summarizes the probability that an order would execute and the time to execution when we simulated the submission of a short sell order for a group of 9 stocks of the highly traded group ( $>7 \mathrm{ml}$ shares). The price and the volume categories for the stocks are as described in the main text of the memo. For each of these groups, 3 stocks belonged to each of the price categories (high, medium and low price). We used the Daily TAQ's trade and quote reports for ARCA to simulate the market condition.
exec= percentage of the simulation which a short sale is executed.
$\mathrm{sec}=$ time to execution in seconds (for simulations that result in an execution).

| Share Volume Group | Price Group | Return (basis points) | Obs | Liquidity Provider |  | 1 cent bid increment + uptick |  | 2 cents bid increment + uptick |  | 3 cents bid increment + uptick |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | exec | sec | exec | sec | exec | sec | exec | sec |
| High | low | $r_{i}<-100 \mathrm{bp}$ | 410 | 68\% | 8.50 | 64\% | 10.62 | 52\% | 15.79 | 33\% | 22.37 |
| (>7m) |  | $-100 \mathrm{bp}<r_{i}<0$ | 2285 | 66\% | 12.94 | 61\% | 14.88 | 46\% | 20.42 | 18\% | 26.37 |
|  |  | $r_{i}=0$ | 509 | 60\% | 16.61 | 57\% | 18.87 | 34\% | 22.08 | 7\% | 34.31 |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 2044 | 79\% | 13.27 | 76\% | 15.29 | 60\% | 20.39 | 20\% | 27.22 |
|  |  | $r_{i}>100 \mathrm{bp}$ | 600 | 94\% | 8.24 | 91\% | 9.64 | 85\% | 14.18 | 56\% | 21.38 |
| High | medium | $r_{i}<-100 \mathrm{bp}$ | 285 | 80\% | 4.80 | 73\% | 6.61 | 63\% | 9.70 | 51\% | 19.30 |
| (>7m) |  | $-100 \mathrm{bp}<r_{i}<0$ | 3395 | 78\% | 8.49 | 75\% | 11.33 | 65\% | 16.25 | 28\% | 25.54 |
|  |  | $r_{i}=0$ | 300 | 83\% | 8.74 | 77\% | 13.00 | 63\% | 19.22 | 22\% | 28.50 |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 3049 | 90\% | 8.42 | 88\% | 10.98 | 81\% | 16.48 | 35\% | 25.65 |
|  |  | $r_{i}>100 \mathrm{bp}$ | 380 | 97\% | 6.52 | 94\% | 8.59 | 92\% | 11.02 | 76\% | 20.43 |
| High | high | $r_{i}<-100 \mathrm{bp}$ | 215 | 95\% | 2.15 | 88\% | 3.41 | 86\% | 4.27 | 80\% | 5.98 |
| (>7m) |  | $-100 \mathrm{bp}<r_{i}<0$ | 1981 | 87\% | 6.41 | 81\% | 8.89 | 71\% | 12.30 | 57\% | 14.79 |
|  |  | $r_{i}=0$ | 110 | 91\% | 9.25 | 86\% | 11.76 | 65\% | 20.27 | 29\% | 26.46 |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 1710 | 93\% | 5.72 | 89\% | 8.05 | 83\% | 11.45 | 70\% | 15.14 |
|  |  | $r_{i}>100 \mathrm{bp}$ | 275 | 99\% | 2.20 | 99\% | 3.39 | 98\% | 4.60 | 97\% | 5.45 |

Table 7-B
Stocks: Three sampled stocks from each subgroup of stocks
Period: 09/12/2008-09/18/2008
This table summarizes the probability that an order would execute and the time to execution when we simulated the submission of a short sell order for a group of 9 stocks of the medium traded group (more than . 6 m less than 2.3 m shares). The price and the volume categories for the stocks are as described in the main text of the memo. For each of these groups, 3 stocks belonged to each of the price categories (high, medium and low price). We used the Daily TAQ's trade and quote reports for ARCA to simulate the market condition. exec= percentage of the simulation which a short sale is executed. sec $=$ time to execution in seconds (for simulations that result in an execution).

| Share Volume Group | Price Group | Return (basis points) | $\begin{gathered} \text { \# } \\ \text { Obs } \end{gathered}$ | Liquidity Provider |  | 1 cent bid increment + uptick |  | 2 cents bid increment + uptick |  | 3 cents bid increment + uptick |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | exec | sec | exec | sec | exec | sec | exec | sec |
| Medium (.6m-2.3m) | low | $r_{i}<-100 \mathrm{bp}$ | 250 | 52\% | 13.71 | 36\% | 14.39 | 26\% | 17.81 | 15\% | 19.12 |
|  |  | $-100 \mathrm{bp}<\mathrm{r}_{i}<0$ | 2236 | 45\% | 16.69 | 31\% | 19.03 | 19\% | 22.32 | 11\% | 25.52 |
|  |  | $r_{i}=0$ | 816 | 30\% | 19.89 | 23\% | 20.87 | 7\% | 25.78 | 1\% | 34.71 |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 2228 | 69\% | 16.88 | 57\% | 20.02 | 39\% | 24.01 | 21\% | 25.72 |
|  |  | $r_{i}>100 \mathrm{bp}$ | 299 | 92\% | 10.69 | 85\% | 14.40 | 72\% | 19.92 | 42\% | 24.10 |
| Medium (.6m-2.3m) | medium | $r_{i}<-100 \mathrm{bp}$ | 239 | 83\% | 11.03 | 61\% | 14.75 | 59\% | 15.60 | 54\% | 16.69 |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 2280 | 76\% | 13.02 | 56\% | 17.03 | 51\% | 18.85 | 42\% | 20.54 |
|  |  | $r_{i}=0$ | 135 | 76\% | 13.02 | 61\% | 16.14 | 53\% | 17.93 | 40\% | 21.13 |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 2099 | 87\% | 13.01 | 72\% | 16.55 | 68\% | 18.67 | 59\% | 20.51 |
|  |  | $r_{i}>100 \mathrm{bp}$ | 305 | 95\% | 9.68 | 87\% | 14.25 | 86\% | 14.86 | 83\% | 16.54 |
| $\begin{aligned} & \text { Medium } \\ & (.6 m-2.3 m) \end{aligned}$ | high | $r_{i}<-100 \mathrm{bp}$ | 94 | 83\% | 8.80 | 64\% | 15.46 | 59\% | 16.99 | 57\% | 18.54 |
|  |  | $-100 \mathrm{bp}<r_{i}<0$ | 3218 | 79\% | 11.38 | 61\% | 15.25 | 55\% | 17.18 | 47\% | 19.14 |
|  |  | $r_{i}=0$ | 165 | 87\% | 13.85 | 72\% | 17.93 | 65\% | 21.29 | 53\% | 26.07 |
|  |  | $0<r_{i}<100 \mathrm{bp}$ | 3054 | 89\% | 11.32 | 77\% | 15.28 | 72\% | 17.41 | 66\% | 19.43 |
|  |  | $r_{i}>100 \mathrm{bp}$ | 95 | 97\% | 7.54 | 94\% | 11.10 | 93\% | 14.23 | 89\% | 14.90 |

## Office of Economic Analysis

## Draft Memorandum

To: Distribution List
From: Office of Economic Analysis
Date: Revised: February 2, 2009
Re: Abnormal Market Volatility and the 2008 Market Crisis

This memo provides statistical information and analysis relating to stock market volatility during the market crisis, especially since September 2008. In order to better understand whether the volatility during the 2008 financial crisis differs from that experienced during other turbulent periods, such as October 1929, the Great Depression, and October 1987, we provide information about market volatility over more than a century. We evaluate volatility both on a daily basis as well as intraday. We also provide information on how market volatility in the United States has compared with market volatility in other parts of the world during this period. Some of the key points are:

- Realized volatility from mid-September through November 2008 was extraordinarily high, reaching levels comparable to October 1929 and October 1987. [Figures 1, 2]
- History suggests that if the financial crisis continues unresolved, equity markets are likely to continue experiencing high volatility. During the Great Depression, markets experienced prolonged periods of very high volatility, especially between 1931 and 1933 and between 1937 and 1940. [Figure 2]
- Volatility declined substantially between November 2008 and December 2008, but remained above its long-run average. The CBOE VIX index, which is a forwardlooking measure designed to gauge the market's forecast of future volatility, declined from a peak above 80 on November 20 to close at 40 on December 31, 2008, and remained in the 40s most of the time in January 2009. [Figure 3]
- After normalizing volatility to correct for changes in the overall level of volatility and the typical pattern in intraday volatility, volatility in the last half hour of the day was abnormally high during the $4^{\text {th }}$ quarter of 2008, compared to historical norms. A similar phenomenon of abnormally high volatility near the end of the day was observed in other periods of market instability, such as in 1987 and 1997. [Figures 48].
- The large increase in volatility observed in the United States was also observed in the world's other equity markets. Peak volatility in Europe during October and November was comparable to that in the U.S., while volatility in Japan and Hong Kong was higher. [Figures 9-10].
- Other results include:
o The proportion of total volatility occurring overnight while the market was closed was slightly higher than usual. [See Appendix 2]
o In the third and fourth quarter of 2008, there were 16 days with an absolute return greater than two percent on the S\&P 500 index during the final half hour of trading, most of which occurred in October and November. [Appendix 3]
o The day with the most extreme end-of-day volatility was October 29, 2008, when the S\&P 500 index fell nearly five percent in the final eleven minutes of trading. This end-of-day decline was observed across all sectors of the S\&P 500, but was largest in the Financial Sector. [Appendix 3]


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## Historical Context

To aid in evaluating the magnitude of stock market volatility during the 2008 financial crisis, it is useful to consider the current level of volatility in context of the historical record. Figure 1 shows a graph of realized volatility on the S\&P 500 index from January 2000 through December 2008. ${ }^{1}$ As the graph indicates, market volatility began to rise near the end of February 2007, and increased substantially in August 2007. Volatility remained at levels comparable to the early 2000s until the middle of September 2008, at which point volatility increased precipitously.

Figure 1
S\&P 500 Volatility, 2000-2008
Annualized Standard Deviation of Daily Returns 30-day rolling window


Taking a step back to look at the longer historical record, Figure 2 shows a graph of market volatility for the period 1900-1950 (upper panel) and 1951-2008 (lower panel). This provides a comparison of the current volatility with that experienced during prior crises. ${ }^{2}$ As the graphs indicate, the volatility spike that occurred in the $4^{\text {th }}$ quarter of 2008 is roughly comparable in magnitude to those of other crisis periods: October 1929 and October 1987. Note that the market experienced prolonged periods of very high volatility during the Great Depression, particularly from 1931 to 1933, and from late 1937 to mid1940 but not after the market decline in October 1987.

[^15]Figure 2
Market Volatility, 1900-1950
Annualized Standard Deviation of Daily Returns
(30-day rolling window)


S\&P 500 Volatility, 1951-2008
Annualized Standard Deviation of Daily Returns 30-day rolling window


## Market Volatility Forecast

The graphs in the previous section are based on historical measures of realized volatility. These metrics are inherently "backward-looking," in that they only measure what happened in the past, they do not reflect what the market perceives likely to happen in the future. The CBOE Volatility Index (VIX) is a "forward-looking" measure, designed to capture the market's forecast of volatility for the month, as reflected implicitly in the prices of exchange-traded S\&P 500 index options. Figure 3 graphs the level of the VIX index from before the crisis until January 30, 2009. The index peaked above 80 on November 20, 2008, and declined to close at 40 at the end of the year. During January 2009, the index remained predominantly in the 40 s, but fluctuated between an intraday low of 36.88 on January 2 to an intraday high of 57.36 on January 20.

Figure 3
CBOE Volatility Index (VIX)
1/2/2008-1/30/2009


## General Pattern in Intraday Volatility

It has long been known that stock market volatility follows a U-shaped pattern over the trading day, with volatility higher near the beginning and end of trading hours than in the middle of the day. ${ }^{3}$ This pattern has been observed over a long period of time in various markets, and is not unique to periods of market crisis. Some commentators have suggested that end-of-day volatility during the 2008 crisis has been abnormally high, and have expressed concerns that this may be related to trading by certain groups or linked to certain instruments such as leveraged Exchange-Traded Funds. In order to assess the extent to which end-of-day volatility was abnormally high during the 2008 crisis, we compared the intraday volatility pattern during the crisis to the typical pattern observed in other periods.

To establish the typical pattern of market volatility over the day, we used data provided by TickData to examine price movements of the S\&P 500 index and S\&P 500 Futures over 30 -minute intervals. We verified that over the course of the day volatility tends to follow a U-shaped pattern: volatility begins high, decreases over the first two hours of the trading day, remains low between 11:30 and 2:00, and increases over the last two hours. The same basic pattern was observed for both S\&P 500 Futures prices and S\&P 500 Index values.

Figure 4 graphs the volatility on the cash index and on the futures price for each half-hour period over the period 1986-2008. As the figure indicates, volatility at both the beginning and end of the day is approximately 10 basis points higher than during the middle of the day.

Note that for the first half-hour period of the day, the index return was significantly more volatile than the futures return. This is due to the fact that the index value at 9:30 is computed before the opening prices of the component stocks has been established, and so it is computed with stale prices that do not reflect the overnight return. This is not an issue for the futures price so the subsequent analysis only used S\&P 500 Futures prices.

[^16]Figure 4


For purposes of comparison, Figure 5 presents intraday realized volatility on S\&P 500 futures for a typical period of low volatility (Fourth Quarter of 1994), a historical market crisis (Fourth Quarter of 1987), and the current financial crisis (Third and Fourth quarters of 2008). As the graph indicates, the U-shaped pattern was observed in all cases, but was more pronounced in times of crisis, especially Q4 of 1987 and Q4 of 2008.

Figure 5


## Abnormal End-of-Day Volatility

In order to establish a more meaningful comparison of intraday patterns across high-and low-volatility periods, we developed a metric called "normalized variance" that isolates the contribution of each half-hour period to total volatility, while controlling for total volatility. See Appendix 1 for how this metric is calculated. To interpret values of this variance metric on the following graphs, a value of 1.5 observed for the last half hour of the day indicates that return variance is $50 \%$ higher than the intraday average on the same day. If volatility is U-shaped over the day, this variance metric will be higher than one near the beginning and end of the day, and lower than one in the middle of the day.

Figure 6 graphs the intraday pattern in this variance metric for Q2, Q3, and Q4 of 2008, alongside the long-term benchmark pattern estimated over the period 1986-2008. The graph shows that end-of-day volatility was no higher than usual in Q2 of 2008, but became higher during the crisis. In particular, variance was particularly high the fourth quarter of 2008, when volatility in the last half hour of the day was nearly $21 / 2$ times the intraday average. ${ }^{4}$

Figure 6


[^17]Figure 7 presents the intraday volatility pattern for the third and fourth quarters of 2007 and 2008 side by side with similar graphs from other times of market turbulence, including two quarters around the 1987 market crisis and two quarters in 1997. The figure demonstrates that abnormally high end-of-day volatility was not unique to the 2008 crisis. For example, in the fourth quarter of 1987, variance in the last half hour of the day was 2.50 times higher than the intraday average, even higher than the ratio of 2.42 observed in the fourth quarter of 2008.

Figure 7


To further investigate historical patterns of end of day volatility, Figure 8 graphs variance in the last half hour of the day for each quarter since 1986. As the graph indicates, variance was greater than one for the vast majority of quarters, indicating that volatility has consistently been higher at the end of the day than during the middle of the day. It has not been uncommon for normalized variance (averaged over the quarter) to exceed 1.5, especially in the late 1980s and the late 1990s. Average normalized variance greater than 2.0 has been unusual, observed for only seven quarters since 1986. The peak values of volatility occurred in periods of market turbulence: Q4 of 1987 and Q4 of 2008, respectively.

Figure 8
S\&P 500 Futures Variance in the Final $\mathbf{3 0}$ Minutes of Trading By Quarter, 1986-2008
(Normalized: Value of 1 equals average variance over the day)


## Volatility in International Equity Markets

The 2008 financial crisis affected markets all over the world. This section provides graphs that compare volatility in the U.S. with volatility in various international equity markets, based on index data obtained from Datastream International.

Figure 9 shows volatility for North American Markets including the NYSE Composite index, the Nasdaq Composite Index, and the Toronto TSX Composite. While the prior graphs based on the S\&P 500 index included both NYSE and Nasdaq components, Figure 9 separates the two markets, and shows that volatility during the 2008 crisis was slightly higher for NYSE stocks than for Nasdaq stocks. Volatility in Canadian stocks was comparable to Nasdaq stocks.

Figure 9


Figure 10 shows volatility for various European and Asia-Pacific Markets. The European markets exhibited a similar pattern, with volatility peaking somewhere between $70 \%$ and 80\% in November 2008 (slightly lower for the Swiss index). Realized volatility in the Japanese and Hong Kong markets was particularly high, with 30-day rolling volatility for both the Nikkei 225 and Hang Seng indexes peaking around 100\% in mid-November. Volatility in the Shanghai Stock Exchange index was substantially higher than the other main international stock indices over the prior two years, but was lower during the fourth quarter of 2008. Volatility in the Australian market also increased in the fourth quarter of 2008, but not as much as in the world's other major equity markets. The pattern of volatility in the Korean equity market was similar to that in the U.S.

Figure 10



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## Appendix 1: Calculation of Volatility Metric

This Appendix presents the calculation of the volatility metric that isolates the contribution of each half-hour period to total volatility, while controlling for total volatility. In particular, for each half-hour period each day, we computed the normalized contribution to variance by calculating the squared return, dividing it by the sum of squared returns for that day, and multiplying by 13 :

$$
C_{i}=13 \times \frac{R_{i}^{2}}{\sum_{j-1}^{13} R_{j}^{2}}
$$

where $\mathrm{R}_{\mathrm{i}}$ represents the market return in period $i$, and the sum of squared returns is taken across the 13 half-hour periods between 9:30 and 4:00. The ratio is multiplied by 13 so that the contribution is normalized to one. So, for example, on a day when realized volatility is constant and the squared return is exactly the same in each half-hour period, each period would contribute exactly $1 / 13$ to the total sum of squares, and the normalized contribution would be constant at one. After computing the normalized contribution each half hour of each day, these contributions are aggregated by computing the mean contribution for a given half-hour interval across days.

## Appendix 2: Open-To-Close vs. Overnight Volatility

This Appendix addresses the question of how high is volatility during trading hours compared to the volatility when the market is closed, as reflected in the overnight return. To address this question, we observed the S\&P 500 futures price immediately after 9:30 AM and immediately prior to 4:00 each day. For each day t, we computed the overnight return from 4:00 on day $t-1$ to $9: 30$ on day $t\left(\mathrm{R}_{\mathrm{to}}\right)$ and the open-to-close return on day t $\left(\mathrm{R}_{\mathrm{td}}\right)$. We then computed the ratio of the squared open-to-close return to the sum of the two squared returns. This represents the relative contribution of the open-to-close return to total variance, denoted OCV:

$$
O C V=\frac{R_{t d}^{2}}{R_{t o}^{2}+R_{t d}^{2}}
$$

In the extreme case where all price changes occur between 9:30 and 4:00 and the overnight return is always zero, the OC metric would equal one. In the opposite case where the price always remains constant between 9:30 and 4:00 and all price changes occur overnight, the OC metric would equal zero. The metric was computed each day then aggregated across days for each quarter from 1986 to 2008.

As indicated in Figure 11, the Open-to-Close Return typically represented around 60$70 \%$ of total variance, with a slight downward trend over time.

Focusing on those quarters having abnormally high end-of-day volatility, some of these quarters also had a low value for OCVs. In other words, during time periods that experienced market turbulence, relatively more volatility occurred overnight. For example, Figure 11 shows that Q4 of 1987, Q4 of 1997, and Q3 and Q4 of 2007 had relatively low values of OCV. However, the OCV metric was not particularly low for Q3 or Q4 of 2008.

Figure 11


## Appendix 3: Extreme Days

The analysis in this memo established that proportion of total volatility attributable to the last half hour of the day was high during the third and fourth quarters of 2008. To further investigate this phenomenon, we isolated days within this six month period that had extreme volatility. We found that during that period of time, fourteen of the sixteen largest end-of-day return events occurred in October and November, including four that occurred between October 23 and October 29, and seven that occurred between November 13 and November 21. Note that returns at the end of the day on high volatility days were both positive and negative. The following table reports the sixteen days between July 2008 and December 2008 for which the absolute value of the return on the S\&P 500 index, during the last half hour of the trading day, was greater than two percent. The table also reports the return and normalized variance for S\&P 500 Futures in the last half hour of the day.

Table 1

| Date | Index Return <br> $3: 30-4: 00$ | Futures Return <br> $3: 30-4: 00$ | Normalized <br> Variance |
| ---: | :---: | :---: | :---: |
| October 29, 2008 | $-4.13 \%$ | $-4.26 \%$ | 9.32 |
| November 21, 2008 | $3.40 \%$ | $3.16 \%$ | 4.62 |
| November 14, 2008 | $-3.38 \%$ | $-3.49 \%$ | 6.83 |
| October 28, 2008 | $3.33 \%$ | $3.30 \%$ | 4.79 |
| October 13, 2008 | $3.16 \%$ | $3.11 \%$ | 7.94 |
| October 8, 2008 | $-3.16 \%$ | $-3.28 \%$ | 3.34 |
| October 15, 2008 | $-3.11 \%$ | $-2.84 \%$ | 7.30 |
| October 27, 2008 | $-3.00 \%$ | $-2.76 \%$ | 5.79 |
| November 13, 2008 | $2.63 \%$ | $2.64 \%$ | 2.62 |
| October 23, 2008 | $2.62 \%$ | $2.94 \%$ | 3.85 |
| November 20, 2008 | $-2.56 \%$ | $-2.72 \%$ | 3.76 |
| November 18, 2008 | $2.27 \%$ | $2.08 \%$ | 3.99 |
| September 17, 2008 | $-2.18 \%$ | $-2.17 \%$ | 5.74 |
| December 1, 2008 | $-2.12 \%$ | $-2.10 \%$ | 5.33 |
| November 19, 2008 | $-2.08 \%$ | $-1.76 \%$ | 4.00 |
| November 17, 2008 | $-2.04 \%$ | $-2.08 \%$ | 5.14 |

October 29, 2008
Of all the days in the last two quarters of 2008, October 29 stands out in terms of abnormal activity at the end of the trading day. As reported in Table 1, this was the only day on which the absolute returns on the S\&P 500 index and on the S\&P 500 index futures between 3:30 and 4:00 exceeded four percent. In addition, the normalized variance measure - equal to 2.42 on average during the fourth quarter of 2008-was equal to 9.32 on this date. In other words, end-of-day volatility on October 29 was high, not only compared to the average end-of-day, but also compared to volatility earlier that day.

Figure 12 shows the intraday graph for the S\&P 500 on October 29, 2008. Of particular interest on this day, the S\&P 500 index increased by $3.25 \%$ in less than 15 minutes between 3:11:18 and 3:26:03, then at the end of the day decreased by $4.92 \%$ in 11 minutes between 3:48:48 and 3:59:48. Some commentators attributed this end-of-day move to a Dow Jones news story reporting comments by Jeff Immelt, CEO of General Electric (GE). Another news story reports that "traders said hedge funds and mutual funds were dumping stocks to raise cash to repay clients and lenders, while other investors were eager to lock in some profit from Tuesday's huge rally." ${ }^{5}$

Figure 12


Figure 13 narrows in on the end of the day, and graphs the returns for Energy, Financial, Health Care, Information Technology, Retail, and "Other" components of the S\&P 500. As the graph indicates, the return pattern on the S\&P 500 index was observed in each of these sectors, but the financial stocks experienced the greatest decline during this period.

Table 2 reports the S\&P 500 component stocks having the largest negative returns during the last 15 minutes of the day on October 29. As the table indicates, many of the worst performing stocks over this period were insurance companies and other large financial services firms. Contrary to the assertion that GE stock was driving this decline, GE was not among the 50 S\&P 500 stocks with the most negative returns over this period.

[^18]Figure 13


Table 2:
S\&P 500 Stocks with the Most Negative End-of-Day Returns on 10/29/2008

| Stock | Return |
| ---: | :---: |
| $3: 45-4: 00$ |  |$|$| MetLife |
| ---: |
| $-9.59 \%$ |
| Prudential Financial |
| $-8.79 \%$ |
| Bank of New York Mellon |
| Office Depot |
| $-8.65 \%$ |
| Hartford Financial Services Grp |
| Morgan Stanley |
| Ameriprise Financial |
| Public Storage |
| Lincoln National |
| Micron Technology |
| Massey Energy |
| Host Hotels \& Resorts |
| Assurant |
| Sprint Nextel |
| State Street |

The top graph in Figure 14 shows the intraday movements of the S\&P 500 index on November 21, 2008. On this day, the index rose precipitously in the final hour of the day, rising 7.29\% between 2:59:09 and 3:59:54. Some commentators linked this market move to reports that President-Elect Obama would nominate Timothy Geithner as Treasury Secretary. ${ }^{6}$

November 14, 2008
The bottom graph in Figure 14 shows the intraday movements of the S\&P 500 index on November 14, 2008. This was a particularly volatile day, with the index declining roughly $4.1 \%$ between $9: 57$ and $12: 18$, increasing more than $5.4 \%$ between $12: 18$ and $3: 00$, and then decreasing nearly $4.9 \%$ in the last hour of trading.

[^19]Figure 14



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| From: | Bisiere, Christophe |
| :--- | :--- |
| Sent: | Monday, July 03, 2006 4:16 PM |
| To: | McCormick, Tim; Mayhew, Stewart |
| Subject: | RE: squeeze -- preliminary results |
|  |  |
| Attachments: | RunLength.gif |

Stewart, Tim,
Ho, I forgot this graph (run length in \# of days, where \# <= 50).
Have a great Fourth of July holiday.
NB: sorry for the double-post last Friday -- I sent the email from home and experienced some problems with my session.

## Christophe

```
-----Original Message-----
From: Bisiere, Christophe
Sent: Friday, June 30, 2006 8:33 AM
To: McCormick, Tim; Mayhew, Stewart
Subject: squeeze -- preliminary results
Stewart, Tim,
Here are my preliminary results.
```

Time period: Fev 2005-Dec 2005

1) Results that do not require to identify securities (data=all threshold data)

NumInList_*.gif: daily time series of the number of securities in the threshold list
2) Results that require to identify securities (done by Permno) (data=identified securities in threshold and fail data, which restrict us to nyse/amex/nasdaq)

NumDaysInList.gif: how many days a security spent in the threshold list over the sample period

DailyFailPct.*: daily average fails in \% of outstanding shares (when fails > 0)
RunLength.pdf: stats on the length of a "run" of contiguous business days spent in the threshold list
3) Analyse of a possible price effect
(requires matching CRSP data)
Transitions.pdf: Beta Excess Return (source=CRSP) cond. on transition in/out of the list
Seq.pdf: Beta Excess Return after a big increase in fails for a threshold security, from day 0 (day of the increase) to day 16 after the increase, for 5 definitions of "big". Sequences are clean (no overlaps). It does not show clear evidence of squeeze (however, there is a weak positive price impact on day 11/12). I did the same computation for trade volume and turnover, but did not find any effect.

I am taking a day off today, and will be back on Monday. I am looking forward to discuss all these with you.

Have a great week end.
Christophe


From:
Sent:
To:

## Subject:

Attachments:

Bisiere, Christophe
Wednesday, January 03, 2007 9:54 AM
Spatt, Chester S.; Mayhew, Stewart
Securities Lending
Length_May_July.bmp; 5_days.bmp; 6_days.bmp; 7_days.bmp; 8_days.bmp; 10_days.bmp; Length_Jan_Nov.bmp

Chester and Stewart,
Since our last meeting, what I have done is the followings:

- Start with a much larger sample period (Jan-Nov 2006);
- Simulate the threshold list over this sample period. Note that a large sample period is useful to make sure that the simulated threshold list is fully determined at the beginning of our May-July sample period (for some stocks, a run of 5 consecutive days such that the threshold criteria are met (or not met) takes a long time to show up in the data).
- Draw a freq chart of the in-threshold-list run's length (file Length_Jan_Nov.bmp)
- Build our sample of events. An event is an in-threshold-list run fully contained within the May-July sample period; with the additional restriction that it must have 5 days of out-of-threshold-list data on both ends (taking care that these 5 days don't overlap with another event on the same stock). The goal is to study what is going on 5 days before entering a run and 5 days after leaving a run.
- Draw a freq chart of the in-threshold-list run's length over our May-July sample period (file Length_May_July.bmp). Hopefully very similar to the large sample freq chart.
- Draw for each length the times series of: Lending rate, Fails in \% of outstanding shares, Shares borrowed in \% of outstanding shares. I report here the graphs x_days.bmp for which we have at least 20 events.

A quick look at these graphs shows that:

- Fails quickly drop after entering the list.
- There is a strange bump after leaving the list for events of length 6. I must investigate this point further.
- Borrowings in \% are almost flat. I must rescale it.
- There is no obvious pattern for the Lending Rate.

I hope that we will have the corrected Quadriserv data soon, which could dramatically increase the number of events in our sample, and solve this "negative lending rates" issue we had.

Let me know if you can/want to have a short meeting today or if you prefer to schedule it post-Chicago. In any case, I am still working on the project.

Have a good day, and a Happy New Year,
Christophe










## From:

Sent:
To:
Subject:
Attachments:

Bisiere, Christophe
Friday, June 30, 2006 8:33 AM
McCormick, Tim; Mayhew, Stewart
squeeze -- preliminary results
NumInList_All.gif; NumInList_Amex.gif; NumInList_Arcaex.gif; NumInList_Nasdaq.gif; NumInList_Nyse.gif; NumInList_Others.gif; NumDaysInList.gif; DailyFailPct.gif;
DailyFailPc̄t.pdf; RunLength.pdf; Transitions.pdf; Seq.pdf


NumInList_All.gif NumInList_Amex.gif NumInList_Arcaex. NumInList_Nasdaq. NumInList_Nyse.gifNumInList_Others.g NumDaysInList.gif gif $\quad$ gif


> Stewart, Tim,

Here are my preliminary results.
Time period: Fev 2005-Dec 2005

1) Results that do not require to identify securities (data=all threshold data)

NumInList_*.gif: daily time series of the number of securities in the threshold list
2) Results that require to identify securities (done by Permno) (data=identified securities in threshold and fail data, which restrict us to nyse/amex/nasdaq)

NumDaysInList.gif: how many days a security spent in the threshold list over the sample period

DailyFailPct.*: daily average fails in \% of outstanding shares (when fails > 0)
RunLength.pdf: stats on the length of a "run" of contiguous business days spent in the threshold list
3) Analyse of a possible price effect
(requires matching CRSP data)
Transitions.pdf: Beta Excess Return (source=CRSP) cond. on transition in/out of the list
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I am taking a day off today, and will be back on Monday. I am looking forward to discuss all these with you.

Have a great week end.
Christophe

Daily fails in \% of outstanding shares when \# of fails > 0
['01FEB2005'D to '30DEC2005'D]
6125 Permnos matched with CRSP data

The MEANS Procedure

Analysis Variable : FailPct

| N | Mean | Std Dev | Minimum | Maximum | Median |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 285882 | 0.4249203 | 1.8971086 | 0.000095175 | 149.6221374 | 0.1044625 |





SEC_OEA_FCIC_001838


SEC_OEA_FCIC_001839


SEC_OEA_FCIC_001840


SEC_OEA_FCIC_001841


SEC_OEA_FCIC_001842


SEC_OEA_FCIC_001843
['01FEB2005'D to '30DEC2005'D]
1889 runs, 1079 Permnos

The UNIVARIATE Procedure
Variable: RunLength

Moments

| N | 1889 | Sum Weights | 1889 |
| :--- | ---: | :--- | ---: |
| Mean | 14.1556379 | Sum Observations | 26740 |
| Std Deviation | 13.3040201 | Variance | 176.99695 |
| Skewness | 4.08047238 | Kurtosis | 27.8912162 |
| Uncorrected SS | 712692 | Corrected SS | 334170.242 |
| Coeff Variation | 93.9838966 | Std Error Mean | 0.30610253 |

Basic Statistical Measures

Location

| Mean | 14.15564 | Std Deviation | 13.30402 |
| :--- | ---: | :--- | ---: |
| Median | 10.00000 | Variance | 176.99695 |
| Mode | 6.00000 | Range | 163.00000 |
|  |  | Interquartile Range | 11.00000 |

Tests for Location: Mu0=0

Test -Statistic- ----p Value----.

| Student's t | t | 46.24476 | Pr $>\|\mathrm{t}\|$ | $<.0001$ |
| :--- | ---: | ---: | :--- | :--- |
| Sign | M | 944.5 | $\mathrm{Pr}>=\|\mathrm{M}\|$ | $<.0001$ |
| Signed Rank | S | 892552.5 | $\mathrm{Pr}>=\|\mathrm{S}\|$ | $<.0001$ |

Quantiles (Definition 5)
Quantile Estimate
100\% Max 164
99\% 69

95\% 36
90\% 27
75\% Q3 17
50\% Median 10
25\% Q1 6
$10 \% 5$
5\% 5
$1 \%$ 1
$0 \%$ Min 1

```
In-Threshold Run Length in Number of Days
5 0 4
    ['01FEB2005'D to '30DEC2005'D]
            1889 runs, }1079\mathrm{ Permnos
        The UNIVARIATE Procedure
            Variable: RunLength
            Extreme Observations
    ----Lowest---- ---Highest---
\begin{tabular}{rrrr} 
Value & Obs & Value & Obs \\
& & & \\
1 & 1866 & 99 & 1065 \\
1 & 1844 & 133 & 385 \\
1 & 1828 & 145 & 848 \\
1 & 1825 & 148 & 367 \\
1 & 1823 & 164 & 92
\end{tabular}
``` in the \# of fails for a threshold security

Each observation is a non-overlaping sequence of 16 business days after a jump larger than 5 times the average jump for the security, plus the day of the jump itself (day 0 ).

The sample of \(N\) sequences refers to 183 different Permnos out of 7174 identified Permnos.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{} & \multirow[b]{2}{*}{N} & \multicolumn{5}{|c|}{Beta Excess Return} \\
\hline & & Median & Mean & Std & Min & Max \\
\hline Days after the jump & & & & & & \\
\hline 0 & 200 & 0.0011 & 0.0007 & 0.0381 & -0.1538 & 0.1600 \\
\hline 1 & 200 & -0.0031 & -0.0031 & 0.0302 & -0.1190 & 0.0993 \\
\hline 2 & 200 & -0.0028 & -0.0026 & 0.0449 & -0.0997 & 0.2714 \\
\hline 3 & 200 & -0.0004 & 0.0001 & 0.0363 & -0.1899 & 0.1615 \\
\hline 4 & 200 & 0.0003 & 0.0086 & 0.0623 & -0.0879 & 0.4816 \\
\hline 5 & 200 & -0.0013 & -0.0088 & 0.0299 & -0.1208 & 0.0917 \\
\hline 6 & 200 & -0.0011 & -0.0020 & 0.0250 & -0.0863 & 0.0646 \\
\hline 7 & 200 & 0.0005 & -0.0003 & 0.0253 & -0.1091 & 0.0706 \\
\hline 8 & 200 & -0.0029 & -0.0034 & 0.0363 & -0.0924 & 0.1600 \\
\hline 9 & 200 & -0.0003 & -0.0011 & 0.0350 & -0.1122 & 0.1672 \\
\hline 10 & 200 & -0.0012 & -0.0010 & 0.0348 & -0.1113 & 0.2095 \\
\hline 11 & 200 & 0.0008 & 0.0021 & 0.0341 & -0.1753 & 0.1569 \\
\hline 12 & 200 & -0.0000 & -0.0002 & 0.0404 & -0.1473 & 0.2200 \\
\hline 13 & 200 & 0.0003 & 0.0005 & 0.0230 & -0.0700 & 0.0947 \\
\hline 14 & 200 & -0.0014 & -0.0012 & 0.0227 & -0.0610 & 0.1031 \\
\hline 15 & 200 & -0.0022 & -0.0076 & 0.0279 & -0.0985 & 0.0645 \\
\hline 16 & 200 & 0.0012 & 0.0030 & 0.0553 & -0.2266 & 0.3356 \\
\hline
\end{tabular}

Beta Excess Return cond. on \# of days after a big jump in the \# of fails for a threshold security

Each observation is a non-overlaping sequence of 16 business days after a jump larger than 6 times the average jump for the security, plus the day of the jump itself (day 0 ).

The sample of \(N\) sequences refers to 151 different Permnos out of 7174 identified Permnos.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{} & \multirow[b]{2}{*}{N} & \multicolumn{5}{|c|}{Beta Excess Return} \\
\hline & & Median & Mean & Std & Min & Max \\
\hline Days after the jump & & & & & & \\
\hline 0 & 166 & -0.0018 & -0.0020 & 0.0383 & -0.1538 & 0.1600 \\
\hline 1 & 166 & -0.0031 & -0.0038 & 0.0329 & -0.1190 & 0.0993 \\
\hline 2 & 166 & -0.0009 & -0.0022 & 0.0463 & -0.0997 & 0.2714 \\
\hline 3 & 166 & -0.0003 & 0.0017 & 0.0368 & -0.1336 & 0.1615 \\
\hline 4 & 166 & 0.0016 & 0.0094 & 0.0604 & -0.0879 & 0.4816 \\
\hline 5 & 166 & -0.0007 & -0.0082 & 0.0300 & -0.1208 & 0.0602 \\
\hline 6 & 166 & -0.0030 & -0.0047 & 0.0265 & -0.0863 & 0.0796 \\
\hline 7 & 166 & 0.0001 & -0.0001 & 0.0251 & -0.0839 & 0.0706 \\
\hline 8 & 166 & -0.0024 & -0.0003 & 0.0355 & -0.0924 & 0.1600 \\
\hline 9 & 166 & -0.0003 & 0.0019 & 0.0386 & -0.1122 & 0.1672 \\
\hline 10 & 166 & -0.0023 & -0.0039 & 0.0341 & -0.1113 & 0.2095 \\
\hline 11 & 166 & 0.0013 & 0.0019 & 0.0360 & -0.1753 & 0.1569 \\
\hline 12 & 166 & 0.0002 & 0.0007 & 0.0415 & -0.1473 & 0.2200 \\
\hline 13 & 166 & -0.0011 & 0.0015 & 0.0248 & -0.0700 & 0.0947 \\
\hline 14 & 166 & -0.0017 & -0.0043 & 0.0251 & -0.0784 & 0.1031 \\
\hline 15 & 166 & -0.0022 & -0.0093 & 0.0306 & -0.0985 & 0.0645 \\
\hline 16 & 166 & 0.0010 & 0.0047 & 0.0587 & -0.2266 & 0.3356 \\
\hline
\end{tabular}

Beta Excess Return cond. on \# of days after a big jump in the \# of fails for a threshold security

Each observation is a non-overlaping sequence of 16 business days after a jump larger than 7 times the average jump for the security, plus the day of the jump itself (day 0 ).

The sample of N sequences refers to 127 different Permnos out of 7174 identified Permnos.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{} & \multirow[b]{2}{*}{N} & \multicolumn{5}{|c|}{Beta Excess Return} \\
\hline & & Median & Mean & Std & Min & Max \\
\hline Days after the jump & & & & & & \\
\hline 0 & 137 & -0.0011 & 0.0015 & 0.0458 & -0.1538 & 0.1600 \\
\hline 1 & 137 & -0.0035 & -0.0048 & 0.0341 & -0.1190 & 0.0993 \\
\hline 2 & 137 & -0.0018 & -0.0090 & 0.0387 & -0.1091 & 0.1534 \\
\hline 3 & 137 & -0.0021 & -0.0031 & 0.0376 & -0.1336 & 0.1615 \\
\hline 4 & 137 & -0.0002 & 0.0109 & 0.0674 & -0.0879 & 0.4816 \\
\hline 5 & 137 & 0.0003 & -0.0047 & 0.0372 & -0.1208 & 0.1809 \\
\hline 6 & 137 & -0.0049 & -0.0072 & 0.0263 & -0.0863 & 0.0623 \\
\hline 7 & 137 & 0.0006 & -0.0011 & 0.0244 & -0.0839 & 0.0651 \\
\hline 8 & 137 & -0.0035 & 0.0018 & 0.0386 & -0.0924 & 0.1600 \\
\hline 9 & 137 & -0.0003 & -0.0001 & 0.0366 & -0.1122 & 0.1274 \\
\hline 10 & 137 & -0.0024 & -0.0105 & 0.0276 & -0.1113 & 0.0525 \\
\hline 11 & 137 & 0.0008 & 0.0019 & 0.0382 & -0.1753 & 0.1569 \\
\hline 12 & 137 & 0.0007 & 0.0009 & 0.0435 & -0.1473 & 0.2200 \\
\hline 13 & 137 & -0.0010 & 0.0025 & 0.0350 & -0.0700 & 0.2271 \\
\hline 14 & 137 & -0.0021 & -0.0051 & 0.0260 & -0.0784 & 0.1031 \\
\hline 15 & 137 & -0.0021 & -0.0069 & 0.0288 & -0.0985 & 0.0645 \\
\hline 16 & 137 & 0.0012 & 0.0040 & 0.0612 & -0.2266 & 0.3356 \\
\hline
\end{tabular}

Beta Excess Return cond. on \# of days after a big jump in the \# of fails for a threshold security

Each observation is a non-overlaping sequence of 16 business days after a jump larger than 8 times the average jump for the security, plus the day of the jump itself (day 0 ).

The sample of N sequences refers to 104 different Permnos out of 7174 identified Permnos.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{} & \multirow[b]{2}{*}{N} & \multicolumn{5}{|c|}{Beta Excess Return} \\
\hline & & Median & Mean & Std & Min & Max \\
\hline Days after the jump & & & & & & \\
\hline 0 & 109 & -0.0011 & 0.0021 & 0.0419 & -0.0965 & 0.1600 \\
\hline 1 & 109 & -0.0050 & -0.0084 & 0.0352 & -0.1190 & 0.0993 \\
\hline 2 & 109 & -0.0005 & -0.0047 & 0.0402 & -0.1091 & 0.1534 \\
\hline 3 & 109 & -0.0008 & -0.0021 & 0.0328 & -0.1336 & 0.0800 \\
\hline 4 & 109 & -0.0006 & -0.0004 & 0.0314 & -0.0879 & 0.0854 \\
\hline 5 & 109 & 0.0018 & -0.0014 & 0.0359 & -0.0741 & 0.1809 \\
\hline 6 & 109 & -0.0022 & -0.0042 & 0.0255 & -0.0862 & 0.0623 \\
\hline 7 & 109 & 0.0006 & -0.0003 & 0.0246 & -0.0839 & 0.0715 \\
\hline 8 & 109 & -0.0035 & 0.0031 & 0.0405 & -0.0924 & 0.1600 \\
\hline 9 & 109 & -0.0003 & -0.0026 & 0.0334 & -0.1122 & 0.1255 \\
\hline 10 & 109 & -0.0014 & -0.0099 & 0.0298 & -0.1113 & 0.0525 \\
\hline 11 & 109 & 0.0029 & 0.0078 & 0.0331 & -0.0677 & 0.1569 \\
\hline 12 & 109 & 0.0011 & 0.0021 & 0.0468 & -0.1473 & 0.2200 \\
\hline 13 & 109 & -0.0024 & 0.0016 & 0.0363 & -0.0631 & 0.2271 \\
\hline 14 & 109 & -0.0005 & -0.0007 & 0.0267 & -0.0464 & 0.1031 \\
\hline 15 & 109 & 0.0000 & -0.0037 & 0.0229 & -0.0630 & 0.0645 \\
\hline 16 & 109 & 0.0012 & 0.0008 & 0.0617 & -0.2266 & 0.3356 \\
\hline
\end{tabular}

Beta Excess Return cond. on \# of days after a big jump in the \# of fails for a threshold security

Each observation is a non-overlaping sequence of 16 business days after a jump larger than 9 times the average jump for the security, plus the day of the jump itself (day 0 ).

The sample of N sequences refers to 89 different Permnos out of 7174 identified Permnos.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{} & \multirow[b]{2}{*}{N} & \multicolumn{5}{|c|}{Beta Excess Return} \\
\hline & & Median & Mean & Std & Min & Max \\
\hline Days after the jump & & & & & & \\
\hline 0 & 91 & -0.0018 & 0.0020 & 0.0380 & -0.0965 & 0.1492 \\
\hline 1 & 91 & -0.0054 & -0.0091 & 0.0347 & -0.1190 & 0.0993 \\
\hline 2 & 91 & 0.0004 & -0.0047 & 0.0441 & -0.1146 & 0.1534 \\
\hline 3 & 91 & -0.0011 & -0.0014 & 0.0267 & -0.0686 & 0.0800 \\
\hline 4 & 91 & 0.0004 & 0.0017 & 0.0310 & -0.0755 & 0.0854 \\
\hline 5 & 91 & 0.0016 & -0.0017 & 0.0378 & -0.0741 & 0.1809 \\
\hline 6 & 91 & -0.0021 & -0.0027 & 0.0243 & -0.0862 & 0.0623 \\
\hline 7 & 91 & 0.0005 & 0.0003 & 0.0268 & -0.0839 & 0.0715 \\
\hline 8 & 91 & -0.0017 & 0.0064 & 0.0411 & -0.0576 & 0.1600 \\
\hline 9 & 91 & -0.0003 & -0.0020 & 0.0362 & -0.1122 & 0.1255 \\
\hline 10 & 91 & -0.0011 & -0.0091 & 0.0336 & -0.1113 & 0.0654 \\
\hline 11 & 91 & 0.0008 & 0.0023 & 0.0253 & -0.0677 & 0.1072 \\
\hline 12 & 91 & 0.0020 & 0.0028 & 0.0506 & -0.1473 & 0.2200 \\
\hline 13 & 91 & -0.0026 & 0.0038 & 0.0408 & -0.0631 & 0.2271 \\
\hline 14 & 91 & -0.0002 & 0.0005 & 0.0274 & -0.0464 & 0.1031 \\
\hline 15 & 91 & -0.0034 & -0.0048 & 0.0237 & -0.0630 & 0.0645 \\
\hline 16 & 91 & -0.0004 & -0.0095 & 0.0416 & -0.2266 & 0.0623 \\
\hline
\end{tabular}

Beta Excess Return cond. on \# of days after a big jump in the \# of fails for a threshold security

Each observation is a non-overlaping sequence of 16 business days after a jump larger than 10 times the average jump for the security, plus the day of the jump itself (day 0 ).

The sample of \(N\) sequences refers to 68 different Permnos out of 7174 identified Permnos.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{} & \multirow[b]{2}{*}{N} & \multicolumn{5}{|c|}{Beta Excess Return} \\
\hline & & Median & Mean & Std & Min & Max \\
\hline Days after the jump & & & & & & \\
\hline 0 & 69 & -0.0011 & 0.0009 & 0.0380 & -0.0965 & 0.1492 \\
\hline 1 & 69 & -0.0066 & -0.0099 & 0.0305 & -0.1019 & 0.0400 \\
\hline 2 & 69 & -0.0011 & -0.0102 & 0.0399 & -0.1091 & 0.0535 \\
\hline 3 & 69 & -0.0036 & -0.0058 & 0.0258 & -0.0686 & 0.0800 \\
\hline 4 & 69 & 0.0011 & 0.0035 & 0.0294 & -0.0755 & 0.0854 \\
\hline 5 & 69 & 0.0006 & 0.0020 & 0.0409 & -0.0730 & 0.1809 \\
\hline 6 & 69 & 0.0016 & -0.0008 & 0.0262 & -0.0862 & 0.0623 \\
\hline 7 & 69 & -0.0020 & -0.0008 & 0.0322 & -0.0839 & 0.1062 \\
\hline 8 & 69 & -0.0024 & 0.0075 & 0.0365 & -0.0569 & 0.1182 \\
\hline 9 & 69 & 0.0001 & -0.0000 & 0.0235 & -0.0555 & 0.0520 \\
\hline 10 & 69 & -0.0041 & -0.0126 & 0.0331 & -0.1113 & 0.0525 \\
\hline 11 & 69 & 0.0011 & 0.0019 & 0.0185 & -0.0333 & 0.0492 \\
\hline 12 & 69 & 0.0047 & 0.0118 & 0.0530 & -0.1473 & 0.2200 \\
\hline 13 & 69 & -0.0040 & 0.0031 & 0.0440 & -0.0549 & 0.2271 \\
\hline 14 & 69 & -0.0017 & -0.0045 & 0.0235 & -0.0464 & 0.0657 \\
\hline 15 & 69 & -0.0015 & -0.0058 & 0.0248 & -0.0630 & 0.0645 \\
\hline 16 & 69 & -0.0004 & -0.0102 & 0.0448 & -0.2266 & 0.0623 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline & \multirow[b]{2}{*}{N} & \multicolumn{5}{|c|}{Beta Excess Return} \\
\hline & & Median & Mean & Std & Min & Max \\
\hline ThListChg & & & & & & \\
\hline 0-0 & 1570060 & -0.0004 & -0.0000 & 0.0228 & -0.7217 & 3.2860 \\
\hline 0-1 & 2046 & -0.0007 & 0.0008 & 0.0719 & -0.5660 & 1.9339 \\
\hline 1-0 & 2075 & -0.0010 & -0.0020 & 0.0253 & -0.2362 & 0.1690 \\
\hline 1-1 & 33114 & -0.0005 & -0.0000 & 0.0448 & -0.3872 & 3.5860 \\
\hline All & 1607295 & -0.0004 & -0.0000 & 0.0236 & -0.7217 & 3.5860 \\
\hline
\end{tabular}

Citigroup Stock Price and Volume
October 1, 2008 - December 26, 2008


Citigroup Credit Default Swap Transactions November 17, 2008 - November 21, 2008


■New Trade
■Assignment: New Buyer
-Assignment: New Seller
-Terminate

Citigroup Credit Default Swap Transactions: New Trades November 17, 2008 - November 21, 2008

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{\begin{tabular}{l}
Top 15 Bearish \\
Entity
\end{tabular}} & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{3}{|l|}{Net Bearish Position} & \multirow[b]{2}{*}{Note on Daily Activity from Looking at Chart} \\
\hline & \[
\begin{aligned}
& \text { Add to Buy } \\
& \text { Side }
\end{aligned}
\] & \[
\begin{gathered}
\text { Reduce Sell } \\
\text { Side }
\end{gathered}
\] & Total & Rank & Share & CShr & Reduce Buy
Side & \[
\begin{aligned}
& \text { Add to Sell } \\
& \text { Side } \\
& \hline
\end{aligned}
\] & Total & Rank & Total & \[
\begin{array}{|c|}
\hline \text { Net } \\
\text { Bearish } \\
\text { Rank }
\end{array}
\] & \[
\begin{aligned}
& \text { Net } \\
& \text { Bullish } \\
& \text { Rank }
\end{aligned}
\] & \\
\hline Total & -1,957,419,175 & -471,388,060 & \(-2,428,807,235\) & & & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & 0 & & & \\
\hline & & & & & & & & & & & & & & \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 16.3\% & 16.3\% & 78,630,000 & 204,500,000 & 283,130,000 & 1 & -113,870,000 & 2 & 115 & Bullish through Wed, Big buy Thurs. Very big buy Friday. \\
\hline BNP PARIBAS & -227,313,275 & -40,000,000 & -267,313,275 & 2 & 11.0\% & 27.4\% & 25,000,000 & 235,510,000 & 260,510,000 & 2 & -6,803,275 & 18 & 99 & Buying and selling throughout. Stayed about even. \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & 8.9\% & 36.3\% & & 56,297,500 & 56,297,500 & 12 & -160,602,500 & 1 & 116 & Gigantic buys on Fri. \\
\hline GOLDMAN SACHS & -160,600,000 & -40,000,000 & -200,600,000 & 4 & 8.3\% & 44.5\% & 56,500,000 & 125,000,000 & 181,500,000 & 7 & -19,100,000 & 11 & 106 & Appoximately even through Thurs. Big sell Fri and bigger buy. \\
\hline BARCLAYS BANK PLC & -156,079,650 & -40,000,000 & -196,079,650 & 5 & 8.1\% & 52.6\% & 5,000,000 & 191,162,500 & 196,162,500 & 5 & 82,850 & 37 & 80 & Activity balanced out. \\
\hline JPMORGAN CHASE BANK & -151,400,000 & -30,000,000 & -181,400,000 & 6 & 7.5\% & 60.1\% & 10,000,000 & 173,258,060 & 183,258,060 & 6 & 1,858,060 & 81 & 36 & Activity balanced out. \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 6.4\% & 66.5\% & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 65,000,000 & 113 & 4 & Big buy Friday and even bigger sell. \\
\hline MORGAN STANLEY & \(-31,000,000\) & -76,000,000 & -107,000,000 & 8 & 4.4\% & 70.9\% & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 104,313,275 & 116 & 1 & Gigantic sell on Friday. \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 3.1\% & 74.0\% & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 97,156,250 & 115 & 2 & Close to even and then big sell Friday. \\
\hline HSBC BANK & -62,600,000 & & -62,600,000 & 10 & 2.6\% & 76.5\% & & 67,100,000 & 67,100,000 & 11 & 4,500,000 & 91 & 26 & Activity balanced out. \\
\hline MAGNETAR & \(-50,000,000\) & & -50,000,000 & 11 & 2.1\% & 78.6\% & & & & 92 & -50,000,000 & 3 & 114 & Buy on Friday only activity. \\
\hline MARATHON & \(-50,000,000\) & & -50,000,000 & 12 & 2.1\% & 80.7\% & 55,000,000 & & 55,000,000 & 13 & 5,000,000 & 93 & 24 & Buy Wed. Reduce buy Thurs and Friday. Looks profitable. \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & \(-40,000,000\) & & \(-40,000,000\) & 13 & 1.6\% & 82.3\% & & & & 93 & -40,000,000 & 4 & 113 & Buy Wed. and Thurs. \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & \(-33,800,000\) & 14 & 1.4\% & 83.7\% & & 71,000,000 & 71,000,000 & 9 & 37,200,000 & 111 & 6 & Selling throughout. Buy on Friday and big Sell on Friday. \\
\hline FORE CONVERTIBLE MASTER FUND, LTD. & & -32,800,000 & -32,800,000 & 15 & 1.4\% & 85.0\% & & 16,400,000 & 16,400,000 & 21 & -16,400,000 & 12 & 105 & Sell Wed and Thurs. Reduce sell Friday. \\
\hline
\end{tabular}

Summary of Citigroup Credit Default Swap Transactions
Top 15 Entities Making Net Bearish Trades Over the Week
November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Top 15 Net Bearish} & \multicolumn{4}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|l|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{5}{|c|}{Net Bearish Position} & \multirow[b]{2}{*}{Note on Daily Activity from Looking at Chart} \\
\hline & \[
\begin{aligned}
& \text { Add to Buy } \\
& \text { Side } \\
& \hline
\end{aligned}
\] & \[
\begin{aligned}
& \text { Reduce Sell } \\
& \text { Side }
\end{aligned}
\] & Total & Rank & Reduce Buy
Side & \[
\begin{gathered}
\text { Add to Sell } \\
\text { Side } \\
\hline
\end{gathered}
\] & Total & Rank & Total & Bearish Rank & Share & CShr & Bullish & \\
\hline Total & -1,957,419,175 & -471,388,060 & -2,428,807,235 & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & -660,190,085 & & & & & \\
\hline & & & & & & & & & & & & & & \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & & 56,297,500 & 56,297,500 & 12 & -160,602,500 & 1 & 24.3\% & 24.3\% & 116 & Gigantic buys on Fri. \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 78,630,000 & 204,500,000 & 283,130,000 & 1 & -113,870,000 & 2 & 17.2\% & 41.6\% & 115 & Bullish through Wed, Big buy Thurs. Very big buy Friday. \\
\hline MAGNETAR & -50,000,000 & & \(-50,000,000\) & 11 & & & & 92 & -50,000,000 & 3 & 7.6\% & 49.1\% & 114 & Buy on Friday only activity. \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & -40,000,000 & & -40,000,000 & 13 & & & & 93 & -40,000,000 & 4 & 6.1\% & 55.2\% & 113 & Buy Wed. and Thurs. \\
\hline GENERAL AMERICAN LIFE INSURANCE COMPANY & -27,000,000 & & -27,000,000 & 17 & & & & 94 & -27,000,000 & 5 & 4.1\% & 59.3\% & 112 & Buy Friday - only activity. \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & -25,000,000 & & -25,000,000 & 19 & & & & 95 & -25,000,000 & 6 & 3.8\% & 63.1\% & 111 & Buy Wed. and Fri. \\
\hline TRG INFLATION & -23,000,000 & & -23,000,000 & 20 & & & & 96 & -23,000,000 & 7 & 3.5\% & 66.6\% & 110 & Buy Friday - only activity. \\
\hline METLIFE INSURANCE COMPANY OF CONNECTICUT & -22,000,000 & & -22,000,000 & 21 & & & & 97 & -22,000,000 & 8 & 3.3\% & 69.9\% & 109 & Buy Friday - only activity. \\
\hline JNL & -20,000,000 & & -20,000,000 & 24 & & & & 98 & -20,000,000 & 9 & 3.0\% & 72.9\% & 108 & Buy Friday - only activity. \\
\hline KEYBANK NATIONAL ASSOCIATION & -20,000,000 & & -20,000,000 & 25 & & & & 99 & -20,000,000 & 10 & 3.0\% & 76.0\% & 107 & Buy Thursday - only activity. \\
\hline GOLDMAN SACHS & -160,600,000 & \(-40,000,000\) & -200,600,000 & 4 & 56,500,000 & 125,000,000 & 181,500,000 & 7 & -19,100,000 & 11 & 2.9\% & 78.9\% & 106 & Appoximately even through Thurs. Big sell Fri and bigger buy. \\
\hline FORE CONVERTIBLE MASTER FUND, LTD. & & -32,800,000 & -32,800,000 & 15 & & 16,400,000 & 16,400,000 & 21 & -16,400,000 & 12 & 2.5\% & 81.3\% & 105 & Reduce sell side Friday. \\
\hline DEKA BANK, FRANKFURT & -12,560,000 & & -12,560,000 & 26 & & & & 100 & -12,560,000 & 13 & 1.9\% & 83.2\% & 104 & Buy Wed. and Thurs. \\
\hline ES CAPITALIZACAO & -10,270,500 & & -10,270,500 & 27 & & & & 101 & -10,270,500 & 14 & 1.6\% & 84.8\% & 103 & Buy Thursday - only activity. \\
\hline FORE MULTI STRATEGY MASTER FUND,LTD. & & -20,000,000 & -20,000,000 & 23 & & 10,000,000 & 10,000,000 & 23 & -10,000,000 & 15 & 1.5\% & 86.3\% & 102 & Sell Wed and Thurs. Reduce sell Friday. \\
\hline
\end{tabular}

November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{\begin{tabular}{l}
Top 15 Bullish \\
Entity
\end{tabular}} & \multicolumn{4}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{6}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{3}{|l|}{Net Bearish Position} & \multirow[b]{2}{*}{Note on Daily Activity from Looking at Chart} \\
\hline & \[
\begin{aligned}
& \text { Add to Buy } \\
& \text { Side } \\
& \hline
\end{aligned}
\] & \[
\begin{gathered}
\text { Reduce Sell } \\
\text { Side } \\
\hline
\end{gathered}
\] & Total & Rank & \[
\begin{gathered}
\text { Reduce Buy } \\
\text { Side }
\end{gathered}
\] & \[
\begin{gathered}
\text { Add to Sell } \\
\text { Side } \\
\hline
\end{gathered}
\] & Total & Rank & Share & CShr & Total & Bearish Rank & Bullish & \\
\hline Total & -1,957,419,175 & -471,388,060 & -2,428,807,235 & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & & & 0 & & & \\
\hline & & & & & & & & & & & & & & \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 78,630,000 & 204,500,000 & 283,130,000 & 1 & 11.7\% & 11.7\% & -113,870,000 & 2 & 115 & Bullish through Wed, Big buy Thurs. Very big buy Friday. \\
\hline BNP PARIBAS & -227,313,275 & -40,000,000 & -267,313,275 & 2 & 25,000,000 & 235,510,000 & 260,510,000 & 2 & 10.7\% & 22.4\% & -6,803,275 & 18 & 99 & Buying and selling throughout. Stayed about even. \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 9.1\% & 31.4\% & 65,000,000 & 113 & 4 & Big buy Friday and even bigger sell. \\
\hline MORGAN STANLEY & -31,000,000 & -76,000,000 & -107,000,000 & 8 & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 8.7\% & 40.1\% & 104,313,275 & 116 & 1 & Gigantic sell on Friday. \\
\hline BARCLAYS BANK PLC & -156,079,650 & -40,000,000 & -196,079,650 & 5 & 5,000,000 & 191,162,500 & 196,162,500 & 5 & 8.1\% & 48.2\% & 82,850 & 37 & 80 & Activity balanced out. \\
\hline JPMORGAN CHASE BANK & -151,400,000 & -30,000,000 & -181,400,000 & 6 & 10,000,000 & 173,258,060 & 183,258,060 & 6 & 7.5\% & 55.8\% & 1,858,060 & 81 & 36 & Activity balanced out. \\
\hline GOLDMAN SACHS & -160,600,000 & \(-40,000,000\) & -200,600,000 & 4 & 56,500,000 & 125,000,000 & 181,500,000 & 7 & 7.5\% & 63.2\% & -19,100,000 & 11 & 106 & Appoximately even through Thurs. Big sell Fri and bigger buy. \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 7.1\% & 70.3\% & 97,156,250 & 115 & 2 & Close to even and then big sell Friday. \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & -33,800,000 & 14 & & 71,000,000 & 71,000,000 & 9 & 2.9\% & 73.2\% & 37,200,000 & 111 & 6 & Selling throughout. Buy on Friday and big Sell on Friday. \\
\hline PAULSON CREDIT OPPORTUNITIES MASTER LTD & & & & 68 & 70,000,000 & & 70,000,000 & 10 & 2.9\% & 76.1\% & 70,000,000 & 114 & 3 & Big reduce buy on Friday - only activity. Profitable timing. \\
\hline HSBC BANK & -62,600,000 & & -62,600,000 & 10 & & 67,100,000 & 67,100,000 & 11 & 2.8\% & 78.9\% & 4,500,000 & 91 & 26 & Activity balanced out. \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & & 56,297,500 & 56,297,500 & 12 & 2.3\% & 81.2\% & -160,602,500 & 1 & 116 & Gigantic buys on Fri. \\
\hline MARATHON & -50,000,000 & & -50,000,000 & 12 & 55,000,000 & & 55,000,000 & 13 & 2.3\% & 83.5\% & 5,000,000 & 93 & 24 & Buy Wed. Reduce buy Thurs and Friday. Looks profitable. \\
\hline NOMURA INTERNATIONAL PLC & -5,000,000 & & -5,000,000 & 38 & & 45,000,000 & 45,000,000 & 14 & 1.9\% & 85.3\% & 40,000,000 & 112 & 5 & Big sell Thursday \\
\hline CHEYNE LONG/SHORT STRUCTURED CREDIT FUND & & -31,000,000 & -31,000,000 & 16 & 41,000,000 & & 41,000,000 & 15 & 1.7\% & 87.0\% & 10,000,000 & 103 & 14 & Reduce buys and sells mostly evens out. \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{\begin{tabular}{l}
Top 15 Net Bullish \\
Entity
\end{tabular}} & \multicolumn{4}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{6}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{5}{|c|}{Net Bullish Position} & \multirow[b]{2}{*}{Note on Daily Activity from Looking at Chart} \\
\hline & \[
\begin{gathered}
\text { Add to Buy } \\
\text { Side } \\
\hline \hline
\end{gathered}
\] & \[
\begin{gathered}
\text { Reduce Sell } \\
\text { Side }
\end{gathered}
\] & Total & Rank & \[
\begin{gathered}
\text { Reduce Buy } \\
\text { Side }
\end{gathered}
\] & \[
\begin{gathered}
\text { Add to Sell } \\
\text { Side } \\
\hline \hline
\end{gathered}
\] & Total & Rank & Share & CShr & Total & \[
\begin{array}{|c|}
\hline \text { Net } \\
\text { Bearish } \\
\text { Rank } \\
\hline
\end{array}
\] &  & Share & CShr & \\
\hline Total & -1,957,419,175 & \(-471,388,060\) & \(-2,428,807,235\) & & 606,530,000 & 1,822,277, 235 & 2,428,807, 235 & & & & 660,190,085 & & & & & \\
\hline & & & & & & & & & & & & & & & & \\
\hline MORGAN STANLEY & -31,000,000 & -76,000,000 & -107,000,000 & 8 & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 8.7\% & 8.7\% & 104,313,275 & 116 & 1 & 15.8\% & 15.8\% & Gigantic sell on Friday. \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 7.1\% & 15.8\% & 97,156,250 & 115 & 2 & 14.7\% & 30.5\% & Close to even and then big sell Friday. \\
\hline PAULSON CREDIT OPPORTUNITIES MASTER LTD & & & & 68 & 70,000,000 & & 70,000,000 & 10 & 2.9\% & 18.7\% & 70,000,000 & 114 & 3 & 10.6\% & 41.1\% & Big reduce buy on Friday - only activity. Profitable timing. \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 9.1\% & 27.7\% & 65,000,000 & 113 & 4 & 9.8\% & 51.0\% & Big buy Friday and even bigger sell. \\
\hline NOMURA INTERNATIONAL PLC & -5,000,000 & & -5,000,000 & 38 & & 45,000,000 & 45,000,000 & 14 & 1.9\% & 29.6\% & 40,000,000 & 112 & 5 & 6.1\% & 57.0\% & Big sell Thursday \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & -33,800,000 & 14 & & 71,000,000 & 71,000,000 & 9 & 2.9\% & 32.5\% & 37,200,000 & 111 & 6 & 5.6\% & 62.7\% & Selling throughout. Buy on Friday and big Sell on Friday. \\
\hline PURSUIT & & & & 111 & 35,000,000 & & 35,000,000 & 16 & & & 35,000,000 & 110 & 7 & 5.3\% & 68.0\% & Big reduce buy on Thursday - only activity. \\
\hline NORGES BANK - INVESTMENT MANAGEMENT \#1 & & & & 67 & 25,000,000 & & 25,000,000 & 17 & & & 25,000,000 & 109 & 8 & 3.8\% & 71.7\% & Big reduce buy on Friday - only activity. Profitable timing. \\
\hline IONIC CAPITAL MASTER FUND LTD & & & & 62 & 22,500,000 & & 22,500,000 & 18 & & & 22,500,000 & 108 & 9 & 3.4\% & 75.2\% & Reduce buy Thur. and Fri. Profitable timing. \\
\hline GENERAL ELECTRIC PENSION TRUST & & & & 56 & & 15,000,000 & 15,000,000 & 22 & & & 15,000,000 & 107 & 10 & 2.3\% & 77.4\% & Big sell Thursday \\
\hline THE CONUS FUND & & & & 115 & 10,000,000 & & 10,000,000 & 27 & & & 10,000,000 & 106 & 11 & 1.5\% & 78.9\% & Reduce buy Tues - only activity. \\
\hline ING & & & & 60 & & 10,000,000 & 10,000,000 & 26 & & & 10,000,000 & 105 & 12 & 1.5\% & 80.5\% & Sell Thurs. - only activity. \\
\hline AURELIUS CAPITAL & & & & 48 & 10,000,000 & & 10,000,000 & 25 & & & 10,000,000 & 104 & 13 & 1.5\% & 82.0\% & Reduce buy Wed. - only activity. \\
\hline CHEYNE LONG/SHORT STRUCTURED CREDIT FUND & & -31,000,000 & \(-31,000,000\) & 16 & 41,000,000 & & 41,000,000 & 15 & 1.7\% & 1.7\% & 10,000,000 & 103 & 14 & 1.5\% & 83.5\% & Reduce buys and sells mostly evens out. \\
\hline BLUEBAY INVESTMENT GRADE BOND FUND & & & & 53 & & 7,000,000 & 7,000,000 & 28 & & & 7,000,000 & 102 & 15 & 1.1\% & 84.5\% & Sell Thurs. - only activity. \\
\hline
\end{tabular}

\section*{Summary of Citigroup Credit Default Swap Transactions}

November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|l|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline Entity & Add to Buy
Side & \[
\begin{gathered}
\text { Reduce Sell } \\
\text { Side } \\
\hline
\end{gathered}
\] & Total & Rank & Share & CShr & Reduce Buy
Side & \begin{tabular}{l|l}
\hline Add to Sell \\
Side
\end{tabular} & Total & Rank & Total & Rank \\
\hline & & & & & & & & & & & & \\
\hline Total & -1,957,419,175 & -471,388,060 & -2,428,807,235 & & & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & 0 & \\
\hline & & & & & & & & & & & & \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 16.3\% & 16.3\% & 78,630,000 & 204,500,000 & 283,130,000 & 1 & -113,870,000 & 2 \\
\hline BNP PARIBAS & -227,313,275 & -40,000,000 & -267,313,275 & 2 & 11.0\% & 27.4\% & 25,000,000 & 235,510,000 & 260,510,000 & 2 & -6,803,275 & 18 \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & 8.9\% & 36.3\% & & 56,297,500 & 56,297,500 & 12 & -160,602,500 & 1 \\
\hline GOLDMAN SACHS & -160,600,000 & -40,000,000 & -200,600,000 & 4 & 8.3\% & 44.5\% & 56,500,000 & 125,000,000 & 181,500,000 & 7 & -19,100,000 & 11 \\
\hline BARCLAYS BANK PLC & -156,079,650 & -40,000,000 & -196,079,650 & 5 & 8.1\% & 52.6\% & 5,000,000 & 191,162,500 & 196,162,500 & 5 & 82,850 & 37 \\
\hline JPMORGAN CHASE BANK & -151,400,000 & -30,000,000 & -181,400,000 & 6 & 7.5\% & 60.1\% & 10,000,000 & 173,258,060 & 183,258,060 & 6 & 1,858,060 & 81 \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 6.4\% & 66.5\% & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 65,000,000 & 113 \\
\hline MORGAN STANLEY & -31,000,000 & -76,000,000 & -107,000,000 & 8 & 4.4\% & 70.9\% & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 104,313,275 & 116 \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 3.1\% & 74.0\% & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 97,156,250 & 115 \\
\hline HSBC BANK & -62,600,000 & & -62,600,000 & 10 & 2.6\% & 76.5\% & & 67,100,000 & 67,100,000 & 11 & 4,500,000 & 91 \\
\hline MAGNETAR & -50,000,000 & & -50,000,000 & 11 & 2.1\% & 78.6\% & & & & 92 & -50,000,000 & 3 \\
\hline MARATHON & -50,000,000 & & -50,000,000 & 12 & 2.1\% & 80.7\% & 55,000,000 & & 55,000,000 & 13 & 5,000,000 & 93 \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & -40,000,000 & & -40,000,000 & 13 & 1.6\% & 82.3\% & & & & 93 & -40,000,000 & 4 \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & -33,800,000 & 14 & 1.4\% & 83.7\% & & 71,000,000 & 71,000,000 & 9 & 37,200,000 & 111 \\
\hline FORE CONVERTIBLE MASTER FUND, LTD. & & -32,800,000 & -32,800,000 & 15 & 1.4\% & 85.0\% & & 16,400,000 & 16,400,000 & 21 & -16,400,000 & 12 \\
\hline CHEYNE LONG/SHORT STRUCTURED CREDIT FUND & & -31,000,000 & -31,000,000 & 16 & 1.3\% & 86.3\% & 41,000,000 & & 41,000,000 & 15 & 10,000,000 & 103 \\
\hline GENERAL AMERICAN LIFE INSURANCE COMPANY & -27,000,000 & & -27,000,000 & 17 & 1.1\% & 87.4\% & & & & 94 & -27,000,000 & 5 \\
\hline MERRILL LYNCH INTERNATIONAL & -27,000,000 & & -27,000,000 & 18 & 1.1\% & 88.5\% & & 20,300,000 & 20,300,000 & 19 & -6,700,000 & 19 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & -25,000,000 & & -25,000,000 & 19 & 1.0\% & 89.6\% & & & & 95 & -25,000,000 & 6 \\
\hline TRG INFLATION & -23,000,000 & & -23,000,000 & 20 & 0.9\% & 90.5\% & & & & 96 & -23,000,000 & 7 \\
\hline METLIFE INSURANCE COMPANY OF CONNECTICUT & -22,000,000 & & -22,000,000 & 21 & 0.9\% & 91.4\% & & & & 97 & -22,000,000 & 8 \\
\hline BLUE MTN CREDIT ALTS. MASTER FUND L.P. & -20,000,000 & & -20,000,000 & 22 & 0.8\% & 92.2\% & & 20,000,000 & 20,000,000 & 20 & 0 & 34 \\
\hline FORE MULTI STRATEGY MASTER FUND,LTD. & & -20,000,000 & -20,000,000 & 23 & 0.8\% & 93.1\% & & 10,000,000 & 10,000,000 & 23 & -10,000,000 & 15 \\
\hline JNL & -20,000,000 & & -20,000,000 & 24 & 0.8\% & 93.9\% & & & & 98 & -20,000,000 & 9 \\
\hline KEYBANK NATIONAL ASSOCIATION & -20,000,000 & & -20,000,000 & 25 & 0.8\% & 94.7\% & & & & 99 & -20,000,000 & 10 \\
\hline DEKA BANK, FRANKFURT & -12,560,000 & & -12,560,000 & 26 & 0.5\% & 95.2\% & & & & 100 & -12,560,000 & 13 \\
\hline ES CAPITALIZACAO & -10,270,500 & & -10,270,500 & 27 & 0.4\% & 95.7\% & & & & 101 & -10,270,500 & 14 \\
\hline AUTONOMY MASTER FUND LIMITED & -10,000,000 & & -10,000,000 & 28 & 0.4\% & 96.1\% & & & & 102 & -10,000,000 & 16 \\
\hline CALYON & -10,000,000 & & -10,000,000 & 29 & 0.4\% & 96.5\% & & & & 103 & -10,000,000 & 17 \\
\hline CEDAR HILL CAPITAL PARTNERS & -10,000,000 & & -10,000,000 & 30 & 0.4\% & 96.9\% & 10,000,000 & & 10,000,000 & 24 & 0 & 35 \\
\hline FORE ERISA FUND, LTD. & & -7,200,000 & -7,200,000 & 31 & 0.3\% & 97.2\% & & 3,600,000 & 3,600,000 & 40 & -3,600,000 & 29 \\
\hline NATIONAL BANK OF CANADA & -5,500,000 & & -5,500,000 & 32 & 0.2\% & 97.4\% & & & & 104 & -5,500,000 & 20 \\
\hline ES RENDA & -5,385,750 & & -5,385,750 & 33 & 0.2\% & 97.6\% & & & & 105 & -5,385,750 & 21 \\
\hline DWS CREDIT OPPORTUNITIES & -5,010,000 & & -5,010,000 & 34 & 0.2\% & 97.8\% & & & & 106 & -5,010,000 & 22 \\
\hline CQS ABS MASTER FUND LIMITED & -5,000,000 & & -5,000,000 & 35 & 0.2\% & 98.0\% & & & & 107 & -5,000,000 & 23 \\
\hline DISCOVERY ATLAS MASTER FUND & -5,000,000 & & -5,000,000 & 36 & 0.2\% & 98.3\% & & & & 108 & -5,000,000 & 24 \\
\hline KBC FIN. PRODUCTS (CAYMAN ISLANDS)LTD. & -5,000,000 & & -5,000,000 & 37 & 0.2\% & 98.5\% & & & & 109 & -5,000,000 & 25 \\
\hline NOMURA INTERNATIONAL PLC & -5,000,000 & & -5,000,000 & 38 & 0.2\% & 98.7\% & & 45,000,000 & 45,000,000 & 14 & 40,000,000 & 112 \\
\hline RBS GMP & -5,000,000 & & -5,000,000 & 39 & 0.2\% & 98.9\% & 5,000,000 & & 5,000,000 & 30 & 0 & 36 \\
\hline SCHRODER STERLING BROAD MKTS BOND FUND & -5,000,000 & & -5,000,000 & 40 & 0.2\% & 99.1\% & & & & 110 & -5,000,000 & 26 \\
\hline UBS AG & & -5,000,000 & -5,000,000 & 41 & 0.2\% & 99.3\% & 5,000,000 & 1,879,650 & 6,879,650 & 29 & 1,879,650 & 82 \\
\hline DOUBLE BLACK DIAMOND OFFSHORE LDC & -4,775,000 & & -4,775,000 & 42 & 0.2\% & 99.5\% & & & & 111 & -4,775,000 & 27 \\
\hline TRAXIS FUND LP & & -3,630,000 & -3,630,000 & 43 & 0.1\% & 99.6\% & & & & 112 & -3,630,000 & 28 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & -3,258,060 & -3,258,060 & 44 & 0.1\% & 99.8\% & & & & 113 & -3,258,060 & 30 \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD LTD & -3,000,000 & & -3,000,000 & 45 & 0.1\% & 99.9\% & & & & 114 & -3,000,000 & 31 \\
\hline SSSF STERLING BROAD MARKET BOND LIBOR & -2,500,000 & & -2,500,000 & 46 & 0.1\% & 100.0\% & & & & 115 & -2,500,000 & 32 \\
\hline BLACK DIAMOND OFFSHORE, LTD & -225,000 & & -225,000 & 47 & 0.0\% & 100.0\% & & & & 116 & -225,000 & 33 \\
\hline AURELIUS CAPITAL & & & & 48 & 0.0\% & 100.0\% & 10,000,000 & & 10,000,000 & 25 & 10,000,000 & 104 \\
\hline BANCA IMI S.P.A & & & & 49 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 31 & 5,000,000 & 94 \\
\hline
\end{tabular}

\section*{Summary of Citigroup Credit Default Swap Transactions}

November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases )} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline Entity & Add to Buy
Side & Reduce Sell
Side & Total & Rank & Share & CShr & Reduce Buy
Side & Add to Sell
Side & Total & Rank & Total & Rank \\
\hline BANK OF NOVA SCOTIA TORONTO & & & & 50 & 0.0\% & 100.0\% & & 5,000,000 & 5,000,000 & 32 & 5,000,000 & 95 \\
\hline BARCELONA INKA & & & & 51 & 0.0\% & 100.0\% & & 350,000 & 350,000 & 71 & 350,000 & 58 \\
\hline BLUEBAY FUND:BLUEBAY INVESTT GR LIBOR FD & & & & 52 & 0.0\% & 100.0\% & & 150,000 & 150,000 & 85 & 150,000 & 42 \\
\hline BLUEBAY INVESTMENT GRADE BOND FUND & & & & 53 & 0.0\% & 100.0\% & & 7,000,000 & 7,000,000 & 28 & 7,000,000 & 102 \\
\hline BLUECREST MULTI STRATEGY CREDIT MSTR FD & & & & 54 & 0.0\% & 100.0\% & & 5,000,000 & 5,000,000 & 33 & 5,000,000 & 96 \\
\hline FOND BVOE SEGMENT UNTERFONDS W & & & & 55 & 0.0\% & 100.0\% & & 600,000 & 600,000 & 63 & 600,000 & 65 \\
\hline GENERAL ELECTRIC PENSION TRUST & & & & 56 & 0.0\% & 100.0\% & & 15,000,000 & 15,000,000 & 22 & 15,000,000 & 107 \\
\hline HALBIS US CREDIT ALPHA MASTER FD LTD & & & & 57 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 34 & 5,000,000 & 97 \\
\hline HPK-INVESTMENT GRADE CORPORATES & & & & 58 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 72 & 300,000 & 49 \\
\hline ICM BUSINESS TRUST & & & & 59 & 0.0\% & 100.0\% & 2,500,000 & & 2,500,000 & 44 & 2,500,000 & 85 \\
\hline ING & & & & 60 & 0.0\% & 100.0\% & & 10,000,000 & 10,000,000 & 26 & 10,000,000 & 105 \\
\hline INTERN KAPIT MBH (PRV-C) & & & & 61 & 0.0\% & 100.0\% & & 150,000 & 150,000 & 86 & 150,000 & 43 \\
\hline IONIC CAPITAL MASTER FUND LTD & & & & 62 & 0.0\% & 100.0\% & 22,500,000 & & 22,500,000 & 18 & 22,500,000 & 108 \\
\hline JMG & & & & 63 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 35 & 5,000,000 & 98 \\
\hline KAMUNTING STREET MASTER FUND LTD & & & & 64 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 36 & 5,000,000 & 99 \\
\hline LEHMAN BROTHERS CREDIT ARBITRAGE FUND & & & & 65 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 37 & 5,000,000 & 100 \\
\hline MARINER-TRICADIA CRD STRAT MASTER FD LTD & & & & 66 & 0.0\% & 100.0\% & & 3,500,000 & 3,500,000 & 41 & 3,500,000 & 90 \\
\hline NORGES BANK - INVESTMENT MANAGEMENT \#1 & & & & 67 & 0.0\% & 100.0\% & 25,000,000 & & 25,000,000 & 17 & 25,000,000 & 109 \\
\hline PAULSON CREDIT OPPORTUNITIES MASTER LTD & & & & 68 & 0.0\% & 100.0\% & 70,000,000 & & 70,000,000 & 10 & 70,000,000 & 114 \\
\hline PIM1338 & & & & 69 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 73 & 300,000 & 50 \\
\hline PIM1356 & & & & 70 & 0.0\% & 100.0\% & & 500,000 & 500,000 & 65 & 500,000 & 61 \\
\hline PIM1357 & & & & 71 & 0.0\% & 100.0\% & & 2,500,000 & 2,500,000 & 45 & 2,500,000 & 86 \\
\hline PIM1358 & & & & 72 & 0.0\% & 100.0\% & & 1,300,000 & 1,300,000 & 51 & 1,300,000 & 78 \\
\hline PIM1422 & & & & 73 & 0.0\% & 100.0\% & 500,000 & & 500,000 & 66 & 500,000 & 62 \\
\hline PIM1628 & & & & 74 & 0.0\% & 100.0\% & 700,000 & & 700,000 & 61 & 700,000 & 67 \\
\hline PIM1833 & & & & 75 & 0.0\% & 100.0\% & 1,000,000 & & 1,000,000 & 55 & 1,000,000 & 73 \\
\hline PIM1941 & & & & 76 & 0.0\% & 100.0\% & & 800,000 & 800,000 & 59 & 800,000 & 69 \\
\hline PIM2071 & & & & 77 & 0.0\% & 100.0\% & & 200,000 & 200,000 & 81 & 200,000 & 45 \\
\hline PIM2086 & & & & 78 & 0.0\% & 100.0\% & & 1,100,000 & 1,100,000 & 54 & 1,100,000 & 75 \\
\hline PIM2136 & & & & 79 & 0.0\% & 100.0\% & & 900,000 & 900,000 & 57 & 900,000 & 71 \\
\hline PIM2224 & & & & 80 & 0.0\% & 100.0\% & 1,000,000 & & 1,000,000 & 56 & 1,000,000 & 74 \\
\hline PIM2232 & & & & 81 & 0.0\% & 100.0\% & 2,700,000 & & 2,700,000 & 43 & 2,700,000 & 88 \\
\hline PIM2307 & & & & 82 & 0.0\% & 100.0\% & & 1,200,000 & 1,200,000 & 52 & 1,200,000 & 76 \\
\hline PIM2355 & & & & 83 & 0.0\% & 100.0\% & & 100,000 & 100,000 & 88 & 100,000 & 38 \\
\hline PIM2400 & & & & 84 & 0.0\% & 100.0\% & & 100,000 & 100,000 & 89 & 100,000 & 39 \\
\hline PIM2466 & & & & 85 & 0.0\% & 100.0\% & 600,000 & & 600,000 & 64 & 600,000 & 66 \\
\hline PIM2660 & & & & 86 & 0.0\% & 100.0\% & & 500,000 & 500,000 & 67 & 500,000 & 63 \\
\hline PIM2679 & & & & 87 & 0.0\% & 100.0\% & & 900,000 & 900,000 & 58 & 900,000 & 72 \\
\hline PIM2687 & & & & 88 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 74 & 300,000 & 51 \\
\hline PIM2739 & & & & 89 & 0.0\% & 100.0\% & 200,000 & & 200,000 & 82 & 200,000 & 46 \\
\hline PIM2755 & & & & 90 & 0.0\% & 100.0\% & 300,000 & & 300,000 & 75 & 300,000 & 52 \\
\hline PIM2809 & & & & 91 & 0.0\% & 100.0\% & & 1,600,000 & 1,600,000 & 49 & 1,600,000 & 80 \\
\hline PIM2879 & & & & 92 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 76 & 300,000 & 53 \\
\hline PIM2909 & & & & 93 & 0.0\% & 100.0\% & & 2,800,000 & 2,800,000 & 42 & 2,800,000 & 89 \\
\hline PIM2958 & & & & 94 & 0.0\% & 100.0\% & & 800,000 & 800,000 & 60 & 800,000 & 70 \\
\hline PIM3689 & & & & 95 & 0.0\% & 100.0\% & & 500,000 & 500,000 & 68 & 500,000 & 64 \\
\hline PIM3691 & & & & 96 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 77 & 300,000 & 54 \\
\hline PIM3706 & & & & 97 & 0.0\% & 100.0\% & 200,000 & & 200,000 & 83 & 200,000 & 47 \\
\hline PIM4632 & & & & 98 & 0.0\% & 100.0\% & & 400,000 & 400,000 & 69 & 400,000 & 59 \\
\hline PIM4690 & & & & 99 & 0.0\% & 100.0\% & & 4,800,000 & 4,800,000 & 39 & 4,800,000 & 92 \\
\hline PIM4692 & & & & 100 & 0.0\% & 100.0\% & & 1,200,000 & 1,200,000 & 53 & 1,200,000 & 77 \\
\hline PIM4807 & & & & 101 & 0.0\% & 100.0\% & & 2,500,000 & 2,500,000 & 46 & 2,500,000 & 87 \\
\hline
\end{tabular}

\section*{Summary of Citigroup Credit Default Swap Transactions}

November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Entity} & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases )} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases )} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline & Add to Buy
Side & Reduce Sell
Side & Total & Rank & Share & CShr & Reduce Buy
Side & Add to Sell
Side & Total & Rank & Total & Rank \\
\hline PIM4866 & & & & 102 & 0.0\% & 100.0\% & & 2,000,000 & 2,000,000 & 47 & 2,000,000 & 83 \\
\hline PIM6009 & & & & 103 & 0.0\% & 100.0\% & & 200,000 & 200,000 & 84 & 200,000 & 48 \\
\hline PIM6160 & & & & 104 & 0.0\% & 100.0\% & 2,000,000 & & 2,000,000 & 48 & 2,000,000 & 84 \\
\hline PIM6169 & & & & 105 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 78 & 300,000 & 55 \\
\hline PIM6230 & & & & 106 & 0.0\% & 100.0\% & & 400,000 & 400,000 & 70 & 400,000 & 60 \\
\hline PIM6320 & & & & 107 & 0.0\% & 100.0\% & 100,000 & & 100,000 & 90 & 100,000 & 40 \\
\hline PIM6400 & & & & 108 & 0.0\% & 100.0\% & & 700,000 & 700,000 & 62 & 700,000 & 68 \\
\hline PIM6888 & & & & 109 & 0.0\% & 100.0\% & 100,000 & & 100,000 & 91 & 100,000 & 41 \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & & & & 110 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 79 & 300,000 & 56 \\
\hline PURSUIT & & & & 111 & 0.0\% & 100.0\% & 35,000,000 & & 35,000,000 & 16 & 35,000,000 & 110 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS CAP & & & & 112 & 0.0\% & 100.0\% & & 150,000 & 150,000 & 87 & 150,000 & 44 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND LTD. & & & & 113 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 38 & 5,000,000 & 101 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE MEDIA & & & & 114 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 80 & 300,000 & 57 \\
\hline THE CONUS FUND & & & & 115 & 0.0\% & 100.0\% & 10,000,000 & & 10,000,000 & 27 & 10,000,000 & 106 \\
\hline TRICADIA DISTRESSED AND SPCL MTR FD LT & & & & 116 & 0.0\% & 100.0\% & & 1,500,000 & 1,500,000 & 50 & 1,500,000 & 79 \\
\hline
\end{tabular}

Citigroup Credit Default Swap Transactions AURELIUS CAPITAL
Bearish \# - I Bullish \# 25 / Net Bearish \# 104 (Net Bullish \# 13)



Citigroup Credit Default Swap Transactions
BANK OF AMERICA, N.A.
Bearish \# 14 / Bullish \# 9 / Net Bearish \# 111 (Net Bullish \# 6)


Citigroup Credit Default Swap Transactions
BARCLAYS BANK PLC
Bearish \# 5 I Bullish \# 5 / Net Bearish \# 37


Citigroup Credit Default Swap Transactions BLUEBAY INVESTMENT GRADE BOND FUND

\section*{Bearish \# - I Bullish \# 28 I Net Bearish \# 102 (Net Bullish \# 15)}


Citigroup Credit Default Swap Transactions BNP PARIBAS
Bearish \# 2 / Bullish \# 2 / Net Bearish \# 18


\section*{Citigroup Credit Default Swap Transactions DEUTSCHE BANK AG \\ Bearish \# 1 / Bullish \# 1 / Net Bearish \# 2}


Citigroup Credit Default Swap Transactions CHEYNE LONG/SHORT STRUCTURED CREDIT FUND Bearish \# 16 / Bullish \# 15 / Net Bearish \# 103 (Net Bullish \# 14)


Citigroup Credit Default Swap Transactions CREDIT SUISSE INTERNATIONAL
Bearish \# 9 / Bullish \# 8 / Net Bearish \# 115 (Net Bullish \# 2)


\section*{Citigroup Credit Default Swap Transactions THE CONUS FUND \\ Bearish \# - I Bullish \# 27 | Net Bearish \# 106 (Net Bullish \# 11)}




Citigroup Credit Default Swap Transactions FORE CONVERTIBLE MASTER FUND, LTD.
Bearish \# 15 / Bullish \# 21 / Net Bearish \# 12



Citigroup Credit Default Swap Transactions GENERAL ELECTRIC PENSION TRUST
Bearish \# - I Bullish \# 22 / Net Bearish \# 107 (Net Bullish \# 10)



\section*{Citigroup Credit Default Swap Transactions GOLDMAN SACHS \\ Bearish \# 4 / Bullish \# 7 I Net Bearish \# 11}


\section*{Citigroup Credit Default Swap Transactions \\ HSBC BANK \\ Bearish \# 10 / Bullish \# 11 / Net Bearish \# 91}


Citigroup Credit Default Swap Transactions ING
Bearish \# - / Bullish \# 26 / Net Bearish \# 105 (Net Bullish \# 12)


Citigroup Credit Default Swap Transactions
IONIC CAPITAL MASTER FUND LTD
Bearish \# - / Bullish \# 18 / Net Bearish \# 108 (Net Bullish \# 9)

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Date & Open & High & Low & Close & Volume & Adj Close & SP & SP_ret & SP_indexed \\
\hline 10/1/2008 & 20.85 & 23.24 & 20.05 & 23 & 156,990,400.00 & 22.71 & 1161.06 & & 22.71 \\
\hline 10/2/2008 & 23.16 & 23.5 & 22 & 22.5 & 108,765,600.00 & 22.22 & 1114.28 & -0.04029 & 21.795 \\
\hline 10/3/2008 & 19.45 & 20.9 & 17.7 & 18.35 & 295,719,400.00 & 18.12 & 1099.23 & -0.01351 & 21.50062 \\
\hline 10/6/2008 & 17.23 & 18.12 & 16.1 & 17.41 & 159,221,500.00 & 17.19 & 1056.89 & -0.03852 & 20.67246 \\
\hline 10/7/2008 & 18.2 & 18.2 & 15 & 15.15 & 127,758,400.00 & 14.96 & 996.23 & -0.05739 & 19.48597 \\
\hline 10/8/2008 & 14.59 & 16.29 & 14.05 & 14.4 & 156,063,200.00 & 14.22 & 984.94 & -0.01133 & 19.26514 \\
\hline 10/9/2008 & 15.37 & 15.5 & 12.93 & 12.93 & 189,307,800.00 & 12.77 & 909.92 & -0.07617 & 17.79777 \\
\hline 10/10/2008 & 12.04 & 14.8 & 12 & 14.11 & 260,816,600.00 & 13.94 & 899.22 & -0.01176 & 17.58848 \\
\hline 10/13/2008 & 15.7 & 16.26 & 14.52 & 15.75 & 163,833,900.00 & 15.55 & 1003.35 & 0.1158 & 19.62524 \\
\hline 10/14/2008 & 18.48 & 19.25 & 17.36 & 18.62 & 253,522,100.00 & 18.39 & 998.01 & -0.00532 & 19.52079 \\
\hline 10/15/2008 & 17.49 & 17.93 & 16 & 16.23 & 153,278,400.00 & 16.03 & 907.84 & -0.09035 & 17.75709 \\
\hline 10/16/2008 & 16.01 & 16.88 & 14.65 & 15.9 & 170,927,600.00 & 15.7 & 946.43 & 0.042507 & 18.5119 \\
\hline 10/17/2008 & 15.42 & 16.83 & 14.81 & 14.88 & 157,379,000.00 & 14.7 & 940.55 & -0.00621 & 18.39689 \\
\hline 10/20/2008 & 15.18 & 15.4 & 14.69 & 15.09 & 107,183,900.00 & 14.9 & 985.4 & 0.047685 & 19.27414 \\
\hline 10/21/2008 & 14.54 & 14.8 & 13.64 & 14.18 & 171,378,400.00 & 14 & 955.05 & -0.0308 & 18.6805 \\
\hline 10/22/2008 & 13.7 & 14.2 & 13.01 & 13.32 & 137,148,800.00 & 13.15 & 896.78 & -0.06101 & 17.54076 \\
\hline 10/23/2008 & 13.2 & 13.6 & 12.5 & 13.11 & 144,779,600.00 & 12.95 & 908.11 & 0.012634 & 17.76237 \\
\hline 10/24/2008 & 12 & 12.8 & 11.95 & 12.14 & 128,445,500.00 & 11.99 & 876.77 & -0.03451 & 17.14937 \\
\hline 10/27/2008 & 12.1 & 12.76 & 11.65 & 11.73 & 122,089,600.00 & 11.58 & 848.92 & -0.03176 & 16.60463 \\
\hline 10/28/2008 & 12.29 & 13.55 & 11.54 & 13.41 & 150,889,300.00 & 13.24 & 940.51 & 0.10789 & 18.39611 \\
\hline 10/29/2008 & 13.25 & 13.96 & 12.79 & 12.91 & 130,531,700.00 & 12.75 & 930.09 & -0.01108 & 18.19229 \\
\hline 10/30/2008 & 13.47 & 13.5 & 12.76 & 13.11 & 100,869,600.00 & 13.11 & 954.09 & 0.025804 & 18.66173 \\
\hline 10/31/2008 & 12.93 & 13.82 & 12.88 & 13.65 & 91,970,500.00 & 13.65 & 968.75 & 0.015365 & 18.94847 \\
\hline 11/3/2008 & 13.65 & 14.23 & 13.46 & 13.99 & 71,045,900.00 & 13.99 & 966.3 & -0.00253 & 18.90055 \\
\hline 11/4/2008 & 14.42 & 14.81 & 14.31 & 14.68 & 80,205,000.00 & 14.68 & 1005.75 & 0.040826 & 19.67218 \\
\hline 11/5/2008 & 14.42 & 14.6 & 12.48 & 12.63 & 107,372,600.00 & 12.63 & 952.77 & -0.05268 & 18.63591 \\
\hline 11/6/2008 & 12.48 & 13.07 & 11.31 & 11.52 & 152,812,100.00 & 11.52 & 904.88 & -0.05026 & 17.69919 \\
\hline 11/7/2008 & 11.9 & 12.04 & 11.45 & 11.82 & 99,723,300.00 & 11.82 & 930.99 & 0.028855 & 18.2099 \\
\hline 11/10/2008 & 12.2 & 12.28 & 11.05 & 11.21 & 89,912,800.00 & 11.21 & 919.21 & -0.01265 & 17.97948 \\
\hline 11/11/2008 & 11.09 & 11.29 & 10.34 & 10.8 & 140,352,200.00 & 10.8 & 898.95 & -0.02204 & 17.5832 \\
\hline 11/12/2008 & 10.63 & 11.06 & 9.52 & 9.64 & 160,916,000.00 & 9.64 & 852.3 & -0.05189 & 16.67074 \\
\hline 11/13/2008 & 9.79 & 9.9 & 8.27 & 9.45 & 276,930,000.00 & 9.45 & 911.29 & 0.069213 & 17.82457 \\
\hline 11/14/2008 & 9.76 & 10.11 & 8.79 & 9.52 & 281,569,700.00 & 9.52 & 873.29 & -0.0417 & 17.0813 \\
\hline 11/17/2008 & 9.36 & 9.81 & 8.75 & 8.89 & 167,558,200.00 & 8.89 & 850.75 & -0.02581 & 16.64043 \\
\hline 11/18/2008 & 8.96 & 8.99 & 7.89 & 8.36 & 212,718,300.00 & 8.36 & 859.12 & 0.009838 & 16.80414 \\
\hline 11/19/2008 & 8.19 & 8.33 & 6.25 & 6.4 & 341,451,200.00 & 6.4 & 806.58 & -0.06116 & 15.77647 \\
\hline 11/20/2008 & 6.13 & 6.35 & 4.39 & 4.71 & 724,373,000.00 & 4.71 & 752.44 & -0.06712 & 14.71751 \\
\hline 11/21/2008 & 5.44 & 5.53 & 3.05 & 3.77 & 1,027,725,300.00 & 3.77 & 800.03 & 0.063248 & 15.64836 \\
\hline 11/24/2008 & 6.12 & 6.5 & 5.25 & 5.95 & 803,783,100.00 & 5.95 & 851.81 & 0.064723 & 16.66116 \\
\hline 11/25/2008 & 6.39 & 6.58 & 5.75 & 6.08 & 463,120,500.00 & 6.08 & 857.39 & 0.006551 & 16.7703 \\
\hline 11/26/2008 & 6.17 & 7.39 & 6.08 & 7.05 & 381,720,800.00 & 7.05 & 887.68 & 0.035328 & 17.36277 \\
\hline 11/28/2008 & 7.45 & 8.48 & 7.42 & 8.29 & 250,774,600.00 & 8.29 & 896.24 & 0.009643 & 17.5302 \\
\hline 12/1/2008 & 7.9 & 7.92 & 6.34 & 6.45 & 314,812,000.00 & 6.45 & 816.21 & -0.0893 & 15.96483 \\
\hline 12/2/2008 & 6.92 & 7.46 & 5.94 & 7.22 & 326,923,800.00 & 7.22 & 848.81 & 0.039941 & 16.60248 \\
\hline 12/3/2008 & 6.87 & 7.84 & 6.68 & 7.82 & 314,072,200.00 & 7.82 & 870.74 & 0.025836 & 17.03142 \\
\hline 12/4/2008 & 7.61 & 8.1 & 7.3 & 7.4 & 259,635,100.00 & 7.4 & 845.22 & -0.02931 & 16.53226 \\
\hline 12/5/2008 & 7.25 & 8.36 & 7.17 & 7.71 & 215,214,100.00 & 7.71 & 876.07 & 0.036499 & 17.13568 \\
\hline 12/8/2008 & 8.23 & 8.63 & 8.02 & 8.47 & 229,109,900.00 & 8.47 & 909.7 & 0.038387 & 17.79347 \\
\hline 12/9/2008 & 8.3 & 9 & 8.2 & 8.54 & 217,023,600.00 & 8.54 & 888.67 & -0.02312 & 17.38213 \\
\hline 12/10/2008 & 8.73 & 8.83 & 8.05 & 8.3 & 163,400,300.00 & 8.3 & 899.24 & 0.011894 & 17.58888 \\
\hline 12/11/2008 & 8.09 & 8.15 & 7.54 & 7.57 & 165,492,300.00 & 7.57 & 873.59 & -0.02852 & 17.08717 \\
\hline 12/12/2008 & 7.07 & 7.85 & 6.97 & 7.7 & 148,961,300.00 & 7.7 & 879.73 & 0.007028 & 17.20727 \\
\hline 12/15/2008 & 7.74 & 7.78 & 7.23 & 7.4 & 101,472,300.00 & 7.4 & 868.57 & -0.01269 & 16.98898 \\
\hline 12/16/2008 & 7.59 & 8.33 & 7.42 & 8.23 & 204,929,700.00 & 8.23 & 913.18 & 0.05136 & 17.86154 \\
\hline 12/17/2008 & 8.11 & 8.2 & 7.8 & 7.83 & 154,190,500.00 & 7.83 & 904.42 & -0.00959 & 17.6902 \\
\hline 12/18/2008 & 8 & 8.05 & 7.37 & 7.43 & 111,496,800.00 & 7.43 & 885.28 & -0.02116 & 17.31582 \\
\hline 12/19/2008 & 7.44 & 7.51 & 6.91 & 7.02 & 202,402,000.00 & 7.02 & 887.88 & 0.002937 & 17.36668 \\
\hline 12/22/2008 & 7.15 & 7.25 & 6.54 & 6.75 & 135,332,700.00 & 6.75 & 871.63 & -0.0183 & 17.04883 \\
\hline 12/23/2008 & 6.89 & 6.92 & 6.51 & 6.52 & 106,858,500.00 & 6.52 & 863.16 & -0.00972 & 16.88316 \\
\hline 12/24/2008 & 6.55 & 6.8 & 6.53 & 6.78 & 39,980,300.00 & 6.78 & 868.15 & 0.005781 & 16.98076 \\
\hline 12/26/2008 & 6.84 & 7.03 & 6.67 & 6.73 & 48,058,800.00 & 6.73 & 872.8 & 0.005356 & 17.07172 \\
\hline
\end{tabular}
\begin{tabular}{llrlll} 
date & NAME_ & \multicolumn{1}{l}{ TD_C } & \multicolumn{1}{l}{ AB_C } & \multicolumn{1}{l}{ AS_C } & \multicolumn{1}{l}{ TM_C } \\
\(11 / 17 / 2008\) & dollars & \(60,000,000\) & & & \\
\(11 / 18 / 2008\) & dollars & \(101,000,000\) & \(10,600,000\) & \(10,000,000\) & \(102,500,000\) \\
\(11 / 19 / 2008\) & dollars & \(255,397,500\) & \(2,600,000\) & \(10,000,000\) & \(72,000,000\) \\
\(11 / 20 / 2008\) & dollars & \(478,528,750\) & \(59,500,000\) & \(10,000,000\) & \(113,630,000\) \\
\(11 / 21 / 2008\) & dollars & 814092925 & 175700000 & 83258060 & 70000000
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline date2 _NAME_2 & no_NoPay_C & \multicolumn{4}{|l|}{fi_NoPay_( pa_NoPay_C no_Pay_C fi_Pay_C pa_Pay_C} \\
\hline 11/17/2008 COL1 & 60000000 & 0.022542 & 0 & & \\
\hline 11/18/2008 COL1 & 101000000 & 0.02349 & 0 & & \\
\hline 11/19/2008 COL1 & 255397500 & 0.032016 & 0 & & \\
\hline 11/20/2008 COL1 & 473528750 & 0.041306 & 05000000 & 0.05 & 0.015 \\
\hline 11/21/2008 COL1 & 789092925 & 0.051193 & 025000000 & 0.05 & 0.029 \\
\hline
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ALADDIN AURELIUS
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BLUE MTI
BLUEBAY
BLUEBAY
BLUECRE
BNP PARI
CALYON
CEDAR HI
CHEYNE L
CQS ABS
CREDIT S
DEKA BAA
DEUTSCH
DISCOVEF
DOUBLE E
DWS CRE
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ES REND \(/\)
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HALBIS U
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KBC FIN. F
KEYBANK
EHMAN E
MAGNETA
MARATHC
MARINER-
MERRILLI
METLIFE I
MORGAN
NATIONAL
NOMURA
NORGES I
PAULSON
PIM1338
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PIM1422
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PIM1833
PIM1941
PIM2071
PIM2086
PIM2136
PIM2224
PIM2232
PIM2307
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PIM2809
PIM2879
PIM2909
PIM2958
PIM3689
PIM3691
PIM3706
PIM4632
PIM4690
PIM4692
PIM4807
PIM4866
PIM4866
PIM6009
PIM6009
PM6160
PIM6230
PIM6230
PIM6400

1 Citigroup Credit Default Swap Transactions ALADDIN RELATIVE VALUE CREDIT MAS FD LTDBearish \# 45 / Bullish \# - / Net Bearish \# 31
2 Citigroup Credit Default Swap Transactions AURELIUS CAPITALBearish \# - / Bullish \# 25 / Net Bearish \# 104 (Net Bullish \# 13
3 Citigroup Credit Default Swap Transactions AUTONOMY MASTER FUND LIMITEDBearish \# 28 / Bullish \# - / Net Bearish \# 16
4 Citigroup Credit Default Swap Transactions BANCA IMI S.P.ABearish \# - / Bullish \# 31/ Net Bearish \# 94
5 Citigroup Credit Default Swap Transactions BANCO BILBAO VIZCAYA ARGENTARIA, S.A.Bearish \# 13 / Bullish \# - / Net Bearish \#
6 Citigroup Credit Default Swap Transactions BANK OF AMERICA, N.A.Bearish \# 14 / Bullish \# 9 / Net Bearish \# 111 (Net Bullish \# 6)
7 Citigroup Credit Default Swap Transactions BANK OF NOVA SCOTIA TORONTOBearish \# - / Bullish \# 32 / Net Bearish \# 95
8 Citigroup Credit Default Swap Transactions BARCELONA INKABearish \# - / Bullish \# 71 / Net Bearish \# 58
9 Citigroup Credit Default Swap Transactions BARCLAYS BANK PLCBearish \# 5 / Bullish \# 5 / Net Bearish \# 37
10 Citigroup Credit Default Swap Transactions BEAR, STEARNS INTERNATIONAL LTDBearish \# 44 / Bullish \# - / Net Bearish \# 30
11 Citigroup Credit Default Swap Transactions BLACK DIAMOND OFFSHORE, LTDBearish \# 47 / Bullish \# - / Net Bearish \# 33
12 Citigroup Credit Default Swap Transactions BLUE MTN CREDIT ALTS. MASTER FUND L.P.Bearish \# 22 / Bullish \# 20 / Net Bearish \# 34
13 Citigroup Credit Default Swap Transactions BLUEBAY FUND:BLUEBAY INVESTT GR LIBOR FDBearish \# - / Bullish \# 85 / Net Bearish \# 42
14 Citigroup Credit Default Swap Transactions BLUEBAY INVESTMENT GRADE BOND FUNDBearish \# - / Bullish \# 28 / Net Bearish \# 102 (Net Bullish \# 15)
15 Citigroup Credit Default Swap Transactions BLUECREST MULTI STRATEGY CREDIT MSTR FDBearish \# - / Bullish \# 33 / Net Bearish \# 96
16 Citigroup Credit Default Swap Transactions BNP PARIBASBearish \# 2 / Bullish \# 2 / Net Bearish \# 18
17 Citigroup Credit Default Swap Transactions CALYONBearish \# 29 / Bullish \# - / Net Bearish \# 17
18 Citigroup Credit Default Swap Transactions CEDAR HILL CAPITAL PARTNERSBearish \# 30 / Bullish \# 24 / Net Bearish \# 35
19 Citigroup Credit Default Swap Transactions CHEYNE LONG/SHORT STRUCTURED CREDIT FUNDBearish \# 16 / Bullish \# 15 / Net Bearish \# 103 (Net Bullish 7
20 Citigroup Credit Default Swap Transactions CQS ABS MASTER FUND LIMITEDBearish \# 35 / Bullish \# - / Net Bearish \# 23
21 Citigroup Credit Default Swap Transactions CREDIT SUISSE INTERNATIONALBearish \# 9 / Bullish \# 8 / Net Bearish \# 115 (Net Bullish \# 2)
22 Citigroup Credit Default Swap Transactions DEKA BANK, FRANKFURTBearish \# 26 / Bullish \# - / Net Bearish \# 13
23 Citigroup Credit Default Swap Transactions DEUTSCHE BANK AGBearish \# 1 / Bullish \# 1 / Net Bearish \# 2
24 Citigroup Credit Default Swap Transactions DISCOVERY ATLAS MASTER FUNDBearish \# 36 / Bullish \# - / Net Bearish \# 24
25 Citigroup Credit Default Swap Transactions DOUBLE BLACK DIAMOND OFFSHORE LDCBearish \# 42 / Bullish \#- / Net Bearish \# 27
26 Citigroup Credit Default Swap Transactions DWS CREDIT OPPORTUNITIESBearish \# 34 / Bullish \# - / Net Bearish \# 22
27 Citigroup Credit Default Swap Transactions ES CAPITALIZACAOBearish \# 27 / Bullish \# - / Net Bearish \# 14
28 Citigroup Credit Default Swap Transactions ES RENDABearish \# 33 / Bullish \# - / Net Bearish \# 21
29 Citigroup Credit Default Swap Transactions FOND BVOE SEGMENT UNTERFONDS WBearish \# - / Bullish \# 63 / Net Bearish \# 65
30 Citigroup Credit Default Swap TransactionsFORE CONVERTIBLE MASTER FUND, LTD.Bearish \# 15 / Bullish \# 21 / Net Bearish \# 12
31 Citigroup Credit Default Swap Transactions FORE ERISA FUND, LTD. Bearish \# 31 / Bullish \# 40 / Net Bearish \# 29
32 Citigroup Credit Default Swap Transactions FORE MULTI STRATEGY MASTER FUND,LTD.Bearish \# 23 / Bullish \# 23 / Net Bearish \# 15
33 Citigroup Credit Default Swap Transactions GENERALAMERICAN LIFE INSURANCE COMPANYBearish \# 17 / Bullish \# - / Net Bearish \# 5
34 Citigroup Credit Default Swap Transactions GENERAL ELECTRIC PENSION TRUSTBearish \# - / Bullish \# 22 / Net Bearish \# 107 (Net Bullish \# 10)
35 Citigroup Credit Default Swap Transactions GOLDMAN SACHSBearish \# 4 / Bullish \# 7 / Net Bearish \# 11
36 Citigroup Credit Default Swap TransactionsHALBIS US CREDIT ALPHA MASTER FD LTDBearish \# - / Bullish \# 34 / Net Bearish \# 97
37 Citigroup Credit Default Swap Transactions HPK-INVESTMENT GRADE CORPORATESBearish \# - / Bullish \# 72 / Net Bearish \# 49
38 Citigroup Credit Default Swap Transactions HSBC BANKBearish \# 10 / Bullish \# 11 / Net Bearish \# 91
39 Citigroup Credit Default Swap Transactions ICM BUSINESS TRUSTBearish \# - / Bullish \# 44 / Net Bearish \# 85
40 Citigroup Credit Default Swap Transactions INGBearish \# - / Bullish \# 26 / Net Bearish \# 105 (Net Bullish \# 12)
41 Citigroup Credit Default Swap Transactions INTERN KAPIT MBH (PRV-C)Bearish \# - / Bullish \# 86 / Net Bearish \# 43
42 Citigroup Credit Default Swap Transactions IONIC CAPITAL MASTER FUND LTDBearish \# - / Bullish \# 18 / Net Bearish \# 108 (Net Bullish \# 9)
43 Citigroup Credit Default Swap Transactions JMGBearish \# - / Bullish \# 35 / Net Bearish \# 98
44 Citigroup Credit Default Swap Transactions JNLBearish \# 24 / Bullish \# - / Net Bearish \# 9
45 Citigroup Credit Default Swap Transactions JPMORGAN CHASE BANKBearish \# 6 / Bullish \# 6 / Net Bearish \# 81
46 Citigroup Credit Default Swap Transactions KAMUNTING STREET MASTER FUND LTDBearish \# - / Bullish \# 36 / Net Bearish \# 99
47 Citigroup Credit Default Swap Transactions KBC FIN. PRODUCTS (CAYMAN ISLANDS)LTD.Bearish \# 37 / Bullish \# - / Net Bearish \# 25 48 Citigroup Credit Default Swap Transactions KEYBANK NATIONAL ASSOCIATIONBearish \# 25 / Bullish \# - / Net Bearish \# 10
49 Citigroup Credit Default Swap Transactions LEHMAN BROTHERS CREDIT ARBITRAGE FUNDBearish \# - / Bullish \# 37 / Net Bearish \# 100 50 Citigroup Credit Default Swap Transactions MAGNETARBearish \# 11 / Bullish \# - / Net Bearish \# 3
51 Citigroup Credit Default Swap Transactions MARATHONBearish \# 12 / Bullish \# 13 / Net Bearish \# 93
52 Citigroup Credit Default Swap Transactions MARINER-TRICADIA CRD STRAT MASTER FD LTDBearish \# - / Bullish \# 41 / Net Bearish \# 90
53 Citigroup Credit Default Swap Transactions MERRILL LYNCH INTERNATIONALBearish \# 18 / Bullish \# 19 / Net Bearish \# 19
54 Citigroup Credit Default Swap Transactions METLIFE INSURANCE COMPANY OF CONNECTICUTBearish \# 21 / Bullish \# - / Net Bearish \# 8
55 Citigroup Credit Default Swap Transactions MORGAN STANLEYBearish \# 8 / Bullish \# 4 / Net Bearish \# 116 (Net Bullish \# 1)
56 Citigroup Credit Default Swap Transactions NATIONAL BANK OF CANADABearish \# 32 / Bullish \# - / Net Bearish \# 20
57 Citigroup Credit Default Swap Transactions NOMURA INTERNATIONAL PLCBearish \# 38 / Bullish \# 14 / Net Bearish \# 112 (Net Bullish \# 5)
58 Citigroup Credit Default Swap Transactions NORGES BANK - INVESTMENT MANAGEMENT \#1Bearish \# - / Bullish \# 17 / Net Bearish \# 109 (Net Bullish \# 8) 59 Citigroup Credit Default Swap Transactions PAULSON CREDIT OPPORTUNITIES MASTER LTDBearish \# - / Bullish \# 10 / Net Bearish \# 114 (Net Bullish \# 3) 60 Citigroup Credit Default Swap Transactions PIM1338Bearish \# - / Bullish \# 73 / Net Bearish \# 50 61 Citigroup Credit Default Swap TransactionsPIM1356Bearish \# - / Bullish \# 65 / Net Bearish \# 61 62 Citigroup Credit Default Swap TransactionsPIM1357Bearish \# - / Bullish \# 45 / Net Bearish \# 86 63 Citigroup Credit Default Swap Transactions PIM1358Bearish \# - / Bullish \# 51 / Net Bearish \# 78 64 Citigroup Credit Default Swap Transactions PIM1422Bearish \# - / Bullish \# 66 / Net Bearish \# 62 65 Citigroup Credit Default Swap Transactions PIM1628Bearish \# - / Bullish \# 61 / Net Bearish \# 67 66 Citigroup Credit Default Swap Transactions PIM1833Bearish \# - / Bullish \# 55 / Net Bearish \# 73 67 Citigroup Credit Default Swap Transactions PIM1941Bearish \# - / Bullish \# 59 / Net Bearish \# 69 68 Citigroup Credit Default Swap TransactionsPIM2071Bearish \# - / Bullish \# 81 / Net Bearish \# 45 69 Citigroup Credit Default Swap Transactions PIM2086Bearish \# - / Bullish \# 54 / Net Bearish \# 75 70 Citigroup Credit Default Swap Transactions PIM2136Bearish \# - / Bullish \# 57 / Net Bearish \# 71 71 Citigroup Credit Default Swap Transactions PIM2224Bearish \# - / Bullish \# 56 / Net Bearish \# 74 72 Citigroup Credit Default Swap Transactions PIM2232Bearish \# - / Bullish \# 43 / Net Bearish \# 88 73 Citigroup Credit Default Swap Transactions PIM2307Bearish \# - / Bullish \# 52 / Net Bearish \# 76 7 Citigroup Credit Default Swap Transactions PIM2355Bearish \# - / Bullish \# 88 / Net Bearish \# 38 75 Citigroup Credit Default Swap Transactions PIM2400Bearish \# - / Bullish \# 89 / Net Bearish \# 39 76 Citigroup Credit Default Swap Transactions PIM2466Bearish \# - / Bullish \# 64 / Net Bearish \# 66 77 Citigroup Credit Default Swap Transactions PIM2660Bearish \# - / Bullish \# 67 / Net Bearish \# 63 78 Citigroup Credit Default Swap Transactions PIM2679Bearish \# - / Bullish \# 58 / Net Bearish \# 72 79 Citigroup Credit Default Swap Transactions PIM2687Bearish \# - / Bullish \# 74 / Net Bearish \# 51 80 Citigroup Credit Default Swap Transactions PIM2739Bearish \# - / Bullish \# 82 / Net Bearish \# 46 81 Citigroup Credit Default Swap Transactions PIM2755Bearish \# - / Bullish \# 75 / Net Bearish \# 52 82 Citigroup Credit Default Swap TransactionsPIM2809Bearish \# - / Bullish \# 49 / Net Bearish \# 80 83 Citigroup Credit Default Swap Transactions PIM2879Bearish \# - / Bullish \# 76 / Net Bearish \# 53 84 Citigroup Credit Default Swap TransactionsPIM2909Bearish \# - / Bullish \# 42 / Net Bearish \# 89 85 Citigroup Credit Default Swap TransactionsPIM2958Bearish \# - / Bullish \# 60 / Net Bearish \# 70 86 Citigroup Credit Default Swap TransactionsPIM3689Bearish \# - / Bullish \# 68 / Net Bearish \# 64 87 Citigroup Credit Default Swap TransactionsPIM3691Bearish \# - / Bullish \# 77 / Net Bearish \# 54 88 Citigroup Credit Default Swap TransactionsPIM3706Bearish \# - / Bullish \# 83 / Net Bearish \# 47 89 Citigroup Credit Default Swap TransactionsPIM4632Bearish \# - / Bullish \# 69 / Net Bearish \# 59 90 Citigroup Credit Default Swap TransactionsPIM4690Bearish \# - / Bullish \# 39 / Net Bearish \# 92 91 Citigroup Credit Default Swap Transactions PIM4692Bearish \# - / Bullish \# 53 / Net Bearish \# 77 92 Citigroup Credit Default Swap Transactions PIM4807Bearish \# - / Bullish \# 46 / Net Bearish \# 87 93 Citigroup Credit Default Swap TransactionsPIM4866Bearish \# - / Bullish \# 47 / Net Bearish \# 83 94 Citigroup Credit Default Swap Transactions PIM6009Bearish \# - / Bullish \# 84 / Net Bearish \# 48 95 Citigroup Credit Default Swap Transactions PIM6160Bearish \# - / Bullish \# 48 / Net Bearish \# 84 96 Citigroup Credit Default Swap Transactions PIM6169Bearish \# - / Bullish \# 78 / Net Bearish \# 55 97 Citigroup Credit Default Swap Transactions PIM6230Bearish \# - / Bullish \# 70 / Net Bearish \# 60 98 Citigroup Credit Default Swap Transactions PIM6320Bearish \# - / Bullish \# 90 / Net Bearish \# 40 99 Citigroup Credit Default Swap Transactions PIM6400Bearish \# - / Bullish \# 62 / Net Bearish \# 68
\begin{tabular}{|c|c|}
\hline PIM6888 & 100 Citigroup Credit Default Swap Transactions PIM6888Bearish \# - / Bullish \# 91 / Net Bearish \# 41 \\
\hline PROVINZI. & 101 Citigroup Credit Default Swap Transactions PROVINZIAL RHEINLAND LEBENSICHNG AGBearish \# - / Bullish \# 79 / Net Bearish \# 56 \\
\hline PURSUIT & 102 Citigroup Credit Default Swap Transactions PURSUITBearish \# - / Bullish \# 16 / Net Bearish \# 110 (Net Bullish \# 7) \\
\hline QIC:QUEE & 103 Citigroup Credit Default Swap Transactions QIC:QUEENSLD INVEST CORP ACT IN ITS CAPBearish \# - / Bullish \# 87 / Net Bearish \# 44 \\
\hline RBS GMP & 104 Citigroup Credit Default Swap TransactionsRBS GMPBearish \# 39 / Bullish \# 30 / Net Bearish \# 36 \\
\hline ROYAL BA & 105 Citigroup Credit Default Swap Transactions ROYAL BANK OF CANADABearish \# 7 / Bullish \# 3 / Net Bearish \# 113 (Net Bullish \# 4) \\
\hline SATELLITI & 106 Citigroup Credit Default Swap Transactions SATELLITE CREDIT OPPORTUNITIES FUND LTD.Bearish \# - / Bullish \# 38 / Net Bearish \# 101 (Net Bullish \# 16) \\
\hline SCHRODE & 107 Citigroup Credit Default Swap Transactions SCHRODER STERLING BROAD MKTS BOND FUNDBearish \# 40 / Bullish \# - / Net Bearish \# 26 \\
\hline SOCIETE & 108 Citigroup Credit Default Swap Transactions SOCIETE GENERALE, NEW YORK BRANCHBearish \# 19 / Bullish \# - / Net Bearish \# 6 \\
\hline SSSF STE & 109 Citigroup Credit Default Swap Transactions SSSF STERLING BROAD MARKET BOND LIBORBearish \# 46 / Bullish \# - / Net Bearish \# 32 \\
\hline STICHTIN & 110 Citigroup Credit Default Swap Transactions STICHTING BEDRIJFSTAKPENS VOOR DE MEDIABearish \# - / Bullish \# 80 / Net Bearish \# 57 \\
\hline THE CONI & 111 Citigroup Credit Default Swap Transactions THE CONUS FUNDBearish \# - / Bullish \# 27 / Net Bearish \# 106 (Net Bullish \# 11) \\
\hline THE ROY/ & 112 Citigroup Credit Default Swap Transactions THE ROYAL BANK OF SCOTLAND PLCBearish \# 3 / Bullish \# 12 / Net Bearish \# 1 \\
\hline TRAXIS FI & 113 Citigroup Credit Default Swap Transactions TRAXIS FUND LPBearish \# 43 / Bullish \# - / Net Bearish \# 28 \\
\hline TRG INFL/ & 114 Citigroup Credit Default Swap TransactionsTRG INFLATIONBearish \# 20 / Bullish \# - / Net Bearish \# 7 \\
\hline TRICADIA & 115 Citigroup Credit Default Swap Transactions TRICADIA DISTRESSED AND SPCL MTR FD LTBearish \# - / Bullish \# 50 / Net Bearish \# 79 \\
\hline UBS AG & 116 Citigroup Credit Default Swap Transactions UBS AGBearish \# 41 / Bullish \# 29 / Net Bearish \# 82 \\
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\end{tabular}
\begin{tabular}{|c|c|c|}
\hline & & \\
\hline & 25 & 104 Bearish \# - / Bullish \# 25 / Net Bearish \# 104 (Net Bullish (Net Bullish \# 13) \\
\hline \multirow[t]{2}{*}{28 -} & & 16 Bearish \# 28 / Bullish \# - / Net Bearish \# 16 \\
\hline & 31 & 94 Bearish \# - / Bullish \# 31 / Net Bearish \# 94 \\
\hline 13 - & & 4 Bearish \# 13 / Bullish \#-/ Net Bearish \# 4 \\
\hline \multirow[t]{3}{*}{14} & 9 & 111 Bearish \# 14 / Bullish \# 9 / Net Bearish \# 111 (Net Bullist (Net Bullish \# 6) \\
\hline & 32 & 95 Bearish \# - / Bullish \# 32 / Net Bearish \# 95 \\
\hline & 71 & 58 Bearish \# - Bullish \# 71 / Net Bearish \# 58 \\
\hline 5 & 5 & 37 Bearish \# 5 / Bullish \# 5 / Net Bearish \# 37 \\
\hline 44 - & & 30 Bearish \# 44 / Bullish \# - / Net Bearish \# 30 \\
\hline 47 - & & 33 Bearish \# 47 / Bullish \# - / Net Bearish \# 33 \\
\hline \multirow[t]{4}{*}{22} & 20 & 34 Bearish \# 22 / Bullish \# 20 / Net Bearish \# 34 \\
\hline & 85 & 42 Bearish \# - / Bullish \# 85 / Net Bearish \# 42 \\
\hline & 28 & 102 Bearish \# - / Bullish \# 28 / Net Bearish \# 102 (Net Bullish (Net Bullish \# 15) \\
\hline & 33 & 96 Bearish \# - / Bullish \# 33 / Net Bearish \# 96 \\
\hline 2 & 2 & 18 Bearish \# 2 / Bullish \# 2 / Net Bearish \# 18 \\
\hline 29 - & & 17 Bearish \# 29 / Bullish \# - / Net Bearish \# 17 \\
\hline 30 & 24 & 35 Bearish \# 30 / Bullish \# 24 / Net Bearish \# 35 \\
\hline 16 & 15 & 103 Bearish \# 16 / Bullish \# 15 / Net Bearish \# 103 (Net Bullis (Net Bullish \# 14) \\
\hline 35 - & & 23 Bearish \# 35 / Bullish \# - / Net Bearish \# 23 \\
\hline 9 & 8 & 115 Bearish \# 9 / Bullish \# 8 / Net Bearish \# 115 (Net Bullish (Net Bullish \# 2) \\
\hline 26 - & & 13 Bearish \# 26 / Bullish \# - / Net Bearish \# 13 \\
\hline 1 & 1 & 2 Bearish \# 1 / Bullish \# 1 / Net Bearish \# 2 \\
\hline 36 - & & 24 Bearish \# 36 / Bullish \# - / Net Bearish \# 24 \\
\hline 42 - & & 27 Bearish \# 42 / Bullish \# - / Net Bearish \# 27 \\
\hline 34 - & & 22 Bearish \# 34 / Bullish \# - / Net Bearish \# 22 \\
\hline 27 - & & 14 Bearish \# 27 / Bullish \# - / Net Bearish \# 14 \\
\hline \multirow[t]{2}{*}{33 -} & & 21 Bearish \# 33 / Bullish \# - / Net Bearish \# 21 \\
\hline & 63 & 65 Bearish \# - / Bullish \# 63 / Net Bearish \# 65 \\
\hline 15 & 21 & 12 Bearish \# 15 / Bullish \# 21 / Net Bearish \# 12 \\
\hline 31 & 40 & 29 Bearish \# 31 / Bullish \# 40 / Net Bearish \# 29 \\
\hline \multirow[t]{3}{*}{\[
\begin{aligned}
& 23 \\
& 17
\end{aligned}
\]} & 23 & 15 Bearish \# 23 / Bullish \# 23 / Net Bearish \# 15 \\
\hline & & 5 Bearish \# 17 / Bullish \#-/ Net Bearish \# 5 \\
\hline & 22 & 107 Bearish \# - / Bullish \# 22 / Net Bearish \# 107 (Net Bullish (Net Bullish \# 10) \\
\hline \multirow[t]{3}{*}{4} & 7 & 11 Bearish \# 4 / Bullish \# 7 / Net Bearish \# 11 \\
\hline & 34 & 97 Bearish \# - / Bullish \# 34 / Net Bearish \# 97 \\
\hline & 72 & 49 Bearish \# - / Bullish \# 72 / Net Bearish \# 49 \\
\hline \multirow[t]{6}{*}{10} & 11 & 91 Bearish \# 10 / Bullish \# 11 / Net Bearish \# 91 \\
\hline & 44 & 85 Bearish \# - / Bullish \# 44 / Net Bearish \# 85 \\
\hline & 26 & 105 Bearish \# - Bullish \# 26 / Net Bearish \# 105 (Net Bullish (Net Bullish \# 12) \\
\hline & 86 & 43 Bearish \# - / Bullish \# 86 / Net Bearish \# 43 \\
\hline & 18 & 108 Bearish \# - / Bullish \# 18 / Net Bearish \# 108 (Net Bullish (Net Bullish \# 9) \\
\hline & 35 & 98 Bearish \# - / Bullish \# 35 / Net Bearish \# 98 \\
\hline \multirow[t]{3}{*}{\(24-\)
6} & & 9 Bearish \# 24 / Bullish \#-/ Net Bearish \# 9 \\
\hline & 6 & 81 Bearish \# 6 / Bullish \# 6 / Net Bearish \# 81 \\
\hline & 36 & 99 Bearish \# - / Bullish \# 36 / Net Bearish \# 99 \\
\hline 37 - & & 25 Bearish \# 37 / Bullish \# - / Net Bearish \# 25 \\
\hline \multirow[t]{2}{*}{25 -} & & 10 Bearish \# 25 / Bullish \# - / Net Bearish \# 10 \\
\hline & 37 & 100 Bearish \# - / Bullish \# 37 / Net Bearish \# 100 \\
\hline \multirow[t]{3}{*}{\[
\begin{aligned}
& 11- \\
& 12
\end{aligned}
\]} & & 3 Bearish \# 11 / Bullish \# - / Net Bearish \# 3 \\
\hline & 13 & 93 Bearish \# 12 / Bullish \# 13 / Net Bearish \# 93 \\
\hline & 41 & 90 Bearish \# - / Bullish \# 41 / Net Bearish \# 90 \\
\hline 18 & 19 & 19 Bearish \# 18 / Bullish \# 19 / Net Bearish \# 19 \\
\hline 21 - & & 8 Bearish \# 21 / Bullish \#-/ Net Bearish \# 8 \\
\hline 8 & 4 & 116 Bearish \# 8 / Bullish \# 4 / Net Bearish \# 116 (Net Bullish (Net Bullish \# 1) \\
\hline 32 - & & 20 Bearish \# 32 / Bullish \# - / Net Bearish \# 20 \\
\hline \multirow[t]{42}{*}{38} & 14 & 112 Bearish \# 38 / Bullish \# 14 / Net Bearish \# 112 (Net Bullis (Net Bullish \# 5) \\
\hline & 17 & 109 Bearish \# - / Bullish \# 17 / Net Bearish \# 109 (Net Bullish (Net Bullish \# 8) \\
\hline & 10 & 114 Bearish \# - / Bullish \# 10 / Net Bearish \# 114 (Net Bullish (Net Bullish \# 3) \\
\hline & 73 & 50 Bearish \# - / Bullish \# 73 / Net Bearish \# 50 \\
\hline & 65 & 61 Bearish \# - / Bullish \# 65 / Net Bearish \# 61 \\
\hline & 45 & 86 Bearish \# - / Bullish \# 45 / Net Bearish \# 86 \\
\hline & 51 & 78 Bearish \# - / Bullish \# 51 / Net Bearish \# 78 \\
\hline & 66 & 62 Bearish \# - / Bullish \# 66 / Net Bearish \# 62 \\
\hline & 61 & 67 Bearish \# - / Bullish \# 61 / Net Bearish \# 67 \\
\hline & 55 & 73 Bearish \# - / Bullish \# 55 / Net Bearish \# 73 \\
\hline & 59 & 69 Bearish \# - / Bullish \#59 / Net Bearish \# 69 \\
\hline & 81 & 45 Bearish \# - / Bullish \# 81 / Net Bearish \# 45 \\
\hline & 54 & 75 Bearish \#-/ Bullish \# 54 / Net Bearish \# 75 \\
\hline & 57 & 71 Bearish \# - / Bullish \# 57 / Net Bearish \# 71 \\
\hline & 56 & 74 Bearish \# - / Bullish \# 56 / Net Bearish \# 74 \\
\hline & 43 & 88 Bearish \# - / Bullish \# 43 / Net Bearish \# 88 \\
\hline & 52 & 76 Bearish \# - / Bullish \# 52 / Net Bearish \# 76 \\
\hline & 88 & 38 Bearish \# - / Bullish \#88 / Net Bearish \# 38 \\
\hline & 89 & 39 Bearish \# - / Bullish \# 89 / Net Bearish \# 39 \\
\hline & 64 & 66 Bearish \# - / Bullish \# 64 / Net Bearish \# 66 \\
\hline & 67 & 63 Bearish \# - / Bullish \# 67 / Net Bearish \# 63 \\
\hline & 58 & 72 Bearish \# - / Bullish \# 58 / Net Bearish \# 72 \\
\hline & 74 & 51 Bearish \# - / Bullish \# 74 / Net Bearish \# 51 \\
\hline & 82 & 46 Bearish \# - / Bullish \# 82 / Net Bearish \# 46 \\
\hline & 75 & 52 Bearish \# - / Bullish \# 75 / Net Bearish \# 52 \\
\hline & 49 & 80 Bearish \# - / Bullish \# 49 / Net Bearish \# 80 \\
\hline & 76 & 53 Bearish \# - / Bullish \# 76 / Net Bearish \# 53 \\
\hline & 42 & 89 Bearish \# - / Bullish \# 42 / Net Bearish \# 89 \\
\hline & 60 & 70 Bearish \# - / Bullish \# 60 / Net Bearish \# 70 \\
\hline & 68 & 64 Bearish \# - / Bullish \# 68/ Net Bearish \# 64 \\
\hline & 77 & 54 Bearish \# - / Bullish \# 77 / Net Bearish \# 54 \\
\hline & 83 & 47 Bearish \# - / Bullish \# 83 / Net Bearish \# 47 \\
\hline & 69 & 59 Bearish \# - / Bullish \# 69 / Net Bearish \# 59 \\
\hline & 39 & 92 Bearish \# - / Bullish \# 39 / Net Bearish \# 92 \\
\hline & 53 & 77 Bearish \# - / Bullish \#53 / Net Bearish \# 77 \\
\hline & 46 & 87 Bearish \# - / Bullish \# 46 / Net Bearish \# 87 \\
\hline & 47 & 83 Bearish \# - / Bullish \# 47 / Net Bearish \# 83 \\
\hline & 84 & 48 Bearish \# - / Bullish \# 84 / Net Bearish \# 48 \\
\hline & 48 & 84 Bearish \# - / Bullish \# 48 / Net Bearish \# 84 \\
\hline & 78 & 55 Bearish \# - / Bullish \# 78 / Net Bearish \# 55 \\
\hline & 70 & 60 Bearish \# - / Bullish \# 70 / Net Bearish \# 60 \\
\hline & 90
62 & 40 Bearish \# - / Bullish \# 90 / Net Bearish \# 40 68 Bearish \# - / Bullish \# 62 / Net Bearish \# 68 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline & 91 & 41 Bearish \# - / Bullish \# 91 / Net Bearish \# 41 \\
\hline & 79 & 56 Bearish \# - / Bullish \# 79 / Net Bearish \# 56 \\
\hline & 16 & 110 Bearish \# - / Bullish \# 16 / Net Bearish \# 110 (Net Bullish (Net Bullish \# 7) \\
\hline & 87 & 44 Bearish \# - / Bullish \# 87 / Net Bearish \# 44 \\
\hline 39 & 30 & 36 Bearish \# 39 / Bullish \# 30 / Net Bearish \# 36 \\
\hline 7 & 3 & 113 Bearish \# 7 / Bullish \# 3/ Net Bearish \# 113 (Net Bullish (Net Bullish \# 4) \\
\hline & 38 & 101 Bearish \# - / Bullish \# 38 / Net Bearish \# 101 (Net Bullish (Net Bullish \# 16) \\
\hline \(40-\) & & 26 Bearish \# 40 / Bullish \# - / Net Bearish \# 26 \\
\hline 19 - & & 6 Bearish \# 19 / Bullish \# - / Net Bearish \# 6 \\
\hline 46 - & & 32 Bearish \# 46 / Bullish \# - / Net Bearish \# 32 \\
\hline & 80 & 57 Bearish \# - / Bullish \# 80 / Net Bearish \# 57 \\
\hline & 27 & 106 Bearish \# - / Bullish \# 27 / Net Bearish \# 106 (Net Bullish (Net Bullish \# 11) \\
\hline 3 & 12 & 1 Bearish \# 3 / Bullish \# 12 / Net Bearish \# 1 \\
\hline 43 - & & 28 Bearish \# 43 / Bullish \# - / Net Bearish \# 28 \\
\hline 20 - & & 7 Bearish \# 20 / Bullish \# - / Net Bearish \# 7 \\
\hline & 50 & 79 Bearish \# - / Bullish \# 50 / Net Bearish \# 79 \\
\hline 41 & 29 & 82 Bearish \# 41 / Bullish \# 29 / Net Bearish \# 82 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline namegroup idname & _NAME_ & rangen & day_17 & day_18 & day_19 & day_20 & day_21 \\
\hline ALADDIN RELATI & 1 abuy & abuy_1 & & & & & -3,000,000 \\
\hline ALADDIN RELATI & 1 asell & asel_1 & & & & & \\
\hline ALADDIN RELATI & 1 bearish & bear_1 & & & & & -3,000,000 \\
\hline ALADDIN RELATI & 1 bullish & bull_1 & & & & & \\
\hline ALADDIN RELATI & 1 cnet & cnet_1 & 0 & 0 & 0 & 0 & -3,000,000 \\
\hline ALADDIN RELATI & 1 netbearish & netb_1 & & & & & -3,000,000 \\
\hline ALADDIN RELATI & 1 sbuy & sbuy_1 & & & & & \\
\hline ALADDIN RELATI & 1 ssell & ssel_1 & & & & & \\
\hline AURELIUS CAPIT. & 2 abuy & abuy_2 & & & & & \\
\hline AURELIUS CAPIT. & 2 asell & asel_2 & & & & & \\
\hline AURELIUS CAPIT. & 2 bearish & bear_2 & & & & & \\
\hline AURELIUS CAPIT. & 2 bullish & bull_2 & & & 10,000,000 & & \\
\hline AURELIUS CAPIT. & 2 cnet & cnet_2 & 0 & 0 & - 10,000,000 & 10,000,000 & 10,000,000 \\
\hline AURELIUS CAPIT. & 2 netbearish & netb_2 & & & 10,000,000 & & \\
\hline AURELIUS CAPIT. & 2 sbuy & sbuy_2 & & & 10,000,000 & & \\
\hline AURELIUS CAPIT. & 2 ssell & ssel_2 & & & & & \\
\hline AUTONOMY MAS & 3 abuy & abuy_3 & & & & & -10,000,000 \\
\hline AUTONOMY MAS & 3 asell & asel_3 & & & & & \\
\hline AUTONOMY MAS & 3 bearish & bear_3 & & & & & -10,000,000 \\
\hline AUTONOMY MAS & 3 bullish & bull_3 & & & & & \\
\hline AUTONOMY MAS & 3 cnet & cnet_3 & 0 & 0 & 0 & 0 & -10,000,000 \\
\hline AUTONOMY MAS & 3 netbearish & netb_3 & & & & & -10,000,000 \\
\hline AUTONOMY MAS & 3 sbuy & sbuy_3 & & & & & \\
\hline AUTONOMY MAS & 3 ssell & ssel_3 & & & & & \\
\hline BANCA IMI S.P.A & 4 abuy & abuy_4 & & & & & \\
\hline BANCA IMI S.P.A & 4 asell & asel_4 & & & & & \\
\hline BANCA IMI S.P.A & 4 bearish & bear_4 & & & & & \\
\hline BANCA IMI S.P.A & 4 bullish & bull_4 & & & & 5,000,000 & \\
\hline BANCA IMI S.P.A & 4 cnet & cnet_4 & 0 & 0 & 0 & 5,000,000 & 5,000,000 \\
\hline BANCA IMI S.P.A & 4 netbearish & netb_4 & & & & 5,000,000 & \\
\hline BANCA IMI S.P.A & 4 sbuy & sbuy_4 & & & & 5,000,000 & \\
\hline BANCA IMI S.P.A & 4 ssell & ssel_4 & & & & & \\
\hline BANCO BILBAO \(V\) & 5 abuy & abuy_5 & & & -30,000,000 & -10,000,000 & \\
\hline BANCO BILBAO V & 5 asell & asel_5 & & & & & \\
\hline BANCO BILBAO V & 5 bearish & bear_5 & & & -30,000,000 & -10,000,000 & \\
\hline BANCO BILBAO V & 5 bullish & bull_5 & & & & & \\
\hline BANCO BILBAO V & 5 cnet & cnet_5 & 0 & 0 & - -30,000,000 & -40,000,000 & -40,000,000 \\
\hline BANCO BILBAO V & 5 netbearish & netb_5 & & & -30,000,000 & -10,000,000 & \\
\hline BANCO BILBAO V & 5 sbuy & sbuy_5 & & & & & \\
\hline BANCO BILBAO V & 5 ssell & ssel_5 & & & & & \\
\hline BANK OF AMERIC & 6 abuy & abuy_6 & & & -7,600,000 & & -20,700,000 \\
\hline BANK OF AMERIC & 6 asell & asel_6 & & 5,000,000 & 15,000,000 & 6,000,000 & 45,000,000 \\
\hline BANK OF AMERIC & 6 bearish & bear_6 & & -500,000 & -12,600,000 & & -20,700,000 \\
\hline BANK OF AMERIC & 6 bullish & bull_6 & & 5,000,000 & 15,000,000 & 6,000,000 & 45,000,000 \\
\hline BANK OF AMERIC & 6 cnet & cnet_6 & 0 & 4,500,000 & 6,900,000 & 12,900,000 & 37,200,000 \\
\hline BANK OF AMERIC & 6 netbearish & netb_6 & & 4,500,000 & 2,400,000 & 6,000,000 & 24,300,000 \\
\hline BANK OF AMERIC & 6 sbuy & sbuy_6 & & & & & \\
\hline BANK OF AMERIC & 6 ssell & ssel_6 & & -500,000 & -5,000,000 & & \\
\hline BANK OF NOVA S & 7 abuy & abuy_7 & & & & & \\
\hline BANK OF NOVA S & 7 asell & asel_7 & & & & & 5,000,000 \\
\hline BANK OF NOVA S & 7 bearish & bear_7 & & & & & \\
\hline bank of nova s & 7 bullish & bull_7 & & & & & 5,000,000 \\
\hline bank of nova s & 7 cnet & cnet_7 & 0 & 0 & 0 & 0 & 5,000,000 \\
\hline BANK OF NOVA S & 7 netbearish & netb_7 & & & & & 5,000,000 \\
\hline BANK OF NOVA S & 7 sbuy & sbuy_7 & & & & & \\
\hline BANK OF NOVA S & 7 ssell & ssel_7 & & & & & \\
\hline BARCELONA INK, & 8 abuy & abuy_8 & & & & & \\
\hline BARCELONA INK, & 8 asell & asel_8 & & & & 350,000 & \\
\hline BARCELONA INK, & 8 bearish & bear_8 & & & & & \\
\hline BARCELONA INK, & 8 bullish & bull_8 & & & & 350,000 & \\
\hline BARCELONA INK, & 8 cnet & cnet_ 8 & 0 & 0 & 0 & 350,000 & 350,000 \\
\hline BARCELONA INK, & 8 netbearish & netb_8 & & & & 350,000 & \\
\hline BARCELONA INK, & 8 sbuy & sbuy_8 & & & & & \\
\hline BARCELONA INK, & 8 ssell & ssel_8 & & & & & \\
\hline BARCLAYS BANK & 9 abuy & abuy_9 & -25,000,000 & & -10,000,000 & -74,200,000 & -46,879,650 \\
\hline BARCLAYS BANK & 9 asell & asel_9 & 15,000,000 & 15,000,000 & -40,000,000 & 53,262,500 & 67,900,000 \\
\hline BARCLAYS BANK & 9 bearish & bear_9 & -25,000,000 & -20,000,000 & -20,000,000 & -74,200,000 & -56,879,650 \\
\hline BARCLAYS BANK & 9 bullish & bull_9 & 15,000,000 & 15,000,000 & 40,000,000 & 58,262,500 & 67,900,000 \\
\hline BARCLAYS BANK & 9 cnet & cnet_9 & -10,000,000 & -15,000,000 & 5,000,000 & -10,937,500 & 82,850 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline BARCLAYS BANK & 9 netbearish & netb_9 & -10,000,000 & -5,000,000 & 20,000,000 & -15,937,500 & 11,020,350 \\
\hline BARCLAYS BANK & 9 sbuy & sbuy_9 & & & & 5,000,000 & \\
\hline BARCLAYS BANK & 9 ssell & ssel_9 & & -20,000,000 & -10,000,000 & & -10,000,000 \\
\hline BEAR, STEARNS & 10 abuy & abuy_10 & & & & & \\
\hline BEAR, STEARNS & 10 asell & asel_10 & & & & & \\
\hline BEAR, STEARNS & 10 bearish & bear_10 & & & & & -3,258,060 \\
\hline BEAR, STEARNS & 10 bullish & bull_10 & & & & & \\
\hline BEAR, STEARNS & 10 cnet & cnet_10 & 0 & 0 & 0 & 0 & -3,258,060 \\
\hline BEAR, STEARNS & 10 netbearish & netb_10 & & & & & -3,258,060 \\
\hline BEAR, STEARNS & 10 sbuy & sbuy_10 & & & & & \\
\hline BEAR, STEARNS & 10 ssell & ssel_10 & & & & & -3,258,060 \\
\hline BLACK DIAMOND & 11 abuy & abuy_11 & & -225,000 & & & \\
\hline BLACK DIAMOND & 11 asell & asel_11 & & & & & \\
\hline BLACK DIAMOND & 11 bearish & bear_11 & & -225,000 & & & \\
\hline BLACK DIAMOND & 11 bullish & bull_11 & & & & & \\
\hline BLACK DIAMOND & 11 cnet & cnet_11 & 0 & -225,000 & -225,000 & -225,000 & -225,000 \\
\hline BLACK DIAMOND & 11 netbearish & netb_11 & & -225,000 & & & \\
\hline BLACK DIAMOND & 11 sbuy & sbuy_11 & & & & & \\
\hline BLACK DIAMOND & 11 ssell & ssel_11 & & & & & \\
\hline BLUE MTN CREDI & 12 abuy & abuy_12 & & & & -20,000,000 & \\
\hline BLUE MTN CREDI & 12 asell & asel_12 & & & & 20,000,000 & \\
\hline BLUE MTN CREDI & 12 bearish & bear_12 & & & & -20,000,000 & \\
\hline BLUE MTN CREDI & 12 bullish & bull_12 & & & & 20,000,000 & \\
\hline BLUE MTN CREDI & 12 cnet & cnet_12 & 0 & 0 & 0 & 0 & 0 \\
\hline BLUE MTN CREDI & 12 netbearish & netb_12 & & & & 0 & \\
\hline BLUE MTN CREDI & 12 sbuy & sbuy_12 & & & & & \\
\hline BLUE MTN CREDI & 12 ssell & ssel_12 & & & & & \\
\hline BLUEBAY FUND:E & 13 abuy & abuy_13 & & & & & \\
\hline BLUEBAY FUND:E & 13 asell & asel_13 & & & & 150,000 & \\
\hline BLUEBAY FUND:E & 13 bearish & bear_13 & & & & & \\
\hline BLUEBAY FUND:E & 13 bullish & bull_13 & & & & 150,000 & \\
\hline BLUEBAY FUND:E & 13 cnet & cnet_13 & 0 & 0 & 0 & 150,000 & 150,000 \\
\hline BLUEBAY FUND:E & 13 netbearish & netb_13 & & & & 150,000 & \\
\hline BLUEBAY FUND:E & 13 sbuy & sbuy_13 & & & & & \\
\hline BLUEBAY FUND:E & 13 ssell & ssel_13 & & & & & \\
\hline BLUEBAY INVEST & 14 abuy & abuy_14 & & & & & \\
\hline BLUEBAY INVEST & 14 asell & asel_14 & & & & 7,000,000 & \\
\hline BLUEBAY INVEST & 14 bearish & bear_14 & & & & & \\
\hline BLUEBAY INVEST & 14 bullish & bull_14 & & & & 7,000,000 & \\
\hline BLUEBAY INVEST & 14 cnet & cnet_14 & 0 & 0 & 0 & 7,000,000 & 7,000,000 \\
\hline BLUEBAY INVEST & 14 netbearish & netb_14 & & & & 7,000,000 & \\
\hline BLUEBAY INVEST & 14 sbuy & sbuy_14 & & & & & \\
\hline BLUEBAY INVEST & 14 ssell & ssel_14 & & & & & \\
\hline BLUECREST MUL & 15 abuy & abuy_15 & & & & & \\
\hline BLUECREST MUL & 15 asell & asel_15 & & & 5,000,000 & & \\
\hline BLUECREST MUL & 15 bearish & bear_15 & & & & & \\
\hline BLUECREST MUL & 15 bullish & bull_15 & & & 5,000,000 & & \\
\hline BLUECREST MUL & 15 cnet & cnet_15 & 0 & 0 & 5,000,000 & 5,000,000 & 5,000,000 \\
\hline BLUECREST MUL & 15 netbearish & netb_15 & & & 5,000,000 & & \\
\hline BLUECREST MUL & 15 sbuy & sbuy_15 & & & & & \\
\hline BLUECREST MUL & 15 ssell & ssel_15 & & & & & \\
\hline BNP PARIBAS & 16 abuy & abuy_16 & -10,000,000 & -17,000,000 & -10,000,000 & -70,000,000 & -120,313,275 \\
\hline BNP PARIBAS & 16 asell & asel_16 & & 12,000,000 & 27,000,000 & 61,510,000 & 135,000,000 \\
\hline BNP PARIBAS & 16 bearish & bear_16 & -10,000,000 & -17,000,000 & -30,000,000 & -90,000,000 & -120,313,275 \\
\hline BNP PARIBAS & 16 bullish & bull_16 & & 12,000,000 & 32,000,000 & 81,510,000 & 135,000,000 \\
\hline BNP PARIBAS & 16 cnet & cnet_16 & -10,000,000 & -15,000,000 & -13,000,000 & -21,490,000 & -6,803,275 \\
\hline BNP PARIBAS & 16 netbearish & netb_16 & -10,000,000 & -5,000,000 & 2,000,000 & -8,490,000 & 14,686,725 \\
\hline BNP PARIBAS & 16 sbuy & sbuy_16 & & & 5,000,000 & 20,000,000 & \\
\hline BNP PARIBAS & 16 ssell & ssel_16 & & & -20,000,000 & -20,000,000 & \\
\hline CALYON & 17 abuy & abuy_17 & & & & & -10,000,000 \\
\hline CALYON & 17 asell & asel_17 & & & & & \\
\hline CALYON & 17 bearish & bear_17 & & & & & -10,000,000 \\
\hline CALYON & 17 bullish & bull_17 & & & & & \\
\hline CALYON & 17 cnet & cnet_17 & 0 & 0 & 0 & 0 & -10,000,000 \\
\hline CALYON & 17 netbearish & netb_17 & & & & & -10,000,000 \\
\hline CALYON & 17 sbuy & sbuy_17 & & & & & \\
\hline CALYON & 17 ssell & ssel_17 & & & & & \\
\hline CEDAR HILL CAP & 18 abuy & abuy_18 & -10,000,000 & & & & \\
\hline CEDAR HILL CAP & 18 asell & asel_18 & & & & & \\
\hline CEDAR HILL CAP & 18 bearish & bear_18 & -10,000,000 & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline CEDAR HILL CAP & 18 bullish & bull_18 & & & & 10,000,000 & \\
\hline CEDAR HILL CAP & 18 cnet & cnet_18 & -10,000,000 & -10,000,000 & -10,000,000 & 0 & 0 \\
\hline CEDAR HILL CAP & 18 netbearish & netb_18 & -10,000,000 & & & 10,000,000 & \\
\hline CEDAR HILL CAP & 18 sbuy & sbuy_18 & & & & 10,000,000 & \\
\hline CEDAR HILL CAP & 18 ssell & ssel_18 & & & & & \\
\hline CHEYNE LONG/S| & 19 abuy & abuy_19 & & & & & \\
\hline CHEYNE LONG/SI & 19 asell & asel_19 & & & & & \\
\hline CHEYNE LONG/SI & 19 bearish & bear_19 & & -31,000,000 & & & \\
\hline CHEYNE LONG/SI & 19 bullish & bull_19 & & 31,000,000 & 10,000,000 & & \\
\hline CHEYNE LONG/SI & 19 cnet & cnet_19 & 0 & 0 & 10,000,000 & 10,000,000 & 10,000,000 \\
\hline CHEYNE LONG/SI & 19 netbearish & netb_19 & & 0 & 10,000,000 & & \\
\hline CHEYNE LONG/SI & 19 sbuy & sbuy_19 & & 31,000,000 & 10,000,000 & & \\
\hline CHEYNE LONG/SI & 19 ssell & ssel_19 & & -31,000,000 & & & \\
\hline CQS ABS MASTEI & 20 abuy & abuy_20 & & & & & -5,000,000 \\
\hline CQS ABS MASTEI & 20 asell & asel_20 & & & & & \\
\hline CQS ABS MASTEI & 20 bearish & bear_20 & & & & & -5,000,000 \\
\hline CQS ABS MASTEI & 20 bullish & bull_20 & & & & & \\
\hline CQS ABS MASTEI & 20 cnet & cnet_20 & 0 & 0 & 0 & 0 & -5,000,000 \\
\hline CQS ABS MASTEI & 20 netbearish & netb_20 & & & & & -5,000,000 \\
\hline CQS ABS MASTEI & 20 sbuy & sbuy_20 & & & & & \\
\hline CQS ABS MASTEI & 20 ssell & ssel_20 & & & & & \\
\hline CREDIT SUISSE II & 21 abuy & abuy_21 & & & & -40,000,000 & -35,000,000 \\
\hline CREDIT SUISSE II & 21 asell & asel_21 & & & 10,000,000 & 38,156,250 & 109,000,000 \\
\hline CREDIT SUISSE II & 21 bearish & bear_21 & & & & -40,000,000 & -35,000,000 \\
\hline CREDIT SUISSE II & 21 bullish & bull_21 & & & 10,000,000 & 38,156,250 & 124,000,000 \\
\hline CREDIT SUISSE II & 21 cnet & cnet_21 & 0 & 0 & 10,000,000 & 8,156,250 & 97,156,250 \\
\hline CREDIT SUISSE II & 21 netbearish & netb_21 & & & 10,000,000 & -1,843,750 & 89,000,000 \\
\hline CREDIT SUISSE II & 21 sbuy & sbuy_21 & & & & & 15,000,000 \\
\hline CREDIT SUISSE II & 21 ssell & ssel_21 & & & & & \\
\hline DEKA BANK, FRA & 22 abuy & abuy_22 & & & -6,297,500 & -6,262,500 & \\
\hline DEKA BANK, FRA & 22 asell & asel_22 & & & & & \\
\hline DEKA BANK, FRA & 22 bearish & bear_22 & & & -6,297,500 & -6,262,500 & \\
\hline DEKA BANK, FRA & 22 bullish & bull_22 & & & & & \\
\hline DEKA BANK, FRA & 22 cnet & cnet_22 & 0 & 0 & -6,297,500 & -12,560,000 & -12,560,000 \\
\hline DEKA BANK, FRA & 22 netbearish & netb_22 & & & -6,297,500 & -6,262,500 & \\
\hline DEKA BANK, FRA & 22 sbuy & sbuy_22 & & & & & \\
\hline DEKA BANK, FRA & 22 ssell & ssel_22 & & & & & \\
\hline DEUTSCHE BANK & 23 abuy & abuy_23 & & -35,000,000 & -45,000,000 & -70,000,000 & -165,000,000 \\
\hline DEUTSCHE BANK & 23 asell & asel_23 & 10,000,000 & 49,500,000 & 55,000,000 & 35,000,000 & 55,000,000 \\
\hline DEUTSCHE BANK & 23 bearish & bear_23 & & -55,000,000 & -67,000,000 & -85,000,000 & -190,000,000 \\
\hline DEUTSCHE BANK & 23 bullish & bull_23 & 10,000,000 & 79,500,000 & 55,000,000 & 53,630,000 & 85,000,000 \\
\hline DEUTSCHE BANK & 23 cnet & cnet_23 & 10,000,000 & 34,500,000 & 22,500,000 & -8,870,000 & -113,870,000 \\
\hline DEUTSCHE BANK & 23 netbearish & netb_23 & 10,000,000 & 24,500,000 & -12,000,000 & -31,370,000 & -105,000,000 \\
\hline DEUTSCHE BANk & 23 sbuy & sbuy_23 & & 30,000,000 & & 18,630,000 & 30,000,000 \\
\hline DEUTSCHE BANK & 23 ssell & ssel_23 & & -20,000,000 & -22,000,000 & -15,000,000 & -25,000,000 \\
\hline DISCOVERY ATL/ & 24 abuy & abuy_24 & & & & -5,000,000 & \\
\hline DISCOVERY ATL/ & 24 asell & asel_24 & & & & & \\
\hline DISCOVERY ATL/ & 24 bearish & bear_24 & & & & -5,000,000 & \\
\hline DISCOVERY ATL/ & 24 bullish & bull_24 & & & & & \\
\hline DISCOVERY ATL \(/\) & 24 cnet & cnet_24 & 0 & 0 & 0 & -5,000,000 & -5,000,000 \\
\hline DISCOVERY ATL/ & 24 netbearish & netb_24 & & & & -5,000,000 & \\
\hline DISCOVERY ATL/ & 24 sbuy & sbuy_24 & & & & & \\
\hline DISCOVERY ATL/ & 24 ssell & ssel_24 & & & & & \\
\hline DOUBLE BLACK [ & 25 abuy & abuy_25 & & -4,775,000 & & & \\
\hline DOUBLE BLACK [ & 25 asell & asel_25 & & & & & \\
\hline DOUBLE BLACK [ & 25 bearish & bear_25 & & -4,775,000 & & & \\
\hline DOUBLE BLACK [ & 25 bullish & bull_25 & & & & & \\
\hline DOUBLE BLACK [ & 25 cnet & cnet_25 & 0 & -4,775,000 & -4,775,000 & -4,775,000 & -4,775,000 \\
\hline DOUBLE BLACK [ & 25 netbearish & netb_25 & & -4,775,000 & & & \\
\hline DOUBLE BLACK [ & 25 sbuy & sbuy_25 & & & & & \\
\hline DOUBLE BLACK [ & 25 ssell & ssel_25 & & & & & \\
\hline DWS CREDIT OPI & 26 abuy & abuy_26 & & & & -5,010,000 & \\
\hline DWS CREDIT OPI & 26 asell & asel_26 & & & & & \\
\hline DWS CREDIT OPI & 26 bearish & bear_26 & & & & -5,010,000 & \\
\hline DWS CREDIT OPI & 26 bullish & bull_26 & & & & & \\
\hline DWS CREDIT OPI & 26 cnet & cnet_26 & 0 & 0 & 0 & -5,010,000 & -5,010,000 \\
\hline DWS CREDIT OPI & 26 netbearish & netb_26 & & & & -5,010,000 & \\
\hline DWS CREDIT OPI & 26 sbuy & sbuy_26 & & & & & \\
\hline DWS CREDIT OPI & 26 ssell & ssel_26 & & & & & \\
\hline ES CAPITALIZAC/ & 27 abuy & abuy_27 & & & & -10,270,500 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|}
\hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{}} \\
\hline & \\
\hline \multicolumn{2}{|l|}{ES CAPIT} \\
\hline \multicolumn{2}{|l|}{ES CAPITALIZAC} \\
\hline & TAL \\
\hline \multicolumn{2}{|l|}{APITAL} \\
\hline \multicolumn{2}{|l|}{\multirow[b]{2}{*}{RENDA}} \\
\hline & \\
\hline \multicolumn{2}{|l|}{SRENDA} \\
\hline \multicolumn{2}{|l|}{NDA} \\
\hline \multicolumn{2}{|l|}{REND} \\
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\begin{tabular}{|c|c|}
\hline 27 asell & asel_27 \\
\hline 27 bearish & bear_27 \\
\hline 27 bullish & bull_27 \\
\hline 27 cnet & cnet_27 \\
\hline 27 netbearish & netb_27 \\
\hline 27 sbuy & sbuy_27 \\
\hline 27 ssell & ssel_27 \\
\hline 28 abuy & abuy_28 \\
\hline 28 asell & asel_28 \\
\hline 28 bearish & bear_28 \\
\hline 28 bullish & bull_28 \\
\hline 28 cnet & cnet_28 \\
\hline 28 netbearish & netb_28 \\
\hline 28 sbuy & sbuy_28 \\
\hline 28 ssell & ssel_28 \\
\hline 29 abuy & abuy_29 \\
\hline 29 asell & asel_29 \\
\hline 29 bearish & bear_29 \\
\hline 29 bullish & bull_29 \\
\hline 29 cnet & cnet_29 \\
\hline 29 netbearish & netb_29 \\
\hline 29 sbuy & sbuy_29 \\
\hline 29 ssell & ssel_29 \\
\hline 30 abuy & abuy_30 \\
\hline 30 asell & asel_30 \\
\hline 30 bearish & bear_30 \\
\hline 30 bullish & bull_30 \\
\hline 30 cnet & cnet_30 \\
\hline 30 netbearish & netb_30 \\
\hline 30 sbuy & sbuy_30 \\
\hline 30 ssell & ssel_30 \\
\hline 31 abuy & abuy_31 \\
\hline 31 asell & asel_31 \\
\hline 31 bearish & bear_31 \\
\hline 31 bullish & bull_31 \\
\hline 31 cnet & cnet_31 \\
\hline 31 netbearish & netb_31 \\
\hline 31 sbuy & sbuy_31 \\
\hline 31 ssell & ssel_31 \\
\hline 32 abuy & abuy_32 \\
\hline 32 asell & asel_32 \\
\hline 32 bearish & bear_32 \\
\hline 32 bullish & bull_32 \\
\hline 32 cnet & cnet_32 \\
\hline 32 netbearish & netb_32 \\
\hline 32 sbuy & sbuy_32 \\
\hline 32 ssell & ssel_32 \\
\hline 33 abuy & abuy_33 \\
\hline 33 asell & asel_33 \\
\hline 33 bearish & bear_33 \\
\hline 33 bullish & bull_33 \\
\hline 33 cnet & cnet_33 \\
\hline 33 netbearish & netb_33 \\
\hline 33 sbuy & sbuy_33 \\
\hline 33 ssell & ssel_33 \\
\hline 34 abuy & abuy_34 \\
\hline 34 asell & asel_34 \\
\hline 34 bearish & bear_34 \\
\hline 34 bullish & bull_34 \\
\hline 34 cnet & cnet_34 \\
\hline 34 netbearish & netb_34 \\
\hline 34 sbuy & sbuy_34 \\
\hline 34 ssell & ssel_34 \\
\hline 35 abuy & abuy_35 \\
\hline 35 asell & asel_35 \\
\hline 35 bearish & bear_35 \\
\hline 35 bullish & bull_35 \\
\hline 35 cnet & cnet_35 \\
\hline 35 netbearish & netb_35 \\
\hline 35 sbuy & sbuy_35 \\
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\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline GOLDMAN SACH: & 35 ssell & ssel_35 & & -10,000,000 & -10,000,000 & -15,000,000 & -5,000,000 \\
\hline HALBIS US CRED & 36 abuy & abuy_36 & & & & & \\
\hline HALBIS US CRED & 36 asell & asel_36 & & & & & \\
\hline HALBIS US CRED & 36 bearish & bear_36 & & & & & \\
\hline HALBIS US CRED & 36 bullish & bull_36 & & & & 5,000,000 & \\
\hline HALBIS US CRED & 36 cnet & cnet_36 & 0 & 0 & 0 & 5,000,000 & 5,000,000 \\
\hline HALBIS US CRED & 36 netbearish & netb_36 & & & & 5,000,000 & \\
\hline HALBIS US CRED & 36 sbuy & sbuy_36 & & & & 5,000,000 & \\
\hline HALBIS US CRED & 36 ssell & ssel_36 & & & & & \\
\hline HPK-INVESTMEN & 37 abuy & abuy_37 & & & & & \\
\hline HPK-INVESTMEN & 37 asell & asel_37 & & & & 300,000 & \\
\hline HPK-INVESTMEN & 37 bearish & bear_37 & & & & & \\
\hline HPK-INVESTMEN & 37 bullish & bull_37 & & & & 300,000 & \\
\hline HPK-INVESTMEN & 37 cnet & cnet_37 & 0 & 0 & 0 & 300,000 & 300,000 \\
\hline HPK-INVESTMEN & 37 netbearish & netb_37 & & & & 300,000 & \\
\hline HPK-INVESTMEN & 37 sbuy & sbuy_37 & & & & & \\
\hline HPK-INVESTMEN & 37 ssell & ssel_37 & & & & & \\
\hline HSBC BANK & 38 abuy & abuy_38 & & -15,500,000 & -2,100,000 & -35,000,000 & -10,000,000 \\
\hline HSBC BANK & 38 asell & asel_38 & & 10,000,000 & 7,100,000 & 40,000,000 & 10,000,000 \\
\hline HSBC BANK & 38 bearish & bear_38 & & -15,500,000 & -2,100,000 & -35,000,000 & -10,000,000 \\
\hline HSBC BANK & 38 bullish & bull_38 & & 10,000,000 & 7,100,000 & 40,000,000 & 10,000,000 \\
\hline HSBC BANK & 38 cnet & cnet_38 & 0 & -5,500,000 & -500,000 & 4,500,000 & 4,500,000 \\
\hline HSBC BANK & 38 netbearish & netb_38 & & -5,500,000 & 5,000,000 & 5,000,000 & 0 \\
\hline HSBC BANK & 38 sbuy & sbuy_38 & & & & & \\
\hline HSBC BANK & 38 ssell & ssel_38 & & & & & \\
\hline ICM BUSINESS TF & 39 abuy & abuy_39 & & & & & \\
\hline ICM BUSINESS TF & 39 asell & asel_39 & & & & & \\
\hline ICM BUSINESS TF & 39 bearish & bear_39 & & & & & \\
\hline ICM BUSINESS TF & 39 bullish & bull_39 & & & & 1,000,000 & 1,500,000 \\
\hline ICM BUSINESS TF & 39 cnet & cnet_39 & 0 & 0 & 0 & 1,000,000 & 2,500,000 \\
\hline ICM BUSINESS TF & 39 netbearish & netb_39 & & & & 1,000,000 & 1,500,000 \\
\hline ICM BUSINESS TF & 39 sbuy & sbuy_39 & & & & 1,000,000 & 1,500,000 \\
\hline ICM BUSINESS TF & 39 ssell & ssel_39 & & & & & \\
\hline ING & 40 abuy & abuy_40 & & & & & \\
\hline ING & 40 asell & asel_40 & & & & 10,000,000 & \\
\hline ING & 40 bearish & bear_40 & & & & & \\
\hline ING & 40 bullish & bull_40 & & & & 10,000,000 & \\
\hline ING & 40 cnet & cnet_40 & 0 & 0 & 0 & 10,000,000 & 10,000,000 \\
\hline ING & 40 netbearish & netb_40 & & & & 10,000,000 & \\
\hline ING & 40 sbuy & sbuy_40 & & & & & \\
\hline ING & 40 ssell & ssel_40 & & & & & \\
\hline INTERN KAPIT ME & 41 abuy & abuy_41 & & & & & \\
\hline INTERN KAPIT ME & 41 asell & asel_41 & & & & 150,000 & \\
\hline INTERN KAPIT ME & 41 bearish & bear_41 & & & & & \\
\hline INTERN KAPIT ME & 41 bullish & bull_41 & & & & 150,000 & \\
\hline INTERN KAPIT ME & 41 cnet & cnet_41 & 0 & 0 & 0 & 150,000 & 150,000 \\
\hline INTERN KAPIT ME & 41 netbearish & netb_41 & & & & 150,000 & \\
\hline INTERN KAPIT ME & 41 sbuy & sbuy_41 & & & & & \\
\hline INTERN KAPIT ME & 41 ssell & ssel_41 & & & & & \\
\hline IONIC CAPITAL M & 42 abuy & abuy_42 & & & & & \\
\hline IONIC CAPITAL M & 42 asell & asel_42 & & & & & \\
\hline IONIC CAPITAL M & 42 bearish & bear_42 & & & & & \\
\hline IONIC CAPITAL M & 42 bullish & bull_42 & & & & 9,000,000 & 13,500,000 \\
\hline IONIC CAPITAL M & 42 cnet & cnet_42 & 0 & 0 & 0 & 9,000,000 & 22,500,000 \\
\hline IONIC CAPITAL M & 42 netbearish & netb_42 & & & & 9,000,000 & 13,500,000 \\
\hline IONIC CAPITAL M & 42 sbuy & sbuy_42 & & & & 9,000,000 & 13,500,000 \\
\hline IONIC CAPITAL M & 42 ssell & ssel_42 & & & & & \\
\hline JMG & 43 abuy & abuy_43 & & & & & \\
\hline JMG & 43 asell & asel_43 & & & & & \\
\hline JMG & 43 bearish & bear_43 & & & & & \\
\hline JMG & 43 bullish & bull_43 & & & & 5,000,000 & \\
\hline JMG & 43 cnet & cnet_43 & 0 & 0 & 0 & 5,000,000 & 5,000,000 \\
\hline JMG & 43 netbearish & netb_43 & & & & 5,000,000 & \\
\hline JMG & 43 sbuy & sbuy_43 & & & & 5,000,000 & \\
\hline JMG & 43 ssell & ssel_43 & & & & & \\
\hline JNL & 44 abuy & abuy_44 & & & & & -20,000,000 \\
\hline JNL & 44 asell & asel_44 & & & & & \\
\hline JNL & 44 bearish & bear_44 & & & & & -20,000,000 \\
\hline JNL & 44 bullish & bull_44 & & & & & \\
\hline JNL & 44 cnet & cnet_44 & 0 & 0 & 0 & 0 & -20,000,000 \\
\hline
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\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline JNL & 44 netbearish & netb_44 & & & & & -20,000,000 \\
\hline JNL & 44 sbuy & sbuy_44 & & & & & \\
\hline JNL & 44 ssell & ssel_44 & & & & & \\
\hline JPMORGAN CHAs & 45 abuy & abuy_45 & & -14,500,000 & -40,000,000 & -65,000,000 & -31,900,000 \\
\hline JPMORGAN CHA؛ & 45 asell & asel_45 & & & 55,000,000 & 60,000,000 & 58,258,060 \\
\hline JPMORGAN CHAs & 45 bearish & bear_45 & & -14,500,000 & -40,000,000 & -70,000,000 & -56,900,000 \\
\hline JPMORGAN CHAs & 45 bullish & bull_45 & & & 55,000,000 & 60,000,000 & 68,258,060 \\
\hline JPMORGAN CHA؛ & 45 cnet & cnet_45 & 0 & -14,500,000 & 500,000 & -9,500,000 & 1,858,060 \\
\hline JPMORGAN CHAs & 45 netbearish & netb_45 & & -14,500,000 & 15,000,000 & -10,000,000 & 11,358,060 \\
\hline JPMORGAN CHAs & 45 sbuy & sbuy_45 & & & & & 10,000,000 \\
\hline JPMORGAN CHAs & 45 ssell & ssel_45 & & & & -5,000,000 & -25,000,000 \\
\hline KAMUNTING STR & 46 abuy & abuy_46 & & & & & \\
\hline KAMUNTING STR & 46 asell & asel_46 & & & & & \\
\hline KAMUNTING STR & 46 bearish & bear_46 & & & & & \\
\hline KAMUNTING STR & 46 bullish & bull_46 & & & 5,000,000 & & \\
\hline KAMUNTING STR & 46 cnet & cnet_46 & 0 & 0 & 5,000,000 & 5,000,000 & 5,000,000 \\
\hline KAMUNTING STR & 46 netbearish & netb_46 & & & 5,000,000 & & \\
\hline KAMUNTING STR & 46 sbuy & sbuy_46 & & & 5,000,000 & & \\
\hline KAMUNTING STR & 46 ssell & ssel_46 & & & & & \\
\hline KBC FIN. PRODUI & 47 abuy & abuy_47 & & & -5,000,000 & & \\
\hline KBC FIN. PRODU & 47 asell & asel_47 & & & & & \\
\hline KBC FIN. PRODU & 47 bearish & bear_47 & & & -5,000,000 & & \\
\hline KBC FIN. PRODU & 47 bullish & bull_47 & & & & & \\
\hline KBC FIN. PRODU & 47 cnet & cnet_47 & 0 & 0 & -5,000,000 & -5,000,000 & -5,000,000 \\
\hline KBC FIN. PRODU1 & 47 netbearish & netb_47 & & & -5,000,000 & & \\
\hline KBC FIN. PRODU & 47 sbuy & sbuy_47 & & & & & \\
\hline KBC FIN. PRODU & 47 ssell & ssel_47 & & & & & \\
\hline KEYBANK NATIO & 48 abuy & abuy_48 & & & & -20,000,000 & \\
\hline KEYBANK NATIOI & 48 asell & asel_48 & & & & & \\
\hline KEYBANK NATIO & 48 bearish & bear_48 & & & & -20,000,000 & \\
\hline KEYBANK NATIOI & 48 bullish & bull_48 & & & & & \\
\hline KEYBANK NATIOI & 48 cnet & cnet_48 & 0 & 0 & 0 & -20,000,000 & -20,000,000 \\
\hline KEYBANK NATIOI & 48 netbearish & netb_48 & & & & -20,000,000 & \\
\hline KEYBANK NATIOI & 48 sbuy & sbuy_48 & & & & & \\
\hline KEYBANK NATIOI & 48 ssell & ssel_48 & & & & & \\
\hline LEHMAN BROTHE & 49 abuy & abuy_49 & & & & & \\
\hline LEHMAN BROTHE & 49 asell & asel_49 & & & & & \\
\hline LEHMAN BROTHE & 49 bearish & bear_49 & & & & & \\
\hline LEHMAN BROTHE & 49 bullish & bull_49 & & & & & 5,000,000 \\
\hline LEHMAN BROTHE & 49 cnet & cnet_49 & 0 & 0 & 0 & 0 & 5,000,000 \\
\hline LEHMAN BROTHE & 49 netbearish & netb_49 & & & & & 5,000,000 \\
\hline LEHMAN BROTHE & 49 sbuy & sbuy_49 & & & & & 5,000,000 \\
\hline LEHMAN BROTHE & 49 ssell & ssel_49 & & & & & \\
\hline MAGNETAR & 50 abuy & abuy_50 & & & & & -50,000,000 \\
\hline MAGNETAR & 50 asell & asel_50 & & & & & \\
\hline MAGNETAR & 50 bearish & bear_50 & & & & & -50,000,000 \\
\hline MAGNETAR & 50 bullish & bull_50 & & & & & \\
\hline MAGNETAR & 50 cnet & cnet_50 & 0 & 0 & 0 & 0 & -50,000,000 \\
\hline MAGNETAR & 50 netbearish & netb_50 & & & & & -50,000,000 \\
\hline MAGNETAR & 50 sbuy & sbuy_50 & & & & & \\
\hline MAGNETAR & 50 ssell & ssel_50 & & & & & \\
\hline MARATHON & 51 abuy & abuy_51 & & & -50,000,000 & & \\
\hline MARATHON & 51 asell & asel_51 & & & & & \\
\hline MARATHON & 51 bearish & bear_51 & & & -50,000,000 & & \\
\hline MARATHON & 51 bullish & bull_51 & & & 5,000,000 & 15,000,000 & 35,000,000 \\
\hline MARATHON & 51 cnet & cnet_51 & 0 & 0 & -45,000,000 & -30,000,000 & 5,000,000 \\
\hline MARATHON & 51 netbearish & netb_51 & & & -45,000,000 & 15,000,000 & 35,000,000 \\
\hline MARATHON & 51 sbuy & sbuy_51 & & & 5,000,000 & 15,000,000 & 35,000,000 \\
\hline MARATHON & 51 ssell & ssel_51 & & & & & \\
\hline MARINER-TRICA[ & 52 abuy & abuy_52 & & & & & \\
\hline MARINER-TRICA[ & 52 asell & asel_52 & & & & & 3,500,000 \\
\hline MARINER-TRICA[ & 52 bearish & bear_52 & & & & & \\
\hline MARINER-TRICA[ & 52 bullish & bull_52 & & & & & 3,500,000 \\
\hline MARINER-TRICA[ & 52 cnet & cnet_52 & 0 & 0 & 0 & 0 & 3,500,000 \\
\hline MARINER-TRICA[ & 52 netbearish & netb_52 & & & & & 3,500,000 \\
\hline MARINER-TRICA[ & 52 sbuy & sbuy_52 & & & & & \\
\hline MARINER-TRICA[ & 52 ssell & ssel_52 & & & & & \\
\hline MERRILL LYNCH & 53 abuy & abuy_53 & & & -5,000,000 & -12,000,000 & -10,000,000 \\
\hline MERRILL LYNCH & 53 asell & asel_53 & & & 5,000,000 & 15,300,000 & \\
\hline MERRILL LYNCH & 53 bearish & bear_53 & & & -5,000,000 & -12,000,000 & -10,000,000 \\
\hline
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\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline MERRILL LYNCH & 53 bullish & bull_53 & & & 5,000,000 & 15,300,000 & \\
\hline MERRILL LYNCH & 53 cnet & cnet_53 & 0 & 0 & 0 & 3,300,000 & -6,700,000 \\
\hline MERRILL LYNCH & 53 netbearish & netb_53 & & & 0 & 3,300,000 & -10,000,000 \\
\hline MERRILL LYNCH & 53 sbuy & sbuy_53 & & & & & \\
\hline MERRILL LYNCH & 53 ssell & ssel_53 & & & & & \\
\hline METLIFE INSURA & 54 abuy & abuy_54 & & & & & -22,000,000 \\
\hline METLIFE INSURA & 54 asell & asel_54 & & & & & \\
\hline METLIFE INSURA & 54 bearish & bear_54 & & & & & -22,000,000 \\
\hline METLIFE INSURA & 54 bullish & bull_54 & & & & & \\
\hline METLIFE INSURA & 54 cnet & cnet_54 & 0 & 0 & 0 & 0 & -22,000,000 \\
\hline METLIFE INSURA & 54 netbearish & netb_54 & & & & & -22,000,000 \\
\hline METLIFE INSURA & 54 sbuy & sbuy_54 & & & & & \\
\hline METLIFE INSURA & 54 ssell & ssel_54 & & & & & \\
\hline MORGAN STANLE & 55 abuy & abuy_55 & & & -5,000,000 & -16,000,000 & -10,000,000 \\
\hline MORGAN STANLE & 55 asell & asel_55 & & & & 5,000,000 & 165,313,275 \\
\hline MORGAN STANLE & 55 bearish & bear_55 & & -31,000,000 & -15,000,000 & -51,000,000 & -10,000,000 \\
\hline MORGAN STANLE & 55 bullish & bull_55 & & 31,000,000 & 10,000,000 & 5,000,000 & 165,313,275 \\
\hline MORGAN STANLE & 55 cnet & cnet_55 & 0 & 0 & -5,000,000 & -51,000,000 & 104,313,275 \\
\hline MORGAN STANLE & 55 netbearish & netb_55 & & 0 & -5,000,000 & -46,000,000 & 155,313,275 \\
\hline MORGAN STANLE & 55 sbuy & sbuy_55 & & 31,000,000 & 10,000,000 & & \\
\hline MORGAN STANLE & 55 ssell & ssel_55 & & -31,000,000 & -10,000,000 & -35,000,000 & \\
\hline NATIONAL BANK & 56 abuy & abuy_56 & & -2,000,000 & -2,000,000 & -1,500,000 & \\
\hline NATIONAL BANK & 56 asell & asel_56 & & & & & \\
\hline NATIONAL BANK & 56 bearish & bear_56 & & -2,000,000 & -2,000,000 & -1,500,000 & \\
\hline NATIONAL BANK & 56 bullish & bull_56 & & & & & \\
\hline NATIONAL BANK & 56 cnet & cnet_56 & 0 & -2,000,000 & -4,000,000 & -5,500,000 & -5,500,000 \\
\hline NATIONAL BANK & 56 netbearish & netb_56 & & -2,000,000 & -2,000,000 & -1,500,000 & \\
\hline NATIONAL BANK & 56 sbuy & sbuy_56 & & & & & \\
\hline NATIONAL BANK & 56 ssell & ssel_56 & & & & & \\
\hline NOMURA INTERN & 57 abuy & abuy_57 & & & & -5,000,000 & \\
\hline NOMURA INTERN & 57 asell & asel_57 & & & & 45,000,000 & \\
\hline NOMURA INTERN & 57 bearish & bear_57 & & & & -5,000,000 & \\
\hline NOMURA INTERN & 57 bullish & bull_57 & & & & 45,000,000 & \\
\hline NOMURA INTERN & 57 cnet & cnet_57 & 0 & 0 & 0 & 40,000,000 & 40,000,000 \\
\hline NOMURA INTERN & 57 netbearish & netb_57 & & & & 40,000,000 & \\
\hline NOMURA INTERN & 57 sbuy & sbuy_57 & & & & & \\
\hline NOMURA INTERN & 57 ssell & ssel_57 & & & & & \\
\hline NORGES BANK - & 58 abuy & abuy_58 & & & & & \\
\hline NORGES BANK - & 58 asell & asel_58 & & & & & \\
\hline NORGES BANK - & 58 bearish & bear_58 & & & & & \\
\hline NORGES BANK - & 58 bullish & bull_58 & & & & & 25,000,000 \\
\hline NORGES BANK - & 58 cnet & cnet_58 & 0 & 0 & 0 & 0 & 25,000,000 \\
\hline NORGES BANK - & 58 netbearish & netb_58 & & & & & 25,000,000 \\
\hline NORGES BANK - & 58 sbuy & sbuy_58 & & & & & 25,000,000 \\
\hline NORGES BANK - & 58 ssell & ssel_58 & & & & & \\
\hline PAULSON CREDI \({ }^{-}\) & 59 abuy & abuy_59 & & & & & \\
\hline PAULSON CREDI \({ }^{-}\) & 59 asell & asel_59 & & & & & \\
\hline PAULSON CREDI \({ }^{-}\) & 59 bearish & bear_59 & & & & & \\
\hline PAULSON CREDI \({ }^{-1}\) & 59 bullish & bull_59 & & & & & 70,000,000 \\
\hline PAULSON CREDI \({ }^{-}\) & 59 cnet & cnet_59 & 0 & 0 & 0 & 0 & 70,000,000 \\
\hline PAULSON CREDI \({ }^{-}\) & 59 netbearish & netb_59 & & & & & 70,000,000 \\
\hline PAULSON CREDI \({ }^{-}\) & 59 sbuy & sbuy_59 & & & & & 70,000,000 \\
\hline PAULSON CREDI \({ }^{-}\) & 59 ssell & ssel_59 & & & & & \\
\hline PIM1338 & 60 abuy & abuy_60 & & & & & \\
\hline PIM1338 & 60 asell & asel_60 & 300,000 & & & & \\
\hline PIM1338 & 60 bearish & bear_60 & & & & & \\
\hline PIM1338 & 60 bullish & bull_60 & 300,000 & & & & \\
\hline PIM1338 & 60 cnet & cnet_60 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM1338 & 60 netbearish & netb_60 & 300,000 & & & & \\
\hline PIM1338 & 60 sbuy & sbuy_60 & & & & & \\
\hline PIM1338 & 60 ssell & ssel_60 & & & & & \\
\hline PIM1356 & 61 abuy & abuy_61 & & & & & \\
\hline PIM1356 & 61 asell & asel_61 & 500,000 & & & & \\
\hline PIM1356 & 61 bearish & bear_61 & & & & & \\
\hline PIM1356 & 61 bullish & bull_61 & 500,000 & & & & \\
\hline PIM1356 & 61 cnet & cnet_61 & 500,000 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM1356 & 61 netbearish & netb_61 & 500,000 & & & & \\
\hline PIM1356 & 61 sbuy & sbuy_61 & & & & & \\
\hline PIM1356 & 61 ssell & ssel_61 & & & & & \\
\hline PIM1357 & 62 abuy & abuy_62 & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM1357 & 62 asell & asel_62 & 2,500,000 & & & & \\
\hline PIM1357 & 62 bearish & bear_62 & & & & & \\
\hline PIM1357 & 62 bullish & bull_62 & 2,500,000 & & & & \\
\hline PIM1357 & 62 cnet & cnet_62 & 2,500,000 & 2,500,000 & 2,500,000 & 2,500,000 & 2,500,000 \\
\hline PIM1357 & 62 netbearish & netb_62 & 2,500,000 & & & & \\
\hline PIM1357 & 62 sbuy & sbuy_62 & & & & & \\
\hline PIM1357 & 62 ssell & ssel_62 & & & & & \\
\hline PIM1358 & 63 abuy & abuy_63 & & & & & \\
\hline PIM1358 & 63 asell & asel_63 & 1,300,000 & & & & \\
\hline PIM1358 & 63 bearish & bear_63 & & & & & \\
\hline PIM1358 & 63 bullish & bull_63 & 1,300,000 & & & & \\
\hline PIM1358 & 63 cnet & cnet_63 & 1,300,000 & 1,300,000 & 1,300,000 & 1,300,000 & 1,300,000 \\
\hline PIM1358 & 63 netbearish & netb_63 & 1,300,000 & & & & \\
\hline PIM1358 & 63 sbuy & sbuy_63 & & & & & \\
\hline PIM1358 & 63 ssell & ssel_63 & & & & & \\
\hline PIM1422 & 64 abuy & abuy_64 & & & & & \\
\hline PIM1422 & 64 asell & asel_64 & & & & & \\
\hline PIM1422 & 64 bearish & bear_64 & & & & & \\
\hline PIM1422 & 64 bullish & bull_64 & & 500,000 & & & \\
\hline PIM1422 & 64 cnet & cnet_64 & 0 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM1422 & 64 netbearish & netb_64 & & 500,000 & & & \\
\hline PIM1422 & 64 sbuy & sbuy_64 & & 500,000 & & & \\
\hline PIM1422 & 64 ssell & ssel_64 & & & & & \\
\hline PIM1628 & 65 abuy & abuy_65 & & & & & \\
\hline PIM1628 & 65 asell & asel_65 & & & & & \\
\hline PIM1628 & 65 bearish & bear_65 & & & & & \\
\hline PIM1628 & 65 bullish & bull_65 & & & 700,000 & & \\
\hline PIM1628 & 65 cnet & cnet_65 & 0 & 0 & 700,000 & 700,000 & 700,000 \\
\hline PIM1628 & 65 netbearish & netb_65 & & & 700,000 & & \\
\hline PIM1628 & 65 sbuy & sbuy_65 & & & 700,000 & & \\
\hline PIM1628 & 65 ssell & ssel_65 & & & & & \\
\hline PIM1833 & 66 abuy & abuy_66 & & & & & \\
\hline PIM1833 & 66 asell & asel_66 & & & & & \\
\hline PIM1833 & 66 bearish & bear_66 & & & & & \\
\hline PIM1833 & 66 bullish & bull_66 & & & & & 1,000,000 \\
\hline PIM1833 & 66 cnet & cnet_66 & 0 & 0 & 0 & 0 & 1,000,000 \\
\hline PIM1833 & 66 netbearish & netb_66 & & & & & 1,000,000 \\
\hline PIM1833 & 66 sbuy & sbuy_66 & & & & & 1,000,000 \\
\hline PIM1833 & 66 ssell & ssel_66 & & & & & \\
\hline PIM1941 & 67 abuy & abuy_67 & & & & & \\
\hline PIM1941 & 67 asell & asel_67 & 800,000 & & & & \\
\hline PIM1941 & 67 bearish & bear_67 & & & & & \\
\hline PIM1941 & 67 bullish & bull_67 & 800,000 & & & & \\
\hline PIM1941 & 67 cnet & cnet_67 & 800,000 & 800,000 & 800,000 & 800,000 & 800,000 \\
\hline PIM1941 & 67 netbearish & netb_67 & 800,000 & & & & \\
\hline PIM1941 & 67 sbuy & sbuy_67 & & & & & \\
\hline PIM1941 & 67 ssell & ssel_67 & & & & & \\
\hline PIM2071 & 68 abuy & abuy_68 & & & & & \\
\hline PIM2071 & 68 asell & asel_68 & 200,000 & & & & \\
\hline PIM2071 & 68 bearish & bear_68 & & & & & \\
\hline PIM2071 & 68 bullish & bull_68 & 200,000 & & & & \\
\hline PIM2071 & 68 cnet & cnet_68 & 200,000 & 200,000 & 200,000 & 200,000 & 200,000 \\
\hline PIM2071 & 68 netbearish & netb_68 & 200,000 & & & & \\
\hline PIM2071 & 68 sbuy & sbuy_68 & & & & & \\
\hline PIM2071 & 68 ssell & ssel_68 & & & & & \\
\hline PIM2086 & 69 abuy & abuy_69 & & & & & \\
\hline PIM2086 & 69 asell & asel_69 & 1,100,000 & & & & \\
\hline PIM2086 & 69 bearish & bear_69 & & & & & \\
\hline PIM2086 & 69 bullish & bull_69 & 1,100,000 & & & & \\
\hline PIM2086 & 69 cnet & cnet_69 & 1,100,000 & 1,100,000 & 1,100,000 & 1,100,000 & 1,100,000 \\
\hline PIM2086 & 69 netbearish & netb_69 & 1,100,000 & & & & \\
\hline PIM2086 & 69 sbuy & sbuy_69 & & & & & \\
\hline PIM2086 & 69 ssell & ssel_69 & & & & & \\
\hline PIM2136 & 70 abuy & abuy_70 & & & & & \\
\hline PIM2136 & 70 asell & asel_70 & 900,000 & & & & \\
\hline PIM2136 & 70 bearish & bear_70 & & & & & \\
\hline PIM2136 & 70 bullish & bull_70 & 900,000 & & & & \\
\hline PIM2136 & 70 cnet & cnet_70 & 900,000 & 900,000 & 900,000 & 900,000 & 900,000 \\
\hline PIM2136 & 70 netbearish & netb_70 & 900,000 & & & & \\
\hline PIM2136 & 70 sbuy & sbuy_70 & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM2136 & 70 ssell & ssel_70 & & & & & \\
\hline PIM2224 & 71 abuy & abuy_71 & & & & & \\
\hline PIM2224 & 71 asell & asel_71 & & & & & \\
\hline PIM2224 & 71 bearish & bear_71 & & & & & \\
\hline PIM2224 & 71 bullish & bull_71 & & & 1,000,000 & & \\
\hline PIM2224 & 71 cnet & cnet_71 & 0 & 0 & 1,000,000 & 1,000,000 & 1,000,000 \\
\hline PIM2224 & 71 netbearish & netb_71 & & & 1,000,000 & & \\
\hline PIM2224 & 71 sbuy & sbuy_71 & & & 1,000,000 & & \\
\hline PIM2224 & 71 ssell & ssel_71 & & & & & \\
\hline PIM2232 & 72 abuy & abuy_72 & & & & & \\
\hline PIM2232 & 72 asell & asel_72 & & & & & \\
\hline PIM2232 & 72 bearish & bear_72 & & & & & \\
\hline PIM2232 & 72 bullish & bull_72 & & & & & 2,700,000 \\
\hline PIM2232 & 72 cnet & cnet_72 & 0 & 0 & 0 & 0 & 2,700,000 \\
\hline PIM2232 & 72 netbearish & netb_72 & & & & & 2,700,000 \\
\hline PIM2232 & 72 sbuy & sbuy_72 & & & & & 2,700,000 \\
\hline PIM2232 & 72 ssell & ssel_72 & & & & & \\
\hline PIM2307 & 73 abuy & abuy_73 & & & & & \\
\hline PIM2307 & 73 asell & asel_73 & 1,200,000 & & & & \\
\hline PIM2307 & 73 bearish & bear_73 & & & & & \\
\hline PIM2307 & 73 bullish & bull_73 & 1,200,000 & & & & \\
\hline PIM2307 & 73 cnet & cnet_73 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 \\
\hline PIM2307 & 73 netbearish & netb_73 & 1,200,000 & & & & \\
\hline PIM2307 & 73 sbuy & sbuy_73 & & & & & \\
\hline PIM2307 & 73 ssell & ssel_73 & & & & & \\
\hline PIM2355 & 74 abuy & abuy_74 & & & & & \\
\hline PIM2355 & 74 asell & asel_74 & 100,000 & & & & \\
\hline PIM2355 & 74 bearish & bear_74 & & & & & \\
\hline PIM2355 & 74 bullish & bull_74 & 100,000 & & & & \\
\hline PIM2355 & 74 cnet & cnet_74 & 100,000 & 100,000 & 100,000 & 100,000 & 100,000 \\
\hline PIM2355 & 74 netbearish & netb_74 & 100,000 & & & & \\
\hline PIM2355 & 74 sbuy & sbuy_74 & & & & & \\
\hline PIM2355 & 74 ssell & ssel_74 & & & & & \\
\hline PIM2400 & 75 abuy & abuy_75 & & & & & \\
\hline PIM2400 & 75 asell & asel_75 & 100,000 & & & & \\
\hline PIM2400 & 75 bearish & bear_75 & & & & & \\
\hline PIM2400 & 75 bullish & bull_75 & 100,000 & & & & \\
\hline PIM2400 & 75 cnet & cnet_75 & 100,000 & 100,000 & 100,000 & 100,000 & 100,000 \\
\hline PIM2400 & 75 netbearish & netb_75 & 100,000 & & & & \\
\hline PIM2400 & 75 sbuy & sbuy_75 & & & & & \\
\hline PIM2400 & 75 ssell & ssel_75 & & & & & \\
\hline PIM2466 & 76 abuy & abuy_76 & & & & & \\
\hline PIM2466 & 76 asell & asel_76 & & & & & \\
\hline PIM2466 & 76 bearish & bear_76 & & & & & \\
\hline PIM2466 & 76 bullish & bull_76 & & 600,000 & & & \\
\hline PIM2466 & 76 cnet & cnet_76 & 0 & 600,000 & 600,000 & 600,000 & 600,000 \\
\hline PIM2466 & 76 netbearish & netb_76 & & 600,000 & & & \\
\hline PIM2466 & 76 sbuy & sbuy_76 & & 600,000 & & & \\
\hline PIM2466 & 76 ssell & ssel_76 & & & & & \\
\hline PIM2660 & 77 abuy & abuy_77 & & & & & \\
\hline PIM2660 & 77 asell & asel_77 & 500,000 & & & & \\
\hline PIM2660 & 77 bearish & bear_77 & & & & & \\
\hline PIM2660 & 77 bullish & bull_77 & 500,000 & & & & \\
\hline PIM2660 & 77 cnet & cnet_77 & 500,000 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM2660 & 77 netbearish & netb_77 & 500,000 & & & & \\
\hline PIM2660 & 77 sbuy & sbuy_77 & & & & & \\
\hline PIM2660 & 77 ssell & ssel_77 & & & & & \\
\hline PIM2679 & 78 abuy & abuy_78 & & & & & \\
\hline PIM2679 & 78 asell & asel_78 & 900,000 & & & & \\
\hline PIM2679 & 78 bearish & bear_78 & & & & & \\
\hline PIM2679 & 78 bullish & bull_78 & 900,000 & & & & \\
\hline PIM2679 & 78 cnet & cnet_78 & 900,000 & 900,000 & 900,000 & 900,000 & 900,000 \\
\hline PIM2679 & 78 netbearish & netb_78 & 900,000 & & & & \\
\hline PIM2679 & 78 sbuy & sbuy_78 & & & & & \\
\hline PIM2679 & 78 ssell & ssel_78 & & & & & \\
\hline PIM2687 & 79 abuy & abuy_79 & & & & & \\
\hline PIM2687 & 79 asell & asel_79 & 300,000 & & & & \\
\hline PIM2687 & 79 bearish & bear_79 & & & & & \\
\hline PIM2687 & 79 bullish & bull_79 & 300,000 & & & & \\
\hline PIM2687 & 79 cnet & cnet_79 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM2687 & 79 netbearish & netb_79 & 300,000 & & & & \\
\hline PIM2687 & 79 sbuy & sbuy_79 & & & & & \\
\hline PIM2687 & 79 ssell & ssel_79 & & & & & \\
\hline PIM2739 & 80 abuy & abuy_80 & & & & & \\
\hline PIM2739 & 80 asell & asel_80 & & & & & \\
\hline PIM2739 & 80 bearish & bear_80 & & & & & \\
\hline PIM2739 & 80 bullish & bull_80 & & & 200,000 & & \\
\hline PIM2739 & 80 cnet & cnet_80 & 0 & 0 & 200,000 & 200,000 & 200,000 \\
\hline PIM2739 & 80 netbearish & netb_80 & & & 200,000 & & \\
\hline PIM2739 & 80 sbuy & sbuy_80 & & & 200,000 & & \\
\hline PIM2739 & 80 ssell & ssel_80 & & & & & \\
\hline PIM2755 & 81 abuy & abuy_81 & & & & & \\
\hline PIM2755 & 81 asell & asel_81 & & & & & \\
\hline PIM2755 & 81 bearish & bear_81 & & & & & \\
\hline PIM2755 & 81 bullish & bull_81 & & & 300,000 & & \\
\hline PIM2755 & 81 cnet & cnet_81 & 0 & 0 & 300,000 & 300,000 & 300,000 \\
\hline PIM2755 & 81 netbearish & netb_81 & & & 300,000 & & \\
\hline PIM2755 & 81 sbuy & sbuy_81 & & & 300,000 & & \\
\hline PIM2755 & 81 ssell & ssel_81 & & & & & \\
\hline PIM2809 & 82 abuy & abuy_82 & & & & & \\
\hline PIM2809 & 82 asell & asel_82 & 1,600,000 & & & & \\
\hline PIM2809 & 82 bearish & bear_82 & & & & & \\
\hline PIM2809 & 82 bullish & bull_82 & 1,600,000 & & & & \\
\hline PIM2809 & 82 cnet & cnet_82 & 1,600,000 & 1,600,000 & 1,600,000 & 1,600,000 & 1,600,000 \\
\hline PIM2809 & 82 netbearish & netb_82 & 1,600,000 & & & & \\
\hline PIM2809 & 82 sbuy & sbuy_82 & & & & & \\
\hline PIM2809 & 82 ssell & ssel_82 & & & & & \\
\hline PIM2879 & 83 abuy & abuy_83 & & & & & \\
\hline PIM2879 & 83 asell & asel_83 & 300,000 & & & & \\
\hline PIM2879 & 83 bearish & bear_83 & & & & & \\
\hline PIM2879 & 83 bullish & bull_83 & 300,000 & & & & \\
\hline PIM2879 & 83 cnet & cnet_83 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM2879 & 83 netbearish & netb_83 & 300,000 & & & & \\
\hline PIM2879 & 83 sbuy & sbuy_83 & & & & & \\
\hline PIM2879 & 83 ssell & ssel_83 & & & & & \\
\hline PIM2909 & 84 abuy & abuy_84 & & & & & \\
\hline PIM2909 & 84 asell & asel_84 & 2,800,000 & & & & \\
\hline PIM2909 & 84 bearish & bear_84 & & & & & \\
\hline PIM2909 & 84 bullish & bull_84 & 2,800,000 & & & & \\
\hline PIM2909 & 84 cnet & cnet_84 & 2,800,000 & 2,800,000 & 2,800,000 & 2,800,000 & 2,800,000 \\
\hline PIM2909 & 84 netbearish & netb_84 & 2,800,000 & & & & \\
\hline PIM2909 & 84 sbuy & sbuy_84 & & & & & \\
\hline PIM2909 & 84 ssell & ssel_84 & & & & & \\
\hline PIM2958 & 85 abuy & abuy_85 & & & & & \\
\hline PIM2958 & 85 asell & asel_85 & 800,000 & & & & \\
\hline PIM2958 & 85 bearish & bear_85 & & & & & \\
\hline PIM2958 & 85 bullish & bull_85 & 800,000 & & & & \\
\hline PIM2958 & 85 cnet & cnet_85 & 800,000 & 800,000 & 800,000 & 800,000 & 800,000 \\
\hline PIM2958 & 85 netbearish & netb_85 & 800,000 & & & & \\
\hline PIM2958 & 85 sbuy & sbuy_85 & & & & & \\
\hline PIM2958 & 85 ssell & ssel_85 & & & & & \\
\hline PIM3689 & 86 abuy & abuy_86 & & & & & \\
\hline PIM3689 & 86 asell & asel_86 & 500,000 & & & & \\
\hline PIM3689 & 86 bearish & bear_86 & & & & & \\
\hline PIM3689 & 86 bullish & bull_86 & 500,000 & & & & \\
\hline PIM3689 & 86 cnet & cnet_86 & 500,000 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM3689 & 86 netbearish & netb_86 & 500,000 & & & & \\
\hline PIM3689 & 86 sbuy & sbuy_86 & & & & & \\
\hline PIM3689 & 86 ssell & ssel_86 & & & & & \\
\hline PIM3691 & 87 abuy & abuy_87 & & & & & \\
\hline PIM3691 & 87 asell & asel_87 & 300,000 & & & & \\
\hline PIM3691 & 87 bearish & bear_87 & & & & & \\
\hline PIM3691 & 87 bullish & bull_87 & 300,000 & & & & \\
\hline PIM3691 & 87 cnet & cnet_87 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM3691 & 87 netbearish & netb_87 & 300,000 & & & & \\
\hline PIM3691 & 87 sbuy & sbuy_87 & & & & & \\
\hline PIM3691 & 87 ssell & ssel_87 & & & & & \\
\hline PIM3706 & 88 abuy & abuy_88 & & & & & \\
\hline PIM3706 & 88 asell & asel_88 & & & & & \\
\hline PIM3706 & 88 bearish & bear_88 & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM3706 & 88 bullish & bull_88 & & & 200,000 & & \\
\hline PIM3706 & 88 cnet & cnet_88 & 0 & 0 & 200,000 & 200,000 & 200,000 \\
\hline PIM3706 & 88 netbearish & netb_88 & & & 200,000 & & \\
\hline PIM3706 & 88 sbuy & sbuy_88 & & & 200,000 & & \\
\hline PIM3706 & 88 ssell & ssel_88 & & & & & \\
\hline PIM4632 & 89 abuy & abuy_89 & & & & & \\
\hline PIM4632 & 89 asell & asel_89 & 400,000 & & & & \\
\hline PIM4632 & 89 bearish & bear_89 & & & & & \\
\hline PIM4632 & 89 bullish & bull_89 & 400,000 & & & & \\
\hline PIM4632 & 89 cnet & cnet_89 & 400,000 & 400,000 & 400,000 & 400,000 & 400,000 \\
\hline PIM4632 & 89 netbearish & netb_89 & 400,000 & & & & \\
\hline PIM4632 & 89 sbuy & sbuy_89 & & & & & \\
\hline PIM4632 & 89 ssell & ssel_89 & & & & & \\
\hline PIM4690 & 90 abuy & abuy_90 & & & & & \\
\hline PIM4690 & 90 asell & asel_90 & 4,800,000 & & & & \\
\hline PIM4690 & 90 bearish & bear_90 & & & & & \\
\hline PIM4690 & 90 bullish & bull_90 & 4,800,000 & & & & \\
\hline PIM4690 & 90 cnet & cnet_90 & 4,800,000 & 4,800,000 & 4,800,000 & 4,800,000 & 4,800,000 \\
\hline PIM4690 & 90 netbearish & netb_90 & 4,800,000 & & & & \\
\hline PIM4690 & 90 sbuy & sbuy_90 & & & & & \\
\hline PIM4690 & 90 ssell & ssel_90 & & & & & \\
\hline PIM4692 & 91 abuy & abuy_91 & & & & & \\
\hline PIM4692 & 91 asell & asel_91 & 1,200,000 & & & & \\
\hline PIM4692 & 91 bearish & bear_91 & & & & & \\
\hline PIM4692 & 91 bullish & bull_91 & 1,200,000 & & & & \\
\hline PIM4692 & 91 cnet & cnet_91 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 \\
\hline PIM4692 & 91 netbearish & netb_91 & 1,200,000 & & & & \\
\hline PIM4692 & 91 sbuy & sbuy_91 & & & & & \\
\hline PIM4692 & 91 ssell & ssel_91 & & & & & \\
\hline PIM4807 & 92 abuy & abuy_92 & & & & & \\
\hline PIM4807 & 92 asell & asel_92 & & 2,500,000 & & & \\
\hline PIM4807 & 92 bearish & bear_92 & & & & & \\
\hline PIM4807 & 92 bullish & bull_92 & & 2,500,000 & & & \\
\hline PIM4807 & 92 cnet & cnet_92 & 0 & 2,500,000 & 2,500,000 & 2,500,000 & 2,500,000 \\
\hline PIM4807 & 92 netbearish & netb_92 & & 2,500,000 & & & \\
\hline PIM4807 & 92 sbuy & sbuy_92 & & & & & \\
\hline PIM4807 & 92 ssell & ssel_92 & & & & & \\
\hline PIM4866 & 93 abuy & abuy_93 & & & & & \\
\hline PIM4866 & 93 asell & asel_93 & & 2,000,000 & & & \\
\hline PIM4866 & 93 bearish & bear_93 & & & & & \\
\hline PIM4866 & 93 bullish & bull_93 & & 2,000,000 & & & \\
\hline PIM4866 & 93 cnet & cnet_93 & 0 & 2,000,000 & 2,000,000 & 2,000,000 & 2,000,000 \\
\hline PIM4866 & 93 netbearish & netb_93 & & 2,000,000 & & & \\
\hline PIM4866 & 93 sbuy & sbuy_93 & & & & & \\
\hline PIM4866 & 93 ssell & ssel_93 & & & & & \\
\hline PIM6009 & 94 abuy & abuy_94 & & & & & \\
\hline PIM6009 & 94 asell & asel_94 & 200,000 & & & & \\
\hline PIM6009 & 94 bearish & bear_94 & & & & & \\
\hline PIM6009 & 94 bullish & bull_94 & 200,000 & & & & \\
\hline PIM6009 & 94 cnet & cnet_94 & 200,000 & 200,000 & 200,000 & 200,000 & 200,000 \\
\hline PIM6009 & 94 netbearish & netb_94 & 200,000 & & & & \\
\hline PIM6009 & 94 sbuy & sbuy_94 & & & & & \\
\hline PIM6009 & 94 ssell & ssel_94 & & & & & \\
\hline PIM6160 & 95 abuy & abuy_95 & & & & & \\
\hline PIM6160 & 95 asell & asel_95 & & & & & \\
\hline PIM6160 & 95 bearish & bear_95 & & & & & \\
\hline PIM6160 & 95 bullish & bull_95 & & & & & 2,000,000 \\
\hline PIM6160 & 95 cnet & cnet_95 & 0 & 0 & 0 & 0 & 2,000,000 \\
\hline PIM6160 & 95 netbearish & netb_95 & & & & & 2,000,000 \\
\hline PIM6160 & 95 sbuy & sbuy_95 & & & & & 2,000,000 \\
\hline PIM6160 & 95 ssell & ssel_95 & & & & & \\
\hline PIM6169 & 96 abuy & abuy_96 & & & & & \\
\hline PIM6169 & 96 asell & asel_96 & 300,000 & & & & \\
\hline PIM6169 & 96 bearish & bear_96 & & & & & \\
\hline PIM6169 & 96 bullish & bull_96 & 300,000 & & & & \\
\hline PIM6169 & 96 cnet & cnet_96 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM6169 & 96 netbearish & netb_96 & 300,000 & & & & \\
\hline PIM6169 & 96 sbuy & sbuy_96 & & & & & \\
\hline PIM6169 & 96 ssell & ssel_96 & & & & & \\
\hline PIM6230 & 97 abuy & abuy_97 & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM6230 & 97 asell & asel_97 & 400,000 & & & & \\
\hline PIM6230 & 97 bearish & bear_97 & & & & & \\
\hline PIM6230 & 97 bullish & bull_97 & 400,000 & & & & \\
\hline PIM6230 & 97 cnet & cnet_97 & 400,000 & 400,000 & 400,000 & 400,000 & 400,000 \\
\hline PIM6230 & 97 netbearish & netb_97 & 400,000 & & & & \\
\hline PIM6230 & 97 sbuy & sbuy_97 & & & & & \\
\hline PIM6230 & 97 ssell & ssel_97 & & & & & \\
\hline PIM6320 & 98 abuy & abuy_98 & & & & & \\
\hline PIM6320 & 98 asell & asel_98 & & & & & \\
\hline PIM6320 & 98 bearish & bear_98 & & & & & \\
\hline PIM6320 & 98 bullish & bull_98 & & & 100,000 & & \\
\hline PIM6320 & 98 cnet & cnet_98 & 0 & 0 & 100,000 & 100,000 & 100,000 \\
\hline PIM6320 & 98 netbearish & netb_98 & & & 100,000 & & \\
\hline PIM6320 & 98 sbuy & sbuy_98 & & & 100,000 & & \\
\hline PIM6320 & 98 ssell & ssel_98 & & & & & \\
\hline PIM6400 & 99 abuy & abuy_99 & & & & & \\
\hline PIM6400 & 99 asell & asel_99 & 700,000 & & & & \\
\hline PIM6400 & 99 bearish & bear_99 & & & & & \\
\hline PIM6400 & 99 bullish & bull_99 & 700,000 & & & & \\
\hline PIM6400 & 99 cnet & cnet_99 & 700,000 & 700,000 & 700,000 & 700,000 & 700,000 \\
\hline PIM6400 & 99 netbearish & netb_99 & 700,000 & & & & \\
\hline PIM6400 & 99 sbuy & sbuy_99 & & & & & \\
\hline PIM6400 & 99 ssell & ssel_99 & & & & & \\
\hline PIM6888 & 100 abuy & abuy_100 & & & & & \\
\hline PIM6888 & 100 asell & asel_100 & & & & & \\
\hline PIM6888 & 100 bearish & bear_100 & & & & & \\
\hline PIM6888 & 100 bullish & bull_100 & & & 100,000 & & \\
\hline PIM6888 & 100 cnet & cnet_100 & 0 & 0 & 100,000 & 100,000 & 100,000 \\
\hline PIM6888 & 100 netbearish & netb_100 & & & 100,000 & & \\
\hline PIM6888 & 100 sbuy & sbuy_100 & & & 100,000 & & \\
\hline PIM6888 & 100 ssell & ssel_100 & & & & & \\
\hline PROVINZIAL RHE & 101 abuy & abuy_101 & & & & & \\
\hline PROVINZIAL RHE & 101 asell & asel_101 & & & & 300,000 & \\
\hline PROVINZIAL RHE & 101 bearish & bear_101 & & & & & \\
\hline PROVINZIAL RHE & 101 bullish & bull_101 & & & & 300,000 & \\
\hline PROVINZIAL RHE & 101 cnet & cnet_101 & 0 & 0 & 0 & 300,000 & 300,000 \\
\hline PROVINZIAL RHE & 101 netbearish & netb_101 & & & & 300,000 & \\
\hline PROVINZIAL RHE & 101 sbuy & sbuy_101 & & & & & \\
\hline PROVINZIAL RHE & 101 ssell & ssel_101 & & & & & \\
\hline PURSUIT & 102 abuy & abuy_102 & & & & & \\
\hline PURSUIT & 102 asell & asel_102 & & & & & \\
\hline PURSUIT & 102 bearish & bear_102 & & & & & \\
\hline PURSUIT & 102 bullish & bull_102 & & & & 35,000,000 & \\
\hline PURSUIT & 102 cnet & cnet_102 & 0 & 0 & 0 & 35,000,000 & 35,000,000 \\
\hline PURSUIT & 102 netbearish & netb_102 & & & & 35,000,000 & \\
\hline PURSUIT & 102 sbuy & sbuy_102 & & & & 35,000,000 & \\
\hline PURSUIT & 102 ssell & ssel_102 & & & & & \\
\hline QIC:QUEENSLD II & 103 abuy & abuy_103 & & & & & \\
\hline QIC:QUEENSLD II & 103 asell & asel_103 & & & & 150,000 & \\
\hline QIC:QUEENSLD II & 103 bearish & bear_103 & & & & & \\
\hline QIC:QUEENSLD II & 103 bullish & bull_103 & & & & 150,000 & \\
\hline QIC:QUEENSLD II & 103 cnet & cnet_103 & 0 & 0 & 0 & 150,000 & 150,000 \\
\hline QIC:QUEENSLD II & 103 netbearish & netb_103 & & & & 150,000 & \\
\hline QIC:QUEENSLD II & 103 sbuy & sbuy_103 & & & & & \\
\hline QIC:QUEENSLD II & 103 ssell & ssel_103 & & & & & \\
\hline RBS GMP & 104 abuy & abuy_104 & & & -5,000,000 & & \\
\hline RBS GMP & 104 asell & asel_104 & & & & & \\
\hline RBS GMP & 104 bearish & bear_104 & & & -5,000,000 & & \\
\hline RBS GMP & 104 bullish & bull_104 & & & & 5,000,000 & \\
\hline RBS GMP & 104 cnet & cnet_104 & 0 & 0 & -5,000,000 & 0 & 0 \\
\hline RBS GMP & 104 netbearish & netb_104 & & & -5,000,000 & 5,000,000 & \\
\hline RBS GMP & 104 sbuy & sbuy_104 & & & & 5,000,000 & \\
\hline RBS GMP & 104 ssell & ssel_104 & & & & & \\
\hline ROYAL BANK OF & 105 abuy & abuy_105 & & -5,000,000 & -5,000,000 & -10,000,000 & -85,000,000 \\
\hline ROYAL BANK OF & 105 asell & asel_105 & & & 20,000,000 & 15,000,000 & 140,000,000 \\
\hline ROYAL BANK OF & 105 bearish & bear_105 & & -5,000,000 & -10,000,000 & -35,000,000 & -105,000,000 \\
\hline ROYAL BANK OF & 105 bullish & bull_105 & & & 45,000,000 & 35,000,000 & 140,000,000 \\
\hline ROYAL BANK OF & 105 cnet & cnet_105 & 0 & -5,000,000 & 30,000,000 & 30,000,000 & 65,000,000 \\
\hline ROYAL BANK OF & 105 netbearish & netb_105 & & -5,000,000 & 35,000,000 & 0 & 35,000,000 \\
\hline ROYAL BANK OF & 105 sbuy & sbuy_105 & & & 25,000,000 & 20,000,000 & \\
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\section*{ROYAL BANK OF} SATELLITE CRED SATELLITE CRED SATELLITE CRED SATELLITE CRED SATELLITE CRED SATELLITE CRED SATELLITE CRED SATELLITE CRED SCHRODER STEF SCHRODER STEF SCHRODER STEF SCHRODER STEF SCHRODER STEF SCHRODER STEF SCHRODER STEF SCHRODER STEF SOCIETE GENER SOCIETE GENER SOCIETE GENER SOCIETE GENER SOCIETE GENER SOCIETE GENER SOCIETE GENER SOCIETE GENER SSSF STERLING I SSSF STERLING I SSSF STERLING I SSSF STERLING I SSSF STERLING I SSSF STERLING I SSSF STERLING I SSSF STERLING I STICHTING BEDR STICHTING BEDR STICHTING BEDR STICHTING BEDR STICHTING BEDR STICHTING BEDR STICHTING BEDR STICHTING BEDR THE CONUS FUN THE CONUS FUN THE CONUS FUN THE CONUS FUN THE CONUS FUN THE CONUS FUN THE CONUS FUN THE CONUS FUN THE ROYAL BANr THE ROYAL BANr THE ROYAL BANr THE ROYAL BANr THE ROYAL BANr THE ROYAL BANr THE ROYAL BAN \(r\) THE ROYAL BANr TRAXIS FUND LP TRAXIS FUND LP TRAXIS FUND LP TRAXIS FUND LP TRAXIS FUND LP TRAXIS FUND LP TRAXIS FUND LP TRAXIS FUND LP TRG INFLATION TRG INFLATION TRG INFLATION TRG INFLATION TRG INFLATION
105 ssell
106 abuy
106 asell
106 bearish
106 bullish
106 cnet
106 netbearish
ssel_105
\(-5,000,000 \quad-25,000,000\)
\(-20,000,000\)
abuy_-106
asel_106
bear_106
bull_106
cnet_106
netb_106
sbuy_106
ssel_106
abuy_107
asel_107
bear_107
bull_107
cnet_107
netb_107
sbuy_107
ssel_107
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asel_108
bear_108
bull_108
cnet_108
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abuy_112
asel_112
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cnet_112
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sbuy_112
ssel_112
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bear 113
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asel_114
bear_114
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cnet_114
\begin{tabular}{rrrrr} 
& \(10,000,000\) & & & \\
0 & \(10,000,000\) & \(10,000,000\) & \(10,000,000\) & \(10,000,000\) \\
& \(10,000,000\) & & & \\
& \(10,000,000\) & & & \\
\(10,000,000\) & \(-17,000,000\) & \(-15,000,000\) & \(-24,900,000\) & \(-155,000,000\) \\
& \(-17,000,000\) & \(6,297,500\) & \(10,000,000\) & \(20,000,000\) \\
\(10,000,000\) & \(10,000,000\) & \(-15,000,000\) & \(-24,900,000\) & \(-160,000,000\) \\
\(10,000,000\) & \(3,000,000\) & \(-5,702,500\) & \(-20,602,500\) & \(-160,600,000\) \\
\(10,000,000\) & \(-7,000,000\) & \(-8,702,500\) & \(-14,900,000\) & \(-140,000,000\) \\
& & & & \(-5,000,000\)
\end{tabular}
\begin{tabular}{|c|c|c|c|c|}
\hline & & 2,000,000 & 3,000,000 & \\
\hline \multirow[t]{5}{*}{0} & \multirow[t]{5}{*}{0} & 2,000,000 & 5,000,000 & \multirow[t]{5}{*}{5,000,000} \\
\hline & & 2,000,000 & 3,000,000 & \\
\hline & & 2,000,000 & 3,000,000 & \\
\hline & & & -5,000,000 & \\
\hline & & & -5,000,000 & \\
\hline \multirow[t]{4}{*}{0} & \multirow[t]{4}{*}{0} & 0 & -5,000,000 & \multirow[t]{2}{*}{-5,000,000} \\
\hline & & & \multirow[t]{2}{*}{-5,000,000} & \\
\hline & & -15,000,000 & & -10,000,000 \\
\hline & & -15,000,000 & & -10,000,000 \\
\hline \multirow[t]{4}{*}{0} & \multirow[t]{4}{*}{0} & \multirow[t]{3}{*}{\[
\begin{aligned}
& -15,000,000 \\
& -15,000,000
\end{aligned}
\]} & \multirow[t]{2}{*}{-15,000,000} & -25,000,000 \\
\hline & & & & -10,000,000 \\
\hline & & & -2,500,000 & \\
\hline & & & -2,500,000 & \\
\hline \multirow[t]{4}{*}{0} & \multirow[t]{3}{*}{0} & \multirow[t]{3}{*}{0} & -2,500,000 & \multirow[t]{3}{*}{-2,500,000} \\
\hline & & & -2,500,000 & \\
\hline & & & 300,000 & \\
\hline & & & 300,000 & \\
\hline 0 & 0 & 0 & 300,000 & 300,000 \\
\hline & & & 300,000 & \\
\hline
\end{tabular}

113 abuy
113 bearish
113 bullish
113 cnet
113 netbearish
113 sbuy
113 ssell
114 abuy
114 asell 114 bearish 114 bullish 114 cnet
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline TRG INFLATION & 114 netbearish & netb_114 & & & & & -23,000,000 \\
\hline TRG INFLATION & 114 sbuy & sbuy_114 & & & & & \\
\hline TRG INFLATION & 114 ssell & ssel_114 & & & & & \\
\hline TRICADIA DISTRE & 115 abuy & abuy_115 & & & & & \\
\hline TRICADIA DISTRE & 115 asell & asel_115 & & & & & 1,500,000 \\
\hline TRICADIA DISTRE & 115 bearish & bear_115 & & & & & \\
\hline TRICADIA DISTRE & 115 bullish & bull_115 & & & & & 1,500,000 \\
\hline TRICADIA DISTRE & 115 cnet & cnet_115 & 0 & 0 & 0 & 0 & 1,500,000 \\
\hline TRICADIA DISTRE & 115 netbearish & netb_115 & & & & & 1,500,000 \\
\hline TRICADIA DISTRE & 115 sbuy & sbuy_115 & & & & & \\
\hline TRICADIA DISTRE & 115 ssell & ssel_115 & & & & & \\
\hline UBS AG & 116 abuy & abuy_116 & & & & & \\
\hline UBS AG & 116 asell & asel_116 & & & & & 1,879,650 \\
\hline UBS AG & 116 bearish & bear_116 & & & & -5,000,000 & \\
\hline UBS AG & 116 bullish & bull_116 & & & & & 6,879,650 \\
\hline UBS AG & 116 cnet & cnet_116 & 0 & 0 & 0 & -5,000,000 & 1,879,650 \\
\hline UBS AG & 116 netbearish & netb_116 & & & & -5,000,000 & 6,879,650 \\
\hline UBS AG & 116 sbuy & sbuy_116 & & & & & 5,000,000 \\
\hline UBS AG & 116 ssell & ssel_116 & & & & -5,000,000 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline Entity & Add to Buy
Side & \[
\begin{aligned}
& \text { Reduce Sell } \\
& \text { Side }
\end{aligned}
\] & Total & Rank & Share & CShr & Reduce Buy
Side & Add to Sell
Side & Total & Rank & Total & Rank \\
\hline Total & -1,957,419,175 & -471,388,060 & \(-2,428,807,235\) & & & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & 0 & \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD LTD & -3,000,000 & & -3,000,000 & 45 & 0.1\% & 0.1\% & & & & 114 & -3,000,000 & 31 \\
\hline AURELIUS CAPITAL & & & & 48 & 0.0\% & 0.1\% & 10,000,000 & & 10,000,000 & 25 & 10,000,000 & 104 \\
\hline AUTONOMY MASTER FUND LIMITED & -10,000,000 & & -10,000,000 & 28 & 0.4\% & 0.5\% & & & & 102 & -10,000,000 & 16 \\
\hline BANCA IMI S.P.A & & & & 49 & 0.0\% & 0.5\% & 5,000,000 & & 5,000,000 & 31 & 5,000,000 & 94 \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & -40,000,000 & & -40,000,000 & 13 & 1.6\% & 2.2\% & & & & 93 & -40,000,000 & 4 \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & -33,800,000 & 14 & 1.4\% & 3.6\% & & 71,000,000 & 71,000,000 & 9 & 37,200,000 & 111 \\
\hline BANK OF NOVA SCOTIA TORONTO & & & & 50 & 0.0\% & 3.6\% & & 5,000,000 & 5,000,000 & 32 & 5,000,000 & 95 \\
\hline BARCELONA INKA & & & & 51 & 0.0\% & 3.6\% & & 350,000 & 350,000 & 71 & 350,000 & 58 \\
\hline BARCLAYS BANK PLC & -156,079,650 & -40,000,000 & -196,079,650 & 5 & 8.1\% & 11.6\% & 5,000,000 & 191,162,500 & 196,162,500 & 5 & 82,850 & 37 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & -3,258,060 & -3,258,060 & 44 & 0.1\% & 11.8\% & & & & 113 & -3,258,060 & 30 \\
\hline BLACK DIAMOND OFFSHORE, LTD & -225,000 & & -225,000 & 47 & 0.0\% & 11.8\% & & & & 116 & -225,000 & 33 \\
\hline BLUE MTN CREDIT ALTS. MASTER FUND L.P. & -20,000,000 & & -20,000,000 & 22 & 0.8\% & 12.6\% & & 20,000,000 & 20,000,000 & 20 & 0 & 34 \\
\hline BLUEBAY FUND:BLUEBAY INVESTT GR LIBOR FD & & & & 52 & 0.0\% & 12.6\% & & 150,000 & 150,000 & 85 & 150,000 & 42 \\
\hline BLUEBAY INVESTMENT GRADE BOND FUND & & & & 53 & 0.0\% & 12.6\% & & 7,000,000 & 7,000,000 & 28 & 7,000,000 & 102 \\
\hline BLUECREST MULTI STRATEGY CREDIT MSTR FD & & & & 54 & 0.0\% & 12.6\% & & 5,000,000 & 5,000,000 & 33 & 5,000,000 & 96 \\
\hline BNP PARIBAS & -227,313,275 & -40,000,000 & -267,313,275 & 2 & 11.0\% & 23.6\% & 25,000,000 & 235,510,000 & 260,510,000 & 2 & -6,803,275 & 18 \\
\hline CALYON & -10,000,000 & & -10,000,000 & 29 & 0.4\% & 24.0\% & & & & 103 & -10,000,000 & 17 \\
\hline CEDAR HILL CAPITAL PARTNERS & -10,000,000 & & -10,000,000 & 30 & 0.4\% & 24.4\% & 10,000,000 & & 10,000,000 & 24 & 0 & 35 \\
\hline CHEYNE LONG/SHORT STRUCTURED CREDIT FUND & & -31,000,000 & -31,000,000 & 16 & 1.3\% & 25.7\% & 41,000,000 & & 41,000,000 & 15 & 10,000,000 & 103 \\
\hline CQS ABS MASTER FUND LIMITED & -5,000,000 & & -5,000,000 & 35 & 0.2\% & 25.9\% & & & & 107 & -5,000,000 & 23 \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 3.1\% & 29.0\% & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 97,156,250 & 115 \\
\hline DEKA BANK, FRANKFURT & -12,560,000 & & -12,560,000 & 26 & 0.5\% & 29.5\% & & & & 100 & -12,560,000 & 13 \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 16.3\% & 16.3\% & 78,630,000 & 204,500,000 & 283,130,000 & 1 & -113,870,000 & 2 \\
\hline DISCOVERY ATLAS MASTER FUND & -5,000,000 & & -5,000,000 & 36 & 0.2\% & 16.6\% & & & & 108 & -5,000,000 & 24 \\
\hline DOUBLE BLACK DIAMOND OFFSHORE LDC & -4,775,000 & & -4,775,000 & 42 & 0.2\% & 16.7\% & & & & 111 & \(-4,775,000\) & 27 \\
\hline DWS CREDIT OPPORTUNITIES & -5,010,000 & & -5,010,000 & 34 & 0.2\% & 17.0\% & & & & 106 & -5,010,000 & 22 \\
\hline ES CAPITALIZACAO & -10,270,500 & & -10,270,500 & 27 & 0.4\% & 17.4\% & & & & 101 & -10,270,500 & 14 \\
\hline ES RENDA & -5,385,750 & & -5,385,750 & 33 & 0.2\% & 17.6\% & & & & 105 & -5,385,750 & 21 \\
\hline FOND BVOE SEGMENT UNTERFONDS W & & & & 55 & 0.0\% & 17.6\% & & 600,000 & 600,000 & 63 & 600,000 & 65 \\
\hline FORE CONVERTIBLE MASTER FUND, LTD. & & -32,800,000 & -32,800,000 & 15 & 1.4\% & 18.9\% & & 16,400,000 & 16,400,000 & 21 & -16,400,000 & 12 \\
\hline FORE ERISA FUND, LTD. & & -7,200,000 & -7,200,000 & 31 & 0.3\% & 19.2\% & & 3,600,000 & 3,600,000 & 40 & -3,600,000 & 29 \\
\hline FORE MULTI STRATEGY MASTER FUND,LTD. & & -20,000,000 & -20,000,000 & 23 & 0.8\% & 20.1\% & & 10,000,000 & 10,000,000 & 23 & -10,000,000 & 15 \\
\hline GENERAL AMERICAN LIFE INSURANCE COMPANY & -27,000,000 & & -27,000,000 & 17 & 1.1\% & 21.2\% & & & & 94 & -27,000,000 & 5 \\
\hline GENERAL ELECTRIC PENSION TRUST & & & & 56 & 0.0\% & 21.2\% & & 15,000,000 & 15,000,000 & 22 & 15,000,000 & 107 \\
\hline GOLDMAN SACHS & -160,600,000 & -40,000,000 & -200,600,000 & 4 & 8.3\% & 29.4\% & 56,500,000 & 125,000,000 & 181,500,000 & 7 & -19,100,000 & 11 \\
\hline HALBIS US CREDIT ALPHA MASTER FD LTD & & & & 57 & 0.0\% & 29.4\% & 5,000,000 & & 5,000,000 & 34 & 5,000,000 & 97 \\
\hline HPK-INVESTMENT GRADE CORPORATES & & & & 58 & 0.0\% & 29.4\% & & 300,000 & 300,000 & 72 & 300,000 & 49 \\
\hline HSBC BANK & -62,600,000 & & -62,600,000 & 10 & 2.6\% & 32.0\% & & 67,100,000 & 67,100,000 & 11 & 4,500,000 & 91 \\
\hline ICM BUSINESS TRUST & & & & 59 & 0.0\% & 32.0\% & 2,500,000 & & 2,500,000 & 44 & 2,500,000 & 85 \\
\hline ING & & & & 60 & 0.0\% & 32.0\% & & 10,000,000 & 10,000,000 & 26 & 10,000,000 & 105 \\
\hline INTERN KAPIT MBH (PRV-C) & & & & 61 & 0.0\% & 32.0\% & & 150,000 & 150,000 & 86 & 150,000 & 43 \\
\hline IONIC CAPITAL MASTER FUND LTD & & & & 62 & 0.0\% & 32.0\% & 22,500,000 & & 22,500,000 & 18 & 22,500,000 & 108 \\
\hline JMG & & & & 63 & 0.0\% & 32.0\% & 5,000,000 & & 5,000,000 & 35 & 5,000,000 & 98 \\
\hline JNL & -20,000,000 & & -20,000,000 & 24 & 0.8\% & 32.8\% & & & & 98 & -20,000,000 & 9 \\
\hline JPMORGAN CHASE BANK & -151,400,000 & -30,000,000 & -181,400,000 & 6 & 7.5\% & 40.3\% & 10,000,000 & 173,258,060 & 183,258,060 & 6 & 1,858,060 & 81 \\
\hline KAMUNTING STREET MASTER FUND LTD & & & & 64 & 0.0\% & 40.3\% & 5,000,000 & & 5,000,000 & 36 & 5,000,000 & 99 \\
\hline KBC FIN. PRODUCTS (CAYMAN ISLANDS)LTD. & -5,000,000 & & -5,000,000 & 37 & 0.2\% & 40.5\% & & & & 109 & -5,000,000 & 25 \\
\hline KEYBANK NATIONAL ASSOCIATION & -20,000,000 & & -20,000,000 & 25 & 0.8\% & 41.3\% & & & & 99 & -20,000,000 & 10 \\
\hline LEHMAN BROTHERS CREDIT ARBITRAGE FUND & & & & 65 & 0.0\% & 41.3\% & 5,000,000 & & 5,000,000 & 37 & 5,000,000 & 100 \\
\hline MAGNETAR & -50,000,000 & & -50,000,000 & 11 & 2.1\% & 43.4\% & & & & 92 & -50,000,000 & 3 \\
\hline MARATHON & -50,000,000 & & -50,000,000 & 12 & 2.1\% & 45.5\% & 55,000,000 & & 55,000,000 & 13 & 5,000,000 & 93 \\
\hline MARINER-TRICADIA CRD STRAT MASTER FD LTD & & & & 66 & 0.0\% & 45.5\% & & 3,500,000 & 3,500,000 & 41 & 3,500,000 & 90 \\
\hline MERRILL LYNCH INTERNATIONAL & -27,000,000 & & -27,000,000 & 18 & 1.1\% & 46.6\% & & 20,300,000 & 20,300,000 & 19 & -6,700,000 & 19 \\
\hline METLIFE INSURANCE COMPANY OF CONNECTICUT & -22,000,000 & & -22,000,000 & 21 & 0.9\% & 47.5\% & & & & 97 & -22,000,000 & 8 \\
\hline MORGAN STANLEY & -31,000,000 & -76,000,000 & -107,000,000 & 8 & 4.4\% & 51.9\% & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 104,313,275 & 116 \\
\hline NATIONAL BANK OF CANADA & -5,500,000 & & -5,500,000 & 32 & 0.2\% & 52.1\% & & & & 104 & -5,500,000 & 20 \\
\hline NOMURA INTERNATIONAL PLC & -5,000,000 & & -5,000,000 & 38 & 0.2\% & 52.3\% & & 45,000,000 & 45,000,000 & 14 & 40,000,000 & 112 \\
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\begin{tabular}{|c|c|c|c|}
\hline bear & bull & & netbull \\
\hline 1 & 45 - & & \\
\hline 2 - & & 25 & (Net Bullisl \\
\hline 3 & 28 - & & \\
\hline 4. & & 31 & \\
\hline 5 & 13 - & & \\
\hline 6 & 14 & 9 & (Net Bullisl \\
\hline 7 - & & 32 & \\
\hline 8 - & & 71 & \\
\hline 9 & 5 & 5 & \\
\hline 10 & 44 - & & \\
\hline 11 & 47 - & & \\
\hline 12 & 22 & 20 & \\
\hline 13 - & & 85 & \\
\hline 14. & & 28 & (Net Bullis! \\
\hline 15. & & 33 & \\
\hline 16 & 2 & 2 & \\
\hline 17 & 29 - & & \\
\hline 18 & 30 & 24 & \\
\hline 19 & 16 & 15 & (Net Bullis! \\
\hline 20 & \(35-\) & & \\
\hline 21 & 9 & 8 & (Net Bullis! \\
\hline 22 & 26 - & & \\
\hline 23 & 1 & 1 & \\
\hline 24 & 36 - & & \\
\hline 25 & 42. & & \\
\hline 26 & 34. & & \\
\hline 27 & 27 - & & \\
\hline 28 & 33 - & & \\
\hline 29 - & & 63 & \\
\hline 30 & 15 & 21 & \\
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\hline 32 & 23 & 23 & \\
\hline 33 & 17 - & & \\
\hline 34. & & 22 & (Net Bullis! \\
\hline 35 & 4 & 7 & \\
\hline 36 - & & 34 & \\
\hline 37. & & 72 & \\
\hline 38 & 10 & 11 & \\
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\hline 41 - & & 86 & \\
\hline 42 - & & 18 & (Net Bullisl \\
\hline 43 - & & 35 & \\
\hline 44 & 24 - & & \\
\hline 45 & 6 & 6 & \\
\hline 46 - & & 36 & \\
\hline 47 & 37. & & \\
\hline 48 & 25 - & & \\
\hline 49. & & 37 & \\
\hline 50 & 11 - & & \\
\hline 51 & 12 & 13 & \\
\hline 52 - & & 41 & \\
\hline 53 & 18 & 19 & \\
\hline 54 & 21 - & & \\
\hline 55 & 8 & 4 & (Net Bullisl \\
\hline 56 & 32 - & & \\
\hline & 38 & & (Net Bu \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Entity} & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline & Add to Buy
Side & Reduce Sell
Side & Total & Rank & Share & CShr & Reduce Buy
Side & Add to Sell
Side & Total & Rank & Total & Rank \\
\hline NORGES BANK - INVESTMENT MANAGEMENT \#1 & & & & 67 & 0.0\% & 52.3\% & 25,000,000 & & 25,000,000 & 17 & 25,000,000 & 109 \\
\hline PAULSON CREDIT OPPORTUNITIES MASTER LTD & & & & 68 & 0.0\% & 52.3\% & 70,000,000 & & 70,000,000 & 10 & 70,000,000 & 114 \\
\hline PIM1338 & & & & 69 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 73 & 300,000 & 50 \\
\hline PIM1356 & & & & 70 & 0.0\% & 52.3\% & & 500,000 & 500,000 & 65 & 500,000 & 61 \\
\hline PIM1357 & & & & 71 & 0.0\% & 52.3\% & & 2,500,000 & 2,500,000 & 45 & 2,500,000 & 86 \\
\hline PIM1358 & & & & 72 & 0.0\% & 52.3\% & & 1,300,000 & 1,300,000 & 51 & 1,300,000 & 78 \\
\hline PIM1422 & & & & 73 & 0.0\% & 52.3\% & 500,000 & & 500,000 & 66 & 500,000 & 62 \\
\hline PIM1628 & & & & 74 & 0.0\% & 52.3\% & 700,000 & & 700,000 & 61 & 700,000 & 67 \\
\hline PIM1833 & & & & 75 & 0.0\% & 52.3\% & 1,000,000 & & 1,000,000 & 55 & 1,000,000 & 73 \\
\hline PIM1941 & & & & 76 & 0.0\% & 52.3\% & & 800,000 & 800,000 & 59 & 800,000 & 69 \\
\hline PIM2071 & & & & 77 & 0.0\% & 52.3\% & & 200,000 & 200,000 & 81 & 200,000 & 45 \\
\hline PIM2086 & & & & 78 & 0.0\% & 52.3\% & & 1,100,000 & 1,100,000 & 54 & 1,100,000 & 75 \\
\hline PIM2136 & & & & 79 & 0.0\% & 52.3\% & & 900,000 & 900,000 & 57 & 900,000 & 71 \\
\hline PIM2224 & & & & 80 & 0.0\% & 52.3\% & 1,000,000 & & 1,000,000 & 56 & 1,000,000 & 74 \\
\hline PIM2232 & & & & 81 & 0.0\% & 52.3\% & 2,700,000 & & 2,700,000 & 43 & 2,700,000 & 88 \\
\hline PIM2307 & & & & 82 & 0.0\% & 52.3\% & & 1,200,000 & 1,200,000 & 52 & 1,200,000 & 76 \\
\hline PIM2355 & & & & 83 & 0.0\% & 52.3\% & & 100,000 & 100,000 & 88 & 100,000 & 38 \\
\hline PIM2400 & & & & 84 & 0.0\% & 52.3\% & & 100,000 & 100,000 & 89 & 100,000 & 39 \\
\hline PIM2466 & & & & 85 & 0.0\% & 52.3\% & 600,000 & & 600,000 & 64 & 600,000 & 66 \\
\hline PIM2660 & & & & 86 & 0.0\% & 52.3\% & & 500,000 & 500,000 & 67 & 500,000 & 63 \\
\hline PIM2679 & & & & 87 & 0.0\% & 52.3\% & & 900,000 & 900,000 & 58 & 900,000 & 72 \\
\hline PIM2687 & & & & 88 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 74 & 300,000 & 51 \\
\hline PIM2739 & & & & 89 & 0.0\% & 52.3\% & 200,000 & & 200,000 & 82 & 200,000 & 46 \\
\hline PIM2755 & & & & 90 & 0.0\% & 52.3\% & 300,000 & & 300,000 & 75 & 300,000 & 52 \\
\hline PIM2809 & & & & 91 & 0.0\% & 52.3\% & & 1,600,000 & 1,600,000 & 49 & 1,600,000 & 80 \\
\hline PIM2879 & & & & 92 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 76 & 300,000 & 53 \\
\hline PIM2909 & & & & 93 & 0.0\% & 52.3\% & & 2,800,000 & 2,800,000 & 42 & 2,800,000 & 89 \\
\hline PIM2958 & & & & 94 & 0.0\% & 52.3\% & & 800,000 & 800,000 & 60 & 800,000 & 70 \\
\hline PIM3689 & & & & 95 & 0.0\% & 52.3\% & & 500,000 & 500,000 & 68 & 500,000 & 64 \\
\hline PIM3691 & & & & 96 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 77 & 300,000 & 54 \\
\hline PIM3706 & & & & 97 & 0.0\% & 52.3\% & 200,000 & & 200,000 & 83 & 200,000 & 47 \\
\hline PIM4632 & & & & 98 & 0.0\% & 52.3\% & & 400,000 & 400,000 & 69 & 400,000 & 59 \\
\hline PIM4690 & & & & 99 & 0.0\% & 52.3\% & & 4,800,000 & 4,800,000 & 39 & 4,800,000 & 92 \\
\hline PIM4692 & & & & 100 & 0.0\% & 52.3\% & & 1,200,000 & 1,200,000 & 53 & 1,200,000 & 77 \\
\hline PIM4807 & & & & 101 & 0.0\% & 52.3\% & & 2,500,000 & 2,500,000 & 46 & 2,500,000 & 87 \\
\hline PIM4866 & & & & 102 & 0.0\% & 52.3\% & & 2,000,000 & 2,000,000 & 47 & 2,000,000 & 83 \\
\hline PIM6009 & & & & 103 & 0.0\% & 52.3\% & & 200,000 & 200,000 & 84 & 200,000 & 48 \\
\hline PIM6160 & & & & 104 & 0.0\% & 52.3\% & 2,000,000 & & 2,000,000 & 48 & 2,000,000 & 84 \\
\hline PIM6169 & & & & 105 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 78 & 300,000 & 55 \\
\hline PIM6230 & & & & 106 & 0.0\% & 52.3\% & & 400,000 & 400,000 & 70 & 400,000 & 60 \\
\hline PIM6320 & & & & 107 & 0.0\% & 52.3\% & 100,000 & & 100,000 & 90 & 100,000 & 40 \\
\hline PIM6400 & & & & 108 & 0.0\% & 52.3\% & & 700,000 & 700,000 & 62 & 700,000 & 68 \\
\hline PIM6888 & & & & 109 & 0.0\% & 52.3\% & 100,000 & & 100,000 & 91 & 100,000 & 41 \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & & & & 110 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 79 & 300,000 & 56 \\
\hline PURSUIT & & & & 111 & 0.0\% & 52.3\% & 35,000,000 & & 35,000,000 & 16 & 35,000,000 & 110 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS CAP & & & & 112 & 0.0\% & 52.3\% & & 150,000 & 150,000 & 87 & 150,000 & 44 \\
\hline RBS GMP & -5,000,000 & & -5,000,000 & 39 & 0.2\% & 52.5\% & 5,000,000 & & 5,000,000 & 30 & 0 & 36 \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 6.4\% & 58.9\% & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 65,000,000 & 113 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND LTD. & & & & 113 & 0.0\% & 58.9\% & 5,000,000 & & 5,000,000 & 38 & 5,000,000 & 101 \\
\hline SCHRODER STERLING BROAD MKTS BOND FUND & -5,000,000 & & -5,000,000 & 40 & 0.2\% & 59.1\% & & & & 110 & -5,000,000 & 26 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & -25,000,000 & & -25,000,000 & 19 & 1.0\% & 60.1\% & & & & 95 & -25,000,000 & 6 \\
\hline SSSF STERLING BROAD MARKET BOND LIBOR & -2,500,000 & & -2,500,000 & 46 & 0.1\% & 60.2\% & & & & 115 & -2,500,000 & 32 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE MEDIA & & & & 114 & 0.0\% & 60.2\% & & 300,000 & 300,000 & 80 & 300,000 & 57 \\
\hline THE CONUS FUND & & & & 115 & 0.0\% & 60.2\% & 10,000,000 & & 10,000,000 & 27 & 10,000,000 & 106 \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & 8.9\% & 69.2\% & & 56,297,500 & 56,297,500 & 12 & -160,602,500 & 1 \\
\hline TRAXIS FUND LP & & -3,630,000 & -3,630,000 & 43 & 0.1\% & 69.3\% & & & & 112 & -3,630,000 & 28 \\
\hline TRG INFLATION & -23,000,000 & & -23,000,000 & 20 & 0.9\% & 70.3\% & & & & 96 & -23,000,000 & 7 \\
\hline TRICADIA DISTRESSED AND SPCL MTR FD LT & & & & 116 & 0.0\% & 70.3\% & & 1,500,000 & 1,500,000 & 50 & 1,500,000 & 79 \\
\hline UBS AG & & -5,000,000 & -5,000,000 & 41 & 0.2\% & 70.5\% & 5,000,000 & 1,879,650 & 6,879,650 & 29 & 1,879,650 & 82 \\
\hline
\end{tabular}


\section*{Citigroup Credit Default Swap Transactions JPMORGAN CHASE BANK}

Bearish \# 6 / Bullish \# 6 / Net Bearish \# 81




\section*{Citigroup Credit Default Swap Transactions \\ MARATHON \\ Bearish \# 12 / Bullish \# 13 / Net Bearish \# 93}



Citigroup Credit Default Swap Transactions MORGAN STANLEY
Bearish \# 8 I Bullish \# 4 I Net Bearish \# 116 (Net Bullish \# 1)


Citigroup Credit Default Swap Transactions
NOMURA INTERNATIONAL PLC
Bearish \# 38 / Bullish \# 14 / Net Bearish \# 112 (Net Bullish \# 5)


Citigroup Credit Default Swap Transactions NORGES BANK - INVESTMENT MANAGEMENT \#1 Bearish \# - I Bullish \# 17 I Net Bearish \# 109 (Net Bullish \# 8)


Citigroup Credit Default Swap Transactions
PAULSON CREDIT OPPORTUNITIES MASTER LTD
Bearish \# - I Bullish \# 10 / Net Bearish \# 114 (Net Bullish \# 3)


Citigroup Credit Default Swap Transactions
PURSUIT
Bearish \# - / Bullish \# 16 / Net Bearish \# 110 (Net Bullish \# 7)


Citigroup Credit Default Swap Transactions ROYAL BANK OF CANADA
Bearish \# 7 I Bullish \# 3 I Net Bearish \# 113 (Net Bullish \# 4)





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PIM1941
PIM2071
PIM2086
PIM2136
PIM2224
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PIM2307
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PIM2809
PIM2879
PIM2909
PIM2958
PIM3689
PIM3691
PIM3706
PIM4632
PIM4690
PIM4692
PIM4807
PIM4866
PIM4866
PIM6009
PIM6009
PM6160
PIM6230
PIM6230
PIM6400

1 Citigroup Credit Default Swap Transactions ALADDIN RELATIVE VALUE CREDIT MAS FD LTDBearish \# 45 / Bullish \# - / Net Bearish \# 31
2 Citigroup Credit Default Swap Transactions AURELIUS CAPITALBearish \# - / Bullish \# 25 / Net Bearish \# 104 (Net Bullish \# 13
3 Citigroup Credit Default Swap Transactions AUTONOMY MASTER FUND LIMITEDBearish \# 28 / Bullish \# - / Net Bearish \# 16
4 Citigroup Credit Default Swap Transactions BANCA IMI S.P.ABearish \# - / Bullish \# 31/ Net Bearish \# 94
5 Citigroup Credit Default Swap Transactions BANCO BILBAO VIZCAYA ARGENTARIA, S.A.Bearish \# 13 / Bullish \# - / Net Bearish \#
6 Citigroup Credit Default Swap Transactions BANK OF AMERICA, N.A.Bearish \# 14 / Bullish \# 9 / Net Bearish \# 111 (Net Bullish \# 6)
7 Citigroup Credit Default Swap Transactions BANK OF NOVA SCOTIA TORONTOBearish \# - / Bullish \# 32 / Net Bearish \# 95
8 Citigroup Credit Default Swap Transactions BARCELONA INKABearish \# - / Bullish \# 71 / Net Bearish \# 58
9 Citigroup Credit Default Swap Transactions BARCLAYS BANK PLCBearish \# 5 / Bullish \# 5 / Net Bearish \# 37
10 Citigroup Credit Default Swap Transactions BEAR, STEARNS INTERNATIONAL LTDBearish \# 44 / Bullish \# - / Net Bearish \# 30
11 Citigroup Credit Default Swap Transactions BLACK DIAMOND OFFSHORE, LTDBearish \# 47 / Bullish \# - / Net Bearish \# 33
12 Citigroup Credit Default Swap Transactions BLUE MTN CREDIT ALTS. MASTER FUND L.P.Bearish \# 22 / Bullish \# 20 / Net Bearish \# 34
13 Citigroup Credit Default Swap Transactions BLUEBAY FUND:BLUEBAY INVESTT GR LIBOR FDBearish \# - / Bullish \# 85 / Net Bearish \# 42
14 Citigroup Credit Default Swap Transactions BLUEBAY INVESTMENT GRADE BOND FUNDBearish \# - / Bullish \# 28 / Net Bearish \# 102 (Net Bullish \# 15)
15 Citigroup Credit Default Swap Transactions BLUECREST MULTI STRATEGY CREDIT MSTR FDBearish \# - / Bullish \# 33 / Net Bearish \# 96
16 Citigroup Credit Default Swap Transactions BNP PARIBASBearish \# 2 / Bullish \# 2 / Net Bearish \# 18
17 Citigroup Credit Default Swap Transactions CALYONBearish \# 29 / Bullish \# - / Net Bearish \# 17
18 Citigroup Credit Default Swap Transactions CEDAR HILL CAPITAL PARTNERSBearish \# 30 / Bullish \# 24 / Net Bearish \# 35
19 Citigroup Credit Default Swap Transactions CHEYNE LONG/SHORT STRUCTURED CREDIT FUNDBearish \# 16 / Bullish \# 15 / Net Bearish \# 103 (Net Bullish 7
20 Citigroup Credit Default Swap Transactions CQS ABS MASTER FUND LIMITEDBearish \# 35 / Bullish \# - / Net Bearish \# 23
21 Citigroup Credit Default Swap Transactions CREDIT SUISSE INTERNATIONALBearish \# 9 / Bullish \# 8 / Net Bearish \# 115 (Net Bullish \# 2)
22 Citigroup Credit Default Swap Transactions DEKA BANK, FRANKFURTBearish \# 26 / Bullish \# - / Net Bearish \# 13
23 Citigroup Credit Default Swap Transactions DEUTSCHE BANK AGBearish \# 1 / Bullish \# 1 / Net Bearish \# 2
24 Citigroup Credit Default Swap Transactions DISCOVERY ATLAS MASTER FUNDBearish \# 36 / Bullish \# - / Net Bearish \# 24
25 Citigroup Credit Default Swap Transactions DOUBLE BLACK DIAMOND OFFSHORE LDCBearish \# 42 / Bullish \#- / Net Bearish \# 27
26 Citigroup Credit Default Swap Transactions DWS CREDIT OPPORTUNITIESBearish \# 34 / Bullish \# - / Net Bearish \# 22
27 Citigroup Credit Default Swap Transactions ES CAPITALIZACAOBearish \# 27 / Bullish \# - / Net Bearish \# 14
28 Citigroup Credit Default Swap Transactions ES RENDABearish \# 33 / Bullish \# - / Net Bearish \# 21
29 Citigroup Credit Default Swap Transactions FOND BVOE SEGMENT UNTERFONDS WBearish \# - / Bullish \# 63 / Net Bearish \# 65
30 Citigroup Credit Default Swap TransactionsFORE CONVERTIBLE MASTER FUND, LTD.Bearish \# 15 / Bullish \# 21 / Net Bearish \# 12
31 Citigroup Credit Default Swap Transactions FORE ERISA FUND, LTD. Bearish \# 31 / Bullish \# 40 / Net Bearish \# 29
32 Citigroup Credit Default Swap Transactions FORE MULTI STRATEGY MASTER FUND,LTD.Bearish \# 23 / Bullish \# 23 / Net Bearish \# 15
33 Citigroup Credit Default Swap Transactions GENERALAMERICAN LIFE INSURANCE COMPANYBearish \# 17 / Bullish \# - / Net Bearish \# 5
34 Citigroup Credit Default Swap Transactions GENERAL ELECTRIC PENSION TRUSTBearish \# - / Bullish \# 22 / Net Bearish \# 107 (Net Bullish \# 10)
35 Citigroup Credit Default Swap Transactions GOLDMAN SACHSBearish \# 4 / Bullish \# 7 / Net Bearish \# 11
36 Citigroup Credit Default Swap TransactionsHALBIS US CREDIT ALPHA MASTER FD LTDBearish \# - / Bullish \# 34 / Net Bearish \# 97
37 Citigroup Credit Default Swap Transactions HPK-INVESTMENT GRADE CORPORATESBearish \# - / Bullish \# 72 / Net Bearish \# 49
38 Citigroup Credit Default Swap Transactions HSBC BANKBearish \# 10 / Bullish \# 11 / Net Bearish \# 91
39 Citigroup Credit Default Swap Transactions ICM BUSINESS TRUSTBearish \# - / Bullish \# 44 / Net Bearish \# 85
40 Citigroup Credit Default Swap Transactions INGBearish \# - / Bullish \# 26 / Net Bearish \# 105 (Net Bullish \# 12)
41 Citigroup Credit Default Swap Transactions INTERN KAPIT MBH (PRV-C)Bearish \# - / Bullish \# 86 / Net Bearish \# 43
42 Citigroup Credit Default Swap Transactions IONIC CAPITAL MASTER FUND LTDBearish \# - / Bullish \# 18 / Net Bearish \# 108 (Net Bullish \# 9)
43 Citigroup Credit Default Swap Transactions JMGBearish \# - / Bullish \# 35 / Net Bearish \# 98
44 Citigroup Credit Default Swap Transactions JNLBearish \# 24 / Bullish \# - / Net Bearish \# 9
45 Citigroup Credit Default Swap Transactions JPMORGAN CHASE BANKBearish \# 6 / Bullish \# 6 / Net Bearish \# 81
46 Citigroup Credit Default Swap Transactions KAMUNTING STREET MASTER FUND LTDBearish \# - / Bullish \# 36 / Net Bearish \# 99
47 Citigroup Credit Default Swap Transactions KBC FIN. PRODUCTS (CAYMAN ISLANDS)LTD.Bearish \# 37 / Bullish \# - / Net Bearish \# 25 48 Citigroup Credit Default Swap Transactions KEYBANK NATIONAL ASSOCIATIONBearish \# 25 / Bullish \# - / Net Bearish \# 10
49 Citigroup Credit Default Swap Transactions LEHMAN BROTHERS CREDIT ARBITRAGE FUNDBearish \# - / Bullish \# 37 / Net Bearish \# 100 50 Citigroup Credit Default Swap Transactions MAGNETARBearish \# 11 / Bullish \# - / Net Bearish \# 3
51 Citigroup Credit Default Swap Transactions MARATHONBearish \# 12 / Bullish \# 13 / Net Bearish \# 93
52 Citigroup Credit Default Swap Transactions MARINER-TRICADIA CRD STRAT MASTER FD LTDBearish \# - / Bullish \# 41 / Net Bearish \# 90
53 Citigroup Credit Default Swap Transactions MERRILL LYNCH INTERNATIONALBearish \# 18 / Bullish \# 19 / Net Bearish \# 19
54 Citigroup Credit Default Swap Transactions METLIFE INSURANCE COMPANY OF CONNECTICUTBearish \# 21 / Bullish \# - / Net Bearish \# 8
55 Citigroup Credit Default Swap Transactions MORGAN STANLEYBearish \# 8 / Bullish \# 4 / Net Bearish \# 116 (Net Bullish \# 1)
56 Citigroup Credit Default Swap Transactions NATIONAL BANK OF CANADABearish \# 32 / Bullish \# - / Net Bearish \# 20
57 Citigroup Credit Default Swap Transactions NOMURA INTERNATIONAL PLCBearish \# 38 / Bullish \# 14 / Net Bearish \# 112 (Net Bullish \# 5)
58 Citigroup Credit Default Swap Transactions NORGES BANK - INVESTMENT MANAGEMENT \#1Bearish \# - / Bullish \# 17 / Net Bearish \# 109 (Net Bullish \# 8) 59 Citigroup Credit Default Swap Transactions PAULSON CREDIT OPPORTUNITIES MASTER LTDBearish \# - / Bullish \# 10 / Net Bearish \# 114 (Net Bullish \# 3) 60 Citigroup Credit Default Swap Transactions PIM1338Bearish \# - / Bullish \# 73 / Net Bearish \# 50 61 Citigroup Credit Default Swap TransactionsPIM1356Bearish \# - / Bullish \# 65 / Net Bearish \# 61 62 Citigroup Credit Default Swap TransactionsPIM1357Bearish \# - / Bullish \# 45 / Net Bearish \# 86 63 Citigroup Credit Default Swap Transactions PIM1358Bearish \# - / Bullish \# 51 / Net Bearish \# 78 64 Citigroup Credit Default Swap Transactions PIM1422Bearish \# - / Bullish \# 66 / Net Bearish \# 62 65 Citigroup Credit Default Swap Transactions PIM1628Bearish \# - / Bullish \# 61 / Net Bearish \# 67 66 Citigroup Credit Default Swap Transactions PIM1833Bearish \# - / Bullish \# 55 / Net Bearish \# 73 67 Citigroup Credit Default Swap Transactions PIM1941Bearish \# - / Bullish \# 59 / Net Bearish \# 69 68 Citigroup Credit Default Swap TransactionsPIM2071Bearish \# - / Bullish \# 81 / Net Bearish \# 45 69 Citigroup Credit Default Swap Transactions PIM2086Bearish \# - / Bullish \# 54 / Net Bearish \# 75 70 Citigroup Credit Default Swap Transactions PIM2136Bearish \# - / Bullish \# 57 / Net Bearish \# 71 71 Citigroup Credit Default Swap Transactions PIM2224Bearish \# - / Bullish \# 56 / Net Bearish \# 74 72 Citigroup Credit Default Swap Transactions PIM2232Bearish \# - / Bullish \# 43 / Net Bearish \# 88 73 Citigroup Credit Default Swap Transactions PIM2307Bearish \# - / Bullish \# 52 / Net Bearish \# 76 7 Citigroup Credit Default Swap Transactions PIM2355Bearish \# - / Bullish \# 88 / Net Bearish \# 38 75 Citigroup Credit Default Swap Transactions PIM2400Bearish \# - / Bullish \# 89 / Net Bearish \# 39 76 Citigroup Credit Default Swap Transactions PIM2466Bearish \# - / Bullish \# 64 / Net Bearish \# 66 77 Citigroup Credit Default Swap Transactions PIM2660Bearish \# - / Bullish \# 67 / Net Bearish \# 63 78 Citigroup Credit Default Swap Transactions PIM2679Bearish \# - / Bullish \# 58 / Net Bearish \# 72 79 Citigroup Credit Default Swap Transactions PIM2687Bearish \# - / Bullish \# 74 / Net Bearish \# 51 80 Citigroup Credit Default Swap Transactions PIM2739Bearish \# - / Bullish \# 82 / Net Bearish \# 46 81 Citigroup Credit Default Swap Transactions PIM2755Bearish \# - / Bullish \# 75 / Net Bearish \# 52 82 Citigroup Credit Default Swap TransactionsPIM2809Bearish \# - / Bullish \# 49 / Net Bearish \# 80 83 Citigroup Credit Default Swap Transactions PIM2879Bearish \# - / Bullish \# 76 / Net Bearish \# 53 84 Citigroup Credit Default Swap TransactionsPIM2909Bearish \# - / Bullish \# 42 / Net Bearish \# 89 85 Citigroup Credit Default Swap TransactionsPIM2958Bearish \# - / Bullish \# 60 / Net Bearish \# 70 86 Citigroup Credit Default Swap TransactionsPIM3689Bearish \# - / Bullish \# 68 / Net Bearish \# 64 87 Citigroup Credit Default Swap TransactionsPIM3691Bearish \# - / Bullish \# 77 / Net Bearish \# 54 88 Citigroup Credit Default Swap TransactionsPIM3706Bearish \# - / Bullish \# 83 / Net Bearish \# 47 89 Citigroup Credit Default Swap TransactionsPIM4632Bearish \# - / Bullish \# 69 / Net Bearish \# 59 90 Citigroup Credit Default Swap TransactionsPIM4690Bearish \# - / Bullish \# 39 / Net Bearish \# 92 91 Citigroup Credit Default Swap Transactions PIM4692Bearish \# - / Bullish \# 53 / Net Bearish \# 77 92 Citigroup Credit Default Swap Transactions PIM4807Bearish \# - / Bullish \# 46 / Net Bearish \# 87 93 Citigroup Credit Default Swap TransactionsPIM4866Bearish \# - / Bullish \# 47 / Net Bearish \# 83 94 Citigroup Credit Default Swap Transactions PIM6009Bearish \# - / Bullish \# 84 / Net Bearish \# 48 95 Citigroup Credit Default Swap Transactions PIM6160Bearish \# - / Bullish \# 48 / Net Bearish \# 84 96 Citigroup Credit Default Swap Transactions PIM6169Bearish \# - / Bullish \# 78 / Net Bearish \# 55 97 Citigroup Credit Default Swap Transactions PIM6230Bearish \# - / Bullish \# 70 / Net Bearish \# 60 98 Citigroup Credit Default Swap Transactions PIM6320Bearish \# - / Bullish \# 90 / Net Bearish \# 40 99 Citigroup Credit Default Swap Transactions PIM6400Bearish \# - / Bullish \# 62 / Net Bearish \# 68
\begin{tabular}{|c|c|}
\hline PIM6888 & 100 Citigroup Credit Default Swap Transactions PIM6888Bearish \# - / Bullish \# 91 / Net Bearish \# 41 \\
\hline PROVINZI. & 101 Citigroup Credit Default Swap Transactions PROVINZIAL RHEINLAND LEBENSICHNG AGBearish \# - / Bullish \# 79 / Net Bearish \# 56 \\
\hline PURSUIT & 102 Citigroup Credit Default Swap Transactions PURSUITBearish \# - / Bullish \# 16 / Net Bearish \# 110 (Net Bullish \# 7) \\
\hline QIC:QUEE & 103 Citigroup Credit Default Swap Transactions QIC:QUEENSLD INVEST CORP ACT IN ITS CAPBearish \# - / Bullish \# 87 / Net Bearish \# 44 \\
\hline RBS GMP & 104 Citigroup Credit Default Swap TransactionsRBS GMPBearish \# 39 / Bullish \# 30 / Net Bearish \# 36 \\
\hline ROYAL BA & 105 Citigroup Credit Default Swap Transactions ROYAL BANK OF CANADABearish \# 7 / Bullish \# 3 / Net Bearish \# 113 (Net Bullish \# 4) \\
\hline SATELLITI & 106 Citigroup Credit Default Swap Transactions SATELLITE CREDIT OPPORTUNITIES FUND LTD.Bearish \# - / Bullish \# 38 / Net Bearish \# 101 (Net Bullish \# 16) \\
\hline SCHRODE & 107 Citigroup Credit Default Swap Transactions SCHRODER STERLING BROAD MKTS BOND FUNDBearish \# 40 / Bullish \# - / Net Bearish \# 26 \\
\hline SOCIETE & 108 Citigroup Credit Default Swap Transactions SOCIETE GENERALE, NEW YORK BRANCHBearish \# 19 / Bullish \# - / Net Bearish \# 6 \\
\hline SSSF STE & 109 Citigroup Credit Default Swap Transactions SSSF STERLING BROAD MARKET BOND LIBORBearish \# 46 / Bullish \# - / Net Bearish \# 32 \\
\hline STICHTIN & 110 Citigroup Credit Default Swap Transactions STICHTING BEDRIJFSTAKPENS VOOR DE MEDIABearish \# - / Bullish \# 80 / Net Bearish \# 57 \\
\hline THE CONI & 111 Citigroup Credit Default Swap Transactions THE CONUS FUNDBearish \# - / Bullish \# 27 / Net Bearish \# 106 (Net Bullish \# 11) \\
\hline THE ROY/ & 112 Citigroup Credit Default Swap Transactions THE ROYAL BANK OF SCOTLAND PLCBearish \# 3 / Bullish \# 12 / Net Bearish \# 1 \\
\hline TRAXIS FI & 113 Citigroup Credit Default Swap Transactions TRAXIS FUND LPBearish \# 43 / Bullish \# - / Net Bearish \# 28 \\
\hline TRG INFL/ & 114 Citigroup Credit Default Swap TransactionsTRG INFLATIONBearish \# 20 / Bullish \# - / Net Bearish \# 7 \\
\hline TRICADIA & 115 Citigroup Credit Default Swap Transactions TRICADIA DISTRESSED AND SPCL MTR FD LTBearish \# - / Bullish \# 50 / Net Bearish \# 79 \\
\hline UBS AG & 116 Citigroup Credit Default Swap Transactions UBS AGBearish \# 41 / Bullish \# 29 / Net Bearish \# 82 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline & & \\
\hline & 25 & 104 Bearish \# - / Bullish \# 25 / Net Bearish \# 104 (Net Bullish (Net Bullish \# 13) \\
\hline \multirow[t]{2}{*}{28 -} & & 16 Bearish \# 28 / Bullish \# - / Net Bearish \# 16 \\
\hline & 31 & 94 Bearish \# - / Bullish \# 31 / Net Bearish \# 94 \\
\hline 13 - & & 4 Bearish \# 13 / Bullish \#-/ Net Bearish \# 4 \\
\hline \multirow[t]{3}{*}{14} & 9 & 111 Bearish \# 14 / Bullish \# 9 / Net Bearish \# 111 (Net Bullist (Net Bullish \# 6) \\
\hline & 32 & 95 Bearish \# - / Bullish \# 32 / Net Bearish \# 95 \\
\hline & 71 & 58 Bearish \# - Bullish \# 71 / Net Bearish \# 58 \\
\hline 5 & 5 & 37 Bearish \# 5 / Bullish \# 5 / Net Bearish \# 37 \\
\hline 44 - & & 30 Bearish \# 44 / Bullish \# - / Net Bearish \# 30 \\
\hline 47 - & & 33 Bearish \# 47 / Bullish \# - / Net Bearish \# 33 \\
\hline \multirow[t]{4}{*}{22} & 20 & 34 Bearish \# 22 / Bullish \# 20 / Net Bearish \# 34 \\
\hline & 85 & 42 Bearish \# - / Bullish \# 85 / Net Bearish \# 42 \\
\hline & 28 & 102 Bearish \# - / Bullish \# 28 / Net Bearish \# 102 (Net Bullish (Net Bullish \# 15) \\
\hline & 33 & 96 Bearish \# - / Bullish \# 33 / Net Bearish \# 96 \\
\hline 2 & 2 & 18 Bearish \# 2 / Bullish \# 2 / Net Bearish \# 18 \\
\hline 29 - & & 17 Bearish \# 29 / Bullish \# - / Net Bearish \# 17 \\
\hline 30 & 24 & 35 Bearish \# 30 / Bullish \# 24 / Net Bearish \# 35 \\
\hline 16 & 15 & 103 Bearish \# 16 / Bullish \# 15 / Net Bearish \# 103 (Net Bullis (Net Bullish \# 14) \\
\hline 35 - & & 23 Bearish \# 35 / Bullish \# - / Net Bearish \# 23 \\
\hline 9 & 8 & 115 Bearish \# 9 / Bullish \# 8 / Net Bearish \# 115 (Net Bullish (Net Bullish \# 2) \\
\hline 26 - & & 13 Bearish \# 26 / Bullish \# - / Net Bearish \# 13 \\
\hline 1 & 1 & 2 Bearish \# 1 / Bullish \# 1 / Net Bearish \# 2 \\
\hline 36 - & & 24 Bearish \# 36 / Bullish \# - / Net Bearish \# 24 \\
\hline 42 - & & 27 Bearish \# 42 / Bullish \# - / Net Bearish \# 27 \\
\hline 34 - & & 22 Bearish \# 34 / Bullish \# - / Net Bearish \# 22 \\
\hline 27 - & & 14 Bearish \# 27 / Bullish \# - / Net Bearish \# 14 \\
\hline \multirow[t]{2}{*}{33 -} & & 21 Bearish \# 33 / Bullish \# - / Net Bearish \# 21 \\
\hline & 63 & 65 Bearish \# - / Bullish \# 63 / Net Bearish \# 65 \\
\hline 15 & 21 & 12 Bearish \# 15 / Bullish \# 21 / Net Bearish \# 12 \\
\hline 31 & 40 & 29 Bearish \# 31 / Bullish \# 40 / Net Bearish \# 29 \\
\hline \multirow[t]{3}{*}{\[
\begin{aligned}
& 23 \\
& 17
\end{aligned}
\]} & 23 & 15 Bearish \# 23 / Bullish \# 23 / Net Bearish \# 15 \\
\hline & & 5 Bearish \# 17 / Bullish \#-/ Net Bearish \# 5 \\
\hline & 22 & 107 Bearish \# - / Bullish \# 22 / Net Bearish \# 107 (Net Bullish (Net Bullish \# 10) \\
\hline \multirow[t]{3}{*}{4} & 7 & 11 Bearish \# 4 / Bullish \# 7 / Net Bearish \# 11 \\
\hline & 34 & 97 Bearish \# - / Bullish \# 34 / Net Bearish \# 97 \\
\hline & 72 & 49 Bearish \# - / Bullish \# 72 / Net Bearish \# 49 \\
\hline \multirow[t]{6}{*}{10} & 11 & 91 Bearish \# 10 / Bullish \# 11 / Net Bearish \# 91 \\
\hline & 44 & 85 Bearish \# - / Bullish \# 44 / Net Bearish \# 85 \\
\hline & 26 & 105 Bearish \# - Bullish \# 26 / Net Bearish \# 105 (Net Bullish (Net Bullish \# 12) \\
\hline & 86 & 43 Bearish \# - / Bullish \# 86 / Net Bearish \# 43 \\
\hline & 18 & 108 Bearish \# - / Bullish \# 18 / Net Bearish \# 108 (Net Bullish (Net Bullish \# 9) \\
\hline & 35 & 98 Bearish \# - / Bullish \# 35 / Net Bearish \# 98 \\
\hline \multirow[t]{3}{*}{\(24-\)
6} & & 9 Bearish \# 24 / Bullish \#-/ Net Bearish \# 9 \\
\hline & 6 & 81 Bearish \# 6 / Bullish \# 6 / Net Bearish \# 81 \\
\hline & 36 & 99 Bearish \# - / Bullish \# 36 / Net Bearish \# 99 \\
\hline 37 - & & 25 Bearish \# 37 / Bullish \# - / Net Bearish \# 25 \\
\hline \multirow[t]{2}{*}{25 -} & & 10 Bearish \# 25 / Bullish \# - / Net Bearish \# 10 \\
\hline & 37 & 100 Bearish \# - / Bullish \# 37 / Net Bearish \# 100 \\
\hline \multirow[t]{3}{*}{\[
\begin{aligned}
& 11- \\
& 12
\end{aligned}
\]} & & 3 Bearish \# 11 / Bullish \# - / Net Bearish \# 3 \\
\hline & 13 & 93 Bearish \# 12 / Bullish \# 13 / Net Bearish \# 93 \\
\hline & 41 & 90 Bearish \# - / Bullish \# 41 / Net Bearish \# 90 \\
\hline 18 & 19 & 19 Bearish \# 18 / Bullish \# 19 / Net Bearish \# 19 \\
\hline 21 - & & 8 Bearish \# 21 / Bullish \#-/ Net Bearish \# 8 \\
\hline 8 & 4 & 116 Bearish \# 8 / Bullish \# 4 / Net Bearish \# 116 (Net Bullish (Net Bullish \# 1) \\
\hline 32 - & & 20 Bearish \# 32 / Bullish \# - / Net Bearish \# 20 \\
\hline \multirow[t]{42}{*}{38} & 14 & 112 Bearish \# 38 / Bullish \# 14 / Net Bearish \# 112 (Net Bullis (Net Bullish \# 5) \\
\hline & 17 & 109 Bearish \# - / Bullish \# 17 / Net Bearish \# 109 (Net Bullish (Net Bullish \# 8) \\
\hline & 10 & 114 Bearish \# - / Bullish \# 10 / Net Bearish \# 114 (Net Bullish (Net Bullish \# 3) \\
\hline & 73 & 50 Bearish \# - / Bullish \# 73 / Net Bearish \# 50 \\
\hline & 65 & 61 Bearish \# - / Bullish \# 65 / Net Bearish \# 61 \\
\hline & 45 & 86 Bearish \# - / Bullish \# 45 / Net Bearish \# 86 \\
\hline & 51 & 78 Bearish \# - / Bullish \# 51 / Net Bearish \# 78 \\
\hline & 66 & 62 Bearish \# - / Bullish \# 66 / Net Bearish \# 62 \\
\hline & 61 & 67 Bearish \# - / Bullish \# 61 / Net Bearish \# 67 \\
\hline & 55 & 73 Bearish \# - / Bullish \# 55 / Net Bearish \# 73 \\
\hline & 59 & 69 Bearish \# - / Bullish \#59 / Net Bearish \# 69 \\
\hline & 81 & 45 Bearish \# - / Bullish \# 81 / Net Bearish \# 45 \\
\hline & 54 & 75 Bearish \#-/ Bullish \# 54 / Net Bearish \# 75 \\
\hline & 57 & 71 Bearish \# - / Bullish \# 57 / Net Bearish \# 71 \\
\hline & 56 & 74 Bearish \# - / Bullish \# 56 / Net Bearish \# 74 \\
\hline & 43 & 88 Bearish \# - / Bullish \# 43 / Net Bearish \# 88 \\
\hline & 52 & 76 Bearish \# - / Bullish \# 52 / Net Bearish \# 76 \\
\hline & 88 & 38 Bearish \# - / Bullish \#88 / Net Bearish \# 38 \\
\hline & 89 & 39 Bearish \# - / Bullish \# 89 / Net Bearish \# 39 \\
\hline & 64 & 66 Bearish \# - / Bullish \# 64 / Net Bearish \# 66 \\
\hline & 67 & 63 Bearish \# - / Bullish \# 67 / Net Bearish \# 63 \\
\hline & 58 & 72 Bearish \# - / Bullish \# 58 / Net Bearish \# 72 \\
\hline & 74 & 51 Bearish \# - / Bullish \# 74 / Net Bearish \# 51 \\
\hline & 82 & 46 Bearish \# - / Bullish \# 82 / Net Bearish \# 46 \\
\hline & 75 & 52 Bearish \# - / Bullish \# 75 / Net Bearish \# 52 \\
\hline & 49 & 80 Bearish \# - / Bullish \# 49 / Net Bearish \# 80 \\
\hline & 76 & 53 Bearish \# - / Bullish \# 76 / Net Bearish \# 53 \\
\hline & 42 & 89 Bearish \# - / Bullish \# 42 / Net Bearish \# 89 \\
\hline & 60 & 70 Bearish \# - / Bullish \# 60 / Net Bearish \# 70 \\
\hline & 68 & 64 Bearish \# - / Bullish \# 68/ Net Bearish \# 64 \\
\hline & 77 & 54 Bearish \# - / Bullish \# 77 / Net Bearish \# 54 \\
\hline & 83 & 47 Bearish \# - / Bullish \# 83 / Net Bearish \# 47 \\
\hline & 69 & 59 Bearish \# - / Bullish \# 69 / Net Bearish \# 59 \\
\hline & 39 & 92 Bearish \# - / Bullish \# 39 / Net Bearish \# 92 \\
\hline & 53 & 77 Bearish \# - / Bullish \#53 / Net Bearish \# 77 \\
\hline & 46 & 87 Bearish \# - / Bullish \# 46 / Net Bearish \# 87 \\
\hline & 47 & 83 Bearish \# - / Bullish \# 47 / Net Bearish \# 83 \\
\hline & 84 & 48 Bearish \# - / Bullish \# 84 / Net Bearish \# 48 \\
\hline & 48 & 84 Bearish \# - / Bullish \# 48 / Net Bearish \# 84 \\
\hline & 78 & 55 Bearish \# - / Bullish \# 78 / Net Bearish \# 55 \\
\hline & 70 & 60 Bearish \# - / Bullish \# 70 / Net Bearish \# 60 \\
\hline & 90
62 & 40 Bearish \# - / Bullish \# 90 / Net Bearish \# 40 68 Bearish \# - / Bullish \# 62 / Net Bearish \# 68 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline & 91 & 41 Bearish \# - / Bullish \# 91 / Net Bearish \# 41 \\
\hline & 79 & 56 Bearish \# - / Bullish \# 79 / Net Bearish \# 56 \\
\hline & 16 & 110 Bearish \# - / Bullish \# 16 / Net Bearish \# 110 (Net Bullish (Net Bullish \# 7) \\
\hline & 87 & 44 Bearish \# - / Bullish \# 87 / Net Bearish \# 44 \\
\hline 39 & 30 & 36 Bearish \# 39 / Bullish \# 30 / Net Bearish \# 36 \\
\hline 7 & 3 & 113 Bearish \# 7 / Bullish \# 3/ Net Bearish \# 113 (Net Bullish (Net Bullish \# 4) \\
\hline & 38 & 101 Bearish \# - / Bullish \# 38 / Net Bearish \# 101 (Net Bullish (Net Bullish \# 16) \\
\hline \(40-\) & & 26 Bearish \# 40 / Bullish \# - / Net Bearish \# 26 \\
\hline 19 - & & 6 Bearish \# 19 / Bullish \# - / Net Bearish \# 6 \\
\hline 46 - & & 32 Bearish \# 46 / Bullish \# - / Net Bearish \# 32 \\
\hline & 80 & 57 Bearish \# - / Bullish \# 80 / Net Bearish \# 57 \\
\hline & 27 & 106 Bearish \# - / Bullish \# 27 / Net Bearish \# 106 (Net Bullish (Net Bullish \# 11) \\
\hline 3 & 12 & 1 Bearish \# 3 / Bullish \# 12 / Net Bearish \# 1 \\
\hline 43 - & & 28 Bearish \# 43 / Bullish \# - / Net Bearish \# 28 \\
\hline 20 - & & 7 Bearish \# 20 / Bullish \# - / Net Bearish \# 7 \\
\hline & 50 & 79 Bearish \# - / Bullish \# 50 / Net Bearish \# 79 \\
\hline 41 & 29 & 82 Bearish \# 41 / Bullish \# 29 / Net Bearish \# 82 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline namegroup idname & _NAME_ & rangen & day_17 & day_18 & day_19 & day_20 & day_21 & date \\
\hline ALADDIN RELATM & 1 abuy & abuy_1 & & & & & -3,000,000 & 11/17/08 \\
\hline ALADDIN RELATI & 1 asell & asel_1 & & & & & & 11/18/08 \\
\hline ALADDIN RELATI & 1 bearish & bear_1 & & & & & -3,000,000 & 11/19/08 \\
\hline ALADDIN RELATI & 1 bullish & bull_1 & & & & & & 11/20/08 \\
\hline ALADDIN RELATI & 1 cnet & cnet_1 & 0 & 0 & 0 & 0 & -3,000,000 & 11/21/08 \\
\hline ALADDIN RELATI & 1 netbearish & netb_1 & & & & & -3,000,000 & \\
\hline ALADDIN RELATI & 1 sbuy & sbuy_1 & & & & & & \\
\hline ALADDIN RELATI & 1 ssell & ssel_1 & & & & & & \\
\hline AURELIUS CAPIT, & 2 abuy & abuy_2 & & & & & & \\
\hline AURELIUS CAPIT, & 2 asell & asel_2 & & & & & & \\
\hline AURELIUS CAPIT, & 2 bearish & bear_2 & & & & & & \\
\hline AURELIUS CAPIT, & 2 bullish & bull_2 & & & 10,000,000 & & & \\
\hline AURELIUS CAPIT, & 2 cnet & cnet_2 & 0 & 0 & - 10,000,000 & 10,000,000 & 10,000,000 & \\
\hline AURELIUS CAPIT, & 2 netbearish & netb_2 & & & 10,000,000 & & & \\
\hline AURELIUS CAPIT, & 2 sbuy & sbuy_2 & & & 10,000,000 & & & \\
\hline AURELIUS CAPIT, & 2 ssell & ssel_2 & & & & & & \\
\hline AUTONOMY MAS \({ }^{-}\) & 3 abuy & abuy_3 & & & & & -10,000,000 & \\
\hline AUTONOMY MAS \({ }^{-}\) & 3 asell & asel_3 & & & & & & \\
\hline AUTONOMY MAS \({ }^{-}\) & 3 bearish & bear_3 & & & & & -10,000,000 & \\
\hline AUTONOMY MAS \({ }^{-}\) & 3 bullish & bull_3 & & & & & & \\
\hline AUTONOMY MAS \({ }^{-}\) & 3 cnet & cnet_3 & 0 & 0 & 0 & 0 & -10,000,000 & \\
\hline AUTONOMY MAS \({ }^{-}\) & 3 netbearish & netb_3 & & & & & -10,000,000 & \\
\hline AUTONOMY MAS \({ }^{-}\) & 3 sbuy & sbuy_3 & & & & & & \\
\hline AUTONOMY MAS \({ }^{-}\) & 3 ssell & ssel_3 & & & & & & \\
\hline BANCA IMI S.P.A & 4 abuy & abuy_4 & & & & & & \\
\hline BANCA IMI S.P.A & 4 asell & asel_4 & & & & & & \\
\hline BANCA IMI S.P.A & 4 bearish & bear_4 & & & & & & \\
\hline BANCA IMIS.P.A & 4 bullish & bull_4 & & & & 5,000,000 & & \\
\hline BANCA IMI S.P.A & 4 cnet & cnet_4 & 0 & 0 & 0 & 5,000,000 & 5,000,000 & \\
\hline BANCA IMI S.P.A & 4 netbearish & netb_4 & & & & 5,000,000 & & \\
\hline BANCA IMI S.P.A & 4 sbuy & sbuy_4 & & & & 5,000,000 & & \\
\hline BANCA IMI S.P.A & 4 ssell & ssel_4 & & & & & & \\
\hline BANCO BILBAO V & 5 abuy & abuy_5 & & & -30,000,000 & -10,000,000 & & \\
\hline BANCO BILBAO V & 5 asell & asel_5 & & & & & & \\
\hline BANCO BILBAO V & 5 bearish & bear_5 & & & -30,000,000 & -10,000,000 & & \\
\hline BANCO BILBAO V & 5 bullish & bull_5 & & & & & & \\
\hline BANCO BILBAO V & 5 cnet & cnet_5 & 0 & 0 & -30,000,000 & -40,000,000 & -40,000,000 & \\
\hline BANCO BILBAO V & 5 netbearish & netb_5 & & & -30,000,000 & -10,000,000 & & \\
\hline BANCO BILBAO V & 5 sbuy & sbuy_5 & & & & & & \\
\hline BANCO BILBAO \(V\) & 5 ssell & ssel_5 & & & & & & \\
\hline BANK OF AMERIC & 6 abuy & abuy_6 & & & -7,600,000 & & -20,700,000 & \\
\hline BANK OF AMERIC & 6 asell & asel_6 & & 5,000,000 & 15,000,000 & 6,000,000 & 45,000,000 & \\
\hline BANK OF AMERIC & 6 bearish & bear_6 & & -500,000 & -12,600,000 & & -20,700,000 & \\
\hline BANK OF AMERIC & 6 bullish & bull_ 6 & & 5,000,000 & 15,000,000 & 6,000,000 & 45,000,000 & \\
\hline BANK OF AMERIC & 6 cnet & cnet_6 & 0 & 4,500,000 & 6,900,000 & 12,900,000 & 37,200,000 & \\
\hline BANK OF AMERIC & 6 netbearish & netb_6 & & 4,500,000 & 2,400,000 & 6,000,000 & 24,300,000 & \\
\hline BANK OF AMERIC & 6 sbuy & sbuy_6 & & & & & & \\
\hline BANK OF AMERIC & 6 ssell & ssel_6 & & -500,000 & -5,000,000 & & & \\
\hline BANK OF NOVA S & 7 abuy & abuy_7 & & & & & & \\
\hline BANK OF NOVA S & 7 asell & asel_7 & & & & & 5,000,000 & \\
\hline BANK OF NOVA S & 7 bearish & bear_7 & & & & & & \\
\hline BANK OF NOVA S & 7 bullish & bull_7 & & & & & 5,000,000 & \\
\hline BANK OF NOVA S & 7 cnet & cnet_7 & 0 & 0 & 0 & 0 & 5,000,000 & \\
\hline BANK OF NOVA S & 7 netbearish & netb_7 & & & & & 5,000,000 & \\
\hline BANK OF NOVA S & 7 sbuy & sbuy_7 & & & & & & \\
\hline BANK OF NOVA S & 7 ssell & ssel_7 & & & & & & \\
\hline BARCELONA INK/ & 8 abuy & abuy_8 & & & & & & \\
\hline BARCELONA INK/ & 8 asell & asel_8 & & & & 350,000 & & \\
\hline BARCELONA INK/ & 8 bearish & bear_8 & & & & & & \\
\hline BARCELONA INK/ & 8 bullish & bull_8 & & & & 350,000 & & \\
\hline BARCELONA INK/ & 8 cnet & cnet_8 & 0 & 0 & 0 & 350,000 & 350,000 & \\
\hline BARCELONA INK/ & 8 netbearish & netb_8 & & & & 350,000 & & \\
\hline BARCELONA INK/ & 8 sbuy & sbuy_8 & & & & & & \\
\hline BARCELONA INK/ & 8 ssell & ssel_8 & & & & & & \\
\hline BARCLAYS BANK & 9 abuy & abuy_9 & -25,000,000 & & -10,000,000 & -74,200,000 & -46,879,650 & \\
\hline BARCLAYS BANK & 9 asell & asel_9 & 15,000,000 & 15,000,000 & 40,000,000 & 53,262,500 & 67,900,000 & \\
\hline BARCLAYS BANK & 9 bearish & bear_9 & -25,000,000 & -20,000,000 & -20,000,000 & -74,200,000 & -56,879,650 & \\
\hline BARCLAYS BANK & 9 bullish & bull_9 & 15,000,000 & 15,000,000 & 40,000,000 & 58,262,500 & 67,900,000 & \\
\hline BARCLAYS BANK & 9 cnet & cnet_9 & -10,000,000 & -15,000,000 & 5,000,000 & -10,937,500 & 82,850 & \\
\hline BARCLAYS BANK & 9 netbearish & netb_9 & -10,000,000 & -5,000,000 & 20,000,000 & -15,937,500 & 11,020,350 & \\
\hline BARCLAYS BANK & 9 sbuy & sbuy_9 & & & & 5,000,000 & & \\
\hline BARCLAYS BANK & 9 ssell & ssel_9 & & -20,000,000 & -10,000,000 & & -10,000,000 & \\
\hline BEAR, STEARNS & 10 abuy & abuy_10 & & & & & & \\
\hline BEAR, STEARNS & 10 asell & asel_10 & & & & & & \\
\hline BEAR, STEARNS & 10 bearish & bear_10 & & & & & -3,258,060 & \\
\hline BEAR, STEARNS & 10 bullish & bull_10 & & & & & & \\
\hline BEAR, STEARNS & 10 cnet & cnet_10 & 0 & 0 & 0 & 0 & -3,258,060 & \\
\hline BEAR, STEARNS & 10 netbearish & netb_10 & & & & & -3,258,060 & \\
\hline BEAR, STEARNS & 10 sbuy & sbuy_10 & & & & & & \\
\hline BEAR, STEARNS & 10 ssell & ssel_10 & & & & & -3,258,060 & \\
\hline BLACK DIAMOND & 11 abuy & abuy_11 & & -225,000 & & & & \\
\hline BLACK DIAMOND & 11 asell & asel_11 & & & & & & \\
\hline BLACK DIAMOND & 11 bearish & bear_11 & & -225,000 & & & & \\
\hline BLACK DIAMOND & 11 bullish & bull_11 & & & & & & \\
\hline BLACK DIAMOND & 11 cnet & cnet_11 & 0 & -225,000 & -225,000 & -225,000 & -225,000 & \\
\hline BLACK DIAMOND & 11 netbearish & netb_11 & & -225,000 & & & & \\
\hline \begin{tabular}{l}
BLACK DIAMOND \\
BLACK DIAMOND
\end{tabular} & 11 sbuy & sbuy_11 & & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline BLUE MTN CREDI & 12 abuy & abuy_12 & & & & -20,000,000 & \\
\hline BLUE MTN CREDI & 12 asell & asel_12 & & & & 20,000,000 & \\
\hline BLUE MTN CREDI & 12 bearish & bear_12 & & & & -20,000,000 & \\
\hline BLUE MTN CREDI & 12 bullish & bull_12 & & & & 20,000,000 & \\
\hline BLUE MTN CREDI & 12 cnet & cnet_12 & 0 & 0 & 0 & 0 & 0 \\
\hline BLUE MTN CREDI & 12 netbearish & netb_12 & & & & 0 & \\
\hline BLUE MTN CREDI & 12 sbuy & sbuy_12 & & & & & \\
\hline BLUE MTN CREDI & 12 ssell & ssel_12 & & & & & \\
\hline BLUEBAY FUND: & 13 abuy & abuy_13 & & & & & \\
\hline BLUEBAY FUND:E & 13 asell & asel_13 & & & & 150,000 & \\
\hline BLUEBAY FUND:E & 13 bearish & bear_13 & & & & & \\
\hline BLUEBAY FUND: & 13 bullish & bull_13 & & & & 150,000 & \\
\hline BLUEBAY FUND: & 13 cnet & cnet_13 & 0 & 0 & 0 & 150,000 & 150,000 \\
\hline BLUEBAY FUND: & 13 netbearish & netb_13 & & & & 150,000 & \\
\hline BLUEBAY FUND:E & 13 sbuy & sbuy_13 & & & & & \\
\hline BLUEBAY FUND:E & 13 ssell & ssel_13 & & & & & \\
\hline BLUEBAY INVEST & 14 abuy & abuy_14 & & & & & \\
\hline BLUEBAY INVEST & 14 asell & asel_14 & & & & 7,000,000 & \\
\hline BLUEBAY INVEST & 14 bearish & bear_14 & & & & & \\
\hline BLUEBAY INVEST & 14 bullish & bull_14 & & & & 7,000,000 & \\
\hline BLUEBAY INVEST & 14 cnet & cnet_14 & 0 & 0 & 0 & 7,000,000 & 7,000,000 \\
\hline BLUEBAY INVEST & 14 netbearish & netb_14 & & & & 7,000,000 & \\
\hline BLUEBAY INVEST & 14 sbuy & sbuy_14 & & & & & \\
\hline BLUEBAY INVEST & 14 ssell & ssel_14 & & & & & \\
\hline BLUECREST MUL & 15 abuy & abuy_15 & & & & & \\
\hline BLUECREST MUL & 15 asell & asel_15 & & & 5,000,000 & & \\
\hline BLUECREST MUL & 15 bearish & bear_15 & & & & & \\
\hline BLUECREST MUL & 15 bullish & bull_15 & & & 5,000,000 & & \\
\hline BLUECREST MUL & 15 cnet & cnet_15 & 0 & 0 & 5,000,000 & 5,000,000 & 5,000,000 \\
\hline BLUECREST MUL & 15 netbearish & netb_15 & & & 5,000,000 & & \\
\hline BLUECREST MUL & 15 sbuy & sbuy_15 & & & & & \\
\hline BLUECREST MUL & 15 ssell & ssel_15 & & & & & \\
\hline BNP PARIBAS & 16 abuy & abuy_16 & -10,000,000 & -17,000,000 & -10,000,000 & -70,000,000 & -120,313,275 \\
\hline BNP PARIBAS & 16 asell & asel_16 & & 12,000,000 & 27,000,000 & 61,510,000 & 135,000,000 \\
\hline BNP PARIBAS & 16 bearish & bear_16 & -10,000,000 & -17,000,000 & -30,000,000 & -90,000,000 & -120,313,275 \\
\hline BNP PARIBAS & 16 bullish & bull_16 & & 12,000,000 & 32,000,000 & 81,510,000 & 135,000,000 \\
\hline BNP PARIBAS & 16 cnet & cnet_16 & -10,000,000 & -15,000,000 & -13,000,000 & -21,490,000 & -6,803,275 \\
\hline BNP PARIBAS & 16 netbearish & netb_16 & -10,000,000 & -5,000,000 & 2,000,000 & -8,490,000 & 14,686,725 \\
\hline BNP PARIBAS & 16 sbuy & sbuy_16 & & & 5,000,000 & 20,000,000 & \\
\hline BNP PARIBAS & 16 ssell & ssel_16 & & & -20,000,000 & -20,000,000 & \\
\hline CALYON & 17 abuy & abuy_17 & & & & & -10,000,000 \\
\hline CALYON & 17 asell & asel_17 & & & & & \\
\hline CALYON & 17 bearish & bear_17 & & & & & -10,000,000 \\
\hline CALYON & 17 bullish & bull_17 & & & & & \\
\hline CALYON & 17 cnet & cnet_17 & 0 & 0 & 0 & 0 & -10,000,000 \\
\hline CALYON & 17 netbearish & netb_17 & & & & & -10,000,000 \\
\hline CALYON & 17 sbuy & sbuy_17 & & & & & \\
\hline CALYON & 17 ssell & ssel_17 & & & & & \\
\hline CEDAR HILL CAPI & 18 abuy & abuy_18 & -10,000,000 & & & & \\
\hline CEDAR HILL CAPI & 18 asell & asel_18 & & & & & \\
\hline CEDAR HILL CAPI & 18 bearish & bear_18 & -10,000,000 & & & & \\
\hline CEDAR HILL CAPI & 18 bullish & bull_18 & & & & 10,000,000 & \\
\hline CEDAR HILL CAPI & 18 cnet & cnet_18 & -10,000,000 & -10,000,000 & -10,000,000 & 0 & 0 \\
\hline CEDAR HILL CAPI & 18 netbearish & netb_18 & -10,000,000 & & & 10,000,000 & \\
\hline CEDAR HILL CAPI & 18 sbuy & sbuy_18 & & & & 10,000,000 & \\
\hline CEDAR HILL CAPI & 18 ssell & ssel_18 & & & & & \\
\hline CHEYNE LONG/SI & 19 abuy & abuy_19 & & & & & \\
\hline CHEYNE LONG/SI & 19 asell & asel_19 & & & & & \\
\hline CHEYNE LONG/SI & 19 bearish & bear_19 & & -31,000,000 & & & \\
\hline CHEYNE LONG/SI & 19 bullish & bull_19 & & 31,000,000 & 10,000,000 & & \\
\hline CHEYNE LONG/SI & 19 cnet & cnet_19 & 0 & 0 & 10,000,000 & 10,000,000 & 10,000,000 \\
\hline CHEYNE LONG/SI & 19 netbearish & netb_19 & & 0 & 10,000,000 & & \\
\hline CHEYNE LONG/SI & 19 sbuy & sbuy_19 & & 31,000,000 & 10,000,000 & & \\
\hline CHEYNE LONG/SI & 19 ssell & ssel_19 & & -31,000,000 & & & \\
\hline CQS ABS MASTEF & 20 abuy & abuy_20 & & & & & -5,000,000 \\
\hline CQS ABS MASTEF & 20 asell & asel_20 & & & & & \\
\hline CQS ABS MASTEF & 20 bearish & bear_20 & & & & & -5,000,000 \\
\hline CQS ABS MASTEF & 20 bullish & bull_20 & & & & & \\
\hline CQS ABS MASTEF & 20 cnet & cnet_20 & 0 & 0 & 0 & 0 & -5,000,000 \\
\hline CQS ABS MASTEF & 20 netbearish & netb_20 & & & & & -5,000,000 \\
\hline CQS ABS MASTEF & 20 sbuy & sbuy_20 & & & & & \\
\hline CQS ABS MASTEF & 20 ssell & ssel_20 & & & & & \\
\hline CREDIT SUISSE II & 21 abuy & abuy_21 & & & & -40,000,000 & -35,000,000 \\
\hline CREDIT SUISSE II & 21 asell & asel_21 & & & 10,000,000 & 38,156,250 & 109,000,000 \\
\hline CREDIT SUISSE II & 21 bearish & bear_21 & & & & -40,000,000 & -35,000,000 \\
\hline CREDIT SUISSE II & 21 bullish & bull_21 & & & 10,000,000 & 38,156,250 & 124,000,000 \\
\hline CREDIT SUISSE II & 21 cnet & cnet_21 & 0 & 0 & 10,000,000 & 8,156,250 & 97,156,250 \\
\hline CREDIT SUISSE II & 21 netbearish & netb_21 & & & 10,000,000 & -1,843,750 & 89,000,000 \\
\hline CREDIT SUISSE II & 21 sbuy & sbuy_21 & & & & & 15,000,000 \\
\hline CREDIT SUISSE II & 21 ssell & ssel_21 & & & & & \\
\hline DEKA BANK, FRA & 22 abuy & abuy_22 & & & -6,297,500 & -6,262,500 & \\
\hline DEKA BANK, FRA & 22 asell & asel_22 & & & & & \\
\hline DEKA BANK, FRA & 22 bearish & bear_22 & & & -6,297,500 & -6,262,500 & \\
\hline DEKA BANK, FRA & 22 bullish & bull_22 & & & & & \\
\hline DEKA BANK, FRA & 22 cnet & cnet_22 & 0 & 0 & -6,297,500 & -12,560,000 & -12,560,000 \\
\hline DEKA BANK, FRA & 22 netbearish & netb_22 & & & -6,297,500 & -6,262,500 & \\
\hline DEKA BANK, FRA & 22 sbuy & sbuy_22 & & & & & \\
\hline DEKA BANK, FRA & 22 ssell & ssel_22 & & & & & \\
\hline DEUTSCHE BANK & 23 abuy & abuy_23 & & -35,000,000 & -45,000,000 & -70,000,000 & -165,000,000 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline DEUTSCHE BANK & 23 asell & asel_23 & 10,000,000 & 49,500,000 & 55,000,000 & 35,000,000 & 55,000,000 \\
\hline DEUTSCHE BANK & 23 bearish & bear_23 & & -55,000,000 & -67,000,000 & -85,000,000 & -190,000,000 \\
\hline DEUTSCHE BANK & 23 bullish & bull_23 & 10,000,000 & 79,500,000 & 55,000,000 & 53,630,000 & 85,000,000 \\
\hline DEUTSCHE BANK & 23 cnet & cnet_23 & 10,000,000 & 34,500,000 & 22,500,000 & -8,870,000 & -113,870,000 \\
\hline DEUTSCHE BANK & 23 netbearish & netb_23 & 10,000,000 & 24,500,000 & -12,000,000 & -31,370,000 & -105,000,000 \\
\hline DEUTSCHE BANK & 23 sbuy & sbuy_23 & & 30,000,000 & & 18,630,000 & 30,000,000 \\
\hline DEUTSCHE BANK & 23 ssell & ssel_23 & & -20,000,000 & -22,000,000 & -15,000,000 & -25,000,000 \\
\hline DISCOVERY ATLA & 24 abuy & abuy_24 & & & & -5,000,000 & \\
\hline DISCOVERY ATLA & 24 asell & asel_24 & & & & & \\
\hline DISCOVERY ATLA & 24 bearish & bear_24 & & & & -5,000,000 & \\
\hline DISCOVERY ATLA & 24 bullish & bull_24 & & & & & \\
\hline DISCOVERY ATLA & 24 cnet & cnet_24 & 0 & 0 & 0 & -5,000,000 & -5,000,000 \\
\hline DISCOVERY ATLA & 24 netbearish & netb_24 & & & & -5,000,000 & \\
\hline DISCOVERY ATLA & 24 sbuy & sbuy_24 & & & & & \\
\hline DISCOVERY ATLA & 24 ssell & ssel_24 & & & & & \\
\hline DOUBLE BLACK [ & 25 abuy & abuy_25 & & -4,775,000 & & & \\
\hline DOUBLE BLACK [ & 25 asell & asel_25 & & & & & \\
\hline DOUBLE BLACK [ & 25 bearish & bear_25 & & -4,775,000 & & & \\
\hline DOUBLE BLACK [ & 25 bullish & bull_25 & & & & & \\
\hline DOUBLE BLACK [ & 25 cnet & cnet_25 & 0 & -4,775,000 & -4,775,000 & -4,775,000 & -4,775,000 \\
\hline DOUBLE BLACK [ & 25 netbearish & netb_25 & & -4,775,000 & & & \\
\hline DOUBLE BLACK [ & 25 sbuy & sbuy_25 & & & & & \\
\hline DOUBLE BLACK [ & 25 ssell & ssel_25 & & & & & \\
\hline DWS CREDIT OPF & 26 abuy & abuy_26 & & & & -5,010,000 & \\
\hline DWS CREDIT OPF & 26 asell & asel_26 & & & & & \\
\hline DWS CREDIT OPF & 26 bearish & bear_26 & & & & -5,010,000 & \\
\hline DWS CREDIT OPF & 26 bullish & bull_26 & & & & & \\
\hline DWS CREDIT OPF & 26 cnet & cnet_26 & 0 & 0 & 0 & -5,010,000 & -5,010,000 \\
\hline DWS CREDIT OPF & 26 netbearish & netb_26 & & & & -5,010,000 & \\
\hline DWS CREDIT OPF & 26 sbuy & sbuy_26 & & & & & \\
\hline DWS CREDIT OPF & 26 ssell & ssel_26 & & & & & \\
\hline ES CAPITALIZACA & 27 abuy & abuy_27 & & & & -10,270,500 & \\
\hline ES CAPITALIZACA & 27 asell & asel_27 & & & & & \\
\hline ES CAPITALIZACA & 27 bearish & bear_27 & & & & -10,270,500 & \\
\hline ES CAPITALIZACA & 27 bullish & bull_27 & & & & & \\
\hline ES CAPITALIZACA & 27 cnet & cnet_27 & 0 & 0 & 0 & -10,270,500 & -10,270,500 \\
\hline ES CAPITALIZACA & 27 netbearish & netb_27 & & & & -10,270,500 & \\
\hline ES CAPITALIZACA & 27 sbuy & sbuy_27 & & & & & \\
\hline ES CAPITALIZACf & 27 ssell & ssel_27 & & & & & \\
\hline ES RENDA & 28 abuy & abuy_28 & & & & -5,385,750 & \\
\hline ES RENDA & 28 asell & asel_28 & & & & & \\
\hline ES RENDA & 28 bearish & bear_28 & & & & -5,385,750 & \\
\hline ES RENDA & 28 bullish & bull_28 & & & & & \\
\hline ES RENDA & 28 cnet & cnet_28 & 0 & 0 & 0 & -5,385,750 & -5,385,750 \\
\hline ES RENDA & 28 netbearish & netb_28 & & & & -5,385,750 & \\
\hline ES RENDA & 28 sbuy & sbuy_28 & & & & & \\
\hline ES RENDA & 28 ssell & ssel_28 & & & & & \\
\hline FOND BVOE SEG| & 29 abuy & abuy_29 & & & & & \\
\hline FOND BVOE SEGI & 29 asell & asel_29 & & & & 600,000 & \\
\hline FOND BVOE SEG| & 29 bearish & bear_29 & & & & & \\
\hline FOND BVOE SEG| & 29 bullish & bull_29 & & & & 600,000 & \\
\hline FOND BVOE SEG| & 29 cnet & cnet_29 & 0 & 0 & 0 & 600,000 & 600,000 \\
\hline FOND BVOE SEG| & 29 netbearish & netb_29 & & & & 600,000 & \\
\hline FOND BVOE SEG & 29 sbuy & sbuy_29 & & & & & \\
\hline FOND BVOE SEG & 29 ssell & ssel_29 & & & & & \\
\hline FORE CONVERTII & 30 abuy & abuy_30 & & & & & \\
\hline FORE CONVERTII & 30 asell & asel_30 & & & 5,500,000 & 10,900,000 & \\
\hline FORE CONVERTII & 30 bearish & bear_30 & & & & & -32,800,000 \\
\hline FORE CONVERTII & 30 bullish & bull_30 & & & 5,500,000 & 10,900,000 & \\
\hline FORE CONVERTII & 30 cnet & cnet_30 & 0 & 0 & 5,500,000 & 16,400,000 & -16,400,000 \\
\hline FORE CONVERTII & 30 netbearish & netb_30 & & & 5,500,000 & 10,900,000 & -32,800,000 \\
\hline FORE CONVERTII & 30 sbuy & sbuy_30 & & & & & \\
\hline FORE CONVERTII & 30 ssell & ssel_30 & & & & & -32,800,000 \\
\hline FORE ERISA FUN & 31 abuy & abuy_31 & & & & & \\
\hline FORE ERISA FUN & 31 asell & asel_31 & & & 1,200,000 & 2,400,000 & \\
\hline FORE ERISA FUN & 31 bearish & bear_31 & & & & & -7,200,000 \\
\hline FORE ERISA FUN & 31 bullish & bull_31 & & & 1,200,000 & 2,400,000 & \\
\hline FORE ERISA FUN & 31 cnet & cnet_31 & 0 & 0 & 1,200,000 & 3,600,000 & -3,600,000 \\
\hline FORE ERISA FUN & 31 netbearish & netb_31 & & & 1,200,000 & 2,400,000 & -7,200,000 \\
\hline FORE ERISA FUN & 31 sbuy & sbuy_31 & & & & & \\
\hline FORE ERISA FUN & 31 ssell & ssel_31 & & & & & -7,200,000 \\
\hline FORE MULTI STR & 32 abuy & abuy_32 & & & & & \\
\hline FORE MULTI STR, & 32 asell & asel_32 & & & 3,300,000 & 6,700,000 & \\
\hline FORE MULTI STR, & 32 bearish & bear_32 & & & & & -20,000,000 \\
\hline FORE MULTI STR, & 32 bullish & bull_32 & & & 3,300,000 & 6,700,000 & \\
\hline FORE MULTI STR, & 32 cnet & cnet_32 & 0 & 0 & 3,300,000 & 10,000,000 & -10,000,000 \\
\hline FORE MULTI STR. & 32 netbearish & netb_32 & & & 3,300,000 & 6,700,000 & -20,000,000 \\
\hline FORE MULTI STR & 32 sbuy & sbuy_32 & & & & & \\
\hline FORE MULTI STR, & 32 ssell & ssel_32 & & & & & -20,000,000 \\
\hline GENERAL AMERII & 33 abuy & abuy_33 & & & & & -27,000,000 \\
\hline GENERAL AMERII & 33 asell & asel_33 & & & & & \\
\hline GENERAL AMERII & 33 bearish & bear_33 & & & & & -27,000,000 \\
\hline GENERAL AMERII & 33 bullish & bull_33 & & & & & \\
\hline GENERAL AMERII & 33 cnet & cnet_33 & 0 & 0 & 0 & 0 & -27,000,000 \\
\hline GENERAL AMERII & 33 netbearish & netb_33 & & & & & -27,000,000 \\
\hline GENERAL AMERII & 33 sbuy & sbuy_33 & & & & & \\
\hline GENERAL AMERII & 33 ssell & ssel_33 & & & & & \\
\hline GENERAL ELECT GENERAL ELECT & 34 abuy & \begin{tabular}{l}
abuy_34 \\
asel 34
\end{tabular} & & & & 15,000,00 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline GENERAL ELECT & 34 bearish & bear_34 & & & & & \\
\hline GENERAL ELECT & 34 bullish & bull_34 & & & & 15,000,000 & \\
\hline GENERAL ELECT & 34 cnet & cnet_34 & 0 & 0 & 0 & 15,000,000 & 15,000,000 \\
\hline GENERAL ELECT & 34 netbearish & netb_34 & & & & 15,000,000 & \\
\hline GENERAL ELECT & 34 sbuy & sbuy_34 & & & & & \\
\hline GENERAL ELECT & 34 ssell & ssel 34 & & & & & \\
\hline GOLDMAN SACH: & 35 abuy & abuy_35 & -15,000,000 & -600,000 & & -25,000,000 & -120,000,000 \\
\hline GOLDMAN SACH & 35 asell & asel_35 & & 5,000,000 & 10,000,000 & 30,000,000 & 80,000,000 \\
\hline GOLDMAN SACH! & 35 bearish & bear_35 & -15,000,000 & -10,600,000 & -10,000,000 & -40,000,000 & -125,000,000 \\
\hline GOLDMAN SACH! & 35 bullish & bull_35 & & 15,000,000 & 10,000,000 & 46,500,000 & 110,000,000 \\
\hline GOLDMAN SACH! & 35 cnet & cnet_35 & -15,000,000 & -10,600,000 & -10,600,000 & -4,100,000 & -19,100,000 \\
\hline GOLDMAN SACH! & 35 netbearish & netb_35 & -15,000,000 & 4,400,000 & 0 & 6,500,000 & -15,000,000 \\
\hline GOLDMAN SACH! & 35 sbuy & sbuy_35 & & 10,000,000 & & 16,500,000 & 30,000,000 \\
\hline GOLDMAN SACH & 35 ssell & ssel_35 & & -10,000,000 & -10,000,000 & -15,000,000 & -5,000,000 \\
\hline HALBIS US CRED & 36 abuy & abuy_36 & & & & & \\
\hline HALBIS US CRED & 36 asell & asel_36 & & & & & \\
\hline HALBIS US CRED & 36 bearish & bear_36 & & & & & \\
\hline HALBIS US CRED & 36 bullish & bull_36 & & & & 5,000,000 & \\
\hline HALBIS US CRED & 36 cnet & cnet_36 & 0 & 0 & 0 & 5,000,000 & 5,000,000 \\
\hline HALBIS US CRED & 36 netbearish & netb_36 & & & & 5,000,000 & \\
\hline HALBIS US CRED & 36 sbuy & sbuy_36 & & & & 5,000,000 & \\
\hline HALBIS US CRED & 36 ssell & ssel_36 & & & & & \\
\hline HPK-INVESTMEN \({ }^{-}\) & 37 abuy & abuy_37 & & & & & \\
\hline HPK-INVESTMEN \({ }^{-}\) & 37 asell & asel_37 & & & & 300,000 & \\
\hline HPK-INVESTMEN \({ }^{-}\) & 37 bearish & bear_37 & & & & & \\
\hline HPK-INVESTMEN \({ }^{-}\) & 37 bullish & bull_37 & & & & 300,000 & \\
\hline HPK-INVESTMEN \({ }^{-}\) & 37 cnet & cnet_37 & 0 & 0 & 0 & 300,000 & 300,000 \\
\hline HPK-INVESTMEN \({ }^{-}\) & 37 netbearish & netb_37 & & & & 300,000 & \\
\hline HPK-INVESTMEN \({ }^{-}\) & 37 sbuy & sbuy_37 & & & & & \\
\hline HPK-INVESTMEN \({ }^{-}\) & 37 ssell & ssel_37 & & & & & \\
\hline HSBC BANK & 38 abuy & abuy_38 & & -15,500,000 & -2,100,000 & -35,000,000 & -10,000,000 \\
\hline HSBC BANK & 38 asell & asel_38 & & 10,000,000 & 7,100,000 & 40,000,000 & 10,000,000 \\
\hline HSBC BANK & 38 bearish & bear_38 & & -15,500,000 & -2,100,000 & -35,000,000 & -10,000,000 \\
\hline HSBC BANK & 38 bullish & bull_38 & & 10,000,000 & 7,100,000 & 40,000,000 & 10,000,000 \\
\hline HSBC BANK & 38 cnet & cnet_38 & 0 & -5,500,000 & -500,000 & 4,500,000 & 4,500,000 \\
\hline HSBC BANK & 38 netbearish & netb_38 & & \(-5,500,000\) & 5,000,000 & 5,000,000 & 0 \\
\hline HSBC BANK & 38 sbuy & sbuy_38 & & & & & \\
\hline HSBC BANK & 38 ssell & ssel_38 & & & & & \\
\hline ICM BUSINESS TF & 39 abuy & abuy_39 & & & & & \\
\hline ICM BUSINESS TF & 39 asell & asel_39 & & & & & \\
\hline ICM BUSINESS TF & 39 bearish & bear_39 & & & & & \\
\hline ICM BUSINESS TF & 39 bullish & bull_39 & & & & 1,000,000 & 1,500,000 \\
\hline ICM BUSINESS TF & 39 cnet & cnet_39 & 0 & 0 & 0 & 1,000,000 & 2,500,000 \\
\hline ICM BUSINESS TF & 39 netbearish & netb_39 & & & & 1,000,000 & 1,500,000 \\
\hline ICM BUSINESS TF & 39 sbuy & sbuy_39 & & & & 1,000,000 & 1,500,000 \\
\hline ICM BUSINESS TF & 39 ssell & ssel_39 & & & & & \\
\hline ING & 40 abuy & abuy_40 & & & & & \\
\hline ING & 40 asell & asel_40 & & & & 10,000,000 & \\
\hline ING & 40 bearish & bear_40 & & & & & \\
\hline ING & 40 bullish & bull_40 & & & & 10,000,000 & \\
\hline ING & 40 cnet & cnet_40 & 0 & 0 & 0 & 10,000,000 & 10,000,000 \\
\hline ING & 40 netbearish & netb_40 & & & & 10,000,000 & \\
\hline ING & 40 sbuy & sbuy_40 & & & & & \\
\hline ING & 40 ssell & ssel_40 & & & & & \\
\hline INTERN KAPIT ME & 41 abuy & abuy_41 & & & & & \\
\hline INTERN KAPIT ME & 41 asell & asel_41 & & & & 150,000 & \\
\hline INTERN KAPIT ME & 41 bearish & bear_41 & & & & & \\
\hline INTERN KAPIT ME & 41 bullish & bull_41 & & & & 150,000 & \\
\hline INTERN KAPIT ME & 41 cnet & cnet_41 & 0 & 0 & 0 & 150,000 & 150,000 \\
\hline INTERN KAPIT ME & 41 netbearish & netb_41 & & & & 150,000 & \\
\hline INTERN KAPIT ME & 41 sbuy & sbuy_41 & & & & & \\
\hline INTERN KAPIT ME & 41 ssell & ssel_41 & & & & & \\
\hline IONIC CAPITAL M & 42 abuy & abuy_42 & & & & & \\
\hline IONIC CAPITAL M & 42 asell & asel_42 & & & & & \\
\hline IONIC CAPITAL M & 42 bearish & bear_42 & & & & & \\
\hline IONIC CAPITAL M & 42 bullish & bull_42 & & & & 9,000,000 & 13,500,000 \\
\hline IONIC CAPITAL M, & 42 cnet & cnet_42 & 0 & 0 & 0 & 9,000,000 & 22,500,000 \\
\hline IONIC CAPITAL M & 42 netbearish & netb_42 & & & & 9,000,000 & 13,500,000 \\
\hline IONIC CAPITAL M, & 42 sbuy & sbuy_42 & & & & 9,000,000 & 13,500,000 \\
\hline IONIC CAPITAL M, & 42 ssell & ssel_42 & & & & & \\
\hline JMG & 43 abuy & abuy_43 & & & & & \\
\hline JMG & 43 asell & asel_43 & & & & & \\
\hline JMG & 43 bearish & bear_43 & & & & & \\
\hline JMG & 43 bullish & bull_43 & & & & 5,000,000 & \\
\hline JMG & 43 cnet & cnet_43 & 0 & 0 & 0 & 5,000,000 & 5,000,000 \\
\hline JMG & 43 netbearish & netb_43 & & & & 5,000,000 & \\
\hline JMG & 43 sbuy & sbuy_43 & & & & 5,000,000 & \\
\hline JMG & 43 ssell & ssel_43 & & & & & \\
\hline JNL & 44 abuy & abuy_44 & & & & & -20,000,000 \\
\hline JNL & 44 asell & asel_44 & & & & & \\
\hline JNL & 44 bearish & bear_44 & & & & & -20,000,000 \\
\hline JNL & 44 bullish & bull_44 & & & & & \\
\hline JNL & 44 cnet & cnet_44 & 0 & 0 & 0 & 0 & -20,000,000 \\
\hline JNL & 44 netbearish & netb_44 & & & & & -20,000,000 \\
\hline JNL & 44 sbuy & sbuy_44 & & & & & \\
\hline JNL & 44 ssell & ssel_44 & & & & & \\
\hline JPMORGAN CHAS & 45 abuy & abuy_45 & & -14,500,000 & -40,000,000 & -65,000,000 & -31,900,000 \\
\hline JPMORGAN CHA¢ & 45 asell & asel_45 & & & 55,000,000 & 60,000,000 & 58,258,060 \\
\hline JPMORGAN CHA¢ & 45 bearish & bear_45 & & -14,500,000 & -40,000,000 & -70,000,000 & -56,900,000 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline JPMORGAN CHAS & 45 bullish & bull_45 & & & 55,000,000 & 60,000,000 & 68,258,060 \\
\hline JPMORGAN CHAs & 45 cnet & cnet_45 & 0 & -14,500,000 & 500,000 & -9,500,000 & 1,858,060 \\
\hline JPMORGAN CHAs & 45 netbearish & netb_45 & & -14,500,000 & 15,000,000 & -10,000,000 & 11,358,060 \\
\hline JPMORGAN CHAs & 45 sbuy & sbuy_45 & & & & & 10,000,000 \\
\hline JPMORGAN CHAs & 45 ssell & ssel_45 & & & & -5,000,000 & -25,000,000 \\
\hline KAMUNTING STRI & 46 abuy & abuy_46 & & & & & \\
\hline KAMUNTING STRI & 46 asell & asel_46 & & & & & \\
\hline KAMUNTING STRI & 46 bearish & bear_46 & & & & & \\
\hline KAMUNTING STRI & 46 bullish & bull_46 & & & 5,000,000 & & \\
\hline KAMUNTING STRI & 46 cnet & cnet_46 & 0 & 0 & 5,000,000 & 5,000,000 & 5,000,000 \\
\hline KAMUNTING STRI & 46 netbearish & netb_46 & & & 5,000,000 & & \\
\hline KAMUNTING STRI & 46 sbuy & sbuy_46 & & & 5,000,000 & & \\
\hline KAMUNTING STRI & 46 ssell & ssel_46 & & & & & \\
\hline KBC FIN. PRODU & 47 abuy & abuy_47 & & & -5,000,000 & & \\
\hline KBC FIN. PRODU & 47 asell & asel_47 & & & & & \\
\hline KBC FIN. PRODU & 47 bearish & bear_47 & & & -5,000,000 & & \\
\hline KBC FIN. PRODU & 47 bullish & bull_47 & & & & & \\
\hline KBC FIN. PRODU & 47 cnet & cnet_47 & 0 & 0 & -5,000,000 & -5,000,000 & -5,000,000 \\
\hline KBC FIN. PRODU & 47 netbearish & netb_47 & & & -5,000,000 & & \\
\hline KBC FIN. PRODU & 47 sbuy & sbuy_47 & & & & & \\
\hline KBC FIN. PRODU & 47 ssell & ssel_47 & & & & & \\
\hline KEYBANK NATIO & 48 abuy & abuy_48 & & & & -20,000,000 & \\
\hline KEYBANK NATIO & 48 asell & asel_48 & & & & & \\
\hline KEYBANK NATIO & 48 bearish & bear_48 & & & & -20,000,000 & \\
\hline KEYBANK NATION & 48 bullish & bull_48 & & & & & \\
\hline KEYBANK NATIO & 48 cnet & cnet_48 & 0 & 0 & 0 & -20,000,000 & -20,000,000 \\
\hline KEYBANK NATIO & 48 netbearish & netb_48 & & & & -20,000,000 & \\
\hline KEYBANK NATIO & 48 sbuy & sbuy_48 & & & & & \\
\hline KEYBANK NATIO & 48 ssell & ssel_48 & & & & & \\
\hline LEHMAN BROTHE & 49 abuy & abuy_49 & & & & & \\
\hline LEHMAN BROTHE & 49 asell & asel_49 & & & & & \\
\hline LEHMAN BROTHE & 49 bearish & bear_49 & & & & & \\
\hline LEHMAN BROTHE & 49 bullish & bull_49 & & & & & 5,000,000 \\
\hline LEHMAN BROTHE & 49 cnet & cnet_49 & 0 & 0 & 0 & 0 & 5,000,000 \\
\hline LEHMAN BROTHE & 49 netbearish & netb_49 & & & & & 5,000,000 \\
\hline LEHMAN BROTHE & 49 sbuy & sbuy_49 & & & & & 5,000,000 \\
\hline LEHMAN BROTHE & 49 ssell & ssel_49 & & & & & \\
\hline MAGNETAR & 50 abuy & abuy_50 & & & & & -50,000,000 \\
\hline MAGNETAR & 50 asell & asel_50 & & & & & \\
\hline MAGNETAR & 50 bearish & bear_50 & & & & & -50,000,000 \\
\hline MAGNETAR & 50 bullish & bull_50 & & & & & \\
\hline MAGNETAR & 50 cnet & cnet_50 & 0 & 0 & 0 & 0 & -50,000,000 \\
\hline MAGNETAR & 50 netbearish & netb_50 & & & & & -50,000,000 \\
\hline MAGNETAR & 50 sbuy & sbuy_50 & & & & & \\
\hline MAGNETAR & 50 ssell & ssel_50 & & & & & \\
\hline MARATHON & 51 abuy & abuy_51 & & & -50,000,000 & & \\
\hline MARATHON & 51 asell & asel_51 & & & & & \\
\hline MARATHON & 51 bearish & bear_51 & & & -50,000,000 & & \\
\hline MARATHON & 51 bullish & bull_51 & & & 5,000,000 & 15,000,000 & 35,000,000 \\
\hline MARATHON & 51 cnet & cnet_51 & 0 & 0 & -45,000,000 & -30,000,000 & 5,000,000 \\
\hline MARATHON & 51 netbearish & netb_51 & & & -45,000,000 & 15,000,000 & 35,000,000 \\
\hline MARATHON & 51 sbuy & sbuy_51 & & & 5,000,000 & 15,000,000 & 35,000,000 \\
\hline MARATHON & 51 ssell & ssel_51 & & & & & \\
\hline MARINER-TRICAL & 52 abuy & abuy_52 & & & & & \\
\hline MARINER-TRICAL & 52 asell & asel_52 & & & & & 3,500,000 \\
\hline MARINER-TRICAL & 52 bearish & bear_52 & & & & & \\
\hline MARINER-TRICA[ & 52 bullish & bull_52 & & & & & 3,500,000 \\
\hline MARINER-TRICAL & 52 cnet & cnet_5 & 0 & 0 & 0 & 0 & 3,500,000 \\
\hline MARINER-TRICAL & 52 netbearish & netb_52 & & & & & 3,500,000 \\
\hline MARINER-TRICAL & 52 sbuy & sbuy_52 & & & & & \\
\hline MARINER-TRICA[ & 52 ssell & ssel_52 & & & & & \\
\hline MERRILL LYNCH I & 53 abuy & abuy_53 & & & -5,000,000 & -12,000,000 & -10,000,000 \\
\hline MERRILL LYNCH I & 53 asell & asel_53 & & & 5,000,000 & 15,300,000 & \\
\hline MERRILL LYNCH I & 53 bearish & bear_53 & & & -5,000,000 & -12,000,000 & -10,000,000 \\
\hline MERRILL LYNCH I & 53 bullish & bull_53 & & & 5,000,000 & 15,300,000 & \\
\hline MERRILL LYNCH I & 53 cnet & cnet_53 & 0 & 0 & 0 & 3,300,000 & -6,700,000 \\
\hline MERRILL LYNCH I & 53 netbearish & netb_53 & & & 0 & 3,300,000 & -10,000,000 \\
\hline MERRILL LYNCH & 53 sbuy & sbuy_53 & & & & & \\
\hline MERRILL LYNCH I & 53 ssell & ssel_53 & & & & & \\
\hline METLIFE INSURAI & 54 abuy & abuy_54 & & & & & -22,000,000 \\
\hline METLIFE INSURAI & 54 asell & asel_54 & & & & & \\
\hline METLIFE INSURAI & 54 bearish & bear_54 & & & & & -22,000,000 \\
\hline METLIFE INSURAI & 54 bullish & bull_54 & & & & & \\
\hline METLIFE INSURAI & 54 cnet & cnet_54 & 0 & 0 & 0 & 0 & -22,000,000 \\
\hline METLIFE INSURAI & 54 netbearish & netb_54 & & & & & -22,000,000 \\
\hline METLIFE INSURAI & 54 sbuy & sbuy_54 & & & & & \\
\hline METLIFE INSURAI & 54 ssell & ssel_54 & & & & & \\
\hline MORGAN STANLE & 55 abuy & abuy_55 & & & -5,000,000 & -16,000,000 & -10,000,000 \\
\hline MORGAN STANLE & 55 asell & asel_55 & & & & 5,000,000 & 165,313,275 \\
\hline MORGAN STANLE & 55 bearish & bear_55 & & -31,000,000 & -15,000,000 & -51,000,000 & -10,000,000 \\
\hline MORGAN STANLE & 55 bullish & bull_55 & & 31,000,000 & 10,000,000 & 5,000,000 & 165,313,275 \\
\hline MORGAN STANLE & 55 cnet & cnet_5 & 0 & 0 & -5,000,000 & -51,000,000 & 104,313,275 \\
\hline MORGAN STANLE & 55 netbearish & netb_55 & & 0 & -5,000,000 & -46,000,000 & 155,313,275 \\
\hline MORGAN STANLE & 55 sbuy & sbuy_55 & & 31,000,000 & 10,000,000 & & \\
\hline MORGAN STANLE & 55 ssell & ssel_55 & & -31,000,000 & -10,000,000 & -35,000,000 & \\
\hline NATIONAL BANK। & 56 abuy & abuy_56 & & -2,000,000 & -2,000,000 & -1,500,000 & \\
\hline NATIONAL BANKI & 56 asell & asel_56 & & & & & \\
\hline NATIONAL BANK। & 56 bearish & bear_56 & & -2,000,000 & -2,000,000 & -1,500,000 & \\
\hline NATIONAL BANK \({ }^{\text {I }}\) & 56 bullish & bull_56 & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline NATIONAL BANK 1 & 56 cnet & cnet_56 & 0 & -2,000,000 & -4,000,000 & -5,500,000 & -5,500,000 \\
\hline NATIONAL BANK 1 & 56 netbearish & netb_56 & & -2,000,000 & -2,000,000 & -1,500,000 & \\
\hline NATIONAL BANK 1 & 56 sbuy & sbuy_56 & & & & & \\
\hline NATIONAL BANK & 56 ssell & ssel_56 & & & & & \\
\hline NOMURA INTERN & 57 abuy & abuy_57 & & & & -5,000,000 & \\
\hline NOMURA INTERN & 57 asell & asel_57 & & & & 45,000,000 & \\
\hline NOMURA INTERN & 57 bearish & bear_57 & & & & -5,000,000 & \\
\hline NOMURA INTERN & 57 bullish & bull_57 & & & & 45,000,000 & \\
\hline NOMURA INTERN & 57 cnet & cnet_57 & 0 & 0 & 0 & 40,000,000 & 40,000,000 \\
\hline NOMURA INTERN & 57 netbearish & netb_57 & & & & 40,000,000 & \\
\hline NOMURA INTERN & 57 sbuy & sbuy_57 & & & & & \\
\hline NOMURA INTERN & 57 ssell & ssel_57 & & & & & \\
\hline NORGES BANK - 1 & 58 abuy & abuy_58 & & & & & \\
\hline NORGES BANK - I & 58 asell & asel_58 & & & & & \\
\hline NORGES BANK - I & 58 bearish & bear_58 & & & & & \\
\hline NORGES BANK - I & 58 bullish & bull_58 & & & & & 25,000,000 \\
\hline NORGES BANK - I & 58 cnet & cnet_58 & 0 & 0 & 0 & 0 & 25,000,000 \\
\hline NORGES BANK - I & 58 netbearish & netb_58 & & & & & 25,000,000 \\
\hline NORGES BANK - I & 58 sbuy & sbuy_58 & & & & & 25,000,000 \\
\hline NORGES BANK - I & 58 ssell & ssel_58 & & & & & \\
\hline PAULSON CREDI & 59 abuy & abuy_59 & & & & & \\
\hline PAULSON CREDI & 59 asell & asel_59 & & & & & \\
\hline PAULSON CREDI \({ }^{-1}\) & 59 bearish & bear_59 & & & & & \\
\hline PAULSON CREDI \({ }^{-1}\) & 59 bullish & bull_59 & & & & & 70,000,000 \\
\hline PAULSON CREDI & 59 cnet & cnet_59 & 0 & 0 & 0 & 0 & 70,000,000 \\
\hline PAULSON CREDI \({ }^{-1}\) & 59 netbearish & netb_59 & & & & & 70,000,000 \\
\hline PAULSON CREDI \({ }^{-1}\) & 59 sbuy & sbuy_59 & & & & & 70,000,000 \\
\hline PAULSON CREDI \({ }^{-1}\) & 59 ssell & ssel_59 & & & & & \\
\hline PIM1338 & 60 abuy & abuy_60 & & & & & \\
\hline PIM1338 & 60 asell & asel_60 & 300,000 & & & & \\
\hline PIM1338 & 60 bearish & bear_60 & & & & & \\
\hline PIM1338 & 60 bullish & bull_60 & 300,000 & & & & \\
\hline PIM1338 & 60 cnet & cnet_60 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM1338 & 60 netbearish & netb_60 & 300,000 & & & & \\
\hline PIM1338 & 60 sbuy & sbuy_60 & & & & & \\
\hline PIM1338 & 60 ssell & ssel_60 & & & & & \\
\hline PIM1356 & 61 abuy & abuy_61 & & & & & \\
\hline PIM1356 & 61 asell & asel_61 & 500,000 & & & & \\
\hline PIM1356 & 61 bearish & bear_61 & & & & & \\
\hline PIM1356 & 61 bullish & bull_61 & 500,000 & & & & \\
\hline PIM1356 & 61 cnet & cnet_61 & 500,000 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM1356 & 61 netbearish & netb_61 & 500,000 & & & & \\
\hline PIM1356 & 61 sbuy & sbuy_61 & & & & & \\
\hline PIM1356 & 61 ssell & ssel_61 & & & & & \\
\hline PIM1357 & 62 abuy & abuy_62 & & & & & \\
\hline PIM1357 & 62 asell & asel_62 & 2,500,000 & & & & \\
\hline PIM1357 & 62 bearish & bear_62 & & & & & \\
\hline PIM1357 & 62 bullish & bull_62 & 2,500,000 & & & & \\
\hline PIM1357 & 62 cnet & cnet_62 & 2,500,000 & 2,500,000 & 2,500,000 & 2,500,000 & 2,500,000 \\
\hline PIM1357 & 62 netbearish & netb_62 & 2,500,000 & & & & \\
\hline PIM1357 & 62 sbuy & sbuy_62 & & & & & \\
\hline PIM1357 & 62 ssell & ssel_62 & & & & & \\
\hline PIM1358 & 63 abuy & abuy_63 & & & & & \\
\hline PIM1358 & 63 asell & asel_63 & 1,300,000 & & & & \\
\hline PIM1358 & 63 bearish & bear_63 & & & & & \\
\hline PIM1358 & 63 bullish & bull_63 & 1,300,000 & & & & \\
\hline PIM1358 & 63 cnet & cnet_63 & 1,300,000 & 1,300,000 & 1,300,000 & 1,300,000 & 1,300,000 \\
\hline PIM1358 & 63 netbearish & netb_63 & 1,300,000 & & & & \\
\hline PIM1358 & 63 sbuy & sbuy_63 & & & & & \\
\hline PIM1358 & 63 ssell & ssel_63 & & & & & \\
\hline PIM1422 & 64 abuy & abuy_64 & & & & & \\
\hline PIM1422 & 64 asell & asel_64 & & & & & \\
\hline PIM1422 & 64 bearish & bear_64 & & & & & \\
\hline PIM1422 & 64 bullish & bull_64 & & 500,000 & & & \\
\hline PIM1422 & 64 cnet & cnet_64 & 0 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM1422 & 64 netbearish & netb_64 & & 500,000 & & & \\
\hline PIM1422 & 64 sbuy & sbuy_64 & & 500,000 & & & \\
\hline PIM1422 & 64 ssell & ssel_64 & & & & & \\
\hline PIM1628 & 65 abuy & abuy_65 & & & & & \\
\hline PIM1628 & 65 asell & asel_65 & & & & & \\
\hline PIM1628 & 65 bearish & bear_65 & & & & & \\
\hline PIM1628 & 65 bullish & bull_65 & & & 700,000 & & \\
\hline PIM1628 & 65 cnet & cnet_65 & 0 & 0 & 700,000 & 700,000 & 700,000 \\
\hline PIM1628 & 65 netbearish & netb_65 & & & 700,000 & & \\
\hline PIM1628 & 65 sbuy & sbuy_65 & & & 700,000 & & \\
\hline PIM1628 & 65 ssell & ssel_65 & & & & & \\
\hline PIM1833 & 66 abuy & abuy_66 & & & & & \\
\hline PIM1833 & 66 asell & asel_66 & & & & & \\
\hline PIM1833 & 66 bearish & bear_66 & & & & & \\
\hline PIM1833 & 66 bullish & bull_66 & & & & & 1,000,000 \\
\hline PIM1833 & 66 cnet & cnet_66 & 0 & 0 & 0 & 0 & 1,000,000 \\
\hline PIM1833 & 66 netbearish & netb_66 & & & & & 1,000,000 \\
\hline PIM1833 & 66 sbuy & sbuy_66 & & & & & 1,000,000 \\
\hline PIM1833 & 66 ssell & ssel_66 & & & & & \\
\hline PIM1941 & 67 abuy & abuy_67 & & & & & \\
\hline PIM1941 & 67 asell & asel_67 & 800,000 & & & & \\
\hline PIM1941 & 67 bearish & bear_67 & & & & & \\
\hline PIM1941 & 67 bullish & bull_67 & 800,000 & & & & \\
\hline PIM1941 & 67 cnet & cnet_67 & 800,000 & 800,000 & 800,000 & 800,000 & 800,000 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM1941 & 67 netbearish & netb_67 & 800,000 & & & & \\
\hline PIM1941 & 67 sbuy & sbuy_67 & & & & & \\
\hline PIM1941 & 67 ssell & ssel_67 & & & & & \\
\hline PIM2071 & 68 abuy & abuy_68 & & & & & \\
\hline PIM2071 & 68 asell & asel_68 & 200,000 & & & & \\
\hline PIM2071 & 68 bearish & bear_68 & & & & & \\
\hline PIM2071 & 68 bullish & bull_68 & 200,000 & & & & \\
\hline PIM2071 & 68 cnet & cnet_68 & 200,000 & 200,000 & 200,000 & 200,000 & 200,000 \\
\hline PIM2071 & 68 netbearish & netb_68 & 200,000 & & & & \\
\hline PIM2071 & 68 sbuy & sbuy_68 & & & & & \\
\hline PIM2071 & 68 ssell & ssel_68 & & & & & \\
\hline PIM2086 & 69 abuy & abuy_69 & & & & & \\
\hline PIM2086 & 69 asell & asel_69 & 1,100,000 & & & & \\
\hline PIM2086 & 69 bearish & bear_69 & & & & & \\
\hline PIM2086 & 69 bullish & bull_69 & 1,100,000 & & & & \\
\hline PIM2086 & 69 cnet & cnet_69 & 1,100,000 & 1,100,000 & 1,100,000 & 1,100,000 & 1,100,000 \\
\hline PIM2086 & 69 netbearish & netb_69 & 1,100,000 & & & & \\
\hline PIM2086 & 69 sbuy & sbuy_69 & & & & & \\
\hline PIM2086 & 69 ssell & ssel_69 & & & & & \\
\hline PIM2136 & 70 abuy & abuy_70 & & & & & \\
\hline PIM2136 & 70 asell & asel_70 & 900,000 & & & & \\
\hline PIM2136 & 70 bearish & bear_70 & & & & & \\
\hline PIM2136 & 70 bullish & bull_70 & 900,000 & & & & \\
\hline PIM2136 & 70 cnet & cnet_70 & 900,000 & 900,000 & 900,000 & 900,000 & 900,000 \\
\hline PIM2136 & 70 netbearish & netb_70 & 900,000 & & & & \\
\hline PIM2136 & 70 sbuy & sbuy_70 & & & & & \\
\hline PIM2136 & 70 ssell & ssel_70 & & & & & \\
\hline PIM2224 & 71 abuy & abuy_71 & & & & & \\
\hline PIM2224 & 71 asell & asel_71 & & & & & \\
\hline PIM2224 & 71 bearish & bear_71 & & & & & \\
\hline PIM2224 & 71 bullish & bull_71 & & & 1,000,000 & & \\
\hline PIM2224 & 71 cnet & cnet_71 & 0 & 0 & 1,000,000 & 1,000,000 & 1,000,000 \\
\hline PIM2224 & 71 netbearish & netb_71 & & & 1,000,000 & & \\
\hline PIM2224 & 71 sbuy & sbuy_71 & & & 1,000,000 & & \\
\hline PIM2224 & 71 ssell & ssel_71 & & & & & \\
\hline PIM2232 & 72 abuy & abuy_72 & & & & & \\
\hline PIM2232 & 72 asell & asel_72 & & & & & \\
\hline PIM2232 & 72 bearish & bear_72 & & & & & \\
\hline PIM2232 & 72 bullish & bull_72 & & & & & 2,700,000 \\
\hline PIM2232 & 72 cnet & cnet_72 & 0 & 0 & 0 & 0 & 2,700,000 \\
\hline PIM2232 & 72 netbearish & netb_72 & & & & & 2,700,000 \\
\hline PIM2232 & 72 sbuy & sbuy_72 & & & & & 2,700,000 \\
\hline PIM2232 & 72 ssell & ssel_72 & & & & & \\
\hline PIM2307 & 73 abuy & abuy_73 & & & & & \\
\hline PIM2307 & 73 asell & asel_73 & 1,200,000 & & & & \\
\hline PIM2307 & 73 bearish & bear_73 & & & & & \\
\hline PIM2307 & 73 bullish & bull_73 & 1,200,000 & & & & \\
\hline PIM2307 & 73 cnet & cnet_73 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 \\
\hline PIM2307 & 73 netbearish & netb_73 & 1,200,000 & & & & \\
\hline PIM2307 & 73 sbuy & sbuy_73 & & & & & \\
\hline PIM2307 & 73 ssell & ssel_73 & & & & & \\
\hline PIM2355 & 74 abuy & abuy_74 & & & & & \\
\hline PIM2355 & 74 asell & asel_74 & 100,000 & & & & \\
\hline PIM2355 & 74 bearish & bear_74 & & & & & \\
\hline PIM2355 & 74 bullish & bull_74 & 100,000 & & & & \\
\hline PIM2355 & 74 cnet & cnet_74 & 100,000 & 100,000 & 100,000 & 100,000 & 100,000 \\
\hline PIM2355 & 74 netbearish & netb_74 & 100,000 & & & & \\
\hline PIM2355 & 74 sbuy & sbuy_74 & & & & & \\
\hline PIM2355 & 74 ssell & ssel_74 & & & & & \\
\hline PIM2400 & 75 abuy & abuy_75 & & & & & \\
\hline PIM2400 & 75 asell & asel_75 & 100,000 & & & & \\
\hline PIM2400 & 75 bearish & bear_75 & & & & & \\
\hline PIM2400 & 75 bullish & bull_75 & 100,000 & & & & \\
\hline PIM2400 & 75 cnet & cnet_75 & 100,000 & 100,000 & 100,000 & 100,000 & 100,000 \\
\hline PIM2400 & 75 netbearish & netb_75 & 100,000 & & & & \\
\hline PIM2400 & 75 sbuy & sbuy_75 & & & & & \\
\hline PIM2400 & 75 ssell & ssel_75 & & & & & \\
\hline PIM2466 & 76 abuy & abuy_76 & & & & & \\
\hline PIM2466 & 76 asell & asel_76 & & & & & \\
\hline PIM2466 & 76 bearish & bear_76 & & & & & \\
\hline PIM2466 & 76 bullish & bull_76 & & 600,000 & & & \\
\hline PIM2466 & 76 cnet & cnet_76 & 0 & 600,000 & 600,000 & 600,000 & 600,000 \\
\hline PIM2466 & 76 netbearish & netb_76 & & 600,000 & & & \\
\hline PIM2466 & 76 sbuy & sbuy_76 & & 600,000 & & & \\
\hline PIM2466 & 76 ssell & ssel_76 & & & & & \\
\hline PIM2660 & 77 abuy & abuy_77 & & & & & \\
\hline PIM2660 & 77 asell & asel_77 & 500,000 & & & & \\
\hline PIM2660 & 77 bearish & bear_77 & & & & & \\
\hline PIM2660 & 77 bullish & bull_77 & 500,000 & & & & \\
\hline PIM2660 & 77 cnet & cnet_77 & 500,000 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM2660 & 77 netbearish & netb_77 & 500,000 & & & & \\
\hline PIM2660 & 77 sbuy & sbuy_77 & & & & & \\
\hline PIM2660 & 77 ssell & ssel_77 & & & & & \\
\hline PIM2679 & 78 abuy & abuy_78 & & & & & \\
\hline PIM2679 & 78 asell & asel_78 & 900,000 & & & & \\
\hline PIM2679 & 78 bearish & bear_78 & & & & & \\
\hline PIM2679 & 78 bullish & bull_78 & 900,000 & & & & \\
\hline PIM2679 & 78 cnet & cnet_78 & 900,000 & 900,000 & 900,000 & 900,000 & 900,000 \\
\hline PIM2679 & 78 netbearish & netb 78 & 900,000 & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM2679 & 78 sbuy & sbuy_78 & & & & & \\
\hline PIM2679 & 78 ssell & ssel_78 & & & & & \\
\hline PIM2687 & 79 abuy & abuy_79 & & & & & \\
\hline PIM2687 & 79 asell & asel_79 & 300,000 & & & & \\
\hline PIM2687 & 79 bearish & bear_79 & & & & & \\
\hline PIM2687 & 79 bullish & bull_79 & 300,000 & & & & \\
\hline PIM2687 & 79 cnet & cnet_79 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM2687 & 79 netbearish & netb_79 & 300,000 & & & & \\
\hline PIM2687 & 79 sbuy & sbuy_79 & & & & & \\
\hline PIM2687 & 79 ssell & ssel_79 & & & & & \\
\hline PIM2739 & 80 abuy & abuy_80 & & & & & \\
\hline PIM2739 & 80 asell & asel_80 & & & & & \\
\hline PIM2739 & 80 bearish & bear_80 & & & & & \\
\hline PIM2739 & 80 bullish & bull_ 80 & & & 200,000 & & \\
\hline PIM2739 & 80 cnet & cnet_80 & 0 & 0 & 200,000 & 200,000 & 200,000 \\
\hline PIM2739 & 80 netbearish & netb_80 & & & 200,000 & & \\
\hline PIM2739 & 80 sbuy & sbuy_80 & & & 200,000 & & \\
\hline PIM2739 & 80 ssell & ssel_80 & & & & & \\
\hline PIM2755 & 81 abuy & abuy_81 & & & & & \\
\hline PIM2755 & 81 asell & asel_81 & & & & & \\
\hline PIM2755 & 81 bearish & bear_81 & & & & & \\
\hline PIM2755 & 81 bullish & bull_81 & & & 300,000 & & \\
\hline PIM2755 & 81 cnet & cnet_81 & 0 & 0 & 300,000 & 300,000 & 300,000 \\
\hline PIM2755 & 81 netbearish & netb_81 & & & 300,000 & & \\
\hline PIM2755 & 81 sbuy & sbuy_81 & & & 300,000 & & \\
\hline PIM2755 & 81 ssell & ssel_81 & & & & & \\
\hline PIM2809 & 82 abuy & abuy_82 & & & & & \\
\hline PIM2809 & 82 asell & asel_82 & 1,600,000 & & & & \\
\hline PIM2809 & 82 bearish & bear_82 & & & & & \\
\hline PIM2809 & 82 bullish & bull_82 & 1,600,000 & & & & \\
\hline PIM2809 & 82 cnet & cnet_82 & 1,600,000 & 1,600,000 & 1,600,000 & 1,600,000 & 1,600,000 \\
\hline PIM2809 & 82 netbearish & netb_82 & 1,600,000 & & & & \\
\hline PIM2809 & 82 sbuy & sbuy_82 & & & & & \\
\hline PIM2809 & 82 ssell & ssel_82 & & & & & \\
\hline PIM2879 & 83 abuy & abuy_83 & & & & & \\
\hline PIM2879 & 83 asell & asel_83 & 300,000 & & & & \\
\hline PIM2879 & 83 bearish & bear_83 & & & & & \\
\hline PIM2879 & 83 bullish & bull_ 83 & 300,000 & & & & \\
\hline PIM2879 & 83 cnet & cnet_83 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM2879 & 83 netbearish & netb_83 & 300,000 & & & & \\
\hline PIM2879 & 83 sbuy & sbuy_83 & & & & & \\
\hline PIM2879 & 83 ssell & ssel_83 & & & & & \\
\hline PIM2909 & 84 abuy & abuy_84 & & & & & \\
\hline PIM2909 & 84 asell & asel_84 & 2,800,000 & & & & \\
\hline PIM2909 & 84 bearish & bear_84 & & & & & \\
\hline PIM2909 & 84 bullish & bull_84 & 2,800,000 & & & & \\
\hline PIM2909 & 84 cnet & cnet_84 & 2,800,000 & 2,800,000 & 2,800,000 & 2,800,000 & 2,800,000 \\
\hline PIM2909 & 84 netbearish & netb_84 & 2,800,000 & & & & \\
\hline PIM2909 & 84 sbuy & sbuy_84 & & & & & \\
\hline PIM2909 & 84 ssell & ssel_84 & & & & & \\
\hline PIM2958 & 85 abuy & abuy_85 & & & & & \\
\hline PIM2958 & 85 asell & asel_85 & 800,000 & & & & \\
\hline PIM2958 & 85 bearish & bear_85 & & & & & \\
\hline PIM2958 & 85 bullish & bull_85 & 800,000 & & & & \\
\hline PIM2958 & 85 cnet & cnet_85 & 800,000 & 800,000 & 800,000 & 800,000 & 800,000 \\
\hline PIM2958 & 85 netbearish & netb_85 & 800,000 & & & & \\
\hline PIM2958 & 85 sbuy & sbuy_85 & & & & & \\
\hline PIM2958 & 85 ssell & ssel_85 & & & & & \\
\hline PIM3689 & 86 abuy & abuy_86 & & & & & \\
\hline PIM3689 & 86 asell & asel_86 & 500,000 & & & & \\
\hline PIM3689 & 86 bearish & bear_86 & & & & & \\
\hline PIM3689 & 86 bullish & bull_ 86 & 500,000 & & & & \\
\hline PIM3689 & 86 cnet & cnet_86 & 500,000 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM3689 & 86 netbearish & netb_86 & 500,000 & & & & \\
\hline PIM3689 & 86 sbuy & sbuy_86 & & & & & \\
\hline PIM3689 & 86 ssell & ssel_86 & & & & & \\
\hline PIM3691 & 87 abuy & abuy_87 & & & & & \\
\hline PIM3691 & 87 asell & asel_87 & 300,000 & & & & \\
\hline PIM3691 & 87 bearish & bear_87 & & & & & \\
\hline PIM3691 & 87 bullish & bull_87 & 300,000 & & & & \\
\hline PIM3691 & 87 cnet & cnet_87 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM3691 & 87 netbearish & netb_87 & 300,000 & & & & \\
\hline PIM3691 & 87 sbuy & sbuy_87 & & & & & \\
\hline PIM3691 & 87 ssell & ssel_ 87 & & & & & \\
\hline PIM3706 & 88 abuy & abuy_88 & & & & & \\
\hline PIM3706 & 88 asell & asel_88 & & & & & \\
\hline PIM3706 & 88 bearish & bear_88 & & & & & \\
\hline PIM3706 & 88 bullish & bull_88 & & & 200,000 & & \\
\hline PIM3706 & 88 cnet & cnet_88 & 0 & 0 & 200,000 & 200,000 & 200,000 \\
\hline PIM3706 & 88 netbearish & netb_88 & & & 200,000 & & \\
\hline PIM3706 & 88 sbuy & sbuy_88 & & & 200,000 & & \\
\hline PIM3706 & 88 ssell & ssel_88 & & & & & \\
\hline PIM4632 & 89 abuy & abuy_89 & & & & & \\
\hline PIM4632 & 89 asell & asel_89 & 400,000 & & & & \\
\hline PIM4632 & 89 bearish & bear_89 & & & & & \\
\hline PIM4632 & 89 bullish & bull_89 & 400,000 & & & & \\
\hline PIM4632 & 89 cnet & cnet_89 & 400,000 & 400,000 & 400,000 & 400,000 & 400,000 \\
\hline PIM4632 & 89 netbearish & netb_89 & 400,000 & & & & \\
\hline PIM4632 & 89 sbuy & sbuy_89 & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM4632 & 89 ssell & ssel_89 & & & & & \\
\hline PIM4690 & 90 abuy & abuy_90 & & & & & \\
\hline PIM4690 & 90 asell & asel_90 & 4,800,000 & & & & \\
\hline PIM4690 & 90 bearish & bear_90 & & & & & \\
\hline PIM4690 & 90 bullish & bull_90 & 4,800,000 & & & & \\
\hline PIM4690 & 90 cnet & cnet_90 & 4,800,000 & 4,800,000 & 4,800,000 & 4,800,000 & 4,800,000 \\
\hline PIM4690 & 90 netbearish & netb_90 & 4,800,000 & & & & \\
\hline PIM4690 & 90 sbuy & sbuy_90 & & & & & \\
\hline PIM4690 & 90 ssell & ssel_90 & & & & & \\
\hline PIM4692 & 91 abuy & abuy_91 & & & & & \\
\hline PIM4692 & 91 asell & asel_91 & 1,200,000 & & & & \\
\hline PIM4692 & 91 bearish & bear_91 & & & & & \\
\hline PIM4692 & 91 bullish & bull_91 & 1,200,000 & & & & \\
\hline PIM4692 & 91 cnet & cnet_91 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 \\
\hline PIM4692 & 91 netbearish & netb_91 & 1,200,000 & & & & \\
\hline PIM4692 & 91 sbuy & sbuy_91 & & & & & \\
\hline PIM4692 & 91 ssell & ssel_91 & & & & & \\
\hline PIM4807 & 92 abuy & abuy_92 & & & & & \\
\hline PIM4807 & 92 asell & asel_92 & & 2,500,000 & & & \\
\hline PIM4807 & 92 bearish & bear_92 & & & & & \\
\hline PIM4807 & 92 bullish & bull_92 & & 2,500,000 & & & \\
\hline PIM4807 & 92 cnet & cnet_92 & 0 & 2,500,000 & 2,500,000 & 2,500,000 & 2,500,000 \\
\hline PIM4807 & 92 netbearish & netb_92 & & 2,500,000 & & & \\
\hline PIM4807 & 92 sbuy & sbuy_92 & & & & & \\
\hline PIM4807 & 92 ssell & ssel_92 & & & & & \\
\hline PIM4866 & 93 abuy & abuy_93 & & & & & \\
\hline PIM4866 & 93 asell & asel_93 & & 2,000,000 & & & \\
\hline PIM4866 & 93 bearish & bear_93 & & & & & \\
\hline PIM4866 & 93 bullish & bull_93 & & 2,000,000 & & & \\
\hline PIM4866 & 93 cnet & cnet_93 & 0 & 2,000,000 & 2,000,000 & 2,000,000 & 2,000,000 \\
\hline PIM4866 & 93 netbearish & netb_93 & & 2,000,000 & & & \\
\hline PIM4866 & 93 sbuy & sbuy_93 & & & & & \\
\hline PIM4866 & 93 ssell & ssel_93 & & & & & \\
\hline PIM6009 & 94 abuy & abuy_94 & & & & & \\
\hline PIM6009 & 94 asell & asel_94 & 200,000 & & & & \\
\hline PIM6009 & 94 bearish & bear_94 & & & & & \\
\hline PIM6009 & 94 bullish & bull_94 & 200,000 & & & & \\
\hline PIM6009 & 94 cnet & cnet_94 & 200,000 & 200,000 & 200,000 & 200,000 & 200,000 \\
\hline PIM6009 & 94 netbearish & netb_94 & 200,000 & & & & \\
\hline PIM6009 & 94 sbuy & sbuy_94 & & & & & \\
\hline PIM6009 & 94 ssell & ssel_94 & & & & & \\
\hline PIM6160 & 95 abuy & abuy_95 & & & & & \\
\hline PIM6160 & 95 asell & asel_95 & & & & & \\
\hline PIM6160 & 95 bearish & bear_95 & & & & & \\
\hline PIM6160 & 95 bullish & bull_95 & & & & & 2,000,000 \\
\hline PIM6160 & 95 cnet & cnet_95 & 0 & 0 & 0 & 0 & 2,000,000 \\
\hline PIM6160 & 95 netbearish & netb_95 & & & & & 2,000,000 \\
\hline PIM6160 & 95 sbuy & sbuy_95 & & & & & 2,000,000 \\
\hline PIM6160 & 95 ssell & ssel_95 & & & & & \\
\hline PIM6169 & 96 abuy & abuy_96 & & & & & \\
\hline PIM6169 & 96 asell & asel_96 & 300,000 & & & & \\
\hline PIM6169 & 96 bearish & bear_96 & & & & & \\
\hline PIM6169 & 96 bullish & bull_96 & 300,000 & & & & \\
\hline PIM6169 & 96 cnet & cnet_96 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM6169 & 96 netbearish & netb_96 & 300,000 & & & & \\
\hline PIM6169 & 96 sbuy & sbuy_96 & & & & & \\
\hline PIM6169 & 96 ssell & ssel_96 & & & & & \\
\hline PIM6230 & 97 abuy & abuy_97 & & & & & \\
\hline PIM6230 & 97 asell & asel_97 & 400,000 & & & & \\
\hline PIM6230 & 97 bearish & bear_97 & & & & & \\
\hline PIM6230 & 97 bullish & bull_97 & 400,000 & & & & \\
\hline PIM6230 & 97 cnet & cnet_97 & 400,000 & 400,000 & 400,000 & 400,000 & 400,000 \\
\hline PIM6230 & 97 netbearish & netb_97 & 400,000 & & & & \\
\hline PIM6230 & 97 sbuy & sbuy_97 & & & & & \\
\hline PIM6230 & 97 ssell & ssel_97 & & & & & \\
\hline PIM6320 & 98 abuy & abuy_98 & & & & & \\
\hline PIM6320 & 98 asell & asel_98 & & & & & \\
\hline PIM6320 & 98 bearish & bear_98 & & & & & \\
\hline PIM6320 & 98 bullish & bull_98 & & & 100,000 & & \\
\hline PIM6320 & 98 cnet & cnet_98 & 0 & 0 & 100,000 & 100,000 & 100,000 \\
\hline PIM6320 & 98 netbearish & netb_98 & & & 100,000 & & \\
\hline PIM6320 & 98 sbuy & sbuy_98 & & & 100,000 & & \\
\hline PIM6320 & 98 ssell & ssel_98 & & & & & \\
\hline PIM6400 & 99 abuy & abuy_99 & & & & & \\
\hline PIM6400 & 99 asell & asel_99 & 700,000 & & & & \\
\hline PIM6400 & 99 bearish & bear_99 & & & & & \\
\hline PIM6400 & 99 bullish & bull_99 & 700,000 & & & & \\
\hline PIM6400 & 99 cnet & cnet_99 & 700,000 & 700,000 & 700,000 & 700,000 & 700,000 \\
\hline PIM6400 & 99 netbearish & netb_99 & 700,000 & & & & \\
\hline PIM6400 & 99 sbuy & sbuy_99 & & & & & \\
\hline PIM6400 & 99 ssell & ssel_99 & & & & & \\
\hline PIM6888 & 100 abuy & abuy_100 & & & & & \\
\hline PIM6888 & 100 asell & asel_100 & & & & & \\
\hline PIM6888 & 100 bearish & bear_100 & & & & & \\
\hline PIM6888 & 100 bullish & bull_100 & & & 100,000 & & \\
\hline PIM6888 & 100 cnet & cnet_100 & 0 & 0 & 100,000 & 100,000 & 100,000 \\
\hline PIM6888 & 100 netbearish & netb_100 & & & 100,000 & & \\
\hline PIM6888 & 100 sbuy & sbuy_100 & & & 100,000 & & \\
\hline PIM6888 & 100 ssell & ssel_100 & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PROVINZIAL RHE & 101 abuy & abuy_101 & & & & & \\
\hline PROVINZIAL RHE & 101 asell & asel_101 & & & & 300,000 & \\
\hline PROVINZIAL RHE & 101 bearish & bear_101 & & & & & \\
\hline PROVINZIAL RHE & 101 bullish & bull_101 & & & & 300,000 & \\
\hline PROVINZIAL RHE & 101 cnet & cnet_101 & 0 & 0 & 0 & 300,000 & 300,000 \\
\hline PROVINZIAL RHE & 101 netbearish & netb_101 & & & & 300,000 & \\
\hline PROVINZIAL RHE & 101 sbuy & sbuy_101 & & & & & \\
\hline PROVINZIAL RHE & 101 ssell & ssel_101 & & & & & \\
\hline PURSUIT & 102 abuy & abuy_102 & & & & & \\
\hline PURSUIT & 102 asell & asel_102 & & & & & \\
\hline PURSUIT & 102 bearish & bear_102 & & & & & \\
\hline PURSUIT & 102 bullish & bull_102 & & & & 35,000,000 & \\
\hline PURSUIT & 102 cnet & cnet_102 & 0 & 0 & 0 & 35,000,000 & 35,000,000 \\
\hline PURSUIT & 102 netbearish & netb_102 & & & & 35,000,000 & \\
\hline PURSUIT & 102 sbuy & sbuy_102 & & & & 35,000,000 & \\
\hline PURSUIT & 102 ssell & ssel_102 & & & & & \\
\hline QIC:QUEENSLD II & 103 abuy & abuy_103 & & & & & \\
\hline QIC:QUEENSLD IT & 103 asell & asel_103 & & & & 150,000 & \\
\hline QIC:QUEENSLD II & 103 bearish & bear_103 & & & & & \\
\hline QIC:QUEENSLD IT & 103 bullish & bull_103 & & & & 150,000 & \\
\hline QIC:QUEENSLD II & 103 cnet & cnet_103 & 0 & 0 & 0 & 150,000 & 150,000 \\
\hline QIC:QUEENSLD IT & 103 netbearish & netb_103 & & & & 150,000 & \\
\hline QIC:QUEENSLD IT & 103 sbuy & sbuy_103 & & & & & \\
\hline QIC:QUEENSLD II & 103 ssell & ssel_103 & & & & & \\
\hline RBS GMP & 104 abuy & abuy_104 & & & -5,000,000 & & \\
\hline RBS GMP & 104 asell & asel_104 & & & & & \\
\hline RBS GMP & 104 bearish & bear_104 & & & -5,000,000 & & \\
\hline RBS GMP & 104 bullish & bull_104 & & & & 5,000,000 & \\
\hline RBS GMP & 104 cnet & cnet_104 & 0 & 0 & -5,000,000 & 0 & 0 \\
\hline RBS GMP & 104 netbearish & netb_104 & & & -5,000,000 & 5,000,000 & \\
\hline RBS GMP & 104 sbuy & sbuy_104 & & & & 5,000,000 & \\
\hline RBS GMP & 104 ssell & ssel_104 & & & & & \\
\hline ROYAL BANK OF & 105 abuy & abuy__105 & & -5,000,000 & -5,000,000 & -10,000,000 & -85,000,000 \\
\hline ROYAL BANK OF & 105 asell & asel_105 & & & 20,000,000 & 15,000,000 & 140,000,000 \\
\hline ROYAL BANK OF & 105 bearish & bear_105 & & -5,000,000 & -10,000,000 & -35,000,000 & -105,000,000 \\
\hline ROYAL BANK OF & 105 bullish & bull_105 & & & 45,000,000 & 35,000,000 & 140,000,000 \\
\hline ROYAL BANK OF & 105 cnet & cnet_105 & 0 & -5,000,000 & 30,000,000 & 30,000,000 & 65,000,000 \\
\hline ROYAL BANK OF & 105 netbearish & netb_105 & & -5,000,000 & 35,000,000 & 0 & 35,000,000 \\
\hline ROYAL BANK OF & 105 sbuy & sbuy_105 & & & 25,000,000 & 20,000,000 & \\
\hline ROYAL BANK OF & 105 ssell & ssel_105 & & & -5,000,000 & -25,000,000 & -20,000,000 \\
\hline SATELLITE CRED & 106 abuy & abuy_106 & & & & & \\
\hline SATELLITE CRED & 106 asell & asel_106 & & & & & \\
\hline SATELLITE CRED & 106 bearish & bear_106 & & & & & \\
\hline SATELLITE CRED & 106 bullish & bull_106 & & & 2,000,000 & 3,000,000 & \\
\hline SATELLITE CRED & 106 cnet & cnet_106 & 0 & 0 & 2,000,000 & 5,000,000 & 5,000,000 \\
\hline SATELLITE CRED & 106 netbearish & netb_106 & & & 2,000,000 & 3,000,000 & \\
\hline SATELLITE CRED & 106 sbuy & sbuy_106 & & & 2,000,000 & 3,000,000 & \\
\hline SATELLITE CRED & 106 ssell & ssel_106 & & & & & \\
\hline SCHRODER STEF & 107 abuy & abuy_107 & & & & -5,000,000 & \\
\hline SCHRODER STEF & 107 asell & asel_107 & & & & & \\
\hline SCHRODER STEF & 107 bearish & bear_107 & & & & -5,000,000 & \\
\hline SCHRODER STEF & 107 bullish & bull_107 & & & & & \\
\hline SCHRODER STEF & 107 cnet & cnet_107 & 0 & 0 & 0 & -5,000,000 & -5,000,000 \\
\hline SCHRODER STEF & 107 netbearish & netb_107 & & & & -5,000,000 & \\
\hline SCHRODER STEF & 107 sbuy & sbuy_107 & & & & & \\
\hline SCHRODER STEF & 107 ssell & ssel_107 & & & & & \\
\hline SOCIETE GENER, & 108 abuy & abuy_108 & & & -15,000,000 & & -10,000,000 \\
\hline SOCIETE GENER, & 108 asell & asel_108 & & & & & \\
\hline SOCIETE GENER, & 108 bearish & bear_108 & & & -15,000,000 & & -10,000,000 \\
\hline SOCIETE GENER, & 108 bullish & bull_108 & & & & & \\
\hline SOCIETE GENER, & 108 cnet & cnet_108 & 0 & 0 & -15,000,000 & -15,000,000 & -25,000,000 \\
\hline SOCIETE GENER/ & 108 netbearish & netb_108 & & & -15,000,000 & & -10,000,000 \\
\hline SOCIETE GENER, & 108 sbuy & sbuy_108 & & & & & \\
\hline SOCIETE GENER, & 108 ssell & ssel_108 & & & & & \\
\hline SSSF STERLING E & 109 abuy & abuy_109 & & & & -2,500,000 & \\
\hline SSSF STERLING E & 109 asell & asel_109 & & & & & \\
\hline SSSF STERLING E & 109 bearish & bear_109 & & & & -2,500,000 & \\
\hline SSSF STERLING E & 109 bullish & bull_109 & & & & & \\
\hline SSSF STERLING E & 109 cnet & cnet_109 & 0 & 0 & 0 & -2,500,000 & -2,500,000 \\
\hline SSSF STERLING E & 109 netbearish & netb_109 & & & & -2,500,000 & \\
\hline SSSF STERLING E & 109 sbuy & sbuy_109 & & & & & \\
\hline SSSF STERLING E & 109 ssell & ssel_109 & & & & & \\
\hline STICHTING BEDR & 110 abuy & abuy_110 & & & & & \\
\hline STICHTING BEDR & 110 asell & asel_110 & & & & 300,000 & \\
\hline STICHTING BEDR & 110 bearish & bear_110 & & & & & \\
\hline STICHTING BEDR & 110 bullish & bull_110 & & & & 300,000 & \\
\hline STICHTING BEDR & 110 cnet & cnet_110 & 0 & 0 & 0 & 300,000 & 300,000 \\
\hline STICHTING BEDR & 110 netbearish & netb_110 & & & & 300,000 & \\
\hline STICHTING BEDR & 110 sbuy & sbuy_110 & & & & & \\
\hline STICHTING BEDR & 110 ssell & ssel_110 & & & & & \\
\hline THE CONUS FUNI & 111 abuy & abuy_111 & & & & & \\
\hline THE CONUS FUNI & 111 asell & asel_111 & & & & & \\
\hline THE CONUS FUNI & 111 bearish & bear_111 & & & & & \\
\hline THE CONUS FUNI & 111 bullish & bull_111 & & 10,000,000 & & & \\
\hline THE CONUS FUNI & 111 cnet & cnet_111 & 0 & 10,000,000 & 10,000,000 & 10,000,000 & 10,000,000 \\
\hline THE CONUS FUNI & 111 netbearish & netb_111 & & 10,000,000 & & & \\
\hline THE CONUS FUNI & 111 sbuy & sbuy_111 & & 10,000,000 & & & \\
\hline THE CONUS FUNI & 111 ssell & ssel_111 & & & & & \\
\hline THE ROYAL BANk & 112 abuy & abuy_112 & & -17,000,000 & -15,000,000 & -24,900,000 & -155,000,000 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline THE ROYAL BANk & 112 asell & asel_112 & 10,000,000 & 10,000,000 & 6,297,500 & 10,000,000 & 20,000,000 \\
\hline THE ROYAL BANk & 112 bearish & bear_112 & & -17,000,000 & -15,000,000 & -24,900,000 & -160,000,000 \\
\hline THE ROYAL BANk & 112 bullish & bull_112 & 10,000,000 & 10,000,000 & 6,297,500 & 10,000,000 & 20,000,000 \\
\hline THE ROYAL BANk & 112 cnet & cnet_112 & 10,000,000 & 3,000,000 & -5,702,500 & -20,602,500 & -160,602,500 \\
\hline THE ROYAL BANk & 112 netbearish & netb_112 & 10,000,000 & -7,000,000 & -8,702,500 & -14,900,000 & -140,000,000 \\
\hline THE ROYAL BANk & 112 sbuy & sbuy_112 & & & & & \\
\hline THE ROYAL BANk & 112 ssell & ssel_112 & & & & & -5,000,000 \\
\hline TRAXIS FUND LP & 113 abuy & abuy_113 & & & & & \\
\hline TRAXIS FUND LP & 113 asell & asel_113 & & & & & \\
\hline TRAXIS FUND LP & 113 bearish & bear_113 & & & & -3,630,000 & \\
\hline TRAXIS FUND LP & 113 bullish & bull_113 & & & & & \\
\hline TRAXIS FUND LP & 113 cnet & cnet_113 & 0 & 0 & 0 & -3,630,000 & -3,630,000 \\
\hline TRAXIS FUND LP & 113 netbearish & netb_113 & & & & -3,630,000 & \\
\hline TRAXIS FUND LP & 113 sbuy & sbuy_113 & & & & & \\
\hline TRAXIS FUND LP & 113 ssell & ssel_113 & & & & -3,630,000 & \\
\hline TRG INFLATION & 114 abuy & abuy_114 & & & & & -23,000,000 \\
\hline TRG INFLATION & 114 asell & asel_114 & & & & & \\
\hline TRG INFLATION & 114 bearish & bear_114 & & & & & -23,000,000 \\
\hline TRG INFLATION & 114 bullish & bull_114 & & & & & \\
\hline TRG INFLATION & 114 cnet & cnet_114 & 0 & 0 & 0 & 0 & -23,000,000 \\
\hline TRG INFLATION & 114 netbearish & netb_114 & & & & & -23,000,000 \\
\hline TRG INFLATION & 114 sbuy & sbuy_114 & & & & & \\
\hline TRG INFLATION & 114 ssell & ssel_114 & & & & & \\
\hline TRICADIA DISTRE & 115 abuy & abuy_115 & & & & & \\
\hline TRICADIA DISTRE & 115 asell & asel_115 & & & & & 1,500,000 \\
\hline TRICADIA DISTRE & 115 bearish & bear_115 & & & & & \\
\hline TRICADIA DISTRE & 115 bullish & bull_115 & & & & & 1,500,000 \\
\hline TRICADIA DISTRE & 115 cnet & cnet_115 & 0 & 0 & 0 & 0 & 1,500,000 \\
\hline TRICADIA DISTRE & 115 netbearish & netb_115 & & & & & 1,500,000 \\
\hline TRICADIA DISTRE & 115 sbuy & sbuy_115 & & & & & \\
\hline TRICADIA DISTRE & 115 ssell & ssel_115 & & & & & \\
\hline UBS AG & 116 abuy & abuy_116 & & & & & \\
\hline UBS AG & 116 asell & asel_116 & & & & & 1,879,650 \\
\hline UBS AG & 116 bearish & bear_116 & & & & -5,000,000 & \\
\hline UBS AG & 116 bullish & bull_116 & & & & & 6,879,650 \\
\hline UBS AG & 116 cnet & cnet_116 & 0 & 0 & 0 & -5,000,000 & 1,879,650 \\
\hline UBS AG & 116 netbearish & netb_116 & & & & -5,000,000 & 6,879,650 \\
\hline UBS AG & 116 sbuy & sbuy_116 & & & & & 5,000,000 \\
\hline UBS AG & 116 ssell & ssel_116 & & & & -5,000,000 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline Entity & Add to Buy
Side & \[
\begin{aligned}
& \text { Reduce Sell } \\
& \text { Side }
\end{aligned}
\] & Total & Rank & Share & CShr & Reduce Buy
Side & Add to Sell
Side & Total & Rank & Total & Rank \\
\hline Total & -1,957,419,175 & -471,388,060 & \(-2,428,807,235\) & & & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & 0 & \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD LTD & -3,000,000 & & -3,000,000 & 45 & 0.1\% & 0.1\% & & & & 114 & -3,000,000 & 31 \\
\hline AURELIUS CAPITAL & & & & 48 & 0.0\% & 0.1\% & 10,000,000 & & 10,000,000 & 25 & 10,000,000 & 104 \\
\hline AUTONOMY MASTER FUND LIMITED & -10,000,000 & & -10,000,000 & 28 & 0.4\% & 0.5\% & & & & 102 & -10,000,000 & 16 \\
\hline BANCA IMI S.P.A & & & & 49 & 0.0\% & 0.5\% & 5,000,000 & & 5,000,000 & 31 & 5,000,000 & 94 \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & -40,000,000 & & -40,000,000 & 13 & 1.6\% & 2.2\% & & & & 93 & -40,000,000 & 4 \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & -33,800,000 & 14 & 1.4\% & 3.6\% & & 71,000,000 & 71,000,000 & 9 & 37,200,000 & 111 \\
\hline BANK OF NOVA SCOTIA TORONTO & & & & 50 & 0.0\% & 3.6\% & & 5,000,000 & 5,000,000 & 32 & 5,000,000 & 95 \\
\hline BARCELONA INKA & & & & 51 & 0.0\% & 3.6\% & & 350,000 & 350,000 & 71 & 350,000 & 58 \\
\hline BARCLAYS BANK PLC & -156,079,650 & -40,000,000 & -196,079,650 & 5 & 8.1\% & 11.6\% & 5,000,000 & 191,162,500 & 196,162,500 & 5 & 82,850 & 37 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & -3,258,060 & -3,258,060 & 44 & 0.1\% & 11.8\% & & & & 113 & -3,258,060 & 30 \\
\hline BLACK DIAMOND OFFSHORE, LTD & -225,000 & & -225,000 & 47 & 0.0\% & 11.8\% & & & & 116 & -225,000 & 33 \\
\hline BLUE MTN CREDIT ALTS. MASTER FUND L.P. & -20,000,000 & & -20,000,000 & 22 & 0.8\% & 12.6\% & & 20,000,000 & 20,000,000 & 20 & 0 & 34 \\
\hline BLUEBAY FUND:BLUEBAY INVESTT GR LIBOR FD & & & & 52 & 0.0\% & 12.6\% & & 150,000 & 150,000 & 85 & 150,000 & 42 \\
\hline BLUEBAY INVESTMENT GRADE BOND FUND & & & & 53 & 0.0\% & 12.6\% & & 7,000,000 & 7,000,000 & 28 & 7,000,000 & 102 \\
\hline BLUECREST MULTI STRATEGY CREDIT MSTR FD & & & & 54 & 0.0\% & 12.6\% & & 5,000,000 & 5,000,000 & 33 & 5,000,000 & 96 \\
\hline BNP PARIBAS & -227,313,275 & -40,000,000 & -267,313,275 & 2 & 11.0\% & 23.6\% & 25,000,000 & 235,510,000 & 260,510,000 & 2 & -6,803,275 & 18 \\
\hline CALYON & -10,000,000 & & -10,000,000 & 29 & 0.4\% & 24.0\% & & & & 103 & -10,000,000 & 17 \\
\hline CEDAR HILL CAPITAL PARTNERS & -10,000,000 & & -10,000,000 & 30 & 0.4\% & 24.4\% & 10,000,000 & & 10,000,000 & 24 & 0 & 35 \\
\hline CHEYNE LONG/SHORT STRUCTURED CREDIT FUND & & -31,000,000 & -31,000,000 & 16 & 1.3\% & 25.7\% & 41,000,000 & & 41,000,000 & 15 & 10,000,000 & 103 \\
\hline CQS ABS MASTER FUND LIMITED & -5,000,000 & & -5,000,000 & 35 & 0.2\% & 25.9\% & & & & 107 & -5,000,000 & 23 \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 3.1\% & 29.0\% & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 97,156,250 & 115 \\
\hline DEKA BANK, FRANKFURT & -12,560,000 & & -12,560,000 & 26 & 0.5\% & 29.5\% & & & & 100 & -12,560,000 & 13 \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 16.3\% & 16.3\% & 78,630,000 & 204,500,000 & 283,130,000 & 1 & -113,870,000 & 2 \\
\hline DISCOVERY ATLAS MASTER FUND & -5,000,000 & & -5,000,000 & 36 & 0.2\% & 16.6\% & & & & 108 & -5,000,000 & 24 \\
\hline DOUBLE BLACK DIAMOND OFFSHORE LDC & -4,775,000 & & -4,775,000 & 42 & 0.2\% & 16.7\% & & & & 111 & \(-4,775,000\) & 27 \\
\hline DWS CREDIT OPPORTUNITIES & -5,010,000 & & -5,010,000 & 34 & 0.2\% & 17.0\% & & & & 106 & -5,010,000 & 22 \\
\hline ES CAPITALIZACAO & -10,270,500 & & -10,270,500 & 27 & 0.4\% & 17.4\% & & & & 101 & -10,270,500 & 14 \\
\hline ES RENDA & -5,385,750 & & -5,385,750 & 33 & 0.2\% & 17.6\% & & & & 105 & -5,385,750 & 21 \\
\hline FOND BVOE SEGMENT UNTERFONDS W & & & & 55 & 0.0\% & 17.6\% & & 600,000 & 600,000 & 63 & 600,000 & 65 \\
\hline FORE CONVERTIBLE MASTER FUND, LTD. & & -32,800,000 & -32,800,000 & 15 & 1.4\% & 18.9\% & & 16,400,000 & 16,400,000 & 21 & -16,400,000 & 12 \\
\hline FORE ERISA FUND, LTD. & & -7,200,000 & -7,200,000 & 31 & 0.3\% & 19.2\% & & 3,600,000 & 3,600,000 & 40 & -3,600,000 & 29 \\
\hline FORE MULTI STRATEGY MASTER FUND,LTD. & & -20,000,000 & -20,000,000 & 23 & 0.8\% & 20.1\% & & 10,000,000 & 10,000,000 & 23 & -10,000,000 & 15 \\
\hline GENERAL AMERICAN LIFE INSURANCE COMPANY & -27,000,000 & & -27,000,000 & 17 & 1.1\% & 21.2\% & & & & 94 & -27,000,000 & 5 \\
\hline GENERAL ELECTRIC PENSION TRUST & & & & 56 & 0.0\% & 21.2\% & & 15,000,000 & 15,000,000 & 22 & 15,000,000 & 107 \\
\hline GOLDMAN SACHS & -160,600,000 & -40,000,000 & -200,600,000 & 4 & 8.3\% & 29.4\% & 56,500,000 & 125,000,000 & 181,500,000 & 7 & -19,100,000 & 11 \\
\hline HALBIS US CREDIT ALPHA MASTER FD LTD & & & & 57 & 0.0\% & 29.4\% & 5,000,000 & & 5,000,000 & 34 & 5,000,000 & 97 \\
\hline HPK-INVESTMENT GRADE CORPORATES & & & & 58 & 0.0\% & 29.4\% & & 300,000 & 300,000 & 72 & 300,000 & 49 \\
\hline HSBC BANK & -62,600,000 & & -62,600,000 & 10 & 2.6\% & 32.0\% & & 67,100,000 & 67,100,000 & 11 & 4,500,000 & 91 \\
\hline ICM BUSINESS TRUST & & & & 59 & 0.0\% & 32.0\% & 2,500,000 & & 2,500,000 & 44 & 2,500,000 & 85 \\
\hline ING & & & & 60 & 0.0\% & 32.0\% & & 10,000,000 & 10,000,000 & 26 & 10,000,000 & 105 \\
\hline INTERN KAPIT MBH (PRV-C) & & & & 61 & 0.0\% & 32.0\% & & 150,000 & 150,000 & 86 & 150,000 & 43 \\
\hline IONIC CAPITAL MASTER FUND LTD & & & & 62 & 0.0\% & 32.0\% & 22,500,000 & & 22,500,000 & 18 & 22,500,000 & 108 \\
\hline JMG & & & & 63 & 0.0\% & 32.0\% & 5,000,000 & & 5,000,000 & 35 & 5,000,000 & 98 \\
\hline JNL & -20,000,000 & & -20,000,000 & 24 & 0.8\% & 32.8\% & & & & 98 & -20,000,000 & 9 \\
\hline JPMORGAN CHASE BANK & -151,400,000 & -30,000,000 & -181,400,000 & 6 & 7.5\% & 40.3\% & 10,000,000 & 173,258,060 & 183,258,060 & 6 & 1,858,060 & 81 \\
\hline KAMUNTING STREET MASTER FUND LTD & & & & 64 & 0.0\% & 40.3\% & 5,000,000 & & 5,000,000 & 36 & 5,000,000 & 99 \\
\hline KBC FIN. PRODUCTS (CAYMAN ISLANDS)LTD. & -5,000,000 & & -5,000,000 & 37 & 0.2\% & 40.5\% & & & & 109 & -5,000,000 & 25 \\
\hline KEYBANK NATIONAL ASSOCIATION & -20,000,000 & & -20,000,000 & 25 & 0.8\% & 41.3\% & & & & 99 & -20,000,000 & 10 \\
\hline LEHMAN BROTHERS CREDIT ARBITRAGE FUND & & & & 65 & 0.0\% & 41.3\% & 5,000,000 & & 5,000,000 & 37 & 5,000,000 & 100 \\
\hline MAGNETAR & -50,000,000 & & -50,000,000 & 11 & 2.1\% & 43.4\% & & & & 92 & -50,000,000 & 3 \\
\hline MARATHON & -50,000,000 & & -50,000,000 & 12 & 2.1\% & 45.5\% & 55,000,000 & & 55,000,000 & 13 & 5,000,000 & 93 \\
\hline MARINER-TRICADIA CRD STRAT MASTER FD LTD & & & & 66 & 0.0\% & 45.5\% & & 3,500,000 & 3,500,000 & 41 & 3,500,000 & 90 \\
\hline MERRILL LYNCH INTERNATIONAL & -27,000,000 & & -27,000,000 & 18 & 1.1\% & 46.6\% & & 20,300,000 & 20,300,000 & 19 & -6,700,000 & 19 \\
\hline METLIFE INSURANCE COMPANY OF CONNECTICUT & -22,000,000 & & -22,000,000 & 21 & 0.9\% & 47.5\% & & & & 97 & -22,000,000 & 8 \\
\hline MORGAN STANLEY & -31,000,000 & -76,000,000 & -107,000,000 & 8 & 4.4\% & 51.9\% & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 104,313,275 & 116 \\
\hline NATIONAL BANK OF CANADA & -5,500,000 & & -5,500,000 & 32 & 0.2\% & 52.1\% & & & & 104 & -5,500,000 & 20 \\
\hline NOMURA INTERNATIONAL PLC & -5,000,000 & & -5,000,000 & 38 & 0.2\% & 52.3\% & & 45,000,000 & 45,000,000 & 14 & 40,000,000 & 112 \\
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\begin{tabular}{|c|c|c|c|}
\hline bear & bull & & netbull \\
\hline 1 & 45 - & & \\
\hline 2 - & & 25 & (Net Bullisl \\
\hline 3 & 28 - & & \\
\hline 4. & & 31 & \\
\hline 5 & 13 - & & \\
\hline 6 & 14 & 9 & (Net Bullisl \\
\hline 7 - & & 32 & \\
\hline 8 - & & 71 & \\
\hline 9 & 5 & 5 & \\
\hline 10 & 44 - & & \\
\hline 11 & 47 - & & \\
\hline 12 & 22 & 20 & \\
\hline 13 - & & 85 & \\
\hline 14. & & 28 & (Net Bullis! \\
\hline 15. & & 33 & \\
\hline 16 & 2 & 2 & \\
\hline 17 & 29 - & & \\
\hline 18 & 30 & 24 & \\
\hline 19 & 16 & 15 & (Net Bullis! \\
\hline 20 & \(35-\) & & \\
\hline 21 & 9 & 8 & (Net Bullis! \\
\hline 22 & 26 - & & \\
\hline 23 & 1 & 1 & \\
\hline 24 & 36 - & & \\
\hline 25 & 42. & & \\
\hline 26 & 34. & & \\
\hline 27 & 27 - & & \\
\hline 28 & 33 - & & \\
\hline 29 - & & 63 & \\
\hline 30 & 15 & 21 & \\
\hline 31 & 31 & 40 & \\
\hline 32 & 23 & 23 & \\
\hline 33 & 17 - & & \\
\hline 34. & & 22 & (Net Bullis! \\
\hline 35 & 4 & 7 & \\
\hline 36 - & & 34 & \\
\hline 37. & & 72 & \\
\hline 38 & 10 & 11 & \\
\hline 39 - & & 44 & \\
\hline 40 - & & 26 & (Net Bullisl \\
\hline 41 - & & 86 & \\
\hline 42 - & & 18 & (Net Bullisl \\
\hline 43 - & & 35 & \\
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\hline 45 & 6 & 6 & \\
\hline 46 - & & 36 & \\
\hline 47 & 37. & & \\
\hline 48 & 25 - & & \\
\hline 49. & & 37 & \\
\hline 50 & 11 - & & \\
\hline 51 & 12 & 13 & \\
\hline 52 - & & 41 & \\
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\hline 56 & 32 - & & \\
\hline & 38 & & (Net Bu \\
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\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Entity} & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline & Add to Buy
Side & Reduce Sell
Side & Total & Rank & Share & CShr & Reduce Buy
Side & Add to Sell
Side & Total & Rank & Total & Rank \\
\hline NORGES BANK - INVESTMENT MANAGEMENT \#1 & & & & 67 & 0.0\% & 52.3\% & 25,000,000 & & 25,000,000 & 17 & 25,000,000 & 109 \\
\hline PAULSON CREDIT OPPORTUNITIES MASTER LTD & & & & 68 & 0.0\% & 52.3\% & 70,000,000 & & 70,000,000 & 10 & 70,000,000 & 114 \\
\hline PIM1338 & & & & 69 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 73 & 300,000 & 50 \\
\hline PIM1356 & & & & 70 & 0.0\% & 52.3\% & & 500,000 & 500,000 & 65 & 500,000 & 61 \\
\hline PIM1357 & & & & 71 & 0.0\% & 52.3\% & & 2,500,000 & 2,500,000 & 45 & 2,500,000 & 86 \\
\hline PIM1358 & & & & 72 & 0.0\% & 52.3\% & & 1,300,000 & 1,300,000 & 51 & 1,300,000 & 78 \\
\hline PIM1422 & & & & 73 & 0.0\% & 52.3\% & 500,000 & & 500,000 & 66 & 500,000 & 62 \\
\hline PIM1628 & & & & 74 & 0.0\% & 52.3\% & 700,000 & & 700,000 & 61 & 700,000 & 67 \\
\hline PIM1833 & & & & 75 & 0.0\% & 52.3\% & 1,000,000 & & 1,000,000 & 55 & 1,000,000 & 73 \\
\hline PIM1941 & & & & 76 & 0.0\% & 52.3\% & & 800,000 & 800,000 & 59 & 800,000 & 69 \\
\hline PIM2071 & & & & 77 & 0.0\% & 52.3\% & & 200,000 & 200,000 & 81 & 200,000 & 45 \\
\hline PIM2086 & & & & 78 & 0.0\% & 52.3\% & & 1,100,000 & 1,100,000 & 54 & 1,100,000 & 75 \\
\hline PIM2136 & & & & 79 & 0.0\% & 52.3\% & & 900,000 & 900,000 & 57 & 900,000 & 71 \\
\hline PIM2224 & & & & 80 & 0.0\% & 52.3\% & 1,000,000 & & 1,000,000 & 56 & 1,000,000 & 74 \\
\hline PIM2232 & & & & 81 & 0.0\% & 52.3\% & 2,700,000 & & 2,700,000 & 43 & 2,700,000 & 88 \\
\hline PIM2307 & & & & 82 & 0.0\% & 52.3\% & & 1,200,000 & 1,200,000 & 52 & 1,200,000 & 76 \\
\hline PIM2355 & & & & 83 & 0.0\% & 52.3\% & & 100,000 & 100,000 & 88 & 100,000 & 38 \\
\hline PIM2400 & & & & 84 & 0.0\% & 52.3\% & & 100,000 & 100,000 & 89 & 100,000 & 39 \\
\hline PIM2466 & & & & 85 & 0.0\% & 52.3\% & 600,000 & & 600,000 & 64 & 600,000 & 66 \\
\hline PIM2660 & & & & 86 & 0.0\% & 52.3\% & & 500,000 & 500,000 & 67 & 500,000 & 63 \\
\hline PIM2679 & & & & 87 & 0.0\% & 52.3\% & & 900,000 & 900,000 & 58 & 900,000 & 72 \\
\hline PIM2687 & & & & 88 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 74 & 300,000 & 51 \\
\hline PIM2739 & & & & 89 & 0.0\% & 52.3\% & 200,000 & & 200,000 & 82 & 200,000 & 46 \\
\hline PIM2755 & & & & 90 & 0.0\% & 52.3\% & 300,000 & & 300,000 & 75 & 300,000 & 52 \\
\hline PIM2809 & & & & 91 & 0.0\% & 52.3\% & & 1,600,000 & 1,600,000 & 49 & 1,600,000 & 80 \\
\hline PIM2879 & & & & 92 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 76 & 300,000 & 53 \\
\hline PIM2909 & & & & 93 & 0.0\% & 52.3\% & & 2,800,000 & 2,800,000 & 42 & 2,800,000 & 89 \\
\hline PIM2958 & & & & 94 & 0.0\% & 52.3\% & & 800,000 & 800,000 & 60 & 800,000 & 70 \\
\hline PIM3689 & & & & 95 & 0.0\% & 52.3\% & & 500,000 & 500,000 & 68 & 500,000 & 64 \\
\hline PIM3691 & & & & 96 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 77 & 300,000 & 54 \\
\hline PIM3706 & & & & 97 & 0.0\% & 52.3\% & 200,000 & & 200,000 & 83 & 200,000 & 47 \\
\hline PIM4632 & & & & 98 & 0.0\% & 52.3\% & & 400,000 & 400,000 & 69 & 400,000 & 59 \\
\hline PIM4690 & & & & 99 & 0.0\% & 52.3\% & & 4,800,000 & 4,800,000 & 39 & 4,800,000 & 92 \\
\hline PIM4692 & & & & 100 & 0.0\% & 52.3\% & & 1,200,000 & 1,200,000 & 53 & 1,200,000 & 77 \\
\hline PIM4807 & & & & 101 & 0.0\% & 52.3\% & & 2,500,000 & 2,500,000 & 46 & 2,500,000 & 87 \\
\hline PIM4866 & & & & 102 & 0.0\% & 52.3\% & & 2,000,000 & 2,000,000 & 47 & 2,000,000 & 83 \\
\hline PIM6009 & & & & 103 & 0.0\% & 52.3\% & & 200,000 & 200,000 & 84 & 200,000 & 48 \\
\hline PIM6160 & & & & 104 & 0.0\% & 52.3\% & 2,000,000 & & 2,000,000 & 48 & 2,000,000 & 84 \\
\hline PIM6169 & & & & 105 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 78 & 300,000 & 55 \\
\hline PIM6230 & & & & 106 & 0.0\% & 52.3\% & & 400,000 & 400,000 & 70 & 400,000 & 60 \\
\hline PIM6320 & & & & 107 & 0.0\% & 52.3\% & 100,000 & & 100,000 & 90 & 100,000 & 40 \\
\hline PIM6400 & & & & 108 & 0.0\% & 52.3\% & & 700,000 & 700,000 & 62 & 700,000 & 68 \\
\hline PIM6888 & & & & 109 & 0.0\% & 52.3\% & 100,000 & & 100,000 & 91 & 100,000 & 41 \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & & & & 110 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 79 & 300,000 & 56 \\
\hline PURSUIT & & & & 111 & 0.0\% & 52.3\% & 35,000,000 & & 35,000,000 & 16 & 35,000,000 & 110 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS CAP & & & & 112 & 0.0\% & 52.3\% & & 150,000 & 150,000 & 87 & 150,000 & 44 \\
\hline RBS GMP & -5,000,000 & & -5,000,000 & 39 & 0.2\% & 52.5\% & 5,000,000 & & 5,000,000 & 30 & 0 & 36 \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 6.4\% & 58.9\% & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 65,000,000 & 113 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND LTD. & & & & 113 & 0.0\% & 58.9\% & 5,000,000 & & 5,000,000 & 38 & 5,000,000 & 101 \\
\hline SCHRODER STERLING BROAD MKTS BOND FUND & -5,000,000 & & -5,000,000 & 40 & 0.2\% & 59.1\% & & & & 110 & -5,000,000 & 26 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & -25,000,000 & & -25,000,000 & 19 & 1.0\% & 60.1\% & & & & 95 & -25,000,000 & 6 \\
\hline SSSF STERLING BROAD MARKET BOND LIBOR & -2,500,000 & & -2,500,000 & 46 & 0.1\% & 60.2\% & & & & 115 & -2,500,000 & 32 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE MEDIA & & & & 114 & 0.0\% & 60.2\% & & 300,000 & 300,000 & 80 & 300,000 & 57 \\
\hline THE CONUS FUND & & & & 115 & 0.0\% & 60.2\% & 10,000,000 & & 10,000,000 & 27 & 10,000,000 & 106 \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & 8.9\% & 69.2\% & & 56,297,500 & 56,297,500 & 12 & -160,602,500 & 1 \\
\hline TRAXIS FUND LP & & -3,630,000 & -3,630,000 & 43 & 0.1\% & 69.3\% & & & & 112 & -3,630,000 & 28 \\
\hline TRG INFLATION & -23,000,000 & & -23,000,000 & 20 & 0.9\% & 70.3\% & & & & 96 & -23,000,000 & 7 \\
\hline TRICADIA DISTRESSED AND SPCL MTR FD LT & & & & 116 & 0.0\% & 70.3\% & & 1,500,000 & 1,500,000 & 50 & 1,500,000 & 79 \\
\hline UBS AG & & -5,000,000 & -5,000,000 & 41 & 0.2\% & 70.5\% & 5,000,000 & 1,879,650 & 6,879,650 & 29 & 1,879,650 & 82 \\
\hline
\end{tabular}

\section*{Citigroup Intraday Trading}

\section*{November 17, 2008 - November 21, 2008}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline dayn & hour _NAME_ & C_meanp & C_minp & C_maxp & C_rangep & C_tradebig & _tradesr & _spind & & C_notshorl & _shortam fixlab & \\
\hline 17 & 4 COL1 & & & & & & & & & 1/0/1900 & 11/17/2008 & \\
\hline 17 & 5 COL1 & & & & & & & & & 0 & & \\
\hline 17 & 6 COL1 & & & & & & & & & 0 & & \\
\hline 17 & 7 COL1 & 9.650131 & 9.3 & 9.8 & 0.5 & 13600 & 85600 & & & 49200 & 50000 & \\
\hline 17 & 8 COL1 & 9.398474 & 9.28 & 9.61 & 0.33 & 44589 & 355299 & & & 272558 & 127330 & \\
\hline 17 & \(9 \mathrm{COL1}\) & 9.187314 & 9.02 & 9.45 & 0.43 & 2257282 & 14807656 & 9.36 & 9.36 & 11620611 & 5444327 & \\
\hline 17 & 10 COL1 & 9.025491 & 8.86 & 9.32 & 0.46 & 2645263 & 25056761 & 9.207445 & & 17085765 & 10616259 & \\
\hline 17 & 11 COL1 & 9.214086 & 8.85 & 9.57 & 0.72 & 1771142 & 25423923 & 9.199265 & & 14597960 & 12597105 & \\
\hline 17 & 12 COL1 & 9.580725 & 9.31 & 9.81 & 0.5 & 1490328 & 26511185 & 9.413225 & & 16015852 & 11985661 & \\
\hline 17 & 13 COL1 & 9.276096 & 9.06 & 9.45 & 0.39 & 3256805 & 16534296 & 9.294849 & & 13228617 & 6562484 & \\
\hline 17 & 14 COL1 & 9.241276 & 9.13 & 9.37 & 0.24 & 994711 & 14451062 & 9.283175 & & 9661949 & 5783824 & \\
\hline 17 & 15 COL1 & 8.990926 & 8.75 & 9.28 & 0.53 & 2960193 & 24852033 & 9.20967 & & 19029771 & 8782455 & \\
\hline 17 & 16 COL1 & 8.887988 & 8.8007 & 8.96 & 0.1593 & 3613776 & 234663 & 9.060131 & 8.89 & 3575757 & 272682 & \\
\hline 17 & 17 COL1 & 9.258872 & 8.88 & 9.6 & 0.72 & 0 & 164175 & 9.344575 & & 127630 & 36545 & \\
\hline 17 & 18 COL1 & 8.879357 & 8.84 & 8.95 & 0.11 & 38980 & 71992 & & & 90746 & 20226 & \\
\hline 17 & 19 COL1 & 8.896822 & 8.86 & 8.95 & 0.09 & 0 & 44315 & & & 26294 & 18021 & \\
\hline 18 & 4 COL1 & & & & & & & & & 1/0/1900 & 11/18/200¢ & 0 \\
\hline 18 & 5 COL1 & & & & & & & & & 0 & & \\
\hline 18 & 6 COL1 & 8.61875 & 8.58 & 8.71 & 0.13 & 0 & 800 & & & 200 & 600 & \\
\hline 18 & 7 COL1 & 8.773398 & 8.72 & 8.8 & 0.08 & 0 & 3090 & & & 200 & 2890 & \\
\hline 18 & 8 COL1 & 8.964775 & 8.72 & 9.1 & 0.38 & 0 & 211590 & 9.06850 & & 186249 & 25341 & \\
\hline 18 & 9 COL1 & 8.654475 & 8.33 & 9.06 & 0.73 & 3221475 & 23888687 & 9.050985 & 8.96 & 15641047 & 11469115 & \\
\hline 18 & 10 COL1 & 8.578824 & 8.31 & 8.74 & 0.43 & 3233052 & 29805525 & 9.053895 & & 20560180 & 12478397 & \\
\hline 18 & 11 COL1 & 8.447977 & 8.35 & 8.6 & 0.25 & 1754905 & 16451850 & 9.03915 & & 13252530 & 4954225 & \\
\hline 18 & 12 COL1 & 8.483207 & 8.34 & 8.68 & 0.34 & 1268147 & 14455100 & 9.026946 & & 10657215 & 5066032 & \\
\hline 18 & 13 COL1 & 8.279509 & 8.12 & 8.457 & 0.337 & 1730698 & 19545676 & 8.822433 & & 15258841 & 6017533 & \\
\hline 18 & 14 COL1 & 8.042316 & 7.89 & 8.6 & 0.71 & 4357725 & 33401176 & 8.719346 & & 26355868 & 11403033 & \\
\hline 18 & 15 COL1 & 8.203864 & 7.97 & 8.46 & 0.49 & 3061014 & 47733010 & 8.76046 & & 33760591 & 17033433 & \\
\hline 18 & 16 COL1 & 8.360969 & 8.1047 & 8.727 & 0.6223 & 6843480 & 420279 & 8.972355 & 8.36 & 5368883 & 1894876 & \\
\hline 18 & 17 COL1 & 8.359934 & 8.28 & 8.39 & 0.11 & 1335342 & 33235 & & & 1357577 & 11000 & \\
\hline 18 & 18 COL1 & 8.345583 & 8.3 & 8.37 & 0.07 & 0 & 23781 & & & 20381 & 3400 & \\
\hline 18 & 19 COL1 & 8.325025 & 8.27 & 8.36 & 0.09 & 0 & 34270 & & & 24327 & 9943 & \\
\hline 19 & 4 COL1 & & & & & & & & & 1/0/1900 & 11/19/200¢ & 0 \\
\hline 19 & 5 COL1 & 8.31 & 8.31 & 8.31 & 0 & 0 & 200 & & & 200 & & \\
\hline 19 & 6 COL1 & & & & & & & & & 0 & & \\
\hline 19 & 7 COL1 & 8.236064 & 8.12 & 8.36 & 0.24 & 39620 & 43360 & & & 44880 & 38100 & \\
\hline 19 & 8 COL1 & 8.199919 & 8.14 & 8.3 & 0.16 & 0 & 135159 & 8.7846 & & 99209 & 35950 & \\
\hline 19 & 9 COL1 & 7.974438 & 7.75 & 8.3 & 0.55 & 4327704 & 20771475 & 8.79029 & 8.19 & 12653266 & 12445913 & \\
\hline 19 & 10 COL1 & 8.069622 & 7.76 & 8.33 & 0.57 & 2601541 & 34072705 & 8.688746 & & 18581363 & 18092883 & \\
\hline 19 & 11 COL1 & 7.663731 & 7.46 & 7.9 & 0.44 & 2758618 & 31465268 & 8.471676 & & 22333871 & 11890015 & \\
\hline 19 & 12 COL1 & 7.388628 & 7.18 & 7.63 & 0.45 & 3281381 & 29523962 & 8.395818 & & 23050560 & 9754783 & \\
\hline 19 & 13 COL1 & 7.180682 & 7.02 & 7.43 & 0.41 & 3487639 & 32590744 & 8.386993 & & 25103235 & 10975148 & \\
\hline 19 & 14 COL1 & 7.116303 & 6.92 & 7.29 & 0.37 & 6454784 & 44839298 & 8.359645 & & 35420954 & 15873128 & \\
\hline 19 & 15 COL1 & 6.59236 & 6.25 & 6.95 & 0.7 & 17483534 & 99442974 & 8.221509 & & 78519222 & 38407286 & \\
\hline 19 & 16 COL1 & 6.462666 & 6.4 & 7.8456 & 1.4456 & 1130198 & 632903 & 8.018501 & 6.4 & 0 & 2218182 & \\
\hline 19 & 17 COL1 & 6.474876 & 6.42 & 6.54 & 0.12 & 77155 & 331085 & 8.15119 & & 342948 & 65292 & \\
\hline 19 & 18 COL1 & 6.441566 & 6.42 & 6.53 & 0.11 & 37100 & 174333 & & & 107551 & 103882 & \\
\hline 19 & 19 COL1 & 6.509859 & 6.45 & 6.55 & 0.1 & 0 & 169665 & & & 136220 & 33445 & \\
\hline 20 & 4 COL1 & & & & & & & & & 1/0/1900 & 11/20/200¢ & 0 \\
\hline 20 & 5 COL1 & & & & & & & & & 0 & & \\
\hline 20 & 6 COL1 & 6.553043 & 6.48 & 6.62 & 0.14 & 0 & 2300 & & & 2200 & 100 & \\
\hline 20 & 7 COL1 & 6.76276 & 6.55 & 6.93 & 0.38 & 205700 & 1306567 & & & 889357 & 622910 & \\
\hline 20 & 8 COL1 & 6.449964 & 6.03 & 6.83 & 0.8 & 2020283 & 4590850 & 7.87096 & & 4767938 & 1843195 & \\
\hline 20 & 9 COL1 & 5.801885 & 5.42 & 6.35 & 0.93 & 17219775 & 81069605 & 7.77543 & 6.13 & 74612588 & 23676792 & \\
\hline 20 & 10 COL1 & 5.175307 & 4.76 & 5.7397 & 0.9797 & 21894244 & \(1.61 \mathrm{E}+08\) & 7.56902 & & \(1.36 \mathrm{E}+08\) & 47223779 & \\
\hline 20 & 11 COL1 & 5.233101 & 5.01 & 5.62 & 0.61 & 8940391 & 73940055 & 7.718192 & & 54936489 & 27943957 & \\
\hline 20 & 12 COL1 & 5.386402 & 4.92 & 5.85 & 0.93 & 12758583 & 96049679 & 7.831738 & & 73099333 & 35708929 & \\
\hline 20 & 13 COL1 & 5.450772 & 5.26 & 5.68 & 0.42 & 11403051 & 48141328 & 7.798806 & & 42834238 & 16710141 & \\
\hline 20 & 14 COL1 & 5.142605 & 4.95 & 5.46 & 0.51 & 6789653 & 45596031 & 7.695599 & & 38643106 & 13742578 & \\
\hline 20 & 15 COL1 & 4.79686 & 4.39 & 5.22 & 0.83 & 15978077 & \(1.05 \mathrm{E}+08\) & 7.442809 & & 78838430 & 41715159 & \\
\hline 20 & 16 COL1 & 4.737822 & 4.63 & 5.5413 & 0.9113 & 8928602 & 971569 & 7.20208 & 4.71 & 7755761 & 2144410 & \\
\hline 20 & 17 COL1 & 4.919767 & 4.7062 & 4.98 & 0.2738 & 26134 & 450174 & 7.281736 & & 409687 & 66621 & \\
\hline 20 & 18 COL1 & 4.957689 & 4.9 & 4.98 & 0.08 & 10000 & 181033 & & & 156871 & 34162 & \\
\hline 20 & 19 COL1 & 5.017967 & 4.91 & 5.18 & 0.27 & 25000 & 408469 & 7.281736 & & 374432 & 59037 & \\
\hline 21 & 4 COL1 & 5.671564 & 5.43 & 5.78 & 0.35 & 11101 & 104865 & & & 3/13/2138 & 28965 11/21/200¢ & 0 \\
\hline 21 & 5 COL1 & 5.60378 & 5.55 & 5.7 & 0.15 & 0 & 82193 & & & 19300 & 62893 & \\
\hline 21 & 6 COL1 & 5.543357 & 5.46 & 5.68 & 0.22 & 0 & 97749 & & & 94199 & 3550 & \\
\hline 21 & 7 COL1 & 5.28275 & 5.14 & 5.52 & 0.38 & 58800 & 527217 & & & 436176 & 149841 & \\
\hline 21 & 8 COL1 & 5.087948 & 4.97 & 5.27 & 0.3 & 857854 & 3295633 & 7.473292 & & 2800549 & 1352938 & \\
\hline 21 & 9 COL1 & 4.910175 & 4.21 & 5.53 & 1.32 & 32231801 & \(1.07 \mathrm{E}+08\) & 7.408003 & 5.44 & 95636329 & 43781149 & \\
\hline 21 & 10 COL1 & 3.911088 & 3.57 & 4.5939 & 1.0239 & 34761995 & \(2.09 \mathrm{E}+08\) & 7.091923 & & \(1.77 \mathrm{E}+08\) & 66319675 & \\
\hline 21 & 11 COL1 & 3.880127 & 3.62 & 4.11 & 0.49 & 13830248 & 93647735 & 6.957306 & & 80502391 & 26975592 & \\
\hline 21 & 12 COL1 & 4.070007 & 3.81 & 4.3 & 0.49 & 8337850 & 67836637 & 7.044938 & & 54408160 & 21766327 & \\
\hline 21 & 13 COL1 & 3.855127 & 3.68 & 4.25 & 0.57 & 14861049 & 75470230 & 6.970188 & & 58504436 & 31826843 & \\
\hline 21 & 14 COL1 & 3.449642 & 3.05 & 3.965 & 0.915 & 27939678 & \(1.31 \mathrm{E}+08\) & 6.869473 & & \(1.09 \mathrm{E}+08\) & 50207790 & \\
\hline 21 & 15 COL1 & 3.750555 & 3.13 & 5.05 & 1.92 & 23636213 & \(1.61 \mathrm{E}+08\) & 7.180065 & & \(1.33 \mathrm{E}+08\) & 51554700 & \\
\hline 21 & 16 COL1 & 3.801851 & 3.49 & 4.2 & 0.71 & 17544248 & 2499614 & 7.50661 & 3.77 & 17273083 & 2770779 & \\
\hline 21 & 17 COL1 & 3.774719 & 3.05 & 4.12 & 1.07 & 312754 & 1664146 & 7.032725 & & 1843726 & 133174 & \\
\hline
\end{tabular}
\begin{tabular}{rrrrrrrrrrr}
21 & 18 COL1 & 3.807082 & 3.54 & 4.04 & 0.5 & 31800 & 459987 & 7.248705 & 440387 & 51400 \\
21 & 19 COL1 & 3.925266 & 3.85 & 4.01 & 0.16 & 187482 & 635367 & & 597045 & 225804
\end{tabular}

Citigroup Stock Price and Volume
October 1, 2008 - December 26, 2008


Citigroup Credit Default Swap Transactions November 17, 2008 - November 21, 2008


Citigroup Credit Default Swap Transactions: New Trades November 17, 2008 - November 21, 2008

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{\begin{tabular}{l}
Top 15 Bearish \\
Entity
\end{tabular}} & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{3}{|l|}{Net Bearish Position} & \multirow[b]{2}{*}{Note on Daily Activity from Looking at Chart} \\
\hline & \[
\begin{aligned}
& \text { Add to Buy } \\
& \text { Side }
\end{aligned}
\] & \[
\begin{gathered}
\text { Reduce Sell } \\
\text { Side }
\end{gathered}
\] & Total & Rank & Share & CShr & Reduce Buy
Side & \[
\begin{aligned}
& \text { Add to Sell } \\
& \text { Side } \\
& \hline
\end{aligned}
\] & Total & Rank & Total & \[
\begin{array}{|c|}
\hline \text { Net } \\
\text { Bearish } \\
\text { Rank }
\end{array}
\] & \[
\begin{aligned}
& \text { Net } \\
& \text { Bullish } \\
& \text { Rank }
\end{aligned}
\] & \\
\hline Total & -1,957,419,175 & -471,388,060 & \(-2,428,807,235\) & & & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & 0 & & & \\
\hline & & & & & & & & & & & & & & \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 16.3\% & 16.3\% & 78,630,000 & 204,500,000 & 283,130,000 & 1 & -113,870,000 & 2 & 115 & Bullish through Wed, Big buy Thurs. Very big buy Friday. \\
\hline BNP PARIBAS & -227,313,275 & -40,000,000 & -267,313,275 & 2 & 11.0\% & 27.4\% & 25,000,000 & 235,510,000 & 260,510,000 & 2 & -6,803,275 & 18 & 99 & Buying and selling throughout. Stayed about even. \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & 8.9\% & 36.3\% & & 56,297,500 & 56,297,500 & 12 & -160,602,500 & 1 & 116 & Gigantic buys on Fri. \\
\hline GOLDMAN SACHS & -160,600,000 & -40,000,000 & -200,600,000 & 4 & 8.3\% & 44.5\% & 56,500,000 & 125,000,000 & 181,500,000 & 7 & -19,100,000 & 11 & 106 & Appoximately even through Thurs. Big sell Fri and bigger buy. \\
\hline BARCLAYS BANK PLC & -156,079,650 & -40,000,000 & -196,079,650 & 5 & 8.1\% & 52.6\% & 5,000,000 & 191,162,500 & 196,162,500 & 5 & 82,850 & 37 & 80 & Activity balanced out. \\
\hline JPMORGAN CHASE BANK & -151,400,000 & -30,000,000 & -181,400,000 & 6 & 7.5\% & 60.1\% & 10,000,000 & 173,258,060 & 183,258,060 & 6 & 1,858,060 & 81 & 36 & Activity balanced out. \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 6.4\% & 66.5\% & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 65,000,000 & 113 & 4 & Big buy Friday and even bigger sell. \\
\hline MORGAN STANLEY & -31,000,000 & -76,000,000 & -107,000,000 & 8 & 4.4\% & 70.9\% & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 104,313,275 & 116 & 1 & Gigantic sell on Friday. \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 3.1\% & 74.0\% & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 97,156,250 & 115 & 2 & Close to even and then big sell Friday. \\
\hline HSBC BANK & -62,600,000 & & -62,600,000 & 10 & 2.6\% & 76.5\% & & 67,100,000 & 67,100,000 & 11 & 4,500,000 & 91 & 26 & Activity balanced out. \\
\hline MAGNETAR & -50,000,000 & & -50,000,000 & 11 & 2.1\% & 78.6\% & & & & 92 & -50,000,000 & 3 & 114 & Buy on Friday only activity. \\
\hline MARATHON & -50,000,000 & & -50,000,000 & 12 & 2.1\% & 80.7\% & 55,000,000 & & 55,000,000 & 13 & 5,000,000 & 93 & 24 & Buy Wed. Reduce buy Thurs and Friday. Looks profitable. \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & -40,000,000 & & -40,000,000 & 13 & 1.6\% & 82.3\% & & & & 93 & -40,000,000 & 4 & 113 & Buy Wed. and Thurs. \\
\hline BANK OF AMERICA, N.A. & \(-28,300,000\) & -5,500,000 & \(-33,800,000\) & 14 & 1.4\% & 83.7\% & & 71,000,000 & 71,000,000 & 9 & 37,200,000 & 111 & 6 & Selling throughout. Buy on Friday and big Sell on Friday. \\
\hline FORE CONVERTIBLE MASTER FUND, LTD. & & -32,800,000 & -32,800,000 & 15 & 1.4\% & 85.0\% & & 16,400,000 & 11,400,000 & 21 & -16,400,000 & 12 & 105 & Sell Wed and Thurs. Reduce sell Friday. \\
\hline
\end{tabular}

Summary of Citigroup Credit Default Swap Transactions
Top 15 Entities Making Net Bearish Trades Over the Week
November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Top 15 Net Bearish} & \multicolumn{4}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|l|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{5}{|c|}{Net Bearish Position} & \multirow[b]{2}{*}{Note on Daily Activity from Looking at Chart} \\
\hline & \[
\begin{aligned}
& \text { Add to Buy } \\
& \text { Side } \\
& \hline
\end{aligned}
\] & \[
\begin{aligned}
& \text { Reduce Sell } \\
& \text { Side }
\end{aligned}
\] & Total & Rank & Reduce Buy
Side & \[
\begin{gathered}
\text { Add to Sell } \\
\text { Side } \\
\hline
\end{gathered}
\] & Total & Rank & Total & Bearish Rank & Share & CShr & Bullish & \\
\hline Total & \(-1,957,419,175\) & -471,388,060 & \(-2,428,807,235\) & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & -660,190,085 & & & & & \\
\hline & & & & & & & & & & & & & & \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & & 56,297,500 & 56,297,500 & 12 & -160,602,500 & 1 & 24.3\% & 24.3\% & 116 & Gigantic buys on Fri. \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 78,630,000 & 204,500,000 & 283,130,000 & 1 & -113,870,000 & 2 & 17.2\% & 41.6\% & 115 & Bullish through Wed, Big buy Thurs. Very big buy Friday. \\
\hline MAGNETAR & -50,000,000 & & -50,000,000 & 11 & & & & 92 & -50,000,000 & 3 & 7.6\% & 49.1\% & 114 & Buy on Friday only activity. \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & -40,000,000 & & \(-40,000,000\) & 13 & & & & 93 & -40,000,000 & 4 & 6.1\% & 55.2\% & 113 & Buy Wed. and Thurs. \\
\hline GENERAL AMERICAN LIFE INSURANCE COMPANY & \(-27,000,000\) & & -27,000,000 & 17 & & & & 94 & -27,000,000 & 5 & 4.1\% & 59.3\% & 112 & Buy Friday - only activity. \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & \(-25,000,000\) & & \(-25,000,000\) & 19 & & & & 95 & -25,000,000 & 6 & 3.8\% & 63.1\% & 111 & Buy Wed. and Fri. \\
\hline TRG INFLATION & -23,000,000 & & -23,000,000 & 20 & & & & 96 & -23,000,000 & 7 & 3.5\% & 66.6\% & 110 & Buy Friday - only activity. \\
\hline METLIFE INSURANCE COMPANY OF CONNECTICUT & -22,000,000 & & -22,000,000 & 21 & & & & 97 & -22,000,000 & 8 & 3.3\% & 69.9\% & 109 & Buy Friday - only activity. \\
\hline JNL & -20,000,000 & & -20,000,000 & 24 & & & & 98 & -20,000,000 & 9 & 3.0\% & 72.9\% & 108 & Buy Friday - only activity. \\
\hline KEYBANK NATIONAL ASSOCIATION & -20,000,000 & & \(-20,000,000\) & 25 & & & & 99 & -20,000,000 & 10 & 3.0\% & 76.0\% & 107 & Buy Thursday - only activity. \\
\hline GOLDMAN SACHS & -160,600,000 & \(-40,000,000\) & -200,600,000 & 4 & 56,500,000 & 125,000,000 & 181,500,000 & 7 & -19,100,000 & 11 & 2.9\% & 78.9\% & 106 & Appoximately even through Thurs. Big sell Fri and bigger buy. \\
\hline FORE CONVERTIBLE MASTER FUND, LTD. & & \(-32,800,000\) & -32,800,000 & 15 & & 16,400,000 & 16,400,000 & 21 & -16,400,000 & 12 & 2.5\% & 81.3\% & 105 & Reduce sell side Friday. \\
\hline DEKA BANK, FRANKFURT & -12,560,000 & & -12,560,000 & 26 & & & & 100 & -12,560,000 & 13 & 1.9\% & 83.2\% & 104 & Buy Wed. and Thurs. \\
\hline ES CAPITALIZACAO & -10,270,500 & & -10,270,500 & 27 & & & & 101 & -10,270,500 & 14 & 1.6\% & 84.8\% & 103 & Buy Thursday - only activity. \\
\hline FORE MULTI STRATEGY MASTER FUND,LTD. & & -20,000,000 & -20,000,000 & 23 & & 10,000,000 & 10,000,000 & 23 & -10,000,000 & 15 & 1.5\% & 86.3\% & 102 & Sell Wed and Thurs. Reduce sell Friday. \\
\hline
\end{tabular}

November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{\begin{tabular}{l}
Top 15 Bullish \\
Entity
\end{tabular}} & \multicolumn{4}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{6}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{3}{|l|}{Net Bearish Position} & \multirow[b]{2}{*}{Note on Daily Activity from Looking at Chart} \\
\hline & Add to Buy Side & \[
\begin{gathered}
\text { Reduce Sell } \\
\text { Side }
\end{gathered}
\] & Total & Rank & \[
\begin{gathered}
\text { Reduce Buy } \\
\text { Side }
\end{gathered}
\] & \[
\begin{gathered}
\text { Add to Sell } \\
\text { Side } \\
\hline \hline
\end{gathered}
\] & Total & Rank & Share & CShr & Total & Bearish Rank & Bullish Rank & \\
\hline Total & \(-1,957,419,175\) & -471,388,060 & \(-2,428,807,235\) & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & & & 0 & & & \\
\hline & & & & & & & & & & & & & & \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 78,630,000 & 204,500,000 & 283,130,000 & 1 & 11.7\% & 11.7\% & -113,870,000 & 2 & 115 & Bullish through Wed, Big buy Thurs. Very big buy Friday. \\
\hline BNP PARIBAS & -227,313,275 & -40,000,000 & -267,313,275 & 2 & 25,000,000 & 235,510,000 & 260,510,000 & 2 & 10.7\% & 22.4\% & -6,803,275 & 18 & 99 & Buying and selling throughout. Stayed about even. \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 9.1\% & 31.4\% & 65,000,000 & 113 & 4 & Big buy Friday and even bigger sell. \\
\hline MORGAN STANLEY & -31,000,000 & -76,000,000 & -107,000,000 & 8 & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 8.7\% & 40.1\% & 104,313,275 & 116 & 1 & Gigantic sell on Friday. \\
\hline BARCLAYS BANK PLC & -156,079,650 & -40,000,000 & -196,079,650 & 5 & 5,000,000 & 191,162,500 & 196,162,500 & 5 & 8.1\% & 48.2\% & 82,850 & 37 & 80 & Activity balanced out. \\
\hline JPMORGAN CHASE BANK & -151,400,000 & -30,000,000 & -181,400,000 & 6 & 10,000,000 & 173,258,060 & 183,258,060 & 6 & 7.5\% & 55.8\% & 1,858,060 & 81 & 36 & Activity balanced out. \\
\hline GOLDMAN SACHS & -160,600,000 & \(-40,000,000\) & -200,600,000 & 4 & 56,500,000 & 125,000,000 & 181,500,000 & 7 & 7.5\% & 63.2\% & -19,100,000 & 11 & 106 & Appoximately even through Thurs. Big sell Fri and bigger buy. \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 7.1\% & 70.3\% & 97,156,250 & 115 & 2 & Close to even and then big sell Friday. \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & -33,800,000 & 14 & & 71,000,000 & 71,000,000 & 9 & 2.9\% & 73.2\% & 37,200,000 & 111 & 6 & Selling throughout. Buy on Friday and big Sell on Friday. \\
\hline PAULSON CREDIT OPPORTUNITIES MASTER LTD & & & & 68 & 70,000,000 & & 70,000,000 & 10 & 2.9\% & 76.1\% & 70,000,000 & 114 & 3 & Big reduce buy on Friday - only activity. Profitable timing. \\
\hline HSBC BANK & -62,600,000 & & -62,600,000 & 10 & & 67,100,000 & 67,100,000 & 11 & 2.8\% & 78.9\% & 4,500,000 & 91 & 26 & Activity balanced out. \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & & 56,297,500 & 56,297,500 & 12 & 2.3\% & 81.2\% & -160,602,500 & 1 & 116 & Gigantic buys on Fri. \\
\hline MARATHON & -50,000,000 & & -50,000,000 & 12 & 55,000,000 & & 55,000,000 & 13 & 2.3\% & 83.5\% & 5,000,000 & 93 & 24 & Buy Wed. Reduce buy Thurs and Friday. Looks profitable. \\
\hline NOMURA INTERNATIONAL PLC & -5,000,000 & & -5,000,000 & 38 & & 45,000,000 & 45,000,000 & 14 & 1.9\% & 85.3\% & 40,000,000 & 112 & 5 & Big sell Thursday \\
\hline CHEYNE LONG/SHORT STRUCTURED CREDIT FUND & & -31,000,000 & -31,000,000 & 16 & 41,000,000 & & 41,000,000 & 15 & 1.7\% & 87.0\% & 10,000,000 & 103 & 14 & Reduce buys and sells mostly evens out. \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{\begin{tabular}{l}
Top 15 Net Bullish \\
Entity
\end{tabular}} & \multicolumn{4}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{6}{|c|}{Bullish (Benefit if Probability
of Citigroup Default Decreases)} & \multicolumn{5}{|c|}{Net Bullish Position} & \multirow[b]{2}{*}{Note on Daily Activity from Looking at Chart} \\
\hline & \[
\begin{aligned}
& \text { Add to Buy } \\
& \text { Side }
\end{aligned}
\] & \[
\begin{aligned}
& \text { Reduce Sell } \\
& \text { Side }
\end{aligned}
\] & Total & Rank & Reduce Buy
Side & \[
\begin{aligned}
& \text { Add to Sell } \\
& \text { Side }
\end{aligned}
\] & Total & Rank & Share & CShr & Total & Bearish
Rank & \[
\begin{array}{|c}
\text { Bullish } \\
\text { Rank }
\end{array}
\] & Share & CShr & \\
\hline Total & -1,957,419,175 & -471,388,060 & \(-2,428,807,235\) & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & & & 660,190,085 & & & & & \\
\hline & & & & & & & & & & & & & & & & \\
\hline MORGAN STANLEY & -31,000,000 & -76,000,000 & -107,000,000 & 8 & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 8.7\% & 8.7\% & 104,313,275 & 116 & 1 & 15.8\% & 15.8\% & Gigantic sell on Friday. \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 7.1\% & 15.8\% & 97,156,250 & 115 & 2 & 14.7\% & 30.5\% & Close to even and then big sell Friday. \\
\hline PAULSON CREDIT OPPORTUNITIES MASTER LTD & & & & 68 & 70,000,000 & & 70,000,000 & 10 & 2.9\% & 18.7\% & 70,000,000 & 114 & 3 & 10.6\% & 41.1\% & Big reduce buy on Friday - only activity. Profitable timing. \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 9.1\% & 27.7\% & 65,000,000 & 113 & 4 & 9.8\% & 51.0\% & Big buy Friday and even bigger sell. \\
\hline NOMURA INTER NATIONAL PLC & -5,000,000 & & -5,000,000 & 38 & & 45,000,000 & 45,000,000 & 14 & 1.9\% & 29.6\% & 40,000,000 & 112 & 5 & 6.1\% & 57.0\% & Big sell Thursday \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & -33,800,000 & 14 & & 71,000,000 & 71,000,000 & 9 & 2.9\% & 32.5\% & 37,200,000 & 111 & 6 & 5.6\% & 62.7\% & Selling throughout. Buy on Friday and big Sell on Friday. \\
\hline PURSUIT & & & & 111 & 35,000,000 & & 35,000,000 & 16 & & & 35,000,000 & 110 & 7 & 5.3\% & 68.0\% & Big reduce buy on Thursday - only activity. \\
\hline NORGES BANK - INVESTMENT MANAGEMENT \#1 & & & & 67 & 25,000,000 & & 25,000,000 & 17 & & & 25,000,000 & 109 & 8 & 3.8\% & 71.7\% & Big reduce buy on Friday - only activity. Profitable timing. \\
\hline IONIC CAPITAL MASTER FUND LTD & & & & 62 & 22,500,000 & & 22,500,000 & 18 & & & 22,500,000 & 108 & 9 & 3.4\% & 75.2\% & Reduce buy Thur. and Fri. Profitable timing. \\
\hline GENERAL ELECTRIC PENSION TRUST & & & & 56 & & 15,000,000 & 15,000,000 & 22 & & & 15,000,000 & 107 & 10 & 2.3\% & 77.4\% & Big sell Thursday \\
\hline THE CONUS FUND & & & & 115 & 10,000,000 & & 10,000,000 & 27 & & & 10,000,000 & 106 & 11 & 1.5\% & 78.9\% & Reduce buy Tues - only activity. \\
\hline ING & & & & 60 & & 10,000,000 & 10,000,000 & 26 & & & 10,000,000 & 105 & 12 & 1.5\% & 80.5\% & Sell Thurs. - only activity. \\
\hline AURELIUS CAPITAL & & & & 48 & 10,000,000 & & 10,000,000 & 25 & & & 10,000,000 & 104 & 13 & 1.5\% & 82.0\% & Reduce buy Wed. - only activity. \\
\hline CHEYNE LONG/SHORT STRUCTURED CREDIT FUND & & -31,000,000 & -31,000,000 & 16 & 41,000,000 & & 41,000,000 & 15 & 1.7\% & 1.7\% & 10,000,000 & 103 & 14 & 1.5\% & 83.5\% & Reduce buys and sells mostly evens out. \\
\hline BLUEBAY INVESTMENT GRADE BOND FUND & & & & 53 & & 7,000,000 & 7,000,000 & 28 & & & 7,000,000 & 102 & 15 & 1.1\% & 84.5\% & Sell Thurs. - only activity. \\
\hline
\end{tabular}

Summary of Citigroup Credit Default Swap Transactions
November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases )} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline Entity & Add to Buy
Side & Reduce Sell
Side & Total & Rank & Share & CShr & Reduce Buy
Side & Add to Sell
Side & Total & Rank & Total & Rank \\
\hline & & & & & & & & & & & & \\
\hline Total & -1,957,419,175 & -471,388,060 & -2,428,807,235 & & & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & 0 & \\
\hline & & & & & & & & & & & & \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 16.3\% & 16.3\% & 78,630,000 & 204,500,000 & 283,130,000 & 1 & -113,870,000 & 2 \\
\hline BNP PARIBAS & -227,313,275 & -40,000,000 & -267,313,275 & 2 & 11.0\% & 27.4\% & 25,000,000 & 235,510,000 & 260,510,000 & 2 & -6,803,275 & 18 \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & 8.9\% & 36.3\% & & 56,297,500 & 56,297,500 & 12 & -160,602,500 & 1 \\
\hline GOLDMAN SACHS & -160,600,000 & -40,000,000 & -200,600,000 & 4 & 8.3\% & 44.5\% & 56,500,000 & 125,000,000 & 181,500,000 & 7 & -19,100,000 & 11 \\
\hline BARCLAYS BANK PLC & -156,079,650 & -40,000,000 & -196,079,650 & 5 & 8.1\% & 52.6\% & 5,000,000 & 191,162,500 & 196,162,500 & 5 & 82,850 & 37 \\
\hline JPMORGAN CHASE BANK & -151,400,000 & -30,000,000 & -181,400,000 & 6 & 7.5\% & 60.1\% & 10,000,000 & 173,258,060 & 183,258,060 & 6 & 1,858,060 & 81 \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 6.4\% & 66.5\% & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 65,000,000 & 113 \\
\hline MORGAN STANLEY & -31,000,000 & -76,000,000 & -107,000,000 & 8 & 4.4\% & 70.9\% & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 104,313,275 & 116 \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 3.1\% & 74.0\% & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 97,156,250 & 115 \\
\hline HSBC BANK & -62,600,000 & & -62,600,000 & 10 & 2.6\% & 76.5\% & & 67,100,000 & 67,100,000 & 11 & 4,500,000 & 91 \\
\hline MAGNETAR & -50,000,000 & & -50,000,000 & 11 & 2.1\% & 78.6\% & & & & 92 & -50,000,000 & 3 \\
\hline MARATHON & -50,000,000 & & -50,000,000 & 12 & 2.1\% & 80.7\% & 55,000,000 & & 55,000,000 & 13 & 5,000,000 & 93 \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & -40,000,000 & & -40,000,000 & 13 & 1.6\% & 82.3\% & & & & 93 & -40,000,000 & 4 \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & -33,800,000 & 14 & 1.4\% & 83.7\% & & 71,000,000 & 71,000,000 & 9 & 37,200,000 & 111 \\
\hline FORE CONVERTIBLE MASTER FUND, LTD. & & -32,800,000 & -32,800,000 & 15 & 1.4\% & 85.0\% & & 16,400,000 & 16,400,000 & 21 & -16,400,000 & 12 \\
\hline CHEYNE LONG/SHORT STRUCTURED CREDIT FUND & & -31,000,000 & -31,000,000 & 16 & 1.3\% & 86.3\% & 41,000,000 & & 41,000,000 & 15 & 10,000,000 & 103 \\
\hline GENERAL AMERICAN LIFE INSURANCE COMPANY & -27,000,000 & & -27,000,000 & 17 & 1.1\% & 87.4\% & & & & 94 & -27,000,000 & 5 \\
\hline MERRILL LYNCH INTERNATIONAL & -27,000,000 & & -27,000,000 & 18 & 1.1\% & 88.5\% & & 20,300,000 & 20,300,000 & 19 & -6,700,000 & 19 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & -25,000,000 & & -25,000,000 & 19 & 1.0\% & 89.6\% & & & & 95 & -25,000,000 & 6 \\
\hline TRG INFLATION & -23,000,000 & & -23,000,000 & 20 & 0.9\% & 90.5\% & & & & 96 & -23,000,000 & 7 \\
\hline METLIFE INSURANCE COMPANY OF CONNECTICUT & -22,000,000 & & -22,000,000 & 21 & 0.9\% & 91.4\% & & & & 97 & -22,000,000 & 8 \\
\hline BLUE MTN CREDIT ALTS. MASTER FUND L.P. & -20,000,000 & & -20,000,000 & 22 & 0.8\% & 92.2\% & & 20,000,000 & 20,000,000 & 20 & 0 & 34 \\
\hline FORE MULTI STRATEGY MASTER FUND,LTD. & & -20,000,000 & -20,000,000 & 23 & 0.8\% & 93.1\% & & 10,000,000 & 10,000,000 & 23 & -10,000,000 & 15 \\
\hline JNL & -20,000,000 & & -20,000,000 & 24 & 0.8\% & 93.9\% & & & & 98 & -20,000,000 & 9 \\
\hline KEYBANK NATIONAL ASSOCIATION & -20,000,000 & & -20,000,000 & 25 & 0.8\% & 94.7\% & & & & 99 & -20,000,000 & 10 \\
\hline DEKA BANK, FRANKFURT & -12,560,000 & & -12,560,000 & 26 & 0.5\% & 95.2\% & & & & 100 & -12,560,000 & 13 \\
\hline ES CAPITALIZACAO & -10,270,500 & & -10,270,500 & 27 & 0.4\% & 95.7\% & & & & 101 & -10,270,500 & 14 \\
\hline AUTONOMY MASTER FUND LIMITED & -10,000,000 & & -10,000,000 & 28 & 0.4\% & 96.1\% & & & & 102 & -10,000,000 & 16 \\
\hline CALYON & -10,000,000 & & -10,000,000 & 29 & 0.4\% & 96.5\% & & & & 103 & -10,000,000 & 17 \\
\hline CEDAR HILL CAPITAL PARTNERS & -10,000,000 & & -10,000,000 & 30 & 0.4\% & 96.9\% & 10,000,000 & & 10,000,000 & 24 & 0 & 35 \\
\hline FORE ERISA FUND, LTD. & & -7,200,000 & -7,200,000 & 31 & 0.3\% & 97.2\% & & 3,600,000 & 3,600,000 & 40 & -3,600,000 & 29 \\
\hline NATIONAL BANK OF CANADA & -5,500,000 & & -5,500,000 & 32 & 0.2\% & 97.4\% & & & & 104 & -5,500,000 & 20 \\
\hline ES RENDA & -5,385,750 & & -5,385,750 & 33 & 0.2\% & 97.6\% & & & & 105 & -5,385,750 & 21 \\
\hline DWS CREDIT OPPORTUNITIES & -5,010,000 & & -5,010,000 & 34 & 0.2\% & 97.8\% & & & & 106 & -5,010,000 & 22 \\
\hline CQS ABS MASTER FUND LIMITED & -5,000,000 & & -5,000,000 & 35 & 0.2\% & 98.0\% & & & & 107 & -5,000,000 & 23 \\
\hline DISCOVERY ATLAS MASTER FUND & -5,000,000 & & -5,000,000 & 36 & 0.2\% & 98.3\% & & & & 108 & -5,000,000 & 24 \\
\hline KBC FIN. PRODUCTS (CAYMAN ISLANDS)LTD. & -5,000,000 & & -5,000,000 & 37 & 0.2\% & 98.5\% & & & & 109 & -5,000,000 & 25 \\
\hline NOMURA INTERNATIONAL PLC & -5,000,000 & & -5,000,000 & 38 & 0.2\% & 98.7\% & & 45,000,000 & 45,000,000 & 14 & 40,000,000 & 112 \\
\hline RBS GMP & -5,000,000 & & -5,000,000 & 39 & 0.2\% & 98.9\% & 5,000,000 & & 5,000,000 & 30 & 0 & 36 \\
\hline SCHRODER STERLING BROAD MKTS BOND FUND & -5,000,000 & & -5,000,000 & 40 & 0.2\% & 99.1\% & & & & 110 & -5,000,000 & 26 \\
\hline UBS AG & & -5,000,000 & -5,000,000 & 41 & 0.2\% & 99.3\% & 5,000,000 & 1,879,650 & 6,879,650 & 29 & 1,879,650 & 82 \\
\hline DOUBLE BLACK DIAMOND OFFSHORE LDC & -4,775,000 & & -4,775,000 & 42 & 0.2\% & 99.5\% & & & & 111 & -4,775,000 & 27 \\
\hline TRAXIS FUND LP & & -3,630,000 & -3,630,000 & 43 & 0.1\% & 99.6\% & & & & 112 & -3,630,000 & 28 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & -3,258,060 & -3,258,060 & 44 & 0.1\% & 99.8\% & & & & 113 & -3,258,060 & 30 \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD LTD & -3,000,000 & & -3,000,000 & 45 & 0.1\% & 99.9\% & & & & 114 & -3,000,000 & 31 \\
\hline SSSF STERLING BROAD MARKET BOND LIBOR & -2,500,000 & & -2,500,000 & 46 & 0.1\% & 100.0\% & & & & 115 & -2,500,000 & 32 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Entity} & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline & Add to Buy
Side & Reduce Sell
Side & Total & Rank & Share & CShr & Reduce Buy
Side & Add to Sell
Side & Total & Rank & Total & Rank \\
\hline BLACK DIAMOND OFFSHORE, LTD & -225,000 & & -225,000 & 47 & 0.0\% & 100.0\% & & & & 116 & -225,000 & 33 \\
\hline AURELIUS CAPITAL & & & & 48 & 0.0\% & 100.0\% & 10,000,000 & & 10,000,000 & 25 & 10,000,000 & 104 \\
\hline BANCA IMI S.P.A & & & & 49 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 31 & 5,000,000 & 94 \\
\hline BANK OF NOVA SCOTIA TORONTO & & & & 50 & 0.0\% & 100.0\% & & 5,000,000 & 5,000,000 & 32 & 5,000,000 & 95 \\
\hline BARCELONA INKA & & & & 51 & 0.0\% & 100.0\% & & 350,000 & 350,000 & 71 & 350,000 & 58 \\
\hline BLUEBAY FUND:BLUEBAY INVESTT GR LIBOR FD & & & & 52 & 0.0\% & 100.0\% & & 150,000 & 150,000 & 85 & 150,000 & 42 \\
\hline BLUEBAY INVESTMENT GRADE BOND FUND & & & & 53 & 0.0\% & 100.0\% & & 7,000,000 & 7,000,000 & 28 & 7,000,000 & 102 \\
\hline BLUECREST MULTI STRATEGY CREDIT MSTR FD & & & & 54 & 0.0\% & 100.0\% & & 5,000,000 & 5,000,000 & 33 & 5,000,000 & 96 \\
\hline FOND BVOE SEGMENT UNTERFONDS W & & & & 55 & 0.0\% & 100.0\% & & 600,000 & 600,000 & 63 & 600,000 & 65 \\
\hline GENERAL ELECTRIC PENSION TRUST & & & & 56 & 0.0\% & 100.0\% & & 15,000,000 & 15,000,000 & 22 & 15,000,000 & 107 \\
\hline HALBIS US CREDIT ALPHA MASTER FD LTD & & & & 57 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 34 & 5,000,000 & 97 \\
\hline HPK-INVESTMENT GRADE CORPORATES & & & & 58 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 72 & 300,000 & 49 \\
\hline ICM BUSINESS TRUST & & & & 59 & 0.0\% & 100.0\% & 2,500,000 & & 2,500,000 & 44 & 2,500,000 & 85 \\
\hline ING & & & & 60 & 0.0\% & 100.0\% & & 10,000,000 & 10,000,000 & 26 & 10,000,000 & 105 \\
\hline INTERN KAPIT MBH (PRV-C) & & & & 61 & 0.0\% & 100.0\% & & 150,000 & 150,000 & 86 & 150,000 & 43 \\
\hline IONIC CAPITAL MASTER FUND LTD & & & & 62 & 0.0\% & 100.0\% & 22,500,000 & & 22,500,000 & 18 & 22,500,000 & 108 \\
\hline JMG & & & & 63 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 35 & 5,000,000 & 98 \\
\hline KAMUNTING STREET MASTER FUND LTD & & & & 64 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 36 & 5,000,000 & 99 \\
\hline LEHMAN BROTHERS CREDIT ARBITRAGE FUND & & & & 65 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 37 & 5,000,000 & 100 \\
\hline MARINER-TRICADIA CRD STRAT MASTER FD LTD & & & & 66 & 0.0\% & 100.0\% & & 3,500,000 & 3,500,000 & 41 & 3,500,000 & 90 \\
\hline NORGES BANK - INVESTMENT MANAGEMENT \#1 & & & & 67 & 0.0\% & 100.0\% & 25,000,000 & & 25,000,000 & 17 & 25,000,000 & 109 \\
\hline PAULSON CREDIT OPPORTUNITIES MASTER LTD & & & & 68 & 0.0\% & 100.0\% & 70,000,000 & & 70,000,000 & 10 & 70,000,000 & 114 \\
\hline PIM1338 & & & & 69 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 73 & 300,000 & 50 \\
\hline PIM1356 & & & & 70 & 0.0\% & 100.0\% & & 500,000 & 500,000 & 65 & 500,000 & 61 \\
\hline PIM1357 & & & & 71 & 0.0\% & 100.0\% & & 2,500,000 & 2,500,000 & 45 & 2,500,000 & 86 \\
\hline PIM1358 & & & & 72 & 0.0\% & 100.0\% & & 1,300,000 & 1,300,000 & 51 & 1,300,000 & 78 \\
\hline PIM1422 & & & & 73 & 0.0\% & 100.0\% & 500,000 & & 500,000 & 66 & 500,000 & 62 \\
\hline PIM1628 & & & & 74 & 0.0\% & 100.0\% & 700,000 & & 700,000 & 61 & 700,000 & 67 \\
\hline PIM1833 & & & & 75 & 0.0\% & 100.0\% & 1,000,000 & & 1,000,000 & 55 & 1,000,000 & 73 \\
\hline PIM1941 & & & & 76 & 0.0\% & 100.0\% & & 800,000 & 800,000 & 59 & 800,000 & 69 \\
\hline PIM2071 & & & & 77 & 0.0\% & 100.0\% & & 200,000 & 200,000 & 81 & 200,000 & 45 \\
\hline PIM2086 & & & & 78 & 0.0\% & 100.0\% & & 1,100,000 & 1,100,000 & 54 & 1,100,000 & 75 \\
\hline PIM2136 & & & & 79 & 0.0\% & 100.0\% & & 900,000 & 900,000 & 57 & 900,000 & 71 \\
\hline PIM2224 & & & & 80 & 0.0\% & 100.0\% & 1,000,000 & & 1,000,000 & 56 & 1,000,000 & 74 \\
\hline PIM2232 & & & & 81 & 0.0\% & 100.0\% & 2,700,000 & & 2,700,000 & 43 & 2,700,000 & 88 \\
\hline PIM2307 & & & & 82 & 0.0\% & 100.0\% & & 1,200,000 & 1,200,000 & 52 & 1,200,000 & 76 \\
\hline PIM2355 & & & & 83 & 0.0\% & 100.0\% & & 100,000 & 100,000 & 88 & 100,000 & 38 \\
\hline PIM2400 & & & & 84 & 0.0\% & 100.0\% & & 100,000 & 100,000 & 89 & 100,000 & 39 \\
\hline PIM2466 & & & & 85 & 0.0\% & 100.0\% & 600,000 & & 600,000 & 64 & 600,000 & 66 \\
\hline PIM2660 & & & & 86 & 0.0\% & 100.0\% & & 500,000 & 500,000 & 67 & 500,000 & 63 \\
\hline PIM2679 & & & & 87 & 0.0\% & 100.0\% & & 900,000 & 900,000 & 58 & 900,000 & 72 \\
\hline PIM2687 & & & & 88 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 74 & 300,000 & 51 \\
\hline PIM2739 & & & & 89 & 0.0\% & 100.0\% & 200,000 & & 200,000 & 82 & 200,000 & 46 \\
\hline PIM2755 & & & & 90 & 0.0\% & 100.0\% & 300,000 & & 300,000 & 75 & 300,000 & 52 \\
\hline PIM2809 & & & & 91 & 0.0\% & 100.0\% & & 1,600,000 & 1,600,000 & 49 & 1,600,000 & 80 \\
\hline PIM2879 & & & & 92 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 76 & 300,000 & 53 \\
\hline PIM2909 & & & & 93 & 0.0\% & 100.0\% & & 2,800,000 & 2,800,000 & 42 & 2,800,000 & 89 \\
\hline PIM2958 & & & & 94 & 0.0\% & 100.0\% & & 800,000 & 800,000 & 60 & 800,000 & 70 \\
\hline PIM3689 & & & & 95 & 0.0\% & 100.0\% & & 500,000 & 500,000 & 68 & 500,000 & 64 \\
\hline
\end{tabular}

\section*{Summary of Citigroup Credit Default Swap Transactions}

November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases )} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases )} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline Entity & Add to Buy
Side & Reduce Sell
Side & Total & Rank & Share & CShr & Reduce Buy
Side & Add to Sell
Side & Total & Rank & Total & Rank \\
\hline PIM3691 & & & & 96 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 77 & 300,000 & 54 \\
\hline PIM3706 & & & & 97 & 0.0\% & 100.0\% & 200,000 & & 200,000 & 83 & 200,000 & 47 \\
\hline PIM4632 & & & & 98 & 0.0\% & 100.0\% & & 400,000 & 400,000 & 69 & 400,000 & 59 \\
\hline PIM4690 & & & & 99 & 0.0\% & 100.0\% & & 4,800,000 & 4,800,000 & 39 & 4,800,000 & 92 \\
\hline PIM4692 & & & & 100 & 0.0\% & 100.0\% & & 1,200,000 & 1,200,000 & 53 & 1,200,000 & 77 \\
\hline PIM4807 & & & & 101 & 0.0\% & 100.0\% & & 2,500,000 & 2,500,000 & 46 & 2,500,000 & 87 \\
\hline PIM4866 & & & & 102 & 0.0\% & 100.0\% & & 2,000,000 & 2,000,000 & 47 & 2,000,000 & 83 \\
\hline PIM6009 & & & & 103 & 0.0\% & 100.0\% & & 200,000 & 200,000 & 84 & 200,000 & 48 \\
\hline PIM6160 & & & & 104 & 0.0\% & 100.0\% & 2,000,000 & & 2,000,000 & 48 & 2,000,000 & 84 \\
\hline PIM6169 & & & & 105 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 78 & 300,000 & 55 \\
\hline PIM6230 & & & & 106 & 0.0\% & 100.0\% & & 400,000 & 400,000 & 70 & 400,000 & 60 \\
\hline PIM6320 & & & & 107 & 0.0\% & 100.0\% & 100,000 & & 100,000 & 90 & 100,000 & 40 \\
\hline PIM6400 & & & & 108 & 0.0\% & 100.0\% & & 700,000 & 700,000 & 62 & 700,000 & 68 \\
\hline PIM6888 & & & & 109 & 0.0\% & 100.0\% & 100,000 & & 100,000 & 91 & 100,000 & 41 \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & & & & 110 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 79 & 300,000 & 56 \\
\hline PURSUIT & & & & 111 & 0.0\% & 100.0\% & 35,000,000 & & 35,000,000 & 16 & 35,000,000 & 110 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS CAP & & & & 112 & 0.0\% & 100.0\% & & 150,000 & 150,000 & 87 & 150,000 & 44 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND LTD. & & & & 113 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 38 & 5,000,000 & 101 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE MEDIA & & & & 114 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 80 & 300,000 & 57 \\
\hline THE CONUS FUND & & & & 115 & 0.0\% & 100.0\% & 10,000,000 & & 10,000,000 & 27 & 10,000,000 & 106 \\
\hline TRICADIA DISTRESSED AND SPCL MTR FD LT & & & & 116 & 0.0\% & 100.0\% & & 1,500,000 & 1,500,000 & 50 & 1,500,000 & 79 \\
\hline
\end{tabular}

\section*{Citigroup Credit Default Swap Transactions \\ BANK OF AMERICA, N.A. \\ Non-Proprietary (No Proprietary in the Period)}


\section*{Citigroup Credit Default Swap Transactions \\ BARCLAYS BANK PLC \\ Non-Proprietary (No Proprietary in the Period)}


\section*{Citigroup Credit Default Swap Transactions BNP PARIBAS \\ Non-Proprietary (No Proprietary in the Period)}


\section*{Citigroup Credit Default Swap Transactions DEUTSCHE BANK AG \\ Non-Proprietary (No Proprietary in the Period)}


\section*{Citigroup Credit Default Swap Transactions \\ CREDIT SUISSE INTERNATIONAL \\ Non-Proprietary (No Proprietary in the Period)}


\section*{Citigroup Credit Default Swap Transactions GOLDMAN SACHS \\ Bearish \# 4 / Bullish \# 7 I Net Bearish \# 11}


\section*{Citigroup Credit Default Swap Transactions HSBC BANK \\ Proprietary Status Not Specified in Production}


\section*{Citigroup Credit Default Swap Transactions JPMORGAN CHASE BANK \\ Non-Proprietary (No Proprietary in the Period)}


\section*{Citigroup Credit Default Swap Transactions MAGNETAR \\ Non-Proprietary (No Proprietary in the Period)}


\section*{Citigroup Credit Default Swap Transactions MORGAN STANLEY \\ Non-Proprietary (No Proprietary in the Period)}


Citigroup Credit Default Swap Transactions THE ROYAL BANK OF SCOTLAND PLC

All Proprietary as Agent for RBS

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Date & Open & High & Low & Close & Volume & Adj Close & SP & SP_ret & SP_indexed \\
\hline 10/1/2008 & 20.85 & 23.24 & 20.05 & 23 & 156,990,400.00 & 22.71 & 1161.06 & & 22.71 \\
\hline 10/2/2008 & 23.16 & 23.5 & 22 & 22.5 & 108,765,600.00 & 22.22 & 1114.28 & -0.04029 & 21.795 \\
\hline 10/3/2008 & 19.45 & 20.9 & 17.7 & 18.35 & 295,719,400.00 & 18.12 & 1099.23 & -0.01351 & 21.50062 \\
\hline 10/6/2008 & 17.23 & 18.12 & 16.1 & 17.41 & 159,221,500.00 & 17.19 & 1056.89 & -0.03852 & 20.67246 \\
\hline 10/7/2008 & 18.2 & 18.2 & 15 & 15.15 & 127,758,400.00 & 14.96 & 996.23 & -0.05739 & 19.48597 \\
\hline 10/8/2008 & 14.59 & 16.29 & 14.05 & 14.4 & 156,063,200.00 & 14.22 & 984.94 & -0.01133 & 19.26514 \\
\hline 10/9/2008 & 15.37 & 15.5 & 12.93 & 12.93 & 189,307,800.00 & 12.77 & 909.92 & -0.07617 & 17.79777 \\
\hline 10/10/2008 & 12.04 & 14.8 & 12 & 14.11 & 260,816,600.00 & 13.94 & 899.22 & -0.01176 & 17.58848 \\
\hline 10/13/2008 & 15.7 & 16.26 & 14.52 & 15.75 & 163,833,900.00 & 15.55 & 1003.35 & 0.1158 & 19.62524 \\
\hline 10/14/2008 & 18.48 & 19.25 & 17.36 & 18.62 & 253,522,100.00 & 18.39 & 998.01 & -0.00532 & 19.52079 \\
\hline 10/15/2008 & 17.49 & 17.93 & 16 & 16.23 & 153,278,400.00 & 16.03 & 907.84 & -0.09035 & 17.75709 \\
\hline 10/16/2008 & 16.01 & 16.88 & 14.65 & 15.9 & 170,927,600.00 & 15.7 & 946.43 & 0.042507 & 18.5119 \\
\hline 10/17/2008 & 15.42 & 16.83 & 14.81 & 14.88 & 157,379,000.00 & 14.7 & 940.55 & -0.00621 & 18.39689 \\
\hline 10/20/2008 & 15.18 & 15.4 & 14.69 & 15.09 & 107,183,900.00 & 14.9 & 985.4 & 0.047685 & 19.27414 \\
\hline 10/21/2008 & 14.54 & 14.8 & 13.64 & 14.18 & 171,378,400.00 & 14 & 955.05 & -0.0308 & 18.6805 \\
\hline 10/22/2008 & 13.7 & 14.2 & 13.01 & 13.32 & 137,148,800.00 & 13.15 & 896.78 & -0.06101 & 17.54076 \\
\hline 10/23/2008 & 13.2 & 13.6 & 12.5 & 13.11 & 144,779,600.00 & 12.95 & 908.11 & 0.012634 & 17.76237 \\
\hline 10/24/2008 & 12 & 12.8 & 11.95 & 12.14 & 128,445,500.00 & 11.99 & 876.77 & -0.03451 & 17.14937 \\
\hline 10/27/2008 & 12.1 & 12.76 & 11.65 & 11.73 & 122,089,600.00 & 11.58 & 848.92 & -0.03176 & 16.60463 \\
\hline 10/28/2008 & 12.29 & 13.55 & 11.54 & 13.41 & 150,889,300.00 & 13.24 & 940.51 & 0.10789 & 18.39611 \\
\hline 10/29/2008 & 13.25 & 13.96 & 12.79 & 12.91 & 130,531,700.00 & 12.75 & 930.09 & -0.01108 & 18.19229 \\
\hline 10/30/2008 & 13.47 & 13.5 & 12.76 & 13.11 & 100,869,600.00 & 13.11 & 954.09 & 0.025804 & 18.66173 \\
\hline 10/31/2008 & 12.93 & 13.82 & 12.88 & 13.65 & 91,970,500.00 & 13.65 & 968.75 & 0.015365 & 18.94847 \\
\hline 11/3/2008 & 13.65 & 14.23 & 13.46 & 13.99 & 71,045,900.00 & 13.99 & 966.3 & -0.00253 & 18.90055 \\
\hline 11/4/2008 & 14.42 & 14.81 & 14.31 & 14.68 & 80,205,000.00 & 14.68 & 1005.75 & 0.040826 & 19.67218 \\
\hline 11/5/2008 & 14.42 & 14.6 & 12.48 & 12.63 & 107,372,600.00 & 12.63 & 952.77 & -0.05268 & 18.63591 \\
\hline 11/6/2008 & 12.48 & 13.07 & 11.31 & 11.52 & 152,812,100.00 & 11.52 & 904.88 & -0.05026 & 17.69919 \\
\hline 11/7/2008 & 11.9 & 12.04 & 11.45 & 11.82 & 99,723,300.00 & 11.82 & 930.99 & 0.028855 & 18.2099 \\
\hline 11/10/2008 & 12.2 & 12.28 & 11.05 & 11.21 & 89,912,800.00 & 11.21 & 919.21 & -0.01265 & 17.97948 \\
\hline 11/11/2008 & 11.09 & 11.29 & 10.34 & 10.8 & 140,352,200.00 & 10.8 & 898.95 & -0.02204 & 17.5832 \\
\hline 11/12/2008 & 10.63 & 11.06 & 9.52 & 9.64 & 160,916,000.00 & 9.64 & 852.3 & -0.05189 & 16.67074 \\
\hline 11/13/2008 & 9.79 & 9.9 & 8.27 & 9.45 & 276,930,000.00 & 9.45 & 911.29 & 0.069213 & 17.82457 \\
\hline 11/14/2008 & 9.76 & 10.11 & 8.79 & 9.52 & 281,569,700.00 & 9.52 & 873.29 & -0.0417 & 17.0813 \\
\hline 11/17/2008 & 9.36 & 9.81 & 8.75 & 8.89 & 167,558,200.00 & 8.89 & 850.75 & -0.02581 & 16.64043 \\
\hline 11/18/2008 & 8.96 & 8.99 & 7.89 & 8.36 & 212,718,300.00 & 8.36 & 859.12 & 0.009838 & 16.80414 \\
\hline 11/19/2008 & 8.19 & 8.33 & 6.25 & 6.4 & 341,451,200.00 & 6.4 & 806.58 & -0.06116 & 15.77647 \\
\hline 11/20/2008 & 6.13 & 6.35 & 4.39 & 4.71 & 724,373,000.00 & 4.71 & 752.44 & -0.06712 & 14.71751 \\
\hline 11/21/2008 & 5.44 & 5.53 & 3.05 & 3.77 & 1,027,725,300.00 & 3.77 & 800.03 & 0.063248 & 15.64836 \\
\hline 11/24/2008 & 6.12 & 6.5 & 5.25 & 5.95 & 803,783,100.00 & 5.95 & 851.81 & 0.064723 & 16.66116 \\
\hline 11/25/2008 & 6.39 & 6.58 & 5.75 & 6.08 & 463,120,500.00 & 6.08 & 857.39 & 0.006551 & 16.7703 \\
\hline 11/26/2008 & 6.17 & 7.39 & 6.08 & 7.05 & 381,720,800.00 & 7.05 & 887.68 & 0.035328 & 17.36277 \\
\hline 11/28/2008 & 7.45 & 8.48 & 7.42 & 8.29 & 250,774,600.00 & 8.29 & 896.24 & 0.009643 & 17.5302 \\
\hline 12/1/2008 & 7.9 & 7.92 & 6.34 & 6.45 & 314,812,000.00 & 6.45 & 816.21 & -0.0893 & 15.96483 \\
\hline 12/2/2008 & 6.92 & 7.46 & 5.94 & 7.22 & 326,923,800.00 & 7.22 & 848.81 & 0.039941 & 16.60248 \\
\hline 12/3/2008 & 6.87 & 7.84 & 6.68 & 7.82 & 314,072,200.00 & 7.82 & 870.74 & 0.025836 & 17.03142 \\
\hline 12/4/2008 & 7.61 & 8.1 & 7.3 & 7.4 & 259,635,100.00 & 7.4 & 845.22 & -0.02931 & 16.53226 \\
\hline 12/5/2008 & 7.25 & 8.36 & 7.17 & 7.71 & 215,214,100.00 & 7.71 & 876.07 & 0.036499 & 17.13568 \\
\hline 12/8/2008 & 8.23 & 8.63 & 8.02 & 8.47 & 229,109,900.00 & 8.47 & 909.7 & 0.038387 & 17.79347 \\
\hline 12/9/2008 & 8.3 & 9 & 8.2 & 8.54 & 217,023,600.00 & 8.54 & 888.67 & -0.02312 & 17.38213 \\
\hline 12/10/2008 & 8.73 & 8.83 & 8.05 & 8.3 & 163,400,300.00 & 8.3 & 899.24 & 0.011894 & 17.58888 \\
\hline 12/11/2008 & 8.09 & 8.15 & 7.54 & 7.57 & 165,492,300.00 & 7.57 & 873.59 & -0.02852 & 17.08717 \\
\hline 12/12/2008 & 7.07 & 7.85 & 6.97 & 7.7 & 148,961,300.00 & 7.7 & 879.73 & 0.007028 & 17.20727 \\
\hline 12/15/2008 & 7.74 & 7.78 & 7.23 & 7.4 & 101,472,300.00 & 7.4 & 868.57 & -0.01269 & 16.98898 \\
\hline 12/16/2008 & 7.59 & 8.33 & 7.42 & 8.23 & 204,929,700.00 & 8.23 & 913.18 & 0.05136 & 17.86154 \\
\hline 12/17/2008 & 8.11 & 8.2 & 7.8 & 7.83 & 154,190,500.00 & 7.83 & 904.42 & -0.00959 & 17.6902 \\
\hline 12/18/2008 & 8 & 8.05 & 7.37 & 7.43 & 111,496,800.00 & 7.43 & 885.28 & -0.02116 & 17.31582 \\
\hline 12/19/2008 & 7.44 & 7.51 & 6.91 & 7.02 & 202,402,000.00 & 7.02 & 887.88 & 0.002937 & 17.36668 \\
\hline 12/22/2008 & 7.15 & 7.25 & 6.54 & 6.75 & 135,332,700.00 & 6.75 & 871.63 & -0.0183 & 17.04883 \\
\hline 12/23/2008 & 6.89 & 6.92 & 6.51 & 6.52 & 106,858,500.00 & 6.52 & 863.16 & -0.00972 & 16.88316 \\
\hline 12/24/2008 & 6.55 & 6.8 & 6.53 & 6.78 & 39,980,300.00 & 6.78 & 868.15 & 0.005781 & 16.98076 \\
\hline 12/26/2008 & 6.84 & 7.03 & 6.67 & 6.73 & 48,058,800.00 & 6.73 & 872.8 & 0.005356 & 17.07172 \\
\hline
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\begin{tabular}{llllll} 
date & NAME_ & \multicolumn{1}{l}{ TD_C } & AB_C & \multicolumn{1}{l}{ AS_C } & \multicolumn{1}{l}{ TM_C } \\
\(11 / 17 / 2008\) & dollars & \(60,000,000\) & & & \\
\(11 / 18 / 2008\) & dollars & \(101,000,000\) & \(10,600,000\) & \(10,000,000\) & \(102,500,000\) \\
\(11 / 19 / 2008\) & dollars & \(255,397,500\) & \(2,600,000\) & \(10,000,000\) & \(72,000,000\) \\
\(11 / 20 / 2008\) & dollars & \(478,528,750\) & \(59,500,000\) & \(10,000,000\) & \(113,630,000\) \\
\(11 / 21 / 2008\) & dollars & 814092925 & 175700000 & 83258060 & 70000000
\end{tabular}
\begin{tabular}{lrrrrrr} 
date2 & NAME_2 & no_NoPay_C & fi_NoPay_( pa_NoPay_C no_Pay_C fi_Pay_C & pa_Pay_C \\
\(11 / 17 / 200 \varepsilon\) COL1 & 60000000 & 0.022542 & 0 & & & \\
\(11 / 18 / 200 \varepsilon\) COL1 & 101000000 & 0.02349 & 0 & & \\
\(11 / 19 / 200 \varepsilon\) COL1 & 255397500 & 0.032016 & 0 & & 0.05 & 0.015 \\
\(11 / 20 / 200 \varepsilon\) COL1 & 473528750 & 0.041306 & 0 & 5000000 & 0.05 \\
\(11 / 21 / 200 \varepsilon\) COL1 & 789092925 & 0.051193 & 0 & 25000000 & 0.05 & 0.029
\end{tabular}
\begin{tabular}{|c|c|}
\hline ALADDIN & Citigroup Credit Default Swap Transactions ALADDIN RELATIVE VALUE CREDIT MAS FD LTDBearish \# 45 / Bullish \# - / Net Bearish \# 31 \\
\hline AURELIUS & 2 Citigroup Credit Default Swap TransactionsAURELIUS CAPITALBearish \# - / Bullish \# 25 / Net Bearish \# 104 (Net Bullish \# 13) \\
\hline AUTONON & 3 Citigroup Credit Default Swap Transactions AUTONOMY MASTER FUND LIMITEDBearish \# 28 / Bullish \# - / Net Bearish \# 16 \\
\hline BANCA IM & 4 Citigroup Credit Default Swap Transactions BANCA IMI S.P.ABearish \# - / Bullish \# 31 / Net Bearish \# 94 \\
\hline BANCO BI & 5 Citigroup Credit Default Swap Transactions BANCO BILBAO VIZCAYA ARGENTARIA, S.A.Bearish \# 13 / Bullish \# - / Net Bearish \# 4 \\
\hline BANK OF & 6 Citigroup Credit Default Swap Transactions BANK OF AMERICA, N.A. Non-Proprietary (No Proprietary in the Period) \\
\hline BANK OF & 7 Citigroup Credit Default Swap Transactions BANK OF NOVA SCOTIA TORONTOBearish \# - / Bullish \# 32 / Net Bearish \# 95 \\
\hline BARCELO & 8 Citigroup Credit Default Swap Transactions BARCELONA INKABearish \# - / Bullish \# 71 / Net Bearish \# 58 \\
\hline BARCLAY: & Citigroup Credit Default Swap Transactions BARCLAYS BANK PLC Non-Proprietary (No Proprietary in the Period) \\
\hline BEAR, STI & 10 Citigroup Credit Default Swap Transactions BEAR, STEARNS INTERNATIONAL LTDBearish \# 44 / Bullish \# - / Net Bearish \# 30 \\
\hline BLACK DI, & 11 Citigroup Credit Default Swap Transactions BLACK DIAMOND OFFSHORE, LTDBearish \# 47 / Bullish \# - / Net Bearish \# 33 \\
\hline blUe mtn & 12 Citigroup Credit Default Swap Transactions BLUE MTN CREDIT ALTS. MASTER FUND L.P.Bearish \# 22 / Bullish \# 20 / Net Bearish \\
\hline bluebay & 13 Citigroup Credit Default Swap Transactions BLUEBAY FUND:BLUEBAY INVESTT GR LIBOR FDBearish \# - / Bullish \# 85 / Net Bearish \# 42 \\
\hline bluebay & 14 Citigroup Credit Default Swap Transactions BLUEBAY INVESTMENT GRADE BOND FUNDBearish \# - / Bullish \# 28 / Net Bearish \# 102 (Net Bullish \# 15) \\
\hline BLUECRE & 15 Citigroup Credit Default Swap Transactions BLUECREST MULTI STRATEGY CREDIT MSTR FDBearish \# - / Bullish \# 33 / Net Bearish \# 96 \\
\hline BNP PARI & 16 Citigroup Credit Default Swap Transactions BNP PARIBAS Non-Proprietary (No Proprietary in the Period) \\
\hline CALYON & 17 Citigroup Credit Default Swap Transactions CALYON \\
\hline CEDAR HI & 18 Citigroup Credit Default Swap Transactions CEDAR HILL CAPITAL PARTNERSBearish \# 30 / Bullish \# 24 / Net Bearish \# 35 \\
\hline CHEYNE L & 19 Citigroup Credit Default Swap Transactions CHEYNE LONG/SHORT STRUCTURED CREDIT FUNDBearish \# 16/ Bullish \# 15 / Net Bearish \# 103 (Net Bullish ; \\
\hline CQS ABS & 20 Citigroup Credit Default Swap Transactions CQS ABS MASTER FUND LIMITEDBearish \# 35 / Bullish \# - / Net Bearish \# 23 \\
\hline CREDIT S & 21 Citigroup Credit Default Swap Transactions CREDIT SUISSE INTERNATIONAL Non-Proprietary (No Proprietary in the Period) \\
\hline DEKA BAN & 22 Citigroup Credit Default Swap Transactions DEKA BANK, FRANKFURTBearish \# 26 / Bullish \# - / Net Bearish \# 13 \\
\hline DEUTSCH & 23 Citigroup Credit Default Swap Transactions DEUTSCHE BANK AG Non-Proprietary (No Proprietary in the Period) \\
\hline DISCOVEF & 24 Citigroup Credit Default Swap Transactions DISCOVERY ATLAS MASTER FUNDBearish \# 36 / Bullish \# - / Net Bearis \\
\hline DOUBLE E & 25 Citigroup Credit Default Swap Transactions DOUBLE BLACK DIAMOND OFFSHORE LDCBearish \# 42 / Bullish \# - / Net Bearish \# 27 \\
\hline DWS CRE & 26 Citigroup Credit Default Swap Transactions DWS CREDIT OPPORTUNITIESBearish \# 34 / Bullish \# - / Net Bearish \# 22 \\
\hline ES CAPIT, & 27 Citigroup Credit Default Swap Transactions ES CAPITALIZACAOBearish \# 27 / Bullish \# - / Net Bearish \# 14 \\
\hline ES REND/ & 28 Citigroup Credit Default Swap Transactions ES RENDABearish \# 33 / Bullish \# - / Net Bearish \# 21 \\
\hline FOND BVC & 29 Citigroup Credit Default Swap Transactions FOND BVOE SEGMENT UNTERFONDS WBearish \# - / Bullish \# 63 / Net Bearish \# 65 \\
\hline FORECOI & 30 Citigroup Credit Default Swap Transactions FORE CONVERTIBLE MASTER FUND, LTD.Bearish \# 15 / Bullish \# 21 / Net Bearish \# 12 \\
\hline FORE ERI & 31 Citigroup Credit Default Swap TransactionsFORE ERISA FUND, LTD.Bearish \# 31 / Bullish \# 40 / Net Bearish \# 29 \\
\hline FORE MUI & 32 Citigroup Credit Default Swap Transactions FORE MULTI STRATEGY MASTER FUND,LTD.Bearish \# 23 / Bullish \# 23 / Net Bearish \# 15 \\
\hline GENERAL & 33 Citigroup Credit Default Swap Transactions GENERAL AMERICAN LIFE INSURANCE COMPANYBearish \# 17 / Bullish \# - / Net Bearish \# 5 \\
\hline GENERAL & 34 Citigroup Credit Default Swap Transactions GENERAL ELECTRIC PENSION TRUSTBearish \# - / Bullish \# 22 / Net Bearish \# 107 (Net Bullish \# 10) \\
\hline GOLDMAN & 35 Citigroup Credit Default Swap Transactions GOLDMAN SACHSBearish \# 4 / Bullish \# 7 / Net Bearish \# 11 \\
\hline HALBIS U: & 36 Citigroup Credit Default Swap Transactions HALBIS US CREDIT ALPHA MASTER FD LTDBearish \# - / Bullish \# 34 / Net Bearish \# 97 \\
\hline HPK-INVE & 37 Citigroup Credit Default Swap Transactions HPK-INVESTMENT GRADE CORPORATESBearish \# - / Bullish \# 72 / Net Bearish \# 49 \\
\hline HSBC BAT & 38 Citigroup Credit Default Swap Transactions HSBC BANK Proprietary Status Not Specified in Production \\
\hline ICM BUSII & 39 Citigroup Credit Default Swap Transactions ICM BUSINESS TRUSTBearish \# - / Bullish \# 44 / Net Bearish \# 85 \\
\hline ING & 40 Citigroup Credit Default Swap Transactions INGBearish \# - / Bullish \# 26 / Net Bearish \# 105 (Net Bullish \# 12) \\
\hline INTERN K. & 41 Citigroup Credit Default Swap Transactions INTERN KAPIT MBH (PRV-C)Bearish \# - / Bullish \# 86 / Net Bearish \# 43 \\
\hline IONIC CAF & 42 Citigroup Credit Default Swap Transactions IONIC CAPITAL MASTER FUND LTDBearish \# - / Bullish \# 18 / Net Bearish \# 108 (Net Bullish \# 9) \\
\hline JMG & 43 Citigroup Credit Default Swap Transactions JMGBearish \# - / Bullish \# 35 / Net Bearish \# 98 \\
\hline JNL & 44 Citigroup Credit Default Swap Transactions JNLBearish \# 24 / Bullish \# - / Net Bearish \# 9 \\
\hline JPMORGA & 45 Citigroup Credit Default Swap Transactions JPMORGAN CHASE BANK Non-Proprietary (No Proprietary in the Period) \\
\hline KAMUNTII & 46 Citigroup Credit Default Swap Transactions KAMUNTING STREET MASTER FUND LTDBearish \# - / Bullish \# 36 / Net Bearish \# 99 \\
\hline KBC FIN. F & 47 Citigroup Credit Default Swap Transactions KBC FIN. PRODUCTS (CAYMAN ISLANDS)LTD.Bearish \# 37 / Bullish \# - / Net Bearish \# 25 \\
\hline KEYBANK & 48 Citigroup Credit Default Swap Transactions KEYBANK NATIONAL ASSOCIATIONBearish \# 25 / Bullish \# - / Net Bearish \# 10 \\
\hline LEHMAN E & 49 Citigroup Credit Default Swap Transactions LEHMAN BROTHERS CREDIT ARBITRAGE FUNDBearish \# - / Bullish \# 37 / Net Bearish \# 100 \\
\hline MAGNETA & 50 Citigroup Credit Default Swap Transactions MAGNETAR Non-Proprietary (No Proprietary in the Period) \\
\hline MARATHC & 51 Citigroup Credit Default Swap Transactions MARATHONBearish \# 12 / Bullish \# 13 / Net Bearish \# 93 \\
\hline MARINER & 52 Citigroup Credit Default Swap Transactions MARINER-TRICADIA CRD STRAT MASTER FD LTDBearish \# - / Bullish \# 41 / Net Bearish \# 90 \\
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\hline METLIFE I & 54 Citigroup Credit Default Swap Transactions METLIFE INSURANCE COMPANY OF CONNECTICUTBearish \# 21 / Bullish \# - / Net Bearish \# 8 \\
\hline MORGAN & 55 Citigroup Credit Default Swap Transactions MORGAN STANLEY Non-Proprietary (No Proprietary in the Period) \\
\hline NATIONAL & 56 Citigroup Credit Default Swap Transactions NATIONAL BANK OF CANADABearish \# 32 / Bullish \# - / Net Bearish \# 20 \\
\hline NOMURA & 57 Citigroup Credit Default Swap Transactions NOMURA INTERNATIONAL PLCBearish \# 38 / Bullish \# 14 / Net Bearish \# 112 ( Net Bullish \# 5) \\
\hline NORGES I & 58 Citigroup Credit Default Swap Transactions NORGES BANK - INVESTMENT MANAGEMENT \#1Bearish \# - / Bullish \# 17 / Net Bearish \# 109 (Net Bullish \# 8) \\
\hline PAULSON & 59 Citigroup Credit Default Swap Transactions PAULSON CREDIT OPPORTUNITIES MASTER LTDBearish \# - / Bullish \# 10 / Net Bearish \# 114 (Net Bullish \# 3) \\
\hline PIM1338 & 60 Citigroup Credit Default Swap Transactions PIM1338Bearish \# - / Bullish \# 73 / Net Bearish \# 50 \\
\hline PIM1356 & 61 Citigroup Credit Default Swap Transactions PIM1356Bearish \# - / Bullish \# 65 / Net Bearish \# 61 \\
\hline PIM1357 & 62 Citigroup Credit Default Swap Transactions PIM1357Bearish \# - / Bullish \# 45 / Net Bearish \# 86 \\
\hline PIM1358 & 63 Citigroup Credit Default Swap TransactionsPIM1358Bearish \# - / Bullish \# 51 / Net Bearish \# 78 \\
\hline PIM1422 & 64 Citigroup Credit Default Swap Transactions PIM1422Bearish \# - / Bullish \# 66 / Net Bearish \# 62 \\
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\hline PIM1833 & 66 Citigroup Credit Default Swap Transactions PIM1833Bearish \# - / Bullish \# 55 / Net Bearish \# 73 \\
\hline PIM1941 & 67 Citigroup Credit Default Swap Transactions PIM1941Bearish \# - / Bullish \# 59 / Net Bearish \# 69 \\
\hline PIM2071 & 68 Citigroup Credit Default Swap Transactions PIM2071Bearish \# - / Bullish \# 81 / Net Bearish \# 45 \\
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\hline PIM2136 & 70 Citigroup Credit Default Swap Transactions PIM2136Bearish \# - / Bullish \# 57 / Net Bearish \# 71 \\
\hline PIM2224 & 71 Citigroup Credit Default Swap TransactionsPIM2224Bearish \# - / Bullish \# 56 / Net Bearish \# 74 \\
\hline PIM2232 & 72 Citigroup Credit Default Swap Transactions PIM2232Bearish \# - / Bullish \# 43 / Net Bearish \# 88 \\
\hline PIM2307 & 73 Citigroup Credit Default Swap Transactions PIM2307Bearish \# - / Bullish \# 52 / Net Bearish \# 76 \\
\hline PIM2355 & 74 Citigroup Credit Default Swap Transactions PIM2355Bearish \# - / Bullish \# 88 / Net Bearish \# 38 \\
\hline PIM2400 & 75 Citigroup Credit Default Swap Transactions PIM2400Bearish \# - / Bullish \# 89 / Net Bearish \# 39 \\
\hline PIM2466 & 76 Citigroup Credit Default Swap Transactions PIM2466Bearish \# - / Bullish \# 64 / Net Bearish \# 66 \\
\hline PIM2660 & 77 Citigroup Credit Default Swap Transactions PIM2660Bearish \# - / Bullish \# 67 / Net Bearish \# 63 \\
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\hline PIM2687 & 79 Citigroup Credit Default Swap Transactions PIM2687Bearish \# - / Bullish \# 74 / Net Bearish \# 51 \\
\hline PIM2739 & 80 Citigroup Credit Default Swap Transactions PIM2739Bearish \# - / Bullish \# 82 / Net Bearish \# 46 \\
\hline PIM2755 & 81 Citigroup Credit Default Swap Transactions PIM2755Bearish \# - / Bullish \# 75 / Net Bearish \# 52 \\
\hline PIM2809 & 82 Citigroup Credit Default Swap Transactions PIM2809Bearish \# - / Bullish \# 49 / Net Bearish \# 80 \\
\hline PIM2879 & 83 Citigroup Credit Default Swap Transactions PIM2879Bearish \# - / Bullish \# 76 / Net Bearish \# 53 \\
\hline PIM2909 & 84 Citigroup Credit Default Swap Transactions PIM2909Bearish \# - / Bullish \# 42 / Net Bearish \# 89 \\
\hline PIM2958 & 85 Citigroup Credit Default Swap Transactions PIM2958Bearish \# - / Bullish \# 60 / Net Bearish \# 70 \\
\hline PIM3689 & 86 Citigroup Credit Default Swap Transactions PIM3689Bearish \# - / Bullish \# 68 / Net Bearish \# 64 \\
\hline PIM3691 & 87 Citigroup Credit Default Swap Transactions PIM3691Bearish \# - / Bullish \# 77 / Net Bearish \# 54 \\
\hline PIM3706 & 88 Citigroup Credit Default Swap Transactions PIM3706Bearish \# - / Bullish \# 83 / Net Bearish \# 47 \\
\hline PIM4632 & 89 Citigroup Credit Default Swap Transactions PIM4632Bearish \# - / Bullish \# 69 / Net Bearish \# 59 \\
\hline PIM4690 & 90 Citigroup Credit Default Swap Transactions PIM4690Bearish \# - / Bullish \# 39 / Net Bearish \# 92 \\
\hline PIM4692 & 91 Citigroup Credit Default Swap Transactions PIM4692Bearish \# - / Bullish \# 53 / Net Bearish \# 77 \\
\hline PIM4807 & 92 Citigroup Credit Default Swap Transactions PIM4807Bearish \# - / Bullish \# 46 / Net Bearish \# 87 \\
\hline PIM4866 & 93 Citigroup Credit Default Swap Transactions PIM4866Bearish \# - / Bullish \# 47 / Net Bearish \# 83 \\
\hline PIM6009 & 94 Citigroup Credit Default Swap Transactions PIM6009Bearish \# - / Bullish \# 84 / Net Bearish \# 48 \\
\hline PIM6160 & 95 Citigroup Credit Default Swap Transactions PIM6160Bearish \# - / Bullish \# 48 / Net Bearish \# 84 \\
\hline PIM6169 & 96 Citigroup Credit Default Swap Transactions PIM6169Bearish \# - / Bullish \# 78 / Net Bearish \# 55 \\
\hline PIM6230 & 97 Citigroup Credit Default Swap Transactions PIM6230Bearish \# - / Bullish \# 70 / Net Bearish \# 60 \\
\hline \begin{tabular}{l}
PIM6320 \\
PIM6400
\end{tabular} & 98 Citigroup Credit Default Swap TransactionsPIM6320Bearish \# - / Bullish \# 90 / Net Bearish \# 40 99 Citigroup Credit Default Swap TransactionsPIM6400Bearish \# - / Bullish \# 62 / Net Bearish \# 68 \\
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\begin{tabular}{|c|c|}
\hline PIM6888 & 100 Citigroup Credit Default Swap TransactionsPIM6888Bearish \# - / Bullish \# 91 / Net Bearish \# 41 \\
\hline PROVINZI. & 101 Citigroup Credit Default Swap Transactions PROVINZIAL RHEINLAND LEBENSICHNG AGBearish \# - / Bullish \# 79 / Net Bearish \# 56 \\
\hline PURSUIT & 102 Citigroup Credit Default Swap Transactions PURSUITBearish \# - / Bullish \# 16 / Net Bearish \# 110 (Net Bullish \# 7) \\
\hline QIC:QUEE & 103 Citigroup Credit Default Swap Transactions QIC:QUEENSLD INVEST CORP ACT IN ITS CAPBearish \# - / Bullish \# 87 / Net Bearish \# 44 \\
\hline RBS GMP & 104 Citigroup Credit Default Swap Transactions RBS GMPBearish \# 39 / Bullish \# 30 / Net Bearish \# 36 \\
\hline ROYAL BA & 105 Citigroup Credit Default Swap Transactions ROYAL BANK OF CANADABearish \# 7 / Bullish \# 3 / Net Bearish \# 113 (Net Bullish \# 4) \\
\hline SATELLITI & 106 Citigroup Credit Default Swap Transactions SATELLITE CREDIT OPPORTUNITIES FUND LTD.Bearish \# - / Bullish \# 38 / Net Bearish \# 101 (Net Bullish \# 16) \\
\hline SCHRODE & 107 Citigroup Credit Default Swap Transactions SCHRODER STERLING BROAD MKTS BOND FUNDBearish \# 40 / Bullish \# - / Net Bearish \# 26 \\
\hline SOCIETE & 108 Citigroup Credit Default Swap Transactions SOCIETE GENERALE, NEW YORK BRANCHBearish \# 19 / Bullish \# - / Net Bearish \# 6 \\
\hline SSSF STE & 109 Citigroup Credit Default Swap Transactions SSSF STERLING BROAD MARKET BOND LIBORBearish \# 46 / Bullish \# - / Net Bearish \# 32 \\
\hline STICHTIN & 110 Citigroup Credit Default Swap Transactions STICHTING BEDRIJFSTAKPENS VOOR DE MEDIABearish \# - / Bullish \# 80 / Net Bearish \# 57 \\
\hline THE CONI & 111 Citigroup Credit Default Swap Transactions THE CONUS FUNDBearish \# - / Bullish \# 27 / Net Bearish \# 106 (Net Bullish \# 11) \\
\hline THE ROY/ & 112 Citigroup Credit Default Swap Transactions THE ROYAL BANK OF SCOTLAND PLC All Proprietary as Agent for RBS \\
\hline TRAXIS Fl & 113 Citigroup Credit Default Swap Transactions TRAXIS FUND LPBearish \# 43 / Bullish \# - / Net Bearish \# 28 \\
\hline TRG INFL & 114 Citigroup Credit Default Swap Transactions TRG INFLATIONBearish \# 20 / Bullish \# - / Net Bearish \# 7 \\
\hline TRICADIA & 115 Citigroup Credit Default Swap Transactions TRICADIA DISTRESSED AND SPCL MTR FD LTBearish \# - / Bullish \# 50 / Net Bearish \# 79 \\
\hline UBS AG & 116 Citigroup Credit Default Swap Transactions UBS AGBearish \# 41 / Bullish \# 29 / Net Bearish \# 82 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline \multirow[t]{2}{*}{45.} & & 31 Bearish \# 45 / Bullish \# - / Net Bearish \# 31 \\
\hline & 25 & 104 Bearish \# - / Bullish \# 25 / Net Bearish \# 104 (Net Bullish (Net Bullish \# 13) \\
\hline \multirow[t]{2}{*}{28.} & & 16 Bearish \# 28 / Bullish \# - / Net Bearish \# 16 \\
\hline & 31 & 94 Bearish \# - / Bullish \# 31 / Net Bearish \# 94 \\
\hline 13. & & 4 Bearish \# 13 / Bullish \# - / Net Bearish \# 4 \\
\hline \multirow[t]{3}{*}{14} & 9 & 111 Bearish \# 14 / Bullish \# 9 / Net Bearish \# 111 (Net Bullist (Net Bullish \# 6) \\
\hline & 32 & 95 Bearish \# - / Bullish \# 32 / Net Bearish \# 95 \\
\hline & 71 & 58 Bearish \# - / Bullish \# 71 / Net Bearish \# 58 \\
\hline 5 & 5 & 37 Bearish \# 5 / Bullish \# 5 / Net Bearish \# 37 \\
\hline 44 & & 30 Bearish \# 44 / Bullish \# - / Net Bearish \# 30 \\
\hline 47 - & & 33 Bearish \# 47 / Bullish \# - / Net Bearish \# 33 \\
\hline \multirow[t]{4}{*}{22} & 20 & 34 Bearish \# 22 / Bullish \# 20 / Net Bearish \# 34 \\
\hline & 85 & 42 Bearish \# - / Bullish \# 85 / Net Bearish \# 42 \\
\hline & 28 & 102 Bearish \# - / Bullish \# 28 / Net Bearish \# 102 (Net Bullish (Net Bullish \# 15) \\
\hline & 33 & 96 Bearish \# - / Bullish \# 33 / Net Bearish \# 96 \\
\hline 2 & 2 & 18 Bearish \# 2 / Bullish \# 2 / Net Bearish \# 18 \\
\hline 29 & & 17 Bearish \# 29 / Bullish \# - / Net Bearish \# 17 \\
\hline 30 & 24 & 35 Bearish \# 30 / Bullish \# 24 / Net Bearish \# 35 \\
\hline 16 & 15 & 103 Bearish \# 16 / Bullish \# 15 / Net Bearish \# 103 (Net Bullis (Net Bullish \# 14) \\
\hline 35. & & 23 Bearish \# 35 / Bullish \# - / Net Bearish \# 23 \\
\hline 9 & 8 & 115 Bearish \# 9 / Bullish \# 8 / Net Bearish \# 115 (Net Bullish (Net Bullish \# 2) \\
\hline 26. & & 13 Bearish \# 26 / Bullish \# - / Net Bearish \# 13 \\
\hline 1 & 1 & 2 Bearish \# 1 / Bullish \# 1 / Net Bearish \# 2 \\
\hline 36. & & 24 Bearish \# 36 / Bullish \# - / Net Bearish \# 24 \\
\hline 42 & & 27 Bearish \# 42 / Bullish \# - / Net Bearish \# 27 \\
\hline 34 & & 22 Bearish \# 34 / Bullish \# - / Net Bearish \# 22 \\
\hline 27. & & 14 Bearish \# 27 / Bullish \# - / Net Bearish \# 14 \\
\hline \multirow[t]{2}{*}{33.} & & 21 Bearish \# 33 / Bullish \# - / Net Bearish \# 21 \\
\hline & 63 & 65 Bearish \# - / Bullish \# 63 / Net Bearish \# 65 \\
\hline 15 & 21 & 12 Bearish \# 15 / Bullish \# 21 / Net Bearish \# 12 \\
\hline 31 & 40 & 29 Bearish \# 31 / Bullish \# 40 / Net Bearish \# 29 \\
\hline 23 & 23 & 15 Bearish \# 23 / Bullish \# 23 / Net Bearish \# 15 \\
\hline \multirow[t]{2}{*}{17} & & 5 Bearish \# 17 / Bullish \# - / Net Bearish \# 5 \\
\hline & 22 & 107 Bearish \# - / Bullish \# 22 / Net Bearish \# 107 (Net Bullish (Net Bullish \# 10) \\
\hline \multirow[t]{3}{*}{4} & 7 & 11 Bearish \# 4 / Bullish \# 7 / Net Bearish \# 11 \\
\hline & 34 & 97 Bearish \# - / Bullish \# 34 / Net Bearish \# 97 \\
\hline & 72 & 49 Bearish \#-/ Bullish \# 72 / Net Bearish \# 49 \\
\hline \multirow[t]{6}{*}{10} & 11 & 91 Bearish \# 10 / Bullish \# 11 / Net Bearish \# 91 \\
\hline & 44 & 85 Bearish \# - / Bullish \# 44 / Net Bearish \# 85 \\
\hline & 26 & 105 Bearish \# - / Bullish \# 26 / Net Bearish \# 105 (Net Bullish (Net Bullish \# 12) \\
\hline & 86 & 43 Bearish \# - / Bullish \# 86/ Net Bearish \# 43 \\
\hline & 18 & 108 Bearish \# - / Bullish \# 18 / Net Bearish \# 108 (Net Bullish (Net Bullish \# 9) \\
\hline & 35 & 98 Bearish \# - / Bullish \# 35 / Net Bearish \# 98 \\
\hline & & 9 Bearish \# 24 / Bullish \#-/ Net Bearish \# 9 \\
\hline 24
6 & 6 & 81 Bearish \# 6 / Bullish \# 6 / Net Bearish \# 81 \\
\hline & 36 & 99 Bearish \#-/ Bullish \# 36 / Net Bearish \# 99 \\
\hline 37 & & 25 Bearish \# 37 / Bullish \# - / Net Bearish \# 25 \\
\hline 25 & & 10 Bearish \# 25 / Bullish \# - / Net Bearish \# 10 \\
\hline & 37 & 100 Bearish \# - / Bullish \# 37 / Net Bearish \# 100 \\
\hline 11. & & 3 Bearish \# 11 / Bullish \# - / Net Bearish \# 3 \\
\hline \multirow[t]{2}{*}{12} & 13 & 93 Bearish \# 12 / Bullish \# 13 / Net Bearish \# 93 \\
\hline & 41 & 90 Bearish \# - / Bullish \# 41 / Net Bearish \# 90 \\
\hline 18 & 19 & 19 Bearish \# 18 / Bullish \# 19 / Net Bearish \# 19 \\
\hline 21. & & 8 Bearish \# 21 / Bullish \# - / Net Bearish \# 8 \\
\hline 8 & 4 & 116 Bearish \# 8/ Bullish \# 4 / Net Bearish \# 116 (Net Bullish (Net Bullish \# 1) \\
\hline 32. & & 20 Bearish \# 32 / Bullish \# - / Net Bearish \# 20 \\
\hline \multirow[t]{42}{*}{38} & 14 & 112 Bearish \# 38 / Bullish \# 14 / Net Bearish \# 112 (Net Bullis (Net Bullish \# 5) \\
\hline & 17 & 109 Bearish \# - / Bullish \# 17 / Net Bearish \# 109 (Net Bullish (Net Bullish \# 8) \\
\hline & 10 & 114 Bearish \# - / Bullish \# 10 / Net Bearish \# 114 (Net Bullish (Net Bullish \# 3) \\
\hline & 73 & 50 Bearish \# - / Bullish \# 73 / Net Bearish \# 50 \\
\hline & 65 & 61 Bearish \# - / Bullish \# 65 / Net Bearish \# 61 \\
\hline & 45 & 86 Bearish \# - / Bullish \# 45 / Net Bearish \# 86 \\
\hline & 51 & 78 Bearish \# - / Bullish \#51 / Net Bearish \# 78 \\
\hline & 66 & 62 Bearish \# - / Bullish \# 66 / Net Bearish \# 62 \\
\hline & 61 & 67 Bearish \# - / Bullish \# 61 / Net Bearish \# 67 \\
\hline & 55 & 73 Bearish \# - / Bullish \# 55 / Net Bearish \# 73 \\
\hline & 59 & 69 Bearish \# - / Bullish \# 59 / Net Bearish \# 69 \\
\hline & 81 & 45 Bearish \# - / Bullish \# 81 / Net Bearish \# 45 \\
\hline & 54 & 75 Bearish \#-/ Bullish \# 54 / Net Bearish \# 75 \\
\hline & 57 & 71 Bearish \# - / Bullish \# 57 / Net Bearish \# 71 \\
\hline & 56 & 74 Bearish \# - / Bullish \# 56 / Net Bearish \# 74 \\
\hline & 43 & 88 Bearish \# - / Bullish \# 43 / Net Bearish \# 88 \\
\hline & 52 & 76 Bearish \# - / Bullish \# 52 / Net Bearish \# 76 \\
\hline & 88 & 38 Bearish \# - / Bullish \# 88 / Net Bearish \# 38 \\
\hline & 89 & 39 Bearish \# - / Bullish \#89 / Net Bearish \# 39 \\
\hline & 64 & 66 Bearish \# - / Bullish \# 64 / Net Bearish \# 66 \\
\hline & 67 & 63 Bearish \# - / Bullish \# 67 / Net Bearish \# 63 \\
\hline & 58 & 72 Bearish \# - / Bullish \# 58 / Net Bearish \# 72 \\
\hline & 74 & 51 Bearish \# - / Bullish \# 74 / Net Bearish \# 51 \\
\hline & 82 & 46 Bearish \# - / Bullish \# 82 / Net Bearish \# 46 \\
\hline & 75 & 52 Bearish \# - / Bullish \# 75 / Net Bearish \# 52 \\
\hline & 49 & 80 Bearish \# - / Bullish \# 49 / Net Bearish \# 80 \\
\hline & 76 & 53 Bearish \# - / Bullish \# 76 / Net Bearish \# 53 \\
\hline & 42 & 89 Bearish \# - / Bullish \# 42 / Net Bearish \# 89 \\
\hline & 60 & 70 Bearish \# - / Bullish \# 60 / Net Bearish \# 70 \\
\hline & 68 & 64 Bearish \# - / Bullish \# 68 / Net Bearish \# 64 \\
\hline & 77 & 54 Bearish \# - / Bullish \# 77 / Net Bearish \# 54 \\
\hline & 83 & 47 Bearish \#- / Bullish \#83 / Net Bearish \# 47 \\
\hline & 69 & 59 Bearish \# - / Bullish \# 69 / Net Bearish \# 59 \\
\hline & 39 & 92 Bearish \# - / Bullish \# 39 / Net Bearish \# 92 \\
\hline & 53 & 77 Bearish \# - / Bullish \# 53 / Net Bearish \# 77 \\
\hline & 46 & 87 Bearish \# - / Bullish \# 46 / Net Bearish \# 87 \\
\hline & 47 & 83 Bearish \# - / Bullish \# 47 / Net Bearish \# 83 \\
\hline & 84 & 48 Bearish \# - / Bullish \# 84 / Net Bearish \# 48 \\
\hline & 48 & 84 Bearish \# - / Bullish \# 48 / Net Bearish \# 84 \\
\hline & 78 & 55 Bearish \# - / Bullish \# 78/ Net Bearish \# 55 \\
\hline & 70 & 60 Bearish \# - / Bullish \# 70 / Net Bearish \# 60 \\
\hline & \[
\begin{aligned}
& 90 \\
& 62
\end{aligned}
\] & 40 Bearish \# - / Bullish \# 90 / Net Bearish \# 40 68 Bearish \# - / Bullish \# 62 / Net Bearish \# 68 \\
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\begin{tabular}{|c|c|c|}
\hline \multirow[t]{4}{*}{} & 91 & 41 Bearish \# - / Bullish \# 91 / Net Bearish \# 41 \\
\hline & 79 & 56 Bearish \# - / Bullish \# 79 / Net Bearish \# 56 \\
\hline & 16 & 110 Bearish \# - / Bullish \# 16 / Net Bearish \# 110 (Net Bullish (Net Bullish \# 7) \\
\hline & 87 & 44 Bearish \# - / Bullish \# 87 / Net Bearish \# 44 \\
\hline 39 & 30 & 36 Bearish \# 39 / Bullish \# 30 / Net Bearish \# 36 \\
\hline \multirow[t]{2}{*}{7} & 3 & 113 Bearish \# 7 / Bullish \# 3 / Net Bearish \# 113 (Net Bullish (Net Bullish \# 4) \\
\hline & 38 & 101 Bearish \# - / Bullish \# 38 / Net Bearish \# 101 (Net Bullish (Net Bullish \# 16) \\
\hline 40 - & & 26 Bearish \# 40 / Bullish \# - / Net Bearish \# 26 \\
\hline 19 - & & 6 Bearish \# 19 / Bullish \# - / Net Bearish \# 6 \\
\hline \multirow[t]{3}{*}{46 -} & & 32 Bearish \# 46 / Bullish \# - / Net Bearish \# 32 \\
\hline & 80 & 57 Bearish \# - / Bullish \# 80 / Net Bearish \# 57 \\
\hline & 27 & 106 Bearish \# - / Bullish \# 27 / Net Bearish \# 106 (Net Bullish (Net Bullish \# 11) \\
\hline 3 & 12 & 1 Bearish \# 3 / Bullish \# 12 / Net Bearish \# 1 \\
\hline 43 - & & 28 Bearish \# 43 / Bullish \# - / Net Bearish \# 28 \\
\hline 20 - & & 7 Bearish \# 20 / Bullish \# - / Net Bearish \# 7 \\
\hline & 50 & 79 Bearish \# - / Bullish \# 50 / Net Bearish \# 79 \\
\hline 41 & 29 & 82 Bearish \# 41 / Bullish \# 29 / Net Bearish \# 82 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline namegroup & idname & _NAME_ & rangen & day_17 & day_18 & day_19 & day_20 & day_21 \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 abuy & abuy_1 & & & & & -3,000,000 \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 asell & asel_1 & & & & & \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 bearish & bear_1 & & & & & -3,000,000 \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 bullish & bull_1 & & & & & \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 cnet & cnet_1 & 0 & 0 & 0 & 0 & -3,000,000 \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 netbearish & netb_1 & & & & & -3,000,000 \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 sbuy & sbuy_1 & & & & & \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 ssell & ssel_1 & & & & & \\
\hline AURELIUS CAPITAL & & 2 abuy & abuy_2 & & & & & \\
\hline AURELIUS CAPITAL & & 2 asell & asel_2 & & & & & \\
\hline AURELIUS CAPITAL & & 2 bearish & bear_2 & & & & & \\
\hline AURELIUS CAPITAL & & 2 bullish & bull_2 & & & 10,000,000 & & \\
\hline AURELIUS CAPITAL & & 2 cnet & cnet_2 & 0 & 0 & 10,000,000 & 10,000,000 & 10,000,000 \\
\hline AURELIUS CAPITAL & & 2 netbearish & netb_2 & & & 10,000,000 & & \\
\hline AURELIUS CAPITAL & & 2 sbuy & sbuy_2 & & & 10,000,000 & & \\
\hline AURELIUS CAPITAL & & 2 ssell & ssel_2 & & & & & \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 abuy & abuy_3 & & & & & -10,000,000 \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 asell & asel_3 & & & & & \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 bearish & bear_3 & & & & & -10,000,000 \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 bullish & bull_3 & & & & & \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 cnet & cnet_3 & 0 & 0 & 0 & 0 & -10,000,000 \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 netbearish & netb_3 & & & & & -10,000,000 \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 sbuy & sbuy_3 & & & & & \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 ssell & ssel_3 & & & & & \\
\hline BANCA IMI S.P.A & & 4 abuy & abuy_4 & & & & & \\
\hline BANCA IMI S.P.A & & 4 asell & asel_4 & & & & & \\
\hline BANCA IMI S.P.A & & 4 bearish & bear_4 & & & & & \\
\hline BANCA IMI S.P.A & & 4 bullish & bull_4 & & & & 5,000,000 & \\
\hline BANCA IMI S.P.A & & 4 cnet & cnet_4 & 0 & 0 & 0 & 5,000,000 & 5,000,000 \\
\hline BANCA IMI S.P.A & & 4 netbearish & netb_4 & & & & 5,000,000 & \\
\hline BANCA IMI S.P.A & & 4 sbuy & sbuy_4 & & & & 5,000,000 & \\
\hline BANCA IMI S.P.A & & 4 ssell & ssel_4 & & & & & \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 abuy & abuy_5 & & & -30,000,000 & -10,000,000 & \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 asell & asel_5 & & & & & \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 bearish & bear_5 & & & -30,000,000 & -10,000,000 & \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 bullish & bull_5 & & & & & \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 cnet & cnet_5 & 0 & 0 & -30,000,000 & -40,000,000 & -40,000,000 \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 netbearish & netb_5 & & & -30,000,000 & -10,000,000 & \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 sbuy & sbuy_5 & & & & & \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 ssell & ssel_5 & & & & & \\
\hline BANK OF AMERICA, N.A. & & 6 abuy & abuy_6 & & & -7,600,000 & & -20,700,000 \\
\hline BANK OF AMERICA, N.A. & & 6 asell & asel_6 & & 5,000,000 & 15,000,000 & 6,000,000 & 45,000,000 \\
\hline BANK OF AMERICA, N.A. & & 6 bearish & bear_6 & & -500,000 & -12,600,000 & & -20,700,000 \\
\hline BANK OF AMERICA, N.A. & & 6 bullish & bull_6 & & 5,000,000 & 15,000,000 & 6,000,000 & 45,000,000 \\
\hline BANK OF AMERICA, N.A. & & 6 cnet & cnet_6 & 0 & 4,500,000 & 6,900,000 & 12,900,000 & 37,200,000 \\
\hline BANK OF AMERICA, N.A. & & 6 netbearish & netb_6 & & 4,500,000 & 2,400,000 & 6,000,000 & 24,300,000 \\
\hline BANK OF AMERICA, N.A. & & 6 sbuy & sbuy_6 & & & & & \\
\hline BANK OF AMERICA, N.A. & & 6 ssell & ssel_6 & & -500,000 & -5,000,000 & & \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 abuy & abuy_7 & & & & & \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 asell & asel_7 & & & & & 5,000,000 \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 bearish & bear_7 & & & & & \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 bullish & bull_7 & & & & & 5,000,000 \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 cnet & cnet_7 & 0 & 0 & 0 & 0 & 5,000,000 \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 netbearish & netb_7 & & & & & 5,000,000 \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 sbuy & sbuy_7 & & & & & \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 ssell & ssel_7 & & & & & \\
\hline BARCELONA INKA & & 8 abuy & abuy_8 & & & & & \\
\hline BARCELONA INKA & & 8 asell & asel_8 & & & & 350,000 & \\
\hline BARCELONA INKA & & 8 bearish & bear_8 & & & & & \\
\hline BARCELONA INKA & & 8 bullish & bull_8 & & & & 350,000 & \\
\hline BARCELONA INKA & & 8 cnet & cnet_8 & 0 & 0 & 0 & 350,000 & 350,000 \\
\hline BARCELONA INKA & & 8 netbearish & netb_8 & & & & 350,000 & \\
\hline BARCELONA INKA & & 8 sbuy & sbuy_8 & & & & & \\
\hline BARCELONA INKA & & 8 ssell & ssel_8 & & & & & \\
\hline BARCLAYS BANK PLC & & 9 abuy & abuy_9 & -25,000,000 & & -10,000,000 & -74,200,000 & -46,879,650 \\
\hline BARCLAYS BANK PLC & & 9 asell & asel_9 & 15,000,000 & 15,000,000 & -40,000,000 & 53,262,500 & 67,900,000 \\
\hline BARCLAYS BANK PLC & & 9 bearish & bear_9 & -25,000,000 & -20,000,000 & -20,000,000 & -74,200,000 & -56,879,650 \\
\hline BARCLAYS BANK PLC & & 9 bullish & bull_9 & 15,000,000 & 15,000,000 & 40,000,000 & 58,262,500 & 67,900,000 \\
\hline BARCLAYS BANK PLC & & 9 cnet & cnet_9 & -10,000,000 & -15,000,000 & 5,000,000 & -10,937,500 & 82,850 \\
\hline BARCLAYS BANK PLC & & 9 netbearish & netb_9 & -10,000,000 & -5,000,000 & 20,000,000 & -15,937,500 & 11,020,350 \\
\hline BARCLAYS BANK PLC & & 9 sbuy & sbuy_9 & & & & 5,000,000 & \\
\hline BARCLAYS BANK PLC & & 9 ssell & ssel_9 & & -20,000,000 & -10,000,000 & & -10,000,000 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 abuy & abuy_10 & & & & & \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 asell & asel_10 & & & & & \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 bearish & bear_10 & & & & & -3,258,060 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 bullish & bull_10 & & & & & \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 cnet & cnet_10 & 0 & 0 & 0 & 0 & -3,258,060 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 netbearish & netb_10 & & & & & -3,258,060 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 sbuy & sbuy_10 & & & & & \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 ssell & ssel_10 & & & & & -3,258,060 \\
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\hline 11 abuy & abuy_11 \\
\hline 11 asell & asel_11 \\
\hline 11 bearish & bear_11 \\
\hline 11 bullish & bull_11 \\
\hline 11 cnet & cnet_11 \\
\hline 11 netbearish & netb_11 \\
\hline 11 sbuy & sbuy_11 \\
\hline 11 ssell & ssel_11 \\
\hline 12 abuy & abuy_12 \\
\hline 12 asell & asel_12 \\
\hline 12 bearish & bear_12 \\
\hline 12 bullish & bull_12 \\
\hline 12 cnet & cnet_12 \\
\hline 12 netbearish & netb_12 \\
\hline 12 sbuy & sbuy_12 \\
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\hline & 12,000,000 & 27,000,000 & 61,510,000 & 135,000,000 \\
\hline \multirow[t]{2}{*}{-10,000,000} & -17,000,000 & -30,000,000 & -90,000,000 & -120,313,275 \\
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\hline -10,000,000 & -15,000,000 & -13,000,000 & -21,490,000 & -6,803,275 \\
\hline \multirow[t]{5}{*}{-10,000,000} & -5,000,000 & 2,000,000 & -8,490,000 & 14,686,725 \\
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\hline 31 bearish & bear_31 & & & & & -7,200,000 \\
\hline 31 bullish & bull_31 & & & 1,200,000 & 2,400,000 & \\
\hline 31 cnet & cnet_31 & 0 & 0 & 1,200,000 & 3,600,000 & -3,600,000 \\
\hline 31 netbearish & netb_31 & & & 1,200,000 & 2,400,000 & -7,200,000 \\
\hline 31 sbuy & sbuy_31 & & & & & \\
\hline 31 ssell & ssel_31 & & & & & -7,200,000 \\
\hline 32 abuy & abuy_32 & & & & & \\
\hline 32 asell & asel_32 & & & 3,300,000 & 6,700,000 & \\
\hline 32 bearish & bear_32 & & & & & -20,000,000 \\
\hline 32 bullish & bull_32 & & & 3,300,000 & 6,700,000 & \\
\hline 32 cnet & cnet_32 & 0 & 0 & 3,300,000 & 10,000,000 & -10,000,000 \\
\hline 32 netbearish & netb_32 & & & 3,300,000 & 6,700,000 & -20,000,000 \\
\hline 32 sbuy & sbuy_32 & & & & & \\
\hline 32 ssell & ssel_32 & & & & & -20,000,000 \\
\hline 33 abuy & abuy_33 & & & & & -27,000,000 \\
\hline 33 asell & asel_33 & & & & & \\
\hline 33 bearish & bear_33 & & & & & -27,000,000 \\
\hline 33 bullish & bull_33 & & & & & \\
\hline 33 cnet & cnet_33 & 0 & 0 & 0 & 0 & -27,000,000 \\
\hline 33 netbearish & netb_33 & & & & & -27,000,000 \\
\hline 33 sbuy & sbuy_33 & & & & & \\
\hline 33 ssell & ssel_33 & & & & & \\
\hline 34 abuy & abuy_34 & & & & & \\
\hline 34 asell & asel_34 & & & & 15,000,000 & \\
\hline 34 bearish & bear_34 & & & & & \\
\hline 34 bullish & bull_34 & & & & 15,000,000 & \\
\hline 34 cnet & cnet_34 & 0 & 0 & 0 & 15,000,000 & 15,000,000 \\
\hline 34 netbearish & netb_34 & & & & 15,000,000 & \\
\hline 34 sbuy & sbuy_34 & & & & & \\
\hline 34 ssell & ssel_34 & & & & & \\
\hline 35 abuy & abuy_35 & -15,000,000 & -600,000 & & -25,000,000 & -120,000,000 \\
\hline 35 asell & asel_35 & & 5,000,000 & 10,000,000 & 30,000,000 & 80,000,000 \\
\hline 35 bearish & bear_35 & -15,000,000 & -10,600,000 & -10,000,000 & -40,000,000 & -125,000,000 \\
\hline 35 bullish & bull_35 & & 15,000,000 & 10,000,000 & 46,500,000 & 110,000,000 \\
\hline 35 cnet & cnet_35 & -15,000,000 & -10,600,000 & -10,600,000 & -4,100,000 & -19,100,000 \\
\hline 35 netbearish & netb_35 & -15,000,000 & 4,400,000 & 0 & 6,500,000 & -15,000,000 \\
\hline 35 sbuy & sbuy_35 & & 10,000,000 & & 16,500,000 & 30,000,000 \\
\hline 35 ssell & ssel_35 & & -10,000,000 & -10,000,000 & -15,000,000 & -5,000,000 \\
\hline 36 abuy & abuy_36 & & & & & \\
\hline 36 asell & asel_36 & & & & & \\
\hline 36 bearish & bear_36 & & & & & \\
\hline 36 bullish & bull_36 & & & & 5,000,000 & \\
\hline 36 cnet & cnet_36 & 0 & 0 & 0 & 5,000,000 & 5,000,000 \\
\hline 36 netbearish & netb_36 & & & & 5,000,000 & \\
\hline 36 sbuy & sbuy_36 & & & & 5,000,000 & \\
\hline 36 ssell & ssel_36 & & & & & \\
\hline 37 abuy & abuy_37 & & & & & \\
\hline 37 asell & asel_37 & & & & 300,000 & \\
\hline 37 bearish & bear_37 & & & & & \\
\hline 37 bullish & bull_37 & & & & 300,000 & \\
\hline 37 cnet & cnet_37 & 0 & 0 & 0 & 300,000 & 300,000 \\
\hline 37 netbearish & netb_37 & & & & 300,000 & \\
\hline 37 sbuy & sbuy_37 & & & & & \\
\hline 37 ssell & ssel_37 & & & & & \\
\hline 38 abuy & abuy_38 & & -15,500,000 & -2,100,000 & -35,000,000 & -10,000,000 \\
\hline 38 asell & asel_38 & & 10,000,000 & 7,100,000 & 40,000,000 & 10,000,000 \\
\hline 38 bearish & bear_38 & & -15,500,000 & -2,100,000 & -35,000,000 & -10,000,000 \\
\hline 38 bullish & bull_38 & & 10,000,000 & 7,100,000 & 40,000,000 & 10,000,000 \\
\hline 38 cnet & cnet_38 & 0 & -5,500,000 & -500,000 & 4,500,000 & 4,500,000 \\
\hline 38 netbearish & netb_38 & & -5,500,000 & 5,000,000 & 5,000,000 & 0 \\
\hline 38 sbuy & sbuy_38 & & & & & \\
\hline 38 ssell & ssel_38 & & & & & \\
\hline 39 abuy & abuy_39 & & & & & \\
\hline 39 asell & asel_39 & & & & & \\
\hline 39 bearish & bear_39 & & & & & \\
\hline 39 bullish & bull_39 & & & & 1,000,000 & 1,500,000 \\
\hline 39 cnet & cnet_39 & 0 & 0 & 0 & 1,000,000 & 2,500,000 \\
\hline 39 netbearish & netb_39 & & & & 1,000,000 & 1,500,000 \\
\hline 39 sbuy & sbuy_39 & & & & 1,000,000 & 1,500,000 \\
\hline 39 ssell & ssel_39 & & & & & \\
\hline 40 abuy & abuy_40 & & & & & \\
\hline 40 asell & asel_40 & & & & 10,000,000 & \\
\hline 40 bearish & bear_40 & & & & & \\
\hline 40 bullish & bull_40 & & & & 10,000,000 & \\
\hline 40 cnet & cnet_40 & 0 & 0 & 0 & 10,000,000 & 10,000,000 \\
\hline 40 netbearish & netb_40 & & & & 10,000,000 & \\
\hline 40 sbuy & sbuy_40 & & & & & \\
\hline 40 ssell & ssel_40 & & & & & \\
\hline 41 abuy & abuy_41 & & & & & \\
\hline 41 asell & asel_41 & & & & 150,000 & \\
\hline 41 bearish & bear_41 & & & & & \\
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\hline 41 bullish & bull_41 & & & & 150,000 & \\
\hline 41 cnet & cnet_41 & 0 & 0 & 0 & 150,000 & 150,000 \\
\hline 41 netbearish & netb_41 & & & & 150,000 & \\
\hline 41 sbuy & sbuy_41 & & & & & \\
\hline 41 ssell & ssel_41 & & & & & \\
\hline 42 abuy & abuy_42 & & & & & \\
\hline 42 asell & asel_42 & & & & & \\
\hline 42 bearish & bear_42 & & & & & \\
\hline 42 bullish & bull_42 & & & & 9,000,000 & 13,500,000 \\
\hline 42 cnet & cnet_42 & 0 & 0 & 0 & 9,000,000 & 22,500,000 \\
\hline 42 netbearish & netb_42 & & & & 9,000,000 & 13,500,000 \\
\hline 42 sbuy & sbuy_42 & & & & 9,000,000 & 13,500,000 \\
\hline 42 ssell & ssel_42 & & & & & \\
\hline 43 abuy & abuy_43 & & & & & \\
\hline 43 asell & asel_43 & & & & & \\
\hline 43 bearish & bear_43 & & & & & \\
\hline 43 bullish & bull_43 & & & & 5,000,000 & \\
\hline 43 cnet & cnet_43 & 0 & 0 & 0 & 5,000,000 & 5,000,000 \\
\hline 43 netbearish & netb_43 & & & & 5,000,000 & \\
\hline 43 sbuy & sbuy_43 & & & & 5,000,000 & \\
\hline 43 ssell & ssel_43 & & & & & \\
\hline 44 abuy & abuy_44 & & & & & -20,000,000 \\
\hline 44 asell & asel_44 & & & & & \\
\hline 44 bearish & bear_44 & & & & & -20,000,000 \\
\hline 44 bullish & bull_44 & & & & & \\
\hline 44 cnet & cnet_44 & 0 & 0 & 0 & 0 & -20,000,000 \\
\hline 44 netbearish & netb_44 & & & & & -20,000,000 \\
\hline 44 sbuy & sbuy_44 & & & & & \\
\hline 44 ssell & ssel_44 & & & & & \\
\hline 45 abuy & abuy_45 & & -14,500,000 & -40,000,000 & -65,000,000 & -31,900,000 \\
\hline 45 asell & asel_45 & & & 55,000,000 & 60,000,000 & 58,258,060 \\
\hline 45 bearish & bear_45 & & -14,500,000 & -40,000,000 & -70,000,000 & -56,900,000 \\
\hline 45 bullish & bull_45 & & & 55,000,000 & 60,000,000 & 68,258,060 \\
\hline 45 cnet & cnet_45 & 0 & -14,500,000 & 500,000 & -9,500,000 & 1,858,060 \\
\hline 45 netbearish & netb_45 & & -14,500,000 & 15,000,000 & -10,000,000 & 11,358,060 \\
\hline 45 sbuy & sbuy_45 & & & & & 10,000,000 \\
\hline 45 ssell & ssel_45 & & & & -5,000,000 & -25,000,000 \\
\hline 46 abuy & abuy_46 & & & & & \\
\hline 46 asell & asel_46 & & & & & \\
\hline 46 bearish & bear_46 & & & & & \\
\hline 46 bullish & bull_46 & & & 5,000,000 & & \\
\hline 46 cnet & cnet_46 & 0 & 0 & 5,000,000 & 5,000,000 & 5,000,000 \\
\hline 46 netbearish & netb_46 & & & 5,000,000 & & \\
\hline 46 sbuy & sbuy_46 & & & 5,000,000 & & \\
\hline 46 ssell & ssel_46 & & & & & \\
\hline 47 abuy & abuy_47 & & & -5,000,000 & & \\
\hline 47 asell & asel_47 & & & & & \\
\hline 47 bearish & bear_47 & & & -5,000,000 & & \\
\hline 47 bullish & bull_47 & & & & & \\
\hline 47 cnet & cnet_47 & 0 & 0 & -5,000,000 & -5,000,000 & -5,000,000 \\
\hline 47 netbearish & netb_47 & & & -5,000,000 & & \\
\hline 47 sbuy & sbuy_47 & & & & & \\
\hline 47 ssell & ssel_47 & & & & & \\
\hline 48 abuy & abuy_48 & & & & -20,000,000 & \\
\hline 48 asell & asel_48 & & & & & \\
\hline 48 bearish & bear_48 & & & & -20,000,000 & \\
\hline 48 bullish & bull_48 & & & & & \\
\hline 48 cnet & cnet_48 & 0 & 0 & 0 & -20,000,000 & -20,000,000 \\
\hline 48 netbearish & netb_48 & & & & -20,000,000 & \\
\hline 48 sbuy & sbuy_48 & & & & & \\
\hline 48 ssell & ssel_48 & & & & & \\
\hline 49 abuy & abuy_49 & & & & & \\
\hline 49 asell & asel_49 & & & & & \\
\hline 49 bearish & bear_49 & & & & & \\
\hline 49 bullish & bull_49 & & & & & 5,000,000 \\
\hline 49 cnet & cnet_49 & 0 & 0 & 0 & 0 & 5,000,000 \\
\hline 49 netbearish & netb_49 & & & & & 5,000,000 \\
\hline 49 sbuy & sbuy_49 & & & & & 5,000,000 \\
\hline 49 ssell & ssel_49 & & & & & \\
\hline 50 abuy & abuy_50 & & & & & -50,000,000 \\
\hline 50 asell & asel_50 & & & & & \\
\hline 50 bearish & bear_50 & & & & & -50,000,000 \\
\hline 50 bullish & bull_50 & & & & & \\
\hline 50 cnet & cnet_50 & 0 & 0 & 0 & 0 & -50,000,000 \\
\hline 50 netbearish & netb_50 & & & & & -50,000,000 \\
\hline 50 sbuy & sbuy_50 & & & & & \\
\hline 50 ssell & ssel_50 & & & & & \\
\hline 51 abuy & abuy_51 & & & -50,000,000 & & \\
\hline 51 asell & asel_51 & & & & & \\
\hline 51 bearish & bear_51 & & & -50,000,000 & & \\
\hline 51 bullish & bull_51 & & & 5,000,000 & 15,000,000 & 35,000,000 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM1356 & 61 netbearish & netb_61 & 500,000 & & & & \\
\hline PIM1356 & 61 sbuy & sbuy_61 & & & & & \\
\hline PIM1356 & 61 ssell & ssel_61 & & & & & \\
\hline PIM1357 & 62 abuy & abuy_62 & & & & & \\
\hline PIM1357 & 62 asell & asel_62 & 2,500,000 & & & & \\
\hline PIM1357 & 62 bearish & bear_62 & & & & & \\
\hline PIM1357 & 62 bullish & bull_62 & 2,500,000 & & & & \\
\hline PIM1357 & 62 cnet & cnet_62 & 2,500,000 & 2,500,000 & 2,500,000 & 2,500,000 & 2,500,000 \\
\hline PIM1357 & 62 netbearish & netb_62 & 2,500,000 & & & & \\
\hline PIM1357 & 62 sbuy & sbuy_62 & & & & & \\
\hline PIM1357 & 62 ssell & ssel_62 & & & & & \\
\hline PIM1358 & 63 abuy & abuy_63 & & & & & \\
\hline PIM1358 & 63 asell & asel_63 & 1,300,000 & & & & \\
\hline PIM1358 & 63 bearish & bear_63 & & & & & \\
\hline PIM1358 & 63 bullish & bull_63 & 1,300,000 & & & & \\
\hline PIM1358 & 63 cnet & cnet_63 & 1,300,000 & 1,300,000 & 1,300,000 & 1,300,000 & 1,300,000 \\
\hline PIM1358 & 63 netbearish & netb_63 & 1,300,000 & & & & \\
\hline PIM1358 & 63 sbuy & sbuy_63 & & & & & \\
\hline PIM1358 & 63 ssell & ssel_63 & & & & & \\
\hline PIM1422 & 64 abuy & abuy_64 & & & & & \\
\hline PIM1422 & 64 asell & asel_64 & & & & & \\
\hline PIM1422 & 64 bearish & bear_64 & & & & & \\
\hline PIM1422 & 64 bullish & bull_64 & & 500,000 & & & \\
\hline PIM1422 & 64 cnet & cnet_64 & 0 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM1422 & 64 netbearish & netb_64 & & 500,000 & & & \\
\hline PIM1422 & 64 sbuy & sbuy_64 & & 500,000 & & & \\
\hline PIM1422 & 64 ssell & ssel_64 & & & & & \\
\hline PIM1628 & 65 abuy & abuy_65 & & & & & \\
\hline PIM1628 & 65 asell & asel_65 & & & & & \\
\hline PIM1628 & 65 bearish & bear_65 & & & & & \\
\hline PIM1628 & 65 bullish & bull_65 & & & 700,000 & & \\
\hline PIM1628 & 65 cnet & cnet_65 & 0 & 0 & 700,000 & 700,000 & 700,000 \\
\hline PIM1628 & 65 netbearish & netb_65 & & & 700,000 & & \\
\hline PIM1628 & 65 sbuy & sbuy_65 & & & 700,000 & & \\
\hline PIM1628 & 65 ssell & ssel_65 & & & & & \\
\hline PIM1833 & 66 abuy & abuy_66 & & & & & \\
\hline PIM1833 & 66 asell & asel_66 & & & & & \\
\hline PIM1833 & 66 bearish & bear_66 & & & & & \\
\hline PIM1833 & 66 bullish & bull_66 & & & & & 1,000,000 \\
\hline PIM1833 & 66 cnet & cnet_66 & 0 & 0 & 0 & 0 & 1,000,000 \\
\hline PIM1833 & 66 netbearish & netb_66 & & & & & 1,000,000 \\
\hline PIM1833 & 66 sbuy & sbuy_66 & & & & & 1,000,000 \\
\hline PIM1833 & 66 ssell & ssel_66 & & & & & \\
\hline PIM1941 & 67 abuy & abuy_67 & & & & & \\
\hline PIM1941 & 67 asell & asel_67 & 800,000 & & & & \\
\hline PIM1941 & 67 bearish & bear_67 & & & & & \\
\hline PIM1941 & 67 bullish & bull_67 & 800,000 & & & & \\
\hline PIM1941 & 67 cnet & cnet_67 & 800,000 & 800,000 & 800,000 & 800,000 & 800,000 \\
\hline PIM1941 & 67 netbearish & netb_67 & 800,000 & & & & \\
\hline PIM1941 & 67 sbuy & sbuy_67 & & & & & \\
\hline PIM1941 & 67 ssell & ssel_67 & & & & & \\
\hline PIM2071 & 68 abuy & abuy_68 & & & & & \\
\hline PIM2071 & 68 asell & asel_68 & 200,000 & & & & \\
\hline PIM2071 & 68 bearish & bear_68 & & & & & \\
\hline PIM2071 & 68 bullish & bull_68 & 200,000 & & & & \\
\hline PIM2071 & 68 cnet & cnet_68 & 200,000 & 200,000 & 200,000 & 200,000 & 200,000 \\
\hline PIM2071 & 68 netbearish & netb_68 & 200,000 & & & & \\
\hline PIM2071 & 68 sbuy & sbuy_68 & & & & & \\
\hline PIM2071 & 68 ssell & ssel_68 & & & & & \\
\hline PIM2086 & 69 abuy & abuy_69 & & & & & \\
\hline PIM2086 & 69 asell & asel_69 & 1,100,000 & & & & \\
\hline PIM2086 & 69 bearish & bear_69 & & & & & \\
\hline PIM2086 & 69 bullish & bull_69 & 1,100,000 & & & & \\
\hline PIM2086 & 69 cnet & cnet_69 & 1,100,000 & 1,100,000 & 1,100,000 & 1,100,000 & 1,100,000 \\
\hline PIM2086 & 69 netbearish & netb_69 & 1,100,000 & & & & \\
\hline PIM2086 & 69 sbuy & sbuy_69 & & & & & \\
\hline PIM2086 & 69 ssell & ssel_69 & & & & & \\
\hline PIM2136 & 70 abuy & abuy_70 & & & & & \\
\hline PIM2136 & 70 asell & asel_70 & 900,000 & & & & \\
\hline PIM2136 & 70 bearish & bear_70 & & & & & \\
\hline PIM2136 & 70 bullish & bull_70 & 900,000 & & & & \\
\hline PIM2136 & 70 cnet & cnet_70 & 900,000 & 900,000 & 900,000 & 900,000 & 900,000 \\
\hline PIM2136 & 70 netbearish & netb_70 & 900,000 & & & & \\
\hline PIM2136 & 70 sbuy & sbuy_70 & & & & & \\
\hline PIM2136 & 70 ssell & ssel_70 & & & & & \\
\hline PIM2224 & 71 abuy & abuy_71 & & & & & \\
\hline PIM2224 & 71 asell & asel_71 & & & & & \\
\hline PIM2224 & 71 bearish & bear_71 & & & & & \\
\hline PIM2224 & 71 bullish & bull_71 & & & 1,000,000 & & \\
\hline PIM2224 & 71 cnet & cnet_71 & 0 & 0 & 1,000,000 & 1,000,000 & 1,000,000 \\
\hline PIM2224 & 71 netbearish & netb_71 & & & 1,000,000 & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM2224 & 71 sbuy & sbuy_71 & & & 1,000,000 & & \\
\hline PIM2224 & 71 ssell & ssel_71 & & & & & \\
\hline PIM2232 & 72 abuy & abuy_72 & & & & & \\
\hline PIM2232 & 72 asell & asel_72 & & & & & \\
\hline PIM2232 & 72 bearish & bear_72 & & & & & \\
\hline PIM2232 & 72 bullish & bull_72 & & & & & 2,700,000 \\
\hline PIM2232 & 72 cnet & cnet_72 & 0 & 0 & 0 & 0 & 2,700,000 \\
\hline PIM2232 & 72 netbearish & netb_72 & & & & & 2,700,000 \\
\hline PIM2232 & 72 sbuy & sbuy_72 & & & & & 2,700,000 \\
\hline PIM2232 & 72 ssell & ssel_72 & & & & & \\
\hline PIM2307 & 73 abuy & abuy_73 & & & & & \\
\hline PIM2307 & 73 asell & asel_73 & 1,200,000 & & & & \\
\hline PIM2307 & 73 bearish & bear_73 & & & & & \\
\hline PIM2307 & 73 bullish & bull_73 & 1,200,000 & & & & \\
\hline PIM2307 & 73 cnet & cnet_73 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 \\
\hline PIM2307 & 73 netbearish & netb_73 & 1,200,000 & & & & \\
\hline PIM2307 & 73 sbuy & sbuy_73 & & & & & \\
\hline PIM2307 & 73 ssell & ssel_73 & & & & & \\
\hline PIM2355 & 74 abuy & abuy_74 & & & & & \\
\hline PIM2355 & 74 asell & asel_74 & 100,000 & & & & \\
\hline PIM2355 & 74 bearish & bear_74 & & & & & \\
\hline PIM2355 & 74 bullish & bull_74 & 100,000 & & & & \\
\hline PIM2355 & 74 cnet & cnet_74 & 100,000 & 100,000 & 100,000 & 100,000 & 100,000 \\
\hline PIM2355 & 74 netbearish & netb_74 & 100,000 & & & & \\
\hline PIM2355 & 74 sbuy & sbuy_74 & & & & & \\
\hline PIM2355 & 74 ssell & ssel_74 & & & & & \\
\hline PIM2400 & 75 abuy & abuy_75 & & & & & \\
\hline PIM2400 & 75 asell & asel_75 & 100,000 & & & & \\
\hline PIM2400 & 75 bearish & bear_75 & & & & & \\
\hline PIM2400 & 75 bullish & bull_75 & 100,000 & & & & \\
\hline PIM2400 & 75 cnet & cnet_75 & 100,000 & 100,000 & 100,000 & 100,000 & 100,000 \\
\hline PIM2400 & 75 netbearish & netb_75 & 100,000 & & & & \\
\hline PIM2400 & 75 sbuy & sbuy_75 & & & & & \\
\hline PIM2400 & 75 ssell & ssel_75 & & & & & \\
\hline PIM2466 & 76 abuy & abuy_76 & & & & & \\
\hline PIM2466 & 76 asell & asel_76 & & & & & \\
\hline PIM2466 & 76 bearish & bear_76 & & & & & \\
\hline PIM2466 & 76 bullish & bull_76 & & 600,000 & & & \\
\hline PIM2466 & 76 cnet & cnet_76 & 0 & 600,000 & 600,000 & 600,000 & 600,000 \\
\hline PIM2466 & 76 netbearish & netb_76 & & 600,000 & & & \\
\hline PIM2466 & 76 sbuy & sbuy_76 & & 600,000 & & & \\
\hline PIM2466 & 76 ssell & ssel_76 & & & & & \\
\hline PIM2660 & 77 abuy & abuy_77 & & & & & \\
\hline PIM2660 & 77 asell & asel_77 & 500,000 & & & & \\
\hline PIM2660 & 77 bearish & bear_77 & & & & & \\
\hline PIM2660 & 77 bullish & bull_77 & 500,000 & & & & \\
\hline PIM2660 & 77 cnet & cnet_77 & 500,000 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM2660 & 77 netbearish & netb_77 & 500,000 & & & & \\
\hline PIM2660 & 77 sbuy & sbuy_77 & & & & & \\
\hline PIM2660 & 77 ssell & ssel_77 & & & & & \\
\hline PIM2679 & 78 abuy & abuy_78 & & & & & \\
\hline PIM2679 & 78 asell & asel_78 & 900,000 & & & & \\
\hline PIM2679 & 78 bearish & bear_78 & & & & & \\
\hline PIM2679 & 78 bullish & bull_78 & 900,000 & & & & \\
\hline PIM2679 & 78 cnet & cnet_78 & 900,000 & 900,000 & 900,000 & 900,000 & 900,000 \\
\hline PIM2679 & 78 netbearish & netb_78 & 900,000 & & & & \\
\hline PIM2679 & 78 sbuy & sbuy_78 & & & & & \\
\hline PIM2679 & 78 ssell & ssel_78 & & & & & \\
\hline PIM2687 & 79 abuy & abuy_79 & & & & & \\
\hline PIM2687 & 79 asell & asel_79 & 300,000 & & & & \\
\hline PIM2687 & 79 bearish & bear_79 & & & & & \\
\hline PIM2687 & 79 bullish & bull_79 & 300,000 & & & & \\
\hline PIM2687 & 79 cnet & cnet_79 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM2687 & 79 netbearish & netb_79 & 300,000 & & & & \\
\hline PIM2687 & 79 sbuy & sbuy_79 & & & & & \\
\hline PIM2687 & 79 ssell & ssel_79 & & & & & \\
\hline PIM2739 & 80 abuy & abuy_80 & & & & & \\
\hline PIM2739 & 80 asell & asel_80 & & & & & \\
\hline PIM2739 & 80 bearish & bear_80 & & & & & \\
\hline PIM2739 & 80 bullish & bull_80 & & & 200,000 & & \\
\hline PIM2739 & 80 cnet & cnet_80 & 0 & 0 & 200,000 & 200,000 & 200,000 \\
\hline PIM2739 & 80 netbearish & netb_80 & & & 200,000 & & \\
\hline PIM2739 & 80 sbuy & sbuy_80 & & & 200,000 & & \\
\hline PIM2739 & 80 ssell & ssel_80 & & & & & \\
\hline PIM2755 & 81 abuy & abuy_81 & & & & & \\
\hline PIM2755 & 81 asell & asel_81 & & & & & \\
\hline PIM2755 & 81 bearish & bear_81 & & & & & \\
\hline PIM2755 & 81 bullish & bull_81 & & & 300,000 & & \\
\hline PIM2755 & 81 cnet & cnet_81 & 0 & 0 & 300,000 & 300,000 & 300,000 \\
\hline PIM2755 & 81 netbearish & netb_81 & & & 300,000 & & \\
\hline PIM2755 & 81 sbuy & sbuy_81 & & & 300,000 & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM2755 & 81 ssell & ssel_81 & & & & & \\
\hline PIM2809 & 82 abuy & abuy_82 & & & & & \\
\hline PIM2809 & 82 asell & asel_82 & 1,600,000 & & & & \\
\hline PIM2809 & 82 bearish & bear_82 & & & & & \\
\hline PIM2809 & 82 bullish & bull_82 & 1,600,000 & & & & \\
\hline PIM2809 & 82 cnet & cnet_82 & 1,600,000 & 1,600,000 & 1,600,000 & 1,600,000 & 1,600,000 \\
\hline PIM2809 & 82 netbearish & netb_82 & 1,600,000 & & & & \\
\hline PIM2809 & 82 sbuy & sbuy_82 & & & & & \\
\hline PIM2809 & 82 ssell & ssel_82 & & & & & \\
\hline PIM2879 & 83 abuy & abuy_83 & & & & & \\
\hline PIM2879 & 83 asell & asel_83 & 300,000 & & & & \\
\hline PIM2879 & 83 bearish & bear_83 & & & & & \\
\hline PIM2879 & 83 bullish & bull_83 & 300,000 & & & & \\
\hline PIM2879 & 83 cnet & cnet_83 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM2879 & 83 netbearish & netb_83 & 300,000 & & & & \\
\hline PIM2879 & 83 sbuy & sbuy_83 & & & & & \\
\hline PIM2879 & 83 ssell & ssel_83 & & & & & \\
\hline PIM2909 & 84 abuy & abuy_84 & & & & & \\
\hline PIM2909 & 84 asell & asel_84 & 2,800,000 & & & & \\
\hline PIM2909 & 84 bearish & bear_84 & & & & & \\
\hline PIM2909 & 84 bullish & bull_84 & 2,800,000 & & & & \\
\hline PIM2909 & 84 cnet & cnet_84 & 2,800,000 & 2,800,000 & 2,800,000 & 2,800,000 & 2,800,000 \\
\hline PIM2909 & 84 netbearish & netb_84 & 2,800,000 & & & & \\
\hline PIM2909 & 84 sbuy & sbuy_84 & & & & & \\
\hline PIM2909 & 84 ssell & ssel_84 & & & & & \\
\hline PIM2958 & 85 abuy & abuy_85 & & & & & \\
\hline PIM2958 & 85 asell & asel_85 & 800,000 & & & & \\
\hline PIM2958 & 85 bearish & bear_85 & & & & & \\
\hline PIM2958 & 85 bullish & bull_85 & 800,000 & & & & \\
\hline PIM2958 & 85 cnet & cnet_85 & 800,000 & 800,000 & 800,000 & 800,000 & 800,000 \\
\hline PIM2958 & 85 netbearish & netb_85 & 800,000 & & & & \\
\hline PIM2958 & 85 sbuy & sbuy_85 & & & & & \\
\hline PIM2958 & 85 ssell & ssel_85 & & & & & \\
\hline PIM3689 & 86 abuy & abuy_86 & & & & & \\
\hline PIM3689 & 86 asell & asel_86 & 500,000 & & & & \\
\hline PIM3689 & 86 bearish & bear_86 & & & & & \\
\hline PIM3689 & 86 bullish & bull_86 & 500,000 & & & & \\
\hline PIM3689 & 86 cnet & cnet_86 & 500,000 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM3689 & 86 netbearish & netb_86 & 500,000 & & & & \\
\hline PIM3689 & 86 sbuy & sbuy_86 & & & & & \\
\hline PIM3689 & 86 ssell & ssel_86 & & & & & \\
\hline PIM3691 & 87 abuy & abuy_87 & & & & & \\
\hline PIM3691 & 87 asell & asel_87 & 300,000 & & & & \\
\hline PIM3691 & 87 bearish & bear_87 & & & & & \\
\hline PIM3691 & 87 bullish & bull_87 & 300,000 & & & & \\
\hline PIM3691 & 87 cnet & cnet_87 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM3691 & 87 netbearish & netb_87 & 300,000 & & & & \\
\hline PIM3691 & 87 sbuy & sbuy_87 & & & & & \\
\hline PIM3691 & 87 ssell & ssel_87 & & & & & \\
\hline PIM3706 & 88 abuy & abuy_88 & & & & & \\
\hline PIM3706 & 88 asell & asel_88 & & & & & \\
\hline PIM3706 & 88 bearish & bear_88 & & & & & \\
\hline PIM3706 & 88 bullish & bull_88 & & & 200,000 & & \\
\hline PIM3706 & 88 cnet & cnet_88 & 0 & 0 & 200,000 & 200,000 & 200,000 \\
\hline PIM3706 & 88 netbearish & netb_88 & & & 200,000 & & \\
\hline PIM3706 & 88 sbuy & sbuy_88 & & & 200,000 & & \\
\hline PIM3706 & 88 ssell & ssel_88 & & & & & \\
\hline PIM4632 & 89 abuy & abuy_89 & & & & & \\
\hline PIM4632 & 89 asell & asel_89 & 400,000 & & & & \\
\hline PIM4632 & 89 bearish & bear_89 & & & & & \\
\hline PIM4632 & 89 bullish & bull_89 & 400,000 & & & & \\
\hline PIM4632 & 89 cnet & cnet_89 & 400,000 & 400,000 & 400,000 & 400,000 & 400,000 \\
\hline PIM4632 & 89 netbearish & netb_89 & 400,000 & & & & \\
\hline PIM4632 & 89 sbuy & sbuy_89 & & & & & \\
\hline PIM4632 & 89 ssell & ssel_89 & & & & & \\
\hline PIM4690 & 90 abuy & abuy_90 & & & & & \\
\hline PIM4690 & 90 asell & asel_90 & 4,800,000 & & & & \\
\hline PIM4690 & 90 bearish & bear_90 & & & & & \\
\hline PIM4690 & 90 bullish & bull_90 & 4,800,000 & & & & \\
\hline PIM4690 & 90 cnet & cnet_90 & 4,800,000 & 4,800,000 & 4,800,000 & 4,800,000 & 4,800,000 \\
\hline PIM4690 & 90 netbearish & netb_90 & 4,800,000 & & & & \\
\hline PIM4690 & 90 sbuy & sbuy_90 & & & & & \\
\hline PIM4690 & 90 ssell & ssel_90 & & & & & \\
\hline PIM4692 & 91 abuy & abuy_91 & & & & & \\
\hline PIM4692 & 91 asell & asel_91 & 1,200,000 & & & & \\
\hline PIM4692 & 91 bearish & bear_91 & & & & & \\
\hline PIM4692 & 91 bullish & bull_91 & 1,200,000 & & & & \\
\hline PIM4692 & 91 cnet & cnet_91 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 \\
\hline PIM4692 & 91 netbearish & netb_91 & 1,200,000 & & & & \\
\hline PIM4692 & 91 sbuy & sbuy_91 & & & & & \\
\hline PIM4692 & 91 ssell & ssel_91 & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM4807 & 92 abuy & abuy_92 & & & & & \\
\hline PIM4807 & 92 asell & asel_92 & & 2,500,000 & & & \\
\hline PIM4807 & 92 bearish & bear_92 & & & & & \\
\hline PIM4807 & 92 bullish & bull_92 & & 2,500,000 & & & \\
\hline PIM4807 & 92 cnet & cnet_92 & 0 & 2,500,000 & 2,500,000 & 2,500,000 & 2,500,000 \\
\hline PIM4807 & 92 netbearish & netb_92 & & 2,500,000 & & & \\
\hline PIM4807 & 92 sbuy & sbuy_92 & & & & & \\
\hline PIM4807 & 92 ssell & ssel_92 & & & & & \\
\hline PIM4866 & 93 abuy & abuy_93 & & & & & \\
\hline PIM4866 & 93 asell & asel_93 & & 2,000,000 & & & \\
\hline PIM4866 & 93 bearish & bear_93 & & & & & \\
\hline PIM4866 & 93 bullish & bull_93 & & 2,000,000 & & & \\
\hline PIM4866 & 93 cnet & cnet_93 & 0 & 2,000,000 & 2,000,000 & 2,000,000 & 2,000,000 \\
\hline PIM4866 & 93 netbearish & netb_93 & & 2,000,000 & & & \\
\hline PIM4866 & 93 sbuy & sbuy_93 & & & & & \\
\hline PIM4866 & 93 ssell & ssel_93 & & & & & \\
\hline PIM6009 & 94 abuy & abuy_94 & & & & & \\
\hline PIM6009 & 94 asell & asel_94 & 200,000 & & & & \\
\hline PIM6009 & 94 bearish & bear_94 & & & & & \\
\hline PIM6009 & 94 bullish & bull_94 & 200,000 & & & & \\
\hline PIM6009 & 94 cnet & cnet_94 & 200,000 & 200,000 & 200,000 & 200,000 & 200,000 \\
\hline PIM6009 & 94 netbearish & netb_94 & 200,000 & & & & \\
\hline PIM6009 & 94 sbuy & sbuy_94 & & & & & \\
\hline PIM6009 & 94 ssell & ssel_94 & & & & & \\
\hline PIM6160 & 95 abuy & abuy_95 & & & & & \\
\hline PIM6160 & 95 asell & asel_95 & & & & & \\
\hline PIM6160 & 95 bearish & bear_95 & & & & & \\
\hline PIM6160 & 95 bullish & bull_95 & & & & & 2,000,000 \\
\hline PIM6160 & 95 cnet & cnet_95 & 0 & 0 & 0 & 0 & 2,000,000 \\
\hline PIM6160 & 95 netbearish & netb_95 & & & & & 2,000,000 \\
\hline PIM6160 & 95 sbuy & sbuy_95 & & & & & 2,000,000 \\
\hline PIM6160 & 95 ssell & ssel_95 & & & & & \\
\hline PIM6169 & 96 abuy & abuy_96 & & & & & \\
\hline PIM6169 & 96 asell & asel_96 & 300,000 & & & & \\
\hline PIM6169 & 96 bearish & bear_96 & & & & & \\
\hline PIM6169 & 96 bullish & bull_96 & 300,000 & & & & \\
\hline PIM6169 & 96 cnet & cnet_96 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM6169 & 96 netbearish & netb_96 & 300,000 & & & & \\
\hline PIM6169 & 96 sbuy & sbuy_96 & & & & & \\
\hline PIM6169 & 96 ssell & ssel_96 & & & & & \\
\hline PIM6230 & 97 abuy & abuy_97 & & & & & \\
\hline PIM6230 & 97 asell & asel_97 & 400,000 & & & & \\
\hline PIM6230 & 97 bearish & bear_97 & & & & & \\
\hline PIM6230 & 97 bullish & bull_97 & 400,000 & & & & \\
\hline PIM6230 & 97 cnet & cnet_97 & 400,000 & 400,000 & 400,000 & 400,000 & 400,000 \\
\hline PIM6230 & 97 netbearish & netb_97 & 400,000 & & & & \\
\hline PIM6230 & 97 sbuy & sbuy_97 & & & & & \\
\hline PIM6230 & 97 ssell & ssel_97 & & & & & \\
\hline PIM6320 & 98 abuy & abuy_98 & & & & & \\
\hline PIM6320 & 98 asell & asel_98 & & & & & \\
\hline PIM6320 & 98 bearish & bear_98 & & & & & \\
\hline PIM6320 & 98 bullish & bull_98 & & & 100,000 & & \\
\hline PIM6320 & 98 cnet & cnet_98 & 0 & 0 & 100,000 & 100,000 & 100,000 \\
\hline PIM6320 & 98 netbearish & netb_98 & & & 100,000 & & \\
\hline PIM6320 & 98 sbuy & sbuy_98 & & & 100,000 & & \\
\hline PIM6320 & 98 ssell & ssel_98 & & & & & \\
\hline PIM6400 & 99 abuy & abuy_99 & & & & & \\
\hline PIM6400 & 99 asell & asel_99 & 700,000 & & & & \\
\hline PIM6400 & 99 bearish & bear_99 & & & & & \\
\hline PIM6400 & 99 bullish & bull_99 & 700,000 & & & & \\
\hline PIM6400 & 99 cnet & cnet_99 & 700,000 & 700,000 & 700,000 & 700,000 & 700,000 \\
\hline PIM6400 & 99 netbearish & netb_99 & 700,000 & & & & \\
\hline PIM6400 & 99 sbuy & sbuy_99 & & & & & \\
\hline PIM6400 & 99 ssell & ssel_99 & & & & & \\
\hline PIM6888 & 100 abuy & abuy_100 & & & & & \\
\hline PIM6888 & 100 asell & asel_100 & & & & & \\
\hline PIM6888 & 100 bearish & bear_100 & & & & & \\
\hline PIM6888 & 100 bullish & bull_100 & & & 100,000 & & \\
\hline PIM6888 & 100 cnet & cnet_100 & 0 & 0 & 100,000 & 100,000 & 100,000 \\
\hline PIM6888 & 100 netbearish & netb_100 & & & 100,000 & & \\
\hline PIM6888 & 100 sbuy & sbuy_100 & & & 100,000 & & \\
\hline PIM6888 & 100 ssell & ssel_100 & & & & & \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 abuy & abuy_101 & & & & & \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 asell & asel_101 & & & & 300,000 & \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 bearish & bear_101 & & & & & \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 bullish & bull_101 & & & & 300,000 & \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 cnet & cnet_101 & 0 & 0 & 0 & 300,000 & 300,000 \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 netbearish & netb_101 & & & & 300,000 & \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 sbuy & sbuy_101 & & & & & \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 ssell & ssel_101 & & & & & \\
\hline PURSUIT & 102 abuy & abuy_102 & & & & & \\
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\begin{tabular}{|c|c|}
\hline 102 asell & asel_102 \\
\hline 102 bearish & bear_102 \\
\hline 102 bullish & bull_102 \\
\hline 102 cnet & cnet_102 \\
\hline 102 netbearish & netb_102 \\
\hline 102 sbuy & sbuy_102 \\
\hline 102 ssell & ssel_102 \\
\hline 103 abuy & abuy_103 \\
\hline 103 asell & asel_103 \\
\hline 103 bearish & bear_103 \\
\hline 103 bullish & bull_103 \\
\hline 103 cnet & cnet_103 \\
\hline 103 netbearish & netb_103 \\
\hline 103 sbuy & sbuy_103 \\
\hline 103 ssell & ssel_103 \\
\hline 104 abuy & abuy_104 \\
\hline 104 asell & asel_104 \\
\hline 104 bearish & bear_104 \\
\hline 104 bullish & bull_104 \\
\hline 104 cnet & cnet_104 \\
\hline 104 netbearish & netb_104 \\
\hline 104 sbuy & sbuy_104 \\
\hline 104 ssell & ssel_104 \\
\hline 105 abuy & abuy_105 \\
\hline 105 asell & asel_105 \\
\hline 105 bearish & bear_105 \\
\hline 105 bullish & bull_105 \\
\hline 105 cnet & cnet_105 \\
\hline 105 netbearish & netb_105 \\
\hline 105 sbuy & sbuy_105 \\
\hline 105 ssell & ssel_105 \\
\hline 106 abuy & abuy_106 \\
\hline 106 asell & asel_106 \\
\hline 106 bearish & bear_106 \\
\hline 106 bullish & bull_106 \\
\hline 106 cnet & cnet_106 \\
\hline 106 netbearish & netb_106 \\
\hline 106 sbuy & sbuy_106 \\
\hline 106 ssell & ssel_106 \\
\hline 107 abuy & abuy_107 \\
\hline 107 asell & asel_107 \\
\hline 107 bearish & bear_107 \\
\hline 107 bullish & bull_107 \\
\hline 107 cnet & cnet_107 \\
\hline 107 netbearish & netb_107 \\
\hline 107 sbuy & sbuy_107 \\
\hline 107 ssell & ssel_107 \\
\hline 108 abuy & abuy_108 \\
\hline 108 asell & asel_108 \\
\hline 108 bearish & bear_108 \\
\hline 108 bullish & bull_108 \\
\hline 108 cnet & cnet_108 \\
\hline 108 netbearish & netb_108 \\
\hline 108 sbuy & sbuy_108 \\
\hline 108 ssell & ssel_108 \\
\hline 109 abuy & abuy_109 \\
\hline 109 asell & asel_109 \\
\hline 109 bearish & bear_109 \\
\hline 109 bullish & bull_109 \\
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\hline 109 netbearish & netb_109 \\
\hline 109 sbuy & sbuy_109 \\
\hline 109 ssell & ssel_109 \\
\hline 110 abuy & abuy_110 \\
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\hline 111 cnet & cnet_111 \\
\hline 111 netbearish & netb_111 \\
\hline 111 sbuy & sbuy_111 \\
\hline 111 ssell & ssel_111 \\
\hline 112 abuy & abuy_112 \\
\hline 112 asell & , \\
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\begin{tabular}{lllll}
0 & & & \(35,000,000\) & \\
& 0 & 0 & \(35,000,000\) & \(35,000,000\) \\
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& & & 150,000 & \\
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\begin{tabular}{ccrrr}
0 & 0 & \(2,000,000\) & \(3,000,000\) & \\
& & \(2,000,000\) & \(5,000,000\) & \(5,000,000\) \\
& & \(2,000,000\) & \(3,000,000\) & \\
& & \(2,000,000\) & \(3,000,000\) & \\
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\(\begin{array}{rr}-17,000,000 & -15,000,000 \\ 10,000,000 & 6,297,500\end{array}\)
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\begin{tabular}{|c|c|c|c|c|c|c|}
\hline 112 bearish & bear_112 & & -17,000,000 & -15,000,000 & -24,900,000 & -160,000,000 \\
\hline 112 bullish & bull_112 & 10,000,000 & 10,000,000 & 6,297,500 & 10,000,000 & 20,000,000 \\
\hline 112 cnet & cnet_112 & 10,000,000 & 3,000,000 & -5,702,500 & -20,602,500 & -160,602,500 \\
\hline 112 netbearish & netb_112 & 10,000,000 & -7,000,000 & -8,702,500 & -14,900,000 & -140,000,000 \\
\hline 112 sbuy & sbuy_112 & & & & & \\
\hline 112 ssell & ssel_112 & & & & & -5,000,000 \\
\hline 113 abuy & abuy_113 & & & & & \\
\hline 113 asell & asel_113 & & & & & \\
\hline 113 bearish & bear_113 & & & & -3,630,000 & \\
\hline 113 bullish & bull_113 & & & & & \\
\hline 113 cnet & cnet_113 & 0 & 0 & 0 & -3,630,000 & -3,630,000 \\
\hline 113 netbearish & netb_113 & & & & -3,630,000 & \\
\hline 113 sbuy & sbuy_113 & & & & & \\
\hline 113 ssell & ssel_113 & & & & -3,630,000 & \\
\hline 114 abuy & abuy_114 & & & & & -23,000,000 \\
\hline 114 asell & asel_114 & & & & & \\
\hline 114 bearish & bear_114 & & & & & -23,000,000 \\
\hline 114 bullish & bull_114 & & & & & \\
\hline 114 cnet & cnet_114 & 0 & 0 & 0 & 0 & -23,000,000 \\
\hline 114 netbearish & netb_114 & & & & & -23,000,000 \\
\hline 114 sbuy & sbuy_114 & & & & & \\
\hline 114 ssell & ssel_114 & & & & & \\
\hline 115 abuy & abuy_115 & & & & & \\
\hline 115 asell & asel_115 & & & & & 1,500,000 \\
\hline 115 bearish & bear_115 & & & & & \\
\hline 115 bullish & bull_115 & & & & & 1,500,000 \\
\hline 115 cnet & cnet_115 & 0 & 0 & 0 & 0 & 1,500,000 \\
\hline 115 netbearish & netb_115 & & & & & 1,500,000 \\
\hline 115 sbuy & sbuy_115 & & & & & \\
\hline 115 ssell & ssel_115 & & & & & \\
\hline 116 abuy & abuy_116 & & & & & \\
\hline 116 asell & asel_116 & & & & & 1,879,650 \\
\hline 116 bearish & bear_116 & & & & -5,000,000 & \\
\hline 116 bullish & bull_116 & & & & & 6,879,650 \\
\hline 116 cnet & cnet_116 & 0 & 0 & 0 & -5,000,000 & 1,879,650 \\
\hline 116 netbearish & netb_116 & & & & -5,000,000 & 6,879,650 \\
\hline 116 sbuy & sbuy_116 & & & & & 5,000,000 \\
\hline 116 ssell & ssel_116 & & & & -5,000,000 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multicolumn{7}{|l|}{BNP Paribas Securities Corp.} \\
\hline \multicolumn{7}{|l|}{Top Non-Proprietary no proprietary} \\
\hline & abuy_16 & asel_16 & netb_16 & cnet_16 & ssel_16 & sbuy_16 \\
\hline 11/18/08 & -10,000,000 & 0 & -10,000,000 & -10,000,000 & & \\
\hline 11/19/08 & -27,000,000 & 10,000,000 & -17,000,000 & -27,000,000 & & \\
\hline 11/20/08 & 0 & 10,000,000 & 10,000,000 & -17,000,000 & & \\
\hline 11/21/08 & -40,000,000 & 60,000,000 & 20,000,000 & 3,000,000 & & \\
\hline 11/22/08 & -85,000,000 & 105,000,000 & 20,000,000 & 23,000,000 & & \\
\hline
\end{tabular}

\section*{Barclays}
\begin{tabular}{lrrrrrrr}
\multicolumn{2}{c}{ abuy_9 } & \multicolumn{2}{c}{ sbuy_9 } & \multicolumn{2}{c}{ asel_9 } & ssel_9 & \multicolumn{2}{c}{ netb_9 } & \multicolumn{1}{l}{ cnet_9 } \\
\(11 / 17 / 08\) & \(-50,000,000\) & & 0 & \(25,000,000\) & 0 & \(-25,000,000\) & \(-25,000,000\) \\
\(11 / 18 / 08\) & \(-75,000,000\) & & 0 & \(25,000,000\) & \(-40,000,000\) & \(-90,000,000\) & \(-115,000,000\) \\
\(11 / 19 / 08\) & \(-26,500,000\) & 0 & \(40,000,000\) & \(-20,000,000\) & \(-6,500,000\) & \(-121,500,000\) \\
\(11 / 20 / 08\) & \(-105,000,000\) & \(10,000,000\) & \(55,000,000\) & 0 & \(-40,000,000\) & \(-161,500,000\) \\
\(11 / 21 / 08\) & \(-35,000,000\) & 0 & \(15,000,000\) & 0 & \(-20,000,000\) & \(-181,500,000\)
\end{tabular}

Bank of America
Trade Date abuy_6 asel_6 ssel_6 sbuy_6 netb_6 cnet_6
\begin{tabular}{rrrrrr}
\(11 / 17 / 2008\) & & - & - & 0 & 0 \\
\(11 / 18 / 08\) & \(-5,000,000\) & \(5,000,000\) & & 0 & 0 \\
\(11 / 19 / 08\) & & \(16,000,000\) & \(-5,000,000\) & \(11,000,000\) & \(11,000,000\) \\
\(11 / 20 / 08\) & & \(5,000,000\) & & \(5,000,000\) & \(16,000,000\) \\
\(11 / 21 / 08\) & \(-10,000,000\) & \(50,000,000\) & & \(40,000,000\) & \(56,000,000\)
\end{tabular}

Credit Suisse
\begin{tabular}{lrlrrrr} 
Sum of Notior move \\
TD & abuy_21 & asel_21 & ssel_21 & sbuy_21 & netb_21 & cnet_21 \\
11/17/2008 & & & 0 & 0 \\
\(11 / 18 / 2008\) & & & & 0 & 0 \\
\(11 / 19 / 08\) & & \(10,000,000\) & & \(10,000,000\) & \(10,000,000\) \\
\(11 / 20 / 08\) & \(-35,000,000\) & \(37,300,000\) & & \(2,300,000\) & \(12,300,000\) \\
\(11 / 21 / 08\) & \(-45,000,000\) & \(109,000,000\) & \(-15,000,000\) & \(49,000,000\) & \(61,300,000\)
\end{tabular}

HSBC
\begin{tabular}{rrrrrr} 
& \multicolumn{2}{c}{ abuy_38 } & asel_38 & sbuy_38 & ssel_38 \\
11/17/2008 & & & netb_38 & \multicolumn{1}{c}{ cnet_38 } \\
\(11 / 18 / 08\) & \(-15,500,000\) & \(10,000,000\) & & 0 & 0 \\
\(11 / 19 / 08\) & \(-2,100,000\) & \(7,100,000\) & & \(-5,500,000\) & \(-5,500,000\) \\
\(11 / 20 / 08\) & \(-35,000,000\) & \(40,000,000\) & & \(5,000,000\) & \(-500,000\) \\
\(11 / 21 / 08\) & \(-15,000,000\) & \(25,000,000\) & & \(5,000,000\) & \(4,500,000\) \\
& & & & \(10,000,000\) & \(14,500,000\)
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline JP Morgan & 45 & & & & \\
\hline & abuy_45 & asel_45 sbuy_45 & ssel_45 & netb_45 & cnet_45 \\
\hline 11/17/08 & -2,300,000 & & & -2,300,000 & -2,300,000 \\
\hline 11/18/08 & & 27,000,000 & & 27,000,000 & 24,700,000 \\
\hline 11/19/08 & -110,000,000 & 60,000,000 & & -50,000,000 & -25,300,000 \\
\hline 11/20/08 & -30,000,000 & 30,000,000 & & 0 & -25,300,000 \\
\hline 11/21/08 & -120,000,000 & 45,000,000 & & -75,000,000 & -100,300,000 \\
\hline
\end{tabular}

Morgan Stanl \(\xlongequal{55} 5\)
\begin{tabular}{|r|rrrrrr}
\multicolumn{2}{c}{ abuy_5 } & asel_5 & sbuy_5 & ssel_5 & & netb_5
\end{tabular} cnet_55
Royal bank scotland
\begin{tabular}{l} 
abuy_112 \\
\(11 / 17 / 08\)
\end{tabular}
asel_112 \(\quad\) sbuy_112 \(\quad\) ssel_112 \(\quad\) netb_112 \(\quad\) cnet_112
\begin{tabular}{rrrrr}
\(11 / 18 / 08\) & -17000000 & 10000000 & \(-7,000,000\) & \(-7,000,000\) \\
\(11 / 19 / 08\) & -22500000 & 12500000 & \(-10,000,000\) & \(-17,000,000\) \\
\(11 / 20 / 08\) & -40700000 & 20000000 & \(-20,700,000\) & \(-37,700,000\) \\
\(11 / 21 / 08\) & -144300000 & 95000000 & \(-49,300,000\) & \(-87,000,000\)
\end{tabular}

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\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Trade Date & abuy_23 & asel_23 & sbuy_23 & ssel_23 & netb_23 & net_23 \\
\hline 11/17/2008 & & & & & 0 & \\
\hline 11/18/08 & -10000000 & & & & -10,000,000 & -10,000,000 \\
\hline 11/19/08 & & 5000000 & & & 5,000,000 & -5,000,000 \\
\hline 11/20/2008 & & & & & 0 & -5,000,000 \\
\hline 11/21/08 & -260000000 & & & & -260,000,000 & -265,000,000 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline Entity & Add to Buy
Side & \begin{tabular}{|c|}
\hline Reduce Sell \\
Side
\end{tabular} & Total & Rank & Share & CShr & Reduce Buy
Side & Add to Sell
Side & Total & Rank & Total & Rank \\
\hline Total & -1,957,419,175 & -471,388,060 & -2,428,807,235 & & & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & 0 & \\
\hline & & & & & & & & & & & & \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD LTD & -3,000,000 & & -3,000,000 & 45 & 0.1\% & 0.1\% & & & & 114 & -3,000,000 & 31 \\
\hline AURELIUS CAPITAL & & & & 48 & 0.0\% & 0.1\% & 10,000,000 & & 10,000,000 & 25 & 10,000,000 & 104 \\
\hline AUTONOMY MASTER FUND LIMITED & -10,000,000 & & -10,000,000 & 28 & 0.4\% & 0.5\% & & & & 102 & -10,000,000 & 16 \\
\hline BANCA IMI S.P.A & & & & 49 & 0.0\% & 0.5\% & 5,000,000 & & 5,000,000 & 31 & 5,000,000 & 94 \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & -40,000,000 & & -40,000,000 & 13 & 1.6\% & 2.2\% & & & & 93 & -40,000,000 & 4 \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & -33,800,000 & 14 & 1.4\% & 3.6\% & & 71,000,000 & 71,000,000 & 9 & 37,200,000 & 111 \\
\hline BANK OF NOVA SCOTIA TORONTO & & & & 50 & 0.0\% & 3.6\% & & 5,000,000 & 5,000,000 & 32 & 5,000,000 & 95 \\
\hline BARCELONA INKA & & & & 51 & 0.0\% & 3.6\% & & 350,000 & 350,000 & 71 & 350,000 & 58 \\
\hline BARCLAYS BANK PLC & -156,079,650 & -40,000,000 & -196,079,650 & 5 & 8.1\% & 11.6\% & 5,000,000 & 191,162,500 & 196,162,500 & 5 & 82,850 & 37 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & -3,258,060 & -3,258,060 & 44 & 0.1\% & 11.8\% & & & & 113 & -3,258,060 & 30 \\
\hline BLACK DIAMOND OFFSHORE, LTD & -225,000 & & -225,000 & 47 & 0.0\% & 11.8\% & & & & 116 & -225,000 & 33 \\
\hline BLUE MTN CREDIT ALTS. MASTER FUND L.P. & -20,000,000 & & -20,000,000 & 22 & 0.8\% & 12.6\% & & 20,000,000 & 20,000,000 & 20 & 0 & 34 \\
\hline BLUEBAY FUND:BLUEBAY INVESTT GR LIBOR FD & & & & 52 & 0.0\% & 12.6\% & & 150,000 & 150,000 & 85 & 150,000 & 42 \\
\hline BLUEBAY INVESTMENT GRADE BOND FUND & & & & 53 & 0.0\% & 12.6\% & & 7,000,000 & 7,000,000 & 28 & 7,000,000 & 102 \\
\hline BLUECREST MULTI STRATEGY CREDIT MSTR FD & & & & 54 & 0.0\% & 12.6\% & & 5,000,000 & 5,000,000 & 33 & 5,000,000 & 96 \\
\hline BNP PARIBAS & -227,313,275 & -40,000,000 & -267,313,275 & 2 & 11.0\% & 23.6\% & 25,000,000 & 235,510,000 & 260,510,000 & 2 & -6,803,275 & 18 \\
\hline CALYON & -10,000,000 & & -10,000,000 & 29 & 0.4\% & 24.0\% & & & & 103 & -10,000,000 & 17 \\
\hline CEDAR HILL CAPITAL PARTNERS & -10,000,000 & & -10,000,000 & 30 & 0.4\% & 24.4\% & 10,000,000 & & 10,000,000 & 24 & 0 & 35 \\
\hline CHEYNE LONG/SHORT STRUCTURED CREDIT FUND & & -31,000,000 & -31,000,000 & 16 & 1.3\% & 25.7\% & 41,000,000 & & 41,000,000 & 15 & 10,000,000 & 103 \\
\hline CQS ABS MASTER FUND LIMITED & -5,000,000 & & -5,000,000 & 35 & 0.2\% & 25.9\% & & & & 107 & -5,000,000 & 23 \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 3.1\% & 29.0\% & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 97,156,250 & 115 \\
\hline DEKA BANK, FRANKFURT & -12,560,000 & & -12,560,000 & 26 & 0.5\% & 29.5\% & & & & 100 & -12,560,000 & 13 \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 16.3\% & 16.3\% & 78,630,000 & 204,500,000 & 283,130,000 & 1 & -113,870,000 & 2 \\
\hline DISCOVERY ATLAS MASTER FUND & -5,000,000 & & -5,000,000 & 36 & 0.2\% & 16.6\% & & & & 108 & -5,000,000 & 24 \\
\hline DOUBLE BLACK DIAMOND OFFSHORE LDC & \(-4,775,000\) & & \(-4,775,000\) & 42 & 0.2\% & 16.7\% & & & & 111 & \(-4,775,000\) & 27 \\
\hline DWS CREDIT OPPORTUNITIES & -5,010,000 & & -5,010,000 & 34 & 0.2\% & 17.0\% & & & & 106 & -5,010,000 & 22 \\
\hline ES CAPITALIZACAO & -10,270,500 & & -10,270,500 & 27 & 0.4\% & 17.4\% & & & & 101 & -10,270,500 & 14 \\
\hline ES RENDA & -5,385,750 & & -5,385,750 & 33 & 0.2\% & 17.6\% & & & & 105 & -5,385,750 & 21 \\
\hline FOND BVOE SEGMENT UNTERFONDS W & & & & 55 & 0.0\% & 17.6\% & & 600,000 & 600,000 & 63 & 600,000 & 65 \\
\hline FORE CONVERTIBLE MASTER FUND, LTD. & & -32,800,000 & -32,800,000 & 15 & 1.4\% & 18.9\% & & 16,400,000 & 16,400,000 & 21 & -16,400,000 & 12 \\
\hline FORE ERISA FUND, LTD. & & -7,200,000 & -7,200,000 & 31 & 0.3\% & 19.2\% & & 3,600,000 & 3,600,000 & 40 & -3,600,000 & 29 \\
\hline FORE MULTI STRATEGY MASTER FUND,LTD. & & -20,000,000 & -20,000,000 & 23 & 0.8\% & 20.1\% & & 10,000,000 & 10,000,000 & 23 & -10,000,000 & 15 \\
\hline GENERAL AMERICAN LIFE INSURANCE COMPANY & -27,000,000 & & -27,000,000 & 17 & 1.1\% & 21.2\% & & & & 94 & -27,000,000 & 5 \\
\hline GENERAL ELECTRIC PENSION TRUST & & & & 56 & 0.0\% & 21.2\% & & 15,000,000 & 15,000,000 & 22 & 15,000,000 & 107 \\
\hline GOLDMAN SACHS & -160,600,000 & -40,000,000 & -200,600,000 & 4 & 8.3\% & 29.4\% & 56,500,000 & 125,000,000 & 181,500,000 & 7 & -19,100,000 & 11 \\
\hline HALBIS US CREDIT ALPHA MASTER FD LTD & & & & 57 & 0.0\% & 29.4\% & 5,000,000 & & 5,000,000 & 34 & 5,000,000 & 97 \\
\hline HPK-INVESTMENT GRADE CORPORATES & & & & 58 & 0.0\% & 29.4\% & & 300,000 & 300,000 & 72 & 300,000 & 49 \\
\hline HSBC BANK & -62,600,000 & & -62,600,000 & 10 & 2.6\% & 32.0\% & & 67,100,000 & 67,100,000 & 11 & 4,500,000 & 91 \\
\hline ICM BUSINESS TRUST & & & & 59 & 0.0\% & 32.0\% & 2,500,000 & & 2,500,000 & 44 & 2,500,000 & 85 \\
\hline ING & & & & 60 & 0.0\% & 32.0\% & & 10,000,000 & 10,000,000 & 26 & 10,000,000 & 105 \\
\hline INTERN KAPIT MBH (PRV-C) & & & & 61 & 0.0\% & 32.0\% & & 150,000 & 150,000 & 86 & 150,000 & 43 \\
\hline IONIC CAPITAL MASTER FUND LTD & & & & 62 & 0.0\% & 32.0\% & 22,500,000 & & 22,500,000 & 18 & 22,500,000 & 108 \\
\hline JMG & & & & 63 & 0.0\% & 32.0\% & 5,000,000 & & 5,000,000 & 35 & 5,000,000 & 98 \\
\hline JNL & -20,000,000 & & -20,000,000 & 24 & 0.8\% & 32.8\% & & & & 98 & -20,000,000 & 9 \\
\hline JPMORGAN CHASE BANK & -151,400,000 & -30,000,000 & -181,400,000 & 6 & 7.5\% & 40.3\% & 10,000,000 & 173,258,060 & 183,258,060 & 6 & 1,858,060 & 81 \\
\hline KAMUNTING STREET MASTER FUND LTD & & & & 64 & 0.0\% & 40.3\% & 5,000,000 & & 5,000,000 & 36 & 5,000,000 & 99 \\
\hline KBC FIN. PRODUCTS (CAYMAN ISLANDS)LTD. & -5,000,000 & & -5,000,000 & 37 & 0.2\% & 40.5\% & & & & 109 & -5,000,000 & 25 \\
\hline KEYBANK NATIONAL ASSOCIATION & -20,000,000 & & -20,000,000 & 25 & 0.8\% & 41.3\% & & & & 99 & -20,000,000 & 10 \\
\hline LEHMAN BROTHERS CREDIT ARBITRAGE FUND & & & & 65 & 0.0\% & 41.3\% & 5,000,000 & & 5,000,000 & 37 & 5,000,000 & 100 \\
\hline MAGNETAR & -50,000,000 & & -50,000,000 & 11 & 2.1\% & 43.4\% & & & & 92 & -50,000,000 & 3 \\
\hline MARATHON & -50,000,000 & & -50,000,000 & 12 & 2.1\% & 45.5\% & 55,000,000 & & 55,000,000 & 13 & 5,000,000 & 93 \\
\hline MARINER-TRICADIA CRD STRAT MASTER FD LTD & & & & 66 & 0.0\% & 45.5\% & & 3,500,000 & 3,500,000 & 41 & 3,500,000 & 90 \\
\hline MERRILL LYNCH INTERNATIONAL & -27,000,000 & & -27,000,000 & 18 & 1.1\% & 46.6\% & & 20,300,000 & 20,300,000 & 19 & -6,700,000 & 19 \\
\hline METLIFE INSURANCE COMPANY OF CONNECTICUT & -22,000,000 & & -22,000,000 & 21 & 0.9\% & 47.5\% & & & & 97 & -22,000,000 & 8 \\
\hline MORGAN STANLEY & -31,000,000 & -76,000,000 & -107,000,000 & 8 & 4.4\% & 51.9\% & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 104,313,275 & 116 \\
\hline NATIONAL BANK OF CANADA & -5,500,000 & & -5,500,000 & 32 & 0.2\% & 52.1\% & & & & 104 & -5,500,000 & 20 \\
\hline NOMURA INTERNATIONAL PLC & \(-5,000,000\) & & \(-5,000,000\) & 38 & 0.2\% & 52.3\% & & 45,000,000 & 45,000,000 & 14 & 40,000,000 & 112 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline bear & bull & netbull \\
\hline 1 & 45. & \multirow{3}{*}{(Net Bullis!} \\
\hline 2 - & & \\
\hline 3 & 28 - & \\
\hline 4. & & 31 \\
\hline 5 & 13. & \multirow{4}{*}{(Net Bullisl} \\
\hline 6 & 14 & \\
\hline 7 - & & \\
\hline 8 - & & \\
\hline 9 & 5 & \multirow[t]{3}{*}{} \\
\hline 10 & 44. & \\
\hline 11 & 47 - & \\
\hline 12 & 22 & 20 \\
\hline 13 - & & \multirow{3}{*}{(Net Bullisl} \\
\hline 14. & & \\
\hline 15. & & \\
\hline 16 & 2 & 2 \\
\hline 17 & 29. & \\
\hline 18 & 30 & 24 \\
\hline 19 & 16 & \multirow[t]{2}{*}{(Net Bullisl} \\
\hline 20 & 35. & \\
\hline 21 & 9 & \multirow[t]{2}{*}{(Net Bullisl} \\
\hline 22 & 26. & \\
\hline 23 & 1 & \\
\hline 24 & 36 - & \\
\hline 25 & 42. & \\
\hline 26 & 34. & \\
\hline 27 & 27. & \\
\hline 28 & 33 - & \\
\hline 29 - & & \\
\hline 30 & 15 & 21 \\
\hline 31 & 31 & \multirow[t]{2}{*}{40
23} \\
\hline 32 & 23 & \\
\hline 33 & 17 - & \\
\hline 34. & & (Net Bullis \\
\hline 35 & \multirow[t]{3}{*}{4} & \multirow[t]{2}{*}{7
34} \\
\hline 36. & & \\
\hline 37. & & 72 \\
\hline 38 & \multirow[t]{6}{*}{10} & 11 \\
\hline 39. & & 44 \\
\hline 40 - & & \multirow[t]{2}{*}{(Net Bullis} \\
\hline 41. & & \\
\hline 42. & & 18 (Net Bullisl \\
\hline 43 - & & 35 \\
\hline 44 & \multicolumn{2}{|l|}{24 -} \\
\hline 45 & 6 & 6 \\
\hline 46. & & 36 \\
\hline 47 & \multicolumn{2}{|l|}{37 -} \\
\hline 48 & \multicolumn{2}{|l|}{25.} \\
\hline 49 - & & 37 \\
\hline 50 & \multicolumn{2}{|l|}{11.} \\
\hline 51 & \multirow[t]{2}{*}{12} & \\
\hline 52. & & \[
\begin{aligned}
& 13 \\
& 41
\end{aligned}
\] \\
\hline 53 & 18 & 19 \\
\hline 54 & \multicolumn{2}{|l|}{21.} \\
\hline 55 & 8 & 4 (Net Bullisl \\
\hline 56 & 32 - & \\
\hline & 38 & 14 (Net Bullisl \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Entity} & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline & Add to Buy
Side & Reduce Sell
Side & Total & Rank & Share & CShr & \[
\begin{aligned}
& \text { Reduce Buy } \\
& \text { Side }
\end{aligned}
\] & Add to Sell
Side & Total & Rank & Total & Rank \\
\hline NORGES BANK - INVESTMENT MANAGEMENT \#1 & & & & 67 & 0.0\% & 52.3\% & 25,000,000 & & 25,000,000 & 17 & 25,000,000 & 109 \\
\hline PAULSON CREDIT OPPORTUNITIES MASTER LTD & & & & 68 & 0.0\% & 52.3\% & 70,000,000 & & 70,000,000 & 10 & 70,000,000 & 114 \\
\hline PIM1338 & & & & 69 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 73 & 300,000 & 50 \\
\hline PIM1356 & & & & 70 & 0.0\% & 52.3\% & & 500,000 & 500,000 & 65 & 500,000 & 61 \\
\hline PIM1357 & & & & 71 & 0.0\% & 52.3\% & & 2,500,000 & 2,500,000 & 45 & 2,500,000 & 86 \\
\hline PIM1358 & & & & 72 & 0.0\% & 52.3\% & & 1,300,000 & 1,300,000 & 51 & 1,300,000 & 78 \\
\hline PIM1422 & & & & 73 & 0.0\% & 52.3\% & 500,000 & & 500,000 & 66 & 500,000 & 62 \\
\hline PIM1628 & & & & 74 & 0.0\% & 52.3\% & 700,000 & & 700,000 & 61 & 700,000 & 67 \\
\hline PIM1833 & & & & 75 & 0.0\% & 52.3\% & 1,000,000 & & 1,000,000 & 55 & 1,000,000 & 73 \\
\hline PIM1941 & & & & 76 & 0.0\% & 52.3\% & & 800,000 & 800,000 & 59 & 800,000 & 69 \\
\hline PIM2071 & & & & 77 & 0.0\% & 52.3\% & & 200,000 & 200,000 & 81 & 200,000 & 45 \\
\hline PIM2086 & & & & 78 & 0.0\% & 52.3\% & & 1,100,000 & 1,100,000 & 54 & 1,100,000 & 75 \\
\hline PIM2136 & & & & 79 & 0.0\% & 52.3\% & & 900,000 & 900,000 & 57 & 900,000 & 71 \\
\hline PIM2224 & & & & 80 & 0.0\% & 52.3\% & 1,000,000 & & 1,000,000 & 56 & 1,000,000 & 74 \\
\hline PIM2232 & & & & 81 & 0.0\% & 52.3\% & 2,700,000 & & 2,700,000 & 43 & 2,700,000 & 88 \\
\hline PIM2307 & & & & 82 & 0.0\% & 52.3\% & & 1,200,000 & 1,200,000 & 52 & 1,200,000 & 76 \\
\hline PIM2355 & & & & 83 & 0.0\% & 52.3\% & & 100,000 & 100,000 & 88 & 100,000 & 38 \\
\hline PIM2400 & & & & 84 & 0.0\% & 52.3\% & & 100,000 & 100,000 & 89 & 100,000 & 39 \\
\hline PIM2466 & & & & 85 & 0.0\% & 52.3\% & 600,000 & & 600,000 & 64 & 600,000 & 66 \\
\hline PIM2660 & & & & 86 & 0.0\% & 52.3\% & & 500,000 & 500,000 & 67 & 500,000 & 63 \\
\hline PIM2679 & & & & 87 & 0.0\% & 52.3\% & & 900,000 & 900,000 & 58 & 900,000 & 72 \\
\hline PIM2687 & & & & 88 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 74 & 300,000 & 51 \\
\hline PIM2739 & & & & 89 & 0.0\% & 52.3\% & 200,000 & & 200,000 & 82 & 200,000 & 46 \\
\hline PIM2755 & & & & 90 & 0.0\% & 52.3\% & 300,000 & & 300,000 & 75 & 300,000 & 52 \\
\hline PIM2809 & & & & 91 & 0.0\% & 52.3\% & & 1,600,000 & 1,600,000 & 49 & 1,600,000 & 80 \\
\hline PIM2879 & & & & 92 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 76 & 300,000 & 53 \\
\hline PIM2909 & & & & 93 & 0.0\% & 52.3\% & & 2,800,000 & 2,800,000 & 42 & 2,800,000 & 89 \\
\hline PIM2958 & & & & 94 & 0.0\% & 52.3\% & & 800,000 & 800,000 & 60 & 800,000 & 70 \\
\hline PIM3689 & & & & 95 & 0.0\% & 52.3\% & & 500,000 & 500,000 & 68 & 500,000 & 64 \\
\hline PIM3691 & & & & 96 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 77 & 300,000 & 54 \\
\hline PIM3706 & & & & 97 & 0.0\% & 52.3\% & 200,000 & & 200,000 & 83 & 200,000 & 47 \\
\hline PIM4632 & & & & 98 & 0.0\% & 52.3\% & & 400,000 & 400,000 & 69 & 400,000 & 59 \\
\hline PIM4690 & & & & 99 & 0.0\% & 52.3\% & & 4,800,000 & 4,800,000 & 39 & 4,800,000 & 92 \\
\hline PIM4692 & & & & 100 & 0.0\% & 52.3\% & & 1,200,000 & 1,200,000 & 53 & 1,200,000 & 77 \\
\hline PIM4807 & & & & 101 & 0.0\% & 52.3\% & & 2,500,000 & 2,500,000 & 46 & 2,500,000 & 87 \\
\hline PIM4866 & & & & 102 & 0.0\% & 52.3\% & & 2,000,000 & 2,000,000 & 47 & 2,000,000 & 83 \\
\hline PIM6009 & & & & 103 & 0.0\% & 52.3\% & & 200,000 & 200,000 & 84 & 200,000 & 48 \\
\hline PIM6160 & & & & 104 & 0.0\% & 52.3\% & 2,000,000 & & 2,000,000 & 48 & 2,000,000 & 84 \\
\hline PIM6169 & & & & 105 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 78 & 300,000 & 55 \\
\hline PIM6230 & & & & 106 & 0.0\% & 52.3\% & & 400,000 & 400,000 & 70 & 400,000 & 60 \\
\hline PIM6320 & & & & 107 & 0.0\% & 52.3\% & 100,000 & & 100,000 & 90 & 100,000 & 40 \\
\hline PIM6400 & & & & 108 & 0.0\% & 52.3\% & & 700,000 & 700,000 & 62 & 700,000 & 68 \\
\hline PIM6888 & & & & 109 & 0.0\% & 52.3\% & 100,000 & & 100,000 & 91 & 100,000 & 41 \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & & & & 110 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 79 & 300,000 & 56 \\
\hline PURSUIT & & & & 111 & 0.0\% & 52.3\% & 35,000,000 & & 35,000,000 & 16 & 35,000,000 & 110 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS CAP & & & & 112 & 0.0\% & 52.3\% & & 150,000 & 150,000 & 87 & 150,000 & 44 \\
\hline RBS GMP & -5,000,000 & & -5,000,000 & 39 & 0.2\% & 52.5\% & 5,000,000 & & 5,000,000 & 30 & 0 & 36 \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 6.4\% & 58.9\% & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 65,000,000 & 113 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND LTD. & & & & 113 & 0.0\% & 58.9\% & 5,000,000 & & 5,000,000 & 38 & 5,000,000 & 101 \\
\hline SCHRODER STERLING BROAD MKTS BOND FUND & -5,000,000 & & -5,000,000 & 40 & 0.2\% & 59.1\% & & & & 110 & -5,000,000 & 26 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & -25,000,000 & & -25,000,000 & 19 & 1.0\% & 60.1\% & & & & 95 & -25,000,000 & 6 \\
\hline SSSF STERLING BROAD MARKET BOND LIBOR & -2,500,000 & & -2,500,000 & 46 & 0.1\% & 60.2\% & & & & 115 & -2,500,000 & 32 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE MEDIA & & & & 114 & 0.0\% & 60.2\% & & 300,000 & 300,000 & 80 & 300,000 & 57 \\
\hline THE CONUS FUND & & & & 115 & 0.0\% & 60.2\% & 10,000,000 & & 10,000,000 & 27 & 10,000,000 & 106 \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & 8.9\% & 69.2\% & & 56,297,500 & 56,297,500 & 12 & -160,602,500 & 1 \\
\hline TRAXIS FUND LP & & -3,630,000 & -3,630,000 & 43 & 0.1\% & 69.3\% & & & & 112 & -3,630,000 & 28 \\
\hline TRG INFLATION & -23,000,000 & & -23,000,000 & 20 & 0.9\% & 70.3\% & & & & 96 & -23,000,000 & 7 \\
\hline TRICADIA DISTRESSED AND SPCL MTR FD LT & & & & 116 & 0.0\% & 70.3\% & & 1,500,000 & 1,500,000 & 50 & 1,500,000 & 79 \\
\hline UBS AG & & -5,000,000 & -5,000,000 & 41 & 0.2\% & 70.5\% & 5,000,000 & 1,879,650 & 6,879,650 & 29 & 1,879,650 & 82 \\
\hline
\end{tabular}

Citigroup Credit Default Swap Transactions November 17, 2008 - November 21, 2008


■New Trade
■Assignment: New Buyer
-Assignment: New Seller
-Terminate

Citigroup Stock Price and Volume
October 1, 2008 - December 26, 2008


Citigroup Credit Default Swap Transactions: New Trades November 17, 2008 - November 21, 2008

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{\begin{tabular}{l}
Top 15 Bearish \\
Entity
\end{tabular}} & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{3}{|l|}{Net Bearish Position} & \multirow[b]{2}{*}{Note on Daily Activity from Looking at Chart} \\
\hline & \[
\begin{aligned}
& \text { Add to Buy } \\
& \text { Side }
\end{aligned}
\] & \[
\begin{gathered}
\text { Reduce Sell } \\
\text { Side }
\end{gathered}
\] & Total & Rank & Share & CShr & Reduce Buy
Side & \[
\begin{aligned}
& \text { Add to Sell } \\
& \text { Side } \\
& \hline
\end{aligned}
\] & Total & Rank & Total & \[
\begin{array}{|c|}
\hline \text { Net } \\
\text { Bearish } \\
\text { Rank }
\end{array}
\] & \[
\begin{aligned}
& \text { Net } \\
& \text { Bullish } \\
& \text { Rank }
\end{aligned}
\] & \\
\hline Total & -1,957,419,175 & -471,388,060 & \(-2,428,807,235\) & & & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & 0 & & & \\
\hline & & & & & & & & & & & & & & \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 16.3\% & 16.3\% & 78,630,000 & 204,500,000 & 283,130,000 & 1 & -113,870,000 & 2 & 115 & Bullish through Wed, Big buy Thurs. Very big buy Friday. \\
\hline BNP PARIBAS & -227,313,275 & -40,000,000 & -267,313,275 & 2 & 11.0\% & 27.4\% & 25,000,000 & 235,510,000 & 260,510,000 & 2 & -6,803,275 & 18 & 99 & Buying and selling throughout. Stayed about even. \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & 8.9\% & 36.3\% & & 56,297,500 & 56,297,500 & 12 & -160,602,500 & 1 & 116 & Gigantic buys on Fri. \\
\hline GOLDMAN SACHS & -160,600,000 & -40,000,000 & -200,600,000 & 4 & 8.3\% & 44.5\% & 56,500,000 & 125,000,000 & 181,500,000 & 7 & -19,100,000 & 11 & 106 & Appoximately even through Thurs. Big sell Fri and bigger buy. \\
\hline BARCLAYS BANK PLC & -156,079,650 & -40,000,000 & -196,079,650 & 5 & 8.1\% & 52.6\% & 5,000,000 & 191,162,500 & 196,162,500 & 5 & 82,850 & 37 & 80 & Activity balanced out. \\
\hline JPMORGAN CHASE BANK & -151,400,000 & -30,000,000 & -181,400,000 & 6 & 7.5\% & 60.1\% & 10,000,000 & 173,258,060 & 183,258,060 & 6 & 1,858,060 & 81 & 36 & Activity balanced out. \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 6.4\% & 66.5\% & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 65,000,000 & 113 & 4 & Big buy Friday and even bigger sell. \\
\hline MORGAN STANLEY & \(-31,000,000\) & -76,000,000 & -107,000,000 & 8 & 4.4\% & 70.9\% & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 104,313,275 & 116 & 1 & Gigantic sell on Friday. \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 3.1\% & 74.0\% & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 97,156,250 & 115 & 2 & Close to even and then big sell Friday. \\
\hline HSBC BANK & -62,600,000 & & -62,600,000 & 10 & 2.6\% & 76.5\% & & 67,100,000 & 67,100,000 & 11 & 4,500,000 & 91 & 26 & Activity balanced out. \\
\hline MAGNETAR & \(-50,000,000\) & & -50,000,000 & 11 & 2.1\% & 78.6\% & & & & 92 & -50,000,000 & 3 & 114 & Buy on Friday only activity. \\
\hline MARATHON & \(-50,000,000\) & & -50,000,000 & 12 & 2.1\% & 80.7\% & 55,000,000 & & 55,000,000 & 13 & 5,000,000 & 93 & 24 & Buy Wed. Reduce buy Thurs and Friday. Looks profitable. \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & \(-40,000,000\) & & \(-40,000,000\) & 13 & 1.6\% & 82.3\% & & & & 93 & -40,000,000 & 4 & 113 & Buy Wed. and Thurs. \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & \(-33,800,000\) & 14 & 1.4\% & 83.7\% & & 71,000,000 & 71,000,000 & 9 & 37,200,000 & 111 & 6 & Selling throughout. Buy on Friday and big Sell on Friday. \\
\hline FORE CONVERTIBLE MASTER FUND, LTD. & & -32,800,000 & -32,800,000 & 15 & 1.4\% & 85.0\% & & 16,400,000 & 16,400,000 & 21 & -16,400,000 & 12 & 105 & Sell Wed and Thurs. Reduce sell Friday. \\
\hline
\end{tabular}

Summary of Citigroup Credit Default Swap Transactions
Top 15 Entities Making Net Bearish Trades Over the Week
November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Top 15 Net Bearish} & \multicolumn{4}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|l|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{5}{|c|}{Net Bearish Position} & \multirow[b]{2}{*}{Note on Daily Activity from Looking at Chart} \\
\hline & \[
\begin{aligned}
& \text { Add to Buy } \\
& \text { Side } \\
& \hline
\end{aligned}
\] & \[
\begin{aligned}
& \text { Reduce Sell } \\
& \text { Side }
\end{aligned}
\] & Total & Rank & Reduce Buy
Side & \[
\begin{gathered}
\text { Add to Sell } \\
\text { Side } \\
\hline
\end{gathered}
\] & Total & Rank & Total & Bearish Rank & Share & CShr & Bullish & \\
\hline Total & -1,957,419,175 & -471,388,060 & -2,428,807,235 & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & -660,190,085 & & & & & \\
\hline & & & & & & & & & & & & & & \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & & 56,297,500 & 56,297,500 & 12 & -160,602,500 & 1 & 24.3\% & 24.3\% & 116 & Gigantic buys on Fri. \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 78,630,000 & 204,500,000 & 283,130,000 & 1 & -113,870,000 & 2 & 17.2\% & 41.6\% & 115 & Bullish through Wed, Big buy Thurs. Very big buy Friday. \\
\hline MAGNETAR & -50,000,000 & & \(-50,000,000\) & 11 & & & & 92 & -50,000,000 & 3 & 7.6\% & 49.1\% & 114 & Buy on Friday only activity. \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & -40,000,000 & & -40,000,000 & 13 & & & & 93 & -40,000,000 & 4 & 6.1\% & 55.2\% & 113 & Buy Wed. and Thurs. \\
\hline GENERAL AMERICAN LIFE INSURANCE COMPANY & -27,000,000 & & -27,000,000 & 17 & & & & 94 & -27,000,000 & 5 & 4.1\% & 59.3\% & 112 & Buy Friday - only activity. \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & -25,000,000 & & -25,000,000 & 19 & & & & 95 & -25,000,000 & 6 & 3.8\% & 63.1\% & 111 & Buy Wed. and Fri. \\
\hline TRG INFLATION & -23,000,000 & & -23,000,000 & 20 & & & & 96 & -23,000,000 & 7 & 3.5\% & 66.6\% & 110 & Buy Friday - only activity. \\
\hline METLIFE INSURANCE COMPANY OF CONNECTICUT & -22,000,000 & & -22,000,000 & 21 & & & & 97 & -22,000,000 & 8 & 3.3\% & 69.9\% & 109 & Buy Friday - only activity. \\
\hline JNL & -20,000,000 & & -20,000,000 & 24 & & & & 98 & -20,000,000 & 9 & 3.0\% & 72.9\% & 108 & Buy Friday - only activity. \\
\hline KEYBANK NATIONAL ASSOCIATION & -20,000,000 & & -20,000,000 & 25 & & & & 99 & -20,000,000 & 10 & 3.0\% & 76.0\% & 107 & Buy Thursday - only activity. \\
\hline GOLDMAN SACHS & -160,600,000 & \(-40,000,000\) & -200,600,000 & 4 & 56,500,000 & 125,000,000 & 181,500,000 & 7 & -19,100,000 & 11 & 2.9\% & 78.9\% & 106 & Appoximately even through Thurs. Big sell Fri and bigger buy. \\
\hline FORE CONVERTIBLE MASTER FUND, LTD. & & -32,800,000 & -32,800,000 & 15 & & 16,400,000 & 16,400,000 & 21 & -16,400,000 & 12 & 2.5\% & 81.3\% & 105 & Reduce sell side Friday. \\
\hline DEKA BANK, FRANKFURT & -12,560,000 & & -12,560,000 & 26 & & & & 100 & -12,560,000 & 13 & 1.9\% & 83.2\% & 104 & Buy Wed. and Thurs. \\
\hline ES CAPITALIZACAO & -10,270,500 & & -10,270,500 & 27 & & & & 101 & -10,270,500 & 14 & 1.6\% & 84.8\% & 103 & Buy Thursday - only activity. \\
\hline FORE MULTI STRATEGY MASTER FUND,LTD. & & -20,000,000 & -20,000,000 & 23 & & 10,000,000 & 10,000,000 & 23 & -10,000,000 & 15 & 1.5\% & 86.3\% & 102 & Sell Wed and Thurs. Reduce sell Friday. \\
\hline
\end{tabular}

November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{\begin{tabular}{l}
Top 15 Bullish \\
Entity
\end{tabular}} & \multicolumn{4}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{6}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{3}{|l|}{Net Bearish Position} & \multirow[b]{2}{*}{Note on Daily Activity from Looking at Chart} \\
\hline & \[
\begin{aligned}
& \text { Add to Buy } \\
& \text { Side } \\
& \hline
\end{aligned}
\] & \[
\begin{gathered}
\text { Reduce Sell } \\
\text { Side } \\
\hline
\end{gathered}
\] & Total & Rank & \[
\begin{gathered}
\text { Reduce Buy } \\
\text { Side }
\end{gathered}
\] & \[
\begin{gathered}
\text { Add to Sell } \\
\text { Side } \\
\hline
\end{gathered}
\] & Total & Rank & Share & CShr & Total & Bearish Rank & Bullish & \\
\hline Total & -1,957,419,175 & -471,388,060 & -2,428,807,235 & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & & & 0 & & & \\
\hline & & & & & & & & & & & & & & \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 78,630,000 & 204,500,000 & 283,130,000 & 1 & 11.7\% & 11.7\% & -113,870,000 & 2 & 115 & Bullish through Wed, Big buy Thurs. Very big buy Friday. \\
\hline BNP PARIBAS & -227,313,275 & -40,000,000 & -267,313,275 & 2 & 25,000,000 & 235,510,000 & 260,510,000 & 2 & 10.7\% & 22.4\% & -6,803,275 & 18 & 99 & Buying and selling throughout. Stayed about even. \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 9.1\% & 31.4\% & 65,000,000 & 113 & 4 & Big buy Friday and even bigger sell. \\
\hline MORGAN STANLEY & -31,000,000 & -76,000,000 & -107,000,000 & 8 & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 8.7\% & 40.1\% & 104,313,275 & 116 & 1 & Gigantic sell on Friday. \\
\hline BARCLAYS BANK PLC & -156,079,650 & -40,000,000 & -196,079,650 & 5 & 5,000,000 & 191,162,500 & 196,162,500 & 5 & 8.1\% & 48.2\% & 82,850 & 37 & 80 & Activity balanced out. \\
\hline JPMORGAN CHASE BANK & -151,400,000 & -30,000,000 & -181,400,000 & 6 & 10,000,000 & 173,258,060 & 183,258,060 & 6 & 7.5\% & 55.8\% & 1,858,060 & 81 & 36 & Activity balanced out. \\
\hline GOLDMAN SACHS & -160,600,000 & \(-40,000,000\) & -200,600,000 & 4 & 56,500,000 & 125,000,000 & 181,500,000 & 7 & 7.5\% & 63.2\% & -19,100,000 & 11 & 106 & Appoximately even through Thurs. Big sell Fri and bigger buy. \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 7.1\% & 70.3\% & 97,156,250 & 115 & 2 & Close to even and then big sell Friday. \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & -33,800,000 & 14 & & 71,000,000 & 71,000,000 & 9 & 2.9\% & 73.2\% & 37,200,000 & 111 & 6 & Selling throughout. Buy on Friday and big Sell on Friday. \\
\hline PAULSON CREDIT OPPORTUNITIES MASTER LTD & & & & 68 & 70,000,000 & & 70,000,000 & 10 & 2.9\% & 76.1\% & 70,000,000 & 114 & 3 & Big reduce buy on Friday - only activity. Profitable timing. \\
\hline HSBC BANK & -62,600,000 & & -62,600,000 & 10 & & 67,100,000 & 67,100,000 & 11 & 2.8\% & 78.9\% & 4,500,000 & 91 & 26 & Activity balanced out. \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & & 56,297,500 & 56,297,500 & 12 & 2.3\% & 81.2\% & -160,602,500 & 1 & 116 & Gigantic buys on Fri. \\
\hline MARATHON & -50,000,000 & & -50,000,000 & 12 & 55,000,000 & & 55,000,000 & 13 & 2.3\% & 83.5\% & 5,000,000 & 93 & 24 & Buy Wed. Reduce buy Thurs and Friday. Looks profitable. \\
\hline NOMURA INTERNATIONAL PLC & -5,000,000 & & -5,000,000 & 38 & & 45,000,000 & 45,000,000 & 14 & 1.9\% & 85.3\% & 40,000,000 & 112 & 5 & Big sell Thursday \\
\hline CHEYNE LONG/SHORT STRUCTURED CREDIT FUND & & -31,000,000 & -31,000,000 & 16 & 41,000,000 & & 41,000,000 & 15 & 1.7\% & 87.0\% & 10,000,000 & 103 & 14 & Reduce buys and sells mostly evens out. \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{\begin{tabular}{l}
Top 15 Net Bullish \\
Entity
\end{tabular}} & \multicolumn{4}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{6}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{5}{|c|}{Net Bullish Position} & \multirow[b]{2}{*}{Note on Daily Activity from Looking at Chart} \\
\hline & \[
\begin{gathered}
\text { Add to Buy } \\
\text { Side } \\
\hline \hline
\end{gathered}
\] & \[
\begin{gathered}
\text { Reduce Sell } \\
\text { Side }
\end{gathered}
\] & Total & Rank & \[
\begin{gathered}
\text { Reduce Buy } \\
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\end{gathered}
\] & \[
\begin{gathered}
\text { Add to Sell } \\
\text { Side } \\
\hline \hline
\end{gathered}
\] & Total & Rank & Share & CShr & Total & \[
\begin{array}{|c|}
\hline \text { Net } \\
\text { Bearish } \\
\text { Rank } \\
\hline
\end{array}
\] &  & Share & CShr & \\
\hline Total & -1,957,419,175 & \(-471,388,060\) & \(-2,428,807,235\) & & 606,530,000 & 1,822,277, 235 & 2,428,807, 235 & & & & 660,190,085 & & & & & \\
\hline & & & & & & & & & & & & & & & & \\
\hline MORGAN STANLEY & -31,000,000 & -76,000,000 & -107,000,000 & 8 & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 8.7\% & 8.7\% & 104,313,275 & 116 & 1 & 15.8\% & 15.8\% & Gigantic sell on Friday. \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 7.1\% & 15.8\% & 97,156,250 & 115 & 2 & 14.7\% & 30.5\% & Close to even and then big sell Friday. \\
\hline PAULSON CREDIT OPPORTUNITIES MASTER LTD & & & & 68 & 70,000,000 & & 70,000,000 & 10 & 2.9\% & 18.7\% & 70,000,000 & 114 & 3 & 10.6\% & 41.1\% & Big reduce buy on Friday - only activity. Profitable timing. \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 9.1\% & 27.7\% & 65,000,000 & 113 & 4 & 9.8\% & 51.0\% & Big buy Friday and even bigger sell. \\
\hline NOMURA INTERNATIONAL PLC & -5,000,000 & & -5,000,000 & 38 & & 45,000,000 & 45,000,000 & 14 & 1.9\% & 29.6\% & 40,000,000 & 112 & 5 & 6.1\% & 57.0\% & Big sell Thursday \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & -33,800,000 & 14 & & 71,000,000 & 71,000,000 & 9 & 2.9\% & 32.5\% & 37,200,000 & 111 & 6 & 5.6\% & 62.7\% & Selling throughout. Buy on Friday and big Sell on Friday. \\
\hline PURSUIT & & & & 111 & 35,000,000 & & 35,000,000 & 16 & & & 35,000,000 & 110 & 7 & 5.3\% & 68.0\% & Big reduce buy on Thursday - only activity. \\
\hline NORGES BANK - INVESTMENT MANAGEMENT \#1 & & & & 67 & 25,000,000 & & 25,000,000 & 17 & & & 25,000,000 & 109 & 8 & 3.8\% & 71.7\% & Big reduce buy on Friday - only activity. Profitable timing. \\
\hline IONIC CAPITAL MASTER FUND LTD & & & & 62 & 22,500,000 & & 22,500,000 & 18 & & & 22,500,000 & 108 & 9 & 3.4\% & 75.2\% & Reduce buy Thur. and Fri. Profitable timing. \\
\hline GENERAL ELECTRIC PENSION TRUST & & & & 56 & & 15,000,000 & 15,000,000 & 22 & & & 15,000,000 & 107 & 10 & 2.3\% & 77.4\% & Big sell Thursday \\
\hline THE CONUS FUND & & & & 115 & 10,000,000 & & 10,000,000 & 27 & & & 10,000,000 & 106 & 11 & 1.5\% & 78.9\% & Reduce buy Tues - only activity. \\
\hline ING & & & & 60 & & 10,000,000 & 10,000,000 & 26 & & & 10,000,000 & 105 & 12 & 1.5\% & 80.5\% & Sell Thurs. - only activity. \\
\hline AURELIUS CAPITAL & & & & 48 & 10,000,000 & & 10,000,000 & 25 & & & 10,000,000 & 104 & 13 & 1.5\% & 82.0\% & Reduce buy Wed. - only activity. \\
\hline CHEYNE LONG/SHORT STRUCTURED CREDIT FUND & & -31,000,000 & \(-31,000,000\) & 16 & 41,000,000 & & 41,000,000 & 15 & 1.7\% & 1.7\% & 10,000,000 & 103 & 14 & 1.5\% & 83.5\% & Reduce buys and sells mostly evens out. \\
\hline BLUEBAY INVESTMENT GRADE BOND FUND & & & & 53 & & 7,000,000 & 7,000,000 & 28 & & & 7,000,000 & 102 & 15 & 1.1\% & 84.5\% & Sell Thurs. - only activity. \\
\hline
\end{tabular}

\section*{Summary of Citigroup Credit Default Swap Transactions}

November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|l|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline Entity & Add to Buy
Side & \[
\begin{gathered}
\text { Reduce Sell } \\
\text { Side } \\
\hline
\end{gathered}
\] & Total & Rank & Share & CShr & Reduce Buy
Side & \begin{tabular}{l|l}
\hline Add to Sell \\
Side
\end{tabular} & Total & Rank & Total & Rank \\
\hline & & & & & & & & & & & & \\
\hline Total & -1,957,419,175 & -471,388,060 & -2,428,807,235 & & & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & 0 & \\
\hline & & & & & & & & & & & & \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 16.3\% & 16.3\% & 78,630,000 & 204,500,000 & 283,130,000 & 1 & -113,870,000 & 2 \\
\hline BNP PARIBAS & -227,313,275 & -40,000,000 & -267,313,275 & 2 & 11.0\% & 27.4\% & 25,000,000 & 235,510,000 & 260,510,000 & 2 & -6,803,275 & 18 \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & 8.9\% & 36.3\% & & 56,297,500 & 56,297,500 & 12 & -160,602,500 & 1 \\
\hline GOLDMAN SACHS & -160,600,000 & -40,000,000 & -200,600,000 & 4 & 8.3\% & 44.5\% & 56,500,000 & 125,000,000 & 181,500,000 & 7 & -19,100,000 & 11 \\
\hline BARCLAYS BANK PLC & -156,079,650 & -40,000,000 & -196,079,650 & 5 & 8.1\% & 52.6\% & 5,000,000 & 191,162,500 & 196,162,500 & 5 & 82,850 & 37 \\
\hline JPMORGAN CHASE BANK & -151,400,000 & -30,000,000 & -181,400,000 & 6 & 7.5\% & 60.1\% & 10,000,000 & 173,258,060 & 183,258,060 & 6 & 1,858,060 & 81 \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 6.4\% & 66.5\% & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 65,000,000 & 113 \\
\hline MORGAN STANLEY & -31,000,000 & -76,000,000 & -107,000,000 & 8 & 4.4\% & 70.9\% & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 104,313,275 & 116 \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 3.1\% & 74.0\% & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 97,156,250 & 115 \\
\hline HSBC BANK & -62,600,000 & & -62,600,000 & 10 & 2.6\% & 76.5\% & & 67,100,000 & 67,100,000 & 11 & 4,500,000 & 91 \\
\hline MAGNETAR & -50,000,000 & & -50,000,000 & 11 & 2.1\% & 78.6\% & & & & 92 & -50,000,000 & 3 \\
\hline MARATHON & -50,000,000 & & -50,000,000 & 12 & 2.1\% & 80.7\% & 55,000,000 & & 55,000,000 & 13 & 5,000,000 & 93 \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & -40,000,000 & & -40,000,000 & 13 & 1.6\% & 82.3\% & & & & 93 & -40,000,000 & 4 \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & -33,800,000 & 14 & 1.4\% & 83.7\% & & 71,000,000 & 71,000,000 & 9 & 37,200,000 & 111 \\
\hline FORE CONVERTIBLE MASTER FUND, LTD. & & -32,800,000 & -32,800,000 & 15 & 1.4\% & 85.0\% & & 16,400,000 & 16,400,000 & 21 & -16,400,000 & 12 \\
\hline CHEYNE LONG/SHORT STRUCTURED CREDIT FUND & & -31,000,000 & -31,000,000 & 16 & 1.3\% & 86.3\% & 41,000,000 & & 41,000,000 & 15 & 10,000,000 & 103 \\
\hline GENERAL AMERICAN LIFE INSURANCE COMPANY & -27,000,000 & & -27,000,000 & 17 & 1.1\% & 87.4\% & & & & 94 & -27,000,000 & 5 \\
\hline MERRILL LYNCH INTERNATIONAL & -27,000,000 & & -27,000,000 & 18 & 1.1\% & 88.5\% & & 20,300,000 & 20,300,000 & 19 & -6,700,000 & 19 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & -25,000,000 & & -25,000,000 & 19 & 1.0\% & 89.6\% & & & & 95 & -25,000,000 & 6 \\
\hline TRG INFLATION & -23,000,000 & & -23,000,000 & 20 & 0.9\% & 90.5\% & & & & 96 & -23,000,000 & 7 \\
\hline METLIFE INSURANCE COMPANY OF CONNECTICUT & -22,000,000 & & -22,000,000 & 21 & 0.9\% & 91.4\% & & & & 97 & -22,000,000 & 8 \\
\hline BLUE MTN CREDIT ALTS. MASTER FUND L.P. & -20,000,000 & & -20,000,000 & 22 & 0.8\% & 92.2\% & & 20,000,000 & 20,000,000 & 20 & 0 & 34 \\
\hline FORE MULTI STRATEGY MASTER FUND,LTD. & & -20,000,000 & -20,000,000 & 23 & 0.8\% & 93.1\% & & 10,000,000 & 10,000,000 & 23 & -10,000,000 & 15 \\
\hline JNL & -20,000,000 & & -20,000,000 & 24 & 0.8\% & 93.9\% & & & & 98 & -20,000,000 & 9 \\
\hline KEYBANK NATIONAL ASSOCIATION & -20,000,000 & & -20,000,000 & 25 & 0.8\% & 94.7\% & & & & 99 & -20,000,000 & 10 \\
\hline DEKA BANK, FRANKFURT & -12,560,000 & & -12,560,000 & 26 & 0.5\% & 95.2\% & & & & 100 & -12,560,000 & 13 \\
\hline ES CAPITALIZACAO & -10,270,500 & & -10,270,500 & 27 & 0.4\% & 95.7\% & & & & 101 & -10,270,500 & 14 \\
\hline AUTONOMY MASTER FUND LIMITED & -10,000,000 & & -10,000,000 & 28 & 0.4\% & 96.1\% & & & & 102 & -10,000,000 & 16 \\
\hline CALYON & -10,000,000 & & -10,000,000 & 29 & 0.4\% & 96.5\% & & & & 103 & -10,000,000 & 17 \\
\hline CEDAR HILL CAPITAL PARTNERS & -10,000,000 & & -10,000,000 & 30 & 0.4\% & 96.9\% & 10,000,000 & & 10,000,000 & 24 & 0 & 35 \\
\hline FORE ERISA FUND, LTD. & & -7,200,000 & -7,200,000 & 31 & 0.3\% & 97.2\% & & 3,600,000 & 3,600,000 & 40 & -3,600,000 & 29 \\
\hline NATIONAL BANK OF CANADA & -5,500,000 & & -5,500,000 & 32 & 0.2\% & 97.4\% & & & & 104 & -5,500,000 & 20 \\
\hline ES RENDA & -5,385,750 & & -5,385,750 & 33 & 0.2\% & 97.6\% & & & & 105 & -5,385,750 & 21 \\
\hline DWS CREDIT OPPORTUNITIES & -5,010,000 & & -5,010,000 & 34 & 0.2\% & 97.8\% & & & & 106 & -5,010,000 & 22 \\
\hline CQS ABS MASTER FUND LIMITED & -5,000,000 & & -5,000,000 & 35 & 0.2\% & 98.0\% & & & & 107 & -5,000,000 & 23 \\
\hline DISCOVERY ATLAS MASTER FUND & -5,000,000 & & -5,000,000 & 36 & 0.2\% & 98.3\% & & & & 108 & -5,000,000 & 24 \\
\hline KBC FIN. PRODUCTS (CAYMAN ISLANDS)LTD. & -5,000,000 & & -5,000,000 & 37 & 0.2\% & 98.5\% & & & & 109 & -5,000,000 & 25 \\
\hline NOMURA INTERNATIONAL PLC & -5,000,000 & & -5,000,000 & 38 & 0.2\% & 98.7\% & & 45,000,000 & 45,000,000 & 14 & 40,000,000 & 112 \\
\hline RBS GMP & -5,000,000 & & -5,000,000 & 39 & 0.2\% & 98.9\% & 5,000,000 & & 5,000,000 & 30 & 0 & 36 \\
\hline SCHRODER STERLING BROAD MKTS BOND FUND & -5,000,000 & & -5,000,000 & 40 & 0.2\% & 99.1\% & & & & 110 & -5,000,000 & 26 \\
\hline UBS AG & & -5,000,000 & -5,000,000 & 41 & 0.2\% & 99.3\% & 5,000,000 & 1,879,650 & 6,879,650 & 29 & 1,879,650 & 82 \\
\hline DOUBLE BLACK DIAMOND OFFSHORE LDC & -4,775,000 & & -4,775,000 & 42 & 0.2\% & 99.5\% & & & & 111 & -4,775,000 & 27 \\
\hline TRAXIS FUND LP & & -3,630,000 & -3,630,000 & 43 & 0.1\% & 99.6\% & & & & 112 & -3,630,000 & 28 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & -3,258,060 & -3,258,060 & 44 & 0.1\% & 99.8\% & & & & 113 & -3,258,060 & 30 \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD LTD & -3,000,000 & & -3,000,000 & 45 & 0.1\% & 99.9\% & & & & 114 & -3,000,000 & 31 \\
\hline SSSF STERLING BROAD MARKET BOND LIBOR & -2,500,000 & & -2,500,000 & 46 & 0.1\% & 100.0\% & & & & 115 & -2,500,000 & 32 \\
\hline BLACK DIAMOND OFFSHORE, LTD & -225,000 & & -225,000 & 47 & 0.0\% & 100.0\% & & & & 116 & -225,000 & 33 \\
\hline AURELIUS CAPITAL & & & & 48 & 0.0\% & 100.0\% & 10,000,000 & & 10,000,000 & 25 & 10,000,000 & 104 \\
\hline BANCA IMI S.P.A & & & & 49 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 31 & 5,000,000 & 94 \\
\hline
\end{tabular}

\section*{Summary of Citigroup Credit Default Swap Transactions}

November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases )} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline Entity & Add to Buy
Side & Reduce Sell
Side & Total & Rank & Share & CShr & Reduce Buy
Side & Add to Sell
Side & Total & Rank & Total & Rank \\
\hline BANK OF NOVA SCOTIA TORONTO & & & & 50 & 0.0\% & 100.0\% & & 5,000,000 & 5,000,000 & 32 & 5,000,000 & 95 \\
\hline BARCELONA INKA & & & & 51 & 0.0\% & 100.0\% & & 350,000 & 350,000 & 71 & 350,000 & 58 \\
\hline BLUEBAY FUND:BLUEBAY INVESTT GR LIBOR FD & & & & 52 & 0.0\% & 100.0\% & & 150,000 & 150,000 & 85 & 150,000 & 42 \\
\hline BLUEBAY INVESTMENT GRADE BOND FUND & & & & 53 & 0.0\% & 100.0\% & & 7,000,000 & 7,000,000 & 28 & 7,000,000 & 102 \\
\hline BLUECREST MULTI STRATEGY CREDIT MSTR FD & & & & 54 & 0.0\% & 100.0\% & & 5,000,000 & 5,000,000 & 33 & 5,000,000 & 96 \\
\hline FOND BVOE SEGMENT UNTERFONDS W & & & & 55 & 0.0\% & 100.0\% & & 600,000 & 600,000 & 63 & 600,000 & 65 \\
\hline GENERAL ELECTRIC PENSION TRUST & & & & 56 & 0.0\% & 100.0\% & & 15,000,000 & 15,000,000 & 22 & 15,000,000 & 107 \\
\hline HALBIS US CREDIT ALPHA MASTER FD LTD & & & & 57 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 34 & 5,000,000 & 97 \\
\hline HPK-INVESTMENT GRADE CORPORATES & & & & 58 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 72 & 300,000 & 49 \\
\hline ICM BUSINESS TRUST & & & & 59 & 0.0\% & 100.0\% & 2,500,000 & & 2,500,000 & 44 & 2,500,000 & 85 \\
\hline ING & & & & 60 & 0.0\% & 100.0\% & & 10,000,000 & 10,000,000 & 26 & 10,000,000 & 105 \\
\hline INTERN KAPIT MBH (PRV-C) & & & & 61 & 0.0\% & 100.0\% & & 150,000 & 150,000 & 86 & 150,000 & 43 \\
\hline IONIC CAPITAL MASTER FUND LTD & & & & 62 & 0.0\% & 100.0\% & 22,500,000 & & 22,500,000 & 18 & 22,500,000 & 108 \\
\hline JMG & & & & 63 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 35 & 5,000,000 & 98 \\
\hline KAMUNTING STREET MASTER FUND LTD & & & & 64 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 36 & 5,000,000 & 99 \\
\hline LEHMAN BROTHERS CREDIT ARBITRAGE FUND & & & & 65 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 37 & 5,000,000 & 100 \\
\hline MARINER-TRICADIA CRD STRAT MASTER FD LTD & & & & 66 & 0.0\% & 100.0\% & & 3,500,000 & 3,500,000 & 41 & 3,500,000 & 90 \\
\hline NORGES BANK - INVESTMENT MANAGEMENT \#1 & & & & 67 & 0.0\% & 100.0\% & 25,000,000 & & 25,000,000 & 17 & 25,000,000 & 109 \\
\hline PAULSON CREDIT OPPORTUNITIES MASTER LTD & & & & 68 & 0.0\% & 100.0\% & 70,000,000 & & 70,000,000 & 10 & 70,000,000 & 114 \\
\hline PIM1338 & & & & 69 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 73 & 300,000 & 50 \\
\hline PIM1356 & & & & 70 & 0.0\% & 100.0\% & & 500,000 & 500,000 & 65 & 500,000 & 61 \\
\hline PIM1357 & & & & 71 & 0.0\% & 100.0\% & & 2,500,000 & 2,500,000 & 45 & 2,500,000 & 86 \\
\hline PIM1358 & & & & 72 & 0.0\% & 100.0\% & & 1,300,000 & 1,300,000 & 51 & 1,300,000 & 78 \\
\hline PIM1422 & & & & 73 & 0.0\% & 100.0\% & 500,000 & & 500,000 & 66 & 500,000 & 62 \\
\hline PIM1628 & & & & 74 & 0.0\% & 100.0\% & 700,000 & & 700,000 & 61 & 700,000 & 67 \\
\hline PIM1833 & & & & 75 & 0.0\% & 100.0\% & 1,000,000 & & 1,000,000 & 55 & 1,000,000 & 73 \\
\hline PIM1941 & & & & 76 & 0.0\% & 100.0\% & & 800,000 & 800,000 & 59 & 800,000 & 69 \\
\hline PIM2071 & & & & 77 & 0.0\% & 100.0\% & & 200,000 & 200,000 & 81 & 200,000 & 45 \\
\hline PIM2086 & & & & 78 & 0.0\% & 100.0\% & & 1,100,000 & 1,100,000 & 54 & 1,100,000 & 75 \\
\hline PIM2136 & & & & 79 & 0.0\% & 100.0\% & & 900,000 & 900,000 & 57 & 900,000 & 71 \\
\hline PIM2224 & & & & 80 & 0.0\% & 100.0\% & 1,000,000 & & 1,000,000 & 56 & 1,000,000 & 74 \\
\hline PIM2232 & & & & 81 & 0.0\% & 100.0\% & 2,700,000 & & 2,700,000 & 43 & 2,700,000 & 88 \\
\hline PIM2307 & & & & 82 & 0.0\% & 100.0\% & & 1,200,000 & 1,200,000 & 52 & 1,200,000 & 76 \\
\hline PIM2355 & & & & 83 & 0.0\% & 100.0\% & & 100,000 & 100,000 & 88 & 100,000 & 38 \\
\hline PIM2400 & & & & 84 & 0.0\% & 100.0\% & & 100,000 & 100,000 & 89 & 100,000 & 39 \\
\hline PIM2466 & & & & 85 & 0.0\% & 100.0\% & 600,000 & & 600,000 & 64 & 600,000 & 66 \\
\hline PIM2660 & & & & 86 & 0.0\% & 100.0\% & & 500,000 & 500,000 & 67 & 500,000 & 63 \\
\hline PIM2679 & & & & 87 & 0.0\% & 100.0\% & & 900,000 & 900,000 & 58 & 900,000 & 72 \\
\hline PIM2687 & & & & 88 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 74 & 300,000 & 51 \\
\hline PIM2739 & & & & 89 & 0.0\% & 100.0\% & 200,000 & & 200,000 & 82 & 200,000 & 46 \\
\hline PIM2755 & & & & 90 & 0.0\% & 100.0\% & 300,000 & & 300,000 & 75 & 300,000 & 52 \\
\hline PIM2809 & & & & 91 & 0.0\% & 100.0\% & & 1,600,000 & 1,600,000 & 49 & 1,600,000 & 80 \\
\hline PIM2879 & & & & 92 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 76 & 300,000 & 53 \\
\hline PIM2909 & & & & 93 & 0.0\% & 100.0\% & & 2,800,000 & 2,800,000 & 42 & 2,800,000 & 89 \\
\hline PIM2958 & & & & 94 & 0.0\% & 100.0\% & & 800,000 & 800,000 & 60 & 800,000 & 70 \\
\hline PIM3689 & & & & 95 & 0.0\% & 100.0\% & & 500,000 & 500,000 & 68 & 500,000 & 64 \\
\hline PIM3691 & & & & 96 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 77 & 300,000 & 54 \\
\hline PIM3706 & & & & 97 & 0.0\% & 100.0\% & 200,000 & & 200,000 & 83 & 200,000 & 47 \\
\hline PIM4632 & & & & 98 & 0.0\% & 100.0\% & & 400,000 & 400,000 & 69 & 400,000 & 59 \\
\hline PIM4690 & & & & 99 & 0.0\% & 100.0\% & & 4,800,000 & 4,800,000 & 39 & 4,800,000 & 92 \\
\hline PIM4692 & & & & 100 & 0.0\% & 100.0\% & & 1,200,000 & 1,200,000 & 53 & 1,200,000 & 77 \\
\hline PIM4807 & & & & 101 & 0.0\% & 100.0\% & & 2,500,000 & 2,500,000 & 46 & 2,500,000 & 87 \\
\hline
\end{tabular}

\section*{Summary of Citigroup Credit Default Swap Transactions}

November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Entity} & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases )} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases )} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline & Add to Buy
Side & Reduce Sell
Side & Total & Rank & Share & CShr & Reduce Buy
Side & Add to Sell
Side & Total & Rank & Total & Rank \\
\hline PIM4866 & & & & 102 & 0.0\% & 100.0\% & & 2,000,000 & 2,000,000 & 47 & 2,000,000 & 83 \\
\hline PIM6009 & & & & 103 & 0.0\% & 100.0\% & & 200,000 & 200,000 & 84 & 200,000 & 48 \\
\hline PIM6160 & & & & 104 & 0.0\% & 100.0\% & 2,000,000 & & 2,000,000 & 48 & 2,000,000 & 84 \\
\hline PIM6169 & & & & 105 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 78 & 300,000 & 55 \\
\hline PIM6230 & & & & 106 & 0.0\% & 100.0\% & & 400,000 & 400,000 & 70 & 400,000 & 60 \\
\hline PIM6320 & & & & 107 & 0.0\% & 100.0\% & 100,000 & & 100,000 & 90 & 100,000 & 40 \\
\hline PIM6400 & & & & 108 & 0.0\% & 100.0\% & & 700,000 & 700,000 & 62 & 700,000 & 68 \\
\hline PIM6888 & & & & 109 & 0.0\% & 100.0\% & 100,000 & & 100,000 & 91 & 100,000 & 41 \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & & & & 110 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 79 & 300,000 & 56 \\
\hline PURSUIT & & & & 111 & 0.0\% & 100.0\% & 35,000,000 & & 35,000,000 & 16 & 35,000,000 & 110 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS CAP & & & & 112 & 0.0\% & 100.0\% & & 150,000 & 150,000 & 87 & 150,000 & 44 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND LTD. & & & & 113 & 0.0\% & 100.0\% & 5,000,000 & & 5,000,000 & 38 & 5,000,000 & 101 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE MEDIA & & & & 114 & 0.0\% & 100.0\% & & 300,000 & 300,000 & 80 & 300,000 & 57 \\
\hline THE CONUS FUND & & & & 115 & 0.0\% & 100.0\% & 10,000,000 & & 10,000,000 & 27 & 10,000,000 & 106 \\
\hline TRICADIA DISTRESSED AND SPCL MTR FD LT & & & & 116 & 0.0\% & 100.0\% & & 1,500,000 & 1,500,000 & 50 & 1,500,000 & 79 \\
\hline
\end{tabular}

\section*{Summary of Citigroup Credit Default Swap Transactions}

\section*{Data Production}

November 17, 2008 - November 21, 2008
\begin{tabular}{|c|c|c|c|}
\hline Company & DerivServ Data - Previously Processed & New Production & Data Type Produced \\
\hline Barclays Capital & Activity balanced out. & Similar trading in both directions, but in production large sell on Friday is not included so Friday becomes a net buy. & All non-proprietary \\
\hline BBVA & Buy Protection Wed. and Thurs. (detail tab in this file) & No data reported. (DerivServ data in tab BBVA_raw) & \\
\hline BNP Paribas & Buying and selling throughout. Stayed about even. & Data about the same. In production more of a net seller on Thurs. & All non-proprietary \\
\hline Bank of America & Selling throughout. Buy on Friday and big Sell on Friday. & Data about the same. & All non-proprietary \\
\hline Credit Suisse & Close to even and then big sell Friday. & Data about the same. & All non-proprietary \\
\hline Deutsche Bank & Bullish through Wed, Big buy Thurs. Very big buy Friday. & Much less volume reported in production. However, big buy on Friday is even bigger because the production includes a \(\$ 150\) million Recovery Swap. & All non-proprietary \\
\hline Goldman Sachs & Appoximately even through Thurs. Big sell Fri and bigger buy. & Firm and Client data combined are substantially more than DerivServ data. Firm data is still approximately even. The trading on Thursday is substantially larger in the production. Big buy and sell Friday. & Split between firm and client \\
\hline HSBC & Activity balanced out. & Data is almost identical. The production has a bit more activity on Friday. & Proprietary status not specified. \\
\hline JP Morgan & Activity balanced out. & Data is quite different. Production has very large buys on Wednesday and Friday and smaller sells so that the overall effect is bearish. & All non-proprietary \\
\hline Keybanc & Buy Thursday - only activity. & Data is similar. Buy Thursday - only activity. Production contains additional \(\$ 5\) milion buy. & Three proprietary trades \\
\hline Magnetar & Buy on Friday only activity. & Data is basically the same. (there is an additional assignment, but we probably do not have the trade date for the assignment) & All non-proprietary \\
\hline Morgan Stanley & Gigantic sell on Friday. & Data is basically the same. & All non-proprietary \\
\hline RBC & Big buy Friday and even bigger sell. & Production data shows much less activity. Three small trades opened and closed within the week. & Three proprietary trades \\
\hline RBS & Gigantic buys on Fri. & Similar pattern. Production has much larger sell on Friday. & All proprietary as agent for RBS. \\
\hline
\end{tabular}
\begin{tabular}{|l|l|l|l|}
\hline SUBMITTING_PARTY & SUBMITTER_NAME & SUBMITTER_COUNTRY_OF_ORIGIN & COUNTERPARTY1 \\
\hline \(00009 P 64\) & BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & ES & 00006161 \\
\hline \(00009 P 64\) & BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & ES & 00006191 \\
\hline \(00009 P 64\) & BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & ES & 00007704 \\
\hline \(00009 P 64\) & BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & ES & 00006121 \\
\hline
\end{tabular}
\begin{tabular}{|l|l|l|l|}
\hline CONTRA1_NAME & COUNTERPARTY2 & CONTRA2_NAME & BUYER_ID \\
\hline JPMORGAN CHASE BANK, N.A. THRU NY BR & & & \(00009 P 64\) \\
\hline BANK OF AMERICA, N.A. & & & \(00009 P 64\) \\
\hline HSBC BANK USA & & & \(00009 P 64\) \\
\hline BNP PARIBAS & & & \(00009 P 64\) \\
\hline
\end{tabular}
\begin{tabular}{|l|l|l|l|l|}
\hline BUYER_NAME & SELLER_ID & SELLER_NAME & TRADE_DATE \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & 00006161 & JPMORGAN CHASE BANK, N.A. THRU NY BR & \(11 / 19 / 2008\) \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & 00006191 & BANK OF AMERICA, N.A. & \(11 / 19 / 2008\) \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & 00007704 & HSBC BANK USA & \(11 / 19 / 2008\) \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & 00006121 & BNP PARIBAS & \(11 / 20 / 2008\) \\
\hline
\end{tabular}
\begin{tabular}{|l|l|l|l|} 
EFFECTIVE_DATE & SCHEDULED_TERMINATION_DATE & MASTER_AGREEMENT_DATE & MASTER_CONFIRMATION_ANNEX_DATE \\
\hline \(11 / 20 / 2008\) & \(12 / 20 / 2013\) & \(01 / 01 / 2001\) & \(01 / 01 / 1900\) \\
\hline \(11 / 20 / 2008\) & \(12 / 20 / 2013\) & \(01 / 01 / 2001\) & \(01 / 01 / 1900\) \\
\hline \(11 / 20 / 2008\) & \(12 / 20 / 2013\) & \(01 / 01 / 1900\) & \(01 / 01 / 1900\) \\
\hline \(11 / 21 / 2008\) & \(12 / 20 / 2013\) & \(01 / 01 / 1900\) & \(01 / 01 / 1900\) \\
\hline
\end{tabular}
\begin{tabular}{|l|l|l|l|l|l|}
\hline SUBMIT_DATE & SUBMIT_TIME & TRANSACTION_TYPE & TRANSACTION_STATUS & PARTY_REFERENCE_ID & REFERENCE_SUPPLEMENT \\
\hline \(11 / 24 / 2008\) & 03.39 .56 & Trade & Confirmed & 3261941 & \\
\hline \(11 / 21 / 2008\) & 03.58 .53 & Trade & Confirmed & 3261948 & \\
\hline \(12 / 02 / 2008\) & 06.54 .36 & Trade & Confirmed & 3261952 & \\
\hline \(11 / 24 / 2008\) & 03.21 .45 & Trade & Confirmed & 3264799 & \\
\hline
\end{tabular}
\begin{tabular}{|l|l|l|l|l|}
\hline DTCC_REFERENCE_ID & MASTER_CONFIRM_TYPE & ISIN & RED_CLIP_CODE & RED_NAME \\
\hline 20081124.0005064997 & ISDA2003CreditNorthAmerican & US172967BC45 & & CITIGROUP INC. \\
\hline 20081121.0005053434 & ISDA2003CreditNorthAmerican & US172967BC45 & & CITIGROUP INC. \\
\hline 20081202.0005112156 & & US172967BC45 & & CITIGROUP INC. \\
\hline 20081124.0005064938 & & US172967BC45 & & CITIGROUP INC. \\
\hline
\end{tabular}
\begin{tabular}{|c|l|r|r|r|} 
NOTIONAL_AMOUNT & NOTIONAL_CURRENCY & AFFECTED_NOTIONAL & AFFECTED_CURRENCY & OUTSTANDING_NOTIONAL \\
\hline 20000000 & USD & 0 & & 0 \\
\hline 5000000 & USD & 0 & & 0 \\
\hline 5000000 & USD & 0 & & 0 \\
\hline 1000000 & USD & 0 & & 0 \\
\hline
\end{tabular}
\begin{tabular}{|l|r|r|r|}
\hline OUSTANDING_CURRENCY & FIXED_RATE & POST_TRADE_PAYMENT_AMOUNT & POST_TRADE_CURRENCY_CODE \\
\hline & 3.35 & 0 & \\
\hline & 3.35 & 0 & \\
\hline & 3.3 & 0 & \\
\hline & 4.17 & 0 & \\
\hline
\end{tabular}
\begin{tabular}{|l|l|l|l|}
\hline POST_TRADE_PAYMENT_DATE & POST_TRADE_DATE & POST_TRADE_EFFECTIVE_DATE & POST_TRADE_SETTLEMENT_DATE \\
\hline \(01 / 01 / 1900\) & \(01 / 01 / 1900\) & \(01 / 01 / 1900\) & \(01 / 01 / 1900\) \\
\hline \(01 / 01 / 1900\) & \(01 / 01 / 1900\) & \(01 / 01 / 1900\) & \(01 / 01 / 1900\) \\
\hline \(01 / 01 / 1900\) & \(01 / 01 / 1900\) & \(01 / 01 / 1900\) & \(01 / 01 / 1900\) \\
\hline \(01 / 01 / 1900\) & \(01 / 01 / 1900\) & \(01 / 01 / 1900\) & \(01 / 01 / 1900\) \\
\hline
\end{tabular}
\begin{tabular}{|l|l|l|l|l|l|}
\hline POST_TRADE_PAYER & POST_TRADE_RECEIVER & FIRST_FULL_PERIOD & EXIT_CODE & EXIT_REASON & FIRST_PAYMENT_DATE \\
\hline & & & & \(12 / 20 / 2008\) \\
\hline & & & & \(12 / 20 / 2008\) \\
\hline & & & & \(10 / 20 / 2008\) \\
\hline & & & & \(1 / 20 / 2009\) \\
\hline
\end{tabular}
\begin{tabular}{|l|l|l|r|r|}
\hline PERIOD_MULTIPLIER & PAYMENT_FREQUENCY & SINGLE_PAYMENT_DATE & SINGLE_PAYMENT & SINGLE_PAYMENT_CURRENCY \\
\hline 3 & M & \(01 / 01 / 1900\) & 0 & \\
\hline 3 & M & \(01 / 01 / 1900\) & 0 & \\
\hline 3 & \(01 / 01 / 1900\) & 0 & \\
\hline 3 & M & \(01 / 01 / 1900\) & 0 & \\
\hline
\end{tabular}
\begin{tabular}{|l|l|r|l|l|r|}
\hline INDEPENDENT_PAYER & INDEPENDENT_RECEIVER & INITIAL_MARGIN & INITIAL_PAYER & INITIAL_RECEIVER & INITIAL_PAYMENT \\
\hline & 0 & & 0 \\
\hline & & 0 & & 0 \\
\hline & & 0 & & 0 \\
\hline & & 0 & & 0 \\
\hline
\end{tabular}
\begin{tabular}{|l|l|l|l|l|}
\hline INITIAL_CURRENCY & RESTRUCTING_INDICATOR & ADDITIONAL_TERMS_INDICATOR & BUSINESS_CENTER & CALCULATION_AGENT \\
\hline & R & N & & \\
\hline & R & N & & \\
\hline & R & N & USNY & 00007704 \\
\hline & R & N & USNY & 00006121 \\
\hline
\end{tabular}

CONTRACT_SUPPLEMENT
\begin{tabular}{|l|l|}
\hline MATRIX_TYPE & PUBLICATION_DATE \\
\hline & \(01 / 01 / 1900\) \\
\hline & \(01 / 01 / 1900\) \\
\hline CreditDerivativesPhysicalSettlementMatrix & \(01 / 01 / 1900\) \\
\hline CreditDerivativesPhysicalSettlementMatrix & \(01 / 01 / 1900\) \\
\hline
\end{tabular}
\begin{tabular}{|l|l|l|}
\hline MATRIX_TERMS & PRODUCT_MISC_TEXT & MATRIX_MASTER_AGREEMENT_ID \\
\hline & & \\
\hline NorthAmericanCorporate & & \\
\hline NorthAmericanCorporate & & ISDA \\
\hline
\end{tabular}
\begin{tabular}{|l|l|}
\hline MATRIX_AGREEMENT_DATE & ASSIGNMENT_ROLE \\
\hline \(01 / 01 / 1900\) & \\
\hline \(01 / 01 / 1900\) & \\
\hline \(04 / 12 / 2002\) & \\
\hline \(07 / 12 / 1994\) & \\
\hline
\end{tabular}

\section*{Citigroup Credit Default Swap Transactions \\ BANK OF AMERICA, N.A. \\ Non-Proprietary (No Proprietary in the Period)}


\section*{Citigroup Credit Default Swap Transactions \\ BARCLAYS BANK PLC \\ Non-Proprietary (No Proprietary in the Period)}


\section*{Citigroup Credit Default Swap Transactions BNP PARIBAS \\ Non-Proprietary (No Proprietary in the Period)}


\section*{Citigroup Credit Default Swap Transactions DEUTSCHE BANK AG \\ Non-Proprietary (No Proprietary in the Period)}


\section*{Citigroup Credit Default Swap Transactions \\ CREDIT SUISSE INTERNATIONAL \\ Non-Proprietary (No Proprietary in the Period)}


\section*{Citigroup Credit Default Swap Transactions GOLDMAN SACHS \\ Firm Trades (missing value of most terminations)}


Citigroup Credit Default Swap Transactions
GOLDMAN SACHS Client Trades


\section*{Citigroup Credit Default Swap Transactions HSBC BANK \\ Proprietary Status Not Specified in Production}


\section*{Citigroup Credit Default Swap Transactions JPMORGAN CHASE BANK \\ Non-Proprietary (No Proprietary in the Period)}



\section*{Citigroup Credit Default Swap Transactions MAGNETAR \\ Non-Proprietary (No Proprietary in the Period)}


\section*{Citigroup Credit Default Swap Transactions MORGAN STANLEY \\ Non-Proprietary (No Proprietary in the Period)}


\section*{Citigroup Credit Default Swap Transactions ROYAL BANK OF CANADA \\ Proprietary (No Non-Proprietary in the Period)}


Citigroup Credit Default Swap Transactions THE ROYAL BANK OF SCOTLAND PLC

All Proprietary as Agent for RBS

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline Date & Open & High & Low & Close & Volume & Adj Close & SP & SP_ret & SP_indexed \\
\hline 10/1/2008 & 20.85 & 23.24 & 20.05 & 23 & 156,990,400.00 & 22.71 & 1161.06 & & 22.71 \\
\hline 10/2/2008 & 23.16 & 23.5 & 22 & 22.5 & 108,765,600.00 & 22.22 & 1114.28 & -0.04029 & 21.795 \\
\hline 10/3/2008 & 19.45 & 20.9 & 17.7 & 18.35 & 295,719,400.00 & 18.12 & 1099.23 & -0.01351 & 21.50062 \\
\hline 10/6/2008 & 17.23 & 18.12 & 16.1 & 17.41 & 159,221,500.00 & 17.19 & 1056.89 & -0.03852 & 20.67246 \\
\hline 10/7/2008 & 18.2 & 18.2 & 15 & 15.15 & 127,758,400.00 & 14.96 & 996.23 & -0.05739 & 19.48597 \\
\hline 10/8/2008 & 14.59 & 16.29 & 14.05 & 14.4 & 156,063,200.00 & 14.22 & 984.94 & -0.01133 & 19.26514 \\
\hline 10/9/2008 & 15.37 & 15.5 & 12.93 & 12.93 & 189,307,800.00 & 12.77 & 909.92 & -0.07617 & 17.79777 \\
\hline 10/10/2008 & 12.04 & 14.8 & 12 & 14.11 & 260,816,600.00 & 13.94 & 899.22 & -0.01176 & 17.58848 \\
\hline 10/13/2008 & 15.7 & 16.26 & 14.52 & 15.75 & 163,833,900.00 & 15.55 & 1003.35 & 0.1158 & 19.62524 \\
\hline 10/14/2008 & 18.48 & 19.25 & 17.36 & 18.62 & 253,522,100.00 & 18.39 & 998.01 & -0.00532 & 19.52079 \\
\hline 10/15/2008 & 17.49 & 17.93 & 16 & 16.23 & 153,278,400.00 & 16.03 & 907.84 & -0.09035 & 17.75709 \\
\hline 10/16/2008 & 16.01 & 16.88 & 14.65 & 15.9 & 170,927,600.00 & 15.7 & 946.43 & 0.042507 & 18.5119 \\
\hline 10/17/2008 & 15.42 & 16.83 & 14.81 & 14.88 & 157,379,000.00 & 14.7 & 940.55 & -0.00621 & 18.39689 \\
\hline 10/20/2008 & 15.18 & 15.4 & 14.69 & 15.09 & 107,183,900.00 & 14.9 & 985.4 & 0.047685 & 19.27414 \\
\hline 10/21/2008 & 14.54 & 14.8 & 13.64 & 14.18 & 171,378,400.00 & 14 & 955.05 & -0.0308 & 18.6805 \\
\hline 10/22/2008 & 13.7 & 14.2 & 13.01 & 13.32 & 137,148,800.00 & 13.15 & 896.78 & -0.06101 & 17.54076 \\
\hline 10/23/2008 & 13.2 & 13.6 & 12.5 & 13.11 & 144,779,600.00 & 12.95 & 908.11 & 0.012634 & 17.76237 \\
\hline 10/24/2008 & 12 & 12.8 & 11.95 & 12.14 & 128,445,500.00 & 11.99 & 876.77 & -0.03451 & 17.14937 \\
\hline 10/27/2008 & 12.1 & 12.76 & 11.65 & 11.73 & 122,089,600.00 & 11.58 & 848.92 & -0.03176 & 16.60463 \\
\hline 10/28/2008 & 12.29 & 13.55 & 11.54 & 13.41 & 150,889,300.00 & 13.24 & 940.51 & 0.10789 & 18.39611 \\
\hline 10/29/2008 & 13.25 & 13.96 & 12.79 & 12.91 & 130,531,700.00 & 12.75 & 930.09 & -0.01108 & 18.19229 \\
\hline 10/30/2008 & 13.47 & 13.5 & 12.76 & 13.11 & 100,869,600.00 & 13.11 & 954.09 & 0.025804 & 18.66173 \\
\hline 10/31/2008 & 12.93 & 13.82 & 12.88 & 13.65 & 91,970,500.00 & 13.65 & 968.75 & 0.015365 & 18.94847 \\
\hline 11/3/2008 & 13.65 & 14.23 & 13.46 & 13.99 & 71,045,900.00 & 13.99 & 966.3 & -0.00253 & 18.90055 \\
\hline 11/4/2008 & 14.42 & 14.81 & 14.31 & 14.68 & 80,205,000.00 & 14.68 & 1005.75 & 0.040826 & 19.67218 \\
\hline 11/5/2008 & 14.42 & 14.6 & 12.48 & 12.63 & 107,372,600.00 & 12.63 & 952.77 & -0.05268 & 18.63591 \\
\hline 11/6/2008 & 12.48 & 13.07 & 11.31 & 11.52 & 152,812,100.00 & 11.52 & 904.88 & -0.05026 & 17.69919 \\
\hline 11/7/2008 & 11.9 & 12.04 & 11.45 & 11.82 & 99,723,300.00 & 11.82 & 930.99 & 0.028855 & 18.2099 \\
\hline 11/10/2008 & 12.2 & 12.28 & 11.05 & 11.21 & 89,912,800.00 & 11.21 & 919.21 & -0.01265 & 17.97948 \\
\hline 11/11/2008 & 11.09 & 11.29 & 10.34 & 10.8 & 140,352,200.00 & 10.8 & 898.95 & -0.02204 & 17.5832 \\
\hline 11/12/2008 & 10.63 & 11.06 & 9.52 & 9.64 & 160,916,000.00 & 9.64 & 852.3 & -0.05189 & 16.67074 \\
\hline 11/13/2008 & 9.79 & 9.9 & 8.27 & 9.45 & 276,930,000.00 & 9.45 & 911.29 & 0.069213 & 17.82457 \\
\hline 11/14/2008 & 9.76 & 10.11 & 8.79 & 9.52 & 281,569,700.00 & 9.52 & 873.29 & -0.0417 & 17.0813 \\
\hline 11/17/2008 & 9.36 & 9.81 & 8.75 & 8.89 & 167,558,200.00 & 8.89 & 850.75 & -0.02581 & 16.64043 \\
\hline 11/18/2008 & 8.96 & 8.99 & 7.89 & 8.36 & 212,718,300.00 & 8.36 & 859.12 & 0.009838 & 16.80414 \\
\hline 11/19/2008 & 8.19 & 8.33 & 6.25 & 6.4 & 341,451,200.00 & 6.4 & 806.58 & -0.06116 & 15.77647 \\
\hline 11/20/2008 & 6.13 & 6.35 & 4.39 & 4.71 & 724,373,000.00 & 4.71 & 752.44 & -0.06712 & 14.71751 \\
\hline 11/21/2008 & 5.44 & 5.53 & 3.05 & 3.77 & 1,027,725,300.00 & 3.77 & 800.03 & 0.063248 & 15.64836 \\
\hline 11/24/2008 & 6.12 & 6.5 & 5.25 & 5.95 & 803,783,100.00 & 5.95 & 851.81 & 0.064723 & 16.66116 \\
\hline 11/25/2008 & 6.39 & 6.58 & 5.75 & 6.08 & 463,120,500.00 & 6.08 & 857.39 & 0.006551 & 16.7703 \\
\hline 11/26/2008 & 6.17 & 7.39 & 6.08 & 7.05 & 381,720,800.00 & 7.05 & 887.68 & 0.035328 & 17.36277 \\
\hline 11/28/2008 & 7.45 & 8.48 & 7.42 & 8.29 & 250,774,600.00 & 8.29 & 896.24 & 0.009643 & 17.5302 \\
\hline 12/1/2008 & 7.9 & 7.92 & 6.34 & 6.45 & 314,812,000.00 & 6.45 & 816.21 & -0.0893 & 15.96483 \\
\hline 12/2/2008 & 6.92 & 7.46 & 5.94 & 7.22 & 326,923,800.00 & 7.22 & 848.81 & 0.039941 & 16.60248 \\
\hline 12/3/2008 & 6.87 & 7.84 & 6.68 & 7.82 & 314,072,200.00 & 7.82 & 870.74 & 0.025836 & 17.03142 \\
\hline 12/4/2008 & 7.61 & 8.1 & 7.3 & 7.4 & 259,635,100.00 & 7.4 & 845.22 & -0.02931 & 16.53226 \\
\hline 12/5/2008 & 7.25 & 8.36 & 7.17 & 7.71 & 215,214,100.00 & 7.71 & 876.07 & 0.036499 & 17.13568 \\
\hline 12/8/2008 & 8.23 & 8.63 & 8.02 & 8.47 & 229,109,900.00 & 8.47 & 909.7 & 0.038387 & 17.79347 \\
\hline 12/9/2008 & 8.3 & 9 & 8.2 & 8.54 & 217,023,600.00 & 8.54 & 888.67 & -0.02312 & 17.38213 \\
\hline 12/10/2008 & 8.73 & 8.83 & 8.05 & 8.3 & 163,400,300.00 & 8.3 & 899.24 & 0.011894 & 17.58888 \\
\hline 12/11/2008 & 8.09 & 8.15 & 7.54 & 7.57 & 165,492,300.00 & 7.57 & 873.59 & -0.02852 & 17.08717 \\
\hline 12/12/2008 & 7.07 & 7.85 & 6.97 & 7.7 & 148,961,300.00 & 7.7 & 879.73 & 0.007028 & 17.20727 \\
\hline 12/15/2008 & 7.74 & 7.78 & 7.23 & 7.4 & 101,472,300.00 & 7.4 & 868.57 & -0.01269 & 16.98898 \\
\hline 12/16/2008 & 7.59 & 8.33 & 7.42 & 8.23 & 204,929,700.00 & 8.23 & 913.18 & 0.05136 & 17.86154 \\
\hline 12/17/2008 & 8.11 & 8.2 & 7.8 & 7.83 & 154,190,500.00 & 7.83 & 904.42 & -0.00959 & 17.6902 \\
\hline 12/18/2008 & 8 & 8.05 & 7.37 & 7.43 & 111,496,800.00 & 7.43 & 885.28 & -0.02116 & 17.31582 \\
\hline 12/19/2008 & 7.44 & 7.51 & 6.91 & 7.02 & 202,402,000.00 & 7.02 & 887.88 & 0.002937 & 17.36668 \\
\hline 12/22/2008 & 7.15 & 7.25 & 6.54 & 6.75 & 135,332,700.00 & 6.75 & 871.63 & -0.0183 & 17.04883 \\
\hline 12/23/2008 & 6.89 & 6.92 & 6.51 & 6.52 & 106,858,500.00 & 6.52 & 863.16 & -0.00972 & 16.88316 \\
\hline 12/24/2008 & 6.55 & 6.8 & 6.53 & 6.78 & 39,980,300.00 & 6.78 & 868.15 & 0.005781 & 16.98076 \\
\hline 12/26/2008 & 6.84 & 7.03 & 6.67 & 6.73 & 48,058,800.00 & 6.73 & 872.8 & 0.005356 & 17.07172 \\
\hline
\end{tabular}
\begin{tabular}{llrlll} 
date & NAME_ & \multicolumn{1}{l}{ TD_C } & \multicolumn{1}{l}{ AB_C } & \multicolumn{1}{l}{ AS_C } & \multicolumn{1}{l}{ TM_C } \\
\(11 / 17 / 2008\) & dollars & \(60,000,000\) & & & \\
\(11 / 18 / 2008\) & dollars & \(101,000,000\) & \(10,600,000\) & \(10,000,000\) & \(102,500,000\) \\
\(11 / 19 / 2008\) & dollars & \(255,397,500\) & \(2,600,000\) & \(10,000,000\) & \(72,000,000\) \\
\(11 / 20 / 2008\) & dollars & \(478,528,750\) & \(59,500,000\) & \(10,000,000\) & \(113,630,000\) \\
\(11 / 21 / 2008\) & dollars & 814092925 & 175700000 & 83258060 & 70000000
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline date2 _NAME_2 & no_NoPay_C & \multicolumn{4}{|l|}{fi_NoPay_( pa_NoPay_C no_Pay_C fi_Pay_C pa_Pay_C} \\
\hline 11/17/2008 COL1 & 60000000 & 0.022542 & 0 & & \\
\hline 11/18/2008 COL1 & 101000000 & 0.02349 & 0 & & \\
\hline 11/19/2008 COL1 & 255397500 & 0.032016 & 0 & & \\
\hline 11/20/2008 COL1 & 473528750 & 0.041306 & 05000000 & 0.05 & 0.015 \\
\hline 11/21/2008 COL1 & 789092925 & 0.051193 & 025000000 & 0.05 & 0.029 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|}
\hline ALADDIN I & Citigroup Credit Default Swap TransactionsALADDIN RELATIVE VALUE CREDIT MAS FD LTDBearish \# 45 / Bullish \# - / Net Bearish \# 31 \\
\hline AURELIUS & 2 Citigroup Credit Default Swap TransactionsAURELIUS CAPITALBearish \# - / Bullish \# 25 / Net Bearish \# 104 (Net Bullish \# 13) \\
\hline AUTONOM & 3 Citigroup Credit Default Swap TransactionsAUTONOMY MASTER FUND LIMITEDBearish \# 28 / Bullish \# - / Net Bearish \# 16 \\
\hline BANCA IM & Citigroup Credit Default Swap TransactionsBANCA IMI S.P.ABearish \# - / Bullish \# 31 / Net Bearish \# 94 \\
\hline BANCO BI & 5 Citigroup Credit Default Swap Transactions BANCO BILBAO VIZCAYA ARGENTARIA, S.A.Bearish \# 13 / Bullish \# - / Net Bearish \# 4 \\
\hline BANK OF & 6 Citigroup Credit Default Swap Transactions BANK OF AMERICA, N.A. Non-Proprietary (No Proprietary in the Period) \\
\hline BANK OF & 7 Citigroup Credit Default Swap Transactions_BANK OF NOVA SCOTIA TORONTOBearish \# - / Bullish \# 32 / Net Bearish \# 95 \\
\hline BARCELO & 8 Citigroup Credit Default Swap Transactions BARCELONA INKABearish \# - / Bullish \# 71 / Net Bearish \# 58 \\
\hline BARCLAY & 9 Citigroup Credit Default Swap Transactions BARCLAYS BANK PLC Non-Proprietary (No Proprietary in the Period) \\
\hline BEAR, STI & 10 Citigroup Credit Default Swap TransactionsBEAR, STEARNS INTERNATIONAL LTDBearish \# 44 / Bullish \# - / Net Bearish \# 30 \\
\hline BLACK DI, & 11 Citigroup Credit Default Swap Transactions BLACK DIAMOND OFFSHORE, LTDBearish \# 47 / Bullish \# - / Net Bearish \# 33 \\
\hline BLUE MTA & 12 Citigroup Credit Default Swap Transactions BLUE MTN CREDIT ALTS. MASTER FUND L.P.Bearish \# 22 / Bullish \# 20 / Net Bearish \# 34 \\
\hline BLUEBAY & 13 Citigroup Credit Default Swap Transactions BLUEBAY FUND:BLUEBAY INVESTT GR LIBOR FDBearish \# - / Bullish \# 85 / Net Bearish \# 42 \\
\hline BLUEBAY & 14 Citigroup Credit Default Swap Transactions BLUEBAY INVESTMENT GRADE BOND FUNDBearish \# - / Bullish \# 28 / Net Bearish \# 102 (Net Bullish \# 15) \\
\hline BLUECRE & 15 Citigroup Credit Default Swap Transactions BLUECREST MULTI STRATEGY CREDIT MSTR FDBearish \# - / Bullish \# 33 / Net Bearish \# 96 \\
\hline BNP PARI & 16 Citigroup Credit Default Swap Transactions BNP PARIBAS Non-Proprietary (No Proprietary in the Period) \\
\hline CALYON & 17 Citigroup Credit Default Swap TransactionsCALYON \\
\hline CEDAR HI & 18 Citigroup Credit Default Swap Transactions CEDAR HILL CAPITAL PARTNERSBearish \# 30 / Bullish \# 24 / Net Bearish \# 35 \\
\hline CHEYNE L & 19 Citigroup Credit Default Swap Transactions CHEYNE LONG/SHORT STRUCTURED CREDIT FUNDBearish \# 16 / Bullish \# 15 / Net Bearish \# 103 (Net Bullis \\
\hline CQS ABS & 20 Citigroup Credit Default Swap TransactionsCQS ABS MASTER FUND LIMITEDBearish \# 35 / Bullish \# - / Net Bearish \# 23 \\
\hline CREDIT S & 21 Citigroup Credit Default Swap Transactions CREDIT SUISSE INTERNATIONAL Non-Proprietary (No Proprietary in the Period) \\
\hline DEKA BAN & 22 Citigroup Credit Default Swap TransactionsDEKA BANK, FRANKFURTBearish \# 26 / Bullish \# - / Net Bearish \# 13 \\
\hline DEUTSCH & 23 Citigroup Credit Default Swap Transactions DEUTSCHE BANK AG Non-Proprietary (No Proprietary in the Period) \\
\hline DISCOVEF & 24 Citigroup Credit Default Swap Transactions DISCOVERY ATLAS MASTER FUNDBearish \# 36 / Bullish \# - / Net Bearish \# 24 \\
\hline DOUBLE E & 25 Citigroup Credit Default Swap Transactions DOUBLE BLACK DIAMOND OFFSHORE LDCBearish \# 42 / Bullish \# - / Net Bearish \# 27 \\
\hline DWS CRE & 26 Citigroup Credit Default Swap TransactionsDWS CREDIT OPPORTUNITIESBearish \# 34 / Bullish \# - / Net Bearish \# 22 \\
\hline ES CAPIT, & 27 Citigroup Credit Default Swap TransactionsES CAPITALIZACAOBearish \# 27 / Bullish \# - / Net Bearish \# 14 \\
\hline ES REND/ & 28 Citigroup Credit Default Swap Transactions ES RENDABearish \# 33 / Bullish \# - / Net Bearish \# 21 \\
\hline FOND BVC & 29 Citigroup Credit Default Swap TransactionsFOND BVOE SEGMENT UNTERFONDS WBearish \# - / Bullish \# 63 / Net Bearish \# 65 \\
\hline FORE COI & 30 Citigroup Credit Default Swap Transactions FORE CONVERTIBLE MASTER FUND, LTD.Bearish \# 15/Bullish \# 21 / Net Bearish \# 12 \\
\hline FORE ERI & 31 Citigroup Credit Default Swap TransactionsFORE ERISA FUND, LTD.Bearish \# 31 / Bullish \# 40 / Net Bearish \# 29 \\
\hline FORE MUI & 32 Citigroup Credit Default Swap TransactionsFORE MULTI STRATEGY MASTER FUND,LTD. Bearish \# 23 / Bullish \# 23 / Net Bearish \# 15 \\
\hline GENERAL & 33 Citigroup Credit Default Swap Transactions GENERALAMERICAN LIFE INSURANCE COMPANYBearish \# 17 / Bullish \# - / Net Bearish \# 5 \\
\hline GENERAL & 34 Citigroup Credit Default Swap Transactions GENERAL ELECTRIC PENSION TRUSTBearish \# - / Bullish \# 22 / Net Bearish \# 107 (Net Bullish \# 10) \\
\hline GOLDMA & 35 Citigroup Credit Default Swap Transactions GOLDMAN SACHS Firm Trades (missing value of most terminations) \\
\hline HALBIS U: & 36 Citigroup Credit Default Swap Transactions HALBIS US CREDIT ALPHA MASTER FD LTDBearish \# - / Bullish \# 34 / Net Bearish \# 97 \\
\hline HPK-INVE & 37 Citigroup Credit Default Swap Transactions HPK-INVESTMENT GRADE CORPORATESBearish \# - / Bullish \# 72 / Net Bearish \# 49 \\
\hline HSBC BAT & 38 Citigroup Credit Default Swap Transactions HSBC BANK Proprietary Status Not Specified in Production \\
\hline ICM BUSII & 39 Citigroup Credit Default Swap Transactions ICM BUSINESS TRUSTBearish \# - / Bullish \# 44 / Net Bearish \# 85 \\
\hline ING & 40 Citigroup Credit Default Swap Transactions INGBearish \# - / Bullish \# 26 / Net Bearish \# 105 (Net Bullish \# 12) \\
\hline INTERN K, & 41 Citigroup Credit Default Swap Transactions INTERN KAPIT MBH (PRV-C)Bearish \# - / Bullish \# 86 / Net Bearish \# 43 \\
\hline IONIC CAF & 42 Citigroup Credit Default Swap Transactions IONIC CAPITAL MASTER FUND LTDBearish \# - / Bullish \# 18 / Net Bearish \# 108 (Net Bullish \# 9) \\
\hline JMG & 43 Citigroup Credit Default Swap Transactions JMGBearish \# - / Bullish \# 35 / Net Bearish \# 98 \\
\hline JNL & 44 Citigroup Credit Default Swap Transactions JNLBearish \# 24 / Bullish \# - / Net Bearish \# 9 \\
\hline JPMORGA & 45 Citigroup Credit Default Swap Transactions JPMORGAN CHASE BANK Non-Proprietary (No Proprietary in the Period) \\
\hline KAMUNTII & 46 Citigroup Credit Default Swap Transactions KAMUNTING STREET MASTER FUND LTDBearish \# - / Bullish \# 36 / Net Bearish \# 99 \\
\hline KBC FIN. F & 47 Citigroup Credit Default Swap Transactions KBC FIN. PRODUCTS (CAYMAN ISLANDS)LTD. Bearish \# 37 / Bullish \# - / Net Bearish \# 25 \\
\hline KEYBANK & 48 Citigroup Credit Default Swap Transactions KEYBANK NATIONAL ASSOCIATION All Proprietary \\
\hline LEHMAN E & 49 Citigroup Credit Default Swap Transactions LEHMAN BROTHERS CREDIT ARBITRAGE FUNDBearish \# - / Bullish \# 37 / Net Bearish \# 100 \\
\hline MAGNETA & 50 Citigroup Credit Default Swap Transactions MAGNETAR Non-Proprietary (No Proprietary in the Period) \\
\hline MARATHC & 51 Citigroup Credit Default Swap TransactionsMARATHONBearish \# 12 / Bullish \# 13 / Net Bearish \# 93 \\
\hline MARINER- & 52 Citigroup Credit Default Swap Transactions MARINER-TRICADIA CRD STRAT MASTER FD LTDBearish \# - / Bullish \# 41 / Net Bearish \# 90 \\
\hline MERRILLI & 53 Citigroup Credit Default Swap TransactionsMERRILL LYNCH INTERNATIONALBearish \# 18/Bullish \# 19 / Net Bearish \# 19 \\
\hline METLIFE I & 54 Citigroup Credit Default Swap TransactionsMETLIFE INSURANCE COMPANY OF CONNECTICUTBearish \# 21 / Bullish \# - / Net Bearish \# 8 \\
\hline MORGAN & 55 Citigroup Credit Default Swap Transactions MORGAN STANLEY Non-Proprietary (No Proprietary in the Period) \\
\hline NATIONAL & 56 Citigroup Credit Default Swap TransactionsNATIONAL BANK OF CANADABearish \# 32 / Bullish \# - / Net Bearish \# 20 \\
\hline NOMURA & 57 Citigroup Credit Default Swap Transactions NOMURA INTERNATIONAL PLCBearish \# 38 / Bullish \# 14 / Net Bearish \# 112 (Net Bullish \# 5) \\
\hline NORGES I & 58 Citigroup Credit Default Swap Transactions NORGES BANK - INVESTMENT MANAGEMENT \#1Bearish \# - / Bullish \# 17 / Net Bearish \# 109 (Net Bullish \# 8) \\
\hline PAULSON & 59 Citigroup Credit Default Swap Transactions PAULSON CREDIT OPPORTUNITIES MASTER LTDBearish \# - / Bullish \# 10 / Net Bearish \# 114 (Net Bullish \# 3 \\
\hline PIM1338 & 60 Citigroup Credit Default Swap Transactions PIM1338Bearish \# - / Bullish \# 73 / Net Bearish \# 50 \\
\hline PIM1356 & 61 Citigroup Credit Default Swap TransactionsPPIM1356Bearish \# - / Bullish \# 65 / Net Bearish \# 61 \\
\hline PIM1357 & 62 Citigroup Credit Default Swap TransactionsPPIM1357Bearish \# - / Bullish \# 45 / Net Bearish \# 86 \\
\hline PIM1358 & 63 Citigroup Credit Default Swap TransactionsPIM1358Bearish \# - / Bullish \# 51 / Net Bearish \# 78 \\
\hline PIM1422 & 64 Citigroup Credit Default Swap TransactionsPIM1422Bearish \# - / Bullish \# 66 / Net Bearish \# 62 \\
\hline PIM1628 & 65 Citigroup Credit Default Swap TransactionsPPIM1628Bearish \# - / Bullish \# 61 / Net Bearish \# 67 \\
\hline PIM1833 & 66 Citigroup Credit Default Swap TransactionsPIM1833Bearish \# - / Bullish \# 55 / Net Bearish \# 73 \\
\hline PIM1941 & 67 Citigroup Credit Default Swap TransactionsPIM1941Bearish \# - / Bullish \# 59 / Net Bearish \# 69 \\
\hline PIM2071 & 68 Citigroup Credit Default Swap TransactionsPIM2071Bearish \# - / Bullish \# 81 / Net Bearish \# 45 \\
\hline PIM2086 & 69 Citigroup Credit Default Swap TransactionsPIM2086Bearish \# - / Bullish \# 54 / Net Bearish \# 75 \\
\hline PIM2136 & 70 Citigroup Credit Default Swap Transactions PIM2136Bearish \# - / Bullish \# 57 / Net Bearish \# 71 \\
\hline PIM2224 & 71 Citigroup Credit Default Swap TransactionsPPIM2224Bearish \# - / Bullish \# 56 / Net Bearish \# 74 \\
\hline PIM2232 & 72 Citigroup Credit Default Swap TransactionsPPIM2232Bearish \# - / Bullish \# 43 / Net Bearish \# 88 \\
\hline PIM2307 & 73 Citigroup Credit Default Swap TransactionsPIM2307Bearish \# - / Bullish \# 52 / Net Bearish \# 76 \\
\hline PIM2355 & 74 Citigroup Credit Default Swap TransactionsPIM2355Bearish \# - / Bullish \# 88 / Net Bearish \# 38 \\
\hline PIM2400 & 75 Citigroup Credit Default Swap Transactions PIM2400Bearish \# - / Bullish \# 89 / Net Bearish \# 39 \\
\hline PIM2466 & 76 Citigroup Credit Default Swap TransactionsPIM2466Bearish \# - / Bullish \# 64 / Net Bearish \# 66 \\
\hline PIM2660 & 77 Citigroup Credit Default Swap TransactionsPIM2660Bearish \# - / Bullish \# 67 / Net Bearish \# 63 \\
\hline PIM2679 & 78 Citigroup Credit Default Swap TransactionsPIM2679Bearish \# - / Bullish \# 58 / Net Bearish \# 72 \\
\hline PIM2687 & 79 Citigroup Credit Default Swap TransactionsPIM2687Bearish \# - / Bullish \# 74 / Net Bearish \# 51 \\
\hline PIM2739 & 80 Citigroup Credit Default Swap TransactionsPIM2739Bearish \# - / Bullish \# 82 / Net Bearish \# 46 \\
\hline PIM2755 & 81 Citigroup Credit Default Swap TransactionsPIM2755Bearish \# - / Bullish \# 75 / Net Bearish \# 52 \\
\hline PIM2809 & 82 Citigroup Credit Default Swap TransactionsPIM2809Bearish \# - / Bullish \# 49 / Net Bearish \# 80 \\
\hline PIM2879 & 83 Citigroup Credit Default Swap TransactionsPIM2879Bearish \# - / Bullish \# 76 / Net Bearish \# 53 \\
\hline PIM2909 & 84 Citigroup Credit Default Swap TransactionsPIM2909Bearish \# - / Bullish \# 42 / Net Bearish \# 89 \\
\hline PIM2958 & 85 Citigroup Credit Default Swap TransactionsPIM2958Bearish \# - / Bullish \# 60 / Net Bearish \# 70 \\
\hline PIM3689 & 86 Citigroup Credit Default Swap TransactionsPIM3689Bearish \# - / Bullish \# 68 / Net Bearish \# 64 \\
\hline PIM3691 & 87 Citigroup Credit Default Swap Transactions PIM3691Bearish \# - / Bullish \# 77 / Net Bearish \# 54 \\
\hline PIM3706 & 88 Citigroup Credit Default Swap Transactions PIM3706Bearish \# - / Bullish \# 83 / Net Bearish \# 47 \\
\hline PIM4632 & 89 Citigroup Credit Default Swap TransactionsPIM4632Bearish \# - / Bullish \# 69 / Net Bearish \# 59 \\
\hline PIM4690 & 90 Citigroup Credit Default Swap Transactions PIM4690Bearish \# - / Bullish \# 39 / Net Bearish \# 92 \\
\hline PIM4692 & 91 Citigroup Credit Default Swap Transactions PIM4692Bearish \# - / Bullish \# 53 / Net Bearish \# 77 \\
\hline PIM4807 & 92 Citigroup Credit Default Swap TransactionsPPIM4807Bearish \# - / Bullish \# 46 / Net Bearish \# 87 \\
\hline PIM4866 & 93 Citigroup Credit Default Swap Transactions PIM4866Bearish \# - / Bullish \# 47 / Net Bearish \# 83 \\
\hline PIM6009 & 94 Citigroup Credit Default Swap TransactionsPIM6009Bearish \# - / Bullish \# 84 / Net Bearish \# 48 \\
\hline
\end{tabular}


\begin{tabular}{|c|c|c|}
\hline & 48 & 84 Bearish \# - / Bullish \# 48 / Net Bearish \# 84 \\
\hline & 78 & 55 Bearish \# - / Bullish \# 78 / Net Bearish \# 55 \\
\hline & 70 & 60 Bearish \# - / Bullish \# 70 / Net Bearish \# 60 \\
\hline & 90 & 40 Bearish \# - / Bullish \# 90 / Net Bearish \# 40 \\
\hline & 62 & 68 Bearish \# - / Bullish \# 62 / Net Bearish \# 68 \\
\hline & 91 & 41 Bearish \# - / Bullish \# 91 / Net Bearish \# 41 \\
\hline & 79 & 56 Bearish \# - / Bullish \# 79 / Net Bearish \# 56 \\
\hline & 16 & 110 Bearish \# - / Bullish \# 16 / Net Bearish \# 110 (Net Bullist (Net Bullish \# 7) \\
\hline & 87 & 44 Bearish \# - / Bullish \# 87 / Net Bearish \# 44 \\
\hline 39 & 30 & 36 Bearish \# 39 / Bullish \# 30 / Net Bearish \# 36 \\
\hline 7 & 3 & 113 Bearish \# 7 / Bullish \# 3 / Net Bearish \# 113 (Net Bullish (Net Bullish \# 4) \\
\hline & 38 & 101 Bearish \# - / Bullish \# 38 / Net Bearish \# 101 (Net Bullist (Net Bullish \# 16) \\
\hline \(40-\) & & 26 Bearish \# 40 / Bullish \# - / Net Bearish \# 26 \\
\hline 19 - & & 6 Bearish \# 19 / Bullish \# - / Net Bearish \# 6 \\
\hline 46 - & & 32 Bearish \# 46 / Bullish \# - / Net Bearish \# 32 \\
\hline & 80 & 57 Bearish \# - / Bullish \# 80 / Net Bearish \# 57 \\
\hline & 27 & 106 Bearish \# - / Bullish \# 27 / Net Bearish \# 106 (Net Bullist (Net Bullish \# 11) \\
\hline 3 & 12 & 1 Bearish \# 3 / Bullish \# 12 / Net Bearish \# 1 \\
\hline 43 - & & 28 Bearish \# 43 / Bullish \# - / Net Bearish \# 28 \\
\hline 20 - & & 7 Bearish \# 20 / Bullish \# - / Net Bearish \# 7 \\
\hline & 50 & 79 Bearish \# - / Bullish \# 50 / Net Bearish \# 79 \\
\hline 41 & 29 & 82 Bearish \# 41 / Bullish \# 29 / Net Bearish \# 82 \\
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\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline namegroup & idname & _NAME_ & rangen & day_17 & day_18 & day_19 & day_20 & day_21 \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 abuy & abuy_1 & & & & & -3,000,000 \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 asell & asel_1 & & & & & \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 bearish & bear_1 & & & & & -3,000,000 \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 bullish & bull_1 & & & & & \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 cnet & cnet_1 & 0 & 0 & 0 & 0 & -3,000,000 \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 netbearish & netb_1 & & & & & -3,000,000 \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 sbuy & sbuy_1 & & & & & \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD & & 1 ssell & ssel_1 & & & & & \\
\hline AURELIUS CAPITAL & & 2 abuy & abuy_2 & & & & & \\
\hline AURELIUS CAPITAL & & 2 asell & asel_2 & & & & & \\
\hline AURELIUS CAPITAL & & 2 bearish & bear_2 & & & & & \\
\hline AURELIUS CAPITAL & & 2 bullish & bull_2 & & & 10,000,000 & & \\
\hline AURELIUS CAPITAL & & 2 cnet & cnet_2 & 0 & 0 & 10,000,000 & 10,000,000 & 10,000,000 \\
\hline AURELIUS CAPITAL & & 2 netbearish & netb_2 & & & 10,000,000 & & \\
\hline AURELIUS CAPITAL & & 2 sbuy & sbuy_2 & & & 10,000,000 & & \\
\hline AURELIUS CAPITAL & & 2 ssell & ssel_2 & & & & & \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 abuy & abuy_3 & & & & & -10,000,000 \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 asell & asel_3 & & & & & \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 bearish & bear_3 & & & & & -10,000,000 \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 bullish & bull_3 & & & & & \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 cnet & cnet_3 & 0 & 0 & 0 & 0 & -10,000,000 \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 netbearish & netb_3 & & & & & -10,000,000 \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 sbuy & sbuy_3 & & & & & \\
\hline AUTONOMY MASTER FUND LIMITED & & 3 ssell & ssel_3 & & & & & \\
\hline BANCA IMI S.P.A & & 4 abuy & abuy_4 & & & & & \\
\hline BANCA IMI S.P.A & & 4 asell & asel_4 & & & & & \\
\hline BANCA IMI S.P.A & & 4 bearish & bear_4 & & & & & \\
\hline BANCA IMI S.P.A & & 4 bullish & bull_4 & & & & 5,000,000 & \\
\hline BANCA IMI S.P.A & & 4 cnet & cnet_4 & 0 & 0 & 0 & 5,000,000 & 5,000,000 \\
\hline BANCA IMI S.P.A & & 4 netbearish & netb_4 & & & & 5,000,000 & \\
\hline BANCA IMI S.P.A & & 4 sbuy & sbuy_4 & & & & 5,000,000 & \\
\hline BANCA IMI S.P.A & & 4 ssell & ssel_4 & & & & & \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 abuy & abuy_5 & & & -30,000,000 & -10,000,000 & \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 asell & asel_5 & & & & & \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 bearish & bear_5 & & & -30,000,000 & -10,000,000 & \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 bullish & bull_5 & & & & & \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 cnet & cnet_5 & 0 & 0 & -30,000,000 & -40,000,000 & -40,000,000 \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 netbearish & netb_5 & & & -30,000,000 & -10,000,000 & \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 sbuy & sbuy_5 & & & & & \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & & 5 ssell & ssel_5 & & & & & \\
\hline BANK OF AMERICA, N.A. & & 6 abuy & abuy_6 & & & -7,600,000 & & -20,700,000 \\
\hline BANK OF AMERICA, N.A. & & 6 asell & asel_6 & & 5,000,000 & 15,000,000 & 6,000,000 & 45,000,000 \\
\hline BANK OF AMERICA, N.A. & & 6 bearish & bear_6 & & -500,000 & -12,600,000 & & -20,700,000 \\
\hline BANK OF AMERICA, N.A. & & 6 bullish & bull_6 & & 5,000,000 & 15,000,000 & 6,000,000 & 45,000,000 \\
\hline BANK OF AMERICA, N.A. & & 6 cnet & cnet_6 & 0 & 4,500,000 & 6,900,000 & 12,900,000 & 37,200,000 \\
\hline BANK OF AMERICA, N.A. & & 6 netbearish & netb_6 & & 4,500,000 & 2,400,000 & 6,000,000 & 24,300,000 \\
\hline BANK OF AMERICA, N.A. & & 6 sbuy & sbuy_6 & & & & & \\
\hline BANK OF AMERICA, N.A. & & 6 ssell & ssel_6 & & -500,000 & -5,000,000 & & \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 abuy & abuy_7 & & & & & \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 asell & asel_7 & & & & & 5,000,000 \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 bearish & bear_7 & & & & & \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 bullish & bull_7 & & & & & 5,000,000 \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 cnet & cnet_7 & 0 & 0 & 0 & 0 & 5,000,000 \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 netbearish & netb_7 & & & & & 5,000,000 \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 sbuy & sbuy_7 & & & & & \\
\hline BANK OF NOVA SCOTIA TORONTO & & 7 ssell & ssel_7 & & & & & \\
\hline BARCELONA INKA & & 8 abuy & abuy_8 & & & & & \\
\hline BARCELONA INKA & & 8 asell & asel_8 & & & & 350,000 & \\
\hline BARCELONA INKA & & 8 bearish & bear_8 & & & & & \\
\hline BARCELONA INKA & & 8 bullish & bull_8 & & & & 350,000 & \\
\hline BARCELONA INKA & & 8 cnet & cnet_8 & 0 & 0 & 0 & 350,000 & 350,000 \\
\hline BARCELONA INKA & & 8 netbearish & netb_8 & & & & 350,000 & \\
\hline BARCELONA INKA & & 8 sbuy & sbuy_8 & & & & & \\
\hline BARCELONA INKA & & 8 ssell & ssel_8 & & & & & \\
\hline BARCLAYS BANK PLC & & 9 abuy & abuy_9 & -25,000,000 & & -10,000,000 & -74,200,000 & -46,879,650 \\
\hline BARCLAYS BANK PLC & & 9 asell & asel_9 & 15,000,000 & 15,000,000 & 40,000,000 & 53,262,500 & 67,900,000 \\
\hline BARCLAYS BANK PLC & & 9 bearish & bear_9 & -25,000,000 & -20,000,000 & -20,000,000 & -74,200,000 & -56,879,650 \\
\hline BARCLAYS BANK PLC & & 9 bullish & bull_9 & 15,000,000 & 15,000,000 & 40,000,000 & 58,262,500 & 67,900,000 \\
\hline BARCLAYS BANK PLC & & 9 cnet & cnet_9 & -10,000,000 & -15,000,000 & 5,000,000 & -10,937,500 & 82,850 \\
\hline BARCLAYS BANK PLC & & 9 netbearish & netb_9 & -10,000,000 & -5,000,000 & 20,000,000 & -15,937,500 & 11,020,350 \\
\hline BARCLAYS BANK PLC & & 9 sbuy & sbuy_9 & & & & 5,000,000 & \\
\hline BARCLAYS BANK PLC & & 9 ssell & ssel_9 & & -20,000,000 & -10,000,000 & & -10,000,000 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 abuy & abuy_10 & & & & & \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 asell & asel_10 & & & & & \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 bearish & bear_10 & & & & & -3,258,060 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 bullish & bull_10 & & & & & \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 cnet & cnet_10 & 0 & 0 & 0 & 0 & -3,258,060 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 netbearish & netb_10 & & & & & -3,258,060 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 sbuy & sbuy_10 & & & & & \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & 10 ssell & ssel_10 & & & & & -3,258,060 \\
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\hline 11 abuy & abuy_11 \\
\hline 11 asell & asel_11 \\
\hline 11 bearish & bear_11 \\
\hline 11 bullish & bull_11 \\
\hline 11 cnet & cnet_11 \\
\hline 11 netbearish & netb_11 \\
\hline 11 sbuy & sbuy_11 \\
\hline 11 ssell & ssel_11 \\
\hline 12 abuy & abuy_12 \\
\hline 12 asell & asel_12 \\
\hline 12 bearish & bear_12 \\
\hline 12 bullish & bull_12 \\
\hline 12 cnet & cnet_12 \\
\hline 12 netbearish & netb_12 \\
\hline 12 sbuy & sbuy_12 \\
\hline 12 ssell & ssel_12 \\
\hline 13 abuy & abuy_13 \\
\hline 13 asell & asel_13 \\
\hline 13 bearish & bear_13 \\
\hline 13 bullish & bull_13 \\
\hline 13 cnet & cnet_13 \\
\hline 13 netbearish & netb_13 \\
\hline 13 sbuy & sbuy_13 \\
\hline 13 ssell & ssel_13 \\
\hline 14 abuy & abuy_14 \\
\hline 14 asell & asel_14 \\
\hline 14 bearish & bear_14 \\
\hline 14 bullish & bull_14 \\
\hline 14 cnet & cnet_14 \\
\hline 14 netbearish & netb_14 \\
\hline 14 sbuy & sbuy_14 \\
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\hline 15 abuy & abuy_15 \\
\hline 15 asell & asel_15 \\
\hline 15 bearish & bear_15 \\
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\hline 15 cnet & cnet_15 \\
\hline 15 netbearish & netb_15 \\
\hline 15 sbuy & sbuy_15 \\
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\hline 16 abuy & abuy_16 \\
\hline 16 asell & asel_16 \\
\hline 16 bearish & bear_16 \\
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\hline 16 netbearish & netb_16 \\
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\hline 17 bearish & bear_17 \\
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\hline 18 cnet & cnet_18 \\
\hline 18 netbearish & netb_18 \\
\hline 18 sbuy & sbuy_18 \\
\hline 18 ssell & ssel_18 \\
\hline 19 abuy & abuy_19 \\
\hline 19 asell & asel_19 \\
\hline 19 bearish & bear_19 \\
\hline 19 bullish & bull_19 \\
\hline 19 cnet & cnet_19 \\
\hline 19 netbearish & netb_19 \\
\hline 19 sbuy & sbuy_19 \\
\hline 19 ssell & ssel_19 \\
\hline 20 abuy & abuy_20 \\
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\hline 20 bearish & bear_20 \\
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& \(12,000,000\) & \(27,000,000\) & \(61,510,000\) & \(135,000,000\) \\
\(-10,000,000\) & \(-17,000,000\) & \(-30,000,000\) & \(-90,000,000\) & \(-120,313,275\) \\
& \(12,000,000\) & \(32,000,000\) & \(81,510,000\) & \(135,000,000\) \\
\(-10,000,000\) & \(-15,000,000\) & \(-13,000,000\) & \(-21,490,000\) & \(-6,803,275\) \\
\(-10,000,000\) & \(-5,000,000\) & \(2,000,000\) & \(-8,490,000\) & \(14,686,725\) \\
& & \(5,000,000\) & \(20,000,000\) & \\
& & \(-20,000,000\) & \(-20,000,000\) & \\
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\hline 21 abuy & abuy_21 & & & & -40,000,000 & -35,000,000 \\
\hline 21 asell & asel_21 & & & 10,000,000 & 38,156,250 & 109,000,000 \\
\hline 21 bearish & bear_21 & & & & -40,000,000 & -35,000,000 \\
\hline 21 bullish & bull_21 & & & 10,000,000 & 38,156,250 & 124,000,000 \\
\hline 21 cnet & cnet_21 & 0 & 0 & 10,000,000 & 8,156,250 & 97,156,250 \\
\hline 21 netbearish & netb_21 & & & 10,000,000 & -1,843,750 & 89,000,000 \\
\hline 21 sbuy & sbuy_21 & & & & & 15,000,000 \\
\hline 21 ssell & ssel_21 & & & & & \\
\hline 22 abuy & abuy_22 & & & -6,297,500 & -6,262,500 & \\
\hline 22 asell & asel_22 & & & & & \\
\hline 22 bearish & bear_22 & & & -6,297,500 & -6,262,500 & \\
\hline 22 bullish & bull_22 & & & & & \\
\hline 22 cnet & cnet_22 & 0 & 0 & -6,297,500 & -12,560,000 & -12,560,000 \\
\hline 22 netbearish & netb_22 & & & -6,297,500 & -6,262,500 & \\
\hline 22 sbuy & sbuy_22 & & & & & \\
\hline 22 ssell & ssel_22 & & & & & \\
\hline 23 abuy & abuy_23 & & -35,000,000 & -45,000,000 & -70,000,000 & -165,000,000 \\
\hline 23 asell & asel_23 & 10,000,000 & 49,500,000 & 55,000,000 & 35,000,000 & 55,000,000 \\
\hline 23 bearish & bear_23 & & -55,000,000 & -67,000,000 & -85,000,000 & -190,000,000 \\
\hline 23 bullish & bull_23 & 10,000,000 & 79,500,000 & 55,000,000 & 53,630,000 & 85,000,000 \\
\hline 23 cnet & cnet_23 & 10,000,000 & 34,500,000 & 22,500,000 & -8,870,000 & -113,870,000 \\
\hline 23 netbearish & netb_23 & 10,000,000 & 24,500,000 & -12,000,000 & -31,370,000 & -105,000,000 \\
\hline 23 sbuy & sbuy_23 & & 30,000,000 & & 18,630,000 & 30,000,000 \\
\hline 23 ssell & ssel_23 & & -20,000,000 & -22,000,000 & -15,000,000 & -25,000,000 \\
\hline 24 abuy & abuy_24 & & & & -5,000,000 & \\
\hline 24 asell & asel_24 & & & & & \\
\hline 24 bearish & bear_24 & & & & -5,000,000 & \\
\hline 24 bullish & bull_24 & & & & & \\
\hline 24 cnet & cnet_24 & 0 & 0 & 0 & -5,000,000 & -5,000,000 \\
\hline 24 netbearish & netb_24 & & & & -5,000,000 & \\
\hline 24 sbuy & sbuy_24 & & & & & \\
\hline 24 ssell & ssel_24 & & & & & \\
\hline 25 abuy & abuy_25 & & -4,775,000 & & & \\
\hline 25 asell & asel_25 & & & & & \\
\hline 25 bearish & bear_25 & & -4,775,000 & & & \\
\hline 25 bullish & bull_25 & & & & & \\
\hline 25 cnet & cnet_25 & 0 & -4,775,000 & -4,775,000 & -4,775,000 & -4,775,000 \\
\hline 25 netbearish & netb_25 & & -4,775,000 & & & \\
\hline 25 sbuy & sbuy_25 & & & & & \\
\hline 25 ssell & ssel_25 & & & & & \\
\hline 26 abuy & abuy_26 & & & & -5,010,000 & \\
\hline 26 asell & asel_26 & & & & & \\
\hline 26 bearish & bear_26 & & & & -5,010,000 & \\
\hline 26 bullish & bull_26 & & & & & \\
\hline 26 cnet & cnet_26 & 0 & 0 & 0 & -5,010,000 & -5,010,000 \\
\hline 26 netbearish & netb_26 & & & & -5,010,000 & \\
\hline 26 sbuy & sbuy_26 & & & & & \\
\hline 26 ssell & ssel_26 & & & & & \\
\hline 27 abuy & abuy_27 & & & & -10,270,500 & \\
\hline 27 asell & asel_27 & & & & & \\
\hline 27 bearish & bear_27 & & & & -10,270,500 & \\
\hline 27 bullish & bull_27 & & & & & \\
\hline 27 cnet & cnet_27 & 0 & 0 & 0 & -10,270,500 & -10,270,500 \\
\hline 27 netbearish & netb_27 & & & & -10,270,500 & \\
\hline 27 sbuy & sbuy_27 & & & & & \\
\hline 27 ssell & ssel_27 & & & & & \\
\hline 28 abuy & abuy_28 & & & & -5,385,750 & \\
\hline 28 asell & asel_28 & & & & & \\
\hline 28 bearish & bear_28 & & & & -5,385,750 & \\
\hline 28 bullish & bull_28 & & & & & \\
\hline 28 cnet & cnet_28 & 0 & 0 & 0 & -5,385,750 & -5,385,750 \\
\hline 28 netbearish & netb_28 & & & & -5,385,750 & \\
\hline 28 sbuy & sbuy_28 & & & & & \\
\hline 28 ssell & ssel_28 & & & & & \\
\hline 29 abuy & abuy_29 & & & & & \\
\hline 29 asell & asel_29 & & & & 600,000 & \\
\hline 29 bearish & bear_29 & & & & & \\
\hline 29 bullish & bull_29 & & & & 600,000 & \\
\hline 29 cnet & cnet_29 & 0 & 0 & 0 & 600,000 & 600,000 \\
\hline 29 netbearish & netb_29 & & & & 600,000 & \\
\hline 29 sbuy & sbuy_29 & & & & & \\
\hline 29 ssell & ssel_29 & & & & & \\
\hline 30 abuy & abuy_30 & & & & & \\
\hline 30 asell & asel_30 & & & 5,500,000 & 10,900,000 & \\
\hline 30 bearish & bear_30 & & & & & -32,800,000 \\
\hline 30 bullish & bull_30 & & & 5,500,000 & 10,900,000 & \\
\hline 30 cnet & cnet_30 & 0 & 0 & 5,500,000 & 16,400,000 & -16,400,000 \\
\hline 30 netbearish & netb_30 & & & 5,500,000 & 10,900,000 & -32,800,000 \\
\hline 30 sbuy & sbuy_30 & & & & & \\
\hline 30 ssell & ssel_30 & & & & & -32,800,000 \\
\hline 31 abuy & abuy_31 & & & & & \\
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\hline 41 bearish & bear_41 & & & & & \\
\hline 41 bullish & bull_41 & & & & 150,000 & \\
\hline 41 cnet & cnet_41 & 0 & 0 & 0 & 150,000 & 150,000 \\
\hline 41 netbearish & netb_41 & & & & 150,000 & \\
\hline 41 sbuy & sbuy_41 & & & & & \\
\hline 41 ssell & ssel_41 & & & & & \\
\hline 42 abuy & abuy_42 & & & & & \\
\hline 42 asell & asel_42 & & & & & \\
\hline 42 bearish & bear_42 & & & & & \\
\hline 42 bullish & bull_42 & & & & 9,000,000 & 13,500,000 \\
\hline 42 cnet & cnet_42 & 0 & 0 & 0 & 9,000,000 & 22,500,000 \\
\hline 42 netbearish & netb_42 & & & & 9,000,000 & 13,500,000 \\
\hline 42 sbuy & sbuy_42 & & & & 9,000,000 & 13,500,000 \\
\hline 42 ssell & ssel_42 & & & & & \\
\hline 43 abuy & abuy_43 & & & & & \\
\hline 43 asell & asel_43 & & & & & \\
\hline 43 bearish & bear_43 & & & & & \\
\hline 43 bullish & bull_43 & & & & 5,000,000 & \\
\hline 43 cnet & cnet_43 & 0 & 0 & 0 & 5,000,000 & 5,000,000 \\
\hline 43 netbearish & netb_43 & & & & 5,000,000 & \\
\hline 43 sbuy & sbuy_43 & & & & 5,000,000 & \\
\hline 43 ssell & ssel_43 & & & & & \\
\hline 44 abuy & abuy_44 & & & & & -20,000,000 \\
\hline 44 asell & asel_44 & & & & & \\
\hline 44 bearish & bear_44 & & & & & -20,000,000 \\
\hline 44 bullish & bull_44 & & & & & \\
\hline 44 cnet & cnet_44 & 0 & 0 & 0 & 0 & -20,000,000 \\
\hline 44 netbearish & netb_44 & & & & & -20,000,000 \\
\hline 44 sbuy & sbuy_44 & & & & & \\
\hline 44 ssell & ssel_44 & & & & & \\
\hline 45 abuy & abuy_45 & & -14,500,000 & -40,000,000 & -65,000,000 & -31,900,000 \\
\hline 45 asell & asel_45 & & & 55,000,000 & 60,000,000 & 58,258,060 \\
\hline 45 bearish & bear_45 & & -14,500,000 & -40,000,000 & -70,000,000 & -56,900,000 \\
\hline 45 bullish & bull_45 & & & 55,000,000 & 60,000,000 & 68,258,060 \\
\hline 45 cnet & cnet_45 & 0 & -14,500,000 & 500,000 & -9,500,000 & 1,858,060 \\
\hline 45 netbearish & netb_45 & & -14,500,000 & 15,000,000 & -10,000,000 & 11,358,060 \\
\hline 45 sbuy & sbuy_45 & & & & & 10,000,000 \\
\hline 45 ssell & ssel_45 & & & & -5,000,000 & -25,000,000 \\
\hline 46 abuy & abuy_46 & & & & & \\
\hline 46 asell & asel_46 & & & & & \\
\hline 46 bearish & bear_46 & & & & & \\
\hline 46 bullish & bull_46 & & & 5,000,000 & & \\
\hline 46 cnet & cnet_46 & 0 & 0 & 5,000,000 & 5,000,000 & 5,000,000 \\
\hline 46 netbearish & netb_46 & & & 5,000,000 & & \\
\hline 46 sbuy & sbuy_46 & & & 5,000,000 & & \\
\hline 46 ssell & ssel_46 & & & & & \\
\hline 47 abuy & abuy_47 & & & -5,000,000 & & \\
\hline 47 asell & asel_47 & & & & & \\
\hline 47 bearish & bear_47 & & & -5,000,000 & & \\
\hline 47 bullish & bull_47 & & & & & \\
\hline 47 cnet & cnet_47 & 0 & 0 & -5,000,000 & -5,000,000 & -5,000,000 \\
\hline 47 netbearish & netb_47 & & & -5,000,000 & & \\
\hline 47 sbuy & sbuy_47 & & & & & \\
\hline 47 ssell & ssel_47 & & & & & \\
\hline 48 abuy & abuy_48 & & & & -20,000,000 & \\
\hline 48 asell & asel_48 & & & & & \\
\hline 48 bearish & bear_48 & & & & -20,000,000 & \\
\hline 48 bullish & bull_48 & & & & & \\
\hline 48 cnet & cnet_48 & 0 & 0 & 0 & -20,000,000 & -20,000,000 \\
\hline 48 netbearish & netb_48 & & & & -20,000,000 & \\
\hline 48 sbuy & sbuy_48 & & & & & \\
\hline 48 ssell & ssel_48 & & & & & \\
\hline 49 abuy & abuy_49 & & & & & \\
\hline 49 asell & asel_49 & & & & & \\
\hline 49 bearish & bear_49 & & & & & \\
\hline 49 bullish & bull_49 & & & & & 5,000,000 \\
\hline 49 cnet & cnet_49 & 0 & 0 & 0 & 0 & 5,000,000 \\
\hline 49 netbearish & netb_49 & & & & & 5,000,000 \\
\hline 49 sbuy & sbuy_49 & & & & & 5,000,000 \\
\hline 49 ssell & ssel_49 & & & & & \\
\hline 50 abuy & abuy_50 & & & & & -50,000,000 \\
\hline 50 asell & asel_50 & & & & & \\
\hline 50 bearish & bear_50 & & & & & -50,000,000 \\
\hline 50 bullish & bull_50 & & & & & \\
\hline 50 cnet & cnet_50 & 0 & 0 & 0 & 0 & -50,000,000 \\
\hline 50 netbearish & netb_50 & & & & & -50,000,000 \\
\hline 50 sbuy & sbuy_50 & & & & & \\
\hline 50 ssell & ssel_50 & & & & & \\
\hline 51 abuy & abuy_51 & & & -50,000,000 & & \\
\hline 51 asell & asel_51 & & & & & \\
\hline 51 bearish & bear 51 & & & -50,000,000 & & \\
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\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline MARATHON & 51 bullish & bull_51 & & & 5,000,000 & 15,000,000 & 35,000,000 \\
\hline MARATHON & 51 cnet & cnet_51 & 0 & 0 & -45,000,000 & -30,000,000 & 5,000,000 \\
\hline MARATHON & 51 netbearish & netb_51 & & & -45,000,000 & 15,000,000 & 35,000,000 \\
\hline MARATHON & 51 sbuy & sbuy_51 & & & 5,000,000 & 15,000,000 & 35,000,000 \\
\hline MARATHON & 51 ssell & ssel_51 & & & & & \\
\hline MARINER-TRICADIA CRD STRAT MASTER FI & 52 abuy & abuy_52 & & & & & \\
\hline MARINER-TRICADIA CRD STRAT MASTER FI & 52 asell & asel_52 & & & & & 3,500,000 \\
\hline MARINER-TRICADIA CRD STRAT MASTER FI & 52 bearish & bear_52 & & & & & \\
\hline MARINER-TRICADIA CRD STRAT MASTER FI & 52 bullish & bull_52 & & & & & 3,500,000 \\
\hline MARINER-TRICADIA CRD STRAT MASTER FI & 52 cnet & cnet_52 & 0 & 0 & 0 & 0 & 3,500,000 \\
\hline MARINER-TRICADIA CRD STRAT MASTER FI & 52 netbearish & netb_52 & & & & & 3,500,000 \\
\hline MARINER-TRICADIA CRD STRAT MASTER FI & 52 sbuy & sbuy_52 & & & & & \\
\hline MARINER-TRICADIA CRD STRAT MASTER FI & 52 ssell & ssel_52 & & & & & \\
\hline MERRILL LYNCH INTERNATIONAL & 53 abuy & abuy_53 & & & -5,000,000 & -12,000,000 & -10,000,000 \\
\hline MERRILL LYNCH INTERNATIONAL & 53 asell & asel_53 & & & 5,000,000 & 15,300,000 & \\
\hline MERRILL LYNCH INTERNATIONAL & 53 bearish & bear_53 & & & -5,000,000 & -12,000,000 & -10,000,000 \\
\hline MERRILL LYNCH INTERNATIONAL & 53 bullish & bull_53 & & & 5,000,000 & 15,300,000 & \\
\hline MERRILL LYNCH INTERNATIONAL & 53 cnet & cnet_53 & 0 & 0 & 0 & 3,300,000 & -6,700,000 \\
\hline MERRILL LYNCH INTERNATIONAL & 53 netbearish & netb_53 & & & 0 & 3,300,000 & -10,000,000 \\
\hline MERRILL LYNCH INTERNATIONAL & 53 sbuy & sbuy_53 & & & & & \\
\hline MERRILL LYNCH INTERNATIONAL & 53 ssell & ssel_53 & & & & & \\
\hline METLIFE INSURANCE COMPANY OF CONNE & 54 abuy & abuy_54 & & & & & -22,000,000 \\
\hline METLIFE INSURANCE COMPANY OF CONNE & 54 asell & asel_54 & & & & & \\
\hline METLIFE INSURANCE COMPANY OF CONNE & 54 bearish & bear_54 & & & & & -22,000,000 \\
\hline METLIFE INSURANCE COMPANY OF CONNE & 54 bullish & bull_54 & & & & & \\
\hline METLIFE INSURANCE COMPANY OF CONNE & 54 cnet & cnet_54 & 0 & 0 & 0 & 0 & -22,000,000 \\
\hline METLIFE INSURANCE COMPANY OF CONNE & 54 netbearish & netb_54 & & & & & -22,000,000 \\
\hline METLIFE INSURANCE COMPANY OF CONNE & 54 sbuy & sbuy_54 & & & & & \\
\hline METLIFE INSURANCE COMPANY OF CONNE & 54 ssell & ssel_54 & & & & & \\
\hline MORGAN STANLEY & 55 abuy & abuy_55 & & & -5,000,000 & -16,000,000 & -10,000,000 \\
\hline MORGAN STANLEY & 55 asell & asel_55 & & & & 5,000,000 & 165,313,275 \\
\hline MORGAN STANLEY & 55 bearish & bear_55 & & -31,000,000 & -15,000,000 & -51,000,000 & -10,000,000 \\
\hline MORGAN STANLEY & 55 bullish & bull_55 & & 31,000,000 & 10,000,000 & 5,000,000 & 165,313,275 \\
\hline MORGAN STANLEY & 55 cnet & cnet_55 & 0 & 0 & -5,000,000 & -51,000,000 & 104,313,275 \\
\hline MORGAN STANLEY & 55 netbearish & netb_55 & & 0 & -5,000,000 & -46,000,000 & 155,313,275 \\
\hline MORGAN STANLEY & 55 sbuy & sbuy_55 & & 31,000,000 & 10,000,000 & & \\
\hline MORGAN STANLEY & 55 ssell & ssel_55 & & -31,000,000 & -10,000,000 & -35,000,000 & \\
\hline NATIONAL BANK OF CANADA & 56 abuy & abuy_56 & & -2,000,000 & -2,000,000 & -1,500,000 & \\
\hline NATIONAL BANK OF CANADA & 56 asell & asel_56 & & & & & \\
\hline NATIONAL BANK OF CANADA & 56 bearish & bear_56 & & -2,000,000 & -2,000,000 & -1,500,000 & \\
\hline NATIONAL BANK OF CANADA & 56 bullish & bull_56 & & & & & \\
\hline NATIONAL BANK OF CANADA & 56 cnet & cnet_56 & 0 & -2,000,000 & -4,000,000 & -5,500,000 & -5,500,000 \\
\hline NATIONAL BANK OF CANADA & 56 netbearish & netb_56 & & -2,000,000 & -2,000,000 & -1,500,000 & \\
\hline NATIONAL BANK OF CANADA & 56 sbuy & sbuy_56 & & & & & \\
\hline NATIONAL BANK OF CANADA & 56 ssell & ssel_56 & & & & & \\
\hline NOMURA INTERNATIONAL PLC & 57 abuy & abuy_57 & & & & -5,000,000 & \\
\hline NOMURA INTERNATIONAL PLC & 57 asell & asel_57 & & & & 45,000,000 & \\
\hline NOMURA INTERNATIONAL PLC & 57 bearish & bear_57 & & & & -5,000,000 & \\
\hline NOMURA INTERNATIONAL PLC & 57 bullish & bull_57 & & & & 45,000,000 & \\
\hline NOMURA INTERNATIONAL PLC & 57 cnet & cnet_57 & 0 & 0 & 0 & 40,000,000 & 40,000,000 \\
\hline NOMURA INTERNATIONAL PLC & 57 netbearish & netb_57 & & & & 40,000,000 & \\
\hline NOMURA INTERNATIONAL PLC & 57 sbuy & sbuy_57 & & & & & \\
\hline NOMURA INTERNATIONAL PLC & 57 ssell & ssel_57 & & & & & \\
\hline NORGES BANK - INVESTMENT MANAGEMEN & 58 abuy & abuy_58 & & & & & \\
\hline NORGES BANK - INVESTMENT MANAGEMEN & 58 asell & asel_58 & & & & & \\
\hline NORGES BANK - INVESTMENT MANAGEMEN & 58 bearish & bear_58 & & & & & \\
\hline NORGES BANK - INVESTMENT MANAGEMEN & 58 bullish & bull_58 & & & & & 25,000,000 \\
\hline NORGES BANK - INVESTMENT MANAGEMEN & 58 cnet & cnet_58 & 0 & 0 & 0 & 0 & 25,000,000 \\
\hline NORGES BANK - INVESTMENT MANAGEMEN & 58 netbearish & netb_58 & & & & & 25,000,000 \\
\hline NORGES BANK - INVESTMENT MANAGEMEN & 58 sbuy & sbuy_58 & & & & & 25,000,000 \\
\hline NORGES BANK - INVESTMENT MANAGEMEN & 58 ssell & ssel_58 & & & & & \\
\hline PAULSON CREDIT OPPORTUNITIES MASTEF & 59 abuy & abuy_59 & & & & & \\
\hline PAULSON CREDIT OPPORTUNITIES MASTEF & 59 asell & asel_59 & & & & & \\
\hline PAULSON CREDIT OPPORTUNITIES MASTEF & 59 bearish & bear_59 & & & & & \\
\hline PAULSON CREDIT OPPORTUNITIES MASTEF & 59 bullish & bull_59 & & & & & 70,000,000 \\
\hline PAULSON CREDIT OPPORTUNITIES MASTEF & 59 cnet & cnet_59 & 0 & 0 & 0 & 0 & 70,000,000 \\
\hline PAULSON CREDIT OPPORTUNITIES MASTEF & 59 netbearish & netb_59 & & & & & 70,000,000 \\
\hline PAULSON CREDIT OPPORTUNITIES MASTEF & 59 sbuy & sbuy_59 & & & & & 70,000,000 \\
\hline PAULSON CREDIT OPPORTUNITIES MASTEF & 59 ssell & ssel_59 & & & & & \\
\hline PIM1338 & 60 abuy & abuy_60 & & & & & \\
\hline PIM1338 & 60 asell & asel_60 & 300,000 & & & & \\
\hline PIM1338 & 60 bearish & bear_60 & & & & & \\
\hline PIM1338 & 60 bullish & bull_60 & 300,000 & & & & \\
\hline PIM1338 & 60 cnet & cnet_60 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM1338 & 60 netbearish & netb_60 & 300,000 & & & & \\
\hline PIM1338 & 60 sbuy & sbuy_60 & & & & & \\
\hline PIM1338 & 60 ssell & ssel_60 & & & & & \\
\hline PIM1356 & 61 abuy & abuy_61 & & & & & \\
\hline PIM1356 & 61 asell & asel_61 & 500,000 & & & & \\
\hline PIM1356 & 61 bearish & bear_61 & & & & & \\
\hline PIM1356 & 61 bullish & bull_61 & 500,000 & & & & \\
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\hline PIM1356 & 61 cnet & cnet_61 & 500,000 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM1356 & 61 netbearish & netb_61 & 500,000 & & & & \\
\hline PIM1356 & 61 sbuy & sbuy_61 & & & & & \\
\hline PIM1356 & 61 ssell & ssel_61 & & & & & \\
\hline PIM1357 & 62 abuy & abuy_62 & & & & & \\
\hline PIM1357 & 62 asell & asel_62 & 2,500,000 & & & & \\
\hline PIM1357 & 62 bearish & bear_62 & & & & & \\
\hline PIM1357 & 62 bullish & bull_62 & 2,500,000 & & & & \\
\hline PIM1357 & 62 cnet & cnet_62 & 2,500,000 & 2,500,000 & 2,500,000 & 2,500,000 & 2,500,000 \\
\hline PIM1357 & 62 netbearish & netb_62 & 2,500,000 & & & & \\
\hline PIM1357 & 62 sbuy & sbuy_62 & & & & & \\
\hline PIM1357 & 62 ssell & ssel_62 & & & & & \\
\hline PIM1358 & 63 abuy & abuy_63 & & & & & \\
\hline PIM1358 & 63 asell & asel_63 & 1,300,000 & & & & \\
\hline PIM1358 & 63 bearish & bear_63 & & & & & \\
\hline PIM1358 & 63 bullish & bull_63 & 1,300,000 & & & & \\
\hline PIM1358 & 63 cnet & cnet_63 & 1,300,000 & 1,300,000 & 1,300,000 & 1,300,000 & 1,300,000 \\
\hline PIM1358 & 63 netbearish & netb_63 & 1,300,000 & & & & \\
\hline PIM1358 & 63 sbuy & sbuy_63 & & & & & \\
\hline PIM1358 & 63 ssell & ssel_63 & & & & & \\
\hline PIM1422 & 64 abuy & abuy_64 & & & & & \\
\hline PIM1422 & 64 asell & asel_64 & & & & & \\
\hline PIM1422 & 64 bearish & bear_64 & & & & & \\
\hline PIM1422 & 64 bullish & bull_64 & & 500,000 & & & \\
\hline PIM1422 & 64 cnet & cnet_64 & 0 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM1422 & 64 netbearish & netb_64 & & 500,000 & & & \\
\hline PIM1422 & 64 sbuy & sbuy_64 & & 500,000 & & & \\
\hline PIM1422 & 64 ssell & ssel_64 & & & & & \\
\hline PIM1628 & 65 abuy & abuy_65 & & & & & \\
\hline PIM1628 & 65 asell & asel_65 & & & & & \\
\hline PIM1628 & 65 bearish & bear_65 & & & & & \\
\hline PIM1628 & 65 bullish & bull_65 & & & 700,000 & & \\
\hline PIM1628 & 65 cnet & cnet_65 & 0 & 0 & 700,000 & 700,000 & 700,000 \\
\hline PIM1628 & 65 netbearish & netb_65 & & & 700,000 & & \\
\hline PIM1628 & 65 sbuy & sbuy_65 & & & 700,000 & & \\
\hline PIM1628 & 65 ssell & ssel_65 & & & & & \\
\hline PIM1833 & 66 abuy & abuy_66 & & & & & \\
\hline PIM1833 & 66 asell & asel_66 & & & & & \\
\hline PIM1833 & 66 bearish & bear_66 & & & & & \\
\hline PIM1833 & 66 bullish & bull_66 & & & & & 1,000,000 \\
\hline PIM1833 & 66 cnet & cnet_66 & 0 & 0 & 0 & 0 & 1,000,000 \\
\hline PIM1833 & 66 netbearish & netb_66 & & & & & 1,000,000 \\
\hline PIM1833 & 66 sbuy & sbuy_66 & & & & & 1,000,000 \\
\hline PIM1833 & 66 ssell & ssel_66 & & & & & \\
\hline PIM1941 & 67 abuy & abuy_67 & & & & & \\
\hline PIM1941 & 67 asell & asel_67 & 800,000 & & & & \\
\hline PIM1941 & 67 bearish & bear_67 & & & & & \\
\hline PIM1941 & 67 bullish & bull_67 & 800,000 & & & & \\
\hline PIM1941 & 67 cnet & cnet_67 & 800,000 & 800,000 & 800,000 & 800,000 & 800,000 \\
\hline PIM1941 & 67 netbearish & netb_67 & 800,000 & & & & \\
\hline PIM1941 & 67 sbuy & sbuy_67 & & & & & \\
\hline PIM1941 & 67 ssell & ssel_67 & & & & & \\
\hline PIM2071 & 68 abuy & abuy_68 & & & & & \\
\hline PIM2071 & 68 asell & asel_68 & 200,000 & & & & \\
\hline PIM2071 & 68 bearish & bear_68 & & & & & \\
\hline PIM2071 & 68 bullish & bull_68 & 200,000 & & & & \\
\hline PIM2071 & 68 cnet & cnet_68 & 200,000 & 200,000 & 200,000 & 200,000 & 200,000 \\
\hline PIM2071 & 68 netbearish & netb_68 & 200,000 & & & & \\
\hline PIM2071 & 68 sbuy & sbuy_68 & & & & & \\
\hline PIM2071 & 68 ssell & ssel_68 & & & & & \\
\hline PIM2086 & 69 abuy & abuy_69 & & & & & \\
\hline PIM2086 & 69 asell & asel_69 & 1,100,000 & & & & \\
\hline PIM2086 & 69 bearish & bear_69 & & & & & \\
\hline PIM2086 & 69 bullish & bull_69 & 1,100,000 & & & & \\
\hline PIM2086 & 69 cnet & cnet_69 & 1,100,000 & 1,100,000 & 1,100,000 & 1,100,000 & 1,100,000 \\
\hline PIM2086 & 69 netbearish & netb_69 & 1,100,000 & & & & \\
\hline PIM2086 & 69 sbuy & sbuy_69 & & & & & \\
\hline PIM2086 & 69 ssell & ssel_69 & & & & & \\
\hline PIM2136 & 70 abuy & abuy_70 & & & & & \\
\hline PIM2136 & 70 asell & asel_70 & 900,000 & & & & \\
\hline PIM2136 & 70 bearish & bear_70 & & & & & \\
\hline PIM2136 & 70 bullish & bull_70 & 900,000 & & & & \\
\hline PIM2136 & 70 cnet & cnet_70 & 900,000 & 900,000 & 900,000 & 900,000 & 900,000 \\
\hline PIM2136 & 70 netbearish & netb_70 & 900,000 & & & & \\
\hline PIM2136 & 70 sbuy & sbuy_70 & & & & & \\
\hline PIM2136 & 70 ssell & ssel_70 & & & & & \\
\hline PIM2224 & 71 abuy & abuy_71 & & & & & \\
\hline PIM2224 & 71 asell & asel_71 & & & & & \\
\hline PIM2224 & 71 bearish & bear_71 & & & & & \\
\hline PIM2224 & 71 bullish & bull_71 & & & 1,000,000 & & \\
\hline PIM2224 & 71 cnet & cnet_71 & 0 & 0 & 1,000,000 & 1,000,000 & 1,000,000 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM2224 & 71 netbearish & netb_71 & & & 1,000,000 & & \\
\hline PIM2224 & 71 sbuy & sbuy_71 & & & 1,000,000 & & \\
\hline PIM2224 & 71 ssell & ssel_71 & & & & & \\
\hline PIM2232 & 72 abuy & abuy_72 & & & & & \\
\hline PIM2232 & 72 asell & asel_72 & & & & & \\
\hline PIM2232 & 72 bearish & bear_72 & & & & & \\
\hline PIM2232 & 72 bullish & bull_72 & & & & & 2,700,000 \\
\hline PIM2232 & 72 cnet & cnet_72 & 0 & 0 & 0 & 0 & 2,700,000 \\
\hline PIM2232 & 72 netbearish & netb_72 & & & & & 2,700,000 \\
\hline PIM2232 & 72 sbuy & sbuy_72 & & & & & 2,700,000 \\
\hline PIM2232 & 72 ssell & ssel_72 & & & & & \\
\hline PIM2307 & 73 abuy & abuy_73 & & & & & \\
\hline PIM2307 & 73 asell & asel_73 & 1,200,000 & & & & \\
\hline PIM2307 & 73 bearish & bear_73 & & & & & \\
\hline PIM2307 & 73 bullish & bull_73 & 1,200,000 & & & & \\
\hline PIM2307 & 73 cnet & cnet_73 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 \\
\hline PIM2307 & 73 netbearish & netb_73 & 1,200,000 & & & & \\
\hline PIM2307 & 73 sbuy & sbuy_73 & & & & & \\
\hline PIM2307 & 73 ssell & ssel_73 & & & & & \\
\hline PIM2355 & 74 abuy & abuy_74 & & & & & \\
\hline PIM2355 & 74 asell & asel_74 & 100,000 & & & & \\
\hline PIM2355 & 74 bearish & bear_74 & & & & & \\
\hline PIM2355 & 74 bullish & bull_74 & 100,000 & & & & \\
\hline PIM2355 & 74 cnet & cnet_74 & 100,000 & 100,000 & 100,000 & 100,000 & 100,000 \\
\hline PIM2355 & 74 netbearish & netb_74 & 100,000 & & & & \\
\hline PIM2355 & 74 sbuy & sbuy_74 & & & & & \\
\hline PIM2355 & 74 ssell & ssel_74 & & & & & \\
\hline PIM2400 & 75 abuy & abuy_75 & & & & & \\
\hline PIM2400 & 75 asell & asel_75 & 100,000 & & & & \\
\hline PIM2400 & 75 bearish & bear_75 & & & & & \\
\hline PIM2400 & 75 bullish & bull_75 & 100,000 & & & & \\
\hline PIM2400 & 75 cnet & cnet_75 & 100,000 & 100,000 & 100,000 & 100,000 & 100,000 \\
\hline PIM2400 & 75 netbearish & netb_75 & 100,000 & & & & \\
\hline PIM2400 & 75 sbuy & sbuy_75 & & & & & \\
\hline PIM2400 & 75 ssell & ssel_75 & & & & & \\
\hline PIM2466 & 76 abuy & abuy_76 & & & & & \\
\hline PIM2466 & 76 asell & asel_76 & & & & & \\
\hline PIM2466 & 76 bearish & bear_76 & & & & & \\
\hline PIM2466 & 76 bullish & bull_76 & & 600,000 & & & \\
\hline PIM2466 & 76 cnet & cnet_76 & 0 & 600,000 & 600,000 & 600,000 & 600,000 \\
\hline PIM2466 & 76 netbearish & netb_76 & & 600,000 & & & \\
\hline PIM2466 & 76 sbuy & sbuy_76 & & 600,000 & & & \\
\hline PIM2466 & 76 ssell & ssel_76 & & & & & \\
\hline PIM2660 & 77 abuy & abuy_77 & & & & & \\
\hline PIM2660 & 77 asell & asel_77 & 500,000 & & & & \\
\hline PIM2660 & 77 bearish & bear_77 & & & & & \\
\hline PIM2660 & 77 bullish & bull_77 & 500,000 & & & & \\
\hline PIM2660 & 77 cnet & cnet_77 & 500,000 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM2660 & 77 netbearish & netb_77 & 500,000 & & & & \\
\hline PIM2660 & 77 sbuy & sbuy_77 & & & & & \\
\hline PIM2660 & 77 ssell & ssel_77 & & & & & \\
\hline PIM2679 & 78 abuy & abuy_78 & & & & & \\
\hline PIM2679 & 78 asell & asel_78 & 900,000 & & & & \\
\hline PIM2679 & 78 bearish & bear_78 & & & & & \\
\hline PIM2679 & 78 bullish & bull_78 & 900,000 & & & & \\
\hline PIM2679 & 78 cnet & cnet_78 & 900,000 & 900,000 & 900,000 & 900,000 & 900,000 \\
\hline PIM2679 & 78 netbearish & netb_78 & 900,000 & & & & \\
\hline PIM2679 & 78 sbuy & sbuy_78 & & & & & \\
\hline PIM2679 & 78 ssell & ssel_78 & & & & & \\
\hline PIM2687 & 79 abuy & abuy_79 & & & & & \\
\hline PIM2687 & 79 asell & asel_79 & 300,000 & & & & \\
\hline PIM2687 & 79 bearish & bear_79 & & & & & \\
\hline PIM2687 & 79 bullish & bull_79 & 300,000 & & & & \\
\hline PIM2687 & 79 cnet & cnet_79 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM2687 & 79 netbearish & netb_79 & 300,000 & & & & \\
\hline PIM2687 & 79 sbuy & sbuy_79 & & & & & \\
\hline PIM2687 & 79 ssell & ssel_79 & & & & & \\
\hline PIM2739 & 80 abuy & abuy_80 & & & & & \\
\hline PIM2739 & 80 asell & asel_80 & & & & & \\
\hline PIM2739 & 80 bearish & bear_80 & & & & & \\
\hline PIM2739 & 80 bullish & bull_80 & & & 200,000 & & \\
\hline PIM2739 & 80 cnet & cnet_80 & 0 & 0 & 200,000 & 200,000 & 200,000 \\
\hline PIM2739 & 80 netbearish & netb_80 & & & 200,000 & & \\
\hline PIM2739 & 80 sbuy & sbuy_80 & & & 200,000 & & \\
\hline PIM2739 & 80 ssell & ssel_80 & & & & & \\
\hline PIM2755 & 81 abuy & abuy_81 & & & & & \\
\hline PIM2755 & 81 asell & asel_81 & & & & & \\
\hline PIM2755 & 81 bearish & bear_81 & & & & & \\
\hline PIM2755 & 81 bullish & bull_81 & & & 300,000 & & \\
\hline PIM2755 & 81 cnet & cnet_81 & 0 & 0 & 300,000 & 300,000 & 300,000 \\
\hline PIM2755 & 81 netbearish & netb_81 & & & 300,000 & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM2755 & 81 sbuy & sbuy_81 & & & 300,000 & & \\
\hline PIM2755 & 81 ssell & ssel_81 & & & & & \\
\hline PIM2809 & 82 abuy & abuy_82 & & & & & \\
\hline PIM2809 & 82 asell & asel_82 & 1,600,000 & & & & \\
\hline PIM2809 & 82 bearish & bear_82 & & & & & \\
\hline PIM2809 & 82 bullish & bull_82 & 1,600,000 & & & & \\
\hline PIM2809 & 82 cnet & cnet_82 & 1,600,000 & 1,600,000 & 1,600,000 & 1,600,000 & 1,600,000 \\
\hline PIM2809 & 82 netbearish & netb_82 & 1,600,000 & & & & \\
\hline PIM2809 & 82 sbuy & sbuy_82 & & & & & \\
\hline PIM2809 & 82 ssell & ssel_82 & & & & & \\
\hline PIM2879 & 83 abuy & abuy_83 & & & & & \\
\hline PIM2879 & 83 asell & asel_83 & 300,000 & & & & \\
\hline PIM2879 & 83 bearish & bear_83 & & & & & \\
\hline PIM2879 & 83 bullish & bull 83 & 300,000 & & & & \\
\hline PIM2879 & 83 cnet & cnet_83 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM2879 & 83 netbearish & netb_83 & 300,000 & & & & \\
\hline PIM2879 & 83 sbuy & sbuy_83 & & & & & \\
\hline PIM2879 & 83 ssell & ssel_83 & & & & & \\
\hline PIM2909 & 84 abuy & abuy_84 & & & & & \\
\hline PIM2909 & 84 asell & asel_84 & 2,800,000 & & & & \\
\hline PIM2909 & 84 bearish & bear_84 & & & & & \\
\hline PIM2909 & 84 bullish & bull_84 & 2,800,000 & & & & \\
\hline PIM2909 & 84 cnet & cnet_84 & 2,800,000 & 2,800,000 & 2,800,000 & 2,800,000 & 2,800,000 \\
\hline PIM2909 & 84 netbearish & netb_84 & 2,800,000 & & & & \\
\hline PIM2909 & 84 sbuy & sbuy_84 & & & & & \\
\hline PIM2909 & 84 ssell & ssel_84 & & & & & \\
\hline PIM2958 & 85 abuy & abuy_85 & & & & & \\
\hline PIM2958 & 85 asell & asel_85 & 800,000 & & & & \\
\hline PIM2958 & 85 bearish & bear_85 & & & & & \\
\hline PIM2958 & 85 bullish & bull_85 & 800,000 & & & & \\
\hline PIM2958 & 85 cnet & cnet_85 & 800,000 & 800,000 & 800,000 & 800,000 & 800,000 \\
\hline PIM2958 & 85 netbearish & netb_85 & 800,000 & & & & \\
\hline PIM2958 & 85 sbuy & sbuy_85 & & & & & \\
\hline PIM2958 & 85 ssell & ssel_85 & & & & & \\
\hline PIM3689 & 86 abuy & abuy_86 & & & & & \\
\hline PIM3689 & 86 asell & asel_86 & 500,000 & & & & \\
\hline PIM3689 & 86 bearish & bear_86 & & & & & \\
\hline PIM3689 & 86 bullish & bull_86 & 500,000 & & & & \\
\hline PIM3689 & 86 cnet & cnet_86 & 500,000 & 500,000 & 500,000 & 500,000 & 500,000 \\
\hline PIM3689 & 86 netbearish & netb_86 & 500,000 & & & & \\
\hline PIM3689 & 86 sbuy & sbuy_86 & & & & & \\
\hline PIM3689 & 86 ssell & ssel_86 & & & & & \\
\hline PIM3691 & 87 abuy & abuy_87 & & & & & \\
\hline PIM3691 & 87 asell & asel_87 & 300,000 & & & & \\
\hline PIM3691 & 87 bearish & bear_87 & & & & & \\
\hline PIM3691 & 87 bullish & bull_87 & 300,000 & & & & \\
\hline PIM3691 & 87 cnet & cnet_87 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM3691 & 87 netbearish & netb_87 & 300,000 & & & & \\
\hline PIM3691 & 87 sbuy & sbuy_87 & & & & & \\
\hline PIM3691 & 87 ssell & ssel_87 & & & & & \\
\hline PIM3706 & 88 abuy & abuy_88 & & & & & \\
\hline PIM3706 & 88 asell & asel_88 & & & & & \\
\hline PIM3706 & 88 bearish & bear_88 & & & & & \\
\hline PIM3706 & 88 bullish & bull_88 & & & 200,000 & & \\
\hline PIM3706 & 88 cnet & cnet_88 & 0 & 0 & 200,000 & 200,000 & 200,000 \\
\hline PIM3706 & 88 netbearish & netb_88 & & & 200,000 & & \\
\hline PIM3706 & 88 sbuy & sbuy_88 & & & 200,000 & & \\
\hline PIM3706 & 88 ssell & ssel_88 & & & & & \\
\hline PIM4632 & 89 abuy & abuy_89 & & & & & \\
\hline PIM4632 & 89 asell & asel_89 & 400,000 & & & & \\
\hline PIM4632 & 89 bearish & bear_89 & & & & & \\
\hline PIM4632 & 89 bullish & bull_89 & 400,000 & & & & \\
\hline PIM4632 & 89 cnet & cnet_89 & 400,000 & 400,000 & 400,000 & 400,000 & 400,000 \\
\hline PIM4632 & 89 netbearish & netb_89 & 400,000 & & & & \\
\hline PIM4632 & 89 sbuy & sbuy_89 & & & & & \\
\hline PIM4632 & 89 ssell & ssel_89 & & & & & \\
\hline PIM4690 & 90 abuy & abuy_90 & & & & & \\
\hline PIM4690 & 90 asell & asel_90 & 4,800,000 & & & & \\
\hline PIM4690 & 90 bearish & bear_90 & & & & & \\
\hline PIM4690 & 90 bullish & bull_90 & 4,800,000 & & & & \\
\hline PIM4690 & 90 cnet & cnet_90 & 4,800,000 & 4,800,000 & 4,800,000 & 4,800,000 & 4,800,000 \\
\hline PIM4690 & 90 netbearish & netb_90 & 4,800,000 & & & & \\
\hline PIM4690 & 90 sbuy & sbuy_90 & & & & & \\
\hline PIM4690 & 90 ssell & ssel_90 & & & & & \\
\hline PIM4692 & 91 abuy & abuy_91 & & & & & \\
\hline PIM4692 & 91 asell & asel_91 & 1,200,000 & & & & \\
\hline PIM4692 & 91 bearish & bear_91 & & & & & \\
\hline PIM4692 & 91 bullish & bull_91 & 1,200,000 & & & & \\
\hline PIM4692 & 91 cnet & cnet_91 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 & 1,200,000 \\
\hline PIM4692 & 91 netbearish & netb_91 & 1,200,000 & & & & \\
\hline PIM4692 & 91 sbuy & sbuy_91 & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline PIM4692 & 91 ssell & ssel_91 & & & & & \\
\hline PIM4807 & 92 abuy & abuy_92 & & & & & \\
\hline PIM4807 & 92 asell & asel_92 & & 2,500,000 & & & \\
\hline PIM4807 & 92 bearish & bear_92 & & & & & \\
\hline PIM4807 & 92 bullish & bull_92 & & 2,500,000 & & & \\
\hline PIM4807 & 92 cnet & cnet_92 & 0 & 2,500,000 & 2,500,000 & 2,500,000 & 2,500,000 \\
\hline PIM4807 & 92 netbearish & netb_92 & & 2,500,000 & & & \\
\hline PIM4807 & 92 sbuy & sbuy_92 & & & & & \\
\hline PIM4807 & 92 ssell & ssel_92 & & & & & \\
\hline PIM4866 & 93 abuy & abuy_93 & & & & & \\
\hline PIM4866 & 93 asell & asel_93 & & 2,000,000 & & & \\
\hline PIM4866 & 93 bearish & bear_93 & & & & & \\
\hline PIM4866 & 93 bullish & bull_93 & & 2,000,000 & & & \\
\hline PIM4866 & 93 cnet & cnet_93 & 0 & 2,000,000 & 2,000,000 & 2,000,000 & 2,000,000 \\
\hline PIM4866 & 93 netbearish & netb_93 & & 2,000,000 & & & \\
\hline PIM4866 & 93 sbuy & sbuy_93 & & & & & \\
\hline PIM4866 & 93 ssell & ssel_93 & & & & & \\
\hline PIM6009 & 94 abuy & abuy_94 & & & & & \\
\hline PIM6009 & 94 asell & asel_94 & 200,000 & & & & \\
\hline PIM6009 & 94 bearish & bear_94 & & & & & \\
\hline PIM6009 & 94 bullish & bull_94 & 200,000 & & & & \\
\hline PIM6009 & 94 cnet & cnet_94 & 200,000 & 200,000 & 200,000 & 200,000 & 200,000 \\
\hline PIM6009 & 94 netbearish & netb_94 & 200,000 & & & & \\
\hline PIM6009 & 94 sbuy & sbuy_94 & & & & & \\
\hline PIM6009 & 94 ssell & ssel_94 & & & & & \\
\hline PIM6160 & 95 abuy & abuy_95 & & & & & \\
\hline PIM6160 & 95 asell & asel_95 & & & & & \\
\hline PIM6160 & 95 bearish & bear_95 & & & & & \\
\hline PIM6160 & 95 bullish & bull_95 & & & & & 2,000,000 \\
\hline PIM6160 & 95 cnet & cnet_95 & 0 & 0 & 0 & 0 & 2,000,000 \\
\hline PIM6160 & 95 netbearish & netb_95 & & & & & 2,000,000 \\
\hline PIM6160 & 95 sbuy & sbuy_95 & & & & & 2,000,000 \\
\hline PIM6160 & 95 ssell & ssel_95 & & & & & \\
\hline PIM6169 & 96 abuy & abuy_96 & & & & & \\
\hline PIM6169 & 96 asell & asel_96 & 300,000 & & & & \\
\hline PIM6169 & 96 bearish & bear_96 & & & & & \\
\hline PIM6169 & 96 bullish & bull_96 & 300,000 & & & & \\
\hline PIM6169 & 96 cnet & cnet_96 & 300,000 & 300,000 & 300,000 & 300,000 & 300,000 \\
\hline PIM6169 & 96 netbearish & netb_96 & 300,000 & & & & \\
\hline PIM6169 & 96 sbuy & sbuy_96 & & & & & \\
\hline PIM6169 & 96 ssell & ssel_96 & & & & & \\
\hline PIM6230 & 97 abuy & abuy_97 & & & & & \\
\hline PIM6230 & 97 asell & asel_97 & 400,000 & & & & \\
\hline PIM6230 & 97 bearish & bear_97 & & & & & \\
\hline PIM6230 & 97 bullish & bull_97 & 400,000 & & & & \\
\hline PIM6230 & 97 cnet & cnet_97 & 400,000 & 400,000 & 400,000 & 400,000 & 400,000 \\
\hline PIM6230 & 97 netbearish & netb_97 & 400,000 & & & & \\
\hline PIM6230 & 97 sbuy & sbuy_97 & & & & & \\
\hline PIM6230 & 97 ssell & ssel_97 & & & & & \\
\hline PIM6320 & 98 abuy & abuy_98 & & & & & \\
\hline PIM6320 & 98 asell & asel_98 & & & & & \\
\hline PIM6320 & 98 bearish & bear_98 & & & & & \\
\hline PIM6320 & 98 bullish & bull_98 & & & 100,000 & & \\
\hline PIM6320 & 98 cnet & cnet_98 & 0 & 0 & 100,000 & 100,000 & 100,000 \\
\hline PIM6320 & 98 netbearish & netb_98 & & & 100,000 & & \\
\hline PIM6320 & 98 sbuy & sbuy_98 & & & 100,000 & & \\
\hline PIM6320 & 98 ssell & ssel_98 & & & & & \\
\hline PIM6400 & 99 abuy & abuy_99 & & & & & \\
\hline PIM6400 & 99 asell & asel_99 & 700,000 & & & & \\
\hline PIM6400 & 99 bearish & bear_99 & & & & & \\
\hline PIM6400 & 99 bullish & bull_99 & 700,000 & & & & \\
\hline PIM6400 & 99 cnet & cnet_99 & 700,000 & 700,000 & 700,000 & 700,000 & 700,000 \\
\hline PIM6400 & 99 netbearish & netb_99 & 700,000 & & & & \\
\hline PIM6400 & 99 sbuy & sbuy_99 & & & & & \\
\hline PIM6400 & 99 ssell & ssel_99 & & & & & \\
\hline PIM6888 & 100 abuy & abuy_100 & & & & & \\
\hline PIM6888 & 100 asell & asel_100 & & & & & \\
\hline PIM6888 & 100 bearish & bear_100 & & & & & \\
\hline PIM6888 & 100 bullish & bull_100 & & & 100,000 & & \\
\hline PIM6888 & 100 cnet & cnet_100 & 0 & 0 & 100,000 & 100,000 & 100,000 \\
\hline PIM6888 & 100 netbearish & netb_100 & & & 100,000 & & \\
\hline PIM6888 & 100 sbuy & sbuy_100 & & & 100,000 & & \\
\hline PIM6888 & 100 ssell & ssel_100 & & & & & \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 abuy & abuy_101 & & & & & \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 asell & asel_101 & & & & 300,000 & \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 bearish & bear_101 & & & & & \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 bullish & bull_101 & & & & 300,000 & \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 cnet & cnet_101 & 0 & 0 & 0 & 300,000 & 300,000 \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 netbearish & netb_101 & & & & 300,000 & \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 sbuy & sbuy_101 & & & & & \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & 101 ssell & ssel_101 & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline PURSUIT & 102 abuy & abuy_102 \\
\hline PURSUIT & 102 asell & asel_102 \\
\hline PURSUIT & 102 bearish & bear_102 \\
\hline PURSUIT & 102 bullish & bull_102 \\
\hline PURSUIT & 102 cnet & cnet_102 \\
\hline PURSUIT & 102 netbearish & netb_102 \\
\hline PURSUIT & 102 sbuy & sbuy_102 \\
\hline PURSUIT & 102 ssell & ssel_102 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS C, & 103 abuy & abuy_103 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS C, & 103 asell & asel_103 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS C, & 103 bearish & bear_103 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS C, & 103 bullish & bull_103 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS C, & 103 cnet & cnet_103 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS C, & 103 netbearish & netb_103 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS C, & 103 sbuy & sbuy_103 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS C, & 103 ssell & ssel_103 \\
\hline RBS GMP & 104 abuy & abuy_104 \\
\hline RBS GMP & 104 asell & asel_104 \\
\hline RBS GMP & 104 bearish & bear_104 \\
\hline RBS GMP & 104 bullish & bull_104 \\
\hline RBS GMP & 104 cnet & cnet_104 \\
\hline RBS GMP & 104 netbearish & netb_104 \\
\hline RBS GMP & 104 sbuy & sbuy_104 \\
\hline RBS GMP & 104 ssell & ssel_104 \\
\hline ROYAL BANK OF CANADA & 105 abuy & abuy_105 \\
\hline ROYAL BANK OF CANADA & 105 asell & asel_105 \\
\hline ROYAL BANK OF CANADA & 105 bearish & bear_105 \\
\hline ROYAL BANK OF CANADA & 105 bullish & bull_105 \\
\hline ROYAL BANK OF CANADA & 105 cnet & cnet_105 \\
\hline ROYAL BANK OF CANADA & 105 netbearish & netb_105 \\
\hline ROYAL BANK OF CANADA & 105 sbuy & sbuy_105 \\
\hline ROYAL BANK OF CANADA & 105 ssell & ssel_105 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND & 106 abuy & abuy_106 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND & 106 asell & asel_106 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND & 106 bearish & bear_106 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND & 106 bullish & bull_106 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND & 106 cnet & cnet_106 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND & 106 netbearish & netb_106 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND & 106 sbuy & sbuy_106 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND & 106 ssell & ssel_106 \\
\hline SCHRODER STERLING BROAD MKTS BOND & 107 abuy & abuy_107 \\
\hline SCHRODER STERLING BROAD MKTS BOND & 107 asell & asel_107 \\
\hline SCHRODER STERLING BROAD MKTS BOND & 107 bearish & bear_107 \\
\hline SCHRODER STERLING BROAD MKTS BOND & 107 bullish & bull_107 \\
\hline SCHRODER STERLING BROAD MKTS BOND & 107 cnet & cnet_107 \\
\hline SCHRODER STERLING BROAD MKTS BOND & 107 netbearish & netb_107 \\
\hline SCHRODER STERLING BROAD MKTS BOND & 107 sbuy & sbuy_107 \\
\hline SCHRODER STERLING BROAD MKTS BOND & 107 ssell & ssel_107 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & 108 abuy & abuy_108 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & 108 asell & asel_108 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & 108 bearish & bear_108 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & 108 bullish & bull_108 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & 108 cnet & cnet_108 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & 108 netbearish & netb_108 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & 108 sbuy & sbuy_108 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & 108 ssell & ssel_108 \\
\hline SSSF STERLING BROAD MARKET BOND LIB & 109 abuy & abuy_109 \\
\hline SSSF STERLING BROAD MARKET BOND LIB & 109 asell & asel_109 \\
\hline SSSF STERLING BROAD MARKET BOND LIB & 109 bearish & bear_109 \\
\hline SSSF STERLING BROAD MARKET BOND LIB & 109 bullish & bull_109 \\
\hline SSSF STERLING BROAD MARKET BOND LIB & 109 cnet & cnet_109 \\
\hline SSSF STERLING BROAD MARKET BOND LIB & 109 netbearish & netb_109 \\
\hline SSSF STERLING BROAD MARKET BOND LIB & 109 sbuy & sbuy_109 \\
\hline SSSF STERLING BROAD MARKET BOND LIB & 109 ssell & ssel_109 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE M & 110 abuy & abuy_110 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE M & 110 asell & asel_110 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE M & 110 bearish & bear_110 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE M & 110 bullish & bull_110 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE M & 110 cnet & cnet_110 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE M & 110 netbearish & netb_110 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE M & 110 sbuy & sbuy_110 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE M & 110 ssell & ssel_110 \\
\hline THE CONUS FUND & 111 abuy & abuy_111 \\
\hline THE CONUS FUND & 111 asell & asel_111 \\
\hline THE CONUS FUND & 111 bearish & bear_111 \\
\hline THE CONUS FUND & 111 bullish & bull_111 \\
\hline THE CONUS FUND & 111 cnet & cnet_111 \\
\hline THE CONUS FUND & 111 netbearish & netb_111 \\
\hline THE CONUS FUND & 111 sbuy & sbuy_111 \\
\hline THE CONUS FUND & 111 ssell & ssel_111 \\
\hline THE ROYAL BANK OF SCOTLAND PLC & 112 abuy & abuy_112 \\
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\begin{tabular}{|c|c|c|c|c|c|c|}
\hline 112 asell & asel_112 & 10,000,000 & 10,000,000 & 6,297,500 & 10,000,000 & 20,000,000 \\
\hline 112 bearish & bear_112 & & -17,000,000 & -15,000,000 & -24,900,000 & -160,000,000 \\
\hline 112 bullish & bull_112 & 10,000,000 & 10,000,000 & 6,297,500 & 10,000,000 & 20,000,000 \\
\hline 112 cnet & cnet_112 & 10,000,000 & 3,000,000 & -5,702,500 & -20,602,500 & -160,602,500 \\
\hline 112 netbearish & netb_112 & 10,000,000 & -7,000,000 & -8,702,500 & -14,900,000 & -140,000,000 \\
\hline 112 sbuy & sbuy_112 & & & & & \\
\hline 112 ssell & ssel_112 & & & & & -5,000,000 \\
\hline 113 abuy & abuy_113 & & & & & \\
\hline 113 asell & asel_113 & & & & & \\
\hline 113 bearish & bear_113 & & & & -3,630,000 & \\
\hline 113 bullish & bull_113 & & & & & \\
\hline 113 cnet & cnet_113 & 0 & 0 & 0 & -3,630,000 & -3,630,000 \\
\hline 113 netbearish & netb_113 & & & & -3,630,000 & \\
\hline 113 sbuy & sbuy_113 & & & & & \\
\hline 113 ssell & ssel_113 & & & & -3,630,000 & \\
\hline 114 abuy & abuy_114 & & & & & -23,000,000 \\
\hline 114 asell & asel_114 & & & & & \\
\hline 114 bearish & bear_114 & & & & & -23,000,000 \\
\hline 114 bullish & bull_114 & & & & & \\
\hline 114 cnet & cnet_114 & 0 & 0 & 0 & 0 & -23,000,000 \\
\hline 114 netbearish & netb_114 & & & & & -23,000,000 \\
\hline 114 sbuy & sbuy_114 & & & & & \\
\hline 114 ssell & ssel_114 & & & & & \\
\hline 115 abuy & abuy_115 & & & & & \\
\hline 115 asell & asel_115 & & & & & 1,500,000 \\
\hline 115 bearish & bear_115 & & & & & \\
\hline 115 bullish & bull_115 & & & & & 1,500,000 \\
\hline 115 cnet & cnet_115 & 0 & 0 & 0 & 0 & 1,500,000 \\
\hline 115 netbearish & netb_115 & & & & & 1,500,000 \\
\hline 115 sbuy & sbuy_115 & & & & & \\
\hline 115 ssell & ssel_115 & & & & & \\
\hline 116 abuy & abuy_116 & & & & & \\
\hline 116 asell & asel_116 & & & & & 1,879,650 \\
\hline 116 bearish & bear_116 & & & & -5,000,000 & \\
\hline 116 bullish & bull_116 & & & & & 6,879,650 \\
\hline 116 cnet & cnet_116 & 0 & 0 & 0 & -5,000,000 & 1,879,650 \\
\hline 116 netbearish & netb_116 & & & & -5,000,000 & 6,879,650 \\
\hline 116 sbuy & sbuy_116 & & & & & 5,000,000 \\
\hline 116 ssell & ssel_116 & & & & -5,000,000 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multicolumn{7}{|l|}{BNP Paribas Securities Corp. Top Non-Proprietary no proprietary} \\
\hline & abuy_16 & asel_16 & netb_16 & cnet_16 & ssel_16 & sbuy_16 \\
\hline 11/18/08 & -10,000,000 & 0 & -10,000,000 & -10,000,000 & & \\
\hline 11/19/08 & -27,000,000 & 10,000,000 & -17,000,000 & -27,000,000 & & \\
\hline 11/20/08 & 0 & 10,000,000 & 10,000,000 & -17,000,000 & & \\
\hline 11/21/08 & -40,000,000 & 60,000,000 & 20,000,000 & 3,000,000 & & \\
\hline 11/22/08 & -85,000,000 & 105,000,000 & 20,000,000 & 23,000,000 & & \\
\hline
\end{tabular}

\section*{Barclays}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline & abuy_9 & sbuy_9 & asel_9 & ssel_9 & netb_9 & cnet_9 \\
\hline 11/17/08 & -25,000,000 & & 15,000,000 & & -10,000,000 & -10,000,000 \\
\hline 11/18/08 & & & 25,000,000 & -20,000,000 & 5,000,000 & -5,000,000 \\
\hline 11/19/08 & -26,500,000 & & 40,000,000 & -10,000,000 & 3,500,000 & -1,500,000 \\
\hline 11/20/08 & -65,000,000 & 5,000,000 & 40,000,000 & & -20,000,000 & -21,500,000 \\
\hline 11/21/08 & -30,000,000 & & 15,000,000 & & -15,000,000 & -36,500,000 \\
\hline \multicolumn{7}{|l|}{Bank of America} \\
\hline Trade Date & abuy_6 & asel_6 & ssel_6 & sbuy_6 & netb_6 & cnet_6 \\
\hline 11/17/2008 & & & & & 0 & 0 \\
\hline 11/18/08 & -5,000,000 & 5,000,000 & & & 0 & 0 \\
\hline 11/19/08 & & 16,000,000 & -5,000,000 & & 11,000,000 & 11,000,000 \\
\hline 11/20/08 & & 5,000,000 & & & 5,000,000 & 16,000,000 \\
\hline 11/21/08 & -10,000,000 & 50,000,000 & & & 40,000,000 & 56,000,000 \\
\hline
\end{tabular}

Credit Suisse
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Sum of Notior TD & \begin{tabular}{l}
move \\
abuy_21
\end{tabular} & asel_21 & ssel_21 & sbuy_21 & netb_21 & cnet_21 \\
\hline 11/17/2008 & & & & & 0 & 0 \\
\hline 11/18/2008 & & & & & 0 & 0 \\
\hline 11/19/08 & & 10,000,000 & & & 10,000,000 & 10,000,000 \\
\hline 11/20/08 & -35,000,000 & 37,300,000 & & & 2,300,000 & 12,300,000 \\
\hline 11/21/08 & -45,000,000 & 109,000,000 & & 15,000,000 & 79,000,000 & 91,300,000 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{HSBC} & \multicolumn{2}{|l|}{38} & \multirow[b]{2}{*}{sbuy_38} & \multirow[b]{2}{*}{ssel_38} & \multirow[b]{2}{*}{netb_38} & \multirow[b]{2}{*}{cnet_38} \\
\hline & abuy_38 & asel_38 & & & & \\
\hline 11/17/2008 & & & & & 0 & 0 \\
\hline 11/18/08 & -15,500,000 & 10,000,000 & & & -5,500,000 & -5,500,000 \\
\hline 11/19/08 & -2,100,000 & 7,100,000 & & & 5,000,000 & -500,000 \\
\hline 11/20/08 & -35,000,000 & 40,000,000 & & & 5,000,000 & 4,500,000 \\
\hline 11/21/08 & -15,000,000 & 25,000,000 & & & 10,000,000 & 14,500,000 \\
\hline JP Morgan & 45 & & & & & \\
\hline & abuy_45 & asel_45 & sbuy_45 & ssel_45 & netb_45 & cnet_45 \\
\hline 11/17/08 & -2,300,000 & & & & -2,300,000 & -2,300,000 \\
\hline 11/18/08 & & 27,000,000 & & & 27,000,000 & 24,700,000 \\
\hline 11/19/08 & -110,000,000 & 60,000,000 & & & -50,000,000 & -25,300,000 \\
\hline 11/20/08 & -30,000,000 & 30,000,000 & & & 0 & -25,300,000 \\
\hline 11/21/08 & -120,000,000 & 45,000,000 & & & -75,000,000 & -100,300,000 \\
\hline
\end{tabular}

Morgan Stanl \(\longdiv { 5 5 }\)
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multicolumn{2}{|r|}{abuy_55} & asel_55 & sbuy_55 & ssel_55 & netb_55 & cnet_55 \\
\hline 11/17/08| & & 10000000 & & & 10,000,000 & 10,000,000 \\
\hline 11/18/2008 & & & & & 0 & 10,000,000 \\
\hline 11/19/08 & -5000000 & & 10000000 & -10000000 & -5,000,000 & 5,000,000 \\
\hline 11/20/08 & -16000000 & 25000000 & & -35000000 & -26,000,000 & -21,000,000 \\
\hline 11/21/08 & -10000000 & 145250000 & & & 135,250,000 & 114,250,000 \\
\hline
\end{tabular}

\section*{Royal bank scotland}
11/17/08 abuy_112 asel_112 sbuy_112 ssel_112 netb_112 cnet_112
\begin{tabular}{rrrrr}
\(11 / 18 / 08\) & -17000000 & 10000000 & \(-7,000,000\) & \(-7,000,000\) \\
\(11 / 19 / 08\) & -22500000 & 12500000 & \(-10,000,000\) & \(-17,000,000\) \\
\(11 / 20 / 08\) & -40700000 & 20000000 & \(-20,700,000\) & \(-37,700,000\) \\
\(11 / 21 / 08\) & -144300000 & 95000000 & \(-49,300,000\) & \(-87,000,000\)
\end{tabular}

\section*{Deutche}

\section*{23}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Trade Date & abuy_23 & asel_23 & sbuy_23 & ssel_23 & netb_23 & cnet_23 \\
\hline 11/17/2008 & & & & & 0 & 0 \\
\hline 11/18/08 & -10000000 & & & & -10,000,000 & -10,000,000 \\
\hline 11/19/08 & & 5000000 & & & 5,000,000 & -5,000,000 \\
\hline 11/20/2008 & & & & & 0 & -5,000,000 \\
\hline 11/21/08 & -260000000 & & & & -260,000,000 & -265,000,000 \\
\hline
\end{tabular}

Goldman


RBC
105
\begin{tabular}{lrlllrrr} 
& abuy_105 & asel_105 & sbuy_105 & ssel_105 & netb_105 & \multicolumn{2}{c}{ cnet_105 } \\
17 & & & & 0 & 0 \\
18 & \(-5,000,000\) & & & & \(-5,000,000\) & \(-5,000,000\) \\
19 & \(-5,000,000\) & & 5000000 & & 0 & \(-5,000,000\) \\
20 & & 5000000 & 5000000 & & \(10,000,000\) & \(5,000,000\) \\
21 & & & & -5000000 & \(-5,000,000\) & 0
\end{tabular}
keybanc
\begin{tabular}{lllrr}
\multicolumn{3}{c}{ abuy_48 } & asel_48 & sbuy_48 \\
17 & & ssel_48 & netb_48 & cnet_48 \\
18 & & 0 & 0 \\
19 & & & 0 & 0 \\
20 & -25000000 & & 0 & 0 \\
21 & & & \(-25,000,000\) & \(-25,000,000\) \\
& & 0 & \(-25,000,000\)
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{2}{|l|}{Net Bearish} \\
\hline Entity & Add to Buy
Side & \[
\begin{aligned}
& \text { Reduce sell } \\
& \text { Side }
\end{aligned}
\] & Total & Rank & Share & CShr & Reduce Buy
Side & \[
\begin{aligned}
& \text { Add to Sell } \\
& \text { Side }
\end{aligned}
\] & Total & Rank & Total & Rank \\
\hline & & & & & & & & & & & & \\
\hline Total & -1,957,419,175 & -471,388,060 & -2,428,807,235 & & & & 606,530,000 & 1,822,277,235 & 2,428,807,235 & & 0 & \\
\hline & & & & & & & & & & & & \\
\hline ALADDIN RELATIVE VALUE CREDIT MAS FD LTD & -3,000,000 & & -3,000,000 & 45 & 0.1\% & 0.1\% & & & & 114 & -3,000,000 & 31 \\
\hline AURELIUS CAPITAL & & & & 48 & 0.0\% & 0.1\% & 10,000,000 & & 10,000,000 & 25 & 10,000,000 & 104 \\
\hline AUTONOMY MASTER FUND LIMITED & -10,000,000 & & -10,000,000 & 28 & 0.4\% & 0.5\% & & & & 102 & -10,000,000 & 16 \\
\hline BANCA IMI S.P.A & & & & 49 & 0.0\% & 0.5\% & 5,000,000 & & 5,000,000 & 31 & 5,000,000 & 94 \\
\hline BANCO BILBAO VIZCAYA ARGENTARIA, S.A. & -40,000,000 & & -40,000,000 & 13 & 1.6\% & 2.2\% & & & & 93 & \(-40,000,000\) & 4 \\
\hline BANK OF AMERICA, N.A. & -28,300,000 & -5,500,000 & -33,800,000 & 14 & 1.4\% & 3.6\% & & 71,000,000 & 71,000,000 & 9 & 37,200,000 & 111 \\
\hline BANK OF NOVA SCOTIA TORONTO & & & & 50 & 0.0\% & 3.6\% & & 5,000,000 & 5,000,000 & 32 & 5,000,000 & 95 \\
\hline BARCELONA INKA & & & & 51 & 0.0\% & 3.6\% & & 350,000 & 350,000 & 71 & 350,000 & 58 \\
\hline BARCLAYS BANK PLC & -156,079,650 & -40,000,000 & -196,079,650 & 5 & 8.1\% & 11.6\% & 5,000,000 & 191,162,500 & 196,162,500 & 5 & 82,850 & 37 \\
\hline BEAR, STEARNS INTERNATIONAL LTD & & -3,258,060 & -3,258,060 & 44 & 0.1\% & 11.8\% & & & & 113 & -3,258,060 & 30 \\
\hline BLACK DIAMOND OFFSHORE, LTD & -225,000 & & -225,000 & 47 & 0.0\% & 11.8\% & & & & 116 & -225,000 & 33 \\
\hline BLUE MTN CREDIT ALTS. MASTER FUND L.P. & -20,000,000 & & -20,000,000 & 22 & 0.8\% & 12.6\% & & 20,000,000 & 20,000,000 & 20 & 0 & 34 \\
\hline BLUEBAY FUND: BLUEBAY INVESTT GR LIBOR FD & & & & 52 & 0.0\% & 12.6\% & & 150,000 & 150,000 & 85 & 150,000 & 42 \\
\hline BLUEBAY INVESTMENT GRADE BOND FUND & & & & 53 & 0.0\% & 12.6\% & & 7,000,000 & 7,000,000 & 28 & 7,000,000 & 102 \\
\hline BLUECREST MULTI STRATEGY CREDIT MSTR FD & & & & 54 & 0.0\% & 12.6\% & & 5,000,000 & 5,000,000 & 33 & 5,000,000 & 96 \\
\hline BNP PARIBAS & -227,313,275 & -40,000,000 & -267,313,275 & 2 & 11.0\% & 23.6\% & 25,000,000 & 235,510,000 & 260,510,000 & 2 & -6,803,275 & 18 \\
\hline CALYON & -10,000,000 & & -10,000,000 & 29 & 0.4\% & 24.0\% & & & & 103 & -10,000,000 & 17 \\
\hline CEDAR HILL CAPITAL PARTNERS & -10,000,000 & & -10,000,000 & 30 & 0.4\% & 24.4\% & 10,000,000 & & 10,000,000 & 24 & 0 & 35 \\
\hline CHEYNE LONG/SHORT STRUCTURED CREDIT FUND & & -31,000,000 & -31,000,000 & 16 & 1.3\% & 25.7\% & 41,000,000 & & 41,000,000 & 15 & 10,000,000 & 103 \\
\hline CQS ABS MASTER FUND LIMITED & -5,000,000 & & -5,000,000 & 35 & 0.2\% & 25.9\% & & & & 107 & -5,000,000 & 23 \\
\hline CREDIT SUISSE INTERNATIONAL & -75,000,000 & & -75,000,000 & 9 & 3.1\% & 29.0\% & 15,000,000 & 157,156,250 & 172,156,250 & 8 & 97,156,250 & 115 \\
\hline DEKA BANK, FRANKFURT & -12,560,000 & & -12,560,000 & 26 & 0.5\% & 29.5\% & & & & 100 & -12,560,000 & 13 \\
\hline DEUTSCHE BANK AG & -315,000,000 & -82,000,000 & -397,000,000 & 1 & 16.3\% & 16.3\% & 78,630,000 & 204,500,000 & 283,130,000 & 1 & -113,870,000 & 2 \\
\hline DISCOVERY ATLAS MASTER FUND & -5,000,000 & & -5,000,000 & 36 & 0.2\% & 16.6\% & & & & 108 & -5,000,000 & 24 \\
\hline DOUBLE BLACK DIAMOND OFFSHORE LDC & -4,775,000 & & -4,775,000 & 42 & 0.2\% & 16.7\% & & & & 111 & -4,775,000 & 27 \\
\hline DWS CREDIT OPPORTUNITIES & -5,010,000 & & -5,010,000 & 34 & 0.2\% & 17.0\% & & & & 106 & -5,010,000 & 22 \\
\hline ES CAPITALIZACAO & -10,270,500 & & -10,270,500 & 27 & 0.4\% & 17.4\% & & & & 101 & -10,270,500 & 14 \\
\hline ES RENDA & -5,385,750 & & -5,385,750 & 33 & 0.2\% & 17.6\% & & & & 105 & -5,385,750 & 21 \\
\hline FOND BVOE SEGMENT UNTERFONDS W & & & & 55 & 0.0\% & 17.6\% & & 600,000 & 600,000 & 63 & 600,000 & 65 \\
\hline FORE CONVERTIBLE MASTER FUND, LTD. & & -32,800,000 & -32,800,000 & 15 & 1.4\% & 18.9\% & & 16,400,000 & 16,400,000 & 21 & -16,400,000 & 12 \\
\hline FORE ERISA FUND, LTD. & & -7,200,000 & -7,200,000 & 31 & 0.3\% & 19.2\% & & 3,600,000 & 3,600,000 & 40 & -3,600,000 & 29 \\
\hline FORE MULTI STRATEGY MASTER FUND,LTD. & & -20,000,000 & -20,000,000 & 23 & 0.8\% & 20.1\% & & 10,000,000 & 10,000,000 & 23 & -10,000,000 & 15 \\
\hline GENERAL AMERICAN LIFE INSURANCE COMPANY & -27,000,000 & & -27,000,000 & 17 & 1.1\% & 21.2\% & & & & 94 & -27,000,000 & 5 \\
\hline GENERAL ELECTRIC PENSION TRUST & & & & 56 & 0.0\% & 21.2\% & & 15,000,000 & 15,000,000 & 22 & 15,000,000 & 107 \\
\hline GOLDMAN SACHS & -160,600,000 & -40,000,000 & -200,600,000 & 4 & 8.3\% & 29.4\% & 56,500,000 & 125,000,000 & 181,500,000 & 7 & -19,100,000 & 11 \\
\hline HALBIS US CREDIT ALPHA MASTER FD LTD & & & & 57 & 0.0\% & 29.4\% & 5,000,000 & & 5,000,000 & 34 & 5,000,000 & 97 \\
\hline HPK-INVESTMENT GRADE CORPORATES & & & & 58 & 0.0\% & 29.4\% & & 300,000 & 300,000 & 72 & 300,000 & 49 \\
\hline HSBC BANK & -62,600,000 & & -62,600,000 & 10 & 2.6\% & 32.0\% & & 67,100,000 & 67,100,000 & 11 & 4,500,000 & 91 \\
\hline ICM BUSINESS TRUST & & & & 59 & 0.0\% & 32.0\% & 2,500,000 & & 2,500,000 & 44 & 2,500,000 & 85 \\
\hline ING & & & & 60 & 0.0\% & 32.0\% & & 10,000,000 & 10,000,000 & 26 & 10,000,000 & 105 \\
\hline INTERN KAPIT MBH (PRV-C) & & & & 61 & 0.0\% & 32.0\% & & 150,000 & 150,000 & 86 & 150,000 & 43 \\
\hline IONIC CAPITAL MASTER FUND LTD & & & & 62 & 0.0\% & 32.0\% & 22,500,000 & & 22,500,000 & 18 & 22,500,000 & 108 \\
\hline JMG & & & & 63 & 0.0\% & 32.0\% & 5,000,000 & & 5,000,000 & 35 & 5,000,000 & 98 \\
\hline JNL & -20,000,000 & & -20,000,000 & 24 & 0.8\% & 32.8\% & & & & 98 & -20,000,000 & 9 \\
\hline JPMORGAN CHASE BANK & -151,400,000 & -30,000,000 & -181,400,000 & 6 & 7.5\% & 40.3\% & 10,000,000 & 173,258,060 & 183,258,060 & 6 & 1,858,060 & 81 \\
\hline KAMUNTING STREET MASTER FUND LTD & & & & 64 & 0.0\% & 40.3\% & 5,000,000 & & 5,000,000 & 36 & 5,000,000 & 99 \\
\hline KBC FIN. PRODUCTS (CAYMAN ISLANDS)LTD. & -5,000,000 & & -5,000,000 & 37 & 0.2\% & 40.5\% & & & & 109 & -5,000,000 & 25 \\
\hline KEYBANK NATIONAL ASSOCIATION & -20,000,000 & & -20,000,000 & 25 & 0.8\% & 41.3\% & & & & 99 & -20,000,000 & 10 \\
\hline LEHMAN BROTHERS CREDIT ARBITRAGE FUND & & & & 65 & 0.0\% & 41.3\% & 5,000,000 & & 5,000,000 & 37 & 5,000,000 & 100 \\
\hline MAGNETAR & -50,000,000 & & -50,000,000 & 11 & 2.1\% & 43.4\% & & & & 92 & -50,000,000 & 3 \\
\hline MARATHON & -50,000,000 & & -50,000,000 & 12 & 2.1\% & 45.5\% & 55,000,000 & & 55,000,000 & 13 & 5,000,000 & 93 \\
\hline MARINER-TRICADIA CRD STRAT MASTER FD LTD & & & & 66 & 0.0\% & 45.5\% & & 3,500,000 & 3,500,000 & 41 & 3,500,000 & 90 \\
\hline MERRILL LYNCH INTERNATIONAL & -27,000,000 & & -27,000,000 & 18 & 1.1\% & 46.6\% & & 20,300,000 & 20,300,000 & 19 & -6,700,000 & 19 \\
\hline METLIFE INSURANCE COMPANY OF CONNECTICUT & -22,000,000 & & -22,000,000 & 21 & 0.9\% & 47.5\% & & & & 97 & -22,000,000 & 8 \\
\hline MORGAN STANLEY & -31,000,000 & -76,000,000 & -107,000,000 & 8 & 4.4\% & 51.9\% & 41,000,000 & 170,313,275 & 211,313,275 & 4 & 104,313,275 & 116 \\
\hline NATIONAL BANK OF CANADA & -5,500,000 & & -5,500,000 & 32 & 0.2\% & 52.1\% & & & & 104 & -5,500,000 & 20 \\
\hline NOMURA INTERNATIONAL PLC & \(-5,000,000\) & & -5,000,000 & 38 & 0.2\% & 52.3\% & & 45,000,000 & 45,000,000 & 14 & 40,000,000 & 112 \\
\hline NORGES BANK - INVESTMENT MANAGEMENT \#1 & & & & 67 & 0.0\% & 52.3\% & 25,000,000 & & 25,000,000 & 17 & 25,000,000 & 109 \\
\hline PAULSON CREDIT OPPORTUNITIES MASTER LTD & & & & 68 & 0.0\% & 52.3\% & 70,000,000 & & 70,000,000 & 10 & 70,000,000 & 114 \\
\hline PIM1338 & & & & 69 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 73 & 300,000 & 50 \\
\hline PIM1356 & & & & 70 & 0.0\% & 52.3\% & & 500,000 & 500,000 & 65 & 500,000 & 61 \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Entity} & \multicolumn{6}{|c|}{Bearish (Benefit if Probability of Citigroup Default Increases)} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of Citigroup Default Decreases)} & \multicolumn{2}{|l|}{Net Bearish} \\
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& \text { Add to Buy } \\
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\] & Reduce sell
Side & Total & Rank & Share & CShr & Reduce Buy
Side & \[
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& \text { Add to Sell } \\
& \text { Side }
\end{aligned}
\] & Total & Rank & Total & Rank \\
\hline PIM1357 & & & & 71 & 0.0\% & 52.3\% & & 2,500,000 & 2,500,000 & 45 & 2,500,000 & 86 \\
\hline PIM1358 & & & & 72 & 0.0\% & 52.3\% & & 1,300,000 & 1,300,000 & 51 & 1,300,000 & 78 \\
\hline PIM1422 & & & & 73 & 0.0\% & 52.3\% & 500,000 & & 500,000 & 66 & 500,000 & 62 \\
\hline PIM1628 & & & & 74 & 0.0\% & 52.3\% & 700,000 & & 700,000 & 61 & 700,000 & 67 \\
\hline PIM1833 & & & & 75 & 0.0\% & 52.3\% & 1,000,000 & & 1,000,000 & 55 & 1,000,000 & 73 \\
\hline PIM1941 & & & & 76 & 0.0\% & 52.3\% & & 800,000 & 800,000 & 59 & 800,000 & 69 \\
\hline PIM2071 & & & & 77 & 0.0\% & 52.3\% & & 200,000 & 200,000 & 81 & 200,000 & 45 \\
\hline PIM2086 & & & & 78 & 0.0\% & 52.3\% & & 1,100,000 & 1,100,000 & 54 & 1,100,000 & 75 \\
\hline PIM2136 & & & & 79 & 0.0\% & 52.3\% & & 900,000 & 900,000 & 57 & 900,000 & 71 \\
\hline PIM2224 & & & & 80 & 0.0\% & 52.3\% & 1,000,000 & & 1,000,000 & 56 & 1,000,000 & 74 \\
\hline PIM2232 & & & & 81 & 0.0\% & 52.3\% & 2,700,000 & & 2,700,000 & 43 & 2,700,000 & 88 \\
\hline PIM2307 & & & & 82 & 0.0\% & 52.3\% & & 1,200,000 & 1,200,000 & 52 & 1,200,000 & 76 \\
\hline PIM2355 & & & & 83 & 0.0\% & 52.3\% & & 100,000 & 100,000 & 88 & 100,000 & 38 \\
\hline PIM2400 & & & & 84 & 0.0\% & 52.3\% & & 100,000 & 100,000 & 89 & 100,000 & 39 \\
\hline PIM2466 & & & & 85 & 0.0\% & 52.3\% & 600,000 & & 600,000 & 64 & 600,000 & 66 \\
\hline PIM2660 & & & & 86 & 0.0\% & 52.3\% & & 500,000 & 500,000 & 67 & 500,000 & 63 \\
\hline PIM2679 & & & & 87 & 0.0\% & 52.3\% & & 900,000 & 900,000 & 58 & 900,000 & 72 \\
\hline PIM2687 & & & & 88 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 74 & 300,000 & 51 \\
\hline PIM2739 & & & & 89 & 0.0\% & 52.3\% & 200,000 & & 200,000 & 82 & 200,000 & 46 \\
\hline PIM2755 & & & & 90 & 0.0\% & 52.3\% & 300,000 & & 300,000 & 75 & 300,000 & 52 \\
\hline PIM2809 & & & & 91 & 0.0\% & 52.3\% & & 1,600,000 & 1,600,000 & 49 & 1,600,000 & 80 \\
\hline PIM2879 & & & & 92 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 76 & 300,000 & 53 \\
\hline PIM2909 & & & & 93 & 0.0\% & 52.3\% & & 2,800,000 & 2,800,000 & 42 & 2,800,000 & 89 \\
\hline PIM2958 & & & & 94 & 0.0\% & 52.3\% & & 800,000 & 800,000 & 60 & 800,000 & 70 \\
\hline PIM3689 & & & & 95 & 0.0\% & 52.3\% & & 500,000 & 500,000 & 68 & 500,000 & 64 \\
\hline PIM3691 & & & & 96 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 77 & 300,000 & 54 \\
\hline PIM3706 & & & & 97 & 0.0\% & 52.3\% & 200,000 & & 200,000 & 83 & 200,000 & 47 \\
\hline PIM4632 & & & & 98 & 0.0\% & 52.3\% & & 400,000 & 400,000 & 69 & 400,000 & 59 \\
\hline PIM4690 & & & & 99 & 0.0\% & 52.3\% & & 4,800,000 & 4,800,000 & 39 & 4,800,000 & 92 \\
\hline PIM4692 & & & & 100 & 0.0\% & 52.3\% & & 1,200,000 & 1,200,000 & 53 & 1,200,000 & 77 \\
\hline PIM4807 & & & & 101 & 0.0\% & 52.3\% & & 2,500,000 & 2,500,000 & 46 & 2,500,000 & 87 \\
\hline PIM4866 & & & & 102 & 0.0\% & 52.3\% & & 2,000,000 & 2,000,000 & 47 & 2,000,000 & 83 \\
\hline PIM6009 & & & & 103 & 0.0\% & 52.3\% & & 200,000 & 200,000 & 84 & 200,000 & 48 \\
\hline PIM6160 & & & & 104 & 0.0\% & 52.3\% & 2,000,000 & & 2,000,000 & 48 & 2,000,000 & 84 \\
\hline PIM6169 & & & & 105 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 78 & 300,000 & 55 \\
\hline PIM6230 & & & & 106 & 0.0\% & 52.3\% & & 400,000 & 400,000 & 70 & 400,000 & 60 \\
\hline PIM6320 & & & & 107 & 0.0\% & 52.3\% & 100,000 & & 100,000 & 90 & 100,000 & 40 \\
\hline PIM6400 & & & & 108 & 0.0\% & 52.3\% & & 700,000 & 700,000 & 62 & 700,000 & 68 \\
\hline PIM6888 & & & & 109 & 0.0\% & 52.3\% & 100,000 & & 100,000 & 91 & 100,000 & 41 \\
\hline PROVINZIAL RHEINLAND LEBENSICHNG AG & & & & 110 & 0.0\% & 52.3\% & & 300,000 & 300,000 & 79 & 300,000 & 56 \\
\hline PURSUIT & & & & 111 & 0.0\% & 52.3\% & 35,000,000 & & 35,000,000 & 16 & 35,000,000 & 110 \\
\hline QIC:QUEENSLD INVEST CORP ACT IN ITS CAP & & & & 112 & 0.0\% & 52.3\% & & 150,000 & 150,000 & 87 & 150,000 & 44 \\
\hline RBS GMP & -5,000,000 & & -5,000,000 & 39 & 0.2\% & 52.5\% & 5,000,000 & & 5,000,000 & 30 & 0 & 36 \\
\hline ROYAL BANK OF CANADA & -105,000,000 & -50,000,000 & -155,000,000 & 7 & 6.4\% & 58.9\% & 45,000,000 & 175,000,000 & 220,000,000 & 3 & 65,000,000 & 113 \\
\hline SATELLITE CREDIT OPPORTUNITIES FUND LTD. & & & & 113 & 0.0\% & 58.9\% & 5,000,000 & & 5,000,000 & 38 & 5,000,000 & 101 \\
\hline SCHRODER STERLING BROAD MKTS BOND FUND & -5,000,000 & & -5,000,000 & 40 & 0.2\% & 59.1\% & & & & 110 & -5,000,000 & 26 \\
\hline SOCIETE GENERALE, NEW YORK BRANCH & -25,000,000 & & -25,000,000 & 19 & 1.0\% & 60.1\% & & & & 95 & -25,000,000 & 6 \\
\hline SSSF STERLING BROAD MARKET BOND LIBOR & \(-2,500,000\) & & \(-2,500,000\) & 46 & 0.1\% & 60.2\% & & & & 115 & -2,500,000 & 32 \\
\hline STICHTING BEDRIJFSTAKPENS VOOR DE MEDIA & & & & 114 & 0.0\% & 60.2\% & & 300,000 & 300,000 & 80 & 300,000 & 57 \\
\hline THE CONUS FUND & & & & 115 & 0.0\% & 60.2\% & 10,000,000 & & 10,000,000 & 27 & 10,000,000 & 106 \\
\hline THE ROYAL BANK OF SCOTLAND PLC & -211,900,000 & -5,000,000 & -216,900,000 & 3 & 8.9\% & 69.2\% & & 56,297,500 & 56,297,500 & 12 & -160,602,500 & 1 \\
\hline TRAXIS FUND LP & & \(-3,630,000\) & -3,630,000 & 43 & 0.1\% & 69.3\% & & & & 112 & -3,630,000 & 28 \\
\hline TRG INFLATION & -23,000,000 & & -23,000,000 & 20 & 0.9\% & 70.3\% & & & & 96 & -23,000,000 & 7 \\
\hline TRICADIA DISTRESSED AND SPCL MTR FD LT & & & & 116 & 0.0\% & 70.3\% & & 1,500,000 & 1,500,000 & 50 & 1,500,000 & 79 \\
\hline UBS AG & & -5,000,000 & -5,000,000 & 41 & 0.2\% & 70.5\% & 5,000,000 & 1,879,650 & 6,879,650 & 29 & 1,879,650 & 82 \\
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\footnotetext{

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& 3 \\
& \text { (Net Bullish \# 7) } \\
& 38 \text { (Net Bullish \# 4) } \\
& \hline \\
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& 27 \\
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& \text { (Net Bullish \# 11) } \\
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}

Price and Volume - Highest Scored Filer/Securities
Filer=MORGAN STANLEY Company Name=ENTROPIC COMMUNICATIONS INC Market Cap Decile=3 Max Score=25


Price and Volume - Highest Scored Filer/Securities
Filer=MORGAN STANLEY Company Name=GOLDEN STAR RESOURCES LTD Market Cap Decile=6 Max Score=17


Price and Volume - Highest Scored Filer/Securities
Filer=MORGAN STANLEY Company Name=HANMI FINANCIAL CORP Market Cap Decile=4 Max Score=23


Price and Volume - Highest Scored Filer/Securities
Filer=MORGAN STANLEY Company Name=MEDICAL ACTION INDS INC Market Cap Decile=5 Max Score=24


Price and Volume - Highest Scored Filer/Securities
Filer=MORGAN STANLEY Company Name=NORTHGATE MINERALS CORP Market Cap Decile=6 Max Score=19


Price and Volume - Highest Scored Filer/Securities
Filer=SUSQUEHANNA INTERNATIONAL GROUP, LLP Company Name=BROWN SHOE CO INC NEW Market Cap Decile=7 Max Score=16


Price and Volume - Highest Scored Filer/Securities
Filer=SUSQUEHANNA INTERNATIONAL GROUP, LLP Company Name=CHARMING SHOPPES INC Market Cap Decile=6 Max Score=15


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Price and Volume - Highest Scored Filer/Securities
Filer=SUSQUEHANNA INTERNATIONAL GROUP, LLP Company Name=H S B C HOLDINGS PLC Market Cap Decile=. Max Score=25


Price and Volume - Highest Scored Filer/Securities
Filer=SUSQUEHANNA INTERNATIONAL GROUP, LLP Company Name=HERITAGE COMMERCE CORP Market Cap Decile=5 Max Score=24


Price and Volume - Highest Scored Filer/Securities
Filer=SUSQUEHANNA INTERNATIONAL GROUP, LLP Company Name=VERENIUM CORP Market Cap Decile=4 Max Score=21


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Price and Volume - Highest Scored Filer/Securities
Filer=UBS AG Company Name=ALLIED MOTION TECHNOLOGIES INC Market Cap Decile=2 Max Score=18


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Date * Score

Price and Volume - Highest Scored Filer/Securities
Filer=UBS AG Company Name=BRIDGE CAPITAL HOLDINGS Market Cap Decile=2 Max Score=22


Price and Volume - Highest Scored Filer/Securities
Filer=UBS AG Company Name=HEALTHSOUTH CORP Market Cap Decile=8 Max Score=19


Price and Volume - Highest Scored Filer/Securities
Filer=UBS AG Company Name=ISORAY INC Market Cap Decile=1 Max Score=22


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Price and Volume - Highest Scored Filer/Securities
Filer=UBS AG Company Name=OHIO LEGACY CORP Market Cap Decile=1 Max Score=25


\title{
Internal Memo on Form SH
}

\author{
Office of Economic Analysis
}

May 29, 2009

Form SH provides data regarding large short sales and short positions for large institutional investment managers. We have analyzed the data to identify instances of behavior that might signal potential manipulation and insider trading. Although the data is suggestive of potential violations, there may be legitimate reasons for the behaviors identified. In addition, for a given filer we cannot differentiate between trades by proprietary funds, through its advisor services, or on behalf of clients.

\section*{1. Background on the Rule}
1. Who files Form SH? Certain institutional investment managers that exercise investment discretion with respect to accounts holding 13(f) securities that have an aggregate fair market value of at least \(\$ 100,000,000 .{ }^{1}\)
2. How often do they file? The form is filed weekly, reflecting daily activity.
3. What is disclosed? With respect to each applicable section 13(f) security, the

Form SH filing must reflect the number of securities sold short during the day, as well as the start of day short position and end of day short position, for that

\footnotetext{
\({ }^{1}\) Note that the aggregate fair market value of at least \(\$ 100,000,000\) refers to the aggregate long position.
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}
security on each calendar day of the week, with a few exceptions, most notably that no filing is required unless the value of the short sale exceeds \(\$ 10,000,000 .{ }^{2}\)

\section*{2. Motivation for the Rule}
4. The interim final temporary rule was motivated by a concern that "some persons may manipulate the stock of issuers that have become temporarily weakened by current market conditions." \({ }^{3}\) In particular, the rule notes that short selling may exacerbate "unnecessary or artificial downward price movements."4
5. One of the anticipated benefits of the rule is that "the Form SH disclosure will enable staff in our Office of Economic Analysis ["OEA"] and Office of Compliance, Inspections, and Examinations to analyze short selling patterns and use the data along with other information to study the impact of short selling on the market in times of financial crisis." \({ }^{5}\)
6. In particular, prior to the adoption of the rule, OEA staff had indicated that the data from Form SH could be used to provide:
- Basic information regarding the identities of short sellers. This data allows us to answer, at least in part, the question, "Who is short selling this security?" \({ }^{6}\)

\footnotetext{
\({ }^{2}\) No Form SH filing is required when no short sales occurred during the week, or when all short sales and short positions are below the following thresholds: (a) The short sales and short positions are less than \(0.25 \%\) of that class of the issuer's section 13(f) securities issued, and (b) The fair market value of the short sale and short position is less than \(\$ 10,000,000\).
\({ }^{3}\) Federal Register, Vol. 73, No. 202, October 17, 2008, page 61686
\({ }^{4}\) Federal Register, Vol. 73, No. 202, October 17, 2008, page 61686
\({ }^{5}\) Federal Register, Vol. 73, No. 202, October 17, 2008, page 61687
\({ }^{6}\) As noted by the exceptions to filing requirements above, our ability to identify shortsellers with these data is limited to 13 F filers with large short positions.
}
- The identity of short sellers who repeatedly take large short positions associated with drops in stock prices.

\section*{3. What have we learned from the rule: Basic Data on Short-Sellers}
7. Filing data analyzed: The staff has analyzed the data from Form SH filings starting with November 2008, and ending in February 2009. \({ }^{7}\) During this time period, there were 9,722 filings. \({ }^{8}\)
8. Number of filers and securities: During this time period, there were 685 filers, reporting short sales and positions on a total of 4,231 securities.
9. Percentage of daily short-selling volume captured: We compared the total volume of short-selling reported through Form SH for a specific security, on a specific date, to the total volume of short-selling reported from the major exchanges \({ }^{9}\) on the same security and date. The median percentage of shortselling captured through Form SH is 7.8\%. In many cases, no volume is reported through Form SH. However, for 32,825 observations, Form SH captures more than half of total reported volume, and for 4,079 observations, Form SH captures more than \(90 \%\) of total reported volume. \({ }^{10}\) Chart 1 provides additional details.

\footnotetext{
\({ }^{7}\) The data filed prior to November 2008 is not complete due to processing difficulties. The data subsequent to February 27, 2009 is available, but due to delays in obtaining data on stock prices and returns from the Center for Research in Securities Prices, we have not included subsequent weeks for purposes of this report.
\({ }^{8}\) Although there were some initial difficulties associated with processing the data, they have been resolved to a large extent. Of the 9,722 filings, only 156 (less than \(2 \%\) ) were rejected. The non-rejected filings contained \(5,562,425\) data records, from which 159,426 were removed due to incomplete or bad data, reflecting a \(97 \%\) capture rate. Additional records were removed because of duplicates, blank fields, and data provided on holidays and weekends.
\({ }^{9}\) The SROs that provided data are NYSE, NYSE-ARCA, FINRA, and NASDAQ.
\({ }^{10}\) These figures do not include 19,174 observations where Form SH reported volume exceeds the total exchange reported volume. There are many reasons why we might observe Form SH volumes in excess of exchange reported short volume, including errors in reporting by the exchanges, errors in reporting on Form SH, or duplicate filings.
}
10. Percentage of short positions captured: We compared the total short positions reported through Form SH for a specific security to the aggregate open short interest which is publicly reported on a twice-monthly basis. The median percentage of short positions captured through Form SH is 68\%, a much higher percentage than the median short-selling volume.

\section*{4. How can we use the data: Identifying potential violations}
11. Criteria: Using input from staff in the Division of Enforcement and the Office of Compliance, Inspections and Examinations, we developed a set of criteria to identify potential instances of manipulation and insider trading. These criteria include:
- where a filer has engaged in short selling prior to, or concurrent with, a significant drop in the stock price, and
- the filer's short volume is a high percentage of the daily trading volume, and
- there is unusual volume, either for the security, or for the filer, and
- short selling occurred prior to a news release which was associated with a drop in the stock price. \({ }^{11}\)

These criteria are combined into a scoring mechanism to identify cases of interest.
12. Output: We developed computer programs to generate charts for specific filers’ activity in specific securities that had generated a particularly high level of interest, based on the criteria identified above. Attached to this document are a

\footnotetext{
\({ }^{11}\) In addition, this criterion requires that the short position remain open at the time of the disclosure.
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}
selected set of charts for Susquehanna International Group, UBS, and Morgan Stanley. We can generate these charts for all filers, and all securities.
13. How to read the charts: These charts contain a lot of information. The title lines identify the filer, the security ("Company Name"), the Market Capitalization Decile (where " 1 " indicates a small firm, and " 10 " indicates a large firm), and the maximum score for that filer and that security. \({ }^{12}\) Each date is identified at the bottom of the chart: first, days are numbered consecutively (1 to 80), followed by a letter for the month, and then the date (e.g., N03 indicates November \(3^{\text {rd }}\) ). The date is followed by an asterisk and the "score" for any date that was identified by the scoring mechanism.
14. How to read the charts - Security price movements: The dark blue jagged line shows the daily closing prices for the security. On that line, a yellow or green diamond indicates a day with a statistically significant stock price drop, and a red circle indicates an earnings announcement. The grey line indicates the relative movements of the S\&P 500 on that date.
15. How to read the charts - Volume data: The height of the blue volume bar indicates total reported transaction volume on that date (including long and short volume). The height of the light pink bar indicates total short selling volume on that date, as reported by the exchanges. The degree of overlap between the total short selling volume (light pink bar) and the total trading volume (blue bar) indicates what percentage of total market volume was associated with short-

\footnotetext{
\({ }^{12}\) The "score" reflects the level of interest, based on the criteria identified above. We view the current criteria and scoring as a work in progress, and would expect to modify the scoring and criteria based on feedback from staff. Currently, the maximum possible score for a given day is 30 .
}
selling. The purple bar indicates total short selling volume reported through Form SH. For some days, the short selling volume identified through Form SH (purple bar) is as high, or higher than the total trading volume (blue bar). Finally, the bright pink bar indicates short selling volume by this particular filer (identified in the title).
16. How to interpret the charts - Example: The first chart shows the data for Entropic Communications, Inc., a semiconductor company creating products for home entertainment systems. On December \(30^{\text {th }}\), Morgan Stanley disclosed a short position of approximately 485,000 shares on Form SH, which is close to the 638,000 shares of total reported trading volume on that day. \({ }^{13}\) This is an example of a potential manipulation. However, there are several caveats that should be noted. First, we don't know if Morgan Stanley's trades are executed on behalf of proprietary accounts, through its advisor services, or on behalf of clients. Also, there may be an error in the data; either on the part of NASDAQ reported trading volume, or an incorrect Form SH filing, unless Morgan Stanley is reporting trades that were executed overseas. In addition, there may be reasons other than manipulation for Morgan Stanley’s short selling behavior.

\section*{5. How can we use the data: Identifying short-sellers}
17. Example - Citigroup, November 17-21: As illustrated in Chart 2, between

November 17 and 21, 2008, Citigroup's stock price fell from a closing price of \(\$ 9.36\) to \(\$ 3.77\). Form SH filings allow us to identify many of the institutional

\footnotetext{
\({ }^{13}\) Factiva does not report any news for Entropic Communications between December 22 and January 5. However, on January 6, 2009, the company reported that it had exceeded a milestone of shipping 20 million chipsets, and the stock price rose.
}
investors who engaged in short selling during this time. The data, provided in Chart 3, indicates that short selling volume (approx. 676 million shares) represented approximately \(1 / 3\) of total trading volume (approx. 2.5 billion shares), and that Form SH filers (approx. 211 million shares) comprised approximately 1/3 of all short selling volume (approx. 676 million shares). Furthermore, approximately half of the short selling volume reported on Form SH is attributable to four filers: UBS (approx. 52 million shares), Tiger Global Management (approx. 20 million shares), Blue Ridge Capital Holdings (approx. 16 million shares), and Credit Suisse (approx 16 million shares).


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\section*{Chart 3}

Form SH Reported Short Volume for Citigroup
November 17, 2008 - November 21, 2008
\(\left.\begin{array}{|l|l|r|r|r|r|r|}\hline \text { CIK } & \text { Total for the } \\ \text { Week }\end{array}\right)\)

\section*{Appendix: Charts describing potential violations}

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Form SH Data Quality Check of Volume and Position December 2008
\begin{tabular}{|l|l|l|l|l|r|r|r|}
\hline Volume Reported & \begin{tabular}{l} 
Change In \\
Position
\end{tabular} & \begin{tabular}{l} 
Reported Volume Compared to Change \\
in Position
\end{tabular} & No Issue as long as... & lssue & Records & \% of Total
\end{tabular} .
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline descrip & some_vol & more_vol & change & & allpos & justneg & bothways \\
\hline & & & & & 760903 & 13825 & 216 \\
\hline 1 x & 1 & 1 & 0 & 1 & 34966 & 429 & 111 \\
\hline 2 x & & 1 & 1 & 1 & 12508 & 318 & 17 \\
\hline 5 x & 1 & 1 -1 & -1 & 1 & 1899 & 148 & 4 \\
\hline 3 X & 1 & 1 & 1 & -1 & 11209 & 604 & 74 \\
\hline 4 X & 1 & 1 & 1 & 0 & 7716 & 230 & 5 \\
\hline 8 X & & 0 -1 & -1 & 1 & 113761 & 1053 & 3 \\
\hline 9 x & & 0 & 1 & -1 & 154236 & 2874 & 2 \\
\hline 10 x & 0 & 0 & 0 & 0 & 347036 & 8169 & 0 \\
\hline 11 x & -9 & -9 -9 & -9 & -9 & 77572 & 0 & 0 \\
\hline
\end{tabular}

Form SH Check if Previous Day's Ending Holding Equals Beginning Holdings

\section*{December 2008}
\begin{tabular}{|lrr|}
\hline First Date - no check & 46,417 & \\
Beginning Balance \(<>\) Previous Day Ending Balance & 56,362 & \(9.8 \%\) \\
\hline Beginning Balance \(\boldsymbol{=}\) Previous Day Ending Balance & 577,923 & \(100.0 \%\) \\
\hline & 634,285 & \\
Total & 680,702 * & \\
\hline
\end{tabular}
*Removed records with duplicate identifiers.
\begin{tabular}{|c|c|c|c|c|}
\hline Beginning Balance & Day Check & Previous End & Count & Share \\
\hline Begin >0 & Consecutive Days & Previous End > 0 & 47,381 & 84.1\% \\
\hline Begin >0 & Consecutive Days & Previous End = 0 & 959 & 1.7\% \\
\hline Begin = 0 & Consecutive Days & Previous End > 0 & 1,706 & 3.0\% \\
\hline & & & & \\
\hline Begin >0 & Missing a Day & Previous End > 0 & 673 & 1.2\% \\
\hline Begin >0 & Missing a Day & Previous End = 0 & 242 & 0.4\% \\
\hline Begin = 0 & Missing a Day & Previous End > 0 & 5,401 & 9.6\% \\
\hline & & & 56,362 & \\
\hline
\end{tabular}

\section*{Form SH Summary of Securities by CRSP Share Code} December 2008
\begin{tabular}{|c|c|c|c|c|}
\hline CRSP Share Code & Description & \# Securities & \# Filers & Amount Held Short on 12/31 (Millions \$) \\
\hline \multicolumn{5}{|l|}{} \\
\hline 10 & 0 Securities which have not been further defined. & 7 & 28 & \$238 \\
\hline 11 & 1 Securities which need not be further defined. & 3,215 & 420 & \$216,173 \\
\hline 12 & 2 Companies incorporated outside the US & 287 & 215 & \$14,766 \\
\hline 14 & 4 Closed-end funds. & 100 & 31 & \$211 \\
\hline 15 & 5 Closed-end fund companies incorporated outside the US & 1 & 2 & \$5 \\
\hline 18 & 8 REIT's (Real Estate Investment Trusts). & 112 & 188 & \$11,814 \\
\hline \multicolumn{5}{|l|}{2 Certificates} \\
\hline 21 & 1 Securities which need not be further defined. & 1 & 1 & \$2 \\
\hline \multicolumn{5}{|l|}{3 ADRs (American Depository Receipts)} \\
\hline 30 & 0 Securities which have not been further defined. & 5 & 5 & \$26 \\
\hline 31 & 1 Securities which need not be further defined. & 257 & 150 & \$12,888 \\
\hline \multicolumn{5}{|l|}{4 SBIs (Shares of Beneficial Interest)} \\
\hline 41 & 1 Securities which need not be further defined. & 2 & 5 & \$4 \\
\hline 44 & 4 Closed-end funds. & 67 & 11 & \$71 \\
\hline 48 & 8 REIT's (Real Estate Investment Trusts). & 28 & 97 & \$2,846 \\
\hline \multicolumn{5}{|l|}{7 Units (Depository Units, Units of Beneficial Interest, Units of Limited Partnership Interest, Depository Receipts, etc.)} \\
\hline 70 & 0 Securities which have not been further defined. & 1 & 1 & \$0 \\
\hline 71 & 1 Securities which need not be further defined. & 39 & 28 & \$299 \\
\hline 72 & 2 Companies incorporated outside the US & 12 & 37 & \$275 \\
\hline 73 & 3 Americus Trust Components (Primes and Scores). & 617 & 274 & \$31,455 \\
\hline 74 & 4 Closed-end funds. & 5 & 26 & \$313 \\
\hline & & & & \\
\hline \multicolumn{2}{|l|}{Share Codes Used in the Charts (shaded rows)} & 3,913 & 435 & \$258,755 \\
\hline
\end{tabular}

Form SH Daily Volume Compared to Exchange Reported Short Volume November 2008


Median Security Form SH Daily Volume Compared to Exchange Reported Short Volume November 2008


Maximum Form SH Daily Volume Compared to Exchange Reported Short Volume November 2008


Maximum Form SH \% of Exchange Short Volume Across the Month

Form SH Postion Compared to Twice Monthly Reported Short Interest November 2008


Form SH Postion \% of Reported Short Interest vs Form SH Volume \% of Exchange Short Volume

November 2008


\section*{Form SH Reported Data Compared to Outside Sources: Example Detail Data}

November 2008

\section*{Postion Compared To}

\section*{Form SH Reported Volumel Exchange Short Volume}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Company & 3-Nov & 4-Nov & 5-Nov & 6-Nov & 7-Nov & 10-Nov & 11-Nov & 12-Nov & 13-Nov & 14-Nov & 24-Nov & 25-Nov & 26-Nov & 28-Nov \\
\hline AMERICAN INTERNATIONAL GROUP INC & 2.59\% & 2.52\% & 0.67\% & 1.06\% & 7.44\% & 0.00\% & 0.18\% & 0.51\% & 11.77\% & 1.05\% & 1.22\% & 0.52\% & 0.55\% & 4.93\% \\
\hline AMERICAN EXPRESS CO & 3.41\% & 9.82\% & 1.76\% & 4.72\% & 1.43\% & 6.12\% & 15.93\% & 26.82\% & 15.18\% & 13.69\% & 37.61\% & 19.04\% & 0.46\% & 0.82\% \\
\hline BANK OF AMERICA CORP & 24.64\% & 6.64\% & 22.63\% & 33.48\% & 16.99\% & 22.65\% & 10.84\% & 40.62\% & 11.78\% & 18.22\% & 32.79\% & 50.91\% & 24.49\% & 64.90\% \\
\hline CITIGROUP INC & 34.69\% & 17.04\% & 27.15\% & 32.88\% & 24.61\% & 26.78\% & 16.62\% & 34.72\% & 22.15\% & 25.23\% & 18.88\% & 23.17\% & 22.48\% & 19.51\% \\
\hline FORD MOTOR CO DEL & 6.89\% & 83.87\% & 6.98\% & 26.13\% & 16.91\% & 11.22\% & 11.97\% & 6.56\% & 7.37\% & 3.96\% & 12.36\% & 32.17\% & 10.65\% & 6.85\% \\
\hline GENERAL ELECTRIC CO & 31.57\% & 21.31\% & 31.49\% & 41.21\% & 36.32\% & 36.88\% & 52.93\% & 50.99\% & 42.03\% & 36.63\% & 51.98\% & 44.37\% & 39.69\% & 21.48\% \\
\hline GENERAL MOTORS CORP & 7.04\% & 5.05\% & 25.12\% & 54.07\% & 26.48\% & 16.40\% & 20.78\% & 22.14\% & 8.33\% & 15.80\% & 6.15\% & 24.82\% & 16.12\% & 11.88\% \\
\hline GOLDMAN SACHS GROUP INC & 11.33\% & 13.46\% & 13.04\% & 27.78\% & 26.46\% & 19.25\% & 15.90\% & 29.24\% & 18.97\% & 10.49\% & 11.73\% & 14.70\% & 13.55\% & 13.71\% \\
\hline JPMORGAN CHASE \& CO & 14.35\% & 11.01\% & 19.07\% & 25.29\% & 19.56\% & 13.49\% & 5.94\% & 49.70\% & 15.88\% & 11.79\% & 32.26\% & 29.04\% & 24.23\% & 19.70\% \\
\hline MERRILL LYNCH \& CO INC & 3.17\% & 1.63\% & 21.47\% & 20.39\% & 14.70\% & 11.17\% & 1.12\% & 22.14\% & 7.63\% & 4.90\% & 13.37\% & 18.08\% & 12.02\% & 3.57\% \\
\hline MANULIFE FINANCIAL CORP & 1.81\% & 58.01\% & 0.00\% & 15.89\% & 0.00\% & 81.33\% & 6.82\% & 3.52\% & 41.73\% & 16.35\% & 0.00\% & 0.00\% & 0.00\% & 0.00\% \\
\hline MORGAN STANLEY DEAN WITTER \& CO & 29.81\% & 13.02\% & 14.96\% & 7.61\% & 6.76\% & 16.76\% & 8.80\% & 15.85\% & 6.57\% & 9.53\% & 14.00\% & 22.04\% & 18.98\% & 7.86\% \\
\hline P N C FINANCIAL SERVICES GRP INC & 2.86\% & 7.98\% & 4.86\% & 13.57\% & 13.43\% & 0.02\% & 1.44\% & 17.56\% & 12.47\% & 2.47\% & 8.02\% & 0.21\% & 1.25\% & 1.37\% \\
\hline STATE STREET CORP & 0.00\% & 0.00\% & 1.19\% & 4.44\% & 4.44\% & 0.00\% & 0.83\% & 26.97\% & 5.54\% & 3.79\% & 13.29\% & 0.00\% & 0.15\% & 0.90\% \\
\hline U S BANCORP DEL & 5.10\% & 24.53\% & 33.89\% & 31.14\% & 10.42\% & 36.43\% & 10.33\% & 42.08\% & 19.76\% & 15.83\% & 58.50\% & 56.82\% & 49.55\% & 6.74\% \\
\hline WACHOVIA CORP 2ND NEW & 16.91\% & 5.49\% & 14.10\% & 15.54\% & 6.41\% & 17.23\% & 4.41\% & 16.09\% & 20.68\% & 7.11\% & 10.38\% & 13.33\% & 13.89\% & 0.00\% \\
\hline WELLS FARGO \& CO NEW & 18.93\% & 17.62\% & 18.49\% & 17.23\% & 14.19\% & 23.05\% & 19.21\% & 52.32\% & 29.49\% & 37.91\% & 29.50\% & 23.34\% & 35.57\% & 23.79\% \\
\hline
\end{tabular}
\begin{tabular}{|r|r|}
\hline 14-Nov & 28-Nov \\
\hline \(48.11 \%\) & \(49.33 \%\) \\
\hline \(96.11 \%\) & \(61.39 \%\) \\
\hline \(85.42 \%\) & \(121.89 \%\) \\
\hline \(83.38 \%\) & \(54.91 \%\) \\
\hline \(59.72 \%\) & \(68.47 \%\) \\
\hline \(233.63 \%\) & \(185.45 \%\) \\
\hline \(82.57 \%\) & \(82.55 \%\) \\
\hline \(88.71 \%\) & \(33.84 \%\) \\
\hline \(88.09 \%\) & \(108.98 \%\) \\
\hline \(77.40 \%\) & \(55.81 \%\) \\
\hline \(67.90 \%\) & \(66.03 \%\) \\
\hline \(85.11 \%\) & \(80.76 \%\) \\
\hline \(58.65 \%\) & \(56.49 \%\) \\
\hline \(53.26 \%\) & \(67.54 \%\) \\
\hline \(74.86 \%\) & \(89.93 \%\) \\
\hline \(103.53 \%\) & \(132.02 \%\) \\
\hline \(74.22 \%\) & \(78.55 \%\) \\
\hline
\end{tabular}

Number of Filers with Form SH Reported Volume
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Company & 3-Nov & 4-Nov & 5-Nov & 6-Nov & 7-Nov & 10-Nov & 11-Nov & 12-Nov & 13-Nov & 14-Nov & 24-Nov & 25-Nov & 26-Nov & 28-Nov \\
\hline AMERICAN INTERNATIONAL GROUP INC & 2 & 1 & 1 & 1 & 4 & 0 & 1 & 1 & 3 & 1 & 1 & 1 & 1 & 2 \\
\hline AMERICAN EXPRESS CO & 1 & 6 & 3 & 5 & 3 & 3 & 3 & 5 & 5 & 4 & 7 & 4 & 1 & 2 \\
\hline BANK OF AMERICA CORP & 7 & 5 & 6 & 10 & 6 & 6 & 5 & 8 & 7 & 8 & 11 & 12 & 12 & 7 \\
\hline CITIGROUP INC & 11 & 8 & 5 & 9 & 8 & 6 & 4 & 8 & 8 & 11 & 13 & 9 & 9 & 11 \\
\hline FORD MOTOR CO DEL & 4 & 6 & 4 & 5 & 5 & 3 & 3 & 2 & 3 & 3 & 4 & 3 & 2 & 3 \\
\hline GENERAL ELECTRIC CO & 8 & 7 & 5 & 7 & 7 & 10 & 13 & 14 & 15 & 14 & 10 & 13 & 10 & 8 \\
\hline GENERAL MOTORS CORP & 3 & 2 & 4 & 9 & 6 & 5 & 5 & 5 & 2 & 3 & 3 & 4 & 4 & 2 \\
\hline GOLDMAN SACHS GROUP INC & 3 & 4 & 4 & 8 & 6 & 6 & 5 & 8 & 7 & 6 & 7 & 12 & 9 & 7 \\
\hline JPMORGAN CHASE \& CO & 6 & 6 & 9 & 9 & 7 & 5 & 5 & 13 & 9 & 9 & 13 & 14 & 10 & 8 \\
\hline MERRILL LYNCH \& CO INC & 2 & 1 & 4 & 3 & 3 & 2 & 1 & 3 & 2 & 2 & 2 & 2 & 3 & 1 \\
\hline MANULIFE FINANCIAL CORP & 1 & 1 & 0 & 2 & 0 & 1 & 1 & 1 & 4 & 2 & 0 & 0 & 0 & 0 \\
\hline MORGAN STANLEY DEAN WITTER \& CO & 3 & 4 & 3 & 2 & 2 & 3 & 2 & 3 & 3 & 3 & 2 & 3 & 2 & 1 \\
\hline P N C FINANCIAL SERVICES GRP INC & 4 & 4 & 4 & 6 & 3 & 1 & 1 & 2 & 3 & 3 & 2 & 1 & 2 & 2 \\
\hline STATE STREET CORP & 1 & 0 & 2 & 1 & 1 & 0 & 1 & 1 & 1 & 2 & 1 & 0 & 1 & 1 \\
\hline U S BANCORP DEL & 3 & 6 & 5 & 6 & 4 & 4 & 2 & 5 & 5 & 5 & 8 & 7 & 7 & 3 \\
\hline WACHOVIA CORP 2ND NEW & 3 & 2 & 3 & 3 & 2 & 2 & 2 & 3 & 3 & 2 & 1 & 1 & 1 & 0 \\
\hline WELLS FARGO \& CO NEW & 12 & 13 & 12 & 16 & 12 & 11 & 9 & 19 & 15 & 20 & 16 & 15 & 14 & 7 \\
\hline
\end{tabular}
\begin{tabular}{|r|r|}
\hline \multicolumn{1}{|c|}{\begin{tabular}{c}
\(11 / 14 \#\) \\
Filers
\end{tabular}} & \begin{tabular}{c}
\(11 / 28 \#\) \\
Filers
\end{tabular} \\
\hline 11 & 10 \\
\hline 20 & 18 \\
\hline 29 & 33 \\
\hline 31 & 38 \\
\hline 17 & 19 \\
\hline 39 & 36 \\
\hline 24 & 24 \\
\hline 19 & 26 \\
\hline 23 & 29 \\
\hline 12 & 10 \\
\hline 9 & 7 \\
\hline 14 & 14 \\
\hline 25 & 18 \\
\hline 8 & 6 \\
\hline 22 & 25 \\
\hline 14 & 8 \\
\hline 47 & 48 \\
\hline
\end{tabular}
Form SH Description of Records Used in Charts
December 2008
Total Number of Records ..... 774,944
Remove Incomplete Data
No Position or Volume Data ..... 77,572
Cusip not in CRSP ..... 11,636
Weekend or Christmas ..... 159,236
Total Removed ..... 248,444
Sub-Total ..... 526,500
Remove Duplicates (Filer/Security/Date)
Same Values
Same Values ..... 59,887 ..... 59,887
Differing values (select one version) ..... 7,074
All Duplicates ..... 66,961
Sub-Total ..... 459,539
Remove Funds etc. Based on CRSP Share Code Funds ..... 29,382
Total Record Used in Charts ..... 430,157

Form SH Daily Value of Short Position in a Security by Filer December 2008


Form SH Number of Securities Reported by a Filer December 2008


Form SH Value of Short Volume in a Security by Filer December 2008


Form SH Number of Filers Shorting a Security
December 2008


Form SH Reported Securities by Day December 2008


Form SH Dollar Value of Short Holdings by Day December 2008


Form SH Dollar Value Sold Short by Day December 2008


\section*{Characteristics of Securities in the Form SH Data}

December 2008


Form SH Reported Volume as a Percent of Total Daily Volume December 2008

\(\longleftarrow\) Significant Negative Return \(\longleftarrow\) Typical Return \(\rightleftharpoons\) Significant Positive Return \(\longleftarrow \%\) of Security Days with Significant Negative

Form SH Reported Volume as a Percent of Total Daily Volume
Security Days where Form SH Volume is \(30 \%+\) December 2008


\footnotetext{
\(\varpi\) Significant Negative Return \(\longleftarrow\) Typical Return \(\longmapsto\) Significant Positive Return \(\rightsquigarrow \%\) of Security Days with Significant Negative
}

Form SH Reported Volume as a Percent of Total Daily Volume Days with Statistically Significant Negative Returns December 2008


Form SH Reported Volume as a Percent of Total Daily Volume and Next Day Returns

December 2008


Form SH Reported Volume as a Percent of Total Daily Volume

\footnotetext{
\(\square\) Significant Negative Return - Next Day
\(\square\) Typical Return - Next Day
\(\longrightarrow \%\) of Security Days with Significant Next Day Negative Return
}

Example: SIRIUS X M RADIO INC


Example: FOREST CITY ENTERPRISES INC


Example: MCCLATCHY CO


Example: FURNITURE BRANDS INTL INC


Example: UNIVERSAL ELECTRONICS INC


Example: RAYONIER INC


Example: HOME PROPERTIES INC


Example: I C T GROUP INC


Example: NICHOLAS FINANCIAL INC


Example: RITCHIE BROS AUCTIONEERS INC


Example: FRANKLIN STREET PROPERTIES CORP

\begin{tabular}{|c|c|c|c|}
\hline \multicolumn{4}{|l|}{5} \\
\hline 0 & 0 & 530 & 5300 \\
\hline 5 & 0 & 147 & \(147>0-5\) \\
\hline 10 & 0 & 40 & 40 5-10 \\
\hline 15 & 0 & 36 & 36 10-15 \\
\hline 20 & 0 & 58 & 58 15-20 \\
\hline 25 & 0 & 85 & 85 20-25 \\
\hline 30 & 0 & 111 & 111 25-30 \\
\hline 35 & 0 & 117 & 117 30-35 \\
\hline 40 & 0 & 151 & 151 35-40 \\
\hline 45 & 0 & 184 & 184 40-45 \\
\hline 50 & 0 & 210 & 210 45-50 \\
\hline 55 & 0 & 219 & 219 50-55 \\
\hline 60 & 0 & 250 & 250 55-60 \\
\hline 65 & 0 & 205 & 205 60-65 \\
\hline 70 & 0 & 224 & 224 65-70 \\
\hline 75 & 0 & 217 & 217 70-75 \\
\hline 80 & 0 & 184 & 184 75-80 \\
\hline 85 & 0 & 162 & 162 80-85 \\
\hline 90 & 0 & 108 & 108 85-90 \\
\hline 95 & 0 & 104 & 104 90-95 \\
\hline 100 & 0 & 68 & 68 95-100 \\
\hline 105 & 0 & 489 & 489 100+ \\
\hline & & 3899 & 3899 \\
\hline
\end{tabular}

\begin{tabular}{|c|r|}
\hline & \\
\hline & \\
Form SH Position \(\%\) \\
\hline \# Days & 3,899 \\
\hline Mean & \(90.95 \%\) \\
\hline STD & \(793.95 \%\) \\
\hline Min & \(0.00 \%\) \\
\hline P 25 & \(28.68 \%\) \\
\hline Median & \(56.03 \%\) \\
\hline P 75 & \(78.68 \%\) \\
\hline Max & \(36431.40 \%\) \\
\hline
\end{tabular}
\begin{tabular}{rlr} 
& FREQ_ & 3899 \\
3659 & n & 3899 \\
\(109.62 \%\) & mean & \(90.95 \%\) \\
\(820.36 \%\) & std & \(793.95 \%\) \\
\(0.00 \%\) & min & \(0.00 \%\) \\
\(43.14 \%\) & p25 & \(28.68 \%\) \\
\(70.57 \%\) & median & \(56.03 \%\) \\
\(95.41 \%\) & p75 & \(78.68 \%\) \\
\(36431.40 \%\) & max & \(36431.40 \%\)
\end{tabular}


\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & SNAP ON & 60206 & 11 & 0.00\% & 55.38\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 90300 & 18 & 0.00\% & 87.81\% \\
\hline 14 & 14-Nov-08 & STEPAN C & 36898 & 11 & 0.00\% & 59.38\% & 28 & & CHASE C & 82542 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & AMPCO PI & 18075 & 11 & 0.00\% & 59.07\% & 28 & \#\#\#\#\#\#\#\# & NATIONAL & 88373 & 18 & 94.28\% & 83.31\% \\
\hline 14 & 14-Nov-08 & EMERSON & 22103 & 11 & 20.08\% & 52.09\% & 28 & \#\#\#\#\#\#\#\# & PUBLIC S & 64653 & 18 & 41.15\% & 81.23\% \\
\hline 14 & 14-Nov-08 & ARCH CHI & 86548 & 11 & 16.34\% & 54.81\% & 28 & \#\#\#\#\#\#\#\# & JO ANN S & 89896 & 11 & 53.58\% & 80.30\% \\
\hline 14 & 14-Nov-08 & HYPERCC & 85611 & 11 & 24.60\% & 54.57\% & 28 & & NORTH AI & 91584 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & HAWAIIAN & 41187 & 11 & 24.66\% & 52.26\% & 28 & \#\#\#\#\#\#\#\# & ACADIAR & 79235 & 48 & 0.00\% & 87.70\% \\
\hline 14 & 14-Nov-08 & WESTARI & 24053 & 11 & 13.77\% & 53.72\% & 28 & \#\#\#\#\#\#\#\# & JOHNSON & 22111 & 11 & 6.24\% & 199.73\% \\
\hline 14 & 14-Nov-08 & OMEGA P & 85951 & 11 & 11.33\% & 54.24\% & 28 & \#\#\#\#\#\#\#\# & INTERNAT & 90994 & 11 & 5.33\% & 105.45\% \\
\hline 14 & 14-Nov-08 & LIONS GA & 86408 & 12 & 11.49\% & 50.14\% & 28 & & CROWN H & 17726 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & TUPPERV & 83462 & 11 & 12.53\% & 52.38\% & 28 & \#\#\#\#\#\#\#\# & A U OPTR & 89398 & 31 & 0.00\% & 86.20\% \\
\hline 14 & 14-Nov-08 & SOUTHER & 18411 & 11 & 13.49\% & 51.50\% & 28 & \#\#\#\#\#\#\#\# & A K STEEI & 80303 & 11 & 0.00\% & 86.64\% \\
\hline 14 & 14-Nov-08 & KORN FEF & 86594 & 11 & 21.40\% & 53.09\% & 28 & & NOMURA & 89256 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & WILLIAMS & 83011 & 11 & 40.23\% & 52.66\% & 28 & & COCA CO & 89539 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & LEXINGTC & 79770 & 18 & 39.99\% & 52.23\% & 28 & & HELLENIC & 86403 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & ALLIANCE & 29867 & 11 & 0.00\% & 55.66\% & 28 & & PETRO RE & 91419 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & BRADY CC & 18973 & 11 & 54.22\% & 53.48\% & 28 & \#\#\#\#\#\#\#\# & ONEOK IN & 25232 & 11 & 0.97\% & 81.16\% \\
\hline 14 & 14-Nov-08 & BIOMED F & 90301 & 18 & 26.65\% & 51.81\% & 28 & \#\#\#\#\#\#\#\# & OMNICON & 30681 & 11 & 0.28\% & 81.95\% \\
\hline 14 & 14-Nov-08 & NEW YOR & 47466 & 11 & 20.37\% & 51.55\% & 28 & & PRO PHAF & 89853 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & MIDAS INC & 85770 & 11 & 21.78\% & 54.19\% & 28 & & PORTUGA & 81669 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & AGREE RI & 80412 & 18 & 28.07\% & 52.20\% & 28 & \#\#\#\#\#\#\#\# & PEARSON & 88595 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SOUTHER & 82800 & 11 & 23.34\% & 50.19\% & 28 & & BRTREA & 56856 & 48 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & IT C HOLI & 90786 & 11 & 3.14\% & 58.28\% & 28 & \#\#\#\#\#\#\#\# & RISKMETF & 92544 & 11 & 0.31\% & 81.56\% \\
\hline 14 & 14-Nov-08 & GARTNER & 79698 & 11 & 1.24\% & 57.71\% & 28 & \#\#\#\#\#\#\#\# & SUNTRUS & 68144 & 11 & 1.15\% & 82.60\% \\
\hline 14 & 14-Nov-08 & KOPPERS & 91114 & 11 & 2.95\% & 55.50\% & 28 & & PUBLIC SI & 51123 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & PENNEY J & 18403 & 11 & 1.73\% & 55.28\% & 28 & \#\#\#\#\#\#\#\# & XL CAPIT & 86314 & 12 & 2.80\% & 83.68\% \\
\hline 14 & 14-Nov-08 & ICICIBA & 87662 & 31 & 1.15\% & 56.14\% & 28 & \#\#\#\#\#\#\#\# & CANADIAT & 85636 & 12 & 10.40\% & 220.35\% \\
\hline 14 & 14-Nov-08 & GAP INC & 59010 & 11 & 3.39\% & 58.11\% & 28 & \#\#\#\#\#\#\#\# & REX STOF & 68830 & 11 & 0.66\% & 81.39\% \\
\hline 14 & 14-Nov-08 & GENCO SI & 90813 & 12 & 0.28\% & 59.32\% & 28 & & PHARMAC & 82647 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & INTERLINT & 90503 & 11 & 3.28\% & 55.50\% & 28 & \#\#\#\#\#\#\#\# & COLONIAL & 24628 & 11 & 13.37\% & 108.86\% \\
\hline 14 & 14-Nov-08 & GRANITE & 76135 & 11 & 4.77\% & 57.31\% & 28 & \#\#\#\#\#\#\#\# & DREW INL & 87426 & 11 & 11.09\% & 101.63\% \\
\hline 14 & 14-Nov-08 & SOUTHWE & 58683 & 11 & 0.48\% & 56.53\% & 28 & \#\#\#\#\#\#\#\# & FEDERAL & 75789 & 11 & 10.27\% & 125.15\% \\
\hline 14 & 14-Nov-08 & PHARMEF & 92184 & 11 & 4.99\% & 58.02\% & 28 & \#\#\#\#\#\#\#\# & EXTERRA & 92245 & 11 & 12.68\% & 142.70\% \\
\hline 14 & 14-Nov-08 & PRINCIPA & 89195 & 11 & 2.46\% & 55.15\% & 28 & & PRUDENT & 88310 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & PHOENIX & 89008 & 11 & 2.55\% & 57.34\% & 28 & & BARNWEL & 42358 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & PNCFIN, & 60442 & 11 & 2.47\% & 58.65\% & 28 & & BIG FLOW & 82632 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & METROPC & 91937 & 11 & 1.82\% & 59.43\% & 28 & \#\#\#\#\#\#\#\# & BROADRII & 91849 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & MANPOW & 75285 & 11 & 4.26\% & 56.52\% & 28 & \#\#\#\#\#\#\#\# & GROUPE 1 & 86372 & 12 & 12.07\% & 4728.70\% \\
\hline 14 & 14-Nov-08 & LAS VEGA & 90505 & 11 & 0.04\% & 57.83\% & 28 & \#\#\#\#\#\#\#\# & HARVEST & 75734 & 11 & 0.68\% & 82.24\% \\
\hline 14 & 14-Nov-08 & MOVADO & 79611 & 11 & 0.99\% & 59.05\% & 28 & \#\#\#\#\#\#\#\# & MID AMEF & 80183 & 18 & 4.45\% & 81.03\% \\
\hline 14 & 14-Nov-08 & MCDONAL & 43449 & 11 & 2.08\% & 56.25\% & 28 & \#\#\#\#\#\#\#\# & MEDTRO & 60097 & 11 & 3.90\% & 84.21\% \\
\hline 14 & 14-Nov-08 & FAIRCHILI & 87139 & 11 & 0.12\% & 59.05\% & 28 & \#\#\#\#\#\#\#\# & MCMORAI & 80557 & 11 & 1.67\% & 83.02\% \\
\hline 14 & 14-Nov-08 & BANCO L/ & 77920 & 12 & 4.89\% & 56.60\% & 28 & \#\#\#\#\#\#\#\# & LOUISIAN. & 56223 & 11 & 1.17\% & 81.91\% \\
\hline 14 & 14-Nov-08 & BLACKRO & 87267 & 11 & 1.76\% & 57.53\% & 28 & \#\#\#\#\#\#\#\# & HUNTSMA & 90558 & 11 & 0.01\% & 81.65\% \\
\hline 14 & 14-Nov-08 & CALGON ( & 11378 & 11 & 2.45\% & 57.48\% & 28 & \#\#\#\#\#\#\#\# & KIMCO RE & 77129 & 18 & 0.15\% & 80.97\% \\
\hline 14 & 14-Nov-08 & BRISTOW & 59089 & 11 & 1.55\% & 56.36\% & 28 & \#\#\#\#\#\#\#\# & PETROCH & 87844 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & BLACK HII & 61946 & 11 & 0.47\% & 57.02\% & 28 & \#\#\#\#\#\#\#\# & CELESTIC & 86115 & 12 & 10.02\% & 227.87\% \\
\hline 14 & 14-Nov-08 & AIR PROD & 28222 & 11 & 2.50\% & 55.07\% & 28 & \#\#\#\#\#\#\#\# & SCHWEIT: & 82649 & 11 & 8.83\% & 82.44\% \\
\hline 14 & 14-Nov-08 & SMITH A C & 65402 & 11 & 2.67\% & 55.87\% & 28 & & PERDIGAC & 88673 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & BANK OF & 49656 & 11 & 0.79\% & 59.79\% & 28 & & COMPANI. & 83445 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & AVISTA Cl & 24969 & 11 & 3.77\% & 57.37\% & 28 & & PILGRIM C & 77416 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CENTRAL & 11628 & 11 & 3.44\% & 59.84\% & 28 & & PHCINC & 80353 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & EXELON C & 21776 & 11 & 0.56\% & 59.52\% & 28 & \#\#\#\#\#\#\#\# & VERIZON & 65875 & 11 & 5.16\% & 136.25\% \\
\hline 14 & 14-Nov-08 & EMERGEN & 91571 & 11 & 1.19\% & 58.93\% & 28 & \#\#\#\#\#\#\#\# & PLAYBOY & 76218 & 11 & 9.05\% & 83.45\% \\
\hline 14 & 14-Nov-08 & FOUNDAT & 90501 & 11 & 2.66\% & 55.30\% & 28 & \#\#\#\#\#\#\#\# & CATERPIL & 18542 & 11 & 12.85\% & 80.97\% \\
\hline 14 & 14-Nov-08 & FORD MO & 25785 & 11 & 3.96\% & 59.72\% & 28 & & B WIPIN & 76667 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DUFF \& PI & 92268 & 11 & 2.07\% & 55.77\% & 28 & & OREZONE & 90074 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DUPONT \({ }^{\text {P }}\) & 92331 & 11 & 1.55\% & 57.64\% & 28 & \#\#\#\#\#\#\#\# & PROTECT & 64486 & 11 & 12.54\% & 80.72\% \\
\hline 14 & 14-Nov-08 & COMMUNI & 88284 & 11 & 0.32\% & 55.68\% & 28 & \#\#\#\#\#\#\#\# & GENERAL & 12079 & 11 & 11.88\% & 82.55\% \\
\hline 14 & 14-Nov-08 & DRESSER & 90831 & 11 & 0.07\% & 55.41\% & 28 & & BOVIE ME & 89891 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & GENENTE & 87031 & 11 & 1.21\% & 57.42\% & 28 & & PMCCOI & 80014 & 48 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CRANE C( & 20204 & 11 & 0.00\% & 65.94\% & 28 & & PANASON & 53727 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & COEUR D & 24441 & 11 & 0.00\% & 69.79\% & 28 & \#\#\#\#\#\#\#\# & MORGAN & 69032 & 11 & 7.86\% & 80.76\% \\
\hline 14 & 14-Nov-08 & BRINKER & 23297 & 11 & 0.00\% & 68.61\% & 28 & & PARACEL & 83829 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DOLBY LA & 90550 & 11 & 0.00\% & 65.03\% & 28 & \#\#\#\#\#\#\#\# & C B RICH/ & 90199 & 11 & 8.03\% & 81.78\% \\
\hline 14 & 14-Nov-08 & CHRISTOF & 77478 & 11 & 0.00\% & 65.24\% & 28 & \#\#\#\#\#\#\#\# & ZALE COF & 79672 & 11 & 6.10\% & 108.38\% \\
\hline 14 & 14-Nov-08 & SOVRAN: & 81675 & 18 & 49.69\% & 62.91\% & 28 & & PROTALIX & 86080 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CITY NATI & 23916 & 11 & 49.82\% & 63.50\% & 28 & \#\#\#\#\#\#\#\# & CHUBB C & 59192 & 11 & 12.15\% & 131.68\% \\
\hline 14 & 14-Nov-08 & A V X COF & 81912 & 11 & 0.00\% & 69.59\% & 28 & \#\#\#\#\#\#\#\# & BROOKFIE & 85259 & 12 & 12.13\% & 183.98\% \\
\hline 14 & 14-Nov-08 & AMERICAI & 85801 & 12 & 0.00\% & 65.64\% & 28 & & PACIFIC F & 89371 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & EASTMAN & 11754 & 11 & 0.00\% & 69.27\% & 28 & \#\#\#\#\#\#\#\# & BRITISH S & 81121 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & LS B INDI & 49488 & 11 & 0.00\% & 67.05\% & 28 & \#\#\#\#\#\#\#\# & B T GROU & 66835 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & LIFE SCIE & 91843 & 11 & 0.00\% & 67.35\% & 28 & \#\#\#\#\#\#\#\# & JONES LA & 85246 & 11 & 6.27\% & 81.16\% \\
\hline 14 & 14-Nov-08 & MEDICAL & 89370 & 11 & 0.00\% & 65.16\% & 28 & \#\#\#\#\#\#\#\# & BRITISH A & 59504 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & MCCLATC & 75261 & 11 & 0.00\% & 69.08\% & 28 & & PHILIPS IT & 86027 & 18 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & LITHIA MC & 84319 & 11 & 0.00\% & 67.85\% & 28 & \#\#\#\#\#\#\#\# & CAPITALS & 89805 & 18 & 7.21\% & 81.59\% \\
\hline 14 & 14-Nov-08 & G P STRA & 58501 & 11 & 0.00\% & 66.76\% & 28 & & PROCERA & 92282 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & LAUDERE & 82642 & 11 & 0.00\% & 65.59\% & 28 & \#\#\#\#\#\#\#\# & FORESTA & 92478 & 11 & 6.22\% & 81.36\% \\
\hline 14 & 14-Nov-08 & KELLOGG & 26825 & 11 & 0.00\% & 67.52\% & 28 & & TDKCOF & 64362 & 30 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & HEALTH & 76565 & 11 & 0.00\% & 65.45\% & 28 & & TEXTAINE & 92379 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & RESOURC & 91119 & 18 & 44.23\% & 63.67\% & 28 & \#\#\#\#\#\#\#\# & MARSH \& & 45751 & 11 & 0.37\% & 75.09\% \\
\hline 14 & 14-Nov-08 & M DURE؛ & 23835 & 11 & 18.12\% & 64.80\% & 28 & & ALLEGIAN & 83977 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & KROGER & 16678 & 11 & 18.32\% & 63.62\% & 28 & \#\#\#\#\#\#\#\# & BAXTER II & 27887 & 11 & 337.08\% & 131.12\% \\
\hline 14 & 14-Nov-08 & UNITED P. & 87447 & 11 & 15.24\% & 61.10\% & 28 & \#\#\#\#\#\#\#\# & GENESEE & 83661 & 11 & 0.54\% & 77.28\% \\
\hline 14 & 14-Nov-08 & STERIS CI & 77649 & 11 & 15.81\% & 63.44\% & 28 & \#\#\#\#\#\#\#\# & ANALOG [ & 60871 & 11 & 373.48\% & 158.29\% \\
\hline 14 & 14-Nov-08 & DUKE ENE & 27959 & 11 & 15.32\% & 60.73\% & 28 & & THERAGE & 10644 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & WORTHIN & 83601 & 11 & 11.49\% & 62.46\% & 28 & \#\#\#\#\#\#\#\# & MEDIA GE & 50972 & 11 & 72.80\% & 108.36\% \\
\hline 14 & 14-Nov-08 & VENTAS II & 75819 & 18 & 14.97\% & 63.78\% & 28 & \#\#\#\#\#\#\#\# & GLOBAL § & 91453 & 12 & 75.11\% & 397.91\% \\
\hline 14 & 14-Nov-08 & CORNELL & 84023 & 11 & 18.35\% & 64.85\% & 28 & & TIENS BIC & 90656 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & ALEXANDI & 11691 & 11 & 15.47\% & 62.98\% & 28 & & AERCAP - & 91602 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & HEALTH C & 65947 & 18 & 23.43\% & 64.73\% & 28 & \#\#\#\#\#\#\#\# & TERADAT. & 92293 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & HAVERTY & 41217 & 11 & 39.40\% & 63.56\% & 28 & \#\#\#\#\#\#\#\# & MENTOR & 52792 & 11 & 1.98\% & 77.94\% \\
\hline 14 & 14-Nov-08 & NEWCAS & 89548 & 18 & 31.38\% & 61.97\% & 28 & & TONGJITA & 91884 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & BIG LOTS & 67467 & 11 & 40.11\% & 60.96\% & 28 & \#\#\#\#\#\#\#\# & MYLAN IN & 69550 & 11 & 3.72\% & 78.33\% \\
\hline 14 & 14-Nov-08 & JONES AF & 76638 & 11 & 36.55\% & 62.41\% & 28 & & TELECOM & 89817 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CDICOR & 45655 & 11 & 26.98\% & 63.53\% & 28 & \#\#\#\#\#\#\# & PEPSICO & 13856 & 11 & 197.34\% & 180.97\% \\
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\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & HONEYWI & 10145 & 11 & 20.16\% & 61.92\% & 28 & \#\#\#\#\#\#\#\# & FEDEX CC & 60628 & 11 & 1.38\% & 75.08\% \\
\hline 14 & 14-Nov-08 & HARLEY [ & 70033 & 11 & 21.35\% & 63.66\% & 28 & \#\#\#\#\#\#\#\# & OCCIDEN & 34833 & 11 & 165.81\% & 107.21\% \\
\hline 14 & 14-Nov-08 & UNDER AF & 90979 & 11 & 22.69\% & 63.19\% & 28 & \#\#\#\#\#\#\#\# & PATNICO & 91051 & 31 & 101.58\% & 246.42\% \\
\hline 14 & 14-Nov-08 & MASSEY E & 26382 & 11 & 21.60\% & 62.10\% & 28 & \#\#\#\#\#\#\#\# & PRAXAIR & 77768 & 11 & 148.91\% & 187.56\% \\
\hline 14 & 14-Nov-08 & HERBALIF & 90516 & 12 & 3.13\% & 67.88\% & 28 & \#\#\#\#\#\#\#\# & EMCOR G & 82694 & 11 & 0.51\% & 77.67\% \\
\hline 14 & 14-Nov-08 & EDWARDS & 87657 & 11 & 1.62\% & 65.08\% & 28 & \#\#\#\#\#\#\#\# & EMCCOI & 10147 & 11 & 1.86\% & 77.92\% \\
\hline 14 & 14-Nov-08 & HEWLETT & 27828 & 11 & 3.01\% & 69.01\% & 28 & & ALLIED D & 89457 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & HORNBEC & 90067 & 11 & 2.37\% & 68.55\% & 28 & \#\#\#\#\#\#\#\# & KIMBERL) & 17750 & 11 & 221.09\% & 142.70\% \\
\hline 14 & 14-Nov-08 & DYNEGY I & 90352 & 11 & 0.38\% & 68.28\% & 28 & \#\#\#\#\#\#\#\# & AEGON N & 85172 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DEERE \& & 19350 & 11 & 1.35\% & 67.03\% & 28 & \#\#\#\#\#\#\#\# & GREATBA & 88615 & 11 & 3.67\% & 78.33\% \\
\hline 14 & 14-Nov-08 & CYPRESS & 10302 & 11 & 2.81\% & 65.30\% & 28 & & INTERNAT & 92248 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DICKS SP & 89540 & 11 & 0.17\% & 68.09\% & 28 & \#\#\#\#\#\#\#\# & MERCK \& & 22752 & 11 & 243.31\% & 246.92\% \\
\hline 14 & 14-Nov-08 & DEAN FOC & 83421 & 11 & 4.34\% & 68.76\% & 28 & \#\#\#\#\#\#\#\# & FULLER H & 37875 & 11 & 0.04\% & 75.25\% \\
\hline 14 & 14-Nov-08 & IOWA TEL & 90438 & 11 & 4.91\% & 69.65\% & 28 & \#\#\#\#\#\#\#\# & MACYS IN & 77462 & 11 & 153.77\% & 121.51\% \\
\hline 14 & 14-Nov-08 & NUCOR CI & 34817 & 11 & 1.56\% & 67.81\% & 28 & & US AGGF & 87150 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & NEWMARI & 42550 & 11 & 3.03\% & 69.31\% & 28 & \#\#\#\#\#\#\#\# & TALISMAT & 85635 & 12 & 2.03\% & 76.13\% \\
\hline 14 & 14-Nov-08 & OLD NATII & 12068 & 11 & 1.85\% & 66.07\% & 28 & \#\#\#\#\#\#\#\# & UNIVERS & 72864 & 48 & 0.42\% & 76.54\% \\
\hline 14 & 14-Nov-08 & NEWS CO & 90442 & 11 & 1.95\% & 69.98\% & 28 & \#\#\#\#\#\#\#\# & TORCHM/ & 62308 & 11 & 0.28\% & 77.46\% \\
\hline 14 & 14-Nov-08 & MOHAWK & 77496 & 11 & 2.79\% & 66.01\% & 28 & \#\#\#\#\#\#\#\# & TREEHOU & 90775 & 11 & 1.83\% & 75.55\% \\
\hline 14 & 14-Nov-08 & LAN AIRLI & 85616 & 31 & 1.59\% & 69.61\% & 28 & \#\#\#\#\#\#\#\# & TARGET C & 49154 & 11 & 0.92\% & 76.39\% \\
\hline 14 & 14-Nov-08 & LANDAUE & 37217 & 11 & 0.65\% & 68.55\% & 28 & \#\#\#\#\#\#\#\# & BREPRC & 61938 & 18 & 40.24\% & 152.40\% \\
\hline 14 & 14-Nov-08 & LEXMARK & 82643 & 11 & 2.07\% & 69.27\% & 28 & & CHINA DIC & 92327 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & LOWES C & 61399 & 11 & 2.50\% & 69.21\% & 28 & & SEASPAN & 90853 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CORRECT & 85234 & 11 & 0.62\% & 68.65\% & 28 & \#\#\#\#\#\#\#\# & STRATEG & 90217 & 18 & 7.30\% & 75.48\% \\
\hline 14 & 14-Nov-08 & AIRTRAN & 80670 & 11 & 4.73\% & 66.37\% & 28 & \#\#\#\#\#\#\#\# & SASOL LT & 68866 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & AGILENT \({ }^{\text {- }}\) & 87432 & 11 & 1.53\% & 67.60\% & 28 & \#\#\#\#\#\#\#\# & ABITIBIBC & 66130 & 11 & 44.72\% & 105.36\% \\
\hline 14 & 14-Nov-08 & AMERICRI & 75858 & 11 & 3.51\% & 67.09\% & 28 & \#\#\#\#\#\#\#\# & STATOIL- & 89016 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & AMERISOI & 81540 & 11 & 2.66\% & 65.77\% & 28 & & STUDENT & 78804 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & WILMING 1 & 83030 & 11 & 0.00\% & 65.61\% & 28 & \#\#\#\#\#\#\#\# & STMICROI & 81132 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & RADIAN G & 78038 & 11 & 0.00\% & 68.25\% & 28 & \#\#\#\#\#\#\#\# & WEINGAR & 68187 & 48 & 3.77\% & 76.92\% \\
\hline 14 & 14-Nov-08 & NSTAR & 87146 & 11 & 0.00\% & 67.03\% & 28 & & TUBOS DE & 40299 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SKYLINE ( & 38850 & 11 & 0.00\% & 68.44\% & 28 & \#\#\#\#\#\#\#\# & PENN VIR & 61955 & 11 & 1.34\% & 78.28\% \\
\hline 14 & 14-Nov-08 & SAKS INC & 11382 & 11 & 0.00\% & 68.78\% & 28 & & ALLMERIC & 82292 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & AAR COF & 54594 & 11 & 3.75\% & 65.16\% & 28 & \#\#\#\#\#\#\#\# & RAYMONL & 69649 & 11 & 0.17\% & 77.92\% \\
\hline 14 & 14-Nov-08 & CACI INTE & 20512 & 11 & 2.91\% & 67.60\% & 28 & & MOLSON \({ }^{\text {I }}\) & 90562 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CASCADE & 21726 & 11 & 2.54\% & 69.80\% & 28 & \#\#\#\#\#\#\#\# & PENNSYL' & 50702 & 48 & 2.82\% & 78.59\% \\
\hline 14 & 14-Nov-08 & CVS CAF & 17005 & 11 & 3.18\% & 69.59\% & 28 & \#\#\#\#\#\#\#\# & PARKWA) & 12072 & 18 & 57.57\% & 103.26\% \\
\hline 14 & 14-Nov-08 & COVIDIEN & 92156 & 12 & 2.74\% & 67.19\% & 28 & \#\#\#\#\#\#\#\# & BANK OF & 59408 & 11 & 64.90\% & 121.89\% \\
\hline 14 & 14-Nov-08 & BROWN S & 10866 & 11 & 4.65\% & 67.04\% & 28 & & UNITED C & 55546 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & AMERIPRI & 90880 & 11 & 2.73\% & 67.73\% & 28 & \#\#\#\#\#\#\#\# & SOUTH JE & 26614 & 11 & 0.49\% & 77.60\% \\
\hline 14 & 14-Nov-08 & AMERICAI & 13056 & 11 & 1.92\% & 69.27\% & 28 & & TRAVELCI & 91727 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & BERRY PE & 11478 & 11 & 4.30\% & 68.65\% & 28 & \#\#\#\#\#\#\#\# & HEALTHC. & 79233 & 18 & 43.20\% & 118.74\% \\
\hline 14 & 14-Nov-08 & B H P LTD & 75039 & 31 & 2.27\% & 66.16\% & 28 & \#\#\#\#\#\#\#\# & RHDON & 86109 & 11 & 44.53\% & 146.69\% \\
\hline 14 & 14-Nov-08 & HELMERIC & 32707 & 11 & 0.33\% & 61.58\% & 28 & \#\#\#\#\#\#\#\# & NOVAGOL & 89965 & 12 & 52.39\% & 216.44\% \\
\hline 14 & 14-Nov-08 & HARVEST & 75734 & 11 & 3.30\% & 62.32\% & 28 & \#\#\#\#\#\#\#\# & LABORAT & 12062 & 11 & 40.02\% & 192.14\% \\
\hline 14 & 14-Nov-08 & INVESTME & 46392 & 11 & 1.97\% & 61.28\% & 28 & \#\#\#\#\#\#\#\# & RELIANCE & 80864 & 11 & 0.22\% & 79.80\% \\
\hline 14 & 14-Nov-08 & HEADWAT & 86042 & 11 & 2.35\% & 60.85\% & 28 & & TELESPHI & 64813 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & HECLA MI & 32651 & 11 & 0.51\% & 62.65\% & 28 & \#\#\#\#\#\#\#\# & M BIA IN & 75175 & 11 & 0.00\% & 77.36\% \\
\hline 14 & 14-Nov-08 & FURMANI \({ }^{-1}\) & 42067 & 11 & 4.24\% & 63.33\% & 28 & \#\#\#\#\#\#\#\# & NEW JER: & 64450 & 11 & 0.00\% & 78.06\% \\
\hline 14 & 14-Nov-08 & FORTUNE & 10225 & 11 & 4.82\% & 61.03\% & 28 & \#\#\#\#\#\#\#\# & NABORS I & 29102 & 12 & 0.00\% & 75.37\% \\
\hline 14 & 14-Nov-08 & HAEMONE & 76837 & 11 & 3.48\% & 61.44\% & 28 & \#\#\#\#\#\#\#\# & LIBBEY IN & 79336 & 11 & 0.00\% & 77.49\% \\
\hline 14 & 14-Nov-08 & GERDAU, & 90380 & 12 & 0.03\% & 62.81\% & 28 & \#\#\#\#\#\#\#\# & QUICKSIL' & 86759 & 11 & 0.00\% & 77.39\% \\
\hline 14 & 14-Nov-08 & KOHLS CC & 77606 & 11 & 1.65\% & 60.14\% & 28 & \#\#\#\#\#\#\#\# & STEINWA' & 83832 & 11 & 0.00\% & 79.96\% \\
\hline 14 & 14-Nov-08 & NEWPAR & 34673 & 11 & 3.57\% & 62.93\% & 28 & \#\#\#\#\#\#\#\# & U S AIRW, & 90893 & 11 & 0.00\% & 76.26\% \\
\hline 14 & 14-Nov-08 & MOLINA H & 89781 & 11 & 2.21\% & 62.77\% & 28 & \#\#\#\#\#\#\#\# & PLANTRO & 80185 & 11 & 0.00\% & 79.66\% \\
\hline 14 & 14-Nov-08 & PARK ELE & 35107 & 11 & 3.91\% & 64.87\% & 28 & \#\#\#\#\#\#\#\# & PRINCIPA & 89195 & 11 & 0.00\% & 77.35\% \\
\hline 14 & 14-Nov-08 & PENSKE \(A\) & 84042 & 11 & 0.02\% & 61.27\% & 28 & \#\#\#\#\#\#\#\# & TRANSAT & 76219 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & MENTOR। & 52792 & 11 & 3.91\% & 64.66\% & 28 & \#\#\#\#\#\#\#\# & PILGRIMS & 70965 & 11 & 0.00\% & 79.51\% \\
\hline 14 & 14-Nov-08 & LILLY ELI. & 50876 & 11 & 4.45\% & 61.88\% & 28 & \#\#\#\#\#\#\#\# & NORTHWI & 58334 & 11 & 0.00\% & 75.62\% \\
\hline 14 & 14-Nov-08 & QUAKER ( & 64929 & 11 & 0.89\% & 60.53\% & 28 & \#\#\#\#\#\#\#\# & NORTHST & 90388 & 18 & 0.00\% & 79.35\% \\
\hline 14 & 14-Nov-08 & MIRANT C & 91071 & 11 & 4.66\% & 61.31\% & 28 & \#\#\#\#\#\#\#\# & OLIN COR & 13610 & 11 & 0.00\% & 76.99\% \\
\hline 14 & 14-Nov-08 & LINDSAY 1 & 12211 & 11 & 1.09\% & 61.38\% & 28 & \#\#\#\#\#\#\#\# & OGEENE & 24440 & 11 & 0.00\% & 76.82\% \\
\hline 14 & 14-Nov-08 & F NBCOF & 10629 & 11 & 0.43\% & 63.35\% & 28 & \#\#\#\#\#\#\#\# & FEDERAL & 47706 & 11 & 0.00\% & 76.35\% \\
\hline 14 & 14-Nov-08 & BRINKS C & 18649 & 11 & 0.24\% & 62.69\% & 28 & \#\#\#\#\#\#\#\# & FLOWERS & 88924 & 11 & 0.00\% & 78.53\% \\
\hline 14 & 14-Nov-08 & ARVINMEI & 85349 & 11 & 1.05\% & 64.12\% & 28 & \#\#\#\#\#\#\#\# & FIVE STAF & 89252 & 11 & 0.00\% & 77.98\% \\
\hline 14 & 14-Nov-08 & SOTHEBY & 75316 & 11 & 4.15\% & 62.87\% & 28 & & TORTOISE & 91801 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & BELDEN II & 79668 & 11 & 0.94\% & 63.06\% & 28 & & URSTADT & 50585 & 18 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & TEJON RA & 57007 & 11 & 0.00\% & 63.87\% & 28 & \#\#\#\#\#\#\#\# & ENBRIDGI & 86106 & 11 & 0.00\% & 78.57\% \\
\hline 14 & 14-Nov-08 & MACQUAF & 90507 & 11 & 0.00\% & 61.06\% & 28 & & TITAN PH, & 82848 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & BLOCK H. & 49373 & 11 & 0.00\% & 63.75\% & 28 & \#\#\#\#\#\#\#\# & ENTRAVIS & 88485 & 11 & 0.00\% & 77.63\% \\
\hline 14 & 14-Nov-08 & RASER TE & 91840 & 11 & 0.00\% & 63.95\% & 28 & \#\#\#\#\#\#\#\#\# & HORACE I & 77120 & 11 & 0.00\% & 76.76\% \\
\hline 14 & 14-Nov-08 & MIDWAY ( & 84031 & 11 & 0.00\% & 62.32\% & 28 & \#\#\#\#\#\#\#\# & HHGREGC & 92177 & 11 & 0.00\% & 78.46\% \\
\hline 14 & 14-Nov-08 & BUCKLE II & 77584 & 11 & 1.55\% & 60.90\% & 28 & \#\#\#\#\#\#\#\#\# & KOPPERS & 91114 & 11 & 0.00\% & 76.41\% \\
\hline 14 & 14-Nov-08 & DEVRY IN & 76708 & 11 & 3.65\% & 64.97\% & 28 & \#\#\#\#\#\#\#\# & JOURNAL & 89849 & 11 & 0.00\% & 78.28\% \\
\hline 14 & 14-Nov-08 & DOLAN MI & 92243 & 11 & 1.95\% & 62.78\% & 28 & \#\#\#\#\#\#\#\# & GEO GRO & 80774 & 11 & 0.00\% & 79.71\% \\
\hline 14 & 14-Nov-08 & ETHAN AL & 79037 & 11 & 0.58\% & 61.01\% & 28 & \#\#\#\#\#\#\#\# & GAMCO II & 86593 & 11 & 0.00\% & 77.94\% \\
\hline 14 & 14-Nov-08 & ENERGYS & 92389 & 11 & 2.15\% & 60.13\% & 28 & \#\#\#\#\#\#\#\# & HANESBR & 91416 & 11 & 0.00\% & 79.00\% \\
\hline 14 & 14-Nov-08 & CTS COF & 28564 & 11 & 3.93\% & 63.44\% & 28 & \#\#\#\#\#\#\#\# & GENWOR & 90162 & 11 & 0.00\% & 75.82\% \\
\hline 14 & 14-Nov-08 & BURLING1 & 50227 & 11 & 1.85\% & 64.54\% & 28 & \#\#\#\#\#\#\#\# & B M C SOl & 11976 & 11 & 3.20\% & 77.18\% \\
\hline 14 & 14-Nov-08 & BADGER I & 53110 & 11 & 0.61\% & 62.31\% & 28 & \#\#\#\#\#\#\#\# & BARNES \(\delta\) & 79667 & 11 & 0.36\% & 78.28\% \\
\hline 14 & 14-Nov-08 & CON WAY & 41929 & 11 & 0.40\% & 60.77\% & 28 & \#\#\#\#\#\#\#\# & COLONIAL & 79654 & 48 & 1.47\% & 78.64\% \\
\hline 14 & 14-Nov-08 & CONSOLII & 80621 & 11 & 3.55\% & 60.38\% & 28 & \#\#\#\#\#\#\#\# & COLGATE & 18729 & 11 & 1.52\% & 76.01\% \\
\hline 14 & 14-Nov-08 & PENN VIR & 61955 & 11 & 8.70\% & 62.69\% & 28 & \#\#\#\#\#\#\#\# & BOOTS \& & 85759 & 11 & 0.00\% & 75.09\% \\
\hline 14 & 14-Nov-08 & PROSH & 92143 & 11 & 8.03\% & 61.49\% & 28 & & GRUPO TI & 89254 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SCHERIN( & 25013 & 11 & 9.37\% & 60.20\% & 28 & & TAMBRAN & 66333 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & ROYAL C/ & 79145 & 12 & 6.65\% & 63.82\% & 28 & \#\#\#\#\#\#\#\# & WESTLAK & 90312 & 11 & 0.00\% & 79.91\% \\
\hline 14 & 14-Nov-08 & POTASH & 75844 & 12 & 6.89\% & 63.16\% & 28 & & TELMEX II & 92711 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & NAVIGAN \({ }^{\text {T }}\) & 84103 & 11 & 7.80\% & 60.10\% & 28 & \#\#\#\#\#\#\#\# & TRAVELEI & 59459 & 11 & 401.91\% & 142.60\% \\
\hline 14 & 14-Nov-08 & MONSANT & 88668 & 11 & 8.35\% & 64.78\% & 28 & & COMPANF & 85254 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & OFFICEM - & 42024 & 11 & 6.21\% & 62.43\% & 28 & \#\#\#\#\#\#\#\# & TRANSAL & 89068 & 12 & 493.83\% & 2384.31\% \\
\hline 14 & 14-Nov-08 & OLIN COR & 13610 & 11 & 7.64\% & 61.50\% & 28 & \#\#\#\#\#\#\#\# & CANADIAT & 88391 & 12 & 0.50\% & 76.91\% \\
\hline 14 & 14-Nov-08 & BRIGGS \& & 17961 & 11 & 12.95\% & 64.22\% & 28 & \#\#\#\#\#\#\#\# & TOMKINS & 12269 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & TNS INC & 90078 & 11 & 13.66\% & 64.42\% & 28 & & TELKOM & 89710 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SOUTHWE & 61188 & 11 & 12.04\% & 61.69\% & 28 & \#\#\#\#\#\#\#\# & COUSINS & 27511 & 18 & 3.61\% & 76.90\% \\
\hline 14 & 14-Nov-08 & VALASSIS & 77461 & 11 & 11.68\% & 62.58\% & 28 & \#\#\#\#\#\#\#\# & RUSS BEF & 66050 & 11 & 0.00\% & 77.15\% \\
\hline 14 & 14-Nov-08 & TRAVELEI & 59459 & 11 & 14.16\% & 61.47\% & 28 & \#\#\#\#\#\#\#\# & VALEANT & 68340 & 11 & 223.63\% & 179.36\% \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & U S AIRW, & 90893 & 11 & 10.89\% & 64.28\% & 28 & \#\#\#\#\#\#\#\# & StEWART & 72980 & 11 & 0.00\% & 75.31\% \\
\hline 14 & 14-Nov-08 & CARLISLE & 27334 & 11 & 11.33\% & 61.98\% & 28 & \#\#\#\#\#\#\#\# & SCANA CC & 23085 & 11 & 0.00\% & 77.70\% \\
\hline 14 & 14-Nov-08 & CHICOS F & 78963 & 11 & 13.76\% & 63.58\% & 28 & \#\#\#\#\#\#\#\# & RSCHOL & 92018 & 11 & 0.00\% & 77.93\% \\
\hline 14 & 14-Nov-08 & GRACE W & 85908 & 11 & 10.62\% & 63.29\% & 28 & \#\#\#\#\#\#\#\# & RADIAN G & 78038 & 11 & 0.00\% & 75.61\% \\
\hline 14 & 14-Nov-08 & EXCEL Mf & 75454 & 12 & 14.28\% & 62.17\% & 28 & & TIANYIN F & 92805 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & M F GLOB & 92190 & 12 & 5.94\% & 60.02\% & 28 & \#\#\#\#\#\#\#\# & WAL MAR & 55976 & 11 & 139.09\% & 107.01\% \\
\hline 14 & 14-Nov-08 & TECK CON & 91321 & 12 & 3.63\% & 61.81\% & 28 & \#\#\#\#\#\#\#\# & TELEFON & 76636 & 31 & 0.00\% & 79.79\% \\
\hline 14 & 14-Nov-08 & SOLUTIA I & 92505 & 11 & 2.76\% & 64.96\% & 28 & \#\#\#\#\#\#\#\# & PERUSAH & 82646 & 31 & 0.00\% & 77.19\% \\
\hline 14 & 14-Nov-08 & TALISMAN & 85635 & 12 & 0.82\% & 63.92\% & 28 & & THOMSO & 87446 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & TEEKAY C & 81784 & 12 & 0.26\% & 64.71\% & 28 & \#\#\#\#\#\#\#\# & VARIAN M & 27043 & 11 & 0.00\% & 79.43\% \\
\hline 14 & 14-Nov-08 & SKECHER & 86949 & 11 & 4.87\% & 63.46\% & 28 & \#\#\#\#\#\#\#\# & STRYKER & 73139 & 11 & 0.00\% & 79.13\% \\
\hline 14 & 14-Nov-08 & ROCK TEP & 80361 & 11 & 1.78\% & 61.74\% & 28 & \#\#\#\#\#\#\#\# & S W S GR & 77043 & 11 & 0.00\% & 77.14\% \\
\hline 14 & 14-Nov-08 & RYDER S & 27633 & 11 & 3.28\% & 61.66\% & 28 & \#\#\#\#\#\#\#\# & TEREXCC & 58318 & 11 & 0.00\% & 76.52\% \\
\hline 14 & 14-Nov-08 & RYLAND C & 62383 & 11 & 1.09\% & 64.58\% & 28 & \#\#\#\#\#\#\#\# & TRUEBLU & 83671 & 11 & 0.00\% & 78.32\% \\
\hline 14 & 14-Nov-08 & RELIANT E & 88992 & 11 & 1.05\% & 63.88\% & 28 & \#\#\#\#\#\#\#\# & IMATION ( & 83602 & 11 & 0.00\% & 83.66\% \\
\hline 14 & 14-Nov-08 & EXCOR & 91109 & 11 & 3.61\% & 60.20\% & 28 & \#\#\#\#\#\#\#\# & AFFILIATE & 85593 & 11 & 30.18\% & 114.49\% \\
\hline 14 & 14-Nov-08 & KADANT II & 78077 & 11 & 7.63\% & 60.02\% & 28 & \#\#\#\#\#\#\#\# & LT C PRC & 77878 & 18 & 0.00\% & 80.01\% \\
\hline 14 & 14-Nov-08 & FURNITUF & 77855 & 11 & 7.23\% & 61.78\% & 28 & \#\#\#\#\#\#\#\# & KOREA El & 81040 & 31 & 0.00\% & 80.03\% \\
\hline 14 & 14-Nov-08 & METHODE & 53197 & 11 & 7.01\% & 60.21\% & 28 & \#\#\#\#\#\#\#\# & GLOBAL C & 90885 & 11 & 0.00\% & 83.13\% \\
\hline 14 & 14-Nov-08 & K B W INC & 91578 & 11 & 8.25\% & 60.41\% & 28 & \#\#\#\#\#\#\#\# & ASHLAND & 24272 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & EMCOR G & 82694 & 11 & 7.36\% & 61.27\% & 28 & \#\#\#\#\#\#\#\# & IDACORP & 21928 & 11 & 0.00\% & 82.54\% \\
\hline 14 & 14-Nov-08 & BILL BARF & 90494 & 11 & 9.47\% & 64.47\% & 28 & \#\#\#\#\#\#\#\# & HARTE H/ & 79903 & 11 & 0.00\% & 80.92\% \\
\hline 14 & 14-Nov-08 & AMERICA & 88885 & 31 & 8.54\% & 64.33\% & 28 & \#\#\#\#\#\#\#\# & NATIONW & 68312 & 18 & 25.20\% & 107.31\% \\
\hline 14 & 14-Nov-08 & DEUTSCH & 84165 & 31 & 7.63\% & 63.42\% & 28 & \#\#\#\#\#\#\#\# & M \& TBAN & 35554 & 11 & 0.00\% & 82.96\% \\
\hline 14 & 14-Nov-08 & COMMER & 30680 & 11 & 9.64\% & 60.04\% & 28 & \#\#\#\#\#\#\#\# & NATIONAL & 34497 & 11 & 0.00\% & 83.08\% \\
\hline 14 & 14-Nov-08 & KNOLL IN & 84780 & 11 & 11.82\% & 50.39\% & 28 & \#\#\#\#\#\#\#\# & NATURAL & 89546 & 11 & 0.00\% & 81.34\% \\
\hline 14 & 14-Nov-08 & CECENT & 75432 & 11 & 13.60\% & 40.10\% & 28 & \#\#\#\#\#\#\#\# & LA Z BOY & 48347 & 11 & 0.00\% & 81.01\% \\
\hline 14 & 14-Nov-08 & CIBER INC & 80316 & 11 & 13.14\% & 42.50\% & 28 & & ADVANCE & 88659 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & EMPLOYE & 91688 & 11 & 14.37\% & 42.69\% & 28 & \#\#\#\#\#\#\#\# & MINE SAF & 54253 & 11 & 0.00\% & 80.53\% \\
\hline 14 & 14-Nov-08 & DINEEQUI & 76732 & 11 & 13.82\% & 41.84\% & 28 & \#\#\#\#\#\#\#\# & MEDCO H & 89813 & 11 & 0.00\% & 83.01\% \\
\hline 14 & 14-Nov-08 & BENCHM \({ }^{\text {A }}\) & 76224 & 11 & 11.36\% & 42.81\% & 28 & \#\#\#\#\#\#\#\# & CHINA SE & 92328 & 11 & 0.00\% & 82.69\% \\
\hline 14 & 14-Nov-08 & W GLHO & 21231 & 11 & 6.41\% & 44.64\% & 28 & \#\#\#\#\#\#\#\# & SALESFOI & 90215 & 11 & 0.00\% & 81.88\% \\
\hline 14 & 14-Nov-08 & SUN COM & 80102 & 18 & 6.54\% & 44.71\% & 28 & \#\#\#\#\#\#\#\# & DEAN FOC & 83421 & 11 & 0.00\% & 82.19\% \\
\hline 14 & 14-Nov-08 & ASSISTEL & 91517 & 11 & 10.84\% & 42.34\% & 28 & \#\#\#\#\#\#\#\# & COOPER & 27430 & 11 & 0.00\% & 84.88\% \\
\hline 14 & 14-Nov-08 & UNITED S & 76644 & 11 & 5.47\% & 44.84\% & 28 & \#\#\#\#\#\#\#\# & bally te & 38149 & 11 & 0.00\% & 80.96\% \\
\hline 14 & 14-Nov-08 & FIRST MEI & 91523 & 11 & 12.45\% & 43.85\% & 28 & & ANOORAC & 90061 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & TARGET \({ }^{\text {c }}\) & 49154 & 11 & 12.32\% & 40.08\% & 28 & \#\#\#\#\#\#\#\# & COVIDIEN & 92156 & 12 & 0.00\% & 83.51\% \\
\hline 14 & 14-Nov-08 & PROVIDES & 89653 & 11 & 11.53\% & 44.41\% & 28 & \#\#\#\#\#\#\#\# & COLFAX C & 92648 & 11 & 0.00\% & 83.77\% \\
\hline 14 & 14-Nov-08 & CHECKPC & 22921 & 11 & 16.52\% & 43.85\% & 28 & & AURORA I & 91211 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & UNISYS C & 10890 & 11 & 13.65\% & 40.98\% & 28 & \#\#\#\#\#\#\#\# & FRONTIEF & 56063 & 11 & 0.00\% & 83.73\% \\
\hline 14 & 14-Nov-08 & NEWALLI/ & 90132 & 11 & 14.32\% & 42.25\% & 28 & \#\#\#\#\#\#\#\# & DANAHER & 49680 & 11 & 30.46\% & 222.52\% \\
\hline 14 & 14-Nov-08 & KITE REAI & 90307 & 18 & 11.34\% & 40.44\% & 28 & & ADVANCE & 76879 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & GLATFEL7 & 57154 & 11 & 13.84\% & 42.74\% & 28 & \#\#\#\#\#\#\#\# & ENERGEN & 26470 & 11 & 0.00\% & 81.57\% \\
\hline 14 & 14-Nov-08 & MINERALS & 78015 & 11 & 10.59\% & 43.74\% & 28 & \#\#\#\#\#\#\#\# & DUKE RE/ & 75341 & 18 & 0.00\% & 80.35\% \\
\hline 14 & 14-Nov-08 & LABRANC & 87140 & 11 & 14.85\% & 42.29\% & 28 & \#\#\#\#\#\#\#\# & FPLGRC & 24205 & 11 & 0.00\% & 82.55\% \\
\hline 14 & 14-Nov-08 & S L GREE & 85265 & 18 & 9.21\% & 42.59\% & 28 & \#\#\#\#\#\#\#\# & ROYAL Bf & 92355 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CHOICE H & 85517 & 11 & 7.41\% & 41.84\% & 28 & \#\#\#\#\#\#\#\# & EXXON M & 11850 & 11 & 20.94\% & 142.67\% \\
\hline 14 & 14-Nov-08 & AVENTINE & 91288 & 11 & 8.47\% & 42.69\% & 28 & & ADVANCE & 77665 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & EL PASO I & 82855 & 11 & 8.30\% & 44.10\% & 28 & \#\#\#\#\#\#\#\# & RAYONIEF & 80210 & 18 & 23.81\% & 110.01\% \\
\hline 14 & 14-Nov-08 & DEVON EI & 87137 & 11 & 6.72\% & 43.82\% & 28 & \#\#\#\#\#\#\#\# & UIL HOLI & 53663 & 11 & 20.75\% & 132.74\% \\
\hline 14 & 14-Nov-08 & ASPEN IN: & 89977 & 12 & 9.24\% & 40.71\% & 28 & \#\#\#\#\#\#\#\# & SOVRAN & 81675 & 18 & 0.00\% & 83.64\% \\
\hline 14 & 14-Nov-08 & WESTER & 66384 & 11 & 2.30\% & 42.07\% & 28 & \#\#\#\#\#\#\#\# & STAGE S1 & 89289 & 11 & 0.00\% & 83.99\% \\
\hline 14 & 14-Nov-08 & VIAD COR & 19721 & 11 & 3.97\% & 42.66\% & 28 & \#\#\#\#\#\#\#\# & SUNTECH & 91061 & 31 & 0.00\% & 80.68\% \\
\hline 14 & 14-Nov-08 & ALUMINU & 89246 & 31 & 7.68\% & 40.36\% & 28 & \#\#\#\#\#\#\#\# & STERLING & 27254 & 11 & 0.00\% & 84.74\% \\
\hline 14 & 14-Nov-08 & WATSON & 88681 & 11 & 4.18\% & 41.00\% & 28 & \#\#\#\#\#\#\#\# & W G L HO & 21231 & 11 & 0.00\% & 81.83\% \\
\hline 14 & 14-Nov-08 & GETTY RE & 62367 & 18 & 5.44\% & 41.88\% & 28 & \#\#\#\#\#\#\#\# & WILLBRO؛ & 83834 & 12 & 0.00\% & 80.92\% \\
\hline 14 & 14-Nov-08 & PROASSU & 76838 & 11 & 6.95\% & 44.94\% & 28 & \#\#\#\#\#\#\#\# & D S TSYS & 83186 & 11 & 20.52\% & 125.13\% \\
\hline 14 & 14-Nov-08 & PLAYBOY & 76218 & 11 & 6.70\% & 43.84\% & 28 & \#\#\#\#\#\#\#\# & GENERAL & 12060 & 11 & 21.48\% & 185.45\% \\
\hline 14 & 14-Nov-08 & SHAW GR & 80032 & 11 & 6.62\% & 42.21\% & 28 & & ALUMINA & 75941 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & REGAL BE & 58771 & 11 & 8.96\% & 44.04\% & 28 & \#\#\#\#\#\#\#\# & TITAN INT & 79198 & 11 & 0.00\% & 82.66\% \\
\hline 14 & 14-Nov-08 & PEDIATRI: & 82272 & 11 & 7.24\% & 41.87\% & 28 & \#\#\#\#\#\#\#\# & GUSHAN I & 92485 & 31 & 23.28\% & 556.08\% \\
\hline 14 & 14-Nov-08 & HOSPIRA & 90110 & 11 & 6.43\% & 40.12\% & 28 & & A X A UAF & 83589 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & HOVNANIt & 65285 & 11 & 6.17\% & 41.44\% & 28 & \#\#\#\#\#\#\#\# & SCHERIN( & 25013 & 11 & 0.00\% & 83.26\% \\
\hline 14 & 14-Nov-08 & LIVE NATI & 91041 & 11 & 9.36\% & 44.60\% & 28 & \#\#\#\#\#\#\#\# & PAR PHAF & 61138 & 11 & 0.00\% & 80.00\% \\
\hline 14 & 14-Nov-08 & LYDALL II & 59774 & 11 & 7.04\% & 41.97\% & 28 & & ADVANTE & 89150 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CONTINET & 79641 & 11 & 0.12\% & 47.35\% & 28 & \#\#\#\#\#\#\#\# & STONE EI & 79444 & 11 & 0.00\% & 82.76\% \\
\hline 14 & 14-Nov-08 & BALLY TE & 38149 & 11 & 1.16\% & 45.52\% & 28 & \#\#\#\#\#\#\#\# & PARK ELE & 35107 & 11 & 0.00\% & 82.89\% \\
\hline 14 & 14-Nov-08 & C B S COF & 76226 & 11 & 2.20\% & 48.69\% & 28 & \#\#\#\#\#\#\#\# & OCWEN F & 84007 & 11 & 0.00\% & 83.96\% \\
\hline 14 & 14-Nov-08 & CHUBB C & 59192 & 11 & 1.28\% & 47.70\% & 28 & & RACKSPA & 92765 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & BOWNE \& & 47642 & 11 & 3.25\% & 46.45\% & 28 & \#\#\#\#\#\#\#\# & PINNACLE & 27991 & 11 & 0.00\% & 80.49\% \\
\hline 14 & 14-Nov-08 & ADMINIST & 84385 & 11 & 2.64\% & 45.46\% & 28 & \#\#\#\#\#\#\#\# & SOLUTIA I & 92505 & 11 & 0.00\% & 84.39\% \\
\hline 14 & 14-Nov-08 & AMERICAI & 66800 & 11 & 1.05\% & 48.11\% & 28 & \#\#\#\#\#\#\#\# & SYMMETF & 90515 & 11 & 0.00\% & 84.48\% \\
\hline 14 & 14-Nov-08 & AUTOZON & 76605 & 11 & 2.27\% & 46.59\% & 28 & \#\#\#\#\#\#\#\# & DIGITAL R & 90373 & 18 & 25.17\% & 142.74\% \\
\hline 14 & 14-Nov-08 & ALLEGHEI & 10137 & 11 & 2.26\% & 45.51\% & 28 & \#\#\#\#\#\#\#\# & SIMPSON & 80575 & 11 & 0.00\% & 83.70\% \\
\hline 14 & 14-Nov-08 & CIRCOR IT & 87268 & 12 & 2.78\% & 45.84\% & 28 & \#\#\#\#\#\#\#\# & SIEMENS & 88935 & 31 & 0.00\% & 82.28\% \\
\hline 14 & 14-Nov-08 & FIDELITY & 89003 & 11 & 3.45\% & 49.54\% & 28 & & ATMOS EI & 32986 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & ENSCO & 62519 & 11 & 0.92\% & 47.13\% & 28 & & ACORN IN & 91973 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & GREENBF & 80719 & 11 & 0.06\% & 46.03\% & 28 & \#\#\#\#\#\#\#\# & SMUCKEF & 42585 & 11 & 0.00\% & 84.14\% \\
\hline 14 & 14-Nov-08 & FEDERAL & 47706 & 11 & 3.43\% & 45.10\% & 28 & & SINOPEC & 79464 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & IT TEDU & 81128 & 11 & 1.49\% & 46.43\% & 28 & \#\#\#\#\#\#\#\# & COMPANF & 85602 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CATO COI & 11267 & 11 & 4.49\% & 45.75\% & 28 & \#\#\#\#\#\#\#\# & BURLING1 & 50227 & 11 & 17.22\% & 76.95\% \\
\hline 14 & 14-Nov-08 & CKERES & 47133 & 11 & 3.63\% & 48.89\% & 28 & & SHINHAN & 89854 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DAVITA IN & 82307 & 11 & 3.35\% & 46.05\% & 28 & \#\#\#\#\#\#\#\# & B J S WHC & 85232 & 11 & 10.13\% & 79.76\% \\
\hline 14 & 14-Nov-08 & DELTA AIF & 91926 & 11 & 0.51\% & 48.90\% & 28 & \#\#\#\#\#\#\#\# & SIFCO INL & 49138 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & ACE LTD I & 79057 & 12 & 0.09\% & 49.65\% & 28 & \#\#\#\#\#\#\#\# & MARTIN N & 80204 & 11 & 10.56\% & 78.92\% \\
\hline 14 & 14-Nov-08 & AVERY DE & 44601 & 11 & 0.00\% & 46.47\% & 28 & \#\#\#\#\#\#\#\# & CHENER & 22437 & 11 & 13.09\% & 78.69\% \\
\hline 14 & 14-Nov-08 & ARLINGTC & 90450 & 12 & 0.00\% & 47.66\% & 28 & \#\#\#\#\#\#\#\# & SENIOR H & 87289 & 48 & 19.57\% & 76.51\% \\
\hline 14 & 14-Nov-08 & CHICAGO & 84651 & 12 & 0.00\% & 49.72\% & 28 & & STARRET & 18438 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & BANCORF & 85789 & 11 & 0.00\% & 49.13\% & 28 & & SANTAND & 86398 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & ARROW E & 29209 & 11 & 0.00\% & 49.93\% & 28 & & SimCere & 91942 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DANA HOI & 92570 & 11 & 29.14\% & 43.00\% & 28 & & SAGA COI & 79033 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & COMSTOC & 11644 & 11 & 18.61\% & 43.88\% & 28 & \#\#\#\#\#\#\#\# & DOW CHE & 20626 & 11 & 38.21\% & 141.85\% \\
\hline 14 & 14-Nov-08 & ADVANCE & 90493 & 11 & 0.00\% & 46.33\% & 28 & & SEABOAR & 36281 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & UNITED R & 85663 & 11 & 29.76\% & 41.90\% & 28 & \#\#\#\#\#\#\#\# & ALLIED IR & 76493 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CABOT C & 46690 & 11 & 0.00\% & 46.12\% & 28 & \#\#\#\#11\%\#\# & SMITH \& 1 & 87444 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SIEMENS & 88935 & 31 & 0.00\% & 49.07\% & 28 & \#\#\#\#\#\#\#\# & SONOCO & 71176 & 11 & 0.00\% & 0.00\% \\
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\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & STURM RI & 73219 & 11 & 0.00\% & 47.38\% & 28 & \#\#\#\#\#\#\#\# & REYNOLD & 86946 & 11 & 37.33\% & 225.92\% \\
\hline 14 & 14-Nov-08 & WESCO IT & 86876 & 11 & 0.00\% & 49.36\% & 28 & & APOLLO \({ }^{\text {c }}\) & 89802 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & UNUM GR & 71175 & 11 & 0.00\% & 48.15\% & 28 & \#\#\#\#\#\#\#\# & SIMON PF & 80100 & 18 & 36.22\% & 103.46\% \\
\hline 14 & 14-Nov-08 & PUGET EI & 25443 & 11 & 0.00\% & 48.27\% & 28 & & STARTEK & 85077 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DIANA SH & 90630 & 12 & 0.00\% & 46.72\% & 28 & & SAPPI LTL & 86413 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DICE HOL & 92172 & 11 & 0.00\% & 46.40\% & 28 & \#\#\#\#\#\#\#\# & SHIP FINA & 90219 & 12 & 36.55\% & 134.75\% \\
\hline 14 & 14-Nov-08 & OWENS C & 91531 & 11 & 0.00\% & 48.10\% & 28 & \#\#\#\#\#\#\#\# & STERLITE & 92146 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & KKRFIN & 90760 & 11 & 0.00\% & 46.31\% & 28 & & CENTRAL & 90557 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & BELO COF & 65509 & 11 & 0.00\% & 41.43\% & 28 & & GRUPO SI & 79442 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & BLACK \& I & 20220 & 11 & 0.00\% & 44.61\% & 28 & \#\#\#\#\#\#\#\# & VISA INC & 92611 & 11 & 8.81\% & 77.12\% \\
\hline 14 & 14-Nov-08 & CONVERC & 86305 & 11 & 0.00\% & 40.34\% & 28 & \#\#\#\#\#\#\#\# & PHILIP MC & 92602 & 11 & 6.53\% & 75.64\% \\
\hline 14 & 14-Nov-08 & CABLEVIS & 68857 & 11 & 0.00\% & 44.37\% & 28 & & CANADIAT & 89507 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & AMPHENC & 84769 & 11 & 0.00\% & 43.60\% & 28 & & ARGAN IN & 64785 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & FOOT LOC & 15456 & 11 & 49.98\% & 37.30\% & 28 & & SIMS MET & 92609 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & AQUA AMI & 52898 & 11 & 31.10\% & 35.65\% & 28 & & REVLON I & 82859 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & WINNEBA & 51086 & 11 & 54.45\% & 38.15\% & 28 & & REGENEF & 90626 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SMUCKEF & 42585 & 11 & 48.77\% & 39.65\% & 28 & \#\#\#\#\#\#\#\# & AMCOL IN & 11599 & 11 & 0.00\% & 83.44\% \\
\hline 14 & 14-Nov-08 & EVERGRE & 80758 & 11 & 0.00\% & 40.16\% & 28 & & AMERICAI & 70818 & 18 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & RETAIL VE & 76673 & 11 & 0.00\% & 41.03\% & 28 & \#\#\#\#\#\#\#\# & POTLATC & 49744 & 18 & 50.60\% & 77.22\% \\
\hline 14 & 14-Nov-08 & RIO TINTC & 76221 & 31 & 0.00\% & 41.10\% & 28 & & TRANSOC & 79237 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SAFEWAY & 76149 & 11 & 0.00\% & 42.46\% & 28 & \#\#\#\#\#\#\#\# & PARK NAT & 76266 & 11 & 56.29\% & 77.01\% \\
\hline 14 & 14-Nov-08 & SAFEGUA & 46340 & 11 & 0.00\% & 41.12\% & 28 & \#\#\#\#\#\#\#\# & UNDER AF & 90979 & 11 & 53.67\% & 78.05\% \\
\hline 14 & 14-Nov-08 & REGAL EN & 89409 & 11 & 0.00\% & 44.26\% & 28 & \#\#\#\#\#\#\#\# & BROOKFIE & 89647 & 11 & 0.00\% & 83.97\% \\
\hline 14 & 14-Nov-08 & F B L FINA & 83720 & 11 & 0.00\% & 40.13\% & 28 & \#\#\#\#\#\#\#\# & AVISTA Cl & 24969 & 11 & 0.00\% & 82.83\% \\
\hline 14 & 14-Nov-08 & EVERCOF & 91413 & 11 & 0.00\% & 40.05\% & 28 & \#\#\#\#\#\#\#\# & BROWN S & 10866 & 11 & 0.00\% & 84.75\% \\
\hline 14 & 14-Nov-08 & INTERNAT & 45437 & 11 & 0.00\% & 44.87\% & 28 & & RUBICON & 90343 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & INGERSOI & 12431 & 12 & 0.00\% & 40.80\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 90780 & 11 & 0.00\% & 80.27\% \\
\hline 14 & 14-Nov-08 & EQUITY LI & 78947 & 18 & 30.29\% & 36.15\% & 28 & \#\#\#\#\#\#\#\# & AEGEAN P & 91655 & 12 & 0.00\% & 83.86\% \\
\hline 14 & 14-Nov-08 & FRONTIEF & 23887 & 11 & 14.69\% & 36.96\% & 28 & \#\#\#\#\#\#\#\# & AEROPOS & 89399 & 11 & 0.00\% & 84.58\% \\
\hline 14 & 14-Nov-08 & AMERICAI & 92614 & 11 & 14.11\% & 38.00\% & 28 & \#\#\#\#\#\#\#\# & DR REDD & 88957 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & IDEX COR & 75591 & 11 & 10.45\% & 35.76\% & 28 & \#\#\#\#\#\#\#\# & ALEXAND & 84767 & 18 & 27.48\% & 79.97\% \\
\hline 14 & 14-Nov-08 & HERSHA + & 86563 & 48 & 13.86\% & 36.58\% & 28 & \#\#\#\#\#\#\#\# & WELLS Ff & 38703 & 11 & 23.79\% & 78.55\% \\
\hline 14 & 14-Nov-08 & WEIGHT V & 89244 & 11 & 5.82\% & 37.15\% & 28 & \#\#\#\#\#\#\#\# & REED ELS & 81046 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & TRIUMPH & 84041 & 11 & 5.87\% & 39.77\% & 28 & & BANCO St & 84386 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & PALL COF & 35051 & 11 & 8.69\% & 37.97\% & 28 & & SAFE BUL & 92679 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & WASTE CI & 86097 & 11 & 8.10\% & 35.50\% & 28 & & ASSISTE[ & 81051 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & UNIVERS/ & 79637 & 11 & 7.82\% & 38.43\% & 28 & \#\#\#\#\#\#\#\# & VENTAS II & 75819 & 18 & 22.19\% & 75.70\% \\
\hline 14 & 14-Nov-08 & JABIL CIR & 79094 & 11 & 10.80\% & 36.42\% & 28 & \#\#\#\#\#\#\#\# & BANK OF & 89428 & 12 & 37.92\% & 196.36\% \\
\hline 14 & 14-Nov-08 & FEDERAL & 58413 & 48 & 19.55\% & 38.00\% & 28 & & AMREIT & 89458 & 18 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SAUL CEN & 79558 & 18 & 19.04\% & 37.32\% & 28 & & RED LION & 85939 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & STRATEG & 90217 & 18 & 32.13\% & 37.52\% & 28 & \#\#\#\#\#\#\#\# & ST JOE Cl & 76123 & 11 & 47.53\% & 77.67\% \\
\hline 14 & 14-Nov-08 & PIEDMON & 49971 & 11 & 17.95\% & 36.68\% & 28 & & REEDS JE & 10972 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & WAUSAU & 81702 & 11 & 11.36\% & 36.24\% & 28 & & INTERNAT & 91526 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & KNIGHT T & 80987 & 11 & 10.92\% & 37.60\% & 28 & & AMERICAI & 13769 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & KENNAME & 44134 & 11 & 14.95\% & 36.20\% & 28 & \#\#\#\#\#\#\#\# & HRPTPI & 70703 & 48 & 33.07\% & 75.28\% \\
\hline 14 & 14-Nov-08 & URSTADT & 86313 & 18 & 10.23\% & 39.58\% & 28 & & READY MI & 90846 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & M S C IND & 82777 & 11 & 10.74\% & 36.23\% & 28 & \#\#\#\#\#\#\#\# & DYNEGY I & 90352 & 11 & 0.00\% & 88.53\% \\
\hline 14 & 14-Nov-08 & NORTHWI & 58334 & 11 & 3.28\% & 40.45\% & 28 & \#\#\#\#\#\#\#\# & CANADIAT & 84181 & 12 & 0.00\% & 133.37\% \\
\hline 14 & 14-Nov-08 & NBTYIN & 56937 & 11 & 2.61\% & 43.78\% & 28 & \#\#\#\#\#\#\#\# & CMS ENE & 23229 & 11 & 0.00\% & 101.35\% \\
\hline 14 & 14-Nov-08 & PHILLIPS \({ }^{\text {' }}\) & 13936 & 11 & 0.22\% & 44.06\% & 28 & \#\#\#\#\#\#\#\# & CORTEX F & 75962 & 11 & 0.00\% & 844.70\% \\
\hline 14 & 14-Nov-08 & PRESTIGE & 90564 & 11 & 4.76\% & 44.98\% & 28 & \#\#\#\#\#\#\#\# & CANARGC & 81561 & 11 & 0.00\% & 547.13\% \\
\hline 14 & 14-Nov-08 & NEWFIELI & 79915 & 11 & 0.37\% & 41.34\% & 28 & \#\#\#\#\#\#\#\# & DOUGLAS & 91519 & 18 & 0.34\% & 111.04\% \\
\hline 14 & 14-Nov-08 & LOCKHEE & 21178 & 11 & 0.31\% & 41.82\% & 28 & & GPUINC & 22541 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & LUMBER L & 92400 & 11 & 1.76\% & 44.24\% & 28 & \#\#\#\#\#\#\#\# & COMPELL & 92330 & 11 & 0.00\% & 152.13\% \\
\hline 14 & 14-Nov-08 & MOBILE T & 88309 & 31 & 4.66\% & 44.45\% & 28 & \#\#\#\#\#\#\#\# & CORUS EI & 88211 & 12 & 0.00\% & 2853.19\% \\
\hline 14 & 14-Nov-08 & LUXOTTIC & 75937 & 31 & 0.14\% & 42.34\% & 28 & \#\#\#\#\#\#\#\# & CENVEO I & 82266 & 11 & 0.00\% & 106.45\% \\
\hline 14 & 14-Nov-08 & RELIANCE & 80864 & 11 & 3.02\% & 41.76\% & 28 & \#\#\#\#\#\#\#\# & CEL SCIC & 44813 & 11 & 0.00\% & 121.90\% \\
\hline 14 & 14-Nov-08 & TEXAS IN: & 15579 & 11 & 0.92\% & 44.18\% & 28 & \#\#\#\#\#\#\#\# & DILLARDS & 49429 & 11 & 0.00\% & 123.47\% \\
\hline 14 & 14-Nov-08 & TWEEN BI & 87149 & 11 & 1.73\% & 43.61\% & 28 & \#\#\#\#\#\#\#\# & DOMINION & 64936 & 11 & 0.00\% & 102.52\% \\
\hline 14 & 14-Nov-08 & VENOCO I & 91598 & 11 & 4.22\% & 42.63\% & 28 & \#\#\#\#\#\#\#\# & COTT COF & 78763 & 12 & 0.00\% & 191.97\% \\
\hline 14 & 14-Nov-08 & VALSPAR & 37807 & 11 & 1.32\% & 44.71\% & 28 & & ENTREE C & 90781 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & TOYOTA & 76655 & 31 & 0.28\% & 44.64\% & 28 & \#\#\#\#\#\#\#\# & CHARLES & 88281 & 11 & 0.00\% & 215.11\% \\
\hline 14 & 14-Nov-08 & SONY COI & 51131 & 30 & 0.21\% & 41.98\% & 28 & \#\#\#\#\#\#\#\# & COMPLET & 91195 & 11 & 0.00\% & 101.88\% \\
\hline 14 & 14-Nov-08 & RUBY TUE & 55213 & 11 & 4.65\% & 40.01\% & 28 & \#\#\#\#\#\#\#\# & BRISTOL I & 19393 & 11 & 0.00\% & 447.29\% \\
\hline 14 & 14-Nov-08 & TRANSDIC & 91152 & 11 & 3.67\% & 44.60\% & 28 & \#\#\#\#\#\#\#\# & DISCOVEF & 92121 & 11 & 0.74\% & 111.68\% \\
\hline 14 & 14-Nov-08 & SYNNEX C & 89900 & 11 & 4.95\% & 42.84\% & 28 & \#\#\#\#\#\#\#\# & OILSANDS & 91411 & 12 & 0.00\% & 128.40\% \\
\hline 14 & 14-Nov-08 & HUMANA I & 48653 & 11 & 4.91\% & 44.90\% & 28 & \#\#\#\#\#\#\#\# & B P Z RES & 84553 & 11 & 0.00\% & 144.01\% \\
\hline 14 & 14-Nov-08 & AMERICAI & 71475 & 11 & 4.53\% & 43.74\% & 28 & \#\#\#\#\#\#\#\# & BLACK HII & 61946 & 11 & 0.00\% & 109.39\% \\
\hline 14 & 14-Nov-08 & ALLETE II & 24248 & 11 & 1.07\% & 43.49\% & 28 & \#\#\#\#\#\#\#\# & GENERAL & 84776 & 11 & 0.00\% & 133.72\% \\
\hline 14 & 14-Nov-08 & B \& G FOC & 91977 & 11 & 3.47\% & 40.65\% & 28 & \#\#\#\#\#\#\#\# & BANCO M. & 91133 & 31 & 0.00\% & 137.94\% \\
\hline 14 & 14-Nov-08 & BOEING C & 19561 & 11 & 1.65\% & 44.01\% & 28 & & GREENHL & 92535 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & ASTORIA & 79796 & 11 & 2.94\% & 42.10\% & 28 & \#\#\#\#\#\#\#\# & CAMEROP & 81857 & 11 & 0.00\% & 104.70\% \\
\hline 14 & 14-Nov-08 & UNILEVEF & 28310 & 12 & 0.00\% & 44.17\% & 28 & \#\#\#\#\#\#\#\# & CABELAS & 90200 & 11 & 0.00\% & 113.50\% \\
\hline 14 & 14-Nov-08 & TRIMAS C & 92029 & 11 & 0.00\% & 43.39\% & 28 & & G P STRA & 58501 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & A C C O B & 90825 & 11 & 2.81\% & 44.79\% & 28 & \#\#\#\#\#\#\#\# & CHUNGHV & 89778 & 31 & 0.00\% & 151.32\% \\
\hline 14 & 14-Nov-08 & WELLPOII & 89179 & 11 & 0.00\% & 44.63\% & 28 & \#\#\#\#\#\#\#\# & BIOVAIL C & 80307 & 12 & 0.00\% & 219.40\% \\
\hline 14 & 14-Nov-08 & C F INDUS & 90829 & 11 & 2.28\% & 43.72\% & 28 & \#\#\#\#\#\#\#\# & MINRAD If & 90996 & 11 & 0.00\% & 105.70\% \\
\hline 14 & 14-Nov-08 & FRESH DE & 85449 & 12 & 2.23\% & 41.18\% & 28 & \#\#\#\#\#\#\#\# & BOISE INC & 92105 & 11 & 0.00\% & 116.08\% \\
\hline 14 & 14-Nov-08 & ENERGY F & 88817 & 11 & 1.36\% & 43.08\% & 28 & \#\#\#\#\#\#\#\# & BRUSH EI & 55597 & 11 & 0.00\% & 114.16\% \\
\hline 14 & 14-Nov-08 & GRAFTEC & 81925 & 11 & 0.90\% & 43.20\% & 28 & & CORRIEN & 91196 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & FOREST C & 37234 & 11 & 0.30\% & 40.02\% & 28 & & EMRISE C & 86319 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DOMINOS & 90248 & 11 & 4.71\% & 43.41\% & 28 & \#\#\#\#\#\#\#\# & NICOR INC & 48274 & 11 & 0.00\% & 105.04\% \\
\hline 14 & 14-Nov-08 & CARBO Cl & 83366 & 11 & 2.96\% & 41.76\% & 28 & & ENDEAVC & 91689 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CUMMINS & 41080 & 11 & 0.07\% & 40.13\% & 28 & & EMPRESA & 80717 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CALIFORA & 20750 & 11 & 2.09\% & 43.93\% & 28 & & GENERAL & 66923 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & COMPUTE & 40125 & 11 & 2.18\% & 40.72\% & 28 & \#\#\#\#\#\#\#\# & FRONTEE & 90757 & 12 & 0.00\% & 291.35\% \\
\hline 14 & 14-Nov-08 & GOODRIC & 57509 & 11 & 2.90\% & 52.41\% & 28 & \#\#\#\#\#\#\#\# & SEACOR & 78137 & 11 & 1.44\% & 142.49\% \\
\hline 14 & 14-Nov-08 & NICOR INC & 48274 & 11 & 1.18\% & 52.32\% & 28 & & FITCHBUF & 58587 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & PETROHA & 87054 & 11 & 3.59\% & 51.27\% & 28 & & FAIRFAX F & 89627 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & GENCORF & 20765 & 11 & 2.06\% & 54.43\% & 28 & \#\#\#\#\#\#\#\# & GEOGLOE & 90163 & 11 & 0.00\% & 111.81\% \\
\hline 14 & 14-Nov-08 & ENTERGY & 24010 & 11 & 2.06\% & 51.93\% & 28 & \#\#\#\#\#\#\#\# & ANADARK & 70332 & 11 & 2.93\% & 122.28\% \\
\hline 14 & 14-Nov-08 & DOLLAR T & 85647 & 11 & 3.80\% & 50.51\% & 28 & \#\#\#\#\#\#\#\# & GRUBB \& & 62885 & 11 & 0.00\% & 122.96\% \\
\hline 14 & 14-Nov-08 & CEmEX S & 87204 & 31 & 3.93\% & 54.97\% & 28 & & GENERAL & 89018 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & ENERSYS & 90249 & 11 & 1.82\% & 50.02\% & 28 & \#\#\#\#\#\#\#\# & B CEINC & 29647 & 12 & 0.96\% & 145.15\% \\
\hline 14 & 14-Nov-08 & CAL DIVE & 91630 & 11 & 0.96\% & 54.84\% & 28 & & FRANKLIN & 77637 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14- & ILLINOIS 7 & 56573 & 11 & 4.43\% & 53.14\% & 28 & \#\#\#\#\#\#\#\# & DAIMLER & 86381 & 12 & 1.33\% & 430.75\% \\
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & GATXCI & 12036 & 11 & 0.07\% & 49.12\% & 28 & \#\#\#\#\#11\% & METALICC & 90614 & 11 & 0.00\% & 109.37\% \\
\hline 14 & 14-Nov-08 & M I HOME: & 79909 & 11 & 0.81\% & 45.57\% & 28 & \#\#\#\#\#\#\#\# & M D S INC & 87841 & 12 & 0.00\% & 521.08\% \\
\hline 14 & 14-Nov-08 & PACTIV CI & 87292 & 11 & 4.98\% & 47.82\% & 28 & \#\#\#\#\#\#\#\# & MONEYGF & 90213 & 11 & 0.00\% & 178.44\% \\
\hline 14 & 14-Nov-08 & PANHAND & 77236 & 11 & 4.82\% & 45.17\% & 28 & \#\#\#\#\#\#\#\# & TIM HORT & 91151 & 12 & 0.00\% & 107.96\% \\
\hline 14 & 14-Nov-08 & RADIOSH/ & 15560 & 11 & 2.83\% & 45.56\% & 28 & \#\#\#\#\#\#\#\# & LIFE TIME & 90210 & 11 & 0.00\% & 117.82\% \\
\hline 14 & 14-Nov-08 & POLO RAL & 85072 & 11 & 0.88\% & 48.48\% & 28 & \#\#\#\#\#\#\#\# & LSICORI & 48267 & 11 & 0.00\% & 140.77\% \\
\hline 14 & 14-Nov-08 & 3PAR INC & 92424 & 11 & 3.79\% & 46.00\% & 28 & \#\#\#\#\#\#\#\# & LLOYDS T & 89238 & 31 & 0.00\% & 1720.11\% \\
\hline 14 & 14-Nov-08 & MENS WE & 77516 & 11 & 0.77\% & 47.49\% & 28 & & GLOBAL F & 88987 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & M P S GRi & 80797 & 11 & 4.64\% & 48.05\% & 28 & \#\#\#\#\#\#\#\# & MICRON \(T\) & 53613 & 11 & 0.00\% & 106.49\% \\
\hline 14 & 14-Nov-08 & OCEANEE & 58975 & 11 & 3.76\% & 45.43\% & 28 & \#\#\#\#\#\#\#\# & MONTPEL & 89557 & 12 & 0.00\% & 113.25\% \\
\hline 14 & 14-Nov-08 & NOBLE EN & 61815 & 11 & 1.83\% & 49.15\% & 28 & \#\#\#\#\#\#\#\# & NORTHEF & 90443 & 12 & 0.00\% & 468.88\% \\
\hline 14 & 14-Nov-08 & GERBER & 47888 & 11 & 22.44\% & 48.58\% & 28 & \#\#\#\#\#\#\#\# & TELECOM & 81133 & 31 & 0.00\% & 193.87\% \\
\hline 14 & 14-Nov-08 & BARRICK & 71298 & 12 & 21.57\% & 45.73\% & 28 & \#\#\#\#\#\#\#\# & MCGRAW & 17478 & 11 & 0.00\% & 134.82\% \\
\hline 14 & 14-Nov-08 & HIGHWOC & 80688 & 18 & 29.04\% & 49.38\% & 28 & \#\#\#\#\#\#\#\# & MINES MA & 90069 & 11 & 0.00\% & 642.27\% \\
\hline 14 & 14-Nov-08 & ENTERTA & 85604 & 48 & 26.17\% & 47.70\% & 28 & \#\#\#\#\#\#\#\# & MODINE l & 54704 & 11 & 0.00\% & 103.79\% \\
\hline 14 & 14-Nov-08 & SERVICE & 51625 & 11 & 17.33\% & 46.00\% & 28 & \#\#\#\#\#\#\#\# & METALLIN & 91581 & 12 & 0.00\% & 502.68\% \\
\hline 14 & 14-Nov-08 & NEW YOR & 79859 & 11 & 16.52\% & 49.99\% & 28 & \#\#\#\#\#\#\#\# & ROSTELE & 85793 & 31 & 0.00\% & 134.44\% \\
\hline 14 & 14-Nov-08 & NATIONAL & 77057 & 18 & 16.37\% & 46.45\% & 28 & \#\#\#\#\#\#\#\# & REPSOL & 75632 & 31 & 0.00\% & 911.31\% \\
\hline 14 & 14-Nov-08 & PROCTER & 18163 & 11 & 18.37\% & 45.16\% & 28 & \#\#\#\#\#\#\#\# & COMPANF & 89403 & 31 & 0.00\% & 148.78\% \\
\hline 14 & 14-Nov-08 & OLD REPL & 59396 & 11 & 15.34\% & 48.77\% & 28 & \#\#\#\#\#\#\#\# & SAPAG & 89382 & 31 & 0.00\% & 211.12\% \\
\hline 14 & 14-Nov-08 & CARTERS & 89876 & 11 & 32.08\% & 46.94\% & 28 & \#\#\#\#\#\#\#\# & RITE AID ( & 46922 & 11 & 0.00\% & 237.91\% \\
\hline 14 & 14-Nov-08 & BLOUNT II & 65154 & 11 & 0.00\% & 53.22\% & 28 & & GREAT B/ & 78741 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & BARNES \& & 79667 & 11 & 0.00\% & 54.44\% & 28 & & GIANT INT & 92393 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DOVER M & 84026 & 11 & 0.00\% & 52.22\% & 28 & \#\#\#\#\#\#\#\# & RAE SYST & 89815 & 11 & 0.00\% & 264.40\% \\
\hline 14 & 14-Nov-08 & COMMSC & 85231 & 11 & 0.00\% & 54.81\% & 28 & \#\#\#\#\#\#\#\# & RENESOL & 92543 & 31 & 0.00\% & 160.97\% \\
\hline 14 & 14-Nov-08 & BUCKEYE & 82635 & 11 & 0.00\% & 51.83\% & 28 & & GENPACT & 92261 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & TRW AU & 90052 & 11 & 31.26\% & 45.08\% & 28 & \#\#\#\#\#\#\#\# & SOVEREI & 10562 & 11 & 0.00\% & 204.77\% \\
\hline 14 & 14-Nov-08 & OMEGA H & 77857 & 18 & 31.66\% & 45.21\% & 28 & \#\#\#\#\#\#\#\# & SUPERIOF & 77763 & 11 & 0.00\% & 128.94\% \\
\hline 14 & 14-Nov-08 & ANWORT & 85897 & 18 & 0.00\% & 50.91\% & 28 & \#\#\#\#\#\#\#\# & STONERII & 85440 & 11 & 0.00\% & 108.21\% \\
\hline 14 & 14-Nov-08 & FELCORL & 80747 & 18 & 39.77\% & 49.43\% & 28 & \#\#\#\#\#\#\#\# & STEELCA: & 85796 & 11 & 0.00\% & 136.66\% \\
\hline 14 & 14-Nov-08 & MARCUS 1 & 51423 & 11 & 15.36\% & 46.09\% & 28 & \#\#\#\#\#\#\#\# & SOUTHER & 18411 & 11 & 0.00\% & 108.54\% \\
\hline 14 & 14-Nov-08 & FIRSTFED & 75162 & 11 & 11.02\% & 47.01\% & 28 & \#\#\#\#\#\#\#\# & SIGNET Ji & 12076 & 12 & 0.00\% & 161.13\% \\
\hline 14 & 14-Nov-08 & AMRCOI & 21020 & 11 & 10.88\% & 45.83\% & 28 & \#\#\#\#\#\#\#\# & PHHCOF & 90531 & 11 & 0.00\% & 142.15\% \\
\hline 14 & 14-Nov-08 & MEADOW & 82644 & 11 & 12.44\% & 45.22\% & 28 & \#\#\#\#\#\#\#\# & PETRO C & 82232 & 12 & 0.00\% & 131.58\% \\
\hline 14 & 14-Nov-08 & COLE KEN & 80679 & 11 & 14.52\% & 45.38\% & 28 & \#\#\#\#\#\#\#\# & POLYMET & 91306 & 12 & 0.00\% & 204.35\% \\
\hline 14 & 14-Nov-08 & VALIDUS 1 & 92191 & 12 & 5.69\% & 45.37\% & 28 & \#\#\#\#\#\#\#\# & PHILIPPIN & 81043 & 31 & 0.00\% & 567.78\% \\
\hline 14 & 14-Nov-08 & STANLEY & 43350 & 11 & 8.54\% & 47.61\% & 28 & \#\#\#\#\#\#\#\# & VERIFONE & 90657 & 11 & 0.00\% & 148.28\% \\
\hline 14 & 14-Nov-08 & TANGER F & 79238 & 18 & 6.24\% & 46.50\% & 28 & \#\#\#\#\#\#\#\# & NORTH AI & 79853 & 12 & 0.00\% & 268.65\% \\
\hline 14 & 14-Nov-08 & U S G COf & 79244 & 11 & 5.00\% & 45.85\% & 28 & \#\#\#\#\#\#\#\# & P G \& E C & 13688 & 11 & 0.00\% & 103.27\% \\
\hline 14 & 14-Nov-08 & SOUTHWE & 63765 & 11 & 6.31\% & 48.46\% & 28 & & GEICO & 62236 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & POLYONE & 88597 & 11 & 13.48\% & 49.76\% & 28 & \#\#\#\#\#\#\#\# & QWEST C & 85032 & 11 & 0.00\% & 484.23\% \\
\hline 14 & 14-Nov-08 & GLIMCHEF & 80180 & 48 & 18.65\% & 47.09\% & 28 & \#\#\#\#\#\#\#\# & PIONEER & 75241 & 11 & 0.00\% & 135.09\% \\
\hline 14 & 14-Nov-08 & TREDEGA & 75649 & 11 & 10.08\% & 45.01\% & 28 & \#\#\#\#\#\#\#\# & QIMONDA & 91420 & 31 & 0.00\% & 335.73\% \\
\hline 14 & 14-Nov-08 & LACLEDE & 12781 & 11 & 15.31\% & 46.71\% & 28 & \#\#\#\#\#\#\#\# & STANTEC & 90850 & 12 & 0.00\% & 420.94\% \\
\hline 14 & 14-Nov-08 & LAZARD L & 90701 & 12 & 17.00\% & 49.17\% & 28 & \#\#\#\#\#\#\#\# & THOMPSC & 92423 & 11 & 0.00\% & 287.75\% \\
\hline 14 & 14-Nov-08 & TERADYN & 51369 & 11 & 11.99\% & 45.66\% & 28 & \#\#\#\#\#\#\#\# & PMIGRC & 81530 & 11 & 0.00\% & 123.06\% \\
\hline 14 & 14-Nov-08 & RAYTHEO & 24942 & 11 & 10.15\% & 49.35\% & 28 & \#\#\#\#\#\#\#\# & PP GIND & 22509 & 11 & 0.00\% & 155.56\% \\
\hline 14 & 14-Nov-08 & RISKMETF & 92544 & 11 & 12.73\% & 45.10\% & 28 & \#\#\#\#\#\#\#\# & PHOENIX & 89008 & 11 & 0.00\% & 106.62\% \\
\hline 14 & 14-Nov-08 & SENSIENT & 59619 & 11 & 10.63\% & 46.01\% & 28 & \#\#\#\#\#\#\#\# & VIACOM II & 91066 & 11 & 0.00\% & 245.34\% \\
\hline 14 & 14-Nov-08 & SEALED \(A\) & 85926 & 11 & 10.88\% & 47.14\% & 28 & \#\#\#\#\#\#\#\# & HOLLY CC & 32803 & 11 & 0.00\% & 107.14\% \\
\hline 14 & 14-Nov-08 & HRPTPI & 70703 & 48 & 17.15\% & 95.23\% & 28 & \#\#\#\#\#\#\#\# & VISTA GO & 69446 & 11 & 0.00\% & 172.88\% \\
\hline 14 & 14-Nov-08 & TOOTSIE & 14816 & 11 & 14.18\% & 97.77\% & 28 & \#\#\#\#\#\#\#\# & HATTERA & 92620 & 18 & 0.00\% & 106.42\% \\
\hline 14 & 14-Nov-08 & CAMDEN I & 79452 & 48 & 22.93\% & 99.23\% & 28 & \#\#\#\#\#\#\#\# & FRANCE 1 & 85425 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & MEDIA GE & 50972 & 11 & 15.99\% & 99.46\% & 28 & \#\#\#\#\#\#\#\# & WESTPAC & 75466 & 31 & 0.00\% & \#\#\#\#\#\#\#\# \\
\hline 14 & 14-Nov-08 & THOR IND & 76081 & 11 & 10.94\% & 97.47\% & 28 & \#\#\#\#\#\#\#\# & HARTFOR & 82775 & 11 & 0.00\% & 108.04\% \\
\hline 14 & 14-Nov-08 & JANUS CA & 88313 & 11 & 11.50\% & 99.25\% & 28 & \#\#\#\#\#\#\#\# & WACHOVI & 36469 & 11 & 0.00\% & 132.02\% \\
\hline 14 & 14-Nov-08 & JEFFERIE & 86804 & 11 & 10.49\% & 95.63\% & 28 & \#\#\#\#\#\#\#\# & URANERZ & 91422 & 11 & 0.00\% & 113.17\% \\
\hline 14 & 14-Nov-08 & SWIFT EN & 66739 & 11 & 14.74\% & 97.56\% & 28 & \#\#\#\#\#\#\#\# & HEARST F & 85374 & 11 & 0.00\% & 120.84\% \\
\hline 14 & 14-Nov-08 & KINROSS & 89692 & 12 & 14.22\% & 96.41\% & 28 & \#\#\#\#\#\#\#\# & UNITED M & 88612 & 31 & 0.00\% & 117.34\% \\
\hline 14 & 14-Nov-08 & EXXON M & 11850 & 11 & 22.14\% & 98.77\% & 28 & \#\#\#\#\#\#\#\# & UNISOURI & 48389 & 11 & 0.00\% & 103.07\% \\
\hline 14 & 14-Nov-08 & GENERAL & 84776 & 11 & 0.00\% & 126.28\% & 28 & & WINTHRO & 50614 & 48 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & ALLIS CH/ & 90335 & 11 & 0.00\% & 173.69\% & 28 & \#\#\#\#\#\#\#\# & G L G PAF & 91690 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & COMPX IN & 85903 & 11 & 0.00\% & 105.00\% & 28 & \#\#\#\#\#\#\#\# & USECIN & 86233 & 11 & 0.00\% & 117.99\% \\
\hline 14 & 14-Nov-08 & BANCO M. & 91133 & 31 & 0.00\% & 130.07\% & 28 & \#\#\#\#\#\#\#\# & U S GOLD & 70704 & 11 & 0.00\% & 569.23\% \\
\hline 14 & 14-Nov-08 & AUTOLIV I & 84656 & 12 & 0.00\% & 127.65\% & 28 & \#\#\#\#\#\#\#\# & GOLD RE: & 39256 & 12 & 0.00\% & 191.59\% \\
\hline 14 & 14-Nov-08 & MACERICI & 80399 & 18 & 48.15\% & 97.63\% & 28 & \#\#\#\#\#\#\#\# & GAMMON & 89845 & 12 & 0.00\% & 143.37\% \\
\hline 14 & 14-Nov-08 & ISTAR FIN & 75846 & 18 & 42.67\% & 99.14\% & 28 & & GRUMA S & 86402 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & FEDERAL & 80169 & 11 & 0.00\% & 104.75\% & 28 & \#\#\#\#\#\#\#\# & AGRIUM II & 81598 & 12 & 2.04\% & 237.01\% \\
\hline 14 & 14-Nov-08 & K12 INC & 92493 & 11 & 68.76\% & 96.14\% & 28 & \#\#\#\#\#\#\#\# & GENERAL & 91418 & 11 & 0.00\% & 105.64\% \\
\hline 14 & 14-Nov-08 & AMERICAI & 59176 & 11 & 13.69\% & 96.11\% & 28 & \#\#\#\#\#\#\#\# & GILDAN A & 86121 & 12 & 0.00\% & 167.02\% \\
\hline 14 & 14-Nov-08 & EMERGEN & 91045 & 11 & 172.65\% & 94.03\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 86111 & 11 & 0.71\% & 102.62\% \\
\hline 14 & 14-Nov-08 & THOMPSC & 92423 & 11 & 61.72\% & 92.19\% & 28 & \#\#\#\#\#\#\#\# & FRESENIL & 83987 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & LANDRYS & 79502 & 11 & 0.00\% & 98.37\% & 28 & \#\#\#\#\#\#\#\# & HEMISPHI & 83762 & 11 & 0.00\% & 325.45\% \\
\hline 14 & 14-Nov-08 & BOISE INC & 92105 & 11 & 0.00\% & 97.12\% & 28 & \#\#\#\#\#\#\#\# & HYPERDY & 90687 & 11 & 0.00\% & 346.41\% \\
\hline 14 & 14-Nov-08 & INLAND R1 & 90208 & 18 & 55.15\% & 90.49\% & 28 & & CLOUGH 1 & 91194 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & EQUITY R & 79547 & 48 & 37.35\% & 93.58\% & 28 & & FINANCIAI & 46084 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & U S TINC & 15077 & 11 & 30.47\% & 92.23\% & 28 & \#\#\#\#\#\#\#\# & ACCENTU & 89071 & 12 & 1.94\% & 109.11\% \\
\hline 14 & 14-Nov-08 & HEALTHS & 10693 & 11 & 48.54\% & 92.38\% & 28 & \#\#\#\#\#\#\#\# & GENERAL & 92332 & 11 & 0.00\% & 131.50\% \\
\hline 14 & 14-Nov-08 & PLUM CRE & 75592 & 18 & 37.97\% & 92.86\% & 28 & \#\#\#\#\#\#\#\# & GREAT PL & 24432 & 11 & 0.00\% & 103.75\% \\
\hline 14 & 14-Nov-08 & TRANSPO & 81067 & 31 & 0.00\% & 96.06\% & 28 & \#\#\#\#\#\#\#\#\# & XINYUAN & 92517 & 31 & 0.00\% & 255.41\% \\
\hline 14 & 14-Nov-08 & CAPITAL 1 & 62156 & 48 & 9.18\% & 98.86\% & 28 & \#\#\#\#\#\#\#\# & TOOTSIE & 14816 & 11 & 0.00\% & 109.48\% \\
\hline 14 & 14-Nov-08 & TEMPLE II & 66114 & 11 & 1.93\% & 99.62\% & 28 & \#\#\#\#\#\#\#\# & JAGUAR^ & 92178 & 12 & 0.00\% & 364.45\% \\
\hline 14 & 14-Nov-08 & TEXAS INI & 40694 & 11 & 6.99\% & 97.46\% & 28 & \#\#\#\#\#\#\#\# & JOHNSON & 42534 & 11 & 0.00\% & 146.04\% \\
\hline 14 & 14-Nov-08 & ESSEXPF & 80681 & 18 & 9.49\% & 97.34\% & 28 & \#\#\#\#\#\#\#\#\# & TELKONE & 90054 & 11 & 0.00\% & 128.61\% \\
\hline 14 & 14-Nov-08 & PETROQL & 78186 & 11 & 2.93\% & 99.90\% & 28 & \#\#\#\#\#\#\#\# & TANZANIP & 90695 & 12 & 0.00\% & 141.98\% \\
\hline 14 & 14-Nov-08 & CLOROX & 46578 & 11 & 2.86\% & 99.24\% & 28 & \#\#\#\#\#\#\#\# & TRINA SO & 91653 & 31 & 0.00\% & 125.09\% \\
\hline 14 & 14-Nov-08 & CAMECO & 83188 & 12 & 0.07\% & 97.31\% & 28 & \#\#\#\#\#\#\#\# & IVANHOE & 89911 & 12 & 0.00\% & 256.72\% \\
\hline 14 & 14-Nov-08 & F M C TEC & 89004 & 11 & 2.73\% & 98.41\% & 28 & \#\#\#\#\#\#\#\# & IRSAIN & 81127 & 31 & 0.00\% & 262.63\% \\
\hline 14 & 14-Nov-08 & CENVEO I & 82266 & 11 & 3.61\% & 95.83\% & 28 & \#\#\#\#\#\#\#\# & KODIAK O & 91303 & 12 & 0.00\% & 124.89\% \\
\hline 14 & 14-Nov-08 & TELUS CC & 88658 & 12 & 0.00\% & 794.38\% & 28 & \#\#\#\#\#\#\#\# & KING PHA & 86176 & 11 & 0.00\% & 256.25\% \\
\hline 14 & 14-Nov-08 & SOVEREIC & 10562 & 11 & 0.00\% & 251.34\% & 28 & \#\#\#\#\#\#\#\# & LUNDIN M & 91580 & 12 & 0.00\% & 307.51\% \\
\hline 14 & 14-Nov-08 & VARIAN M & 27043 & 11 & 0.00\% & 101.43\% & 28 & \#\#\#\#\#\#\#\# & CRYSTALI & 85061 & 12 & 0.00\% & 469.11\% \\
\hline 14 & 14-Nov-08 & UBSAG & 88239 & 12 & 0.00\% & 159.64\% & 28 & \#\#\#\#\#\#\#\# & JACKSON & 90209 & 11 & 0.00\% & 107.14\% \\
\hline 14 & 14-Nov-08 & RENESOL & 92543 & 31 & 0.00\% & 199.30\% & 28 & \#\#\#\#\#\#\#\# & JANUS CA & 88313 & 11 & 0.00\% & 115.86\% \\
\hline 14 & 14-Nov-08 & RITE AID ( & 46922 & 11 & 0.00\% & 183.17\% & 28 & \#\#\#\#\#1\%"\# & KINGSWA & 89063 & 12 & 0.00\% & 264.69\% \\
\hline 14 & 14-Nov-08 & QIMONDA & 91420 & 31 & 0.00\% & 183.97\% & 28 & \#\#\#\#\#\#\#\# & KINETIC C & 90044 & 11 & 0.00\% & 107.84\% \\
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\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & MAGUIRE & 89768 & 18 & 35.07\% & 88.38\% & 28 & \#\#\#\#\#\#\#\# & HONEYWI & 10145 & 11 & 0.00\% & 85.82\% \\
\hline 14 & 14-Nov-08 & WEINGAR & 68187 & 48 & 31.57\% & 86.76\% & 28 & \#\#\#\#\#\#\#\# & HAWAIIA & 41187 & 11 & 0.00\% & 89.44\% \\
\hline 14 & 14-Nov-08 & ANTHRAC & 85896 & 18 & 0.00\% & 90.09\% & 28 & \#\#\#\#\#\#\#\# & IOWA TEL & 90438 & 11 & 0.00\% & 89.22\% \\
\hline 14 & 14-Nov-08 & DEVELOP & 78927 & 18 & 59.98\% & 89.88\% & 28 & \#\#\#\#\#\#\#\# & INTEROIL & 90339 & 12 & 0.00\% & 85.38\% \\
\hline 14 & 14-Nov-08 & ASSURAN & 90038 & 11 & 1.03\% & 92.20\% & 28 & \#\#\#\#\#\#\#\# & FOUNDAT & 90501 & 11 & 0.00\% & 87.12\% \\
\hline 14 & 14-Nov-08 & LA Z BOY & 48347 & 11 & 1.27\% & 93.35\% & 28 & \#\#\#\#\#\#\#\# & ELIXIR GA & 90176 & 11 & 0.00\% & 88.40\% \\
\hline 14 & 14-Nov-08 & LSICORI & 48267 & 11 & 0.95\% & 92.12\% & 28 & \#\#\#\#\#\#\#\# & GAYLORD & 85426 & 11 & 0.00\% & 89.44\% \\
\hline 14 & 14-Nov-08 & PMIGRC & 81530 & 11 & 0.38\% & 94.11\% & 28 & \#\#\#\#\#\#\#\# & FLOTEK If & 90783 & 11 & 0.00\% & 87.62\% \\
\hline 14 & 14-Nov-08 & NOVARTIS & 88233 & 31 & 1.81\% & 93.62\% & 28 & \#\#\#\#\#\#\#\# & MGICIN & 76804 & 11 & 0.00\% & 86.74\% \\
\hline 14 & 14-Nov-08 & HERTZ GL & 91575 & 11 & 4.87\% & 90.07\% & 28 & \#\#\#\#\#\#\#\# & MET PRO & 60548 & 11 & 0.00\% & 86.20\% \\
\hline 14 & 14-Nov-08 & A Z Z INC & 16126 & 11 & 1.25\% & 92.22\% & 28 & \#\#\#\#\#\#\#\# & OWENS \& & 60186 & 11 & 0.00\% & 88.12\% \\
\hline 14 & 14-Nov-08 & ALLIANT 7 & 76477 & 11 & 0.61\% & 92.71\% & 28 & \#\#\#\#\#\#\#\# & NATCO GI & 87539 & 11 & 0.00\% & 88.97\% \\
\hline 14 & 14-Nov-08 & GULFMAR & 84808 & 11 & 1.18\% & 93.08\% & 28 & \#\#\#\#\#\#\#\# & LEAR COF & 80422 & 11 & 0.00\% & 87.61\% \\
\hline 14 & 14-Nov-08 & COVANCE & 84364 & 11 & 0.04\% & 93.23\% & 28 & \#\#\#\#\#\#\#\# & JAVELIN F & 91382 & 11 & 0.00\% & 88.81\% \\
\hline 14 & 14-Nov-08 & TECOEI & 37161 & 11 & 11.57\% & 462.19\% & 28 & \#\#\#\#\#\#\#\# & CONTANG & 88871 & 11 & 0.00\% & 88.37\% \\
\hline 14 & 14-Nov-08 & NOKIA CO & 87128 & 31 & 10.50\% & 147.91\% & 28 & & C G G VEF & 84772 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & TESORO ( & 37284 & 11 & 12.49\% & 114.39\% & 28 & \#\#\#\#\#\#\#\# & FINANCIAI & 77628 & 11 & 0.37\% & 88.49\% \\
\hline 14 & 14-Nov-08 & TIM HORT & 91151 & 12 & 12.05\% & 106.76\% & 28 & \#\#\#\#\#\#\#\# & CYPRESS & 10302 & 11 & 1.99\% & 86.90\% \\
\hline 14 & 14-Nov-08 & MODINE & 54704 & 11 & 14.31\% & 111.42\% & 28 & \#\#\#\#\#\#\#\# & GRAFTEC & 81925 & 11 & 0.27\% & 87.80\% \\
\hline 14 & 14-Nov-08 & KILROY R & 84392 & 18 & 14.01\% & 108.41\% & 28 & \#\#\#\#\#\#\#\# & FLEETWC & 46295 & 11 & 2.08\% & 86.98\% \\
\hline 14 & 14-Nov-08 & KIRBY CO & 59045 & 11 & 11.12\% & 105.68\% & 28 & \#\#\#\#\#\#\#\# & THOR IND & 76081 & 11 & 0.17\% & 103.34\% \\
\hline 14 & 14-Nov-08 & 3M CO & 22592 & 11 & 13.61\% & 237.26\% & 28 & & NCRCOF & 84372 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & MEREDIT & 42796 & 11 & 13.19\% & 147.92\% & 28 & & MAXCOM & 92341 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & TIME WAF & 77418 & 11 & 11.16\% & 177.32\% & 28 & \#\#\#\#\#\#\#\# & NATIONAL & 87279 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & MARATHC & 15069 & 11 & 19.87\% & 228.70\% & 28 & \#\#\#\#\#\#\#\# & KOHLS CC & 77606 & 11 & 1.50\% & 86.80\% \\
\hline 14 & 14-Nov-08 & KIMCO RE & 77129 & 18 & 16.97\% & 106.98\% & 28 & & MIDWEST & 76492 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & U IL HoLI & 53663 & 11 & 15.42\% & 115.19\% & 28 & \#\#\#\#\#\#\#\# & NOVA CHI & 86303 & 12 & 0.96\% & 88.49\% \\
\hline 14 & 14-Nov-08 & PARKWA) & 12072 & 18 & 18.30\% & 111.77\% & 28 & \#\#\#\#\#\#\#\# & LINCOLN I & 49015 & 11 & 0.13\% & 86.99\% \\
\hline 14 & 14-Nov-08 & INTERNAT & 12490 & 11 & 18.41\% & 108.45\% & 28 & \#\#\#\#\#\#\#\# & TENNECC & 84375 & 11 & 0.53\% & 123.22\% \\
\hline 14 & 14-Nov-08 & APARTME & 80711 & 18 & 16.03\% & 100.55\% & 28 & & COMPTO & 91043 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & VALEANT & 68340 & 11 & 14.93\% & 170.57\% & 28 & \#\#\#\#\#\#\#\# & SUNOCO & 14656 & 11 & 1.75\% & 115.86\% \\
\hline 14 & 14-Nov-08 & EMCCOI & 10147 & 11 & 15.29\% & 124.77\% & 28 & \#\#\#\#\#\#\#\# & TECK COr & 91321 & 12 & 3.35\% & 191.09\% \\
\hline 14 & 14-Nov-08 & B R EPRC & 61938 & 18 & 17.49\% & 126.24\% & 28 & \#\#\#\#\#\#\#\# & TIME WAF & 77418 & 11 & 0.27\% & 178.19\% \\
\hline 14 & 14-Nov-08 & GOLDCOF & 69892 & 12 & 12.53\% & 102.66\% & 28 & \#\#\#\#\#\#\#\# & TENARIS: & 89637 & 31 & 0.00\% & 85.99\% \\
\hline 14 & 14-Nov-08 & MEDICAL & 90790 & 18 & 9.92\% & 162.59\% & 28 & \#\#\#\#\#\#\#\# & ALLEGHAI & 71271 & 11 & 0.00\% & 86.17\% \\
\hline 14 & 14-Nov-08 & MEDTRON & 60097 & 11 & 5.63\% & 113.64\% & 28 & \#\#\#\#\#\#\#\# & WARNAC & 89686 & 11 & 0.00\% & 85.16\% \\
\hline 14 & 14-Nov-08 & TITANIUM & 83699 & 11 & 7.04\% & 107.32\% & 28 & \#\#\#\#\#\#\#\# & UNIT COR & 63781 & 11 & 0.45\% & 135.54\% \\
\hline 14 & 14-Nov-08 & TENNECO & 84375 & 11 & 7.09\% & 111.57\% & 28 & \#\#\#\#\#\#\#\# & CIGNA1 & 64186 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & LORILLAR & 89303 & 11 & 6.29\% & 118.38\% & 28 & \#\#\#\#\#\#\#\# & UNION PA & 48725 & 11 & 1.84\% & 300.10\% \\
\hline 14 & 14-Nov-08 & INTERNAT & 90994 & 11 & 7.20\% & 105.03\% & 28 & & COMPANF & 92118 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & HOST HO & 46703 & 18 & 9.54\% & 133.17\% & 28 & & NOAH EDI & 92344 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & LUNDIN M & 91580 & 12 & 6.41\% & 873.69\% & 28 & & NEPHROS & 90341 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & LABORAT & 12062 & 11 & 6.48\% & 214.23\% & 28 & \#\#\#\#\#\#\#\# & COMMER & 30680 & 11 & 3.53\% & 88.00\% \\
\hline 14 & 14-Nov-08 & TRANSCA & 67774 & 12 & 9.14\% & 376.30\% & 28 & \#\#\#\#\#\#\#\# & TITANIUM & 83699 & 11 & 0.30\% & 126.76\% \\
\hline 14 & 14-Nov-08 & ANADARK & 70332 & 11 & 13.77\% & 135.42\% & 28 & \#\#\#\#\#\#\#\# & CLIFFS \(\mathrm{N} /\) & 27422 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & WESTER & 91073 & 11 & 8.44\% & 104.11\% & 28 & \#\#\#\#\#\#\#\# & TRANSCA & 67774 & 12 & 0.43\% & 709.67\% \\
\hline 14 & 14-Nov-08 & ENCANA ( & 89134 & 12 & 14.43\% & 122.92\% & 28 & & NEW GOL & 90433 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DIGITAL R & 90373 & 18 & 13.46\% & 113.01\% & 28 & & CORE MO & 84387 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & WILLBRO؛ & 83834 & 12 & 8.18\% & 109.01\% & 28 & \#\#\#\#\#\#\#\# & CAL DIVE & 91630 & 11 & 0.00\% & 94.26\% \\
\hline 14 & 14-Nov-08 & UNILEVEF & 28302 & 31 & 9.85\% & 240.67\% & 28 & \#\#\#\#\#\#\#\# & HOSPITAL & 81917 & 48 & 20.93\% & 91.85\% \\
\hline 14 & 14-Nov-08 & TERNIUM & 91125 & 31 & 5.85\% & 201.60\% & 28 & \#\#\#\#\#\#\#\# & ITT CORI & 12570 & 11 & 0.01\% & 148.35\% \\
\hline 14 & 14-Nov-08 & WACHOVI & 36469 & 11 & 7.11\% & 103.53\% & 28 & & IRELAND I & 83992 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & UNION PA & 48725 & 11 & 8.54\% & 286.33\% & 28 & & DAKOTA 1 & 75883 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & ACCENTU & 89071 & 12 & 44.29\% & 131.77\% & 28 & \#\#\#\#\#\#\#\# & KAYDON ( & 47205 & 11 & 1.37\% & 107.71\% \\
\hline 14 & 14-Nov-08 & STEELCA: & 85796 & 11 & 37.70\% & 148.38\% & 28 & & INTERNAT & 89957 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & Jaguara & 92178 & 12 & 40.29\% & 468.04\% & 28 & \#\#\#\#\#\#\#\# & ESSEXPF & 80681 & 18 & 24.66\% & 92.85\% \\
\hline 14 & 14-Nov-08 & HATTERA & 92620 & 18 & 40.76\% & 111.72\% & 28 & & D W S DR & 91568 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & GENERAL & 12060 & 11 & 36.63\% & 233.63\% & 28 & & AMERICAI & 68726 & 48 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & C B RICHf & 90199 & 11 & 35.06\% & 267.81\% & 28 & \#\#\#\#\#\#\#\# & IN G GRC & 85081 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & YINGLI GF & 92154 & 31 & 34.33\% & 115.21\% & 28 & \#\#\#\#\#\#\#\# & AVALONB & 80381 & 18 & 35.10\% & 94.20\% \\
\hline 14 & 14-Nov-08 & DOW CHE & 20626 & 11 & 38.90\% & 111.18\% & 28 & \#\#\#\#\#\#\#\# & U STINC & 15077 & 11 & 33.47\% & 92.64\% \\
\hline 14 & 14-Nov-08 & DOUGLAS & 91519 & 18 & 39.10\% & 127.46\% & 28 & & ISTITUTO & 80724 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & R H DON & 86109 & 11 & 50.06\% & 135.23\% & 28 & \#\#\#\#\#\#\#\# & GOLDCOF & 69892 & 12 & 25.21\% & 91.43\% \\
\hline 14 & 14-Nov-08 & invacare & 45728 & 11 & 145.63\% & 145.02\% & 28 & \#\#\#\#\#\#\#\# & AMDOCS & 86144 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DEUTSCH & 89199 & 12 & 107.82\% & 422.85\% & 28 & \#\#\#\#\#\#\#\# & HOME PR & 80723 & 18 & 27.48\% & 91.25\% \\
\hline 14 & 14-Nov-08 & TRANSAL & 89068 & 12 & 137.35\% & 1984.01\% & 28 & \#\#\#\#\#\#\#\# & CHINA LIF & 89949 & 31 & 0.43\% & 105.40\% \\
\hline 14 & 14-Nov-08 & MINDRAY & 91455 & 31 & 295.14\% & 169.76\% & 28 & \#\#\#\#\#\#\#\# & FIRST HO & 36397 & 11 & 8.93\% & 91.87\% \\
\hline 14 & 14-Nov-08 & CAMPBEL & 25320 & 11 & 96.01\% & 103.00\% & 28 & \#\#\#\#\#\#\#\# & MAGUIRE & 89768 & 18 & 8.42\% & 94.70\% \\
\hline 14 & 14-Nov-08 & LIFE TIME & 90210 & 11 & 65.62\% & 113.35\% & 28 & & ORIXCC & 86349 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & METLIFE I & 87842 & 11 & 63.84\% & 124.54\% & 28 & & J E D OIL & 90113 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & ACUITY BI & 89216 & 11 & 96.46\% & 152.53\% & 28 & \#\#\#\#\#\#\#\# & TEEKAY C & 81784 & 12 & 0.28\% & 90.29\% \\
\hline 14 & 14-Nov-08 & SUNRISE & 83558 & 11 & 93.45\% & 112.14\% & 28 & \#\#\#\#\#\#\#\# & DCTIND & 91635 & 18 & 6.26\% & 91.88\% \\
\hline 14 & 14-Nov-08 & WATSON & 78916 & 11 & 31.37\% & 212.79\% & 28 & & JACK IN T & 77453 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & BRISTOL & 19393 & 11 & 26.69\% & 106.56\% & 28 & & US XDEL & 77927 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & A U OPTR & 89398 & 31 & 28.22\% & 109.03\% & 28 & & ITERIS INC & 67029 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & HEALTHC. & 79233 & 18 & 28.20\% & 105.59\% & 28 & & INTERNAT & 76676 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & GREAT PL & 24432 & 11 & 28.70\% & 110.22\% & 28 & \#\#\#\#\#\#\#\# & S R A INTI & 89410 & 11 & 12.22\% & 92.99\% \\
\hline 14 & 14-Nov-08 & ROHM \& + & 23990 & 11 & 23.27\% & 132.27\% & 28 & \#\#\#\#\#\#\#\# & TOMPKIN: & 10308 & 11 & 7.14\% & 91.19\% \\
\hline 14 & 14-Nov-08 & DANAHER & 49680 & 11 & 21.42\% & 221.58\% & 28 & \#\#\#\#\#\#\#\# & KILROY R & 84392 & 18 & 0.48\% & 107.05\% \\
\hline 14 & 14-Nov-08 & VISA INC & 92611 & 11 & 17.78\% & 101.87\% & 28 & & INTERTAF & 77318 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & JOHNSON & 22111 & 11 & 22.51\% & 134.04\% & 28 & \#\#\#\#\#\#\#\# & COCA CO & 11308 & 11 & 2.16\% & 184.21\% \\
\hline 14 & 14-Nov-08 & HORIZON & 90889 & 11 & 24.50\% & 168.67\% & 28 & \#\#\#\#\#\#\#\# & COVANCE & 84364 & 11 & 0.00\% & 96.83\% \\
\hline 14 & 14-Nov-08 & MANITOW & 51263 & 11 & 27.61\% & 202.53\% & 28 & \#\#\#\#\#\#\#\# & CAPSTEA & 68021 & 18 & 0.00\% & 98.83\% \\
\hline 14 & 14-Nov-08 & PHHCOF & 90531 & 11 & 34.52\% & 123.96\% & 28 & \#\#\#\#\#\#\#\# & FIRSTENE & 23026 & 11 & 0.00\% & 97.39\% \\
\hline 14 & 14-Nov-08 & ALTRIA GI & 13901 & 11 & 34.83\% & 126.66\% & 28 & \#\#\#\#\#\#\#\# & EXTRA SF & 90305 & 18 & 0.00\% & 95.16\% \\
\hline 14 & 14-Nov-08 & VERIZON & 65875 & 11 & 32.06\% & 128.00\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 91136 & 11 & 0.00\% & 95.16\% \\
\hline 14 & 14-Nov-08 & AT \& TIN & 66093 & 11 & 30.76\% & 141.46\% & 28 & \#\#\#\#\#\#\#\# & ANTHRAC & 85896 & 18 & 0.00\% & 97.74\% \\
\hline 14 & 14-Nov-08 & LDK SOL & 92126 & 31 & 33.63\% & 144.60\% & 28 & \#\#\#\#\#\#\#\# & CASCADE & 21726 & 11 & 0.00\% & 96.59\% \\
\hline 14 & 14-Nov-08 & SIMON PF & 80100 & 18 & 27.15\% & 135.93\% & 28 & & INDUSTRI. & 85336 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & ROYAL BA & 82654 & 12 & 29.10\% & 123.50\% & 28 & \#\#\#\#\#\#\#\# & J ERINVE & 90787 & 18 & 0.00\% & 95.37\% \\
\hline 14 & 14-Nov-08 & COLONIAL & 24628 & 11 & 31.53\% & 124.54\% & 28 & \#\#\#\#\#\#\#\# & HERSHEY & 16600 & 11 & 0.00\% & 96.72\% \\
\hline 14 & 14-Nov-08 & AMBAC FI & 76757 & 11 & 33.44\% & 123.14\% & 28 & \#\#\#\#\#\#\#\# & MEDIFAS 1 & 80054 & 11 & 0.00\% & 95.60\% \\
\hline 14 & 14-Nov-08 & KING PHA & 86176 & 11 & 0.05\% & 207.43\% & 28 & & CENTRAIS & 92802 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & KINGSWA & 89063 & 12 & 1.72\% & 254.08\% & 28 & \#\#\#\#\#\#\#\# & GLAXOSN & 75064 & 31 & 0.00\% & 97.70\% \\
\hline 14 & 14-Nov-08 & M \& T BAN & 35554 & 11 & 0.08\% & 102.19\% & 28 & \#\#\#\#\#\#\#\# & GRAMERC & 90252 & 18 & 0.00\% & 97.92\% \\
\hline 14 & 14-Nov-08 & MCGRAW & 17478 & 11 & 4.77\% & 105.90\% & 28 & \#\#\#\#\#\#\#\# & HANGER1 & 10051 & 11 & 0.00\% & 97.75\% \\
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\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & KAYDON ( & 47205 & 11 & 2.94\% & 101.21\% & 28 & \#\#\#\#\#\#\#\# & HECKMA & 92395 & 11 & 0.00\% & 96.53\% \\
\hline 14 & 14-Nov-08 & ION GEOF & 76613 & 11 & 1.49\% & 116.67\% & 28 & & DISCO s + & 83330 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & L 1 IDENT & 84280 & 11 & 3.01\% & 114.85\% & 28 & \#\#\#\#\#\#\#\# & NORTEL \(\uparrow\) & 58640 & 12 & 36.53\% & 92.89\% \\
\hline 14 & 14-Nov-08 & IVANHOE & 89911 & 12 & 0.21\% & 173.50\% & 28 & & INTERLEL & 85564 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & INTERPUE & 53065 & 11 & 1.77\% & 140.24\% & 28 & \#\#\#\#\#\#\#\# & HASBRO I & 52978 & 11 & 2.42\% & 103.20\% \\
\hline 14 & 14-Nov-08 & MECHEL ( & 90384 & 31 & 2.68\% & 502.52\% & 28 & & IMMTECH & 86829 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & NEXEN IN & 30277 & 12 & 2.66\% & 153.61\% & 28 & & DYNEX C + & 75269 & 18 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & NORTEL \(\stackrel{ }{ }\) & 58640 & 12 & 0.42\% & 111.41\% & 28 & \#\#\#\#\#\#\#\# & HELIX ENi & 85168 & 11 & 0.25\% & 131.52\% \\
\hline 14 & 14-Nov-08 & VERIFONE & 90657 & 11 & 1.12\% & 115.22\% & 28 & \#\#\#\#\#\#\#\# & HORIZON & 90889 & 11 & 0.52\% & 152.90\% \\
\hline 14 & 14-Nov-08 & OMNICAR & 63714 & 11 & 0.32\% & 101.00\% & 28 & \#\#\#\#\#\#\#\# & INTERCOI & 89704 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & NEUSTAR & 90763 & 11 & 3.32\% & 101.85\% & 28 & & DISTRIBU & 85423 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & NATIONAL & 89850 & 11 & 2.71\% & 117.89\% & 28 & \#\#\#\#\#\#\#\# & INFINEON & 87664 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & MICRON T & 53613 & 11 & 0.09\% & 105.81\% & 28 & \#\#\#\#\#\#\#\# & MOTOROI & 22779 & 11 & 77.49\% & 92.85\% \\
\hline 14 & 14-Nov-08 & NR G ENE & 90071 & 11 & 2.78\% & 122.11\% & 28 & \#\#\#\#\#\#\#\# & GOLDEN: & 79636 & 12 & 0.42\% & 117.72\% \\
\hline 14 & 14-Nov-08 & NATIONW & 84644 & 11 & 3.42\% & 221.26\% & 28 & \#\#\#\#\#\#\#\# & PLUM CRI & 75592 & 18 & 44.86\% & 91.53\% \\
\hline 14 & 14-Nov-08 & IAMGOLD & 89630 & 12 & 1.55\% & 105.74\% & 28 & \#\#\#\#\#\#\#\# & CANO PE \({ }^{-}\) & 90678 & 11 & 51.85\% & 91.50\% \\
\hline 14 & 14-Nov-08 & CHARLES & 88281 & 11 & 1.36\% & 143.29\% & 28 & \#\#\#\#\#\#\#\# & INTERSTA & 86226 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CHIQUITA & 89329 & 11 & 1.79\% & 109.10\% & 28 & & COMPANL & 76242 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DAIMLER. & 86381 & 12 & 3.82\% & 304.63\% & 28 & \#\#\#\#\#\#\#\# & NALCO H( & 90439 & 11 & 0.00\% & 90.55\% \\
\hline 14 & 14-Nov-08 & COGDELL & 90921 & 18 & 2.29\% & 109.12\% & 28 & & CVRENE & 92326 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & Canadiar & 89125 & 12 & 0.01\% & 135.84\% & 28 & \#\#\#\#\#\#\#\# & NEW YOR & 90387 & 11 & 0.00\% & 92.36\% \\
\hline 14 & 14-Nov-08 & CHESAPE & 78877 & 11 & 3.50\% & 107.21\% & 28 & \#\#\#\#\#\#\#\# & PLAINS E; & 89636 & 11 & 1.75\% & 118.95\% \\
\hline 14 & 14-Nov-08 & CAMERON & 81857 & 11 & 1.20\% & 127.57\% & 28 & \#\#\#\#\#\#\#\# & M F A MOI & 85935 & 18 & 0.00\% & 91.35\% \\
\hline 14 & 14-Nov-08 & CANADIA & 85636 & 12 & 3.64\% & 293.65\% & 28 & \#\#\#\#\#\#\#\# & MEDICIS F & 76391 & 11 & 0.00\% & 91.23\% \\
\hline 14 & 14-Nov-08 & SEACOR \({ }^{\text {b }}\) & 78137 & 11 & 4.36\% & 136.91\% & 28 & & CARRIAGI & 83856 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DILLARDS & 49429 & 11 & 1.47\% & 104.25\% & 28 & \#\#\#\#\#\#\#\# & SEABRIDC & 90118 & 12 & 0.00\% & 91.96\% \\
\hline 14 & 14-Nov-08 & HELIX ENf & 85168 & 11 & 3.64\% & 133.70\% & 28 & \#\#\#\#\#\#\#\# & RUDDICK & 54818 & 11 & 0.00\% & 93.03\% \\
\hline 14 & 14-Nov-08 & GAMMON & 89845 & 12 & 0.02\% & 140.74\% & 28 & & CROSSHA & 91984 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & HARRY W & 78701 & 12 & 1.09\% & 143.36\% & 28 & \#\#\#\#\#\#\#\# & SPARTEC & 72005 & 11 & 0.00\% & 90.19\% \\
\hline 14 & 14-Nov-08 & HUNTSMA & 90558 & 11 & 3.18\% & 111.44\% & 28 & \#\#\#\#\#\#\#\# & CNXGA! & 91067 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & GRAMERC & 90252 & 18 & 0.56\% & 109.95\% & 28 & \#\#\#\#\#\#\#\# & ORIENTE & 88495 & 12 & 0.00\% & 94.55\% \\
\hline 14 & 14-Nov-08 & ENERGIZE & 87659 & 11 & 1.15\% & 117.44\% & 28 & \#\#\#\#\#\#\#\# & PNMREs & 55511 & 11 & 0.00\% & 92.72\% \\
\hline 14 & 14-Nov-08 & DREW INL & 87426 & 11 & 4.30\% & 106.87\% & 28 & & CARDIUM & 84521 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & GILDAN A & 86121 & 12 & 2.01\% & 174.70\% & 28 & \#\#\#\#\#\#\#\# & TRIPLE S & 92506 & 11 & 0.00\% & 91.01\% \\
\hline 14 & 14-Nov-08 & FLOTEK II & 90783 & 11 & 2.95\% & 103.54\% & 28 & \#\#\#\#\#\#\#\# & ROGERS & 78405 & 12 & 1.67\% & 218.91\% \\
\hline 14 & 14-Nov-08 & AFFILIATE & 85593 & 11 & 6.44\% & 127.91\% & 28 & \#\#\#\#\#\#\#\# & HNICOR & 42439 & 11 & 0.00\% & 94.82\% \\
\hline 14 & 14-Nov-08 & VIACOM II & 91066 & 11 & 2.84\% & 175.03\% & 28 & \#\#\#\#\#\#\#\# & HEALTHS: & 10693 & 11 & 0.00\% & 90.22\% \\
\hline 14 & 14-Nov-08 & BANK OF & 89428 & 12 & 8.29\% & 176.10\% & 28 & \#\#\#\#\#\#\#\# & EXELON C & 21776 & 11 & 0.00\% & 92.88\% \\
\hline 14 & 14-Nov-08 & BASIC EN & 91040 & 11 & 5.67\% & 104.74\% & 28 & \#\#\#\#\#\#\#\# & ELAN PLC & 31799 & 31 & 0.00\% & 92.01\% \\
\hline 14 & 14-Nov-08 & USECIN & 86233 & 11 & 2.52\% & 111.11\% & 28 & \#\#\#\#\#\#\#\# & GOODYE & 16432 & 11 & 0.00\% & 91.33\% \\
\hline 14 & 14-Nov-08 & TELEFON & 76636 & 31 & 3.65\% & 100.57\% & 28 & \#\#\#\#\#\#\#\# & FIRST MA & 89877 & 11 & 0.00\% & 90.04\% \\
\hline 14 & 14-Nov-08 & THERMO I & 62092 & 11 & 2.20\% & 241.65\% & 28 & \#\#\#\#\#\#\#\# & LANDRYS & 79502 & 11 & 0.00\% & 91.61\% \\
\hline 14 & 14-Nov-08 & UNIT COR & 63781 & 11 & 0.63\% & 126.82\% & 28 & & CIBA SPE & 88483 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & TRINA SO & 91653 & 31 & 0.04\% & 137.43\% & 28 & & CRUSADE & 90777 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CELESTIC & 86115 & 12 & 5.07\% & 304.97\% & 28 & \#\#\#\#\#\#\#\# & LADENBU & 87837 & 11 & 0.00\% & 93.03\% \\
\hline 14 & 14-Nov-08 & GROUPE 1 & 86372 & 12 & 9.77\% & 6587.27\% & 28 & \#\#\#\#\#\#\#\# & INVERNE! & 89230 & 11 & 0.00\% & 94.56\% \\
\hline 14 & 14-Nov-08 & EXTERRA & 92245 & 11 & 8.65\% & 168.66\% & 28 & \#\#\#\#\#\#\#\# & DESARRC & 90201 & 31 & 0.00\% & 91.79\% \\
\hline 14 & 14-Nov-08 & HASBRO I & 52978 & 11 & 7.13\% & 115.38\% & 28 & \#\#\#\#\#\#\#\# & KIRBY CO & 59045 & 11 & 0.00\% & 92.58\% \\
\hline 14 & 14-Nov-08 & GUSHAN I & 92485 & 31 & 7.13\% & 738.53\% & 28 & & K T CORP & 86869 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & EL PASO I & 77481 & 11 & 5.04\% & 160.51\% & 28 & \#\#\#\#\#\#\#\# & 3M CO & 22592 & 11 & 1.47\% & 269.07\% \\
\hline 14 & 14-Nov-08 & CANADIAT & 84181 & 12 & 5.99\% & 151.77\% & 28 & \#\#\#\#\#\#\#\# & C S X COF & 62148 & 11 & 3.36\% & 92.70\% \\
\hline 14 & 14-Nov-08 & C M S ENE & 23229 & 11 & 8.58\% & 140.32\% & 28 & & D GSEC & 10028 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & ENBRIDGI & 76932 & 12 & 7.24\% & 259.71\% & 28 & & KEITHLEY & 89333 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & D STSYS & 83186 & 11 & 5.65\% & 137.07\% & 28 & \#\#\#\#\#\#\#\# & MINDRAY & 91455 & 31 & 0.80\% & 173.31\% \\
\hline 14 & 14-Nov-08 & TELECOM & 81133 & 31 & 2.03\% & 197.93\% & 28 & & KINDER M & 88989 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & ROGERS 1 & 78405 & 12 & 1.61\% & 202.24\% & 28 & & KEEGAN F & 92536 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & QWEST C & 85032 & 11 & 0.85\% & 511.42\% & 28 & \#\#\#\#\#\#\#\# & ALTRIA GI & 13901 & 11 & 4.51\% & 100.72\% \\
\hline 14 & 14-Nov-08 & ROSTELE & 85793 & 31 & 0.56\% & 158.07\% & 28 & \#\#\#\#\#\#\#\# & MEREDIT & 42796 & 11 & 2.03\% & 131.76\% \\
\hline 14 & 14-Nov-08 & REGIONS & 35044 & 11 & 2.81\% & 103.02\% & 28 & & K B FINAN & 89236 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & PLAINS E) & 89636 & 11 & 3.90\% & 113.34\% & 28 & & J M P GRC & 92010 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & PHILIP MC & 92602 & 11 & 3.14\% & 102.24\% & 28 & & ARCADIA & 91375 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & PETRO C/ & 82232 & 12 & 0.18\% & 157.19\% & 28 & \#\#\#\#\#\#\#\# & JARDEN C & 78977 & 11 & 0.52\% & 92.09\% \\
\hline 14 & 14-Nov-08 & PIONEER & 75241 & 11 & 3.19\% & 137.05\% & 28 & & 4 KIDS EN & 10092 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & PRAXAIR & 77768 & 11 & 0.60\% & 126.37\% & 28 & \#\#\#\#\#\#\#\# & METLIFE I & 87842 & 11 & 0.61\% & 140.67\% \\
\hline 14 & 14-Nov-08 & R T I INTE & 76148 & 11 & 3.78\% & 130.51\% & 28 & \#\#\#\#\#\#\#\# & KINROSS & 89692 & 12 & 4.43\% & 90.93\% \\
\hline 14 & 14-Nov-08 & STATOILH & 89016 & 31 & 2.00\% & 175.86\% & 28 & \#\#\#\#\#\#\#\# & STANLEY & 91548 & 11 & 0.00\% & 90.35\% \\
\hline 14 & 14-Nov-08 & STANTEC & 90850 & 12 & 0.45\% & 362.72\% & 28 & & NTT DOC & 89335 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SUNOCO & 14656 & 11 & 1.58\% & 120.77\% & 28 & \#\#\#\#\#\#\#\# & SYBASE II & 76792 & 11 & 0.00\% & 92.92\% \\
\hline 14 & 14-Nov-08 & SUNCORI & 80070 & 12 & 3.15\% & 101.66\% & 28 & & SCOLR Pr & 90049 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SCRIPPS & 92709 & 11 & 0.66\% & 106.57\% & 28 & \#\#\#\#\#\#\#\# & N R G ENE & 90071 & 11 & 1.33\% & 106.79\% \\
\hline 14 & 14-Nov-08 & SIGNET Jf & 12076 & 12 & 1.83\% & 148.94\% & 28 & & CHINA YU & 81134 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SHIP FINA & 90219 & 12 & 2.58\% & 125.56\% & 28 & \#\#\#\#\#\#\#\# & SYNOVUS & 20053 & 11 & 0.00\% & 90.74\% \\
\hline 14 & 14-Nov-08 & SUN LIFE & 87666 & 12 & 2.88\% & 585.22\% & 28 & & DANAOS ( & 91560 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SHAW CO & 86218 & 12 & 4.33\% & 1873.98\% & 28 & \#\#\#\#\#\#\#\# & SPEEDW/ & 81292 & 11 & 0.00\% & 92.97\% \\
\hline 14 & 14-Nov-08 & TYSON FC & 77730 & 11 & 0.00\% & 89.61\% & 28 & & ETABLISS & 88958 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & STERLING & 27254 & 11 & 3.77\% & 71.76\% & 28 & \#\#\#\#\#\#\#\# & AMBAC FI & 76757 & 11 & 1.95\% & 93.92\% \\
\hline 14 & 14-Nov-08 & STAGE ST & 89289 & 11 & 3.59\% & 72.50\% & 28 & \#\#\#\#\#\#\#\# & EXCOR & 91109 & 11 & 0.00\% & 92.10\% \\
\hline 14 & 14-Nov-08 & WATSCO & 66376 & 11 & 0.28\% & 74.52\% & 28 & \#\#\#\#\#\#\#\# & TRANSPO & 81067 & 31 & 0.00\% & 94.35\% \\
\hline 14 & 14-Nov-08 & TEXTRON & 23579 & 11 & 0.52\% & 70.83\% & 28 & \#\#\#\#\#\#\#\# & TELEDYN & 87445 & 11 & 0.00\% & 93.17\% \\
\hline 14 & 14-Nov-08 & STANCOR & 86809 & 11 & 1.80\% & 71.86\% & 28 & & KRONOS \({ }^{\prime}\) & 89960 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & PEPSICO & 13856 & 11 & 1.88\% & 70.01\% & 28 & \#\#\#\#\#\#\#\# & TEMPLE II & 66114 & 11 & 0.00\% & 90.79\% \\
\hline 14 & 14-Nov-08 & OWENS \& & 60186 & 11 & 3.31\% & 72.54\% & 28 & \#\#\#\#\#\#\#\# & NATIONAL & 51377 & 11 & 0.00\% & 52.38\% \\
\hline 14 & 14-Nov-08 & QUANTA & 85792 & 11 & 2.50\% & 73.19\% & 28 & \#\#\#\#\#\#\#\# & NLINDUS & 13303 & 11 & 0.00\% & 54.58\% \\
\hline 14 & 14-Nov-08 & PROGRES & 23114 & 11 & 3.85\% & 71.90\% & 28 & \#\#\#\#\#\#\#\# & NETEZZA & 92182 & 11 & 0.00\% & 50.64\% \\
\hline 14 & 14-Nov-08 & CANTEL \(N\) & 22825 & 11 & 6.07\% & 71.27\% & 28 & \#\#\#\#\#\#\#\# & NU SKIN E & 84172 & 11 & 0.00\% & 50.84\% \\
\hline 14 & 14-Nov-08 & M F A MOI & 85935 & 18 & 6.47\% & 72.39\% & 28 & \#\#\#\#\#\#\#\# & MENS WE & 77516 & 11 & 0.00\% & 54.87\% \\
\hline 14 & 14-Nov-08 & JACKSON & 90209 & 11 & 9.14\% & 73.19\% & 28 & \#\#\#\#\#\#\#\# & M \& F WO & 81670 & 11 & 0.00\% & 53.33\% \\
\hline 14 & 14-Nov-08 & NABORS I & 29102 & 12 & 6.42\% & 70.91\% & 28 & \#\#\#\#\#\#\#\# & NATIONAL & 77057 & 18 & 0.00\% & 54.75\% \\
\hline 14 & 14-Nov-08 & MARSH \& & 45751 & 11 & 5.76\% & 74.31\% & 28 & \#\#\#\#\#\#\#\# & NAVIGAN \({ }^{-}\) & 84103 & 11 & 0.00\% & 53.07\% \\
\hline 14 & 14-Nov-08 & IT T CORI & 12570 & 11 & 6.11\% & 71.55\% & 28 & \#\#\#\#\#\#\#\# & OFFICE D & 75573 & 11 & 0.00\% & 55.00\% \\
\hline 14 & 14-Nov-08 & DU PONT & 11703 & 11 & 8.10\% & 70.44\% & 28 & \#\#\#\#\#\#\#\# & ROCK TEP & 80361 & 11 & 0.00\% & 52.19\% \\
\hline 14 & 14-Nov-08 & CS \(\times\) COF & 62148 & 11 & 9.19\% & 73.96\% & 28 & \#\#\#\#\#\#\#\# & ALBANY II & 11731 & 11 & 0.00\% & 34.12\% \\
\hline 14 & 14-Nov-08 & GEO GRO & 80774 & 11 & 5.58\% & 72.01\% & 28 & \#\#\#\#\#\#\#\# & RENAISS/ & 83728 & 12 & 0.00\% & 53.20\% \\
\hline 14 & 14-Nov-08 & EOG RES: & 75825 & 11 & 8.76\% & 73.23\% & 28 & \#\#\#\#\#\#\#\# & REXAHN F & 92665 & 11 & 0.00\% & 51.71\% \\
\hline 14 & 14-Nov-08 & OCWEN F & 84007 & 11 & 0.95\% & 74.70\% & 28 & \#\#\#\#\#\#\#\# & PEPSI BO & 86756 & 11 & 0.00\% & 51.08\% \\
\hline 14 & 14 & FACTSET & 83597 & 11 & 1.56\% & 71.59\% & 28 & \#\#\#\#\#\#\#\# & ORBITZ W & 92183 & 11 & 0.00\% & 51.86\% \\
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\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & EMERITUS & 82638 & 11 & 0.32\% & 72.96\% & 28 & \#\#\#\#\#\#\#\# & PRE PAID & 63811 & 11 & 0.00\% & 52.12\% \\
\hline 14 & 14-Nov-08 & COMFOR7 & 85059 & 11 & 4.69\% & 71.18\% & 28 & \#\#\#\#\#\#\#\# & PEROT S) & 86602 & 11 & 0.00\% & 51.93\% \\
\hline 14 & 14-Nov-08 & FEDEXCC & 60628 & 11 & 3.33\% & 73.86\% & 28 & \#\#\#\#\#\#\#\# & HILLTOP \({ }^{\text {F }}\) & 90037 & 11 & 0.00\% & 53.09\% \\
\hline 14 & 14-Nov-08 & EDUCATIC & 90524 & 18 & 1.71\% & 70.56\% & 28 & \#\#\#\#\#\#\#\# & HEINZ H J & 23077 & 11 & 0.00\% & 50.91\% \\
\hline 14 & 14-Nov-08 & CRYOLIFE & 78876 & 11 & 2.52\% & 72.27\% & 28 & \#\#\#\#\#\#\#\# & INTERCOI & 90993 & 11 & 0.00\% & 50.90\% \\
\hline 14 & 14-Nov-08 & SALESFOI & 90215 & 11 & 2.08\% & 72.48\% & 28 & \#\#\#\#\#\#\#\# & HERTZ GL & 91575 & 11 & 0.00\% & 51.74\% \\
\hline 14 & 14-Nov-08 & EMPIRE D & 23042 & 11 & 4.56\% & 70.28\% & 28 & \#\#\#\#\#\#\#\# & HSBCH & 87033 & 31 & 0.00\% & 50.50\% \\
\hline 14 & 14-Nov-08 & CAPITAL & 85419 & 11 & 1.67\% & 72.59\% & 28 & \#\#\#\#\#\#\#\# & GRAN TIE & 92619 & 11 & 0.00\% & 54.53\% \\
\hline 14 & 14-Nov-08 & FLEETWO & 46295 & 11 & 0.04\% & 74.10\% & 28 & \#\#\#\#\#\#\#\# & AIRGAS II & 70308 & 11 & 0.00\% & 30.88\% \\
\hline 14 & 14-Nov-08 & MEDCO H & 89813 & 11 & 4.85\% & 71.00\% & 28 & \#\#\#\#\#\#\#\# & HECLA MI & 32651 & 11 & 0.00\% & 53.31\% \\
\hline 14 & 14-Nov-08 & KINETIC C & 90044 & 11 & 1.16\% & 74.61\% & 28 & \#\#\#\#\#\#\#\# & ARBITROI & 89497 & 11 & 0.00\% & 33.20\% \\
\hline 14 & 14-Nov-08 & NATIONAL & 84032 & 11 & 3.32\% & 72.00\% & 28 & \#\#\#\#\#\#\#\# & SOUTHWE & 58683 & 11 & 0.00\% & 51.77\% \\
\hline 14 & 14-Nov-08 & NCIBUIL & 77501 & 11 & 4.59\% & 71.11\% & 28 & \#\#\#\#\#\#\#\# & K12 INC & 92493 & 11 & 0.00\% & 54.91\% \\
\hline 14 & 14-Nov-08 & IDACORP & 21928 & 11 & 4.60\% & 70.38\% & 28 & \#\#\#\#\#\#\#\# & MINEFIND & 89652 & 12 & 0.00\% & 51.09\% \\
\hline 14 & 14-Nov-08 & GROUP 1 & 85427 & 11 & 1.40\% & 71.71\% & 28 & \#\#\#\#\#\#\#\# & MANPOW & 75285 & 11 & 0.00\% & 52.11\% \\
\hline 14 & 14-Nov-08 & GENWOR & 90162 & 11 & 0.39\% & 73.75\% & 28 & \#\#\#\#\#\#\#\# & ILLINOIS 1 & 56573 & 11 & 0.00\% & 50.39\% \\
\hline 14 & 14-Nov-08 & HARRIS C & 25582 & 11 & 3.06\% & 71.57\% & 28 & \#\#\#\#\#\#\#\# & INTREPID & 92621 & 11 & 0.00\% & 52.36\% \\
\hline 14 & 14-Nov-08 & HDFCB/ & 89056 & 31 & 2.77\% & 74.43\% & 28 & \#\#\#\#\#\#\#\# LA & LA BARGE & 47255 & 11 & 0.00\% & 54.01\% \\
\hline 14 & 14-Nov-08 & POST PRC & 79449 & 18 & 25.04\% & 71.74\% & 28 & \#\#\#\#\#\#\#\# & AMETEK I & 85257 & 11 & 0.00\% & 30.36\% \\
\hline 14 & 14-Nov-08 & HORACE I & 77120 & 11 & 25.22\% & 70.94\% & 28 & \#\#\#\#\#\#\#\# & ALLSTATE & 79323 & 11 & 0.26\% & 53.60\% \\
\hline 14 & 14-Nov-08 & HCPINC & 67598 & 18 & 32.29\% & 71.57\% & 28 & \#\#\#\#\#\#\#\# & ALBEMAR & 80191 & 11 & 0.13\% & 52.56\% \\
\hline 14 & 14-Nov-08 & B B \& T Cl & 71563 & 11 & 34.13\% & 70.46\% & 28 & \#\#\#\#\#\#\#\# & BARR PH/ & 11415 & 11 & 0.66\% & 54.91\% \\
\hline 14 & 14-Nov-08 & COLONIAI & 79654 & 48 & 28.90\% & 73.81\% & 28 & \#\#\#\#\#\#\#\# & AMERIPRI & 90880 & 11 & 0.47\% & 51.53\% \\
\hline 14 & 14-Nov-08 & PSBUSIN & 76602 & 18 & 20.24\% & 70.69\% & 28 & \#\#\#\#\#\#\#\# & TORONTC & 83835 & 12 & 333.16\% & 26.60\% \\
\hline 14 & 14-Nov-08 & POTLATCI & 49744 & 18 & 23.94\% & 70.15\% & 28 & \#\#\#\#\#\#\#\# & ASTORIA & 79796 & 11 & 0.00\% & 33.58\% \\
\hline 14 & 14-Nov-08 & STRYKER & 73139 & 11 & 23.76\% & 74.85\% & 28 & \#\#\#\#\#\#\#\# & CHIMERA & 92385 & 18 & 89.75\% & 26.42\% \\
\hline 14 & 14-Nov-08 & SUNTRUS & 68144 & 11 & 20.70\% & 72.79\% & 28 & \#\#\#\#\#\#\#\# & AGNICO E & 78223 & 12 & 0.80\% & 53.49\% \\
\hline 14 & 14-Nov-08 & HOME PR' & 80723 & 18 & 34.18\% & 71.88\% & 28 & \#\#\#\#\#\#\#\# & C B S COF & 76226 & 11 & 1.09\% & 54.72\% \\
\hline 14 & 14-Nov-08 & CHAMPIOI & 41419 & 11 & 46.92\% & 70.34\% & 28 & \#\#\#\#\#\#\#\# & FLUOR CC & 88853 & 11 & 3.19\% & 52.01\% \\
\hline 14 & 14-Nov-08 & WELLS Ff & 38703 & 11 & 37.91\% & 74.22\% & 28 & \#\#\#\#\#\#\#\# & FIRSTFED & 75162 & 11 & 2.39\% & 52.51\% \\
\hline 14 & 14-Nov-08 & CONSTEL & 69796 & 11 & 48.86\% & 71.21\% & 28 & \#\#\#\#\#\#\#\# & K B HOME & 70092 & 11 & 0.24\% & 50.60\% \\
\hline 14 & 14-Nov-08 & EAGLE M/ & 80415 & 11 & 48.41\% & 74.11\% & 28 & \#\#\#\#\#\#\#\# & HESS COF & 28484 & 11 & 1.25\% & 51.32\% \\
\hline 14 & 14-Nov-08 & WALGREE & 19502 & 11 & 36.96\% & 72.19\% & 28 & \#\#\#\#\#\#\#\# & EQUITY LI & 78947 & 18 & 0.71\% & 54.63\% \\
\hline 14 & 14-Nov-08 & PINNACLE & 42140 & 11 & 30.34\% & 73.60\% & 28 & \#\#\#\#\#\#\#\# & CAMPBEL & 25320 & 11 & 1.51\% & 50.48\% \\
\hline 14 & 14-Nov-08 & NATIONAL & 88373 & 18 & 30.23\% & 73.04\% & 28 & \#\#\#\#\#\#\#\# & INVESCO & 81910 & 12 & 6.20\% & 28.89\% \\
\hline 14 & 14-Nov-08 & HILL ROM & 52716 & 11 & 37.64\% & 73.77\% & 28 & \#\#\#\#\#\#\#\# & ENERSYS & 90249 & 11 & 0.96\% & 51.22\% \\
\hline 14 & 14-Nov-08 & DOMINIO & 64936 & 11 & 39.06\% & 71.91\% & 28 & \#\#\#\#\#\#\#\# & STERIS Cl & 77649 & 11 & 0.00\% & 53.12\% \\
\hline 14 & 14-Nov-08 & NELNET If & 89964 & 11 & 20.01\% & 70.99\% & 28 & \#\#\#\#\#\#\#\# & SANOFI A' & 89475 & 31 & 0.00\% & 53.90\% \\
\hline 14 & 14-Nov-08 & CHINA LIF & 89949 & 31 & 10.31\% & 73.15\% & 28 & \#\#\#\#\#\#\#\# & TAL INTEF & 90940 & 11 & 0.00\% & 51.27\% \\
\hline 14 & 14-Nov-08 & JOURNAL & 89849 & 11 & 10.66\% & 74.23\% & 28 & \#\#\#\#\#\#\#\# & CONSTEL & 69796 & 11 & 0.00\% & 52.17\% \\
\hline 14 & 14-Nov-08 & ORMAT TI & 90444 & 11 & 14.60\% & 72.95\% & 28 & \#\#\#\#\#\#\#\# & SCHAWK & 34818 & 11 & 0.00\% & 52.49\% \\
\hline 14 & 14-Nov-08 & QUANEX E & 92635 & 11 & 10.95\% & 70.20\% & 28 & \#\#\#\#\#\#\#\# & SONIC AU & 85627 & 11 & 0.00\% & 53.50\% \\
\hline 14 & 14-Nov-08 & AMERICAI & 90300 & 18 & 10.30\% & 72.15\% & 28 & \#\#\#\#\#\#\#\# & TANGER F & 79238 & 18 & 0.00\% & 53.50\% \\
\hline 14 & 14-Nov-08 & PLATINUN & 89558 & 12 & 6.62\% & 74.13\% & 28 & \#\#\#\#\#\#\#\# & SKILLED - & 92020 & 11 & 0.00\% & 51.26\% \\
\hline 14 & 14-Nov-08 & NORTHST & 90388 & 18 & 7.01\% & 74.37\% & 28 & \#\#\#\#\#\#\#\# & TNSINC & 90078 & 11 & 0.00\% & 51.83\% \\
\hline 14 & 14-Nov-08 & SYNIVERS & 90565 & 11 & 5.59\% & 70.71\% & 28 & \#\#\#\#\#\#\#\# & WELLCAR & 90272 & 11 & 0.00\% & 51.02\% \\
\hline 14 & 14-Nov-08 & RAYMONL & 69649 & 11 & 5.58\% & 73.47\% & 28 & \#\#\#\#\#\#\#\# & VIAD COR & 19721 & 11 & 0.00\% & 53.21\% \\
\hline 14 & 14-Nov-08 & SMITHFIE & 70923 & 11 & 10.98\% & 74.81\% & 28 & \#\#\#\#\#\#\#\# & XCELET & 23931 & 11 & 0.00\% & 51.50\% \\
\hline 14 & 14-Nov-08 & U S BANC & 66157 & 11 & 15.83\% & 74.86\% & 28 & \#\#\#\#\#\#\#\# & SCHIFF NI & 84785 & 11 & 0.00\% & 53.37\% \\
\hline 14 & 14-Nov-08 & THOMSO & 89444 & 12 & 15.18\% & 73.66\% & 28 & \#\#\#\#\#\#\#\# & TETRA TE & 76127 & 11 & 0.00\% & 54.11\% \\
\hline 14 & 14-Nov-08 & CALLAWA & 77366 & 11 & 20.13\% & 70.98\% & 28 & \#\#\#\#\#\#\#\# & TEMPUR I & 89971 & 11 & 0.00\% & 51.23\% \\
\hline 14 & 14-Nov-08 & VECTOR ( & 75233 & 11 & 19.78\% & 73.82\% & 28 & \#\#\#\#\#\#\#\# & UNIFIRST & 65306 & 11 & 0.00\% & 53.06\% \\
\hline 14 & 14-Nov-08 & CHEVRON & 14541 & 11 & 17.01\% & 71.54\% & 28 & \#\#\#\#\#\#\#\# & UNIVERS \(/\) & 79637 & 11 & 0.00\% & 50.83\% \\
\hline 14 & 14-Nov-08 & INTEGRY & 25099 & 11 & 13.17\% & 70.49\% & 28 & \#\#\#\#\#\#\#\# & GLIMCHEI & 80180 & 48 & 0.00\% & 52.16\% \\
\hline 14 & 14-Nov-08 & SOUTHER & 76091 & 11 & 13.83\% & 74.89\% & 28 & \#\#\#\#\#\#\#\# & CALPINE 1 & 92530 & 11 & 0.00\% & 30.09\% \\
\hline 14 & 14-Nov-08 & BARR PH/ & 11415 & 11 & 15.05\% & 73.72\% & 28 & \#\#\#\#\#\#\#\# & CASH AMI & 75215 & 11 & 0.00\% & 31.51\% \\
\hline 14 & 14-Nov-08 & TJXCON & 40539 & 11 & 10.09\% & 73.61\% & 28 & \#\#\#\#\#\#\#\# & CONTINEI & 91983 & 11 & 0.00\% & 31.12\% \\
\hline 14 & 14-Nov-08 & LASALLE & 85947 & 48 & 7.40\% & 66.54\% & 28 & \#\#\#\#\#\#\#\# & BAKER HI & 75034 & 11 & 33.51\% & 49.17\% \\
\hline 14 & 14-Nov-08 & LEE ENTE & 50286 & 11 & 6.06\% & 65.89\% & 28 & \#\#\#\#\#\#\#\# & DELEK U & 91215 & 11 & 0.00\% & 31.98\% \\
\hline 14 & 14-Nov-08 & MERITAGI & 75342 & 11 & 5.44\% & 68.28\% & 28 & \#\#\#\#\#\#\#\# & HCCINS & 78033 & 11 & 0.00\% & 30.31\% \\
\hline 14 & 14-Nov-08 & MEDICIS F & 76391 & 11 & 8.71\% & 69.71\% & 28 & \#\#\#\#\#\#\#\# & DUCOMMI & 63132 & 11 & 0.00\% & 32.18\% \\
\hline 14 & 14-Nov-08 & HARMAN I & 75224 & 11 & 9.73\% & 67.12\% & 28 & \#\#\#\#\#\#\#\# & DYNCORF & 91216 & 11 & 0.00\% & 32.72\% \\
\hline 14 & 14-Nov-08 & EMULEXC & 32540 & 11 & 5.04\% & 68.01\% & 28 & \#\#\#\#\#\#\#\# & GRACO Is & 39571 & 11 & 32.84\% & 48.70\% \\
\hline 14 & 14-Nov-08 & COVENTR & 76619 & 11 & 5.99\% & 65.51\% & 28 & \#\#\#\#\#\#\#\# & ADMINIST & 84385 & 11 & 45.91\% & 45.42\% \\
\hline 14 & 14-Nov-08 & FULLER H & 37875 & 11 & 8.85\% & 65.67\% & 28 & \#\#\#\#\#\#\#\# & DEVON EI & 87137 & 11 & 42.13\% & 48.67\% \\
\hline 14 & 14-Nov-08 & FREEPOR & 81774 & 11 & 8.29\% & 69.82\% & 28 & \#\#\#\#\#\#\#\# & A B M IND & 47730 & 11 & 0.00\% & 54.97\% \\
\hline 14 & 14-Nov-08 & MASTEC I & 19880 & 11 & 9.64\% & 68.14\% & 28 & \#\#\#\#\#\#\#\# & ACCOB & 90825 & 11 & 0.00\% & 51.84\% \\
\hline 14 & 14-Nov-08 & CONOCOF & 13928 & 11 & 13.58\% & 65.30\% & 28 & \#\#\#\#\#\#\#\# & CULLEN F & 27888 & 11 & 0.00\% & 30.53\% \\
\hline 14 & 14-Nov-08 & WEYERH/ & 39917 & 11 & 9.03\% & 69.91\% & 28 & \#\#\#\#\#\#\#\# & C \& D TEC & 71685 & 11 & 0.00\% & 32.23\% \\
\hline 14 & 14-Nov-08 & CALLON F & 80926 & 11 & 15.67\% & 67.98\% & 28 & \#\#\#\#\#\#\#\# & CABOT CC & 46690 & 11 & 0.00\% & 31.25\% \\
\hline 14 & 14-Nov-08 & EASTGRC & 85082 & 18 & 13.85\% & 66.14\% & 28 & \#\#\#\#\#\#\#\# & D S W INC & 90751 & 11 & 38.07\% & 45.69\% \\
\hline 14 & 14-Nov-08 & WILLIAMS & 38156 & 11 & 7.46\% & 66.88\% & 28 & \#\#\#\#\#\#\#\# & OPKO HE, & 82567 & 11 & 0.00\% & 31.92\% \\
\hline 14 & 14-Nov-08 & TAIWAN S & 85442 & 31 & 9.02\% & 66.79\% & 28 & \#\#\#\#\#\#\#\# & ODYSSEY & 89007 & 12 & 0.00\% & 34.33\% \\
\hline 14 & 14-Nov-08 & POLARIS I & 75182 & 11 & 9.73\% & 68.75\% & 28 & \#\#\#\#\#\#\#\# & NORDIC A & 85346 & 12 & 0.00\% & 34.19\% \\
\hline 14 & 14-Nov-08 & WEATHEF & 32791 & 12 & 7.98\% & 66.54\% & 28 & \#\#\#\#\#\#\#\# & MCAFEE I & 77976 & 11 & 13.08\% & 47.81\% \\
\hline 14 & 14-Nov-08 & VULCAN \({ }^{\text {a }}\) & 15202 & 11 & 8.85\% & 68.57\% & 28 & \#\#\#\#\#\#\#\# & PUBLIC SI & 23712 & 11 & 0.00\% & 32.89\% \\
\hline 14 & 14-Nov-08 & CHENER & 22437 & 11 & 5.55\% & 68.07\% & 28 & \#\#\#\#\#\#\#\# & POLYONE & 88597 & 11 & 0.00\% & 31.12\% \\
\hline 14 & 14-Nov-08 & STILLWAT & 81173 & 11 & 0.60\% & 65.92\% & 28 & \#\#\#\#\#\#\#\# & GRUPO AI & 91112 & 31 & 0.00\% & 32.02\% \\
\hline 14 & 14-Nov-08 & STEWART & 72980 & 11 & 1.57\% & 69.96\% & 28 & \#\#\#\#\#\#\#\# & WILLIAMS & 38156 & 11 & 6.34\% & 45.30\% \\
\hline 14 & 14-Nov-08 & TERRA IN & 65293 & 11 & 4.49\% & 67.41\% & 28 & \#\#\#\#\#\#\#\# & VAIL RES( & 84588 & 11 & 0.00\% & 31.86\% \\
\hline 14 & 14-Nov-08 & SCHWEIT: & 82649 & 11 & 2.37\% & 67.65\% & 28 & \#\#\#\#\#\#\#\# & HOSPIRA & 90110 & 11 & 0.00\% & 31.64\% \\
\hline 14 & 14-Nov-08 & ST MARY & 78170 & 11 & 0.94\% & 65.85\% & 28 & \#\#\#\#\#\#\#\# & TORO CO & 60580 & 11 & 10.05\% & 46.99\% \\
\hline 14 & 14-Nov-08 & PULTE HC & 54148 & 11 & 1.07\% & 66.75\% & 28 & \#\#\#\#\#\#\#\# & HILLENBR & 92597 & 11 & 0.00\% & 32.82\% \\
\hline 14 & 14-Nov-08 & PERINICC & 50550 & 11 & 4.80\% & 68.48\% & 28 & \#\#\#\#\#\#\#\# & HEARTLAI & 90833 & 11 & 0.00\% & 30.31\% \\
\hline 14 & 14-Nov-08 & PROTECT & 64486 & 11 & 2.24\% & 68.14\% & 28 & \#\#\#\#\#\#\#\# & MAUI LAN & 51925 & 11 & 0.00\% & 30.47\% \\
\hline 14 & 14-Nov-08 & PIPER JAF & 89968 & 11 & 3.70\% & 67.12\% & 28 & \#\#\#\#\#\#\#\# & MARTHA & 87277 & 11 & 0.00\% & 30.93\% \\
\hline 14 & 14-Nov-08 & TRINITY II & 55001 & 11 & 1.40\% & 68.70\% & 28 & \#\#\#\#\#\#\#\# & INGERSOI & 12431 & 12 & 0.00\% & 34.64\% \\
\hline 14 & 14-Nov-08 & AEROPOS & 89399 & 11 & 6.14\% & 65.91\% & 28 & \#\#\#\#\#\#\#\# & LUBYS IN & 64020 & 11 & 0.00\% & 34.51\% \\
\hline 14 & 14-Nov-08 & ALPHARM & 65832 & 11 & 5.37\% & 69.97\% & 28 & \#\#\#\#\#\#\#\# & DINEEQUI & 76732 & 11 & 0.00\% & 51.52\% \\
\hline 14 & 14-Nov-08 & CATERPIL & 18542 & 11 & 9.96\% & 67.29\% & 28 & \#\#\#\#\#\#\#\# & DEERE \& & 19350 & 11 & 0.00\% & 54.44\% \\
\hline 14 & 14-Nov-08 & BOYD GAI & 79758 & 11 & 6.98\% & 65.51\% & 28 & \#\#\#\#\#\#\#\# & A G L RES & 15553 & 11 & 0.00\% & 30.88\% \\
\hline 14 & 14-Nov-08 & WRIGHTE & 90569 & 11 & 4.94\% & 65.63\% & 28 & \#\#\#\#\#\#\#\# & DOLLAR T & 85647 & 11 & 0.00\% & 51.76\% \\
\hline 14 & 14-Nov-08 & V F CORP & 43553 & 11 & 3.71\% & 66.14\% & 28 & \#\#\#\#\#\#\#\# & CORN PRI & 85645 & 11 & 0.00\% & 52.88\% \\
\hline 14 & 14-Nov-08 & VISTEON & 88319 & 11 & 0.18\% & 67.02\% & 28 & \#\#\#\#\#\#\#\# & CON WAY & 41929 & 11 & 0.00\% & 54.67\% \\
\hline 14 & 14-Nov-08 & WHITING। & 89901 & 11 & 0.63\% & 66.39\% & 28 & \#\#\#\#\#\#\#\# & B H P BILL & 89760 & 31 & 0.00\% & 31.77\% \\
\hline 14 & 14-Nov-08 & F( & 81 & 11 & 2.30\% & 68.82\% & 28 & \#\#\#\#\#\#\#\#\# & CTS COF & 28564 & 11 & 0.00\% & 52.13\% \\
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\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & PZENA IN & 92354 & 11 & 0.00\% & 74.28\% & 28 & \#\#\#\#\#\#\#\# & DOVER M & 84026 & 11 & 0.00\% & 51.09\% \\
\hline 14 & 14-Nov-08 & CITADEL E & 89806 & 11 & 0.00\% & 70.33\% & 28 & \#\#\#\#\#\#\#\# & FIDELITY & 90925 & 11 & 0.00\% & 51.64\% \\
\hline 14 & 14-Nov-08 & RUSS BEF & 66050 & 11 & 0.00\% & 74.39\% & 28 & \#\#\#\#\#\#\#\# & FACTSET & 83597 & 11 & 0.00\% & 53.17\% \\
\hline 14 & 14-Nov-08 & RED HAT & 87184 & 11 & 0.00\% & 73.18\% & 28 & \#\#\#\#\#\#\#\# & GORMAN & 53604 & 11 & 0.00\% & 53.99\% \\
\hline 14 & 14-Nov-08 & KINDRED & 89207 & 11 & 153.46\% & 67.98\% & 28 & \#\#\#\#\#\#\#\# & GREAT AT & 26657 & 11 & 0.00\% & 52.20\% \\
\hline 14 & 14-Nov-08 & AVON PR & 40416 & 11 & 64.81\% & 68.40\% & 28 & \#\#\#\#\#\#\#\# & VAALCO E & 78841 & 11 & 0.00\% & 50.29\% \\
\hline 14 & 14-Nov-08 & Core LaE & 82656 & 12 & 51.62\% & 67.45\% & 28 & \#\#\#\#\#\#\#\# & ENISPA & 82637 & 31 & 0.00\% & 53.31\% \\
\hline 14 & 14-Nov-08 & POLYPOR & 92132 & 11 & 67.25\% & 69.80\% & 28 & \#\#\#\#\#\#\#\# & EMBRAEF & 88392 & 31 & 0.00\% & 52.34\% \\
\hline 14 & 14-Nov-08 & UNIVERS & 72864 & 48 & 62.14\% & 68.61\% & 28 & \#\#\#\#\#\#\#\# & ENERGY I & 88817 & 11 & 0.00\% & 50.23\% \\
\hline 14 & 14-Nov-08 & IM S HEA & 84020 & 11 & 0.00\% & 74.46\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 90548 & 11 & 0.00\% & 50.79\% \\
\hline 14 & 14-Nov-08 & COLFAXC & 92648 & 11 & 1.02\% & 73.89\% & 28 & \#\#\#\#\#\#\#\# & SMITH A C & 65402 & 11 & 0.00\% & 52.16\% \\
\hline 14 & 14-Nov-08 & BUNGE LT & 89138 & 12 & 3.19\% & 74.17\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 71475 & 11 & 0.00\% & 50.91\% \\
\hline 14 & 14-Nov-08 & CITGRO & 89463 & 11 & 1.28\% & 70.44\% & 28 & \#\#\#\#\#\#\#\# & AVERY DE & 44601 & 11 & 0.00\% & 54.47\% \\
\hline 14 & 14-Nov-08 & CHEMED 1 & 64194 & 11 & 4.38\% & 74.55\% & 28 & \#\#\#\#\#\#\#\# & ALBERTO & 42083 & 11 & 0.00\% & 52.21\% \\
\hline 14 & 14-Nov-08 & BALDORE & 58755 & 11 & 1.15\% & 72.50\% & 28 & \#\#\#\#\#\#\#\# & ACE LTD I & 79057 & 12 & 0.00\% & 54.28\% \\
\hline 14 & 14-Nov-08 & YUM BRAI & 85348 & 11 & 0.00\% & 71.17\% & 28 & \#\#\#\#\#\#\#\# & AMERICA & 88885 & 31 & 0.00\% & 53.91\% \\
\hline 14 & 14-Nov-08 & TETRA TE & 76127 & 11 & 0.00\% & 70.47\% & 28 & \#\#\#\#\#\#\#\# & AGREE RI & 80412 & 18 & 0.00\% & 51.18\% \\
\hline 14 & 14-Nov-08 & BAXTER II & 27887 & 11 & 2.41\% & 73.90\% & 28 & \#\#\#\#\#\#\#\# & BARD C R & 46877 & 11 & 0.00\% & 52.23\% \\
\hline 14 & 14-Nov-08 & YAMANA 1 & 89976 & 12 & 0.48\% & 72.01\% & 28 & \#\#\#\#\#\#\#\# & CROWN C & 86339 & 11 & 0.00\% & 54.87\% \\
\hline 14 & 14-Nov-08 & TREX INC & 86810 & 11 & 47.57\% & 68.34\% & 28 & \#\#\#\#\#\#\#\# & AVIS BUD & 25487 & 11 & 0.00\% & 50.11\% \\
\hline 14 & 14-Nov-08 & COMPANF & 89330 & 31 & 19.69\% & 68.01\% & 28 & \#\#\#\#\#\#\#\# & CENTERP & 21792 & 11 & 0.00\% & 50.43\% \\
\hline 14 & 14-Nov-08 & REGENCY & 79782 & 18 & 16.05\% & 65.17\% & 28 & \#\#\#\#\#\#\#\# & CHOICE H & 85517 & 11 & 0.00\% & 53.03\% \\
\hline 14 & 14-Nov-08 & FAIR ISAA & 11533 & 11 & 22.91\% & 65.97\% & 28 & \#\#\#\#\#\#\#\# & BROWN \& & 63467 & 11 & 0.00\% & 33.92\% \\
\hline 14 & 14-Nov-08 & SUNSTON & 90394 & 18 & 19.16\% & 66.77\% & 28 & \#\#\#\#\#\#\#\# & C A IINTE & 91979 & 11 & 0.00\% & 33.95\% \\
\hline 14 & 14-Nov-08 & COLLECT & 83333 & 11 & 18.27\% & 68.33\% & 28 & \#\#\#\#\#\#\#\# & B J SERVI & 76240 & 11 & 0.00\% & 30.30\% \\
\hline 14 & 14-Nov-08 & JO ANN S & 89896 & 11 & 19.94\% & 67.18\% & 28 & \#\#\#\#\#\#\#\# & BELO COF & 65509 & 11 & 0.00\% & 53.65\% \\
\hline 14 & 14-Nov-08 & GENESCC & 21055 & 11 & 18.62\% & 66.24\% & 28 & \#\#\#\#\#\#\#\# & FIDELITY & 89003 & 11 & 0.00\% & 56.90\% \\
\hline 14 & 14-Nov-08 & PINNACLE & 27991 & 11 & 16.94\% & 67.28\% & 28 & \#\#\#\#\#\#\#\# & FORTRES & 91750 & 11 & 0.00\% & 58.91\% \\
\hline 14 & 14-Nov-08 & MANULIFE & 87212 & 12 & 16.35\% & 67.90\% & 28 & \#\#\#\#\#\#\#\# & FIELDPOII & 32687 & 11 & 0.00\% & 57.99\% \\
\hline 14 & 14-Nov-08 & BANKATL & 83239 & 11 & 29.70\% & 68.10\% & 28 & \#\#\#\#\#\#\#\# & FOOT LOC & 15456 & 11 & 0.00\% & 58.65\% \\
\hline 14 & 14-Nov-08 & CBIZ INC & 81584 & 11 & 35.04\% & 68.34\% & 28 & \#\#\#\#\#\#\#\# & ENZO BIO & 33209 & 11 & 0.00\% & 55.32\% \\
\hline 14 & 14-Nov-08 & SENIORH & 87289 & 48 & 31.54\% & 65.25\% & 28 & \#\#\#\#\#\#\#\# & EASTGRC & 85082 & 18 & 0.00\% & 56.62\% \\
\hline 14 & 14-Nov-08 & CBL\&AS & 79777 & 18 & 47.32\% & 68.58\% & 28 & \#\#\#\#\#\#\#\# & FIRST BAI & 11018 & 11 & 0.00\% & 59.51\% \\
\hline 14 & 14-Nov-08 & DIAMOND & 90680 & 18 & 40.92\% & 66.60\% & 28 & \#\#\#\#\#\#\#\# & ENERGYS & 92389 & 11 & 0.00\% & 59.07\% \\
\hline 14 & 14-Nov-08 & RAIT FINA & 85772 & 48 & 34.82\% & 67.51\% & 28 & \#\#\#\#\#\#\#\# & GAFISA S & 91859 & 31 & 0.00\% & 58.89\% \\
\hline 14 & 14-Nov-08 & MACYS IN & 77462 & 11 & 33.58\% & 66.53\% & 28 & \#\#\#\#\#\#\#\# & HYPERCC & 85611 & 11 & 0.00\% & 56.44\% \\
\hline 14 & 14-Nov-08 & REALTY II & 81045 & 18 & 28.34\% & 67.08\% & 28 & \#\#\#\#\#\#\#\# & HILL ROM & 52716 & 11 & 0.00\% & 55.17\% \\
\hline 14 & 14-Nov-08 & ANNALY C & 85414 & 18 & 32.26\% & 69.09\% & 28 & \#\#\#\#\#\#\#\# & NORDSTF & 57817 & 11 & 0.00\% & 56.76\% \\
\hline 14 & 14-Nov-08 & MURPHY 1 & 28345 & 11 & 32.15\% & 66.76\% & 28 & \#\#\#\#\#\#\#\# & INVESTME & 46392 & 11 & 0.00\% & 56.56\% \\
\hline 14 & 14-Nov-08 & NOVA CHI & 86303 & 12 & 2.99\% & 81.53\% & 28 & \#\#\#\#\#\#\#\# & GERDAU, & 90380 & 12 & 0.00\% & 56.52\% \\
\hline 14 & 14-Nov-08 & LOUISIAN, & 56223 & 11 & 0.90\% & 80.89\% & 28 & \#\#\#\#\#\#\#\# & GLATFEL7 & 57154 & 11 & 0.00\% & 59.52\% \\
\hline 14 & 14-Nov-08 & N V R INC & 79785 & 11 & 0.62\% & 84.48\% & 28 & \#\#\#\#\#\#\#\# & BLOCK H & 49373 & 11 & 0.00\% & 59.12\% \\
\hline 14 & 14-Nov-08 & NALCO HC & 90439 & 11 & 0.90\% & 81.98\% & 28 & \#\#\#\#\#\#\#\# & HEALTH \({ }^{\text {a }}\) & 76697 & 11 & 0.00\% & 56.18\% \\
\hline 14 & 14-Nov-08 & IMATION ( & 83602 & 11 & 3.88\% & 81.99\% & 28 & \#\#\#\#\#\#\#\# & BANCO L/ & 77920 & 12 & 0.00\% & 57.63\% \\
\hline 14 & 14-Nov-08 & FRONTIEF & 56063 & 11 & 4.29\% & 83.88\% & 28 & \#\#\#\#\#\#\#\# & BUCKEYE & 82635 & 11 & 0.00\% & 58.80\% \\
\hline 14 & 14-Nov-08 & DISCOVEF & 92121 & 11 & 0.30\% & 81.82\% & 28 & \#\#\#\#\#\#\#\# & CARDINAI & 21371 & 11 & 0.00\% & 58.79\% \\
\hline 14 & 14-Nov-08 & HILL INTE & 91355 & 11 & 0.87\% & 80.46\% & 28 & \#\#\#\#\#\#\#\# & BANCORF & 85789 & 11 & 0.00\% & 55.54\% \\
\hline 14 & 14-Nov-08 & GOODYEF & 16432 & 11 & 2.97\% & 84.04\% & 28 & \#\#\#\#\#\#\#\# & EMBARQ 1 & 91218 & 11 & 0.00\% & 27.47\% \\
\hline 14 & 14-Nov-08 & ORIENT E & 88495 & 12 & 0.05\% & 81.44\% & 28 & \#\#\#\#\#\#\#\# & BRINKS C & 18649 & 11 & 0.00\% & 59.90\% \\
\hline 14 & 14-Nov-08 & CABELAS & 90200 & 11 & 5.12\% & 83.05\% & 28 & \#\#\#\#\#\#\#\# & BENCHMA & 76224 & 11 & 0.00\% & 55.40\% \\
\hline 14 & 14-Nov-08 & ARMSTRC & 91516 & 11 & 9.14\% & 83.43\% & 28 & \#\#\#\#\#\#\#\# & FRANKLIN & 37584 & 11 & 0.00\% & 59.36\% \\
\hline 14 & 14-Nov-08 & FAMILY DI & 53866 & 11 & 9.56\% & 82.11\% & 28 & \#\#\#\#\#\#\#\# & CONTINEP & 79641 & 11 & 0.00\% & 56.37\% \\
\hline 14 & 14-Nov-08 & CAPSTEA & 68021 & 18 & 5.70\% & 82.81\% & 28 & \#\#\#\#\#\#\#\# & D HTMAF & 90943 & 12 & 0.00\% & 58.62\% \\
\hline 14 & 14-Nov-08 & AUTONAT & 76282 & 11 & 7.77\% & 81.77\% & 28 & \#\#\#\#\#\#\#\# & DELTA AIF & 91926 & 11 & 0.00\% & 59.29\% \\
\hline 14 & 14-Nov-08 & SOLERA - & 92021 & 11 & 1.01\% & 82.76\% & 28 & \#\#\#\#\#\#\#\# & DYCOM II & 12008 & 11 & 0.00\% & 55.98\% \\
\hline 14 & 14-Nov-08 & STONE ET & 79444 & 11 & 0.81\% & 84.55\% & 28 & \#\#\#\#\#\#\#\# & DEVRY IN & 76708 & 11 & 0.00\% & 57.49\% \\
\hline 14 & 14-Nov-08 & ACADIA \(R\) & 79235 & 48 & 6.54\% & 83.81\% & 28 & \#\#\#\#\#\#\#\# & CARBO CI & 83366 & 11 & 0.00\% & 58.90\% \\
\hline 14 & 14-Nov-08 & TITAN INT & 79198 & 11 & 1.83\% & 82.31\% & 28 & \#\#\#\#\#\#\#\# & DIANA SH & 90630 & 12 & 0.00\% & 27.14\% \\
\hline 14 & 14-Nov-08 & COX RADI & 83982 & 11 & 4.54\% & 82.44\% & 28 & \#\#\#\#\#\#\#\# & CITY NATI & 23916 & 11 & 0.00\% & 56.31\% \\
\hline 14 & 14-Nov-08 & TAUBMAN & 78089 & 18 & 56.75\% & 75.99\% & 28 & \#\#\#\#\#\#\#\# & D PLINC & 22859 & 11 & 0.00\% & 25.69\% \\
\hline 14 & 14-Nov-08 & GREATBA & 88615 & 11 & 54.00\% & 75.48\% & 28 & \#\#\#\#\#\#\#\# & PRIMEDIA & 82640 & 11 & 0.00\% & 57.55\% \\
\hline 14 & 14-Nov-08 & M D S INC & 87841 & 12 & 78.77\% & 75.68\% & 28 & \#\#\#\#\#\#\#\# & PIER 1 IMI & 51692 & 11 & 0.00\% & 58.82\% \\
\hline 14 & 14-Nov-08 & ORIENTAL & 11208 & 11 & 60.30\% & 76.85\% & 28 & \#\#\#\#\#\#\#\# & ROCKWO & 90849 & 11 & 0.00\% & 59.57\% \\
\hline 14 & 14-Nov-08 & W \& T OFI & 90533 & 11 & 45.79\% & 77.16\% & 28 & \#\#\#\#\#\#\#\# & P S BUSİ & 76602 & 18 & 0.00\% & 58.09\% \\
\hline 14 & 14-Nov-08 & PENNSYL' & 50702 & 48 & 32.15\% & 77.35\% & 28 & \#\#\#\#\#\#\#\# & PEP BOY & 35238 & 11 & 0.00\% & 58.99\% \\
\hline 14 & 14-Nov-08 & GANNETT & 47941 & 11 & 32.71\% & 77.44\% & 28 & \#\#\#\#\#\#\#\# & CANON IN & 21152 & 31 & 0.00\% & 26.69\% \\
\hline 14 & 14-Nov-08 & AARON RI & 78049 & 11 & 36.65\% & 75.85\% & 28 & \#\#\#\#\#\#\#\# & PEDIATRI: & 82272 & 11 & 0.00\% & 58.17\% \\
\hline 14 & 14-Nov-08 & ZALE COF & 79672 & 11 & 34.70\% & 77.73\% & 28 & \#\#\#\#\#\#\#\# & PIONEER & 63335 & 11 & 0.00\% & 56.95\% \\
\hline 14 & 14-Nov-08 & ARENA RE & 89727 & 11 & 0.00\% & 84.81\% & 28 & \#\#\#\#\#\#\#\# & RAMCO G & 75416 & 48 & 0.00\% & 56.56\% \\
\hline 14 & 14-Nov-08 & A K STEEI & 80303 & 11 & 2.70\% & 84.07\% & 28 & \#\#\#\#\#\#\#\# & BURGERI & 91212 & 11 & 0.00\% & 27.65\% \\
\hline 14 & 14-Nov-08 & A E S COF & 76712 & 11 & 4.94\% & 83.98\% & 28 & \#\#\#\#\#\#\#\#\# & S LM COF & 66325 & 11 & 0.00\% & 56.56\% \\
\hline 14 & 14-Nov-08 & BROOKFIE & 89647 & 11 & 0.78\% & 81.14\% & 28 & \#\#\#\#\#\#\#\#\# & SOUTHWE & 61188 & 11 & 0.00\% & 59.30\% \\
\hline 14 & 14-Nov-08 & ALASKA A & 28804 & 11 & 0.49\% & 83.75\% & 28 & \#\#\#\#\#\#\#\# & SUPERIOF & 52396 & 11 & 0.00\% & 59.45\% \\
\hline 14 & 14-Nov-08 & ABBOTT L & 20482 & 11 & 0.97\% & 83.63\% & 28 & \#\#\#\#\#\#\#\# & RASER TE & 91840 & 11 & 0.00\% & 56.66\% \\
\hline 14 & 14-Nov-08 & ELAN PLC & 31799 & 31 & 0.00\% & 80.95\% & 28 & \#\#\#\#\#\#\#\# & RELIANT I & 88992 & 11 & 0.00\% & 58.88\% \\
\hline 14 & 14-Nov-08 & BROOKDA & 90988 & 11 & 0.00\% & 84.61\% & 28 & \#\#\#\#\#\#\#\# & STEPAN C & 36898 & 11 & 0.00\% & 55.69\% \\
\hline 14 & 14-Nov-08 & PRIMEDIA & 82640 & 11 & 0.00\% & 82.00\% & 28 & \#\#\#\#\#\#\#\# & BORGWAI & 79545 & 11 & 0.00\% & 29.17\% \\
\hline 14 & 14-Nov-08 & STEINWA & 83832 & 11 & 0.00\% & 82.07\% & 28 & \#\#\#\#\#\#\#\# & LIVE NATI & 91041 & 11 & 0.00\% & 58.91\% \\
\hline 14 & 14-Nov-08 & LIBERTY F & 80691 & 48 & 31.90\% & 83.44\% & 28 & \#\#\#\#\#\#\#\# & LAS VEGA & 90505 & 11 & 0.00\% & 59.66\% \\
\hline 14 & 14-Nov-08 & D C T INDI & 91635 & 18 & 31.16\% & 80.27\% & 28 & \#\#\#\#\#\#\#\# & CPICOR & 20248 & 11 & 0.00\% & 26.05\% \\
\hline 14 & 14-Nov-08 & EXTRA SF & 90305 & 18 & 38.88\% & 82.04\% & 28 & \#\#\#\#\#\#\#\# & DELTIC TI & 84365 & 11 & 0.00\% & 28.13\% \\
\hline 14 & 14-Nov-08 & CAPITALS & 89805 & 18 & 36.42\% & 83.27\% & 28 & \#\#\#\#\#\#\#\#\# & KEY ENEF & 63079 & 11 & 0.00\% & 55.37\% \\
\hline 14 & 14-Nov-08 & MYLAN IN & 69550 & 11 & 29.63\% & 80.19\% & 28 & \#\#\#\#\#\#\#\# & BMBMUI & 91437 & 11 & 0.00\% & 55.88\% \\
\hline 14 & 14-Nov-08 & NATURAL & 89546 & 11 & 24.43\% & 83.71\% & 28 & \#\#\#\#\#\#\#\# & QUAKER ( & 64929 & 11 & 0.00\% & 55.14\% \\
\hline 14 & 14-Nov-08 & AVALONB & 80381 & 18 & 21.49\% & 80.19\% & 28 & \#\#\#\#\#\#\#\# & KINDRED & 89207 & 11 & 0.00\% & 56.03\% \\
\hline 14 & 14-Nov-08 & CITIGROU & 70519 & 11 & 25.23\% & 83.38\% & 28 & \#\#\#\#\#\#\#\# & MIDAS INC & 85770 & 11 & 0.00\% & 56.52\% \\
\hline 14 & 14-Nov-08 & RUDDICK & 54818 & 11 & 24.14\% & 83.19\% & 28 & \#\#\#\#\#\#\#\# & NAVISTAF & 12503 & 11 & 0.00\% & 58.45\% \\
\hline 14 & 14-Nov-08 & HNICOR & 42439 & 11 & 37.27\% & 83.13\% & 28 & \#\#\#\#\#\#\#\# & MEADWE: & 21186 & 11 & 0.00\% & 59.61\% \\
\hline 14 & 14-Nov-08 & CAMBREX & 11707 & 11 & 0.00\% & 85.13\% & 28 & \#\#\#\#\#\#\#\# & NORTHEF & 92601 & 11 & 0.00\% & 56.81\% \\
\hline 14 & 14-Nov-08 & AMERICAI & 11144 & 11 & 0.00\% & 89.55\% & 28 & \#\#\#\#\#\#\#\# & NEWFIELI & 79915 & 11 & 0.00\% & 58.69\% \\
\hline 14 & 14-Nov-08 & SUNTECH & 91061 & 31 & 0.00\% & 86.99\% & 28 & \#\#\#\#\#\#\#\# & MAIDENF( & 90789 & 11 & 0.00\% & 55.25\% \\
\hline 14 & 14-Nov-08 & COOPER1 & 65541 & 11 & 0.00\% & 89.39\% & 28 & \#\#\#\#\#\#\#\# & METHODE & 53197 & 11 & 0.00\% & 59.77\% \\
\hline 14 & 14-Nov-08 & ALONUS & 90779 & 11 & 0.00\% & 85.88\% & 28 & \#\#\#\#\#\#\#\# & ARCELOR & 85261 & 12 & 0.00\% & 59.64\% \\
\hline 14 & 14-Nov-08 & SIX FLAG & 76209 & 11 & 43.54\% & 81.55\% & 28 & \#\#\#\#\#\#\#\# & CONSECC & 89841 & 11 & 0.00\% & 29.61\% \\
\hline 14 & 14-Nov-08 & LIZ CLAIB1 & 49905 & 11 & 36.48\% & 84.19\% & 28 & \#\#\#\#\#\#\#\# & AIRCASTL & 91426 & 12 & 0.00\% & 58.08\% \\
\hline 14 & 14-Nov-08 & IN TV CC & 89407 & 11 & 96.97\% & 83.63\% & 28 & \#\#\#\#\# & CUMMINS & 41080 & 11 & 0.28\% & 26.64\% \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & GRAY TEL & 83989 & 11 & 76.54\% & 81.87\% & 28 & \#\#\#\#\#\#\#\# & ROCKWEI & 89014 & 11 & 0.22\% & 25.04\% \\
\hline 14 & 14-Nov-08 & ARCHER [ & 10516 & 11 & 21.15\% & 81.12\% & 28 & \#\#\#\#\#\#\#\# & ALLIED W & 76887 & 11 & 0.96\% & 28.88\% \\
\hline 14 & 14-Nov-08 & FPL GRC & 24205 & 11 & 14.13\% & 81.89\% & 28 & \#\#\#\#\#\#\#\# & WINNEBA & 51086 & 11 & 5.78\% & 52.02\% \\
\hline 14 & 14-Nov-08 & SPEEDW & 81292 & 11 & 6.52\% & 81.45\% & 28 & \#\#\#\#\#\#\#\# & FEDERAL & 51043 & 11 & 7.63\% & 53.31\% \\
\hline 14 & 14-Nov-08 & HARTE H/ & 79903 & 11 & 14.88\% & 80.83\% & 28 & \#\#\#\#\#\#\#\# & FREEPOR & 81774 & 11 & 7.32\% & 53.11\% \\
\hline 14 & 14-Nov-08 & GUARANT & 92483 & 11 & 10.03\% & 81.34\% & 28 & \#\#\#\#\#\#\#\# & O OXFORD I & 34948 & 11 & 8.07\% & 51.36\% \\
\hline 14 & 14-Nov-08 & T C F Finf & 10375 & 11 & 8.55\% & 84.72\% & 28 & \#\#\#\#\#\#\#\# & ENTERCC & 86560 & 11 & 4.85\% & 29.71\% \\
\hline 14 & 14-Nov-08 & MCMORAI & 80557 & 11 & 5.22\% & 80.08\% & 28 & \#\#\#\#\#\#\#\# & WESTWO & 89443 & 11 & 0.00\% & 27.50\% \\
\hline 14 & 14-Nov-08 & HARTFOR & 82775 & 11 & 8.48\% & 84.61\% & 28 & \#\#\#\#\#\#\#\# & SOCIEDAI & 79663 & 31 & 0.00\% & 28.58\% \\
\hline 14 & 14-Nov-08 & PAR PHAF & 61138 & 11 & 5.21\% & 84.53\% & 28 & \#\#\#\#\#\#\#\# & NEW YOR & 79859 & 11 & 12.13\% & 54.86\% \\
\hline 14 & 14-Nov-08 & NEWMON & 21207 & 11 & 7.79\% & 84.78\% & 28 & \#\#\#\#\#\#\#\# & SANDRID & 92421 & 11 & 0.00\% & 25.89\% \\
\hline 14 & 14-Nov-08 & MONTPEL & 89557 & 12 & 13.75\% & 81.57\% & 28 & \#\#\#\#\#\#\#\# & SAUER D/ & 86034 & 11 & 0.00\% & 26.67\% \\
\hline 14 & 14-Nov-08 & LT C PRC & 77878 & 18 & 20.00\% & 80.77\% & 28 & \#\#\#\#\#\#\#\# & \# TIME WAF & 91883 & 11 & 0.00\% & 29.92\% \\
\hline 14 & 14-Nov-08 & KRAFT FC & 89006 & 11 & 19.86\% & 83.14\% & 28 & \#\#\#\#\#\#\#\# & U UNITRIN II & 76136 & 11 & 0.00\% & 29.82\% \\
\hline 14 & 14-Nov-08 & SCHLUMB & 14277 & 12 & 18.38\% & 82.98\% & 28 & \#\#\#\#\#\#\#\# & \# HARLEY [ & 70033 & 11 & 13.07\% & 50.37\% \\
\hline 14 & 14-Nov-08 & PFIZER IN & 21936 & 11 & 15.61\% & 84.25\% & 28 & \#\#\#\#\#\#\#\# & GRAINGEI & 52695 & 11 & 13.20\% & 53.12\% \\
\hline 14 & 14-Nov-08 & JARDEN C & 78977 & 11 & 16.65\% & 83.91\% & 28 & \#\#\#\#\#\#\#\# & M M P S GRi & 80797 & 11 & 0.29\% & 51.20\% \\
\hline 14 & 14-Nov-08 & CHINA SE & 92328 & 11 & 15.63\% & 84.00\% & 28 & \#\#\#\#\#\#\#\# & MILLIPOR & 54181 & 11 & 1.89\% & 53.86\% \\
\hline 14 & 14-Nov-08 & PLANTRO & 80185 & 11 & 14.34\% & 82.40\% & 28 & \#\#\#\#\#\#\#\# & 99 CENTS & 83452 & 11 & 0.54\% & 54.99\% \\
\hline 14 & 14-Nov-08 & HOME DE & 66181 & 11 & 17.25\% & 80.46\% & 28 & \#\#\#\#\#\#\#\# & METTLER & 85621 & 12 & 0.07\% & 54.04\% \\
\hline 14 & 14-Nov-08 & GENERAL & 12079 & 11 & 15.80\% & 82.57\% & 28 & \#\#\#\#\#\#\#\# & WABTEC & 81677 & 11 & 0.24\% & 27.82\% \\
\hline 14 & 14-Nov-08 & HERSHEY & 16600 & 11 & 1.32\% & 75.77\% & 28 & \#\#\#\#\#\#\#\# & WEIGHT V & 89244 & 11 & 1.24\% & 28.81\% \\
\hline 14 & 14-Nov-08 & HANGER 1 & 10051 & 11 & 2.42\% & 79.23\% & 28 & \#\#\#\#\#\#\#\# & \# MDURE: & 23835 & 11 & 1.07\% & 53.35\% \\
\hline 14 & 14-Nov-08 & MERRILLI & 52919 & 11 & 4.90\% & 77.40\% & 28 & \#\#\#\#\#\#\#\# & LEXINGTC & 79770 & 18 & 1.77\% & 53.83\% \\
\hline 14 & 14-Nov-08 & HEXCEL C & 61567 & 11 & 4.04\% & 75.23\% & 28 & \#\#\#\#\#\#\#\# & NAUTILUS & 86889 & 11 & 2.62\% & 54.95\% \\
\hline 14 & 14-Nov-08 & FRONTLIN & 89139 & 12 & 3.00\% & 76.59\% & 28 & \#\#\#\#\#\#\#\# & MCKESSC & 81061 & 11 & 1.88\% & 29.33\% \\
\hline 14 & 14-Nov-08 & DRIL QUIF & 85424 & 11 & 1.62\% & 77.47\% & 28 & \#\#\#\#\#\#\#\# & M S C IND & 82777 & 11 & 0.15\% & 27.76\% \\
\hline 14 & 14-Nov-08 & DR PEPPE & 92618 & 11 & 4.38\% & 76.74\% & 28 & \#\#\#\#\#\#\#\# & GUESS IN & 83822 & 11 & 3.49\% & 27.57\% \\
\hline 14 & 14-Nov-08 & FRIEDMA & 85653 & 18 & 0.53\% & 76.37\% & 28 & \#\#\#\#\#\#\#\# & LENDER F & 92697 & 11 & 2.31\% & 26.75\% \\
\hline 14 & 14-Nov-08 & ENBRIDGI & 86106 & 11 & 1.29\% & 79.92\% & 28 & \#\#\#\#\#\#\#\# & SERVICE & 51625 & 11 & 0.22\% & 50.08\% \\
\hline 14 & 14-Nov-08 & MARSHAL & 51706 & 11 & 0.09\% & 77.02\% & 28 & \#\#\#\#\#\#\#\# & NYSEEI & 91143 & 11 & 4.77\% & 52.04\% \\
\hline 14 & 14-Nov-08 & REGIS CO & 76711 & 11 & 3.59\% & 79.05\% & 28 & \#\#\#\#\#\#\#\# & UNITEDHE & 92655 & 11 & 1.24\% & 53.01\% \\
\hline 14 & 14-Nov-08 & PILGRIMS & 70965 & 11 & 0.22\% & 76.87\% & 28 & \#\#\#\#\#\#\#\# & ST JUDE I & 68591 & 11 & 0.01\% & 53.62\% \\
\hline 14 & 14-Nov-08 & SIMPSON & 80575 & 11 & 1.91\% & 79.76\% & 28 & \#\#\#\#\#\#\#\# & ASSISTE[ & 91517 & 11 & 0.00\% & 55.99\% \\
\hline 14 & 14-Nov-08 & STANDAR & 72494 & 11 & 1.02\% & 75.63\% & 28 & \#\#\#\#\#\#\#\# & A M N HE & 89215 & 11 & 0.00\% & 59.13\% \\
\hline 14 & 14-Nov-08 & PIER 1 IMf & 51692 & 11 & 0.59\% & 79.05\% & 28 & \#\#\#\#\#\#\#\# & AMRCOI & 21020 & 11 & 0.00\% & 56.37\% \\
\hline 14 & 14-Nov-08 & NCRCOF & 84372 & 11 & 1.58\% & 77.89\% & 28 & \#\#\#\#\#\#\#\# & ALAMO GI & 78950 & 11 & 0.00\% & 55.21\% \\
\hline 14 & 14-Nov-08 & MGICIN & 76804 & 11 & 2.58\% & 77.22\% & 28 & \#\#\#\#\#\#\#\# & AGILENT & 87432 & 11 & 0.00\% & 55.89\% \\
\hline 14 & 14-Nov-08 & NEW YOR & 90387 & 11 & 4.35\% & 76.29\% & 28 & \#\#\#\#\#\#\#\# & SYSTEMA & 81665 & 11 & 50.93\% & 52.78\% \\
\hline 14 & 14-Nov-08 & NATCO GI & 87539 & 11 & 2.89\% & 75.96\% & 28 & \#\#\#\#\#\#\#\# & ASSOCIAT & 79893 & 18 & 0.00\% & 58.09\% \\
\hline 14 & 14-Nov-08 & CANADIAT & 88391 & 12 & 0.54\% & 78.18\% & 28 & \#\#\#\#\#\#\#\# & AIRTRAN & 80670 & 11 & 0.00\% & 56.50\% \\
\hline 14 & 14-Nov-08 & FORTRES & 91750 & 11 & 0.00\% & 75.70\% & 28 & \#\#\#\#\#\#\#\# & ALLIED NE & 91976 & 11 & 0.00\% & 58.03\% \\
\hline 14 & 14-Nov-08 & ENERGEN & 26470 & 11 & 0.00\% & 76.59\% & 28 & \#\#\#\#\#\#\#\# & AVNET IN: & 27684 & 11 & 0.00\% & 58.39\% \\
\hline 14 & 14-Nov-08 & GAFISA S & 91859 & 31 & 0.00\% & 76.84\% & 28 & \#\#\#\#\#\#\#\# & AVON PR & 40416 & 11 & 0.00\% & 57.39\% \\
\hline 14 & 14-Nov-08 & FRANCE 1 & 85425 & 31 & 0.00\% & 78.79\% & 28 & \#\#\#\#\#\#\#\# & ALEXAND & 11691 & 11 & 0.00\% & 58.89\% \\
\hline 14 & 14-Nov-08 & CONSOLII & 11404 & 11 & 0.00\% & 77.81\% & 28 & \#\#\#\#\#\#\#\# & A \(\vee \times\) COF & 81912 & 11 & 0.00\% & 58.84\% \\
\hline 14 & 14-Nov-08 & AMREP CI & 38746 & 11 & 318.97\% & 73.20\% & 28 & \#\#\#\#\#\#\#\# & AMPCO PI & 18075 & 11 & 0.00\% & 58.64\% \\
\hline 14 & 14-Nov-08 & BLYTH IN & 80592 & 11 & 72.72\% & 70.91\% & 28 & \#\#\#\#\#\#\#\# & INTERAC1 & 34981 & 11 & 0.00\% & 25.18\% \\
\hline 14 & 14-Nov-08 & ALESCO F & 90077 & 18 & 0.00\% & 79.01\% & 28 & \#\#\#\#\#\#\#\# & FLAGSTO & 91887 & 12 & 0.00\% & 28.39\% \\
\hline 14 & 14-Nov-08 & ARBOR RI & 90102 & 18 & 0.00\% & 76.91\% & 28 & \#\#\#\#\#\#\#\# & GENESIS & 91638 & 31 & 0.00\% & 28.55\% \\
\hline 14 & 14-Nov-08 & MCDERM & 64629 & 12 & 0.00\% & 75.72\% & 28 & \#\#\#\#\#\#\#\# & PUGET ET & 25443 & 11 & 0.00\% & 25.02\% \\
\hline 14 & 14-Nov-08 & BUILD A B & 90371 & 11 & 3.58\% & 77.28\% & 28 & \#\#\#\#\#\#\#\# & ROLLINS I & 36003 & 11 & 0.00\% & 26.69\% \\
\hline 14 & 14-Nov-08 & AMEREN ( & 24985 & 11 & 3.74\% & 76.91\% & 28 & \#\#\#\#\#\#\#\# & OIL STATE & 88897 & 11 & 0.00\% & 25.94\% \\
\hline 14 & 14-Nov-08 & COMERIC. & 25081 & 11 & 1.15\% & 78.75\% & 28 & \#\#\#\#\#\#\#\# & POSCO & 81044 & 31 & 0.00\% & 25.45\% \\
\hline 14 & 14-Nov-08 & BRUNSWI & 10874 & 11 & 1.69\% & 76.70\% & 28 & \#\#\#\#\#\#\#\# & \# ROPER IN & 77338 & 11 & 0.00\% & 28.77\% \\
\hline 14 & 14-Nov-08 & WESTERI & 90776 & 11 & 0.00\% & 75.72\% & 28 & \#\#\#\#\#\#\#\# & ASBURY \(/\) & 89327 & 11 & 16.22\% & 54.42\% \\
\hline 14 & 14-Nov-08 & PRE PAID & 63811 & 11 & 0.00\% & 76.84\% & 28 & \#\#\#\#\#\#\#\# & UNIFI INC & 78044 & 11 & 19.62\% & 52.11\% \\
\hline 14 & 14-Nov-08 & NATIONAL & 34497 & 11 & 0.00\% & 79.18\% & 28 & \#\#\#\#\#\#\#\# & CITIGROU & 70519 & 11 & 19.51\% & 54.91\% \\
\hline 14 & 14-Nov-08 & VALMONT & 80128 & 11 & 0.00\% & 77.83\% & 28 & \#\#\#\#\#\#\#\# & NOBLE CC & 90537 & 12 & 0.00\% & 28.42\% \\
\hline 14 & 14-Nov-08 & REX STOF & 68830 & 11 & 0.00\% & 76.36\% & 28 & \#\#\#\#\#\#\#\# & ANNALY C & 85414 & 18 & 46.91\% & 54.08\% \\
\hline 14 & 14-Nov-08 & LEAR COF & 80422 & 11 & 18.85\% & 76.43\% & 28 & \#\#\#\#\#\#\#\# & CAPLEASI & 90064 & 18 & 0.00\% & 25.48\% \\
\hline 14 & 14-Nov-08 & GREENHII & 90164 & 11 & 17.13\% & 75.80\% & 28 & \#\#\#\#\#\#\#\# & INDEPEN[ & 43837 & 11 & 0.00\% & 29.69\% \\
\hline 14 & 14-Nov-08 & NATIONAL & 25590 & 11 & 16.34\% & 78.01\% & 28 & \#\#\#\#\#\#\#\# & ARMSTRC & 91516 & 11 & 52.84\% & 53.75\% \\
\hline 14 & 14-Nov-08 & MET PRO & 60548 & 11 & 19.13\% & 78.87\% & 28 & \#\#\#\#\#\#\#\# & MAXIMUS & 85067 & 11 & 0.00\% & 25.98\% \\
\hline 14 & 14-Nov-08 & BEAZER + & 80193 & 11 & 15.24\% & 75.98\% & 28 & \#\#\#\#\#\#\#\# & MARVEL E & 81293 & 11 & 0.00\% & 29.02\% \\
\hline 14 & 14-Nov-08 & RSCHOL & 92018 & 11 & 14.58\% & 79.41\% & 28 & \#\#\#\#\#\#\#\# & MARINER & 91116 & 11 & 0.00\% & 29.05\% \\
\hline 14 & 14-Nov-08 & WORLD 4 & 87356 & 11 & 5.91\% & 77.72\% & 28 & \#\#\#\#\#\#\#\# & MARKEL C & 10933 & 11 & 0.00\% & 26.86\% \\
\hline 14 & 14-Nov-08 & UNIVERS \(/\) & 16555 & 11 & 12.83\% & 79.99\% & 28 & \#\#\#\#\#\#\#\# & BERKLEY & 17743 & 11 & 0.00\% & 35.09\% \\
\hline 14 & 14-Nov-08 & TATA MOT & 90346 & 31 & 10.69\% & 77.79\% & 28 & \#\#\#\#\#\#\#\# & FOREST C & 37234 & 11 & 0.43\% & 43.82\% \\
\hline 14 & 14-Nov-08 & NATIONW & 68312 & 18 & 19.51\% & 76.27\% & 28 & \#\#\#\#\#\#\#\# & WAUSAU & 81702 & 11 & 0.00\% & 36.84\% \\
\hline 14 & 14-Nov-08 & LEGG MA: & 65330 & 11 & 26.62\% & 79.28\% & 28 & \#\#\#\#\#\#\#\# & STARWOC & 91207 & 18 & 4.74\% & 41.17\% \\
\hline 14 & 14-Nov-08 & BOSTON I & 85058 & 18 & 29.86\% & 77.37\% & 28 & \#\#\#\#\#\#\#\# & DR PEPPE & 92618 & 11 & 3.45\% & 43.13\% \\
\hline 14 & 14-Nov-08 & TREEHOU & 90775 & 11 & 29.97\% & 78.02\% & 28 & \#\#\#\#\#\#\#\# & BRANDYV & 70121 & 48 & 1.03\% & 35.21\% \\
\hline 14 & 14-Nov-08 & REDWOOI & 82213 & 18 & 27.33\% & 79.93\% & 28 & \#\#\#\#\#\#\#\# & WATTS W & 10606 & 11 & 0.00\% & 35.97\% \\
\hline 14 & 14-Nov-08 & GENERAL & 17144 & 11 & 21.22\% & 77.54\% & 28 & \#\#\#\#\#\#\#\# & AMPHENC & 84769 & 11 & 4.89\% & 38.97\% \\
\hline 14 & 14-Nov-08 & AMBPRC & 85592 & 18 & 22.06\% & 75.58\% & 28 & \#\#\#\#\#\#\#\# & INGRAM N & 84168 & 11 & 0.09\% & 42.00\% \\
\hline 14 & 14-Nov-08 & AMERIGR & 89204 & 11 & 24.54\% & 76.62\% & 28 & \#\#\#\#\#\#\#\# & MI HOME: & 79909 & 11 & 0.71\% & 44.21\% \\
\hline 14 & 14-Nov-08 & FIRST PO & 89878 & 48 & 21.27\% & 79.24\% & 28 & \#\#\#\#\#\#\#\# & TSAKOS E & 89349 & 12 & 0.00\% & 38.51\% \\
\hline 14 & 14-Nov-08 & MACK CAI & 80779 & 18 & 23.88\% & 78.68\% & 28 & \#\#\#\#\#\#\#\# & SYSCO Cl & 52038 & 11 & 0.00\% & 35.38\% \\
\hline 14 & 14-Nov-08 & WEBSTEF & 10932 & 11 & 7.00\% & 76.08\% & 28 & \#\#\#\#\#\#\#\# & TECHNITF & 44513 & 11 & 0.00\% & 38.05\% \\
\hline 14 & 14-Nov-08 & HHGREGC & 92177 & 11 & 9.69\% & 78.54\% & 28 & \#\#\#\#\#\#\#\# & WESTMOI & 59467 & 11 & 0.00\% & 39.88\% \\
\hline 14 & 14-Nov-08 & CHINA MC & 85421 & 31 & 5.53\% & 78.98\% & 28 & \#\#\#\#\#\#\#\# & JACOBS E & 52329 & 11 & 0.19\% & 44.00\% \\
\hline 14 & 14-Nov-08 & LEGGETT & 60943 & 11 & 6.91\% & 78.85\% & 28 & \#\#\#\#\#\#\#\# & UNISYS C & 10890 & 11 & 0.00\% & 36.44\% \\
\hline 14 & 14-Nov-08 & LIbBEY IN & 79336 & 11 & 7.55\% & 78.78\% & 28 & \#\#\#\#\#\#\#\# & ULTRA PE & 88882 & 12 & 0.00\% & 38.77\% \\
\hline 14 & 14-Nov-08 & WYETH & 15667 & 11 & 1.25\% & 79.70\% & 28 & \#\#\#\#\#\#\#\# & URSTADT & 86313 & 18 & 0.00\% & 41.44\% \\
\hline 14 & 14-Nov-08 & PERUSAH & 82646 & 31 & 2.72\% & 78.35\% & 28 & \#\#\#\#\#\#\#\# & TYLER TE & 76185 & 11 & 0.00\% & 43.47\% \\
\hline 14 & 14-Nov-08 & TALBOTS & 79922 & 11 & 0.13\% & 76.12\% & 28 & \#\#\#\#\#\#\#\# & VALIDUS I & 92191 & 12 & 0.00\% & 42.54\% \\
\hline 14 & 14-Nov-08 & VALERO E & 85269 & 11 & 3.26\% & 79.38\% & 28 & \#\#\#\#\#\#\#\# & VALLEY N & 80072 & 11 & 0.00\% & 40.68\% \\
\hline 14 & 14-Nov-08 & OPEN JOI & 84173 & 31 & 2.37\% & 78.91\% & 28 & \#\#\#\#\#\#\#\# & HANOVEF & 82292 & 11 & 0.00\% & 43.14\% \\
\hline 14 & 14-Nov-08 & MASTERC & 91233 & 11 & 8.01\% & 76.15\% & 28 & \#\#\#\#\#\#\#\# & TREDEGA & 75649 & 11 & 0.00\% & 41.34\% \\
\hline 14 & 14-Nov-08 & S W S GR & 77043 & 11 & 6.15\% & 77.83\% & 28 & \#\#\#\#\#\#\#\# & EASTMAN & 80080 & 11 & 0.00\% & 38.24\% \\
\hline 14 & 14-Nov-08 & STONERIL & 85440 & 11 & 7.12\% & 79.79\% & 28 & \#\#\#\#\#\#\#\# & TRI VALLE & 89885 & 11 & 0.00\% & 44.13\% \\
\hline 14 & 14-Nov-08 & GRUPO TI & 80089 & 31 & 8.33\% & 78.15\% & 28 & \#\#\#\#\#\#\#\# & WABCO H & 92188 & 11 & 0.00\% & 43.49\% \\
\hline 14 & 14-Nov-08 & SYBASE II & 76792 & 11 & 9.67\% & 76.38\% & 28 & \#\#\#\#\#\#\#\# & CLARCOR & 23975 & 11 & 0.10\% & 44.77\% \\
\hline 14 & 14-Nov-08 & PARKER [ & 58675 & 11 & 5.07\% & 78.34\% & 28 & \#\#\#\#\#\#\#\# & APACHE ( & 39490 & 11 & 0.10\% & 42.31\% \\
\hline 14 & 14-Nov-08 & NEENAH F & 90440 & 11 & 7.49\% & 76.36 & 28 & \#\#\#\#\#\# & BEMIS & 43772 & 11 & 0.25 & 38.02\% \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & MASCO C & 34032 & 11 & 6.94\% & 77.47\% & 28 & \#\#\#\#\#\#\#\# & COMPASS & 89952 & 11 & 2.87\% & 43.66\% \\
\hline 14 & 14-Nov-08 & P G \& E C & 13688 & 11 & 8.45\% & 77.07\% & 28 & \#\#\#\#\#\#\#\# & WESCO IT & 86876 & 11 & 0.00\% & 41.56\% \\
\hline 14 & 14-Nov-08 & OSHKOS & 90756 & 11 & 7.93\% & 77.40\% & 28 & \#\#\#\#\#\#\#\# & WIMm BIL & 89305 & 31 & 0.00\% & 40.49\% \\
\hline 14 & 14-Nov-08 & CITIZENS & 23799 & 11 & 0.00\% & 22.42\% & 28 & \#\#\#\#\#\#\#\# & ALLERGAI & 75646 & 11 & 0.15\% & 41.60\% \\
\hline 14 & 14-Nov-08 & E HOUSE & 92244 & 31 & 0.00\% & 22.38\% & 28 & \#\#\#\#\#\#\#\# & WELLPOII & 89179 & 11 & 0.00\% & 44.63\% \\
\hline 14 & & KINDER M & 88989 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ISOLAGEP & 89631 & 11 & 0.00\% & 38.53\% \\
\hline 14 & 14-Nov-08 & AFFILIATE & 80913 & 11 & 0.00\% & 23.38\% & 28 & \#\#\#\#\#\#\#\# & KBRINC & 91579 & 11 & 0.00\% & 39.87\% \\
\hline 14 & 14-Nov-08 & ALPHA N \({ }^{\text {A }}\) & 90547 & 11 & 0.00\% & 22.08\% & 28 & \#\#\#\#\#\#\#\# & REDDY IC & 90847 & 11 & 0.00\% & 37.23\% \\
\hline 14 & 14-Nov-08 & CONAGRA & 56274 & 11 & 0.00\% & 24.79\% & 28 & \#\#\#\#\#\#\#\# & INTERNAT & 40272 & 11 & 0.00\% & 38.34\% \\
\hline 14 & 14-Nov-08 & FEDERAL & 51043 & 11 & 0.00\% & 23.69\% & 28 & \#\#\#\#\#\#\#\# & LABRANC & 87140 & 11 & 0.00\% & 39.57\% \\
\hline 14 & & 4 KIDS EN & 10092 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & LUMBERI & 92400 & 11 & 0.00\% & 37.78\% \\
\hline 14 & & K B FINAN & 89236 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & KEYCORF & 64995 & 11 & 0.00\% & 37.39\% \\
\hline 14 & 14-Nov-08 & ALLIANT E & 58819 & 11 & 0.00\% & 24.19\% & 28 & \#\#\#\#\#\#\#\# & KITE REAI & 90307 & 18 & 0.00\% & 38.78\% \\
\hline 14 & & KEITHLEY & 89333 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & FBLFINA & 83720 & 11 & 0.00\% & 36.39\% \\
\hline 14 & 14-Nov-08 & HSBCH & 87033 & 31 & 0.00\% & 23.04\% & 28 & \#\#\#\#\#\#\#\# & CRYSTAL & 91377 & 18 & 0.00\% & 36.89\% \\
\hline 14 & 14-Nov-08 & IRON MOL & 83143 & 11 & 0.00\% & 24.92\% & 28 & \#\#\#\#\#\#\#\# & ARCHER [ & 10516 & 11 & 10.98\% & 42.95\% \\
\hline 14 & 14-Nov-08 & CAPLEASI & 90064 & 18 & 10.50\% & 18.28\% & 28 & \#\#\#\#\#\#\#\# & CHECKPC & 22921 & 11 & 0.00\% & 37.30\% \\
\hline 14 & 14-Nov-08 & BURGERI & 91212 & 11 & 5.69\% & 19.39\% & 28 & \#\#\#\#\#\#\#\# & CARE INV & 92111 & 18 & 0.00\% & 37.73\% \\
\hline 14 & 14-Nov-08 & DOVER CI & 25953 & 11 & 6.96\% & 15.46\% & 28 & \#\#\#\#\#\#\#\# & EVERGRE & 80758 & 11 & 0.00\% & 36.58\% \\
\hline 14 & 14-Nov-08 & METTLER & 85621 & 12 & 7.88\% & 17.04\% & 28 & \#\#\#\#\#\#\#\# & EATON V & 31500 & 11 & 0.00\% & 38.65\% \\
\hline 14 & 14-Nov-08 & BANCO St & 75152 & 31 & 0.36\% & 15.09\% & 28 & \#\#\#\#\#\#\#\# & CABLEVIS & 68857 & 11 & 0.00\% & 38.89\% \\
\hline 14 & 14-Nov-08 & TELEPHO & 90655 & 11 & 0.64\% & 18.82\% & 28 & \#\#\#\#\#\#\#\# & DIAGEO P & 76592 & 31 & 0.00\% & 39.03\% \\
\hline 14 & 14-Nov-08 & WATERS & 82651 & 11 & 3.20\% & 16.34\% & 28 & \#\#\#\#\#\#\#\# & R PCINC & 66683 & 11 & 0.00\% & 35.01\% \\
\hline 14 & 14-Nov-08 & ODYSSEY & 89007 & 12 & 8.29\% & 17.61\% & 28 & \#\#\#\#\#\#\#\# & RETAIL VE & 76673 & 11 & 0.00\% & 39.93\% \\
\hline 14 & 14-Nov-08 & ASHFORD & 89803 & 18 & 14.21\% & 18.25\% & 28 & \#\#\#\#\#\#\#\# & PHILLIPS & 13936 & 11 & 0.00\% & 37.15\% \\
\hline 14 & 14-Nov-08 & BROWN \& & 63467 & 11 & 14.75\% & 19.93\% & 28 & \#\#\#\#\#\#\#\# & TRANSDIC & 91152 & 11 & 0.16\% & 44.55\% \\
\hline 14 & 14-Nov-08 & GRAPHIC & 89810 & 11 & 13.59\% & 15.94\% & 28 & \#\#\#\#\#\#\#\# & PENTAIR & 62034 & 11 & 0.78\% & 40.26\% \\
\hline 14 & 14-Nov-08 & PETROCH & 87844 & 31 & 7.78\% & 18.25\% & 28 & \#\#\#\#\#\#\#\# & SPECTRU & 85625 & 11 & 0.00\% & 35.28\% \\
\hline 14 & 14-Nov-08 & RESMED I & 81736 & 11 & 7.42\% & 16.18\% & 28 & \#\#\#\#\#\#\#\# & S K TELEC & 83604 & 31 & 0.00\% & 37.56\% \\
\hline 14 & 14-Nov-08 & AEGON N & 85172 & 31 & 11.56\% & 16.86\% & 28 & \#\#\#\#\#\#\#\# & SNAP ON & 60206 & 11 & 0.00\% & 36.25\% \\
\hline 14 & & J M P GRC & 92010 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & POLYPOR & 92132 & 11 & 0.00\% & 36.29\% \\
\hline 14 & 14-Nov-08 & O GEENE & 24440 & 11 & 3.45\% & 23.56\% & 28 & \#\#\#\#\#\#\#\# & NETSUITE & 92497 & 11 & 0.00\% & 38.18\% \\
\hline 14 & 14-Nov-08 & OXFORD I & 34948 & 11 & 1.31\% & 23.04\% & 28 & \#\#\#\#\#\#\#\# & NISOURCI & 38762 & 11 & 0.00\% & 35.76\% \\
\hline 14 & & IRELAND I & 83992 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MERCURY & 52936 & 11 & 0.00\% & 37.31\% \\
\hline 14 & 14-Nov-08 & NETSUITE & 92497 & 11 & 0.67\% & 20.92\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 89946 & 11 & 6.39\% & 41.82\% \\
\hline 14 & 14-Nov-08 & NAVISTAF & 12503 & 11 & 0.05\% & 22.50\% & 28 & \#\#\#\#\#\#\#\# & ONE LIBEI & 59628 & 18 & 0.00\% & 37.50\% \\
\hline 14 & 14-Nov-08 & NORTHWI & 90458 & 11 & 4.28\% & 20.42\% & 28 & \#\#\#\#\#\#\#\# & PRECISIO & 63830 & 11 & 0.00\% & 38.77\% \\
\hline 14 & 14-Nov-08 & PUBLIC St & 23712 & 11 & 3.79\% & 20.40\% & 28 & \#\#\#\#\#\#\#\# & NORTHWI & 90458 & 11 & 0.00\% & 36.70\% \\
\hline 14 & 14-Nov-08 & SCOTTS 1 & 77300 & 11 & 2.27\% & 24.71\% & 28 & \#\#\#\#\#\#\#\# & ORIENTAL & 11208 & 11 & 0.00\% & 39.26\% \\
\hline 14 & & ISTITUTO & 80724 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & TERADYN & 51369 & 11 & 0.00\% & 42.10\% \\
\hline 14 & 14-Nov-08 & TENARIS : & 89637 & 31 & 0.26\% & 20.70\% & 28 & \#\#\#\#\#\#\#\# & M G M MIF & 11891 & 11 & 3.76\% & 38.36\% \\
\hline 14 & 14-Nov-08 & PRUDENT & 89258 & 11 & 0.30\% & 24.15\% & 28 & \#\#\#\#\#\#\#\# & CABOT OI & 76082 & 11 & 0.00\% & 40.69\% \\
\hline 14 & 14-Nov-08 & ROCKWEI & 84381 & 11 & 3.90\% & 20.00\% & 28 & \#\#\#\#\#\#\#\# & DEERFIEL & 90752 & 11 & 0.00\% & 44.32\% \\
\hline 14 & 14-Nov-08 & R PM INT & 65307 & 11 & 1.34\% & 22.36\% & 28 & \#\#\#\#\#\#\#\# & DOVER D & 89332 & 11 & 0.00\% & 41.21\% \\
\hline 14 & & INTERNAT & 89957 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & CIRCOR If & 87268 & 12 & 0.00\% & 41.51\% \\
\hline 14 & 14-Nov-08 & WALTERI & 82540 & 11 & 0.00\% & 20.43\% & 28 & \#\#\#\#\#\#\#\# & CHEMTUF & 38420 & 11 & 0.00\% & 42.52\% \\
\hline 14 & & ORIXCC & 86349 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & CONSOL I & 86799 & 11 & 0.00\% & 42.43\% \\
\hline 14 & 14-Nov-08 & ALCATEL & 77604 & 31 & 1.15\% & 24.58\% & 28 & \#\#\#\#\#\#\#\# & CENTENE & 89269 & 11 & 0.00\% & 43.64\% \\
\hline 14 & & JACK IN T & 77453 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & LIMITED B & 64282 & 11 & 0.25\% & 38.86\% \\
\hline 14 & 14-Nov-08 & SYSCO Cl & 52038 & 11 & 0.00\% & 23.68\% & 28 & \#\#\#\#\#\#\#\# & FIRST ME & 91523 & 11 & 0.00\% & 44.22\% \\
\hline 14 & 14-Nov-08 & TELEFLE入 & 44329 & 11 & 0.00\% & 20.49\% & 28 & \#\#\#\#\#\#\#\# & FLOWSEF & 30940 & 11 & 0.00\% & 42.92\% \\
\hline 14 & 14-Nov-08 & ANNTAYLI & 76671 & 11 & 2.14\% & 24.17\% & 28 & \#\#\#\#\#\#\#\# & GREY WC & 63562 & 11 & 0.00\% & 44.14\% \\
\hline 14 & 14-Nov-08 & EASTMAN & 80080 & 11 & 2.58\% & 24.02\% & 28 & \#\#\#\#\#\#\#\# & GETTY RE & 62367 & 18 & 0.00\% & 42.41\% \\
\hline 14 & & INTERNAT & 76676 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & LENNOXII & 87034 & 11 & 0.36\% & 38.56\% \\
\hline 14 & 14-Nov-08 & LIMITED B & 64282 & 11 & 3.88\% & 24.50\% & 28 & \#\#\#\#\#\#\#\# & EMPLOYE & 91688 & 11 & 0.00\% & 44.49\% \\
\hline 14 & 14-Nov-08 & AON COR & 61735 & 11 & 1.05\% & 22.44\% & 28 & \#\#\#\#\#\#\#\# & FIRST AM & 35124 & 11 & 0.00\% & 41.33\% \\
\hline 14 & & INTERTAF & 77318 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & EVERCOF & 91413 & 11 & 0.00\% & 41.26\% \\
\hline 14 & 14-Nov-08 & CINCINNA & 47677 & 11 & 3.39\% & 21.69\% & 28 & \#\#\#\#\#\#\#\# & ALUMINUS & 89246 & 31 & 0.00\% & 40.10\% \\
\hline 14 & 14-Nov-08 & ANALOG [ & 60871 & 11 & 0.00\% & 16.01\% & 28 & \#\#\#\#\#\#\#\# & SEALED A & 85926 & 11 & 1.76\% & 39.46\% \\
\hline 14 & 14-Nov-08 & APTARGR & 79133 & 11 & 0.00\% & 15.76\% & 28 & \#\#\#\#\#\#\#\# & ALLETE If & 24248 & 11 & 0.00\% & 44.55\% \\
\hline 14 & 14-Nov-08 & ANGLOGC & 86341 & 31 & 0.00\% & 18.02\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 91837 & 11 & 0.00\% & 40.06\% \\
\hline 14 & 14-Nov-08 & NIPPON T & 80863 & 31 & 25.23\% & 11.55\% & 28 & \#\#\#\#\#\#\#\# & BANK OF & 16548 & 11 & 11.87\% & 37.97\% \\
\hline 14 & 14-Nov-08 & NATIONAL & 87280 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & LENNAR C & 52708 & 11 & 5.36\% & 39.82\% \\
\hline 14 & 14-Nov-08 & NETWOR & 11038 & 11 & 33.21\% & 14.26\% & 28 & \#\#\#\#\#\#\#\# & STIFEL FII & 72996 & 11 & 0.41\% & 39.37\% \\
\hline 14 & 14-Nov-08 & COMPANI, & 77928 & 31 & 0.00\% & 16.90\% & 28 & \#\#\#\#\#\#\#\# & UNITED R & 85663 & 11 & 0.17\% & 39.49\% \\
\hline 14 & 14-Nov-08 & MONACO & 79607 & 11 & 0.00\% & 19.74\% & 28 & \#\#\#\#\#\#\#\# & AMERON & 50091 & 11 & 0.00\% & 40.15\% \\
\hline 14 & & MAXCOM & 92341 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & CIBER INC & 80316 & 11 & 0.00\% & 41.36\% \\
\hline 14 & 14-Nov-08 & NORTHRC & 24766 & 11 & 0.00\% & 19.05\% & 28 & \#\#\#\#\#\#\#\# & CHICAGO & 84651 & 12 & 0.00\% & 41.11\% \\
\hline 14 & & NOAH EDI & 92344 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & CONSTEL & 24221 & 11 & 0.00\% & 40.63\% \\
\hline 14 & 14-Nov-08 & GENESIS & 91638 & 31 & 0.00\% & 19.12\% & 28 & \#\#\#\#\#\#\#\# & CELANES & 90520 & 11 & 0.00\% & 40.15\% \\
\hline 14 & 14-Nov-08 & KEMET C( & 78001 & 11 & 0.00\% & 19.51\% & 28 & \#\#\#\#\#\#\#\# & BECKMAN & 75383 & 11 & 0.00\% & 42.06\% \\
\hline 14 & 14-Nov-08 & SEMPRA I & 86136 & 11 & 11.34\% & 10.39\% & 28 & \#\#\#\#\#\#\#\# & AVENTINE & 91288 & 11 & 0.00\% & 40.14\% \\
\hline 14 & 14-Nov-08 & OIL STATE & 88897 & 11 & 1.02\% & 11.85\% & 28 & \#\#\#\#\#\#\#\# & NEWELL F & 60986 & 11 & 0.25\% & 38.64\% \\
\hline 14 & 14-Nov-08 & ROPER IN & 77338 & 11 & 3.88\% & 10.94\% & 28 & \#\#\#\#\#\#\#\# & SAUL CEN & 79558 & 18 & 0.00\% & 40.42\% \\
\hline 14 & 14-Nov-08 & SMITH INT & 45794 & 11 & 0.17\% & 14.67\% & 28 & \#\#\#\#\#\#\#\# & REGAL BE & 58771 & 11 & 0.00\% & 43.74\% \\
\hline 14 & 14-Nov-08 & EDISON IT & 15720 & 11 & 3.72\% & 13.91\% & 28 & \#\#\#\#\#\#\#\# & PRUDENT & 89258 & 11 & 0.00\% & 43.53\% \\
\hline 14 & 14-Nov-08 & COMPANF & 85237 & 31 & 0.40\% & 10.68\% & 28 & \#\#\#\#\#\#\#\# & REHABCA & 76714 & 11 & 0.00\% & 44.97\% \\
\hline 14 & 14-Nov-08 & FOREST L & 45241 & 11 & 3.88\% & 13.71\% & 28 & \#\#\#\#\#\#\#\# & INTERME( & 85445 & 11 & 0.32\% & 37.38\% \\
\hline 14 & 14-Nov-08 & STERLITE & 92146 & 31 & 3.03\% & 11.31\% & 28 & \#\#\#\#\#\#\#\# & PENSKE \(f\) & 84042 & 11 & 0.00\% & 44.62\% \\
\hline 14 & 14-Nov-08 & ACTUANT & 11581 & 11 & 7.29\% & 14.03\% & 28 & \#\#\#\#\#\#\#\# & OLD REPL & 59396 & 11 & 0.00\% & 42.36\% \\
\hline 14 & 14-Nov-08 & INFINEON & 87664 & 31 & 7.74\% & 10.03\% & 28 & \#\#\#\#\#\#\#\# & PEPCO HK & 23501 & 11 & 0.00\% & 41.50\% \\
\hline 14 & 14-Nov-08 & HCCINS & 78033 & 11 & 10.67\% & 11.50\% & 28 & \#\#\#\#\#\#\#\# & 3PAR INC & 92424 & 11 & 0.00\% & 43.90\% \\
\hline 14 & 14-Nov-08 & TURKCEL & 88411 & 31 & 2.47\% & 11.00\% & 28 & \#\#\#\#\#\#\#\# & RIVIERA - & 83458 & 11 & 0.00\% & 42.09\% \\
\hline 14 & 14-Nov-08 & DOMTAR & 91854 & 11 & 1.53\% & 10.93\% & 28 & \#\#\#\#\#\#\#\# & SEMPRA I & 86136 & 11 & 0.00\% & 42.57\% \\
\hline 14 & 14-Nov-08 & WASTEM & 11955 & 11 & 3.72\% & 13.63\% & 28 & \#\#\#\#\#\#\#\# & SYNNEX ( & 89900 & 11 & 0.00\% & 41.36\% \\
\hline 14 & & MIDWEST & 76492 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & TYCO ELE & 92157 & 12 & 0.00\% & 40.66\% \\
\hline 14 & 14-Nov-08 & CHUNGHV & 89778 & 31 & 1.18\% & 15.51\% & 28 & \#\#\#\#\#\#\#\# & SENSIENT & 59619 & 11 & 0.00\% & 42.92\% \\
\hline 14 & 14-Nov-08 & COACH IN & 88661 & 11 & 2.07\% & 16.08\% & 28 & \#\#\#\#\#\#\#\# & RUBY TUE & 55213 & 11 & 0.00\% & 43.16\% \\
\hline 14 & & KUBOTA C & 59344 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & RESMED I & 81736 & 11 & 0.00\% & 41.84\% \\
\hline 4 & & KYOCERA & 61778 & 30 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & SMITH INT & 45794 & 11 & 0.00\% & 41.66\% \\
\hline 4 & & KLEER VL & 33451 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & SAFEGUA & 46340 & 11 & 0.00\% & 41.27\% \\
\hline 14 & 14-Nov-08 & B J SERVI & 76240 & 11 & 1.75\% & 19.96\% & 28 & \#\#\#\#\#\#\#\# & LIONS GA & 86408 & 12 & 0.00\% & 43.96\% \\
\hline 14 & 14-Nov-08 & CENTEX C & 53831 & 11 & 0.68\% & 18.52\% & 28 & \#\#\#\#\#\#\#\# & LEAPFRO & 89471 & 11 & 0.00\% & 42.72\% \\
\hline 4 & 14-Nov-08 & ENPRO IN & 89406 & 11 & 1.78\% & 19.03\% & 28 & \#\#\#\#\#\#\#\# & LUBRIZOL & 43721 & 11 & 0.00\% & 41.22\% \\
\hline 14 & 14-Nov-08 & PRECISIO & 63830 & 11 & 3.27\% & 19.40\% & 28 & \#\#\#\#\#\#\#\# & LOCKHEE & 21178 & 11 & 0.00\% & 43.12\% \\
\hline 14 & 14-Nov-08 & SAICINC & 91547 & 11 & 2.31\% & 16.29\% & 28 & \#\#\#\#\#\#\#\# & INTERNAT & 45437 & 11 & 0.00\% & 43.93\% \\
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\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & CYTEC IN & 80079 & 11 & 1.54\% & 16.97\% & 28 & \#\#\#\#\#\#\#\# & INTERNAT & 27705 & 11 & 0.00\% & 44.41\% \\
\hline 14 & 14-Nov-08 & HUTCHISC & 90382 & 31 & 0.98\% & 19.80\% & 28 & \#\#\#\#\#\#\#\# & LAZARD L & 90701 & 12 & 0.00\% & 41.75\% \\
\hline 14 & 14-Nov-08 & M D C HOI & 66245 & 11 & 1.69\% & 19.15\% & 28 & \#\#\#\#\#\#\#\# & KENNAME & 44134 & 11 & 0.00\% & 43.57\% \\
\hline 14 & 14-Nov-08 & AETNA IN & 88845 & 11 & 0.47\% & 15.50\% & 28 & \#\#\#\#\#\#\#\# & MATTEL II & 39538 & 11 & 0.00\% & 41.62\% \\
\hline 14 & & MORTONS & 91117 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & NATIONAL & 25590 & 11 & 0.00\% & 42.49\% \\
\hline 14 & & MILLER IN & 80828 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & NACCO IN & 28118 & 11 & 0.00\% & 42.89\% \\
\hline 14 & 14-Nov-08 & XEROX C & 27983 & 11 & 0.00\% & 19.81\% & 28 & \#\#\#\#\#\#\#\# & OMEGA P & 85951 & 11 & 0.00\% & 44.78\% \\
\hline 14 & & METAVAN & 92339 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & NVRINC & 79785 & 11 & 0.00\% & 44.09\% \\
\hline 14 & & GRUPO IN & 80597 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MEADOW। & 82644 & 11 & 0.00\% & 41.91\% \\
\hline 14 & & MATERIAL & 67002 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MASSEY E & 26382 & 11 & 0.00\% & 43.86\% \\
\hline 14 & & MUSICLAT & 77371 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & NOBLE EN & 61815 & 11 & 0.00\% & 42.40\% \\
\hline 14 & & MAGNETE & 75596 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & M S CIIN & 92402 & 11 & 0.00\% & 42.40\% \\
\hline 14 & & LENDER F & 92697 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & AQUA AMI & 52898 & 11 & 0.00\% & 46.44\% \\
\hline 14 & & LONGTOF & 92338 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & WEIS MAF & 42059 & 11 & 0.00\% & 48.93\% \\
\hline 14 & & MCCORMI & 89155 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 66800 & 11 & 4.93\% & 49.33\% \\
\hline 14 & & MIZUHO F & 91582 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & XERIUM T & 90700 & 11 & 0.00\% & 47.78\% \\
\hline 14 & 14-Nov-08 & ADVANCE & 89217 & 11 & 0.24\% & 16.72\% & 28 & \#\#\#\#\#\#\#\# & VENOCO I & 91598 & 11 & 0.00\% & 49.76\% \\
\hline 14 & & AMERICAI & 68726 & 48 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & VISTEON & 88319 & 11 & 0.00\% & 48.55\% \\
\hline 14 & 14-Nov-08 & SAUER D/ & 86034 & 11 & 2.62\% & 29.89\% & 28 & \#\#\#\#\#\#\#\# & WILMING1 & 83030 & 11 & 0.00\% & 49.86\% \\
\hline 14 & 14-Nov-08 & C N A SUF & 11406 & 11 & 2.78\% & 28.98\% & 28 & \#\#\#\#\#\#\#\# & WASTE CI & 86097 & 11 & 0.00\% & 45.75\% \\
\hline 14 & 14-Nov-08 & STANLEY & 91548 & 11 & 0.86\% & 28.06\% & 28 & \#\#\#\#\#\#\#\# & GOLDMA & 86868 & 11 & 13.71\% & 33.84\% \\
\hline 14 & 14-Nov-08 & BOSTON : & 82634 & 11 & 1.06\% & 29.35\% & 28 & \#\#\#\#\#\#\#\# & ENTERTA & 85604 & 48 & 4.92\% & 47.70\% \\
\hline 14 & & GRUMA S & 86402 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & DELPHIFI & 76099 & 11 & 0.30\% & 45.76\% \\
\hline 14 & 14-Nov-08 & SANDRID & 92421 & 11 & 0.07\% & 25.34\% & 28 & \#\#\#\#\#\#\#\# & UNITED S & 76644 & 11 & 0.31\% & 31.78\% \\
\hline 14 & 14-Nov-08 & ULTRA PE & 88882 & 12 & 0.22\% & 28.45\% & 28 & \#\#\#\#\#\#\#\# & XEROXCC & 27983 & 11 & 0.21\% & 32.58\% \\
\hline 14 & 14-Nov-08 & WOLVERII & 42286 & 11 & 3.76\% & 29.79\% & 28 & \#\#\#\#\#\#\#\# & LORILLAR & 89303 & 11 & 9.99\% & 32.21\% \\
\hline 14 & 14-Nov-08 & WYNDHAT & 91392 & 11 & 0.41\% & 29.34\% & 28 & \#\#\#\#\#\#\#\# & TEEKAY T & 92518 & 12 & 7.81\% & 31.83\% \\
\hline 14 & 14-Nov-08 & ALEXANDI & 49330 & 18 & 9.19\% & 25.25\% & 28 & \#\#\#\#\#\#\#\# & CONOCOF & 13928 & 11 & 4.55\% & 48.23\% \\
\hline 14 & 14-Nov-08 & UNITRIN II & 76136 & 11 & 3.51\% & 29.61\% & 28 & \#\#\#\#\#\#\#\# & GENCO SI & 90813 & 12 & 7.70\% & 30.34\% \\
\hline 14 & 14-Nov-08 & WEIS MAF & 42059 & 11 & 3.64\% & 28.04\% & 28 & \#\#\#\#\#\#\#\# & STURM RI & 73219 & 11 & 0.00\% & 47.34\% \\
\hline 14 & 14-Nov-08 & WABASH & 77117 & 11 & 2.22\% & 27.67\% & 28 & \#\#\#\#\#\#\#\# & QUANTUN & 87043 & 11 & 0.00\% & 49.50\% \\
\hline 14 & 14-Nov-08 & PEPCO HC & 23501 & 11 & 1.65\% & 29.04\% & 28 & \#\#\#\#\#\#\#\# & REPUBLIC & 86228 & 11 & 0.00\% & 49.42\% \\
\hline 14 & & GENERAL & 89018 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ROGERS & 35991 & 11 & 0.00\% & 48.18\% \\
\hline 14 & 14-Nov-08 & INTERCOI & 90993 & 11 & 0.22\% & 28.42\% & 28 & \#\#\#\#\#\#\#\# & PRESTIGE & 90564 & 11 & 0.00\% & 45.26\% \\
\hline 14 & 14-Nov-08 & ID T COR & 88988 & 11 & 0.06\% & 26.54\% & 28 & \#\#\#\#\#\#\#\# & PEPSIAME & 38973 & 11 & 0.00\% & 46.92\% \\
\hline 14 & 14-Nov-08 & EATON C & 11762 & 11 & 3.38\% & 25.96\% & 28 & \#\#\#\#\#\#\#\# & PACTIV CI & 87292 & 11 & 0.00\% & 47.08\% \\
\hline 14 & 14-Nov-08 & FLOWSEF & 30940 & 11 & 0.33\% & 28.20\% & 28 & \#\#\#\#\#\#\#\# & PANHAND & 77236 & 11 & 0.00\% & 45.24\% \\
\hline 14 & 14-Nov-08 & FLAGSTO & 91887 & 12 & 4.26\% & 29.03\% & 28 & \#\#\#\#\#\#\#\# & SPRINT N & 39087 & 11 & 0.00\% & 46.95\% \\
\hline 14 & 14-Nov-08 & KIMBERL) & 17750 & 11 & 4.05\% & 28.72\% & 28 & \#\#\#\#\#\#\#\# & SUN COM & 80102 & 18 & 0.00\% & 45.87\% \\
\hline 14 & 14-Nov-08 & NORTHEA & 44206 & 11 & 1.04\% & 27.74\% & 28 & \#\#\#\#\#\#\#\# & SPXCOF & 55212 & 11 & 0.00\% & 48.22\% \\
\hline 14 & 14-Nov-08 & PRIDE INT & 12074 & 11 & 0.23\% & 25.30\% & 28 & \#\#\#\#\#\#\#\# & MERIDIAN & 68742 & 11 & 0.00\% & 45.78\% \\
\hline 14 & 14-Nov-08 & POSCO & 81044 & 31 & 1.23\% & 26.79\% & 28 & \#\#\#\#\#\#\#\# & SUPERVA & 44951 & 11 & 0.00\% & 47.28\% \\
\hline 14 & 14-Nov-08 & NORDIC A & 85346 & 12 & 1.05\% & 25.51\% & 28 & \#\#\#\#\#\#\#\# & SPHERIOI & 80135 & 11 & 0.00\% & 47.87\% \\
\hline 14 & 14-Nov-08 & NOBLE CC & 90537 & 12 & 4.01\% & 26.30\% & 28 & \#\#\#\#\#\#\#\# & BOSTONI & 82634 & 11 & 0.00\% & 49.38\% \\
\hline 14 & 14-Nov-08 & NIKE INC & 57665 & 11 & 4.20\% & 27.12\% & 28 & \#\#\#\#\#\#\#\# & SPIRIT AE & 91594 & 11 & 0.00\% & 45.37\% \\
\hline 14 & 14-Nov-08 & CARDINAL & 21371 & 11 & 6.31\% & 28.39\% & 28 & \#\#\#\#\#\#\#\# & STEAK N : & 26607 & 11 & 0.00\% & 48.33\% \\
\hline 14 & & GOLDCOF & 69905 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & THORNBL & 79351 & 18 & 0.00\% & 32.06\% \\
\hline 14 & & GLOBAL F & 88987 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & CHURCH & 23393 & 11 & 7.38\% & 47.42\% \\
\hline 14 & 14-Nov-08 & ALLERGAI & 75646 & 11 & 0.00\% & 31.99\% & 28 & \#\#\#\#\#\#\#\# & MARCUS 1 & 51423 & 11 & 7.23\% & 46.72\% \\
\hline 14 & 14-Nov-08 & MAGNA II & 78045 & 12 & 33.61\% & 29.21\% & 28 & \#\#\#\#\#\#\#\# & MARRIOT & 85913 & 11 & 6.78\% & 48.37\% \\
\hline 14 & 14-Nov-08 & ROBERT + & 52230 & 11 & 30.26\% & 25.00\% & 28 & \#\#\#\#\#\#\#\# & VALSPAR & 37807 & 11 & 0.20\% & 47.33\% \\
\hline 14 & 14-Nov-08 & INDEPEN[ & 43837 & 11 & 48.37\% & 28.72\% & 28 & \#\#\#\#\#\#\#\# & U S G COI & 79244 & 11 & 4.16\% & 45.68\% \\
\hline 14 & 14-Nov-08 & ALLIANCE & 89048 & 11 & 0.00\% & 32.87\% & 28 & \#\#\#\#\#\#\#\# & VIRGIN M1 & 92376 & 11 & 0.00\% & 34.65\% \\
\hline 14 & & GEICO & 62236 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & VMWARE & 92257 & 11 & 0.00\% & 30.61\% \\
\hline 14 & & GIANT INT & 92393 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\#\# & TURKCEL & 88411 & 31 & 0.00\% & 32.53\% \\
\hline 14 & & GENPACT & 92261 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & SYNCORA & 91427 & 12 & 0.00\% & 31.92\% \\
\hline 14 & & GREIF INC & 83264 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & S J W COI & 54199 & 11 & 0.00\% & 32.13\% \\
\hline 14 & 14-Nov-08 & ALLSTATE & 79323 & 11 & 0.00\% & 34.48\% & 28 & \#\#\#\#\#\#\#\# & ROBERT - & 52230 & 11 & 0.00\% & 34.18\% \\
\hline 14 & 14-Nov-08 & AIRGAS IN & 70308 & 11 & 0.00\% & 31.10\% & 28 & \#\#\#\#\#\#\#\# & STANDAR & 72696 & 11 & 5.29\% & 49.28\% \\
\hline 14 & 14-Nov-08 & BRANDYM & 70121 & 48 & 27.99\% & 27.13\% & 28 & \#\#\#\#\#\#\#\# & POTASH ( & 75844 & 12 & 7.19\% & 46.63\% \\
\hline 14 & 14-Nov-08 & G L G PAF & 91690 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & C N A SUF & 11406 & 11 & 0.00\% & 31.92\% \\
\hline 14 & 14-Nov-08 & MOSAIC C & 90386 & 11 & 6.16\% & 25.17\% & 28 & \#\#\#\#\#\#\#\# & SONY COI & 51131 & 30 & 0.00\% & 32.17\% \\
\hline 14 & 14-Nov-08 & ROLLINS & 36003 & 11 & 8.55\% & 26.88\% & 28 & \#\#\#\#\#\#\#\# & RADIOSH: & 15560 & 11 & 5.54\% & 47.63\% \\
\hline 14 & 14-Nov-08 & VAALCO E & 78841 & 11 & 9.91\% & 27.53\% & 28 & \#\#\#\#\#\#\#\# & MASCO C & 34032 & 11 & 2.26\% & 31.22\% \\
\hline 14 & 14-Nov-08 & ENTERCO & 86560 & 11 & 9.79\% & 26.47\% & 28 & \#\#\#\#\#\#\#\# & INTERNAT & 21573 & 11 & 2.77\% & 45.76\% \\
\hline 14 & 14-Nov-08 & GRACO IN & 39571 & 11 & 8.00\% & 28.72\% & 28 & \#\#\#\#\#\#\#\# & KNIGHT T & 80987 & 11 & 0.29\% & 45.01\% \\
\hline 14 & 14-Nov-08 & TOLL BRC & 70228 & 11 & 6.26\% & 25.11\% & 28 & \#\#\#\#\#\#\#\# & KANSAS C & 12650 & 11 & 0.72\% & 30.61\% \\
\hline 14 & 14-Nov-08 & VMWARE & 92257 & 11 & 14.19\% & 29.96\% & 28 & \#\#\#\#\#\#\#\# & FRONTIEF & 23887 & 11 & 0.29\% & 47.91\% \\
\hline 14 & 14-Nov-08 & XCELET & 23931 & 11 & 14.59\% & 25.95\% & 28 & \#\#\#\#\#\#\#\# & W M S INL & 64135 & 11 & 0.22\% & 34.81\% \\
\hline 14 & 14-Nov-08 & DEL MON \({ }^{-1}\) & 86590 & 11 & 18.08\% & 27.18\% & 28 & \#\#\#\#\#\#\#\# & HERSHA - & 86563 & 48 & 2.97\% & 49.78\% \\
\hline 14 & 14-Nov-08 & VODAFON & 75418 & 31 & 6.21\% & 28.72\% & 28 & \#\#\#\#\#\#\#\# & STANLEY & 43350 & 11 & 0.70\% & 31.42\% \\
\hline 14 & 14-Nov-08 & WATTS W & 10606 & 11 & 5.69\% & 27.50\% & 28 & \#\#\#\#\#\#\#\# & MCDERMC & 64629 & 12 & 1.75\% & 47.28\% \\
\hline 14 & 14-Nov-08 & MARINER & 91116 & 11 & 14.26\% & 26.40\% & 28 & \#\#\#\#\#\#\#\# & TYCO INT & 45356 & 12 & 0.37\% & 45.93\% \\
\hline 14 & & INTERSTA & 86226 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & PEABODY & 88991 & 11 & 0.62\% & 31.11\% \\
\hline 14 & 14-Nov-08 & TIME WAF & 91883 & 11 & 44.18\% & 24.51\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 24109 & 11 & 2.53\% & 33.52\% \\
\hline 14 & 14-Nov-08 & A M N HE + & 89215 & 11 & 0.00\% & 29.64\% & 28 & \#\#\#\#\#\#\#\# & UNUM GR & 71175 & 11 & 0.29\% & 48.40\% \\
\hline 14 & 14-Nov-08 & ASHLAND & 24272 & 11 & 15.83\% & 23.25\% & 28 & \#\#\#\#\#\#\#\# & IT TEDU & 81128 & 11 & 3.20\% & 30.45\% \\
\hline 14 & 14-Nov-08 & DTEENE & 11674 & 11 & 15.24\% & 20.28\% & 28 & \#\#\#\#\#\#\#\# & MINERALS & 78015 & 11 & 0.29\% & 45.22\% \\
\hline 14 & 14-Nov-08 & INTERACT & 34981 & 11 & 16.72\% & 23.53\% & 28 & \#\#\#\#\#\#\#\# & PERKINEL & 42200 & 11 & 0.63\% & 48.77\% \\
\hline 14 & 14-Nov-08 & ALBEMAR & 80191 & 11 & 0.00\% & 28.40\% & 28 & \#\#\#\#\#\#\#\# & DENBURY & 82196 & 11 & 0.31\% & 34.50\% \\
\hline 14 & 14-Nov-08 & \(C\) \& D TEC & 71685 & 11 & 0.00\% & 27.22\% & 28 & \#\#\#\#\#\#\#\# & OCEANEE & 58975 & 11 & 0.00\% & 47.03\% \\
\hline 14 & & INDUSTRI. & 85337 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ARVINMEI & 85349 & 11 & 0.00\% & 46.08\% \\
\hline 14 & & HOUGHTC & 44986 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ALPHA NA & 90547 & 11 & 0.00\% & 47.44\% \\
\hline 14 & 14-Nov-08 & ATMOS EI & 32986 & 11 & 0.00\% & 25.75\% & 28 & \#\#\#\#\#\#\#\# & ARROW E & 29209 & 11 & 0.00\% & 49.67\% \\
\hline 14 & 14-Nov-08 & ASTRAZEI & 79363 & 31 & 0.00\% & 29.21\% & 28 & \#\#\#\#\#\#\#\# & ASPEN IN & 89977 & 12 & 0.00\% & 39.24\% \\
\hline 14 & & INDUSTRI. & 85336 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & A H BELO & 92528 & 11 & 0.00\% & 49.90\% \\
\hline 14 & 14-Nov-08 & TOTAL SY & 76639 & 11 & 10.01\% & 22.45\% & 28 & \#\#\#\#\#\#\#\# & ADVANCE & 90493 & 11 & 0.00\% & 45.96\% \\
\hline 14 & 14-Nov-08 & BLUEGRE & 90916 & 11 & 5.16\% & 24.35\% & 28 & \#\#\#\#\#\#\#\# & ANNTAYLI & 76671 & 11 & 0.00\% & 46.05\% \\
\hline 14 & 14-Nov-08 & COCA CO & 70500 & 11 & 6.94\% & 21.19\% & 28 & \#\#\#\#\#\#\#\# & ALLIANCE & 89048 & 11 & 0.00\% & 48.23\% \\
\hline 14 & 14-Nov-08 & ENDURAN & 89694 & 12 & 7.57\% & 21.51\% & 28 & \#\#\#\#\#\#\#\# & ARLINGTC & 90450 & 12 & 0.00\% & 45.10\% \\
\hline 14 & 14-Nov-08 & MEMCE & 81776 & 11 & 0.92\% & 20.42\% & 28 & \#\#\#\#\#\#\#\# & HOVNANI/ & 65285 & 11 & 29.78\% & 30.77\% \\
\hline 14 & 14-Nov-08 & ZIMMER H & 89070 & 11 & 2.02\% & 23.95\% & 28 & \#\#\#\#\#\#\#\# & AFFILIATE & 80913 & 11 & 0.00\% & 35.97\% \\
\hline 14 & 14-Nov-08 & BAKER HL & 75034 & 11 & 5.10\% & 24.47\% & 28 & \#\#\#\#\#\#\#\# & CATO COI & 11267 & 11 & 0.00\% & 46.54\% \\
\hline 14 & 14-Nov-08 & EATON Vf & 31500 & 11 & 7.32\% & 21.99\% & 28 & \#\#\#\#\#\#\#\# & CONSOLII & 80621 & 11 & 0.00\% & 47.64\% \\
\hline 14 & 14-Nov-08 & P PLCOF & 22517 & 11 & 7.80\% & 23.86\% & 28 & \#\#\#\#\#\#\#\# & BAKER MI & 52484 & 11 & 0.00\% & 47.04\% \\
\hline 14 & 14-Nov-0 & YCO EL & 92 & 12 & 5.55\% & 21.75\% & 28 & \#\#\#\#\#\#\#\# & APTARGR & 3 & 11 & 0.00\% & 45.77\% \\
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & PETROLE & 88490 & 31 & 12.72\% & 24.48\% & 28 & \#\#\#\#\#\#\#\# & BRADY CC & 18973 & 11 & 0.00\% & 47.04\% \\
\hline 14 & 14-Nov-08 & FIDELITY & 90925 & 11 & 8.93\% & 23.65\% & 28 & \#\#\#\#\#\#\#\# & BOWNE \& & 47642 & 11 & 0.00\% & 45.70\% \\
\hline 14 & 14-Nov-08 & GLAXOSN & 75064 & 31 & 8.79\% & 23.54\% & 28 & \#\#\#\#\#\#\#\# & B \& G FOC & 91977 & 11 & 0.00\% & 35.09\% \\
\hline 14 & 14-Nov-08 & KOREA EL & 81040 & 31 & 6.50\% & 23.11\% & 28 & \#\#\#\#\#\#\#\# & BALL COF & 57568 & 11 & 0.00\% & 37.26\% \\
\hline 14. & & CASCAL & 92551 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & YAMANA ( & 89976 & 12 & 0.00\% & 39.45\% \\
\hline 14 & 14-Nov-08 & BALL COF & 57568 & 11 & 3.54\% & 28.35\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 92614 & 11 & 0.00\% & 39.81\% \\
\hline 14 & 14-Nov-08 & PEABODY & 88991 & 11 & 0.12\% & 25.72\% & 28 & \#\#\#\#\#\#\#\# & C F INDUS & 90829 & 11 & 0.00\% & 38.68\% \\
\hline 14 & 14-Nov-08 & CENTENE & 89269 & 11 & 3.83\% & 27.15\% & 28 & \#\#\#\#\#\#\#\# & CHINA UN & 88282 & 31 & 0.00\% & 36.82\% \\
\hline 14 & 14-Nov-08 & AGCOC & 77520 & 11 & 1.35\% & 27.70\% & 28 & \#\#\#\#\#\#\#\# & BLOUNT II & 65154 & 11 & 0.00\% & 37.19\% \\
\hline 14 & 14-Nov-08 & AMERON & 50091 & 11 & 0.96\% & 28.65\% & 28 & \#\#\#\#\#\#\#\# & CAPITOL I & 76037 & 11 & 0.00\% & 39.42\% \\
\hline 14. & & GETTY PE & 84642 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & WHIRLPO & 25419 & 11 & 11.46\% & 40.02\% \\
\hline 14 & 14-Nov-08 & CABOT OI & 76082 & 11 & 3.17\% & 25.01\% & 28 & \#\#\#\#\#\#\#\# & BEAZER + & 80193 & 11 & 54.89\% & 42.29\% \\
\hline 14 & 14-Nov-08 & COVANTA & 76515 & 11 & 1.02\% & 28.34\% & 28 & \#\#\#\#\#\#\#\# & ALEXAND & 49330 & 18 & 0.00\% & 39.94\% \\
\hline 14 & 14-Nov-08 & DARLING & 80928 & 11 & 2.48\% & 27.96\% & 28 & \#\#\#\#\#\#\#\# & AMERISOI & 81540 & 11 & 0.00\% & 48.48\% \\
\hline 14 & 14-Nov-08 & DENBURY & 82196 & 11 & 1.81\% & 26.39\% & 28 & \#\#\#\#\#\#\#\# & MIRANT C & 91071 & 11 & 143.14\% & 40.99\% \\
\hline 14. & & GENERAL & 66923 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ACTUANT & 11581 & 11 & 0.00\% & 38.09\% \\
\hline 14 & 14-Nov-08 & CALPINE 1 & 92530 & 11 & 2.64\% & 26.21\% & 28 & \#\#\#\#\#\#\#\# & ANGLOGC & 86341 & 31 & 0.00\% & 36.44\% \\
\hline 14 & 14-Nov-08 & CASH AMI & 75215 & 11 & 2.53\% & 28.59\% & 28 & \#\#\#\#\#\#\#\# & OVERSEA & 51457 & 11 & 27.12\% & 44.01\% \\
\hline 14 & 14-Nov-08 & TEEKAY T & 92518 & 12 & 0.00\% & 29.94\% & 28 & \#\#\#\#\#\#\#\# & AON COR & 61735 & 11 & 0.00\% & 39.23\% \\
\hline 14 & 14-Nov-08 & DPLINC & 22859 & 11 & 0.00\% & 25.55\% & 28 & \#\#\#\#\#\#\#\# & KKRFIN/ & 90760 & 11 & 0.00\% & 48.20\% \\
\hline 14. & & GREAT W & 27115 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & COLE KEN & 80679 & 11 & 0.00\% & 48.38\% \\
\hline 14. & & GELMAN & 60935 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & COCA CO & 79644 & 31 & 0.00\% & 45.64\% \\
\hline 14. & & HFFINC & 91692 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & CARMAXI & 89508 & 11 & 0.00\% & 46.19\% \\
\hline 14. & & HEICO CC & 85945 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & IMERGEN & 87404 & 11 & 0.00\% & 48.27\% \\
\hline 14 & 14-Nov-08 & DIAGEO P & 76592 & 31 & 0.00\% & 28.33\% & 28 & \#\#\#\#\#\#\#\# & IDEX COR & 75591 & 11 & 0.00\% & 46.10\% \\
\hline 14. & & AGRIA CO & 92384 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & JOHN BEF & 92729 & 11 & 0.00\% & 46.89\% \\
\hline 14. & & G P U INC & 22541 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & JABIL CIR & 79094 & 11 & 0.00\% & 49.74\% \\
\hline 14 & 14-Nov-08 & HANOVEF & 82292 & 11 & 0.00\% & 27.00\% & 28 & \#\#\#\#\#\#\#\# & LYDALL Is & 59774 & 11 & 0.00\% & 45.98\% \\
\hline 14 & 14-Nov-08 & THOMSON & 87446 & 31 & 0.00\% & 28.86\% & 28 & \#\#\#\#\#\#\#\# & NORFOLK & 64311 & 11 & 0.00\% & 48.09\% \\
\hline 14. & & GRAND M & 76592 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & NORTHRC & 24766 & 11 & 0.00\% & 47.26\% \\
\hline 14 & 14-Nov-08 & IRWIN FIN & 89237 & 11 & 0.00\% & 25.45\% & 28 & \#\#\#\#\#\#\#\# & OMEGA H & 77857 & 18 & 0.00\% & 48.46\% \\
\hline 14 & 14-Nov-08 & KRISPY KI & 88172 & 11 & 0.00\% & 28.21\% & 28 & \#\#\#\#\#\#\#\# & OWENS C & 91531 & 11 & 0.00\% & 48.66\% \\
\hline 14. & & REED ELS & 81046 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & LUXOTTIC & 75937 & 31 & 0.00\% & 47.15\% \\
\hline 14. & & RED LION & 85939 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & L 3 COMM & 86021 & 11 & 0.00\% & 48.55\% \\
\hline 14. & & TRANSOC & 79237 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MYERS IN & 65365 & 11 & 0.00\% & 49.23\% \\
\hline 14. & & STARRET & 18438 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MOVADO & 79611 & 11 & 0.00\% & 48.97\% \\
\hline 14. & & SANTAND & 86398 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & DOMINOS & 90248 & 11 & 0.00\% & 49.48\% \\
\hline 14. & & SAFE BUL & 92679 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & DICE HOL & 92172 & 11 & 0.00\% & 47.97\% \\
\hline 14. & & REVLON II & 82859 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & FIRST ACl & 54578 & 11 & 0.00\% & 47.67\% \\
\hline 14 & 14-Nov-08 & LOEWS C & 26710 & 11 & 0.00\% & 0.35\% & 28 & \#\#\#\#\#\#\#\# & ENNIS INC & 47511 & 11 & 0.00\% & 48.44\% \\
\hline 14 & 14-Nov-08 & M I DEVEL & 89812 & 12 & 0.00\% & 4.70\% & 28 & \#\#\#\#\#\#\#\# & CONCHO & 92239 & 11 & 0.00\% & 48.75\% \\
\hline 14 & 14-Nov-08 & MARINE P & 88895 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & CUBIC CO & 31077 & 11 & 0.00\% & 48.61\% \\
\hline 14 & 14-Nov-08 & HONDA M & 59555 & 30 & 0.00\% & 3.04\% & 28 & \#\#\#\#\#\#\#\# & ARCH CO, & 75326 & 11 & 26.13\% & 30.76\% \\
\hline 14 & 14-Nov-08 & IN G GRC & 85081 & 31 & 0.00\% & 0.94\% & 28 & \#\#\#\#\#\#\#\# & COX RADI & 83982 & 11 & 0.00\% & 46.59\% \\
\hline 14 & 14-Nov-08 & KRONOS & 89960 & 11 & 0.00\% & 0.01\% & 28 & \#\#\#\#\#\#\#\# & FIRST CO & 77643 & 11 & 0.00\% & 48.23\% \\
\hline 14. & & SAGA COI & 79033 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & GERBER! & 47888 & 11 & 0.00\% & 49.62\% \\
\hline 14. & & CHINA DIC & 92327 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & GEOKINE & 38790 & 11 & 0.00\% & 45.95\% \\
\hline 14 & 14-Nov-08 & DIEBOLD & 40440 & 11 & 0.00\% & 0.02\% & 28 & \#\#\#\#\#\#\#\# & IDTCOR & 88988 & 11 & 0.00\% & 47.31\% \\
\hline 14 & 14-Nov-08 & DUN \& BR & 88590 & 11 & 0.00\% & 0.66\% & 28 & \#\#\#\#\#\#\#\# & HEALTHSI & 91113 & 11 & 0.00\% & 47.66\% \\
\hline 14 & 14-Nov-08 & CENTERL & 85420 & 41 & 0.00\% & 0.01\% & 28 & \#\#\#\#\#\#\#\# & FERRO Cl & 21135 & 11 & 0.00\% & 47.99\% \\
\hline 14 & 14-Nov-08 & CPFLEN & 90338 & 31 & 0.00\% & 1.81\% & 28 & \#\#\#\#\#\#\#\# & FRESH DE & 85449 & 12 & 0.00\% & 48.34\% \\
\hline 14 & 14-Nov-08 & CHINA YU & 81134 & 12 & 0.00\% & 0.23\% & 28 & \#\#\#\#\#\#\#\# & GENERAL & 12052 & 11 & 0.00\% & 45.50\% \\
\hline 14. & & SEASPAN & 90853 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & GREENBF & 80719 & 11 & 0.00\% & 49.10\% \\
\hline 14 & 14-Nov-08 & FIFTH STF & 92694 & 11 & 0.00\% & 0.74\% & 28 & \#\#\#\#\#\#\#\# & A E S COF & 76712 & 11 & 0.00\% & 74.33\% \\
\hline 14. & & SIMS MET & 92609 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ALLIANCE & 89002 & 11 & 0.00\% & 73.82\% \\
\hline 14. & & SHINHAN & 89854 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ALPHARM & 65832 & 11 & 0.00\% & 70.05\% \\
\hline 14 & 14-Nov-08 & DORAL FII & 12169 & 11 & 0.00\% & 4.76\% & 28 & \#\#\#\#\#\#\#\# & ASSURED & 90120 & 12 & 0.00\% & 73.87\% \\
\hline 14. & & STARTEK & 85077 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MOSAIC C & 90386 & 11 & 0.00\% & 1.00\% \\
\hline 14 & 14-Nov-08 & SMITH \& 1 & 87444 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & LEE ENTE & 50286 & 11 & 42.44\% & 68.04\% \\
\hline 14 & 14-Nov-08 & NAVIOS M & 90965 & 12 & 0.00\% & 0.15\% & 28 & \#\#\#\#\#\#\#\# & INTERNAT & 45277 & 11 & 0.00\% & 0.01\% \\
\hline 14 & 14-Nov-08 & ALLIED IR & 76493 & 31 & 0.19\% & 0.01\% & 28 & \#\#\#\#\#\#\#\# & IHS INC & 90992 & 11 & 0.00\% & 0.03\% \\
\hline 14 & 14-Nov-08 & A X A UAF & 83589 & 31 & 0.96\% & 0.77\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 13056 & 11 & 0.00\% & 70.59\% \\
\hline 14 & 14-Nov-08 & CREDICOI & 82311 & 12 & 1.15\% & 0.26\% & 28 & \#\#\#\#\#\#\#\# & CEDAR St & 10952 & 18 & 0.00\% & 72.21\% \\
\hline 14 & 14-Nov-08 & ALCON IN & 89350 & 12 & 0.02\% & 2.79\% & 28 & \#\#\#\#\#\#\#\# & BLYTH IN & 80592 & 11 & 0.00\% & 71.57\% \\
\hline 14 & 14-Nov-08 & AECOM & 91975 & 11 & 0.53\% & 0.47\% & 28 & \#\#\#\#\#\#\#\# & CANTEL n & 22825 & 11 & 0.00\% & 74.54\% \\
\hline 14 & 14-Nov-08 & AMERICAI & 60687 & 11 & 1.11\% & 2.43\% & 28 & \#\#\#\#\#\#\#\# & CKERES & 47133 & 11 & 0.00\% & 70.26\% \\
\hline 14 & 14-Nov-08 & B H P BILL & 89760 & 31 & 0.01\% & 1.77\% & 28 & \#\#\#\#\#\#\#\# & BELDEN II & 79668 & 11 & 0.00\% & 74.06\% \\
\hline 14 & 14-Nov-08 & CNOOC & 88888 & 31 & 4.41\% & 3.68\% & 28 & \#\#\#\#\#\#\#\# & ASTRAZEI & 79363 & 31 & 0.00\% & 72.75\% \\
\hline 14 & 14-Nov-08 & CIGNAI & 64186 & 11 & 0.04\% & 0.21\% & 28 & \#\#\#\#\#\#\#\# & BADGER I & 53110 & 11 & 0.00\% & 74.69\% \\
\hline 14 & 14-Nov-08 & CHIPOTLE & 91518 & 11 & 0.27\% & 3.47\% & 28 & \#\#\#\#\#\#\#\# & SOTHEBY & 75316 & 11 & 0.00\% & 73.24\% \\
\hline 14 & 14-Nov-08 & BROADRII & 91849 & 11 & 1.07\% & 1.06\% & 28 & \#\#\#\#\#\#\#\# & PYRAMID & 64822 & 11 & 0.00\% & 0.49\% \\
\hline 14 & 14-Nov-08 & BIOVAIL C & 80307 & 12 & 3.57\% & 0.81\% & 28 & \#\#\#\#\#\#\#\# & WESTER & 66384 & 11 & 24.18\% & 68.22\% \\
\hline 14 & 14-Nov-08 & COMPANI, & 83445 & 31 & 0.87\% & 0.42\% & 28 & \#\#\#\#\#\#\#\# & EMERSON & 22103 & 11 & 26.29\% & 68.84\% \\
\hline 14 & 14-Nov-08 & A B B LTD & 88953 & 31 & 0.17\% & 0.28\% & 28 & \#\#\#\#\#\#\#\# & CENTURY & 60599 & 11 & 28.85\% & 65.65\% \\
\hline 14 & 14-Nov-08 & PATNICO & 91051 & 31 & 0.00\% & 0.59\% & 28 & \#\#\#\#\#\#\#\# & KONINKLI. & 88487 & 31 & 0.00\% & 0.61\% \\
\hline 14 & 14-Nov-08 & QIAO XINC & 92031 & 12 & 0.00\% & 0.02\% & 28 & \#\#\#\#\#\#\#\# & WESTER & 90776 & 11 & 19.24\% & 68.74\% \\
\hline 14 & 14-Nov-08 & SIMCERE & 91942 & 31 & 0.00\% & 0.82\% & 28 & \#\#\#\#\#\#\#\# & VALMONT & 80128 & 11 & 22.04\% & 65.26\% \\
\hline 14. & & ROYAL BA & 92355 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & TIFFANY \& & 75100 & 11 & 21.63\% & 68.69\% \\
\hline 14 & 14-Nov-08 & TELECOM & 76760 & 31 & 0.00\% & 3.28\% & 28 & \#\#\#\#\#\#\#\# & BRUNSWI & 10874 & 11 & 30.22\% & 68.97\% \\
\hline 14 & 14-Nov-08 & OPPENHE & 78451 & 12 & 0.00\% & 1.49\% & 28 & \#\#\#\#\#\#\#\# & MITSUBIS & 75811 & 31 & 0.00\% & 3.84\% \\
\hline 14 & 14-Nov-08 & TONGJITA & 91884 & 31 & 0.00\% & 0.50\% & 28 & \#\#\#\#\#\#\#\# & metavan & 92339 & 11 & 0.00\% & 0.34\% \\
\hline 14 & 14-Nov-08 & VALHI INC & 45225 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & HCPINC & 67598 & 18 & 43.39\% & 69.88\% \\
\hline 14 & 14-Nov-08 & WUXIPHA & 92258 & 31 & 0.00\% & 0.18\% & 28 & \#\#\#\#\#\#\#\# & CALGON ( & 11378 & 11 & 37.57\% & 65.24\% \\
\hline 14 & 14-Nov-08 & CHINA So & 85235 & 31 & 0.00\% & 0.66\% & 28 & \#\#\#\#\#\#\#\# & TELECOM & 76760 & 31 & 0.00\% & 0.43\% \\
\hline 14 & 14-Nov-08 & TERADAT. & 92293 & 11 & 0.00\% & 0.38\% & 28 & \#\#\#\#\#\#\#\# & BIOMED F & 90301 & 18 & 30.02\% & 69.55\% \\
\hline 14 & 14-Nov-08 & TIMKEN C & 14795 & 11 & 0.00\% & 2.07\% & 28 & \#\#\#\#\#\#\#\# & REALTY II & 81045 & 18 & 31.88\% & 68.79\% \\
\hline 14 & 14-Nov-08 & VEOLIA EI & 89198 & 31 & 0.00\% & 0.04\% & 28 & \#\#\#\#\#\#\#\# & NAVIOS N & 90965 & 12 & 0.00\% & 0.44\% \\
\hline 14 & 14-Nov-08 & CINEMARI & 91915 & 11 & 1.14\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ITC HOLI & 90786 & 11 & 0.00\% & 73.85\% \\
\hline 14 & 14-Nov-08 & COPA HOI & 91065 & 12 & 1.88\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & HQ SUST/ & 92009 & 11 & 0.00\% & 73.16\% \\
\hline 14 & 14-Nov-08 & CREDIT S & 89154 & 31 & 1.13\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & LIZ CLAIB & 49905 & 11 & 0.00\% & 71.74\% \\
\hline 14 & 14-Nov-08 & CHIMERA & 92385 & 18 & 1.80\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & LACLEDE & 12781 & 11 & 0.00\% & 74.30\% \\
\hline 14 & 14-Nov-08 & COMPTON & 91043 & 12 & 0.20\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & GRAY TEL & 83989 & 11 & 0.00\% & 71.40\% \\
\hline 14 & 14-Nov-08 & C N A FIN, & 47626 & 11 & 0.63\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & GASCO EI & 90502 & 11 & 0.00\% & 74.36\% \\
\hline 14 & 14-Nov-08 & ETABLISS & 88958 & 31 & 2.88\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & HORNBEC & 90067 & 11 & 0.00\% & 73.22\% \\
\hline 14 & 14-Nov-08 & NOVO NO & 63263 & 31 & 0.23\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & HITACHIL & 64231 & 31 & 0.00\% & 70.64\% \\
\hline 14 & & TELMEX II & 92711 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\#\# & CHENIERE & 84723 & 11 & 0.00\% & 73.61\% \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & TEXTAINE & 92379 & 12 & 1.02\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MOLINA H & 89781 & 11 & 0.00\% & 72.90\% \\
\hline 14 & 14-Nov-08 & EmPRESA & 80717 & 31 & 0.14\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MUELLER & 76573 & 11 & 0.00\% & 73.96\% \\
\hline 14 & 14-Nov-08 & FAIRFAX F & 89627 & 11 & 0.67\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & NEWMARI & 42550 & 11 & 0.00\% & 71.58\% \\
\hline 14 & 14-Nov-08 & FRESENIL & 83987 & 31 & 2.52\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MEDICAL & 89370 & 11 & 0.00\% & 73.54\% \\
\hline 14 & & TOMKINS & 12269 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & LIFE SCIE & 91843 & 11 & 0.00\% & 73.40\% \\
\hline 14 & & VIVIGEN II & 81147 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ALLIANT E & 58819 & 11 & 0.00\% & 74.96\% \\
\hline 14 & & VERSO Pt & 92670 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MACQUAF & 90507 & 11 & 0.00\% & 72.97\% \\
\hline 14 & & VITRO SO & 77560 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MOBILE T & 88309 & 31 & 0.00\% & 72.47\% \\
\hline 14 & & TORTOISE & 91801 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & DAVITA IN & 82307 & 11 & 0.00\% & 72.14\% \\
\hline 14 & & TELESPHI & 64813 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & DOLBY LA & 90550 & 11 & 0.00\% & 73.14\% \\
\hline 14 & & VANCEINF & 92510 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & EDUCATIC & 90524 & 18 & 0.00\% & 70.37\% \\
\hline 14 & & WENDYS & 19828 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & DREAMWI & 90374 & 11 & 0.00\% & 73.13\% \\
\hline 14 & & GRUPO TI & 89254 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & CRANE C & 20204 & 11 & 0.00\% & 72.20\% \\
\hline 14 & & TAMBRAN & 66333 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & COHEN \& & 90303 & 11 & 0.00\% & 72.87\% \\
\hline 14 & & EXPRESS & 89367 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & DANA HOI & 92570 & 11 & 0.00\% & 73.11\% \\
\hline 14 & & WOORI FI & 89856 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & CARTERS & 89876 & 11 & 0.00\% & 70.85\% \\
\hline 14 & & W HOLDIA & 93105 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & NEW ORIE & 91457 & 31 & 0.00\% & 74.68\% \\
\hline 14 & & WNS HO & 91390 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & GREENHII & 90164 & 11 & 0.00\% & 71.57\% \\
\hline 14 & 14-Nov-08 & TELECOM & 89817 & 31 & 2.33\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & FURMANI- & 42067 & 11 & 0.00\% & 74.30\% \\
\hline 14 & 14-Nov-08 & ACORN IN & 91973 & 31 & 0.00\% & 0.51\% & 28 & \#\#\#\#\#\#\#\# & GROUP 1 & 85427 & 11 & 0.00\% & 73.26\% \\
\hline 14 & & MOLSON 1 & 90562 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & GULFMAR & 84808 & 11 & 0.00\% & 74.67\% \\
\hline 14 & 14-Nov-08 & AVNET IN & 27684 & 11 & 0.00\% & 1.71\% & 28 & \#\#\#\#\#\#\#\# & ESTERLIN & 50788 & 11 & 0.00\% & 72.16\% \\
\hline 14 & & TATA COn & 88494 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & EL PASO I & 82855 & 11 & 0.00\% & 73.95\% \\
\hline 14 & 14-Nov-08 & GRUPO AI & 88593 & 31 & 0.00\% & 1.48\% & 28 & \#\#\#\#\#\#\#\# & FIRST PO & 89878 & 48 & 0.00\% & 71.55\% \\
\hline 14 & 14-Nov-08 & A G L RES & 15553 & 11 & 0.00\% & 0.59\% & 28 & \#\#\#\#\#\#\#\# & EATON C & 11762 & 11 & 0.00\% & 71.04\% \\
\hline 14 & 14-Nov-08 & ALLIED W. & 76887 & 11 & 0.00\% & 0.25\% & 28 & \#\#\#\#\#\#\#\# & PARTNER & 79730 & 12 & 0.00\% & 4.59\% \\
\hline 14 & 14-Nov-08 & CROWNH & 17726 & 11 & 0.00\% & 0.76\% & 28 & \#\#\#\#\#\#\#\# & SATYAM ( & 88995 & 31 & 0.00\% & 67.96\% \\
\hline 14 & 14-Nov-08 & C G G VEF & 84772 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ROWAN C & 45495 & 11 & 0.00\% & 66.00\% \\
\hline 14 & & TUBOS DE & 40299 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & SAKS INC & 11382 & 11 & 0.00\% & 68.27\% \\
\hline 14 & 14-Nov-08 & BECTON [ & 39642 & 11 & 0.00\% & 1.39\% & 28 & \#\#\#\#\#\#\#\# & SPECTRA & 91650 & 11 & 0.00\% & 65.81\% \\
\hline 14 & 14-Nov-08 & bBVA BAA & 79895 & 31 & 0.00\% & 0.08\% & 28 & \#\#\#\#\#\#\#\# & PROSH & 92143 & 11 & 0.00\% & 66.82\% \\
\hline 14 & 14-Nov-08 & B T GROU & 66835 & 31 & 0.00\% & 0.56\% & 28 & \#\#\#\#\#\#\#\# & PHARMEF & 92184 & 11 & 0.00\% & 69.68\% \\
\hline 14 & 14-Nov-08 & AMETEK I & 85257 & 11 & 0.00\% & 0.46\% & 28 & \#\#\#\#\#\#\#\# & ROBBINS & 67193 & 11 & 0.00\% & 69.72\% \\
\hline 14 & 14-Nov-08 & PENN VIR & 89194 & 11 & 5.28\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & PRIMUS G & 90351 & 12 & 0.00\% & 67.59\% \\
\hline 14 & 14-Nov-08 & PEARSON & 88595 & 31 & 11.81\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & QUESTAR & 27756 & 11 & 0.00\% & 67.95\% \\
\hline 14 & 14-Nov-08 & STUDENT & 78804 & 11 & 12.23\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & VONAGE I & 91237 & 11 & 0.00\% & 69.61\% \\
\hline 14 & 14-Nov-08 & UNITED M & 88612 & 31 & 0.01\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & UNIVERS & 89973 & 11 & 0.00\% & 68.43\% \\
\hline 14 & 14-Nov-08 & W S P HO & 92515 & 31 & 0.79\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & WINDSTR & 91391 & 11 & 0.00\% & 66.92\% \\
\hline 14 & 14-Nov-08 & CRHPLC & 75650 & 31 & 6.41\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & VOLT INF( & 81190 & 11 & 0.00\% & 66.30\% \\
\hline 14 & 14-Nov-08 & W P CARE & 85763 & 11 & 10.20\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & TIDEWATI & 50606 & 11 & 0.00\% & 68.40\% \\
\hline 14 & 14-Nov-08 & COMPANF & 85254 & 31 & 0.00\% & 0.27\% & 28 & \#\#\#\#\#\#\#\# & TIMBERLF & 75101 & 11 & 0.00\% & 69.18\% \\
\hline 14 & & THERAGE & 10644 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & TEXTRON & 23579 & 11 & 0.00\% & 66.32\% \\
\hline 14 & & TDK COF & 64362 & 30 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & TREXINC & 86810 & 11 & 0.00\% & 66.13\% \\
\hline 14 & 14-Nov-08 & NATIONAL & 87279 & 31 & 19.02\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & INVACARE & 45728 & 11 & 0.00\% & 66.09\% \\
\hline 14 & 14-Nov-08 & REED ELS & 81030 & 31 & 23.30\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & INTERLIN & 90503 & 11 & 0.00\% & 67.45\% \\
\hline 14 & 14-Nov-08 & INTERCOI & 89704 & 31 & 35.61\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & KROGER & 16678 & 11 & 0.00\% & 69.46\% \\
\hline 14 & 14-Nov-08 & C N H GLC & 84179 & 12 & 2.31\% & 1.17\% & 28 & \#\#\#\#\#\#\#\# & KELLOGG & 26825 & 11 & 0.00\% & 66.60\% \\
\hline 14 & 14-Nov-08 & TELKOM & 89710 & 31 & 108.00\% & 4.15\% & 28 & \#\#\#\#\#\#\#\# & HEALTH N & 76565 & 11 & 0.00\% & 68.63\% \\
\hline 14 & & HELLENIC & 86403 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & HERBALIF & 90516 & 12 & 0.00\% & 67.33\% \\
\hline 14 & 14-Nov-08 & BORGWAI & 79545 & 11 & 0.00\% & 8.46\% & 28 & \#\#\#\#\#\#\#\# & MARINEM. & 86128 & 11 & 0.00\% & 66.89\% \\
\hline 14 & 14-Nov-08 & VECTREN & 51633 & 11 & 17.09\% & 0.19\% & 28 & \#\#\#\#\#\#\#\# & HARRIS C & 25582 & 11 & 0.00\% & 69.84\% \\
\hline 14 & & PANASON & 53727 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & LITHIA MC & 84319 & 11 & 0.00\% & 66.85\% \\
\hline 14 & 14-Nov-08 & U G I COR & 17929 & 11 & 31.74\% & 2.74\% & 28 & \#\#\#\#\#\#\#\# & ORMAT TI & 90444 & 11 & 0.00\% & 68.92\% \\
\hline 14 & & OMNOVA & 87214 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & NEWPAR & 34673 & 11 & 0.00\% & 68.76\% \\
\hline 14 & & NATUZZI & 79213 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & PREMIERI & 83307 & 11 & 0.00\% & 65.28\% \\
\hline 14 & 14-Nov-08 & GOODRIC & 12140 & 11 & 0.00\% & 9.71\% & 28 & \#\#\#\#\#\#\#\# & PROVIDEI & 89653 & 11 & 0.00\% & 68.55\% \\
\hline 14 & & CHINA NE & 92386 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MANULIFE & 87212 & 12 & 0.00\% & 66.03\% \\
\hline 14 & & TRITON E & 61217 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & LAN AIRLI & 85616 & 31 & 0.00\% & 68.94\% \\
\hline 14 & & OIL DRI Cl & 59185 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & NEWALLI/ & 90132 & 11 & 0.00\% & 67.59\% \\
\hline 14 & 14-Nov-08 & BABCOCK & 92263 & 31 & 0.00\% & 6.22\% & 28 & \#\#\#\#\#\#\#\# & MURPHY & 28345 & 11 & 0.00\% & 67.07\% \\
\hline 14 & 14-Nov-08 & HORMEL I & 32870 & 11 & 16.31\% & 4.22\% & 28 & \#\#\#\#\#\#\#\# & FORD MO & 25785 & 11 & 6.85\% & 68.47\% \\
\hline 14 & 14-Nov-08 & SARA LEE & 22840 & 11 & 9.34\% & 0.51\% & 28 & \#\#\#\#\#\#\#\# & CNAFIN, & 47626 & 11 & 0.19\% & 0.05\% \\
\hline 14 & 14-Nov-08 & STMICROI & 81132 & 12 & 9.38\% & 2.06\% & 28 & \#\#\#\#\#\#\#\# & KORN FEF & 86594 & 11 & 7.43\% & 68.97\% \\
\hline 14 & 14-Nov-08 & WIPRO LT & 88683 & 31 & 9.79\% & 2.98\% & 28 & \#\#\#\#\#\#\#\# & FELCOR L & 80747 & 18 & 5.02\% & 68.68\% \\
\hline 14 & 14-Nov-08 & PARKER + & 41355 & 11 & 8.61\% & 4.46\% & 28 & \#\#\#\#\#\#\#\# & UNITED TI & 17830 & 11 & 1.33\% & 66.95\% \\
\hline 14 & 14-Nov-08 & PARTNER & 79730 & 12 & 6.22\% & 3.23\% & 28 & \#\#\#\#\#\#\#\# & URS COF & 50278 & 11 & 0.33\% & 66.64\% \\
\hline 14 & & PUBLIC Si & 51123 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & WATERS I & 82651 & 11 & 0.65\% & 69.20\% \\
\hline 14 & 14-Nov-08 & WASHING & 53225 & 11 & 5.59\% & 0.18\% & 28 & \#\#\#\#\#\#\#\# & VALASSIS & 77461 & 11 & 3.68\% & 67.56\% \\
\hline 14 & 14-Nov-08 & AXIS CAPI & 89789 & 12 & 12.91\% & 0.86\% & 28 & \#\#\#\#\#\#\#\# & SOUTHWE & 63765 & 11 & 7.02\% & 66.03\% \\
\hline 14 & & PILGRIM ( & 77416 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & TIMKEN C & 14795 & 11 & 0.00\% & 0.46\% \\
\hline 14 & 14-Nov-08 & EQUIFAX & 52476 & 11 & 12.31\% & 0.56\% & 28 & \#\#\#\#\#\#\#\# & TOTAL SY & 76639 & 11 & 0.00\% & 0.55\% \\
\hline 14 & & PARACEL & 83829 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & SILVER W & 90796 & 12 & 0.00\% & 0.11\% \\
\hline 14 & 14-Nov-08 & WHITE MC & 68419 & 12 & 8.68\% & 0.79\% & 28 & \#\#\#\#\#\#\#\# & SYNGENT & 88822 & 31 & 0.00\% & 0.32\% \\
\hline 14 & & PHILIPS Is & 86027 & 18 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & UNITED P. & 87447 & 11 & 5.29\% & 65.08\% \\
\hline 14 & 14-Nov-08 & DONNELL & 38682 & 11 & 0.00\% & 7.83\% & 28 & \#\#\#\#\#\#\#\# & WESTER & 91461 & 11 & 0.00\% & 3.83\% \\
\hline 14 & 14-Nov-08 & ALLIED W & 91393 & 12 & 13.97\% & 9.30\% & 28 & \#\#\#\#\#\#\#\# & UNITED S & 75320 & 11 & 0.00\% & 0.22\% \\
\hline 14 & 14-Nov-08 & ALLIANZ 5 & 88815 & 31 & 14.59\% & 9.17\% & 28 & \#\#\#\#\#\#\#\# & WHITE MC & 68419 & 12 & 0.00\% & 0.18\% \\
\hline 14 & 14-Nov-08 & CHINA PE & 88660 & 31 & 10.91\% & 7.06\% & 28 & \#\#\#\#\#\#\#\# & EOG RESI & 75825 & 11 & 2.42\% & 69.03\% \\
\hline 14 & 14-Nov-08 & HUANENG & 81038 & 31 & 9.27\% & 6.58\% & 28 & \#\#\#\#\#\#\#\# & EMERGEN & 91045 & 11 & 3.34\% & 68.39\% \\
\hline 14 & 14-Nov-08 & DR REDD & 88957 & 31 & 8.96\% & 5.55\% & 28 & \#\#\#\#\#\#\#\# & LEGG MA: & 65330 & 11 & 3.54\% & 67.41\% \\
\hline 14 & 14-Nov-08 & SONOCO & 71176 & 11 & 8.56\% & 7.05\% & 28 & \#\#\#\#\#\#\#\# & ENSCO & 62519 & 11 & 0.38\% & 65.02\% \\
\hline 14 & 14-Nov-08 & CHINA TE & 89581 & 31 & 15.11\% & 5.88\% & 28 & \#\#\#\#\#\#\#\# & BORDERS & 81654 & 11 & 3.78\% & 68.72\% \\
\hline 14 & 14-Nov-08 & NIDEC CO & 89156 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & BOEING C & 19561 & 11 & 2.00\% & 68.24\% \\
\hline 14 & 14-Nov-08 & STANDAR & 39220 & 11 & 0.00\% & 13.95\% & 28 & \#\#\#\#\#\#\#\#\# & DONALDS & 61313 & 11 & 0.16\% & 68.60\% \\
\hline 14 & 14-Nov-08 & CELANES & 90520 & 11 & 1.98\% & 12.68\% & 28 & \#\#\#\#\#\#\#\# & CITGRO & 89463 & 11 & 2.35\% & 68.77\% \\
\hline 14 & 14-Nov-08 & CENTERP & 21792 & 11 & 19.02\% & 7.71\% & 28 & \#\#\#\#\#\#\#\# & MONSANT & 88668 & 11 & 1.90\% & 66.56\% \\
\hline 14 & 14-Nov-08 & URSTADT & 50585 & 18 & 148.00\% & 7.27\% & 28 & \#\#\#\#\#\#\#\# & TJXCON & 40539 & 11 & 2.32\% & 65.56\% \\
\hline 14 & 14-Nov-08 & MCKESSC & 81061 & 11 & 0.00\% & 12.91\% & 28 & \#\#\#\#\#\#\#\# & STATE ST & 72726 & 11 & 0.90\% & 67.54\% \\
\hline 14 & 14-Nov-08 & CHINA UN & 88282 & 31 & 5.48\% & 5.43\% & 28 & \#\#\#\#\#\#\#\# & DUN \& BR & 88590 & 11 & 0.12\% & 0.05\% \\
\hline 14 & 14-Nov-08 & QUEST DI & 84373 & 11 & 2.71\% & 9.05\% & 28 & \#\#\#\#\#\#\#\# & EQUIFAX & 52476 & 11 & 0.10\% & 0.36\% \\
\hline 14 & 14-Nov-08 & GLOBAL F & 88873 & 11 & 3.50\% & 7.67\% & 28 & \#\#\#\#\#\#\#\# & RED HAT & 87184 & 11 & 0.39\% & 67.57\% \\
\hline 4 & 14-Nov-08 & MCAFEE I & 77976 & 11 & 0.33\% & 9.11\% & 28 & \#\#\#\#\#\#\#\# & NEENAH F & 90440 & 11 & 2.51\% & 69.92\% \\
\hline 4 & 14-Nov-08 & SCRIPPS & 84176 & 11 & 0.00\% & 8.62\% & 28 & \#\#\#\#\#\#\#\# & ST MARY & 78170 & 11 & 0.29\% & 66.63\% \\
\hline 4 & & NORTH AI & 91584 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & STANCOR & 86809 & 11 & 0.43\% & 67.26\% \\
\hline 14 & 14-Nov-08 & ARCH CO, & 75326 & 11 & 0.70\% & 9.71\% & 28 & \#\#\#\#\#\#\#\# & WIPRO LT & 88683 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14 & MITSUBIS & 75811 & 31 & 0.78\% & 5.76\% & 28 & \#\#\#\#\#\#\#\# & APEX SILI & 85633 & 12 & 17.57\% & 70.43\% \\
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\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & & NOMURA & 89256 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & B B \& TCl & 71563 & 11 & 20.10\% & 74.43\% \\
\hline 14 & 14-Nov-08 & WILLIS GF & 89017 & 12 & 3.20\% & 6.77\% & 28 & & W HOLDIN & 93105 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CULLEN F & 27888 & 11 & 9.39\% & 7.45\% & 28 & & W NSHO & 91390 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & NISOURCI & 38762 & 11 & 0.60\% & 9.88\% & 28 & & W P CARE & 85763 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & PORTUG \({ }^{\text {P }}\) & 81669 & 31 & 0.98\% & 9.28\% & 28 & \#\#\#\#\#\#\#\# & LIBERTY F & 80691 & 48 & 18.35\% & 71.96\% \\
\hline 14 & 14-Nov-08 & TORONTC & 83835 & 12 & 3.79\% & 7.17\% & 28 & \#\#\#\#\#\#\#\# & INLAND R & 90208 & 18 & 18.46\% & 72.33\% \\
\hline 14 & 14-Nov-08 & MAHANAG & 89192 & 31 & 2.33\% & 0.45\% & 28 & & WSPHO & 92515 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & MUELLER & 91639 & 11 & 4.14\% & 0.06\% & 28 & & VITRO SO & 77560 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & NAM TAIE & 76961 & 12 & 0.89\% & 0.13\% & 28 & \#\#\#\#\#\#\#\# & WENDYS & 19828 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & COCA CO & 79644 & 31 & 0.31\% & 4.59\% & 28 & & VERSARI & 71191 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & L G DISPL & 90266 & 31 & 0.67\% & 0.14\% & 28 & & VANTAGE & 92150 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & MAGYAR & 85617 & 31 & 1.82\% & 0.99\% & 28 & & WESTER & 92425 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & OWENS IL & 77157 & 11 & 1.27\% & 0.31\% & 28 & \#\#\#\#\#\#\#\# & HIGHWOC & 80688 & 18 & 21.81\% & 71.39\% \\
\hline 14 & 14-Nov-08 & PHILIPPIN & 81043 & 31 & 3.17\% & 0.66\% & 28 & \#\#\#\#\#\#\#\# & ROYAL C/ & 79145 & 12 & 22.62\% & 73.50\% \\
\hline 14 & 14-Nov-08 & PACKAGII & 87541 & 11 & 0.27\% & 0.04\% & 28 & & WOORIFI & 89856 & 31 & 0.00\% & 0.00\% \\
\hline 14 & & PARTNER & 77195 & 18 & 0.00\% & 0.00\% & 28 & & CHINA So & 85235 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & GRUPO AI & 91112 & 31 & 0.04\% & 2.28\% & 28 & \#\#\#\#\#\#\#\# & EXCEL M/ & 75454 & 12 & 9.46\% & 71.61\% \\
\hline 14 & 14-Nov-08 & PERDIGAC & 88673 & 31 & 0.20\% & 2.21\% & 28 & & YANZHOU & 85932 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & KONINKLI. & 88487 & 31 & 2.89\% & 2.32\% & 28 & & ZION OIL: & 91729 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & JACOBS E & 52329 & 11 & 0.11\% & 0.58\% & 28 & \#\#\#\#\#\#\#\# & UNIVERS & 16555 & 11 & 0.87\% & 73.05\% \\
\hline 14 & & RACKSPA & 92765 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & TEXAS IN: & 15579 & 11 & 4.35\% & 74.75\% \\
\hline 14 & 14-Nov-08 & ENERSIS : & 79767 & 31 & 0.27\% & 0.04\% & 28 & \#\#\#\#\#\#\#\# & WEYERH & 39917 & 11 & 0.16\% & 72.53\% \\
\hline 14 & 14-Nov-08 & FEDERAT & 86102 & 11 & 0.02\% & 0.16\% & 28 & \#\#\#\#\#\#\#\# & WILLIAMS & 83011 & 11 & 3.30\% & 71.78\% \\
\hline 14 & 14-Nov-08 & CORN PRI & 85645 & 11 & 3.88\% & 0.00\% & 28 & & Y M BIOS & 90397 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & DONALDS & 61313 & 11 & 0.14\% & 0.04\% & 28 & & WIRELES: & 77235 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & NT T DOC & 89335 & 31 & 0.02\% & 0.00\% & 28 & & WUXI PHA & 92258 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & F M C COF & 19166 & 11 & 0.75\% & 0.31\% & 28 & \#\#\#\#\#\#\#\# & WASHING & 53225 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & HARMON) & 84083 & 31 & 0.18\% & 1.29\% & 28 & & WESCO F & 38906 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & INTERNAT & 45277 & 11 & 2.33\% & 0.29\% & 28 & \#\#\#\#\#\#\#\# & FRANKLIN & 90755 & 18 & 11.02\% & 72.33\% \\
\hline 14 & 14-Nov-08 & IHS INC & 90992 & 11 & 0.07\% & 0.12\% & 28 & \#\#\#\#\#\#\#\# & CALLAWA & 77366 & 11 & 10.60\% & 73.09\% \\
\hline 14 & 14-Nov-08 & GARDNEF & 80446 & 11 & 4.38\% & 1.53\% & 28 & & WIZZARD & 92582 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & GUANGS & 83450 & 31 & 2.22\% & 2.95\% & 28 & & EXPRESS & 89367 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & HEWITT A & 89431 & 11 & 0.05\% & 0.28\% & 28 & \#\#\#\#\#\#\#\# & CAMBREX & 11707 & 11 & 0.00\% & 78.03\% \\
\hline 14 & 14-Nov-08 & PETROBR & 87540 & 31 & 0.31\% & 0.18\% & 28 & \#\#\#\#\#\#\#\# & CACI INTE & 20512 & 11 & 0.00\% & 75.66\% \\
\hline 14 & 14-Nov-08 & CARPENT & 20618 & 11 & 7.62\% & 0.11\% & 28 & \#\#\#\#\#\#\#\# & CLEAR Cr & 90989 & 11 & 0.00\% & 76.92\% \\
\hline 14 & 14-Nov-08 & C N X GAS & 91067 & 11 & 5.21\% & 0.03\% & 28 & \#\#\#\#\#\#\#\# & CBIZ INC & 81584 & 11 & 0.00\% & 76.81\% \\
\hline 14 & 14-Nov-08 & AMDOCS & 86144 & 12 & 8.00\% & 0.34\% & 28 & & URANIUM & 92294 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & YANZHOU & 85932 & 31 & 0.38\% & 0.70\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 90674 & 11 & 0.00\% & 79.41\% \\
\hline 14 & 14-Nov-08 & BANCO BI & 75381 & 31 & 7.98\% & 0.81\% & 28 & \#\#\#\#\#\#\#\# & BALDORE & 58755 & 11 & 0.00\% & 79.11\% \\
\hline 14 & 14-Nov-08 & ROCKWEI & 89014 & 11 & 5.84\% & 0.87\% & 28 & \#\#\#\#\#\#\#\# & BUILD A B & 90371 & 11 & 0.00\% & 79.43\% \\
\hline 14 & 14-Nov-08 & HARSCO 1 & 25304 & 11 & 5.77\% & 3.52\% & 28 & \#\#\#\#\#\#\#\# & COMPXIN & 85903 & 11 & 0.00\% & 78.49\% \\
\hline 14 & 14-Nov-08 & PEPSIAME & 38973 & 11 & 6.40\% & 3.56\% & 28 & \#\#\#\#\#\#\#\# & ENCORE, & 88922 & 11 & 0.00\% & 75.63\% \\
\hline 14 & & PHARMAC & 82647 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & GENENTE & 87031 & 11 & 0.00\% & 76.43\% \\
\hline 14 & 14-Nov-08 & PITNEY BI & 24459 & 11 & 7.56\% & 0.47\% & 28 & \#\#\#\#\#\#\#\# & EMPIRE D & 23042 & 11 & 0.00\% & 80.00\% \\
\hline 14 & & PRUDENT & 88310 & 31 & 0.00\% & 0.00\% & 28 & & U S DATA' & 87845 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & EMPRESA & 77545 & 31 & 6.74\% & 2.16\% & 28 & \#\#\#\#\#\#\#\# & CANADIAT & 89125 & 12 & 0.00\% & 77.39\% \\
\hline 14 & 14-Nov-08 & K T CORP & 86869 & 31 & 7.23\% & 0.12\% & 28 & \#\#\#\#\#\#\#\# & COMERIC. & 25081 & 11 & 0.00\% & 79.10\% \\
\hline 14 & 14-Nov-08 & WESTER & 91461 & 11 & 1.22\% & 3.14\% & 28 & \#\#\#\#\#\#\#\# & CAPITAL! & 85419 & 11 & 0.00\% & 77.86\% \\
\hline 14 & 14-Nov-08 & SINOPEC & 79464 & 31 & 1.53\% & 2.50\% & 28 & \#\#\#\#\#\#\#\# & CORNELL & 84023 & 11 & 0.00\% & 76.48\% \\
\hline 14 & 14-Nov-08 & SILVER W & 90796 & 12 & 4.46\% & 0.03\% & 28 & & VANCEINF & 92510 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SAPPI LTL & 86413 & 31 & 4.05\% & 0.11\% & 28 & \#\#\#\#\#\#\#\# & AMBPRC & 85592 & 18 & 37.29\% & 74.71\% \\
\hline 14 & 14-Nov-08 & EVEREST & 82303 & 12 & 0.30\% & 0.41\% & 28 & \#\#\#\#\#\#\#\# & VEOLIA EI & 89198 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & REPSOL & 75632 & 31 & 2.22\% & 3.54\% & 28 & & VALHI INC & 45225 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & BANCO St & 84386 & 31 & 0.01\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & VODAFON & 75418 & 31 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SOCIEDAI & 79663 & 31 & 0.44\% & 0.11\% & 28 & \#\#\#\#\#\#\#\# & VERSO Pt & 92670 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & TRANSAT & 76219 & 11 & 1.34\% & 0.38\% & 28 & \#\#\#\#\#\#\#\# & POST PRC & 79449 & 18 & 30.27\% & 71.87\% \\
\hline 14 & 14-Nov-08 & UNITED S & 75320 & 11 & 2.68\% & 0.03\% & 28 & & VIVIGEN II & 81147 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & WADDELL & 85931 & 11 & 1.07\% & 0.52\% & 28 & & UNIVERS & 78211 & 11 & 0.00\% & 0.00\% \\
\hline 14 & & ADMIN FO & 81050 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & HALLIBUR & 23819 & 11 & 183.43\% & 73.65\% \\
\hline 14 & 14-Nov-08 & SASOL LT & 68866 & 31 & 3.20\% & 4.93\% & 28 & \#\#\#\#\#\#\#\# & UNILEVEF & 28310 & 12 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & SYNGENT & 88822 & 31 & 3.13\% & 4.83\% & 28 & \#\#\#\#\#\#\#\# & ARBOR RI & 90102 & 18 & 0.00\% & 79.55\% \\
\hline 14 & & B F C Fint & 89735 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & U GICOR & 17929 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & D S W INC & 90751 & 11 & 0.00\% & 36.78\% & 28 & & UTEK COF & 88746 & 11 & 0.00\% & 0.00\% \\
\hline 14 & 14-Nov-08 & CONTINEI & 91983 & 11 & 1.68\% & 36.04\% & 28 & \#\#\#\#\#\#\#\# & HEALTH C & 65947 & 18 & 46.73\% & 74.56\% \\
\hline 14 & & BWIPIN & 76667 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & DISNEY K & 26403 & 11 & 72.54\% & 73.27\% \\
\hline 14 & & ADVANCE & 88659 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & UR ENER & 92747 & 12 & 0.00\% & 0.00\% \\
\hline 14 & & ALLEGIAN & 83977 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & SIX FLAG؛ & 76209 & 11 & 1.73\% & 71.01\% \\
\hline 14 & & WINTHRO & 50614 & 48 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & SKECHER & 86949 & 11 & 0.00\% & 70.85\% \\
\hline 14 & 14-Nov-08 & VIRGIN M & 92376 & 11 & 0.00\% & 34.81\% & 28 & \#\#\#\#\#\#\#\# & SALLY BE & 91683 & 11 & 0.00\% & 74.06\% \\
\hline 14 & & ADVANTE & 89150 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & TALBOTS & 79922 & 11 & 0.00\% & 74.88\% \\
\hline 14 & 14-Nov-08 & ABERCRC & 83976 & 11 & 13.10\% & 33.54\% & 28 & \#\#\#\#\#\#\#\# & SOLERA - & 92021 & 11 & 0.00\% & 74.73\% \\
\hline 14 & 14-Nov-08 & EmbARQ 1 & 91218 & 11 & 0.00\% & 33.10\% & 28 & \#\#\#\#\#\#\#\# & AARON RI & 78049 & 11 & 0.00\% & 70.88\% \\
\hline 14 & & FINANCIAI & 46084 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & GENUINE & 46674 & 11 & 0.00\% & 0.06\% \\
\hline 14 & 14-Nov-08 & HALLIBUR & 23819 & 11 & 13.86\% & 33.08\% & 28 & \#\#\#\#\#\#\#\# & FIFTH STF & 92694 & 11 & 0.00\% & 0.28\% \\
\hline 14 & 14-Nov-08 & CLEAR C- & 90989 & 11 & 0.44\% & 37.48\% & 28 & \#\#\#\#\#\#\#\# & RANGE RI & 50017 & 11 & 0.00\% & 70.13\% \\
\hline 14 & 14-Nov-08 & IMPERIAL & 82501 & 11 & 0.00\% & 30.14\% & 28 & \#\#\#\#\#\#\#\# & THOMSOI & 89444 & 12 & 0.00\% & 70.40\% \\
\hline 14 & 14-Nov-08 & INTERNAT & 40272 & 11 & 0.00\% & 30.47\% & 28 & \#\#\#\#\#\#\#\# & WESTAR I & 24053 & 11 & 0.00\% & 74.16\% \\
\hline 14 & 14-Nov-08 & GENERAL & 12052 & 11 & 0.00\% & 33.77\% & 28 & \#\#\#\#\#\#\#\# & WISCONS & 23536 & 11 & 0.00\% & 73.76\% \\
\hline 14 & 14-Nov-08 & AERCAP + & 91602 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & YUM BRAI & 85348 & 11 & 0.00\% & 74.68\% \\
\hline 14 & 14-Nov-08 & P P G IND & 22509 & 11 & 16.03\% & 33.38\% & 28 & \#\#\#\#\#\#\#\# & WYETH & 15667 & 11 & 0.00\% & 71.04\% \\
\hline 14 & 14-Nov-08 & MOTOROI & 22779 & 11 & 0.66\% & 38.61\% & 28 & \#\#\#\#\#\#\#\# & LIN TV CC & 89407 & 11 & 0.00\% & 72.90\% \\
\hline 14 & 14-Nov-08 & CONSTEL & 24221 & 11 & 0.77\% & 38.06\% & 28 & \#\#\#\#\#\#\#\# & TUPPERM & 83462 & 11 & 0.00\% & 72.61\% \\
\hline 14 & 14-Nov-08 & INTERME( & 85445 & 11 & 7.54\% & 33.43\% & 28 & \#\#\#\#\#\#\#\# & VULCAN & 15202 & 11 & 0.00\% & 74.85\% \\
\hline 14 & & FAR WES & 40811 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & VALERO E & 85269 & 11 & 0.00\% & 74.84\% \\
\hline 14 & 14-Nov-08 & PENTAIR। & 62034 & 11 & 0.39\% & 37.27\% & 28 & \#\#\#\#\#\#\#\# & OLD NATII & 12068 & 11 & 0.00\% & 70.07\% \\
\hline 14 & 14-Nov-08 & CONCHO & 92239 & 11 & 1.26\% & 38.08\% & 28 & \#\#\#\#\#\#\#\# & NEW YOR & 47466 & 11 & 0.00\% & 73.64\% \\
\hline 14 & & CENTRAIS & 92802 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & PATRIOT & 92346 & 11 & 0.00\% & 72.29\% \\
\hline 14 & 14-Nov-08 & DARDEN F & 81655 & 11 & 9.14\% & 30.28\% & 28 & \#\#\#\#\#\#\#\# & ORBITAL: & 76139 & 11 & 0.00\% & 70.79\% \\
\hline 14 & 14-Nov-08 & CARE INV & 92111 & 18 & 0.00\% & 39.08\% & 28 & \#\#\#\#\#\#\#\# & NELNET II & 89964 & 11 & 0.00\% & 70.99\% \\
\hline 14 & 14-Nov-08 & GOLD FIE & 30796 & 31 & 4.00\% & 38.93\% & 28 & \#\#\#\#\#\#\#\# & NATIONAL & 72338 & 11 & 0.00\% & 74.19\% \\
\hline 14 & 14-Nov-08 & GALLAGH & 38093 & 11 & 0.36\% & 30.03\% & 28 & \#\#\#\#\#\#\#\# & NUCOR C & 34817 & 11 & 0.00\% & 72.20\% \\
\hline 14 & & BIG FLOW & 82632 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & NBTYIN & 56937 & 11 & 0.00\% & 73.15\% \\
\hline 14 & & CARRIAG & 83856 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & PROGRES & 64390 & 11 & 0.00\% & 70.59\% \\
\hline 14 & 14-Nov-08 & XTOENE & 79212 & 11 & 5.93\% & 31.63\% & 28 & \#\#\#\#\#\#\#\# & PROASSU & 76838 & 11 & 0.00\% & 70.72\% \\
\hline 14 & & B WAYH & 92109 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & PETROQL & 78186 & 11 & 0.00\% & 72.16\% \\
\hline 14 & 14-Nov-08 & ONE LIBEI & 59628 & 18 & 0.00\% & 39.56\% & 28 & \#\#\#\#\#\#\#\# & REGIS CC & 76711 & 11 & 0.00\% & 70.77\% \\
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\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline 14 & 14-Nov-08 & CONSOL & 86799 & 11 & 3.04\% & 39.98\% & 28 & \#\#\#\#\#\#\#\# & HEWITT A & 89431 & 11 & 0.00\% & 0.10\% \\
\hline 14 & 14-Nov-08 & DOVER DI & 89332 & 11 & 0.00\% & 39.67\% & 28 & \#\#\#\#\#\#\#\# & PIPER JAF & 89968 & 11 & 0.00\% & 71.84\% \\
\hline 14 & & ALLIED D & 89457 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & PULTE HC & 54148 & 11 & 0.00\% & 73.05\% \\
\hline 14 & 14-Nov-08 & OCCIDEN & 34833 & 11 & 2.94\% & 36.12\% & 28 & \#\#\#\#\#\#\#\# & PORTLAN & 91204 & 11 & 0.00\% & 74.50\% \\
\hline 14 & 14-Nov-08 & STEAK N : & 26607 & 11 & 0.00\% & 38.60\% & 28 & \#\#\#\#\#\#\#\# & PIEDMON & 49971 & 11 & 0.00\% & 71.54\% \\
\hline 14 & 14-Nov-08 & CURTISS ' & 18091 & 11 & 2.89\% & 36.79\% & 28 & \#\#\#\#\#\#\#\# & PENNEY J & 18403 & 11 & 0.64\% & 70.93\% \\
\hline 14 & 14-Nov-08 & MATTEL II & 39538 & 11 & 7.07\% & 33.07\% & 28 & \#\#\#\#\#\#\#\# & J CREW ¢ & 91302 & 11 & 0.82\% & 73.04\% \\
\hline 14 & & CENTRAC & 85941 & 48 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ALCON IN & 89350 & 12 & 0.00\% & 2.09\% \\
\hline 14 & 14-Nov-08 & S J W COf & 54199 & 11 & 0.00\% & 34.44\% & 28 & \#\#\#\#\#\#\#\# & JONES AF & 76638 & 11 & 1.76\% & 73.59\% \\
\hline 14 & 14-Nov-08 & CARMAXI & 89508 & 11 & 0.00\% & 39.85\% & 28 & \#\#\#\#\#\#\#\# & GAMESTC & 89301 & 11 & 0.31\% & 72.07\% \\
\hline 14 & 14-Nov-08 & XERIUM T & 90700 & 11 & 0.00\% & 32.13\% & 28 & \#\#\#\#\#\#\#\# & CORNING & 22293 & 11 & 0.23\% & 70.30\% \\
\hline 14 & 14-Nov-08 & BRITISH S & 81121 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ALCATEL & 77604 & 31 & 0.00\% & 0.53\% \\
\hline 14 & & CIBA SPEI & 88483 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & HEWLETT & 27828 & 11 & 3.58\% & 74.84\% \\
\hline 14 & & DANAOS \({ }^{\text {c }}\) & 91560 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & LOWES C & 61399 & 11 & 0.88\% & 73.48\% \\
\hline 14 & & EMRISE C & 86319 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & QUANEX \({ }^{\text {E }}\) & 92635 & 11 & 0.35\% & 73.00\% \\
\hline 14 & 14-Nov-08 & SYNCORA & 91427 & 12 & 0.00\% & 32.70\% & 28 & \#\#\#\#\#\#\#\# & NCIBUIL & 77501 & 11 & 0.29\% & 74.36\% \\
\hline 14 & & BLOCKBU & 90337 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & IM S HEA & 84020 & 11 & 0.44\% & 73.11\% \\
\hline 14 & 14-Nov-08 & K B R INC & 91579 & 11 & 1.05\% & 37.25\% & 28 & \#\#\#\#\#\#\#\# & OFFICEM + & 42024 & 11 & 0.43\% & 71.36\% \\
\hline 14 & 14-Nov-08 & MAUI LAN & 51925 & 11 & 13.72\% & 30.93\% & 28 & \#\#\#\#\#\#\#\# & MOODYS & 48506 & 11 & 2.57\% & 74.27\% \\
\hline 14 & 14-Nov-08 & BERKLEY & 17743 & 11 & 0.00\% & 30.08\% & 28 & \#\#\#\#\#\#\#\# & MCDONAL & 43449 & 11 & 3.38\% & 72.22\% \\
\hline 14 & 14-Nov-08 & BARCLAY: & 69761 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MARSHAL & 51706 & 11 & 4.90\% & 70.68\% \\
\hline 14 & & BANCO Di & 89284 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MOHAWK & 77496 & 11 & 0.42\% & 71.99\% \\
\hline 14 & 14-Nov-08 & WESTWO & 89443 & 11 & 0.00\% & 30.40\% & 28 & \#\#\#\#\#\#\#\# & CONVERC & 86305 & 11 & 0.00\% & 0.27\% \\
\hline 14 & 14-Nov-08 & PERKINEL & 42200 & 11 & 15.04\% & 33.38\% & 28 & \#\#\#\#\#\#\#\# & BILL BARF & 90494 & 11 & 3.93\% & 73.93\% \\
\hline 14 & 14-Nov-08 & TYLER TE & 76185 & 11 & 12.53\% & 32.58\% & 28 & \#\#\#\#\#\#\#\# & CBL \& As & 79777 & 18 & 2.51\% & 70.04\% \\
\hline 14 & 14-Nov-08 & INTREPID & 92621 & 11 & 0.81\% & 36.77\% & 28 & \#\#\#\#\#\#\#\# & BRIGGS \& & 17961 & 11 & 0.70\% & 73.79\% \\
\hline 14 & & EMPRESA & 91929 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ALCOA IN & 24643 & 11 & 2.41\% & 72.66\% \\
\hline 14 & 14-Nov-08 & SPECTRU & 85625 & 11 & 0.00\% & 33.31\% & 28 & \#\#\#\#\#\#\#\# & QUIKSILVI & 75527 & 11 & 0.00\% & 70.83\% \\
\hline 14 & 14-Nov-08 & M S C I IN & 92402 & 11 & 0.00\% & 35.11\% & 28 & \#\#\#\#\#\#\#\# & COSAN LT & 92259 & 12 & 0.00\% & 0.04\% \\
\hline 14 & 14-Nov-08 & LUBYS IN & 64020 & 11 & 13.31\% & 33.69\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 80432 & 11 & 0.15\% & 71.72\% \\
\hline 14 & 14-Nov-08 & BOSTON & 77605 & 11 & 1.37\% & 35.14\% & 28 & \#\#\#\#\#\#\#\# & CARNIVAL & 89728 & 31 & 0.00\% & 0.55\% \\
\hline 14 & & AMERICAI & 70818 & 18 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & FAIR ISAA & 11533 & 11 & 0.21\% & 73.37\% \\
\hline 14 & & BRTREA & 56856 & 48 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & AXIS CAPI & 89789 & 12 & 0.00\% & 0.90\% \\
\hline 14 & & CLINICOR & 77260 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & GENERAL & 17144 & 11 & 1.91\% & 71.18\% \\
\hline 14 & & ALLMERIC & 82292 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & FAIRPOIN & 90555 & 11 & 0.04\% & 73.77\% \\
\hline 14 & 14-Nov-08 & THORNBL & 79351 & 18 & 0.00\% & 38.77\% & 28 & \#\#\#\#\#\#\#\# & CNOOC & 88888 & 31 & 0.00\% & 0.09\% \\
\hline 14 & 14-Nov-08 & REDDY IC & 90847 & 11 & 0.00\% & 39.35\% & 28 & \#\#\#\#\#\#\#\# & COMSTOC & 11644 & 11 & 0.47\% & 73.80\% \\
\hline 14 & 14-Nov-08 & INTERNAT & 27705 & 11 & 13.67\% & 30.99\% & 28 & \#\#\#\#\#\#\#\# & BANKATL, & 83239 & 11 & 0.00\% & 2.09\% \\
\hline 14 & 14-Nov-08 & JOHNSON & 42534 & 11 & 0.00\% & 30.26\% & 28 & \#\#\#\#\#\#\#\# & DARDEN F & 81655 & 11 & 0.23\% & 72.59\% \\
\hline 14 & 14-Nov-08 & MARTHA ! & 87277 & 11 & 0.00\% & 32.48\% & 28 & \#\#\#\#\#\#\#\# & ANWORT & 85897 & 18 & 0.00\% & 62.25\% \\
\hline 14 & 14-Nov-08 & COSAN LT & 92259 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & APPLIED I & 29612 & 11 & 0.00\% & 60.86\% \\
\hline 14 & & U S AGGR & 87150 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & AMERICAI & 85801 & 12 & 0.00\% & 63.60\% \\
\hline 14 & 14-Nov-08 & ALBANY II & 11731 & 11 & 3.59\% & 35.61\% & 28 & \#\#\#\#\#\#\#\# & AIR PROD & 28222 & 11 & 0.00\% & 60.50\% \\
\hline 14 & & CARSONI & 79811 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & GENCORF & 20765 & 11 & 258.65\% & 57.02\% \\
\hline 14 & 14-Nov-08 & A B M IND & 47730 & 11 & 2.31\% & 35.98\% & 28 & \#\#\#\#\#\#\#\# & REGAL EI & 89409 & 11 & 62.55\% & 57.78\% \\
\hline 14 & 14-Nov-08 & VALLEY N & 80072 & 11 & 11.50\% & 32.08\% & 28 & \#\#\#\#\#\#\#\# & COACH IN & 88661 & 11 & 0.57\% & 17.67\% \\
\hline 14 & & FITCHBUF & 58587 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & NIKE INC & 57665 & 11 & 113.24\% & 58.25\% \\
\hline 14 & 14-Nov-08 & AMERICAI & 90548 & 11 & 3.50\% & 35.49\% & 28 & \#\#\#\#\#\#\#\# & GRUPO AI & 88593 & 31 & 0.00\% & 60.78\% \\
\hline 14 & & FRANKLIN & 77637 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & CENTRAL & 11628 & 11 & 0.00\% & 60.18\% \\
\hline 14 & 14-Nov-08 & LENNOXII & 87034 & 11 & 0.23\% & 36.90\% & 28 & \#\#\#\#\#\#\#\# & CITADEL ! & 89806 & 11 & 0.00\% & 61.92\% \\
\hline 14 & & D W S DRI & 91568 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & CONSOLII & 26650 & 11 & 0.00\% & 62.00\% \\
\hline 14 & 14-Nov-08 & NATIONAL & 51377 & 11 & 9.67\% & 39.16\% & 28 & \#\#\#\#\#\#\#\# & CHESAPE & 23182 & 11 & 0.00\% & 62.75\% \\
\hline 14 & 14-Nov-08 & MARKEL C & 10933 & 11 & 6.61\% & 39.65\% & 28 & \#\#\#\#\#\#\#\# & BECTON [ & 39642 & 11 & 0.00\% & 64.36\% \\
\hline 14 & 14-Nov-08 & FERRO C( & 21135 & 11 & 2.47\% & 33.20\% & 28 & \#\#\#\#\#\#\#\# & ALLEGHEI & 43123 & 11 & 0.00\% & 60.67\% \\
\hline 14 & 14-Nov-08 & HESS COF & 28484 & 11 & 3.90\% & 31.57\% & 28 & \#\#\#\#\#\#\#\# & COMMUNI & 86896 & 11 & 0.00\% & 60.14\% \\
\hline 14 & & CASTLE \& & 82771 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & CINCINNA & 47677 & 11 & 0.00\% & 60.85\% \\
\hline 14 & & ALUMINA & 75941 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & AECOM & 91975 & 11 & 0.00\% & 22.52\% \\
\hline 14 & 14-Nov-08 & NEWELL F & 60986 & 11 & 6.47\% & 37.74\% & 28 & \#\#\#\#\#\#\#\# & AETNA IN & 88845 & 11 & 0.00\% & 20.75\% \\
\hline 14 & 14-Nov-08 & CARNIVAL & 89728 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & DEVELOP & 78927 & 18 & 21.39\% & 58.41\% \\
\hline 14 & & DISCO S \(/\) & 83330 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & XTOENE & 79212 & 11 & 17.45\% & 57.48\% \\
\hline 14 & 14-Nov-08 & AMERICAI & 91837 & 11 & 0.00\% & 35.71\% & 28 & \#\#\#\#\#\#\#\# & BLUELINX & 90496 & 11 & 0.00\% & 21.56\% \\
\hline 14 & 14-Nov-08 & ENISPA & 82637 & 31 & 1.17\% & 34.16\% & 28 & \#\#\#\#\#\#\#\# & BLUEGRE & 90916 & 11 & 0.00\% & 23.01\% \\
\hline 14 & 14-Nov-08 & CVRENE & 92326 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ARACRUZ & 77633 & 31 & 0.00\% & 23.09\% \\
\hline 14 & & COMPANF & 92118 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & BOSTON: & 77605 & 11 & 0.00\% & 21.19\% \\
\hline 14 & 14-Nov-08 & D R HORT & 77661 & 11 & 2.13\% & 39.03\% & 28 & \#\#\#\#\#\#\#\# & LASALLE & 85947 & 48 & 20.89\% & 57.27\% \\
\hline 14 & 14-Nov-08 & FRANKLIN & 37584 & 11 & 6.65\% & 32.48\% & 28 & \#\#\#\#\#\#\#\# & D R HORT & 77661 & 11 & 2.88\% & 19.71\% \\
\hline 14 & 14-Nov-08 & LEAPFRO & 89471 & 11 & 9.55\% & 35.17\% & 28 & \#\#\#\#\#\#\#\# & ENPRO IN & 89406 & 11 & 2.95\% & 15.97\% \\
\hline 14 & 14-Nov-08 & BECKMAN & 75383 & 11 & 0.00\% & 36.17\% & 28 & \#\#\#\#\#\#\#\# & UNIVERS & 79477 & 11 & 51.38\% & 59.41\% \\
\hline 14 & & COCA CO & 89539 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & DIEBOLD & 40440 & 11 & 0.16\% & 17.12\% \\
\hline 14 & 14-Nov-08 & AGNICO E & 78223 & 12 & 15.38\% & 32.78\% & 28 & \#\#\#\#\#\#\#\# & TOYOTA & 76655 & 31 & 24.17\% & 56.48\% \\
\hline 14 & 14-Nov-08 & EQUITABL & 24328 & 11 & 0.25\% & 38.88\% & 28 & \#\#\#\#\#\#\#\# & PROCTER & 18163 & 11 & 22.30\% & 55.73\% \\
\hline 14 & & CAPSTON & 80677 & 18 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & PACKAGII & 87541 & 11 & 2.18\% & 15.52\% \\
\hline 14 & 14-Nov-08 & MARVEL E & 81293 & 11 & 4.35\% & 31.55\% & 28 & \#\#\#\#\#\#\#\# & GANNETT & 47941 & 11 & 26.20\% & 59.22\% \\
\hline 14 & 14-Nov-08 & NEW JER: & 64450 & 11 & 3.63\% & 33.38\% & 28 & \#\#\#\#\#\#\#\# & K H D HUI & 84820 & 12 & 0.00\% & 60.99\% \\
\hline 14 & 14-Nov-08 & DIAMOND & 82298 & 11 & 0.93\% & 37.91\% & 28 & \#\#\#\#\#\#\#\# & KADANT II & 78077 & 11 & 0.00\% & 64.06\% \\
\hline 14 & 14-Nov-08 & U STORE & 90396 & 48 & 13.51\% & 33.40\% & 28 & \#\#\#\#\#\#\#\# & LINDSAY 1 & 12211 & 11 & 0.00\% & 63.32\% \\
\hline 14 & & C AEINC & 89462 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & LANDAUE & 37217 & 11 & 0.00\% & 60.54\% \\
\hline 14 & 14-Nov-08 & R P C INC & 66683 & 11 & 4.40\% & 34.09\% & 28 & \#\#\#\#\#\#\#\# & HAWK CO & 86017 & 11 & 0.00\% & 64.96\% \\
\hline 14 & 14-Nov-08 & SPRINT N & 39087 & 11 & 2.68\% & 32.48\% & 28 & \#\#\#\#\#\#\#\# & U S GEOT & 92636 & 11 & 0.00\% & 64.70\% \\
\hline 14 & 14-Nov-08 & PROGRES & 64390 & 11 & 0.12\% & 31.51\% & 28 & \#\#\#\#\#\#\#\# & GARTNER & 79698 & 11 & 0.00\% & 64.94\% \\
\hline 14 & 14-Nov-08 & S P X COF & 55212 & 11 & 0.37\% & 34.37\% & 28 & \#\#\#\#\#\#\#\# & WORLD F & 75070 & 11 & 0.00\% & 60.74\% \\
\hline 14 & 14-Nov-08 & A H BELO & 92528 & 11 & 0.00\% & 37.16\% & 28 & \#\#\#\#\#\#\#\# & LS B INDI & 49488 & 11 & 0.00\% & 63.75\% \\
\hline 14 & 14-Nov-08 & OVERSEA & 51457 & 11 & 6.98\% & 39.77\% & 28 & \#\#\#\#\#\#\#\#\# & PERINICC & 50550 & 11 & 0.00\% & 60.90\% \\
\hline 14 & 14-Nov-08 & WHIRLPO & 25419 & 11 & 0.06\% & 33.21\% & 28 & \#\#\#\#\#\#\#\#\# & PETROLE & 88490 & 31 & 0.00\% & 60.02\% \\
\hline 14 & 14-Nov-08 & ALAMO GI & 78950 & 11 & 0.00\% & 39.73\% & 28 & \#\#\#\#\#\#\#\# & PIKE ELEC & 90792 & 11 & 0.00\% & 60.65\% \\
\hline 14 & & CELLCOM & 91813 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & METROPC & 91937 & 11 & 0.00\% & 60.10\% \\
\hline 14 & 14-Nov-08 & AMERICAI & 89946 & 11 & 0.00\% & 38.02\% & 28 & \#\#\#\#\#\#\#\# & ZIMMER H & 89070 & 11 & 0.00\% & 19.07\% \\
\hline 14 & & COMPANI, & 76242 & 31 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MCCLATC & 75261 & 11 & 0.00\% & 61.50\% \\
\hline 14 & 14-Nov-08 & REPUBLIC & 86228 & 11 & 0.00\% & 39.33\% & 28 & \#\#\#\#\#\#\#\# & N Y M A G & 57446 & 11 & 0.00\% & 60.13\% \\
\hline 4 & & DAKOTA 1 & 75883 & 12 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & MIDWAY ( & 84031 & 11 & 0.00\% & 63.57\% \\
\hline 4 & 14-Nov-08 & VAIL RES( & 84588 & 11 & 3.38\% & 31.85\% & 28 & \#\#\#\#\#\#\#\# & A G Coc & 77520 & 11 & 0.62\% & 15.79\% \\
\hline 14 & & BRINKS H & 92801 & 11 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & DELUXE C & 61743 & 11 & 0.00\% & 64.80\% \\
\hline 4 & & DYNEX C/ & 75269 & 18 & 0.00\% & 0.00\% & 28 & \#\#\#\#\#\#\#\# & ESCOTI & 76478 & 11 & 0.00\% & 60.48\% \\
\hline 4 & 14-Nov-08 & FIRST ACl & 54578 & 11 & 6.21\% & 38.70\% & 28 & \#\#\#\#\#\#\#\# & EQUITABL & 24328 & 11 & 0.00\% & 63.12\% \\
\hline 14 & 14-Nov-08 & CONSECC & 89841 & 11 & 7.47\% & 34.09\% & 28 & \#\#\#\#11\#\#\# & COVENTR & 76619 & 11 & 0.00\% & 61.33\% \\
\hline 14 & 14 & ALCOA IN & 24643 & 11 & 7.08\% & 35.49\% & 28 & \#\#\#\#\#\#\#\# & CENTRAL & 63503 & 11 & 0.00\% & 60.70\% \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|c|c|}
\hline 28 & \#\#\#\#\#\#\#\# DORAL FII & 12169 & 11 & 0.00\% & 6.06\% \\
\hline 28 & \#\#\#\#\#\#\#\# DOCUMET & 10253 & 11 & 0.00\% & 14.65\% \\
\hline 28 & \#\#\#\#\#\#\#\# MARATHC & 15069 & 11 & 8.64\% & 63.90\% \\
\hline 28 & \#\#\#\#\#\#\#\# ASHFORD & 89803 & 18 & 0.00\% & 13.98\% \\
\hline 28 & \#\#\#\#\#\#\#\# COOPER & 21979 & 12 & 0.00\% & 11.18\% \\
\hline 28 & \#\#\#\#\#\#\#\# ROCKWEI & 84381 & 11 & 0.00\% & 12.45\% \\
\hline 28 & \#\#\#\#\#\#\#\# MASTERC & 91233 & 11 & 6.10\% & 62.66\% \\
\hline 28 & \#\#\#\#\#\#\#\# MONACO & 79607 & 11 & 0.00\% & 13.89\% \\
\hline 28 & \#\#\#\#\#\#\#\# PITNEY BI & 24459 & 11 & 0.00\% & 13.09\% \\
\hline 28 & \#\#\#\#\#\#\#\# RYLAND C & 62383 & 11 & 5.01\% & 61.38\% \\
\hline 28 & \#\#\#\#\#\#\#\# WILLIS GF & 89017 & 12 & 0.00\% & 6.51\% \\
\hline 28 & \#\#\#\#\#\#\#\# RESOURC & 91119 & 18 & 19.76\% & 64.85\% \\
\hline 28 & \#\#\#\#\#\#\#\# DONNELL & 38682 & 11 & 0.00\% & 8.32\% \\
\hline 28 & \#\#\#\#\#\#\#\# EAGLE M + & 80415 & 11 & 20.25\% & 61.26\% \\
\hline 28 & \#\#\#\#\#\#\#\# BEST BUY & 85914 & 11 & 17.10\% & 63.59\% \\
\hline 28 & \#\#\#\#\#\#\#\# WASTE M & 11955 & 11 & 1.21\% & 5.59\% \\
\hline 28 & \#\#\#\#\#\#\#\# RAIT FINA & 85772 & 48 & 16.56\% & 64.14\% \\
\hline 28 & \#\#\#\#\#\#\#\# CONAGR & 56274 & 11 & 2.20\% & 8.38\% \\
\hline 28 & \#\#\#\#\#\#\#\# DENISON & 91928 & 12 & 0.00\% & 65.76\% \\
\hline 28 & \#\#\#\#\#\#\#\# DOLAN MI & 92243 & 11 & 0.00\% & 68.84\% \\
\hline 28 & \#\#\#\#\#\#\#\# DUFF \& PI & 92268 & 11 & 0.00\% & 66.61\% \\
\hline 28 & \#\#\#\#\#\#\#\# DIAMOND & 82298 & 11 & 0.00\% & 69.82\% \\
\hline 28 & \#\#\#\#\#\#\#\# C S S IND & 67838 & 11 & 0.00\% & 65.26\% \\
\hline 28 & \#\#\#\#\#\#\#\# CHIQUITA & 89329 & 11 & 0.00\% & 69.66\% \\
\hline 28 & \#\#\#\#\#\#\#\# CORRECT & 85234 & 11 & 0.00\% & 65.76\% \\
\hline 28 & \#\#\#\#\#\#\#\# CALIFORN & 20750 & 11 & 0.00\% & 68.82\% \\
\hline 28 & \#\#\#\#\#\#\#\# EASTMAN & 11754 & 11 & 0.00\% & 69.82\% \\
\hline 28 & \#\#\#\#\#\#\#\# GRACE W & 85908 & 11 & 0.00\% & 65.98\% \\
\hline 28 & \#\#\#\#\#\#\#\# F N B COF & 10629 & 11 & 0.00\% & 68.68\% \\
\hline 28 & \#\#\#\#\#\#\#\# PETROHA & 87054 & 11 & 0.00\% & 68.08\% \\
\hline 28 & \#\#\#\#\#\#\#\# H D F C B & 89056 & 31 & 0.00\% & 65.74\% \\
\hline 28 & \#\#\#\#\#\#\#\# EMERITU؟ & 82638 & 11 & 0.00\% & 69.80\% \\
\hline 28 & \#\#\#\#\#\#\#\# EMULEX \((\) & 32540 & 11 & 0.00\% & 65.28\% \\
\hline 28 & \#\#\#\#\#\#\#\# FRIEDMA & 85653 & 18 & 0.00\% & 65.18\% \\
\hline 28 & \#\#\#\#\#\#\#\# ETHAN AL & 79037 & 11 & 0.00\% & 65.99\% \\
\hline 28 & \#\#\#\#\#\#\#\# ALLEGHEI & 10137 & 11 & 0.00\% & 69.99\% \\
\hline 28 & \#\#\#\#\#\#\#\# AMREP Cl & 38746 & 11 & 0.00\% & 68.04\% \\
\hline 28 & \#\#\#\#\#\#\#\# BARNES ( & 39693 & 11 & 0.00\% & 68.93\% \\
\hline 28 & \#\#\#\#\#\#\#\# ACUITY BI & 89216 & 11 & 0.00\% & 68.90\% \\
\hline 28 & \#\#\#\#\#\#\#\# ARCH CHI & 86548 & 11 & 0.00\% & 68.48\% \\
\hline 28 & \#\#\#\#\#\#\#\# ALLIANCE & 29867 & 11 & 0.00\% & 69.05\% \\
\hline 28 & \#\#\#\#\#\#\#\# CHIPOTLE & 91518 & 11 & 0.00\% & 7.05\% \\
\hline 28 & \#\#\#\#\#\#\#\# CARLISLE & 27334 & 11 & 0.00\% & 9.64\% \\
\hline 28 & \#\#\#\#\#\#\#\# BLACK \& I & 20220 & 11 & 0.00\% & 67.20\% \\
\hline 28 & \#\#\#\#\#\#\#\# ALLIED W & 91393 & 12 & 0.00\% & 9.86\% \\
\hline 28 & \#\#\#\#\#\#\#\# BOYD GAI & 79758 & 11 & 0.00\% & 67.98\% \\
\hline 28 & \#\#\#\#\#\#\#\# CDICOR & 45655 & 11 & 0.00\% & 68.12\% \\
\hline 28 & \#\#\#\#\#\#\#\# COEUR D & 24441 & 11 & 0.00\% & 69.06\% \\
\hline 28 & \#\#\#\#\#\#\#\# BIO RAD & 61516 & 11 & 0.00\% & 69.05\% \\
\hline 28 & \#\#\#\#\#\#\#\# BIG LOTS & 67467 & 11 & 0.00\% & 65.14\% \\
\hline 28 & \#\#\#\#\#\#\#\# BRISTOW & 59089 & 11 & 0.00\% & 66.25\% \\
\hline 28 & \#\#\#\#\#\#\#\# BLACKRO & 87267 & 11 & 0.00\% & 65.33\% \\
\hline 28 & \#\#\#\#\#\#\#\# LEGGETT & 60943 & 11 & 8.95\% & 64.61\% \\
\hline 28 & \#\#\#\#\#\#\#\# TELEFLE> & 44329 & 11 & 0.00\% & 17.11\% \\
\hline 28 & \#\#\#\#\#\#\#\# AUTOZON & 76605 & 11 & 0.05\% & 60.48\% \\
\hline 28 & \#\#\#\#\#\#\#\# B HPLTD & 75039 & 31 & 1.97\% & 63.12\% \\
\hline 28 & \#\#\#\#\#\#\#\# CHINA PE & 88660 & 31 & 0.00\% & 19.06\% \\
\hline 28 & \#\#\#\#\#\#\#\# ZENITH N, & 84073 & 11 & 0.00\% & 61.48\% \\
\hline 28 & \#\#\#\#\#\#\#\# U STORE & 90396 & 48 & 0.00\% & 63.95\% \\
\hline 28 & \#\#\#\#\#\#\#\# AMERICAI & 59176 & 11 & 0.82\% & 61.39\% \\
\hline 28 & \#\#\#\#\#\#\#\# VECTREN & 51633 & 11 & 0.00\% & 15.38\% \\
\hline 28 & \#\#\#\#\#\#\#\# SARA LEE & 22840 & 11 & 0.00\% & 15.69\% \\
\hline 28 & \#\#\#\#\#\#\#\# IMPERIAL & 82501 & 11 & 0.00\% & 17.47\% \\
\hline 28 & \#\#\#\#\#\#\#\# CHINA MC & 85421 & 31 & 1.30\% & 63.70\% \\
\hline 28 & \#\#\#\#\#\#\#\# HARSCO & 25304 & 11 & 0.00\% & 15.56\% \\
\hline 28 & \#\#\#\#\#\#\#\# DOVER Cl & 25953 & 11 & 0.26\% & 61.77\% \\
\hline 28 & \#\#\#\#\#\#\#\# R P M INT & 65307 & 11 & 0.00\% & 18.51\% \\
\hline 28 & \#\#\#\#\#\#\#\# BANK OF & 49656 & 11 & 0.95\% & 62.45\% \\
\hline 28 & \#\#\#\#\#\#\#\# PRIDE INT & 12074 & 11 & 0.00\% & 18.73\% \\
\hline 28 & \#\#\#\#\#\#\#\# PARKER + & 41355 & 11 & 0.00\% & 15.06\% \\
\hline 28 & \#\#\#\#\#\#\#\# SKYLINE ( & 38850 & 11 & 0.00\% & 64.26\% \\
\hline 28 & \#\#\#\#\#\#\#\# SMITHFIE & 70923 & 11 & 0.00\% & 61.29\% \\
\hline 28 & \#\#\#\#\#\#\#\# TRIUMPH & 84041 & 11 & 0.00\% & 63.83\% \\
\hline 28 & \#\#\#\#\#\#\#\# STILLWAT & 81173 & 11 & 0.00\% & 61.78\% \\
\hline 28 & \#\#\#\#\#\#\#\# PZENA IN' & 92354 & 11 & 0.00\% & 64.31\% \\
\hline 28 & \#\#\#\#\#\#\#\# P P LCOF & 22517 & 11 & 0.00\% & 61.65\% \\
\hline 28 & \#\#\#\#\#\#\#\# R LICORI & 65294 & 11 & 0.00\% & 61.96\% \\
\hline 28 & \#\#\#\#\#\#\#\# RITCHIE E & 85925 & 12 & 0.00\% & 62.32\% \\
\hline 28 & \#\#\#\#\#\#\#\# TENET HE & 52337 & 11 & 0.00\% & 63.55\% \\
\hline 28 & \#\#\#\#\#\#\#\# VECTOR ( & 75233 & 11 & 0.00\% & 60.01\% \\
\hline 28 & \#\#\#\#\#\#\#\# V F CORP & 43553 & 11 & 0.00\% & 60.47\% \\
\hline 28 & \#\#\#\#\#\#\#\# WEST PH, & 62498 & 11 & 0.00\% & 61.58\% \\
\hline 28 & \#\#\#\#\#\#\#\# WARNER & 90699 & 11 & 0.00\% & 62.03\% \\
\hline 28 & \#\#\#\#\#\#\#\# TRW AU' & 90052 & 11 & 0.00\% & 63.31\% \\
\hline 28 & \#\#\#\#\#\#\#\# WADDELL & 85931 & 11 & 0.00\% & 17.41\% \\
\hline 28 & \#\#\#\#\#\#\#\# TWEEN BI & 87149 & 11 & 0.00\% & 63.21\% \\
\hline 28 & \#\#\#\#\#\#\#\# GRUPO TI & 80089 & 31 & 0.00\% & 63.46\% \\
\hline 28 & \#\#\#\#\#\#\#\# WOLVERII & 42286 & 11 & 0.09\% & 64.35\% \\
\hline 28 & \#\#\#\#\#\#\#\# WEBSTEF & 10932 & 11 & 0.30\% & 64.26\% \\
\hline 28 & \#\#\#\#\#\#\#\# BARRICK & 71298 & 12 & 5.31\% & 61.54\% \\
\hline 28 & \#\#\#\#\#\#\#\# CENTEXC & 53831 & 11 & 0.33\% & 13.14\% \\
\hline 28 & \#\#\#\#\#\#\#\# ENDURAN & 89694 & 12 & 1.67\% & 13.52\% \\
\hline 28 & \#\#\#\#\#\#\#\# GOLD FIE & 30796 & 31 & 0.31\% & 13.54\% \\
\hline 28 & \#\#\#\#\#\#\#\# CYTEC IN & 80079 & 11 & 0.15\% & 14.25\% \\
\hline 28 & \#\#\#\#\#\#\#\# SAFEWAY & 76149 & 11 & 0.26\% & 62.50\% \\
\hline & \#\#\#\#\#\#\#\# CARPENT & 20618 & 11 & 0.16\% & 10.44\% \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline 28 & \#\#\#\#\#\#\#\# & BANCO St & 75152 & 31 & 0.00\% & 13.14\% \\
\hline 28 & \#\#\#\#\#\#\#\#\# & TELEPHO & 90655 & 11 & 0.00\% & 12.04\% \\
\hline 28 & \#\#\#\#\#\#\#\# & SCOTTS \(\\) & 77300 & 11 & 0.00\% & 13.90\% \\
\hline 28 & \#\#\#\#\#\#\#\# & FURNITUF & 77855 & 11 & 9.44\% & 64.13\% \\
\hline 28 & \#\#\#\#\#\#\#\#\# & WALTERI & 82540 & 11 & 0.00\% & 10.12\% \\
\hline 28 & \#\#\#\#\#\#\#\# & BUNGE LT & 89138 & 12 & 5.72\% & 61.34\% \\
\hline 28 & \#\#\#\#\#\#\#\# & MEMCE & 81776 & 11 & 0.00\% & 14.32\% \\
\hline 28 & \#\#\#\#\#\#\#\# & CAPITAL ( & 81055 & 11 & 5.74\% & 61.49\% \\
\hline 28 & \#\#\#\#\#\#\#\# & COVANTA & 76515 & 11 & 0.00\% & 16.97\% \\
\hline 28 & \#\#\#\#\#\#\#\# & FIRST IND & 80683 & 18 & 4.60\% & 61.57\% \\
\hline 28 & \#\#\#\#\#\#\#\# & COMPANL & 77928 & 31 & 0.00\% & 16.07\% \\
\hline 28 & \#\#\#\#\#\#\#\# & CENTERL & 85420 & 41 & 0.00\% & 15.06\% \\
\hline 28 & \#\#\#\#\#\#\#\# & HORMEL I & 32870 & 11 & 0.00\% & 19.80\% \\
\hline 28 & \#\#\#\#\#\#\#\#\# & BRINKER & 23297 & 11 & 1.22\% & 61.70\% \\
\hline 28 & \#\#\#\#\#\#\#\# & F M C COf & 19166 & 11 & 0.00\% & 16.80\% \\
\hline 28 & \#\#\#\#\#\#\#\# & GRAPHIC & 89810 & 11 & 0.00\% & 15.13\% \\
\hline 28 & \#\#\#\#\#\#\#\# & HARMAN I & 75224 & 11 & 0.67\% & 61.51\% \\
\hline 28 & \#\#\#\#\#\#\#\# & PINNACLE & 42140 & 11 & 0.59\% & 61.10\% \\
\hline 28 & \#\#\#\#\#\#\#\# & MERITAGI & 75342 & 11 & 1.94\% & 63.82\% \\
\hline 28 & \#\#\#\#\#\#\#\# & MANITOW & 51263 & 11 & 0.30\% & 14.63\% \\
\hline 28 & \#\#\#\#\#\#\#\# & COMPANF & 89330 & 31 & 4.24\% & 64.36\% \\
\hline 28 & \#\#\#\#\#\#\#\# & K B W INC & 91578 & 11 & 1.70\% & 61.80\% \\
\hline 28 & \#\#\#\#\#\#\#\# & HAVERTY & 41217 & 11 & 1.45\% & 60.13\% \\
\hline 28 & \#\#\#\#\#\#\#\# & KNOLL IN & 84780 & 11 & 0.35\% & 60.38\% \\
\hline 28 & \#\#\#\#\#\#\#\# & KRAFT FC & 89006 & 11 & 3.60\% & 61.24\% \\
\hline
\end{tabular}

\begin{tabular}{rr} 
_FREQ_ & countvolp \\
1050 & 1050 \\
1454 & 1454 \\
987 & 987 \\
208 & 208 \\
107 & 107 \\
80 & 80 \\
45 & 45 \\
28 & 28 \\
10 & 10 \\
8 & 8 \\
3 & 3 \\
2 & 2 \\
2 & 2 \\
3 & 3 \\
&
\end{tabular}

Range of Form FH \%
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{_TYPE_-
_FREQ_} & \multicolumn{2}{|l|}{0} & & \multicolumn{2}{|l|}{Median Form SH Volume \%} \\
\hline & 3680 & & & \# Securities & 3,989 \\
\hline n & 3989 & 55846 & 3989 & Mean & 2.17\% \\
\hline mean & 2.17\% & 8.15\% & 65.98\% & STD & 6.13\% \\
\hline std & 6.13\% & 190.53\% & 704.54\% & Min & 0.00\% \\
\hline min & 0.00\% & 0.00\% & 0.00\% & P 25 & 0.00\% \\
\hline p25 & 0.00\% & 0.00\% & 0.00\% & Median & 0.00\% \\
\hline median & 0.00\% & 0.00\% & 11.87\% & P 75 & 0.75\% \\
\hline p75 & 0.75\% & 2.11\% & 41.02\% & Max & 131.36\% \\
\hline max & 131.36\% & \#\#\#\#\#\#\#\# & \#\#\#\#\#\#\#\# & & \\
\hline
\end{tabular}
\begin{tabular}{|c|r|}
\hline \multicolumn{2}{|c|}{ Form SH Volume \% } \\
\hline \# Days & 55,846 \\
\hline Mean & \(8.15 \%\) \\
\hline STD & \(190.53 \%\) \\
\hline Min & \(0.00 \%\) \\
\hline P 25 & \(0.00 \%\) \\
\hline Median & \(0.00 \%\) \\
\hline P 75 & \(2.11 \%\) \\
\hline Max & \(28624.00 \%\) \\
\hline
\end{tabular}
\begin{tabular}{|c|r|}
\hline \multicolumn{2}{|c|}{\begin{tabular}{l} 
Max Form SH \\
Volume \(\%\) \\
\# Securities
\end{tabular}} \\
\hline Mean & 3,989 \\
\hline STD & \(65.98 \%\) \\
\hline Min & \(0.54 \%\) \\
\hline P 25 & \(0.00 \%\) \\
\hline Median & \(0.00 \%\) \\
\hline P 75 & \(11.87 \%\) \\
\hline Max & \(28624.02 \%\) \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline shortpct & ndays & \multicolumn{3}{|l|}{ndays_dow ndays_flat ndays_up} & \multicolumn{4}{|l|}{ndays_nex ndays_nex ndays_nex ndays_nex label} & & \\
\hline 0 & 44823 & 2852 & 37919 & 4052 & 42755 & 1104 & 37503 & 41480 & 0.063628 & 0.025822 \\
\hline 5 & 22944 & 635 & 21054 & 1255 & 21887 & 478 & 20324 & 1085 0-5 & 0.027676 & 0.021839 \\
\hline 10 & 3382 & 98 & 2975 & 309 & 3173 & 86 & 2897 & 190 5-10 & 0.028977 & 0.027104 \\
\hline 15 & 1630 & 47 & 1411 & 172 & 1507 & 65 & 1375 & 67 10-15 & 0.028834 & 0.043132 \\
\hline 20 & 962 & 49 & 840 & 73 & 893 & 54 & 770 & 69 15-20 & 0.050936 & 0.06047 \\
\hline 25 & 588 & 48 & 510 & 30 & 557 & 26 & 481 & 50 20-25 & 0.081633 & 0.046679 \\
\hline 30 & 393 & 42 & 335 & 16 & 362 & 9 & 314 & 39 25-30 & 0.10687 & 0.024862 \\
\hline 35 & 254 & 30 & 212 & 12 & 231 & 13 & 196 & 22 30-35 & 0.11811 & 0.056277 \\
\hline 40 & 146 & 13 & 126 & 7 & 133 & 9 & 113 & 11 35-40 & 0.089041 & 0.067669 \\
\hline 45 & 86 & 3 & 80 & 3 & 81 & 6 & 74 & 1 40-45 & 0.034884 & 0.074074 \\
\hline 50 & 83 & 2 & 76 & 5 & 78 & 3 & 69 & 6 45-50 & 0.024096 & 0.038462 \\
\hline 55 & 53 & 1 & 51 & 1 & 45 & 1 & 41 & 3 50-55 & 0.018868 & 0.022222 \\
\hline 60 & 36 & 3 & 31 & 2 & 33 & 0 & 32 & 1 55-60 & 0.083333 & 0 \\
\hline 65 & 25 & 1 & 23 & 1 & 22 & 3 & 18 & 1 60-65 & 0.04 & 0.136364 \\
\hline 70 & 24 & 1 & 21 & 2 & 23 & 0 & 20 & 3 65-70 & 0.041667 & 0 \\
\hline 75 & 15 & 0 & 14 & 1 & 15 & 0 & 14 & 1 70-75 & 0 & 0 \\
\hline 80 & 14 & 0 & 14 & 0 & 13 & 0 & 13 & 0 75-80 & 0 & 0 \\
\hline 85 & 8 & 0 & 8 & 0 & 8 & 0 & 7 & \(180-85\) & 0 & 0 \\
\hline 90 & 14 & 1 & 12 & 1 & 14 & 0 & 13 & 1 85-90 & 0.071429 & 0 \\
\hline 95 & 8 & 0 & 8 & 0 & 7 & 0 & 7 & 0 90-95 & 0 & 0 \\
\hline 100 & 8 & 1 & 7 & 0 & 8 & 0 & 7 & 1 95-100 & 0.125 & 0 \\
\hline 105 & 90 & 0 & 87 & 3 & 87 & 1 & 86 & 0 100+ & 0 & 0.011494 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline sdevv & & vol_crsp & RET & lagret & PRC & SHRCD & nfilers & vol & pvol & shortpet & ndays_up & ndays_dov n & ndays_flat & ndays_nex \\
\hline & 0.03014637 & 1664300 & -0.099911 & -0.01381 & 20.27 & 12 & 11 & 649363 & 0.390172 & 40 & - 0 & -1 & - 0 & 0 \\
\hline & 0.03921073 & 21399 & -0.089147 & 0.024681 & 2.35 & 12 & 1 & 7866 & 0.367587 & 40 & 0 & 1 & 0 & 0 \\
\hline & 0.06296255 & 35949 & -0.168784 & 0.032751 & 4.58 & 11 & 4 & 12600 & 0.350497 & 40 & 0 & 1 & 0 & 0 \\
\hline & 0.02353564 & 979500 & -0.052991 & 0.00361 & 5.54 & 11 & 3 & 347000 & 0.354262 & 40 & 0 & 1 & 0 & 0 \\
\hline & 0.08607728 & 4152 & -0.192 & -0.18861 & 4.04 & 11 & 1 & 1646 & 0.396435 & 40 & 0 & 1 & 0 & 0 \\
\hline & 0.067551 & 1999700 & -0.161167 & 0.137237 & 10.93 & 18 & 7 & 772803 & 0.386459 & 40 & 0 & 1 & 0 & 1 \\
\hline & 0.04854823 & 1270100 & -0.160842 & 0.095265 & 35.06 & 18 & 20 & 454813 & 0.358092 & 40 & 0 & 1 & 0 & 1 \\
\hline & 0.06826506 & 1160700 & -0.142259 & -0.19024 & 2.05 & 11 & 13 & 458773 & 0.395255 & 40 & 0 & 1 & 0 & 0 \\
\hline & 0.06198019 & 625600 & -0.123529 & -0.2953 & 1.49 & 11 & 12 & 219000 & 0.350064 & 40 & 0 & 1 & 0 & 0 \\
\hline & 0.07404311 & 2323900 & -0.222222 & 0.152015 & 5.46 & 11 & 11 & 863142 & 0.37142 & 40 & 0 & 1 & 0 & 1 \\
\hline & 0.04854823 & 881500 & -0.103277 & 0.052923 & 39.68 & 18 & 20 & 309444 & 0.351043 & 40 & 0 & 1 & 0 & 0 \\
\hline & 0.04191748 & 2948300 & -0.116213 & 0.087424 & 27.91 & 18 & 10 & 1155995 & 0.392089 & 40 & 0 & 1 & 0 & 1 \\
\hline & 0.04337795 & 123900 & -0.09473 & 0.036036 & 14.43 & 11 & 7 & 45000 & 0.363196 & 40 & 0 & 1 & 0 & 0 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline \(\qquad\) & Share Code & Date & Closing Price & Return & Total Volume & \begin{tabular}{l}
Form SH \\
Short \\
Volume
\end{tabular} & Form SH Short \% \\
\hline CONNECTICUT BANK \& TRUST CO & 12 & 12/23/2008 & \$4.04 & -19.20\% & 4,152 & 1,646 & 39.6\% \\
\hline FURNITURE BRANDS INTL INC & 12 & 12/18/2008 & \$2.05 & -14.23\% & 1,160,700 & 458,773 & 39.5\% \\
\hline RAYONIER INC & 11 & 12/11/2008 & \$27.91 & -11.62\% & 2,948,300 & 1,155,995 & 39.2\% \\
\hline RITCHIE BROS AUCTIONEERS INC & 11 & 12/22/2008 & \$20.27 & -9.99\% & 1,664,300 & 649,363 & 39.0\% \\
\hline FRANKLIN STREET PROPERTIES CORP & 11 & 12/11/2008 & \$10.93 & -16.12\% & 1,999,700 & 772,803 & 38.6\% \\
\hline FOREST CITY ENTERPRISES INC & 18 & 12/11/2008 & \$5.46 & -22.22\% & 2,323,900 & 863,142 & 37.1\% \\
\hline NICHOLAS FINANCIAL INC & 18 & 12/11/2008 & \$2.35 & -8.91\% & 21,399 & 7,866 & 36.8\% \\
\hline UNIVERSAL ELECTRONICS INC & 11 & 12/15/2008 & \$14.43 & -9.47\% & 123,900 & 45,000 & 36.3\% \\
\hline HOME PROPERTIES INC & 11 & 12/11/2008 & \$35.06 & -16.08\% & 1,270,100 & 454,813 & 35.8\% \\
\hline HECKMANN CORP & 11 & 12/15/2008 & \$5.54 & -5.30\% & 979,500 & 347,000 & 35.4\% \\
\hline HOME PROPERTIES INC & 18 & 12/9/2008 & \$39.68 & -10.33\% & 881,500 & 309,444 & 35.1\% \\
\hline IC T GROUP INC & 18 & 12/9/2008 & \$4.58 & -16.88\% & 35,949 & 12,600 & 35.0\% \\
\hline MCCLATCHY CO & 11 & 12/17/2008 & \$1.49 & -12.35\% & 625,600 & 219,000 & 35.0\% \\
\hline
\end{tabular}
        I C T GROUP INC
        HECKMANN CORP
    1 CONNECTICUT BANK \& TRUST CO
    FRANKLIN STREET PROPERTIES COR
    1 HOME PROPERTIES INC
    HOME PROPERTIES INC
    1 MCCLATCHY CO
    FOREST CITY ENTERPRISES IN
    FOREST CITY ENTERPRISES INC
    HOME PROPERTIES INC
    RAYONIER INC
    1 UNIVERSAL ELECTRONICS INC
\begin{tabular}{rrrrrrrr}
\multicolumn{2}{c}{ n_beta } & \multicolumn{1}{c}{ n_cap } & \multicolumn{2}{c}{ n_sdev } & \multicolumn{2}{c}{ vold_ret } & \multicolumn{2}{c}{ vold_beta } & vold_cap & vold_sdev \\
3 & 34 & 298 & 74 & 0.048329 & 16.58824 & 4889.02 & 1735.735 \\
295 & 513 & 163 & 350 & 1215.068 & 14556.71 & 4.583347 & 1903.145 \\
294 & 514 & 192 & 413 & 3007.016 & 10128.1 & 17.20759 & 4312.383 \\
278 & 470 & 188 & 461 & 8428.25 & 14882.64 & 30.57427 & 7889.889 \\
342 & 433 & 235 & 442 & 26436.93 & 9711.154 & 40.88651 & 17174.47 \\
348 & 421 & 361 & 448 & 27266.03 & 9835.585 & 135.7643 & 10886.1 \\
343 & 435 & 420 & 449 & 6507.589 & 22629.16 & 304.7337 & 839.234 \\
406 & 432 & 454 & 440 & 15489.8 & 14215.25 & 1481.016 & 12059 \\
491 & 362 & 508 & 385 & 16621.19 & 21363.75 & 3199.318 & 26651.46 \\
540 & 207 & 533 & 323 & 12953.18 & 7525.95 & 8509.717 & 16691.97 \\
573 & 92 & 561 & 128 & 7240.699 & 300.9149 & 106553 & 17471.42
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline PERMNO & trade_date & sdevv & vol_crsp & vol_reg & RET & lagret & PRC & SHRCD & nfilers & & vol & pvol & shortpct & ndays_up & & ndays_dov n & \\
\hline 80924 & 12/01/200\& & 0.065008 & 68498617 & 68498617 & -0.16158 & 0.051704 & 0.1702 & 11 & & 1 & 0 & 0 & 0 & 0 & 0.1702 & 1 & 0 \\
\hline 80924 & 12/02/200\& & 0.065008 & 51549699 & 51549699 & 0.051704 & -0.03464 & 0.179 & 11 & & 1 & 0 & 0 & 0 & 0 & & 0 & 1 \\
\hline 80924 & 12/03/200\& & 0.065008 & 60276670 & 60276670 & -0.03464 & -0.06829 & 0.1728 & 11 & & 1 & 0 & 0 & 0 & 0 & & 0 & 1 \\
\hline 80924 & 12/04/200\& & 0.065008 & 46426144 & 46426144 & -0.06829 & -0.0559 & 0.161 & 11 & & 1 & 0 & 0 & 0 & 0 & & 0 & 1 \\
\hline 80924 & 12/05/200\& & 0.065008 & 69120692 & 69120692 & -0.0559 & -0.00329 & 0.152 & 11 & & 1 & 0 & 0 & 0 & 0 & & 0 & \\
\hline 80924 & 12/08/200\& & 0.065008 & 46691895 & 31153884 & -0.00329 & -0.0033 & 0.1515 & 11 & & 8 & 15538011 & 0.332777 & 35 & 0 & & 0 & 1 \\
\hline 80924 & 12/09/200\& & 0.065008 & 56986012 & 32045294 & -0.0033 & 0.027815 & 0.151 & 11 & & 8 & 24940718 & 0.437664 & 45 & 0 & & 0 & 1 \\
\hline 80924 & 12/10/200\& & 0.065008 & 29227112 & 27673057 & 0.027815 & -0.04961 & 0.1552 & 11 & & 9 & 1554055 & 0.053172 & 10 & 0 & & 0 & 1 \\
\hline 80924 & 12/11/200\& & 0.065008 & 44373504 & 32026330 & -0.04961 & -0.02915 & 0.1475 & 11 & & 9 & 12347174 & 0.278256 & 30 & 0 & & 0 & 1 \\
\hline 80924 & 12/12/200\& & 0.065008 & 33124898 & 31171173 & -0.02915 & -0.01397 & 0.1432 & 11 & & 8 & 1953725 & 0.058981 & 10 & 0 & & 0 & 1 \\
\hline 80924 & 12/15/200\& & 0.065008 & 51152419 & 41194415 & -0.01397 & 0.062323 & 0.1412 & 11 & & 8 & 9958004 & 0.194673 & 20 & 0 & & 0 & 1 \\
\hline 80924 & 12/16/200\& & 0.065008 & 46436433 & 29436525 & 0.062323 & -0.13333 & 0.15 & 11 & & 8 & 16999908 & 0.36609 & 40 & 0 & & 0 & 1 \\
\hline 80924 & 12/17/200\& & 0.065008 & 58152033 & 56638926 & -0.13333 & 0.038462 & 0.13 & 11 & & 8 & 1513107 & 0.02602 & 5 & 0 & 0.13 & 1 & 0 \\
\hline 80924 & 12/18/200\& & 0.065008 & 44689098 & 42049091 & 0.038462 & -0.14074 & 0.135 & 11 & & 8 & 2640007 & 0.059075 & 10 & 0 & & 0 & 1 \\
\hline 80924 & 12/19/200\& & 0.065008 & \(1.47 \mathrm{E}+08\) & \(1.06 \mathrm{E}+08\) & -0.14074 & 0.035345 & 0.116 & 11 & & 9 & 41010730 & 0.278328 & 30 & 0 & 0.116 & 1 & 0 \\
\hline 80924 & 12/22/200\& & 0.065008 & 60448816 & 58281423 & 0.035345 & -0.00083 & 0.1201 & 11 & & 6 & 2167393 & 0.035855 & 5 & 0 & & 0 & 1 \\
\hline 80924 & 12/23/200\& & 0.065008 & 29084902 & 26871324 & -0.00083 & -0.02083 & 0.12 & 11 & & 6 & 2213578 & 0.076107 & 10 & 0 & & 0 & 1 \\
\hline 80924 & 12/24/200\& & 0.065008 & 10230679 & 9513158 & -0.02083 & 0.08 & 0.1175 & 11 & & 6 & 717521 & 0.070134 & 10 & 0 & & 0 & 1 \\
\hline 80924 & 12/26/200\& & 0.065008 & 16739622 & 16039826 & 0.08 & 0.004728 & 0.1269 & 11 & & 6 & 699796 & 0.041805 & 5 & 0 & & 0 & 1 \\
\hline 80924 & 12/29/200\& & 0.065008 & 29196705 & 28555789 & 0.004728 & -0.0549 & 0.1275 & 11 & & 7 & 640916 & 0.021952 & 5 & 0 & & 0 & 1 \\
\hline 80924 & 12/30/200\& & 0.065008 & 40206393 & 38797158 & -0.0549 & -0.00415 & 0.1205 & 11 & & 7 & 1409235 & 0.03505 & 5 & 0 & & 0 & 1 \\
\hline 80924 & 12/31/200\& & 0.065008 & 32685474 & 31631985 & -0.00415 & & 0.12 & 11 & & 7 & 1053489 & 0.032231 & 5 & 0 & & 0 & 1 \\
\hline
\end{tabular}
ndays_nex ndays_nex ndays_next
\(00000000-100000000000\)

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline trade_date _NAME_ & PRC_1 & prc_down_ prc_up_1 & vol_1 & vol_rest_1 & PRC_2 & prc_down_ prc_up_2 & vol_2 & vol_rest_2 & PRC_3 & prc_down_ prc_up_3 & vol_3 & vol_rest_3 & PRC_4 \\
\hline 12/01/200¢ COL1 & 4.43 & 4.43 & 0 & 2284400 & 1.85 & & 0 & 454900 & 2.48 & 2.48 & 0 & 445500 & 14.23 \\
\hline 12/02/200\& COL1 & 6.96 & 6.96 & 0 & 3109600 & 2.03 & & 0 & 521000 & 2.67 & & 0 & 526100 & 15.75 \\
\hline 12/03/200\& COL1 & 8.9 & 8.9 & 0 & 2230900 & 2.15 & & 0 & 398200 & 3.37 & 3.37 & 0 & 1007000 & 16.36 \\
\hline 12/04/200\& COL1 & 8.09 & & 0 & 1808600 & 2.1 & & 0 & 555500 & 3.17 & & 0 & 1118900 & 15.72 \\
\hline 12/05/200\& COL1 & 8.71 & & 0 & 1715800 & 2.2 & & 0 & 364500 & 3.25 & & 0 & 738700 & 16.88 \\
\hline 12/08/200\& COL1 & 9.18 & & 23354 & 1542246 & 2.46 & & 0 & 580900 & 3.35 & & 300 & 1063700 & 16.95 \\
\hline 12/09/200\& COL1 & 8.25 & & 460419 & 1041681 & 2.35 & & 0 & 610700 & 3.1 & & 600 & 536900 & 16.2 \\
\hline 12/10/200\& COL1 & 7.02 & 7.02 & 215864 & 1311836 & 2.27 & & 0 & 356000 & 3.31 & & 2317 & 615083 & 16.75 \\
\hline 12/11/200\& COL1 & 5.46 & 5.46 & 863142 & 1460758 & 2.08 & & 0 & 481800 & 3.06 & & 4434 & 471266 & 15.37 \\
\hline 12/12/200\& COL1 & 6.29 & 6.29 & 87782 & 2331618 & 2.13 & & 0 & 433900 & 2.85 & & 3037 & 701463 & 15.94 \\
\hline 12/15/200\& COL1 & 5.38 & & 129988 & 1221512 & 1.8 & 1.8 & 0 & 572800 & 2.34 & 2.34 & 11832 & 1270668 & 14.43 \\
\hline 12/16/200\& COL1 & 6 & & 95016 & 2529084 & 1.7 & & 0 & 586600 & 2.44 & & 5459 & 1177941 & 14.95 \\
\hline 12/17/200\& COL1 & 6.22 & & 17738 & 1472162 & 1.49 & 1.49 & 219000 & 406600 & 2.39 & & 3738 & 805462 & 14.75 \\
\hline 12/18/200\& COL1 & 5.56 & & 478265 & 987735 & 1.05 & 1.05 & 241000 & 1155400 & 2.05 & 2.05 & 458773 & 701927 & 15.31 \\
\hline 12/19/200\& COL1 & 6.12 & & 62288 & 1024512 & 1.03 & & 64124 & 1080876 & 1.66 & 1.66 & 141847 & 5561253 & 15.58 \\
\hline 12/22/200¢ COL1 & 5.85 & & 74781 & 1114119 & 0.89 & 0.89 & 0 & 597100 & 2.19 & 2.19 & 3054 & 1444646 & 15.17 \\
\hline 12/23/200\& COL1 & 5.73 & & 5601 & 519699 & 0.75 & 0.75 & 0 & 665300 & 2.23 & & 933 & 606867 & 15.21 \\
\hline 12/24/200\& COL1 & 5.59 & & 26700 & 195800 & 0.77 & & 1110 & 384090 & 2.22 & & 1862 & 202438 & 15.05 \\
\hline 12/26/200\& COL1 & 5.6 & & 77405 & 199695 & 0.81 & & 7086 & 475114 & 2.33 & & 4957 & 231143 & 15.43 \\
\hline 12/29/200\& COL1 & 5.46 & & 25854 & 704346 & 0.74 & & 0 & 481000 & 2.07 & & 0 & 342100 & 14.5 \\
\hline 12/30/200\& COL1 & 6.21 & & 23920 & 781980 & 0.78 & & 0 & 821700 & 2.16 & & 0 & 459900 & 15.92 \\
\hline 12/31/200\& COL1 & 6.7 & & 22482 & 948318 & 0.8 & & 0 & 525700 & 2.21 & & 0 & 347000 & 16.22 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline prc_down_prc_up_4 & vol_4 & vol_rest_4 & PRC_5 & prc_down_ prc_up_5 & vol_5 & vol_rest_5 & PRC_6 & prc_down & prc_up_6 & vol_6 & vol_rest_6 & PRC_7 & prc_down_ & prc_up_7 & vol_7 \\
\hline \({ }_{14.23}{ }^{-1}\) & - 0 & \(\overline{110767}\) & 26.91 & -26.91- & - 0 & \(2 \overline{3} 35300\) & \(\overline{31.69}\) & -31.69 & & - 0 & 1180100 & - 2.82 & - 2.82 & & - \\
\hline 15.75 & 0 & 88962 & 29.48 & 29.48 & 0 & 2860400 & 36.35 & & 36.35 & 82980 & 1240320 & 3.28 & & 3.28 & 0 \\
\hline & 0 & 117301 & 29.72 & & 0 & 1964500 & 37.22 & & & 0 & 812700 & 3.62 & & & 0 \\
\hline & 0 & 79576 & 28.38 & & 0 & 2022100 & 36.57 & & & 0 & 1141000 & 3.58 & & & 0 \\
\hline & 0 & 84587 & 29.85 & & 0 & 2699400 & 41.46 & & 41.46 & 0 & 940000 & 4.38 & & 4.38 & 0 \\
\hline & 0 & 125282 & 30.68 & & 310426 & 2029074 & 44.25 & & & 154030 & 847470 & 5.51 & & 5.51 & 0 \\
\hline & 0 & 136103 & 29.58 & & 503545 & 1345955 & 39.68 & 39.68 & & 309444 & 572056 & 4.58 & 4.58 & & 12600 \\
\hline & 0 & 82651 & 31.58 & & 290647 & 1024153 & 41.78 & & & 291694 & 487706 & 4.73 & & & 0 \\
\hline & 0 & 87717 & 27.91 & 27.91 & 1155995 & 1792305 & 35.06 & 35.06 & & 454813 & 815287 & 4.44 & & & 0 \\
\hline & 0 & 131296 & 30.35 & 30.35 & 92885 & 2539215 & 38.4 & & 38.4 & 170025 & 1180775 & 4.29 & & & 0 \\
\hline 14.43 & 45000 & 78900 & 28.88 & & 308053 & 1511047 & 36.43 & & & 40541 & 806359 & 3.61 & 3.61 & & 0 \\
\hline & 0 & 128599 & 32.38 & 32.38 & 91086 & 2368714 & 41.65 & & 41.65 & 159950 & 1060650 & 3.88 & & & 0 \\
\hline & 0 & 142064 & 32.31 & & 7000 & 1712100 & 41.67 & & & 130898 & 595102 & 3.6 & & & 0 \\
\hline & 0 & 198109 & 30.12 & & 491784 & 1326516 & 37.16 & 37.16 & & 187568 & 676232 & 3.7 & & & 0 \\
\hline & 0 & 132609 & 30.65 & & 21024 & 1918476 & 39.17 & & & 6290 & 1129310 & 4.16 & & 4.16 & 40 \\
\hline & 0 & 89588 & 30.24 & & 15484 & 1801716 & 38.54 & & & 3954 & 711946 & 4.12 & & & 0 \\
\hline & 0 & 83995 & 30.18 & & 5310 & 1096290 & 37.78 & & & 2352 & 642248 & 4 & & & 0 \\
\hline & 574 & 24306 & 30.01 & & 406 & 274094 & 38.32 & & & 559 & 215041 & 3.74 & & & 218 \\
\hline & 1874 & 41193 & 30.5 & & 12926 & 421274 & 38.39 & & & 5036 & 233764 & 3.8 & & & 318 \\
\hline & 0 & 120849 & 29.26 & & 193188 & 978612 & 35.89 & & & 50446 & 550354 & 3.66 & & & 204 \\
\hline 15.92 & 0 & 166018 & 30.76 & & 15670 & 1114530 & 38.49 & & & 3333 & 481167 & 3.86 & & & 0 \\
\hline & 0 & 242868 & 31.35 & & 10248 & 1241752 & 40.6 & & & 5827 & 585473 & 4.58 & & 4.58 & 0 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline vol_rest_7 & C_10 & prc_down_p & up_10 & I_10 & vol_rest_1 & & prc_down_ prc_up_8 & vol_8 & vol_rest_8 & & prc_down & -_9 & & vol_rest_9 & & prc_down \\
\hline 25805 & 8.65 & 8.65 & & 0 & 1513000 & & & & & & & & & & & \\
\hline 21217 & 11.28 & & 11.28 & 0 & 2006800 & & & & & & & & & & & \\
\hline 84136 & 11.18 & & & 0 & 1193200 & & & & & & & & & & & \\
\hline 47428 & 10.35 & & & 0 & 1149800 & & & & & & & & & & & \\
\hline 42637 & 11.8 & & 11.8 & 0 & 1330200 & & & & & & & & & & & \\
\hline 53520 & 13.4 & & 13.4 & 273133 & 1063567 & 2.12 & 2.12 & 37000 & 16516 & 19.1 & & 19.1 & 0 & 407000 & 6.15 & \\
\hline 23349 & 11.85 & & & 440837 & 646863 & & & & & 19.43 & & & 0 & 835100 & 6.12 & \\
\hline 17133 & 13.03 & & & 231057 & 604943 & & & & & 20.32 & & & 0 & 592700 & 5.96 & \\
\hline 17994 & 10.93 & 10.93 & & 772803 & 1226897 & 2.35 & 2.35 & 7866 & 13533 & 21.02 & & & 0 & 648400 & 6 & \\
\hline 21345 & 12.43 & & 12.43 & 274986 & 1426114 & & & & & 21.6 & & & 33400 & 936000 & 5.85 & \\
\hline 17250 & 11.15 & & & 76689 & 823911 & & & & & 21.94 & & & 0 & 1090800 & 5.54 & 5.54 \\
\hline 30932 & 12.9 & & 12.9 & 306874 & 1430826 & & & & & 22.16 & & & 0 & 864000 & 5.56 & \\
\hline 39380 & 13.15 & & & 41104 & 814496 & & & & & 22.08 & & & 0 & 540800 & 5.55 & \\
\hline 77431 & 11.94 & & & 393616 & 533384 & & & & & 22.23 & & & 48 & 618952 & 5.6 & \\
\hline 63201 & 12.92 & & & 18608 & 1038192 & & & & & 22.52 & & & 396500 & 502600 & 6 & \\
\hline 20459 & 12.55 & & & 5033 & 690967 & & & & & 20.27 & 20.27 & & 649363 & 1014937 & 5.5 & 5.5 \\
\hline 9345 & 12.6 & & & 2885 & 436515 & & & & & 19.99 & & & 0 & 631700 & 5.39 & \\
\hline 14648 & 12.35 & & & 3026 & 165774 & & & & & 20.1 & & & 0 & 821200 & 5.35 & \\
\hline 3867 & 12.8 & & & 15660 & 173940 & & & & & 20.26 & & & 0 & 45500 & 5.49 & \\
\hline 23203 & 11.98 & & & 21567 & 506533 & & & & & 20.5 & & & 0 & 350500 & 5.4 & \\
\hline 17159 & 14.3 & & 14.3 & 80188 & 1391312 & & & & & 21.75 & & 21.75 & 0 & 440600 & 5.55 & \\
\hline 26416 & 14.75 & & & 985966 & 6137934 & & & & & 21.42 & & & 0 & 249600 & 5.65 & \\
\hline
\end{tabular}

TY ENTERPRISES INC
Y CO
BRANDS INTL INC
ELECTRONICS INC
PERTIES INC
PERT
P INC
FINANCIAL INC
OOS AUCTIONEERS INC
STREET PROPERTIES CORP
כUT BANK \& TRUST CO
I CORP
\begin{tabular}{|c|c|c|c|c|}
\hline nnames_h count & & low & high & lab1 \\
\hline -1 & 0 & -10 & -1 & \\
\hline 0 & 167 & 0 & 9 & 1-9 \\
\hline 1 & 69 & 10 & 19 & 10-19 \\
\hline 2 & 44 & 20 & 29 & 20-29 \\
\hline 3 & 38 & 30 & 39 & 30-39 \\
\hline 4 & 26 & 40 & 49 & 40-49 \\
\hline 5 & 7 & 50 & 59 & 50-59 \\
\hline 6 & 13 & 60 & 69 & 60-69 \\
\hline 7 & 9 & 70 & 79 & 70-79 \\
\hline 8 & 8 & 80 & 89 & 80-89 \\
\hline 9 & 6 & 90 & 99 & 90-99 \\
\hline 10 & 5 & 100 & 109 & 100-109 \\
\hline 11 & 3 & 110 & 119 & 110-119 \\
\hline 12 & 6 & 120 & 129 & 120-129 \\
\hline 13 & 3 & 130 & 139 & 130-139 \\
\hline 14 & 3 & 140 & 149 & 140-149 \\
\hline 15 & 2 & 150 & 159 & 150-159 \\
\hline 16 & 2 & 160 & 169 & 160-169 \\
\hline 17 & 1 & 170 & 179 & 170-179 \\
\hline 18 & 0 & 180 & 189 & 180-189 \\
\hline 19 & 1 & 190 & 199 & 190-199 \\
\hline 20 & 1 & 200 & 209 & 200-209 \\
\hline 21 & 1 & 210 & 219 & 210-219 \\
\hline 22 & 0 & 220 & 229 & 220-229 \\
\hline 23 & 1 & 230 & 239 & 230-239 \\
\hline 24 & 1 & 240 & 249 & 240-249 \\
\hline 25 & 0 & 250 & 259 & 250-259 \\
\hline 26 & 1 & 260 & 269 & 260-269 \\
\hline 27 & 0 & 270 & 279 & 270-279 \\
\hline 28 & 0 & 280 & 289 & 280-289 \\
\hline 29 & 0 & 290 & 299 & 290-299 \\
\hline 30 & 0 & 300 & 399 & 300-399 \\
\hline 40 & 2 & 400 & 499 & 400-499 \\
\hline 50 & 2 & 500 & 599 & 500-599 \\
\hline 60 & 1 & 600 & 699 & 600-699 \\
\hline 70 & 3 & 700 & 799 & 700-799 \\
\hline 80 & 1 & 800 & 899 & 800-899 \\
\hline 90 & 0 & 900 & 999 & 900-999 \\
\hline 100 & 5 & 1000 & 1999 & 1000-1999 \\
\hline 200 & 2 & 2000 & 2999 & 2000-2999 \\
\hline 300 & 1 & 3000 & 3999 & 3000-3999 \\
\hline & 435 & & & \\
\hline
\end{tabular}
_TYPE_ \(_{0}\) _FREQ_ 435 \(\begin{array}{lll} & \text { mean std } & \text { std } \\ 435 & 81.81149 & 305.2021\end{array}\) \(1^{\text {p25 }}\) 5 median 16 p75 43 _TYPE_ 0
-FREQ-
435
\begin{tabular}{|c|c|}
\hline \multicolumn{3}{|c|}{\begin{tabular}{c} 
Number of Securites \\
Reported By Filers
\end{tabular}} \\
\# Filers & \\
\hline Mean & 435 \\
\hline STD & 82 \\
\hline Min & 305 \\
\hline P 25 & 1 \\
\hline Median & 5 \\
\hline P 75 & 16 \\
\hline Max & 43 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|}
\hline end_buck & _TYPE & _FREQ & count & label \\
\hline 0 & 0 & 8009 & 8009 & 0 \\
\hline 5 & 0 & 261771 & 261771 & 0-5 \\
\hline 10 & 0 & 53484 & 53484 & 5-10 \\
\hline 15 & 0 & 35411 & 35411 & 10-15 \\
\hline 20 & 0 & 18881 & 18881 & 15-20 \\
\hline 25 & 0 & 11514 & 11514 & 20-25 \\
\hline 30 & 0 & 8206 & 8206 & 25-30 \\
\hline 35 & 0 & 6058 & 6058 & 30-35 \\
\hline 40 & 0 & 4473 & 4473 & 35-40 \\
\hline 45 & 0 & 3256 & 3256 & 40-45 \\
\hline 50 & 0 & 2557 & 2557 & 45-50 \\
\hline 55 & 0 & 2120 & 2120 & 50-55 \\
\hline 60 & 0 & 1728 & 1728 & 55-60 \\
\hline 65 & 0 & 1349 & 1349 & 60-65 \\
\hline 70 & 0 & 1147 & 1147 & 65-70 \\
\hline 75 & 0 & 1035 & 1035 & 70-75 \\
\hline 80 & 0 & 959 & 959 & 75-80 \\
\hline 85 & 0 & 712 & 712 & 80-85 \\
\hline 90 & 0 & 625 & 625 & 85-90 \\
\hline 95 & 0 & 600 & 600 & 90-95 \\
\hline 100 & 0 & 556 & 556 & 95-100 \\
\hline 105 & 0 & 5706 & 5706 & 100+ \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|}
\hline vol_buck & _TYPE_ & FREQ & count & \\
\hline 0 & 0 & 378634 & 378634 & None \\
\hline 1 & 0 & 38926 & 38926 & 1 \\
\hline 2 & 0 & 3565 & 3565 & 2 \\
\hline 3 & 0 & 1681 & 1681 & 3 \\
\hline 4 & 0 & 1002 & 1002 & 4 \\
\hline 5 & 0 & 679 & 679 & 5 \\
\hline 6 & 0 & 470 & 470 & 6 \\
\hline 7 & 0 & 372 & 372 & 7 \\
\hline 8 & 0 & 288 & 288 & 8 \\
\hline 9 & 0 & 249 & 249 & 9 \\
\hline 10 & 0 & 176 & 176 & 10 \\
\hline 11 & 0 & 547 & 547 & 11 \\
\hline 12 & 0 & 447 & 447 & 12 \\
\hline 13 & 0 & 339 & 339 & 13 \\
\hline 14 & 0 & 293 & 293 & 14 \\
\hline 15 & 0 & 227 & 227 & 15 \\
\hline 16 & 0 & 237 & 237 & 16 \\
\hline
\end{tabular}


\begin{tabular}{|c|r|}
\hline \multicolumn{2}{|c|}{\begin{tabular}{c} 
Number of Filers \\
Shorting a Security
\end{tabular}} \\
\hline \# Securties & 3,913 \\
\hline Mean & 9 \\
\hline STD & 7 \\
\hline Min & 1 \\
\hline P 25 & 4 \\
\hline Median & 8 \\
\hline P 75 & 12 \\
\hline Max & 65 \\
\hline
\end{tabular}
3913
9.094812
6.889647
1
4
8
12
65
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline PERMNO & nfilers & & NAMEDT & NAMEENL & & EXCHCD & SICCD & NCUSIP & Ticker \\
\hline 38703 & & 65 & 15342 & 1/30/2009 & 11 & 1 & 6021 & 94974610 & WFC \\
\hline 12060 & & 61 & 17010 & 1/30/2009 & 11 & 1 & 3699 & 36960410 & GE \\
\hline 11850 & & 54 & 15342 & 1/30/2009 & 11 & 1 & 2911 & 30231G10 & XOM \\
\hline 70519 & & 47 & 15372 & 1/30/2009 & 11 & 1 & 6021 & 17296710 & C \\
\hline 18542 & & 47 & 15342 & 1/30/2009 & 11 & 1 & 3531 & 14912310 & CAT \\
\hline 47896 & & 46 & 16280 & 1/30/2009 & 11 & 1 & 6021 & 46625H10 & JPM \\
\hline 49154 & & 46 & 15342 & 1/30/2009 & 11 & 1 & 5331 & \(8.76 \mathrm{E}+14\) & TGT \\
\hline 71563 & & 45 & 16103 & 1/30/2009 & 11 & 1 & 6021 & 5493710 & BBT \\
\hline 84788 & & 45 & 15342 & 1/30/2009 & 11 & 3 & 7370 & 2313510 & AMZN \\
\hline 81055 & & 43 & 17234 & 1/30/2009 & 11 & 1 & 6141 & 14040 H 10 & COF \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|}
\hline Top 10 Names with Most Filers & \# of Filers & NAICS & nfilers_hist shrx & count \\
\hline WELLS FARGO \& CO NEW & 65 & 522110 & 13 & 1 \\
\hline GENERAL ELECTRIC CO & 61 & 335999 & 12 & 1 \\
\hline EXXON MOBIL CORP & 54 & 324110 & 10 & 1 \\
\hline CITIGROUP INC & 47 & 522110 & 9 & 1 \\
\hline CATERPILLAR INC & 47 & 333120 & 9 & 1 \\
\hline JPMORGAN CHASE \& CO & 46 & 522110 & 9 & 1 \\
\hline TARGET CORP & 46 & 452990 & 9 & 1 \\
\hline B B \& T CORP & 45 & 522110 & 9 & 1 \\
\hline AMAZON COM INC & 45 & 454113 & 9 & 1 \\
\hline CAPITAL ONE FINANCIAL CORP & 43 & 522110 & 8 & 1 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
\hline day_week & & count_vol & count_novol & clos & pen_amt & olume_ & hng_amt & vol & & \\
\hline 12/01/200\& Monday & 3769 & 333 & 3436 & 36574.26 & 36357.59 & 641.4526 & 216.665 & 0.088352 & 22 & 1 \\
\hline 12/02/200¢ Tuesday & 3739 & 355 & 3384 & 38234.57 & 37584.51 & 1148.286 & 650.0552 & 0.094945 & 21 & 2 \\
\hline 12/03/200¢ Wednesda & 3735 & 338 & 3397 & 38856.75 & 38922.75 & 1036.525 & -66.0029 & 0.090495 & 20 & 3 \\
\hline 12/04/200\& Thursday & 3736 & 341 & 3395 & 36675.85 & 36756.85 & 1154.612 & -80.9981 & 0.091274 & 19 & 4 \\
\hline 12/05/200\& Friday & 3726 & 357 & 3369 & 38930.73 & 38102.86 & 1806.805 & 827.8696 & 0.095813 & 18 & 5 \\
\hline 12/08/200\& Monday & 25822 & 2894 & 22928 & 272086.1 & 269161.4 & 8840.884 & 2924.747 & 0.112075 & 17 & 6 \\
\hline 12/09/200\& Tuesday & 25410 & 3138 & 22272 & 260258.9 & 260052.2 & 9015.421 & 206.7494 & 0.123495 & 16 & 7 \\
\hline 12/10/200\& Wednesda & 24480 & 2925 & 21555 & 261887.7 & 261703.4 & 7508.37 & 184.3616 & 0.119485 & 15 & 8 \\
\hline 12/11/200\& Thursday & 25439 & 3755 & 21684 & 252478.1 & 253831.2 & 9070.608 & -1353.1 & 0.147608 & 14 & 9 \\
\hline 12/12/200\& Friday & 25243 & 2597 & 22646 & 266148.2 & 265704.2 & 6441.9 & 443.9404 & 0.10288 & 13 & 10 \\
\hline 12/15/200\& Monday & 25419 & 3499 & 21920 & 267430.7 & 260132.7 & 7254.599 & 7298.035 & 0.137653 & 12 & 11 \\
\hline 12/16/200¢ Tuesday & 25040 & 2843 & 22197 & 287025.7 & 284247.9 & 11268.53 & 2777.804 & 0.113538 & 11 & 12 \\
\hline 12/17/200\& Wednesda & 25548 & 3251 & 22297 & 295152.9 & 286204.7 & 6323.856 & 8948.236 & 0.127251 & 10 & 13 \\
\hline 12/18/200¢ Thursday & 25358 & 3118 & 22240 & 289654.4 & 287312 & 8583.565 & 2342.373 & 0.122959 & 9 & 14 \\
\hline 12/19/200¢ Friday & 26478 & 4700 & 21778 & 283469.9 & 295500.9 & 13403.54 & -12031 & 0.177506 & 8 & 15 \\
\hline 12/22/200\& Monday & 22519 & 2281 & 20238 & 259514.7 & 257750.1 & 4818.686 & 1764.66 & 0.101292 & 7 & 16 \\
\hline 12/23/200¢ Tuesday & 22258 & 2379 & 19879 & 250988.2 & 254769.9 & 3456.66 & -3781.69 & 0.106883 & 6 & 17 \\
\hline 12/24/200\& Wednesda & 21888 & 2371 & 19517 & 248082.8 & 248591.1 & 918.066 & -508.322 & 0.108324 & 5 & 18 \\
\hline 12/26/200¢ Friday & 22591 & 3742 & 18849 & 252432 & 238965.2 & 9354.021 & 13466.81 & 0.165641 & 4 & 19 \\
\hline 12/29/200\& Monday & 23156 & 2247 & 20909 & 243538.4 & 242709 & 3226.011 & 829.3089 & 0.097037 & 3 & 20 \\
\hline 12/30/200¢ Tuesday & 22221 & 1584 & 20637 & 253255.9 & 251313 & 4175.152 & 1942.845 & 0.071284 & 2 & 21 \\
\hline 12/31/200¢ Wednesda & 22582 & 2475 & 20107 & 258755.3 & 259069 & 5718.251 & -313.617 & 0.109601 & 1 & 22 \\
\hline
\end{tabular}

\section*{Morgan Stanley Intraday Trading by Assent}

September 2, 2008


\section*{Morgan Stanley Intraday Trading by Assent}

September 3, 2008


\section*{Morgan Stanley Intraday Trading by Assent}

September 4, 2008


\section*{Morgan Stanley Intraday Trading by Assent}

September 5, 2008


\section*{Morgan Stanley Intraday Trading by Assent}

September 8, 2008


\section*{Morgan Stanley Intraday Trading by Assent}

September 9, 2008


\footnotetext{
Volume in Trades of 10,000 or more
Total Volume
Price Range
- Opening/Closing Price
- Average Price
_S\&P 500 (SPDRs)
}

\section*{Morgan Stanley Intraday Trading by Assent September 10, 2008}


\section*{Morgan Stanley Intraday Trading by Assent September 11, 2008}


\section*{Morgan Stanley Intraday Trading by Assent \\ September 12, 2008}


Morgan Stanley Intraday Trading by Assent
September 15, 2008


\section*{Morgan Stanley Intraday Trading by Assent \\ September 16, 2008}


\section*{Morgan Stanley Intraday Trading by Assent}

September 17, 2008


\section*{Morgan Stanley Intraday Trading by Assent \\ September 17, 2008}


\section*{Morgan Stanley Intraday Trading by Assent \\ September 18, 2008}


Morgan Stanley Intraday Trading by Assent
September 19, 2008


\begin{tabular}{|c|c|c|c|}
\hline MS & 16 & 51 & 0 \\
\hline MS & 16 & 52 & 0 \\
\hline MS & 16 & 53 & 0 \\
\hline MS & 16 & 54 & 0 \\
\hline MS & 16 & 55 & 0 \\
\hline MS & 16 & 56 & 0 \\
\hline MS & 16 & 57 & 0 \\
\hline MS & 16 & 58 & 0 \\
\hline MS & 16 & 59 & 0 \\
\hline MS & 17 & 0 & 0 \\
\hline MS & 17 & 1 & 0 \\
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\hline MS & 17 & 43 & 0 \\
\hline MS & 17 & 44 & 0 \\
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\hline & & 440 & & & & & \\
\hline & 27000 & & 69163 & & & & 700 \\
\hline & & & & 6030 & & 6683 & 4800 \\
\hline & & & & & & 509 & 800 \\
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\hline & & & 600 & 1902 & & 191 & \\
\hline & & & 9800 & & & 100 & \\
\hline & & & 600 & 204 & & 200 & 3100 \\
\hline & & 2800 & 1798 & & & & \\
\hline & 510 & & 470 & & & 52533 & 238 \\
\hline & & & 1782 & & 1734 & & 60000 \\
\hline & 5015 & 20000 & 1000 & 15597 & & & \\
\hline & & & & & 519228 & 187 & \\
\hline & & 400 & & & 2409 & 110 & \\
\hline & & & 24339 & & & & \\
\hline & 600 & & 500 & 200 & & & 200 \\
\hline & 9000 & & 48730 & & & & 103 \\
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\hline & & & & 337358 & & & 200 \\
\hline & & & & & & 894 & \\
\hline & & & & & & 100 & \\
\hline & & & & & & 400 & \\
\hline & 100809 & & & 5019 & & 581 & \\
\hline & 1000 & 100 & & & 32569 & & \\
\hline & & & & 1200 & & & \\
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\hline & & 238 & & & & 3600 & \\
\hline & & & & & & 515680 & \\
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\section*{37163}

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500
\(700 \quad 100\)

\section*{100 \\ 100}

460
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\hline & & & 500 & & 500 & 3700 \\
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\hline & & & & & & 41.44847 & \\
\hline 41.99536 & 41.99 & 42 & 0.01 & 0 & 1940 & 41.44484 & \\
\hline & & & & & & 41.43983 & \\
\hline & & & & & & 41.42896 & \\
\hline & & & & & & 41.43695 & \\
\hline & & & & & & 41.43026 & \\
\hline & & & & & & 41.43296 & \\
\hline & & & & & & 41.42568 & \\
\hline & & & & & & 41.4271 & \\
\hline & & & & & & 41.42952 & \\
\hline & & & & & & 41.43157 & \\
\hline & & & & & & 41.4354 & \\
\hline & & & & & & 41.43515 & \\
\hline & & & & & & 41.4459 & \\
\hline & & & & & & 41.45672 & \\
\hline 41.93667 & 41.78 & 41.97 & 0.19 & 0 & 1200 & 41.4647 & \\
\hline 41.97667 & 41.97 & 41.98 & 0.01 & 0 & 300 & 41.46187 & \\
\hline 42 & 42 & 42 & 0 & 0 & 2000 & 41.47241 & \\
\hline & & & & & & 41.48649 & \\
\hline & & & & & & 41.50405 & \\
\hline & & & & & & 41.5001 & \\
\hline 42 & 42 & 42 & 0 & 0 & 1500 & 41.49697 & \\
\hline 42.13268 & 42.08 & 42.2 & 0.12 & 0 & 2050 & 41.5073 & \\
\hline 42.08 & 42.08 & 42.08 & 0 & 0 & 1500 & 41.50449 & \\
\hline & & & & & & 41.50374 & \\
\hline & & & & & & 41.50193 & \\
\hline & & & & & & 41.50523 & \\
\hline & & & & & & 41.51067 & \\
\hline & & & & & & 41.49949 & \\
\hline & & & & & & 41.4894 & \\
\hline
\end{tabular}
\(\left.\begin{array}{rrrrrrrr} & & & & & & 41.49115 & \\ & & & & & 0 & 100 & 41.48635 \\ 42 & 42 & 42 & 0 & & & 41.4769 & \\ & & & & & 4 & 41.47601 & \\ & & & & & & 41.4798 & \\ & & & & & & & 41.48236\end{array}\right]\)
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline 42.14067 & 42.1 & 42.23 & 0.13 & 0 & 35200 & 41.57831 & 41.48285 \\
\hline 42.19917 & 42.12 & 42.25 & 0.13 & 0 & 25950 & 41.57726 & 41.42038 \\
\hline 42.17635 & 42.12 & 42.23 & 0.11 & 0 & 45488 & 41.53908 & 41.40063 \\
\hline 42.13281 & 42.09 & 42.19 & 0.1 & 0 & 52342 & 41.54352 & 41.38336 \\
\hline 42.17915 & 42.14 & 42.23 & 0.09 & 0 & 33484 & 41.5619 & 41.39737 \\
\hline 42.22785 & 42.15 & 42.25 & 0.1 & 0 & 45451 & 41.58343 & 41.42796 \\
\hline 42.21892 & 42.16 & 42.28 & 0.12 & 0 & 31600 & 41.58474 & 41.4545 \\
\hline 42.21332 & 42.16 & 42.25 & 0.09 & 0 & 31975 & 41.58089 & 41.4661 \\
\hline 42.24157 & 42.2 & 42.26 & 0.06 & 0 & 52116 & 41.58524 & 41.4552 \\
\hline 42.2213 & 42.18 & 42.26 & 0.08 & 0 & 39998 & 41.56483 & 41.42206 \\
\hline 42.20402 & 42.18 & 42.2375 & 0.0575 & 0 & 24900 & 41.5449 & 41.38088 \\
\hline 42.17346 & 42.15 & 42.2126 & 0.0626 & 0 & 33471 & 41.52341 & 41.37551 \\
\hline 42.13364 & 42.09 & 42.17 & 0.08 & 0 & 43270 & 41.50776 & 41.39909 \\
\hline 42.12264 & 42.08 & 42.17 & 0.09 & 0 & 47333 & 41.50813 & 41.54898 \\
\hline 42.09796 & 42.07 & 42.13 & 0.06 & 0 & 26208 & 41.49974 & 41.59427 \\
\hline 42.07875 & 42.03 & 42.14 & 0.11 & 0 & 50014 & 41.492 & 41.62625 \\
\hline 42.12448 & 42.1 & 42.14 & 0.04 & 0 & 43444 & 41.50678 & 41.64153 \\
\hline 42.10792 & 42.05 & 42.15 & 0.1 & 0 & 65439 & 41.50089 & 41.60545 \\
\hline 42.05861 & 42.04 & 42.1 & 0.06 & 0 & 51096 & 41.48156 & 41.57968 \\
\hline 42.08346 & 42.02 & 42.15 & 0.13 & 0 & 68873 & 41.47769 & 41.47119 \\
\hline 42.16845 & 42.12 & 42.22 & 0.1 & 0 & 49457 & 41.49239 & 41.49193 \\
\hline 42.20314 & 42.16 & 42.23 & 0.07 & 0 & 34371 & 41.49525 & 41.56999 \\
\hline 42.19857 & 42.16 & 42.24 & 0.08 & 0 & 30981 & 41.49231 & 41.62143 \\
\hline 42.16887 & 42.14 & 42.21 & 0.07 & 0 & 35555 & 41.4854 & 41.67911 \\
\hline 42.18411 & 42.12 & 42.27 & 0.15 & 0 & 69533 & 41.49598 & 41.58358 \\
\hline 42.01495 & 41.93 & 42.18 & 0.25 & 0 & 94456 & 41.48706 & 41.56861 \\
\hline 41.87093 & 41.83 & 41.93 & 0.1 & 0 & 78235 & 41.4663 & 41.65959 \\
\hline 41.93236 & 41.86 & 42 & 0.14 & 0 & 56526 & 41.47035 & 41.67776 \\
\hline 41.95606 & 41.89 & 42.02 & 0.13 & 0 & 40716 & 41.47471 & 41.65906 \\
\hline 41.86886 & 41.84 & 41.92 & 0.08 & 0 & 33707 & 41.45644 & 41.72405 \\
\hline 41.76739 & 41.68 & 41.88 & 0.2 & 0 & 68448 & 41.45288 & 41.71757 \\
\hline 41.6955 & 41.63 & 41.76 & 0.13 & 0 & 52621 & 41.43064 & 41.69977 \\
\hline 41.61901 & 41.58 & 41.66 & 0.08 & 0 & 38990 & 41.41535 & 41.73824 \\
\hline 41.68015 & 41.65 & 41.71 & 0.06 & 0 & 70168 & 41.4287 & 41.79494 \\
\hline 41.66158 & 41.61 & 41.7 & 0.09 & 0 & 37278 & 41.42124 & 41.74248 \\
\hline 41.62266 & 41.6 & 41.64 & 0.04 & 0 & 24322 & 41.39513 & 41.73396 \\
\hline 41.6043 & 41.55 & 41.64 & 0.09 & 0 & 44328 & 41.37248 & 41.63456 \\
\hline 41.57267 & 41.54 & 41.62 & 0.08 & 0 & 41753 & 41.34024 & 41.66611 \\
\hline 41.66493 & 41.57 & 41.75 & 0.18 & 0 & 34512 & 41.34361 & 41.63936 \\
\hline 41.75459 & 41.71 & 41.8 & 0.09 & 0 & 66282 & 41.35929 & 41.64977 \\
\hline 41.83195 & 41.73 & 41.9 & 0.17 & 0 & 38694 & 41.37339 & 41.63407 \\
\hline 41.88738 & 41.83 & 41.95 & 0.12 & 0 & 53875 & 41.39225 & 41.71347 \\
\hline 41.96012 & 41.89 & 42 & 0.11 & 0 & 53766 & 41.3928 & 41.73335 \\
\hline 41.8552 & 41.78 & 41.94 & 0.16 & 0 & 59408 & 41.36895 & 41.68837 \\
\hline 41.82131 & 41.8 & 41.84 & 0.04 & 0 & 20462 & 41.37137 & 41.65538 \\
\hline 41.77826 & 41.74 & 41.8 & 0.06 & 0 & 22668 & 41.37168 & 41.63992 \\
\hline 41.79975 & 41.74 & 41.905 & 0.165 & 0 & 48368 & 41.36098 & 41.69624 \\
\hline 41.86637 & 41.76 & 41.9 & 0.14 & 0 & 34600 & 41.36711 & 41.71141 \\
\hline 41.94772 & 41.87 & 42 & 0.13 & 0 & 45980 & 41.38746 & 41.74195 \\
\hline 42.04315 & 42 & 42.09 & 0.09 & 0 & 53045 & 41.40898 & 41.72867 \\
\hline 42.02209 & 41.99 & 42.06 & 0.07 & 0 & 29717 & 41.40855 & 41.69813 \\
\hline 42.07011 & 42.03 & 42.13 & 0.1 & 0 & 49213 & 41.42273 & 41.73246 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline 42.07907 & 42.05 & 42.1 & 0.05 & 0 & 19900 & 41.41897 & 41.75894 \\
\hline 42.0989 & 42.07 & 42.11 & 0.04 & 0 & 25794 & 41.42512 & 41.85355 \\
\hline 42.11661 & 42.08 & 42.15 & 0.07 & 0 & 20910 & 41.41876 & 41.83466 \\
\hline 42.07624 & 42.01 & 42.14 & 0.13 & 0 & 32280 & 41.40771 & 41.87405 \\
\hline 42.02811 & 42 & 42.06 & 0.06 & 0 & 16500 & 41.40358 & 41.85426 \\
\hline 42.05878 & 42.01 & 42.1 & 0.09 & 0 & 28141 & 41.41076 & 41.91201 \\
\hline 42.06441 & 42.01 & 42.12 & 0.11 & 0 & 36036 & 41.41053 & 41.96107 \\
\hline 42.04651 & 42 & 42.1 & 0.1 & 0 & 16192 & 41.41681 & 41.93487 \\
\hline 42.01889 & 41.98 & 42.07 & 0.09 & 0 & 21178 & 41.40142 & 41.84544 \\
\hline 41.95682 & 41.94 & 41.99 & 0.05 & 0 & 24879 & 41.39107 & 41.83785 \\
\hline 41.99582 & 41.9675 & 42.02 & 0.0525 & 0 & 22360 & 41.39694 & 41.79945 \\
\hline 42.04931 & 42.01 & 42.08 & 0.07 & 0 & 22168 & 41.39807 & 41.79279 \\
\hline 42.08074 & 42.045 & 42.11 & 0.065 & 0 & 22521 & 41.4057 & 41.82985 \\
\hline 42.1818 & 42.0899 & 42.23 & 0.1401 & 0 & 27654 & 41.43163 & 41.72884 \\
\hline 42.20996 & 42.18 & 42.23 & 0.05 & 0 & 27030 & 41.4451 & 41.68215 \\
\hline 42.19798 & 42.14 & 42.23 & 0.09 & 0 & 19022 & 41.44821 & 41.59209 \\
\hline 42.13423 & 42.12 & 42.156 & 0.036 & 0 & 15068 & 41.43055 & 41.6496 \\
\hline 42.11204 & 42.09 & 42.13 & 0.04 & 0 & 14680 & 41.42021 & 41.69769 \\
\hline 42.11111 & 42.07 & 42.15 & 0.08 & 0 & 22879 & 41.42219 & 41.74505 \\
\hline 42.11222 & 42.06 & 42.16 & 0.1 & 0 & 27324 & 41.43304 & 41.69125 \\
\hline 42.06479 & 42.03 & 42.09 & 0.06 & 0 & 23540 & 41.41872 & 41.70878 \\
\hline 42.00863 & 41.99 & 42.05 & 0.06 & 0 & 28965 & 41.39114 & 41.73274 \\
\hline 41.99644 & 41.97 & 42.04 & 0.07 & 0 & 30999 & 41.36612 & 41.66438 \\
\hline 41.989 & 41.95 & 42.02 & 0.07 & 0 & 26750 & 41.366 & 41.70086 \\
\hline 41.99459 & 41.96 & 42.02 & 0.06 & 0 & 30300 & 41.37336 & 41.67948 \\
\hline 42.02065 & 42 & 42.05 & 0.05 & 0 & 13731 & 41.38275 & 41.67414 \\
\hline 42.09914 & 42.045 & 42.13 & 0.085 & 0 & 33161 & 41.41625 & 41.66401 \\
\hline 42.04544 & 42 & 42.11 & 0.11 & 0 & 30747 & 41.42366 & 41.66607 \\
\hline 42.04943 & 42.02 & 42.07 & 0.05 & 0 & 20800 & 41.424 & 41.64174 \\
\hline 42.06785 & 42.04 & 42.09 & 0.05 & 0 & 25007 & 41.42558 & 41.67141 \\
\hline 42.08533 & 42.05 & 42.11 & 0.06 & 0 & 21600 & 41.44949 & 41.65438 \\
\hline 42.08 & 42.05 & 42.1 & 0.05 & 0 & 16001 & 41.45021 & 41.61938 \\
\hline 42.08005 & 42.04 & 42.11 & 0.07 & 0 & 24310 & 41.45324 & 41.59275 \\
\hline 42.08906 & 42.06 & 42.13 & 0.07 & 0 & 29924 & 41.46919 & 41.55973 \\
\hline 42.09378 & 42.0824 & 42.11 & 0.0276 & 0 & 7110 & 41.47361 & 41.534 \\
\hline 42.12205 & 42.1 & 42.15 & 0.05 & 0 & 31676 & 41.48235 & 41.50279 \\
\hline 42.10042 & 42.08 & 42.13 & 0.05 & 0 & 18200 & 41.47368 & 41.46109 \\
\hline 42.14266 & 42.13 & 42.16 & 0.03 & 0 & 19933 & 41.48339 & 41.50359 \\
\hline 42.14061 & 42.12 & 42.16 & 0.04 & 0 & 16697 & 41.47794 & 41.57619 \\
\hline 42.15823 & 42.13 & 42.18 & 0.05 & 0 & 42160 & 41.48459 & 41.59163 \\
\hline 42.15397 & 42.13 & 42.16 & 0.03 & 0 & 20800 & 41.48544 & 41.55691 \\
\hline 42.12747 & 42.11 & 42.155 & 0.045 & 0 & 22817 & 41.47248 & 41.57508 \\
\hline 42.09473 & 42.08 & 42.11 & 0.03 & 0 & 20685 & 41.47154 & 41.57898 \\
\hline 42.10082 & 42.06 & 42.12 & 0.06 & 0 & 14790 & 41.46522 & 41.5955 \\
\hline 42.05065 & 42.03 & 42.07 & 0.04 & 0 & 19678 & 41.44392 & 41.54371 \\
\hline 42.0426 & 42.01 & 42.08 & 0.07 & 0 & 17968 & 41.44604 & 41.50643 \\
\hline 42.05729 & 42.01 & 42.1 & 0.09 & 0 & 21281 & 41.43563 & 41.4806 \\
\hline 42.08414 & 42.04 & 42.13 & 0.09 & 0 & 37213 & 41.44654 & 41.51069 \\
\hline 42.05258 & 42.02 & 42.08 & 0.06 & 0 & 18340 & 41.4224 & 41.5041 \\
\hline 42.04005 & 41.99 & 42.09 & 0.1 & 0 & 56879 & 41.40837 & 41.50477 \\
\hline 41.99851 & 41.97 & 42.02 & 0.05 & 0 & 26600 & 41.39324 & 41.46304 \\
\hline 42.01639 & 41.99 & 42.03 & 0.04 & 0 & 25389 & 41.38036 & 41.47447 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline 42.04836 & 42 & 42.1 & 0.1 & 0 & 24500 & 41.39236 & 41.51022 \\
\hline 42.047 & 42 & 42.07 & 0.07 & 0 & 36310 & 41.40231 & 41.50417 \\
\hline 42.06177 & 42.01 & 42.1 & 0.09 & 0 & 26516 & 41.4049 & 41.46961 \\
\hline 42.06509 & 42.04 & 42.1 & 0.06 & 0 & 21445 & 41.40123 & 41.43742 \\
\hline 42.0448 & 42 & 42.1 & 0.1 & 0 & 26593 & 41.39556 & 41.43573 \\
\hline 42.0235 & 42 & 42.06 & 0.06 & 0 & 39285 & 41.38546 & 41.43891 \\
\hline 42.02791 & 42.01 & 42.05 & 0.04 & 0 & 26306 & 41.37554 & 41.41762 \\
\hline 42.00664 & 42 & 42.03 & 0.03 & 0 & 28104 & 41.36922 & 41.44347 \\
\hline 42.00782 & 41.99 & 42.03 & 0.04 & 0 & 36604 & 41.36555 & 41.48557 \\
\hline 42.01498 & 42 & 42.04 & 0.04 & 0 & 29435 & 41.36925 & 41.39763 \\
\hline 42.01678 & 42 & 42.04 & 0.04 & 0 & 12847 & 41.37268 & 41.35026 \\
\hline 42.00696 & 41.99 & 42.04 & 0.05 & 0 & 39856 & 41.38052 & 41.44362 \\
\hline 42.01158 & 41.98 & 42.04 & 0.06 & 0 & 27888 & 41.38502 & 41.52097 \\
\hline 41.96193 & 41.93 & 41.99 & 0.06 & 0 & 29400 & 41.36635 & 41.49576 \\
\hline 41.91937 & 41.9 & 41.94 & 0.04 & 0 & 25547 & 41.36654 & 41.44403 \\
\hline 41.91763 & 41.91 & 41.93 & 0.02 & 0 & 11010 & 41.3736 & 41.42026 \\
\hline 41.93932 & 41.91 & 41.96 & 0.05 & 0 & 27400 & 41.38996 & 41.35816 \\
\hline 41.92339 & 41.91 & 41.94 & 0.03 & 0 & 20981 & 41.38271 & 41.66566 \\
\hline 41.92437 & 41.91 & 41.94 & 0.03 & 0 & 11132 & 41.38306 & 41.32037 \\
\hline 41.93285 & 41.92 & 41.95 & 0.03 & 0 & 19425 & 41.38245 & 41.37596 \\
\hline 41.91401 & 41.89 & 41.94 & 0.05 & 0 & 19764 & 41.37677 & 41.34419 \\
\hline 41.99178 & 41.9 & 42 & 0.1 & 225000 & 36080 & 41.39281 & 41.3699 \\
\hline 41.94981 & 41.92 & 41.98 & 0.06 & 0 & 45810 & 41.39707 & 41.39243 \\
\hline 41.93374 & 41.89 & 41.97 & 0.08 & 0 & 29556 & 41.4091 & 41.34814 \\
\hline 41.84819 & 41.82 & 41.9 & 0.08 & 0 & 37945 & 41.37326 & 41.3411 \\
\hline 41.84487 & 41.82 & 41.86 & 0.04 & 0 & 16480 & 41.36761 & 41.36393 \\
\hline 41.84248 & 41.81 & 41.87 & 0.06 & 0 & 28737 & 41.37437 & 41.39844 \\
\hline 41.81646 & 41.81 & 41.82 & 0.01 & 0 & 8215 & 41.38313 & 41.38952 \\
\hline 41.80551 & 41.78 & 41.822 & 0.042 & 0 & 18583 & 41.37814 & 41.3795 \\
\hline 41.70528 & 41.62 & 41.79 & 0.17 & 0 & 71134 & 41.33784 & 41.3583 \\
\hline 41.6126 & 41.58 & 41.65 & 0.07 & 0 & 71676 & 41.31297 & 41.35452 \\
\hline 41.62767 & 41.57 & 41.66 & 0.09 & 0 & 37797 & 41.30152 & 41.4592 \\
\hline 41.6612 & 41.62 & 41.7 & 0.08 & 0 & 49417 & 41.27855 & 41.50599 \\
\hline 41.58295 & 41.52 & 41.64 & 0.12 & 0 & 93246 & 41.24305 & 41.51974 \\
\hline 41.63067 & 41.585 & 41.66 & 0.075 & 0 & 49726 & 41.22982 & 41.5331 \\
\hline 41.62543 & 41.58 & 41.65 & 0.07 & 0 & 60760 & 41.21835 & 41.51727 \\
\hline 41.58775 & 41.55 & 41.62 & 0.07 & 0 & 39106 & 41.20006 & 41.53936 \\
\hline 41.57571 & 41.55 & 41.63 & 0.08 & 11000 & 41200 & 41.198 & 41.50803 \\
\hline 41.64788 & 41.6 & 41.69 & 0.09 & 0 & 56350 & 41.20087 & 41.44339 \\
\hline 41.65077 & 41.6 & 41.7 & 0.1 & 0 & 51241 & 41.17532 & 41.42351 \\
\hline 41.56281 & 41.53 & 41.605 & 0.075 & 0 & 36831 & 41.15311 & 41.44974 \\
\hline 41.61642 & 41.57 & 41.66 & 0.09 & 0 & 40222 & 41.16551 & 41.48528 \\
\hline 41.60727 & 41.58 & 41.64 & 0.06 & 0 & 48900 & 41.1544 & 41.53151 \\
\hline 41.71533 & 41.59 & 41.9607 & 0.3707 & 10300 & 27078 & 41.1719 & 41.55889 \\
\hline 41.60315 & 41.58 & 41.6218 & 0.0418 & 0 & 17802 & 41.18674 & 41.55895 \\
\hline 41.57395 & 41.52 & 41.61 & 0.09 & 0 & 42520 & 41.1754 & 41.56229 \\
\hline 41.50678 & 41.47 & 41.54 & 0.07 & 0 & 34510 & 41.14968 & 41.59178 \\
\hline 41.4944 & 41.46 & 41.52 & 0.06 & 0 & 20636 & 41.12844 & 41.57945 \\
\hline 41.5106 & 41.46 & 41.56 & 0.1 & 0 & 21824 & 41.12515 & 41.5214 \\
\hline 41.52409 & 41.5 & 41.5418 & 0.0418 & 0 & 14350 & 41.12968 & 41.50595 \\
\hline 41.51212 & 41.49 & 41.5318 & 0.0418 & 0 & 17378 & 41.13441 & 41.52051 \\
\hline 41.50674 & 41.5 & 41.53 & 0.03 & 0 & 9651 & 41.13249 & 41.51725 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline 41.5526 & 41.51 & 41.58 & 0.07 & 0 & 27684 & 41.14069 & 41.51746 \\
\hline 41.60742 & 41.57 & 41.64 & 0.07 & 0 & 25920 & 41.15577 & 41.50238 \\
\hline 41.53455 & 41.4886 & 41.61 & 0.1214 & 0 & 34196 & 41.14061 & 41.50969 \\
\hline 41.48976 & 41.45 & 41.51 & 0.06 & 0 & 24987 & 41.12592 & 41.5124 \\
\hline 41.49945 & 41.44 & 41.54 & 0.1 & 45000 & 23307 & 41.13171 & 41.49855 \\
\hline 41.48591 & 41.46 & 41.5001 & 0.0401 & 0 & 9568 & 41.13536 & 41.50526 \\
\hline 41.53376 & 41.5 & 41.57 & 0.07 & 0 & 18225 & 41.15952 & 41.49505 \\
\hline 41.49493 & 41.46 & 41.53 & 0.07 & 0 & 19078 & 41.15397 & 41.50722 \\
\hline 41.55682 & 41.53 & 41.58 & 0.05 & 0 & 31508 & 41.16466 & 41.52804 \\
\hline 41.58847 & 41.56 & 41.62 & 0.06 & 0 & 29043 & 41.17871 & 41.53808 \\
\hline 41.59622 & 41.55 & 41.6318 & 0.0818 & 0 & 20316 & 41.18024 & 41.52951 \\
\hline 41.55962 & 41.53 & 41.6 & 0.07 & 0 & 32140 & 41.17773 & 41.53737 \\
\hline 41.5271 & 41.5 & 41.57 & 0.07 & 0 & 17400 & 41.17053 & 41.5472 \\
\hline 41.50045 & 41.48 & 41.52 & 0.04 & 0 & 19200 & 41.169 & 41.5542 \\
\hline 41.51357 & 41.48 & 41.54 & 0.06 & 0 & 17660 & 41.16553 & 41.54024 \\
\hline 41.47808 & 41.45 & 41.51 & 0.06 & 0 & 13276 & 41.15328 & 41.5023 \\
\hline 41.4691 & 41.45 & 41.49 & 0.04 & 0 & 17376 & 41.15234 & 41.46339 \\
\hline 41.46924 & 41.45 & 41.48 & 0.03 & 0 & 15898 & 41.15086 & 41.50011 \\
\hline 41.46621 & 41.45 & 41.5 & 0.05 & 0 & 24940 & 41.13945 & 41.50125 \\
\hline 41.46362 & 41.45 & 41.5 & 0.05 & 0 & 22838 & 41.06297 & 41.57882 \\
\hline 41.51804 & 41.5 & 41.53 & 0.03 & 0 & 17937 & 41.16844 & 41.56607 \\
\hline 41.46469 & 41.43 & 41.52 & 0.09 & 0 & 36968 & 41.16417 & 41.57763 \\
\hline 41.45593 & 41.42 & 41.51 & 0.09 & 0 & 27503 & 41.16089 & 41.62519 \\
\hline 41.51619 & 41.46 & 41.56 & 0.1 & 0 & 47100 & 41.17396 & 41.61155 \\
\hline 41.49991 & 41.46 & 41.54 & 0.08 & 0 & 45386 & 41.17973 & 41.57405 \\
\hline 41.47505 & 41.45 & 41.5 & 0.05 & 0 & 28822 & 41.18403 & 41.56172 \\
\hline 41.48125 & 41.46 & 41.51 & 0.05 & 0 & 16698 & 41.19777 & 41.54848 \\
\hline 41.53159 & 41.49 & 41.57 & 0.08 & 0 & 22238 & 41.2059 & 41.55845 \\
\hline 41.51894 & 41.46 & 41.57 & 0.11 & 0 & 33370 & 41.20542 & 41.63177 \\
\hline 41.47494 & 41.44 & 41.5 & 0.06 & 0 & 41028 & 41.20491 & 41.70347 \\
\hline 41.51226 & 41.48 & 41.54 & 0.06 & 0 & 21446 & 41.21107 & 41.74236 \\
\hline 41.51232 & 41.5 & 41.53 & 0.03 & 0 & 11142 & 41.21271 & 41.72901 \\
\hline 41.50831 & 41.495 & 41.52 & 0.025 & 0 & 5400 & 41.21524 & 41.69845 \\
\hline 41.50199 & 41.47 & 41.53 & 0.06 & 0 & 18725 & 41.20834 & 41.71571 \\
\hline 41.43734 & 41.41 & 41.48 & 0.07 & 0 & 25710 & 41.19872 & 41.75662 \\
\hline 41.35935 & 41.32 & 41.42 & 0.1 & 0 & 47850 & 41.18057 & 41.76583 \\
\hline 41.33678 & 41.3 & 41.37 & 0.07 & 0 & 57315 & 41.16999 & 41.80194 \\
\hline 41.3503 & 41.34 & 41.37 & 0.03 & 0 & 10320 & 41.17668 & 41.78432 \\
\hline 41.35731 & 41.35 & 41.37 & 0.02 & 0 & 6700 & 41.17671 & 41.75891 \\
\hline 41.35816 & 41.32 & 41.38 & 0.06 & 0 & 26566 & 41.18049 & 41.71835 \\
\hline 41.33026 & 41.32 & 41.36 & 0.04 & 0 & 15600 & 41.18279 & 41.67229 \\
\hline 41.33683 & 41.32 & 41.36 & 0.04 & 0 & 19465 & 41.18696 & 41.71021 \\
\hline 41.30201 & 41.28 & 41.32 & 0.04 & 0 & 30410 & 41.18189 & 41.6983 \\
\hline 41.2861 & 41.27 & 41.3 & 0.03 & 0 & 16800 & 41.17411 & 41.70882 \\
\hline 41.29751 & 41.29 & 41.31 & 0.02 & 0 & 23575 & 41.19452 & 41.71456 \\
\hline 41.2867 & 41.25 & 41.33 & 0.08 & 0 & 34525 & 41.18852 & 41.66752 \\
\hline 41.26994 & 41.2575 & 41.29 & 0.0325 & 0 & 16377 & 41.18546 & 41.68445 \\
\hline 41.29782 & 41.27 & 41.33 & 0.06 & 0 & 16801 & 41.19681 & 41.71257 \\
\hline 41.34483 & 41.3075 & 41.39 & 0.0825 & 0 & 20551 & 41.21117 & 41.68532 \\
\hline 41.41125 & 41.36 & 41.43 & 0.07 & 0 & 40462 & 41.22916 & 41.665 \\
\hline 41.44989 & 41.42 & 41.48 & 0.06 & 0 & 29176 & 41.23816 & 41.6905 \\
\hline 41.45356 & 41.41 & 41.49 & 0.08 & 0 & 33569 & 41.24162 & 41.68725 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline 41.39925 & 41.39 & 41.42 & 0.03 & 0 & 24442 & 41.23189 & 41.65905 \\
\hline 41.38327 & 41.37 & 41.39 & 0.02 & 0 & 13041 & 41.22135 & 41.66538 \\
\hline 41.41644 & 41.3775 & 41.46 & 0.0825 & 0 & 22575 & 41.23133 & 41.71396 \\
\hline 41.41502 & 41.4 & 41.43 & 0.03 & 0 & 11800 & 41.22866 & 41.73282 \\
\hline 41.36458 & 41.33 & 41.41 & 0.08 & 0 & 21204 & 41.20875 & 41.74174 \\
\hline 41.29755 & 41.26 & 41.34 & 0.08 & 0 & 24638 & 41.18389 & 41.68852 \\
\hline 41.25891 & 41.22 & 41.29 & 0.07 & 0 & 40098 & 41.1692 & 41.7107 \\
\hline 41.18487 & 41.15 & 41.24 & 0.09 & 0 & 59240 & 41.14366 & 41.71976 \\
\hline 41.20362 & 41.16 & 41.24 & 0.08 & 0 & 14347 & 41.1342 & 41.72457 \\
\hline 41.21858 & 41.17 & 41.26 & 0.09 & 0 & 26655 & 41.13287 & 41.81849 \\
\hline 41.21989 & 41.2 & 41.24 & 0.04 & 0 & 13893 & 41.12862 & 41.87694 \\
\hline 41.23103 & 41.2 & 41.28 & 0.08 & 0 & 34831 & 41.12833 & 41.90954 \\
\hline 41.21206 & 41.17 & 41.27 & 0.1 & 0 & 29772 & 41.1088 & 41.86498 \\
\hline 41.11648 & 41.08 & 41.18 & 0.1 & 0 & 63925 & 41.07026 & 41.86599 \\
\hline 41.07877 & 41.05 & 41.1 & 0.05 & 0 & 53334 & 41.02382 & 41.85872 \\
\hline 41.00921 & 40.96 & 41.05 & 0.09 & 0 & 44612 & 40.9738 & 41.87996 \\
\hline 40.98297 & 40.97 & 41.01 & 0.04 & 0 & 24820 & 40.9663 & 41.87372 \\
\hline 40.99257 & 40.96 & 41.02 & 0.06 & 0 & 25610 & 40.97291 & 41.8309 \\
\hline 40.98942 & 40.96 & 41.02 & 0.06 & 0 & 28579 & 40.98238 & 41.7892 \\
\hline 40.90597 & 40.87 & 40.96 & 0.09 & 0 & 60458 & 40.96098 & 41.7897 \\
\hline 40.85393 & 40.8 & 40.89 & 0.09 & 0 & 71009 & 40.9505 & 41.80166 \\
\hline 40.83096 & 40.8 & 40.86 & 0.06 & 0 & 37036 & 40.95037 & 41.76205 \\
\hline 40.88411 & 40.845 & 40.93 & 0.085 & 0 & 51968 & 40.96598 & 41.76378 \\
\hline 40.86911 & 40.85 & 40.92 & 0.07 & 0 & 21730 & 40.95019 & 41.61986 \\
\hline 40.85476 & 40.79 & 40.92 & 0.13 & 0 & 40597 & 40.94664 & 41.53516 \\
\hline 40.92846 & 40.9 & 40.94 & 0.04 & 0 & 37492 & 41.01609 & 41.56709 \\
\hline 40.98491 & 40.92 & 41.01 & 0.09 & 0 & 45183 & 41.00341 & 41.61519 \\
\hline 40.94783 & 40.9 & 40.98 & 0.08 & 0 & 60218 & 40.98882 & 41.71452 \\
\hline 40.96719 & 40.93 & 40.99 & 0.06 & 0 & 28210 & 40.99477 & 41.70662 \\
\hline 40.95637 & 40.92 & 41 & 0.08 & 0 & 35179 & 40.99122 & 41.661 \\
\hline 40.89318 & 40.84 & 40.93 & 0.09 & 0 & 37807 & 40.96975 & 41.62049 \\
\hline 40.88805 & 40.85 & 40.94 & 0.09 & 0 & 17373 & 40.97734 & 41.60333 \\
\hline 40.8615 & 40.8 & 40.93 & 0.13 & 0 & 52606 & 40.96966 & 41.58118 \\
\hline 40.79974 & 40.75 & 40.85 & 0.1 & 0 & 50290 & 40.94302 & 41.54617 \\
\hline 40.73646 & 40.7 & 40.8 & 0.1 & 0 & 45262 & 40.90985 & 41.52628 \\
\hline 40.72635 & 40.67 & 40.78 & 0.11 & 0 & 45384 & 40.90463 & 41.49391 \\
\hline 40.71924 & 40.66 & 40.77 & 0.11 & 11300 & 79444 & 40.91032 & 41.45277 \\
\hline 40.72375 & 40.69 & 40.78 & 0.09 & 0 & 46678 & 40.91634 & 41.45735 \\
\hline 40.71393 & 40.67 & 40.75 & 0.08 & 0 & 33651 & 40.91075 & 41.45585 \\
\hline 40.66548 & 40.63 & 40.69 & 0.06 & 0 & 37808 & 40.8705 & 41.45593 \\
\hline 40.69765 & 40.65 & 40.77 & 0.12 & 0 & 34244 & 40.87178 & 41.4568 \\
\hline 40.78979 & 40.7375 & 40.83 & 0.0925 & 0 & 32473 & 40.88931 & 41.4961 \\
\hline 40.77276 & 40.7 & 40.83 & 0.13 & 0 & 33680 & 40.8672 & 41.47686 \\
\hline 40.76131 & 40.71 & 40.82 & 0.11 & 0 & 45896 & 40.87834 & 41.43418 \\
\hline 40.76246 & 40.73 & 40.81 & 0.08 & 0 & 13400 & 40.87085 & 41.39649 \\
\hline 40.76721 & 40.73 & 40.81 & 0.08 & 0 & 29903 & 40.87711 & 41.38049 \\
\hline 40.73175 & 40.72 & 40.755 & 0.035 & 0 & 27105 & 40.85307 & 41.39803 \\
\hline 40.7959 & 40.73 & 40.87 & 0.14 & 0 & 43257 & 40.88802 & 41.4035 \\
\hline 40.85629 & 40.82 & 40.88 & 0.06 & 0 & 52745 & 40.91162 & 41.42645 \\
\hline 40.92266 & 40.84 & 40.98 & 0.14 & 0 & 37931 & 40.9193 & 41.41024 \\
\hline 40.93949 & 40.9 & 40.98 & 0.08 & 0 & 48273 & 40.92017 & 41.41413 \\
\hline 40.91278 & 40.86 & 40.95 & 0.09 & 0 & 33900 & 40.88915 & 41.45722 \\
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\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline 40.89017 & 40.86 & 40.93 & 0.07 & 0 & 24528 & 40.87548 & 41.46379 \\
\hline 40.92778 & 40.9 & 40.96 & 0.06 & 0 & 15300 & 40.89321 & 41.47456 \\
\hline 40.9716 & 40.955 & 41 & 0.045 & 0 & 33038 & 40.90552 & 41.53547 \\
\hline 41.01427 & 40.98 & 41.06 & 0.08 & 0 & 39320 & 40.9231 & 41.56783 \\
\hline 41.07064 & 41.03 & 41.1 & 0.07 & 0 & 38057 & 40.93444 & 41.61502 \\
\hline 41.14393 & 41.08 & 41.19 & 0.11 & 0 & 36697 & 40.94528 & 41.59085 \\
\hline 41.07945 & 40.98 & 41.14 & 0.16 & 0 & 50806 & 40.92016 & 41.58121 \\
\hline 41.00545 & 40.99 & 41.04 & 0.05 & 0 & 48445 & 40.91105 & 41.63172 \\
\hline 40.93499 & 40.87 & 41.04 & 0.17 & 0 & 48071 & 40.88928 & 41.66027 \\
\hline 40.87631 & 40.82 & 40.92 & 0.1 & 0 & 31327 & 40.86543 & 41.67632 \\
\hline 40.81054 & 40.77 & 40.85 & 0.08 & 0 & 64263 & 40.83606 & 41.71878 \\
\hline 40.81901 & 40.8 & 40.86 & 0.06 & 0 & 40670 & 40.8495 & 41.70311 \\
\hline 40.84846 & 40.82 & 40.89 & 0.07 & 0 & 34218 & 40.86215 & 41.6811 \\
\hline 40.89448 & 40.855 & 40.93 & 0.075 & 0 & 16493 & 40.86273 & 41.61764 \\
\hline 40.83345 & 40.79 & 40.89 & 0.1 & 0 & 26225 & 40.84366 & 41.54908 \\
\hline 40.84566 & 40.81 & 40.87 & 0.06 & 0 & 17167 & 40.83545 & 41.67193 \\
\hline 40.82022 & 40.78 & 40.89 & 0.11 & 0 & 43313 & 40.82416 & 41.70873 \\
\hline 40.87185 & 40.83 & 40.93 & 0.1 & 0 & 28416 & 40.85078 & 41.68724 \\
\hline 40.92606 & 40.91 & 40.97 & 0.06 & 0 & 25389 & 40.86196 & 41.66965 \\
\hline 40.8599 & 40.81 & 40.93 & 0.12 & 0 & 50662 & 40.84628 & 41.64246 \\
\hline 40.82989 & 40.79 & 40.85 & 0.06 & 0 & 30289 & 40.84616 & 41.63611 \\
\hline 40.83065 & 40.81 & 40.86 & 0.05 & 0 & 23477 & 40.84061 & 41.58888 \\
\hline 40.78858 & 40.75 & 40.86 & 0.11 & 0 & 30776 & 40.81323 & 41.5765 \\
\hline 40.78252 & 40.76 & 40.81 & 0.05 & 0 & 15326 & 40.80442 & 41.58374 \\
\hline 40.75839 & 40.71 & 40.8 & 0.09 & 0 & 31084 & 40.76978 & 41.63566 \\
\hline 40.71648 & 40.67 & 40.74 & 0.07 & 0 & 30700 & 40.7491 & 41.59913 \\
\hline 40.74737 & 40.67 & 40.79 & 0.12 & 0 & 41005 & 40.75025 & 41.58692 \\
\hline 40.632 & 40.55 & 40.77 & 0.22 & 0 & 128957 & 40.72792 & 41.65505 \\
\hline 40.57356 & 40.53 & 40.71 & 0.18 & 0 & 54064 & 40.73104 & 41.68058 \\
\hline 40.72658 & 40.6936 & 40.75 & 0.0564 & 0 & 18038 & 40.75949 & 41.70255 \\
\hline 40.72805 & 40.69 & 40.78 & 0.09 & 0 & 34755 & 40.75465 & 41.75048 \\
\hline 40.75717 & 40.6 & 40.8 & 0.2 & 0 & 46282 & 40.74808 & 41.76697 \\
\hline 40.77531 & 40.73 & 40.81 & 0.08 & 0 & 38701 & 40.75954 & 41.79419 \\
\hline 40.73457 & 40.72 & 40.75 & 0.03 & 0 & 21031 & 40.75906 & 41.78542 \\
\hline 40.72427 & 40.68 & 40.76 & 0.08 & 0 & 35396 & 40.7586 & 41.77567 \\
\hline 40.6614 & 40.64 & 40.71 & 0.07 & 0 & 26229 & 40.71496 & 41.74155 \\
\hline 40.71276 & 40.65 & 40.75 & 0.1 & 0 & 21200 & 40.72774 & 41.69667 \\
\hline 40.73982 & 40.7 & 40.8 & 0.1 & 0 & 43183 & 40.74747 & 41.66629 \\
\hline 40.79824 & 40.77 & 40.84 & 0.07 & 0 & 24578 & 40.75248 & 41.68125 \\
\hline 40.8991 & 40.84 & 40.96 & 0.12 & 0 & 41239 & 40.78411 & 41.64981 \\
\hline 40.91992 & 40.85 & 40.98 & 0.13 & 0 & 23069 & 40.80137 & 41.69378 \\
\hline 40.84084 & 40.8 & 40.89 & 0.09 & 0 & 20948 & 40.79718 & 41.62818 \\
\hline 40.83782 & 40.81 & 40.87 & 0.06 & 0 & 34855 & 40.79592 & 41.67012 \\
\hline 40.81556 & 40.76 & 40.87 & 0.11 & 0 & 41447 & 40.78382 & 41.71905 \\
\hline 40.80751 & 40.77 & 40.84 & 0.07 & 0 & 14235 & 40.78592 & 41.76073 \\
\hline 40.78931 & 40.73 & 40.82 & 0.09 & 0 & 31060 & 40.78725 & 41.73702 \\
\hline 40.82757 & 40.74 & 40.88 & 0.14 & 0 & 55716 & 40.80186 & 41.74001 \\
\hline 40.80148 & 40.76 & 40.83 & 0.07 & 0 & 38967 & 40.79397 & 41.67219 \\
\hline 40.82669 & 40.79 & 40.86 & 0.07 & 0 & 47918 & 40.7993 & 41.73869 \\
\hline 40.81225 & 40.79 & 40.84 & 0.05 & 0 & 43216 & 40.78051 & 41.67641 \\
\hline 40.81396 & 40.76 & 40.85 & 0.09 & 0 & 45782 & 40.76752 & 41.76103 \\
\hline 40.86324 & 40.8126 & 40.9 & 0.0874 & 0 & 22424 & 40.77934 & 41.77177 \\
\hline
\end{tabular}
\begin{tabular}{rrrrrrrr}
40.86447 & 40.82 & 40.88 & 0.06 & 0 & 28120 & 40.78015 & 41.75654 \\
40.87907 & 40.86 & 40.91 & 0.05 & 0 & 24590 & 40.7928 & 41.84163 \\
40.96941 & 40.9 & 41.03 & 0.13 & 0 & 52212 & 40.80252 & 41.96098 \\
41.02648 & 40.96 & 41.07 & 0.11 & 0 & 55883 & 40.81437 & 41.99211 \\
41.00179 & 40.94 & 41.05 & 0.11 & 0 & 35670 & 40.79915 & 42.01599 \\
41.01724 & 40.965 & 41.06 & 0.095 & 0 & 41970 & 40.79724 & 42.01347 \\
41.07656 & 41.04 & 41.1 & 0.06 & 0 & 32922 & 40.8107 & 41.99318 \\
41.1084 & 41.03 & 41.18 & 0.15 & 0 & 41777 & 40.82234 & 42.04182 \\
41.16033 & 41.09 & 41.2 & 0.11 & 0 & 75910 & 40.84491 & 42.02796 \\
41.0807 & 40.4484 & 41.11 & 0.1616 & 0 & 68581 & 40.82844 & 41.93027 \\
41.12909 & 41.09 & 41.16 & 0.07 & 0 & 83675 & 40.86399 & 41.87869 \\
41.06078 & 41.03 & 41.1 & 0.07 & 0 & 48120 & 40.86261 & 41.94836 \\
41.05668 & 41.03 & 41.1 & 0.07 & 0 & 64790 & 40.8807 & 41.99853 \\
41.03453 & 41.01 & 41.06 & 0.05 & 0 & 45051 & 40.87001 & 42.01396 \\
41.02199 & 40.99 & 41.05 & 0.06 & 0 & 53319 & 40.86552 & 42.03476 \\
40.99644 & 40.95 & 41.04 & 0.09 & 0 & 44865 & 40.84716 & 42.1102 \\
41.02619 & 41 & 41.07 & 0.07 & 0 & 33720 & 40.87148 & 42.1128 \\
41.05139 & 41.03 & 41.09 & 0.06 & 0 & 53302 & 40.8736 & 42.20001 \\
41.02552 & 41.01 & 41.055 & 0.045 & 0 & 70743 & 40.8553 & 42.19985 \\
41.05885 & 41.01 & 41.09 & 0.08 & 0 & 109894 & 40.86602 & 42.16642 \\
40.99419 & 40.93 & 41.04 & 0.11 & 0 & 52550 & 40.83307 & 42.13272 \\
40.95029 & 40.92 & 40.97 & 0.05 & 0 & 38437 & 40.82094 & 42.0942 \\
40.91274 & 40.86 & 40.97 & 0.11 & 0 & 39368 & 40.80068 & 42.0555 \\
40.91319 & 40.88 & 40.94 & 0.06 & 0 & 32484 & 40.79213 & 41.99867 \\
40.92155 & 40.89 & 41.0183 & 0.1283 & 0 & 30497 & 40.78454 & 42.03249 \\
41.0113 & 40.95 & 41.08 & 0.13 & 0 & 50262 & 40.80846 & 42.03426 \\
41.04121 & 41.01 & 41.06 & 0.05 & 0 & 37100 & 40.82509 & 41.99404 \\
41.08108 & 41.03 & 41.12 & 0.09 & 0 & 63736 & 40.85019 & 41.98429 \\
41.07933 & 41.04 & 41.13 & 0.09 & 0 & 57194 & 40.8583 & 41.97724 \\
41.11535 & 41.06 & 41.16 & 0.1 & 0 & 66285 & 40.85923 & 42.0105 \\
41.11027 & 41.07 & 41.16 & 0.09 & 0 & 101270 & 40.84176 & 42.07401 \\
41.09742 & 41.08 & 41.12 & 0.04 & 0 & 81816 & 40.84964 & 42.1712 \\
41.17717 & 41.1018 & 41.16 & 0.0582 & 0 & 68889 & 40.86034 & 42.15407 \\
41.1753 & 41.14 & 41.21 & 0.07 & 0 & 108452 & 40.98885 & 42.15199 \\
41.18239 & 41.15 & 41.22 & 0.07 & 0 & 84567 & 40.85989 & 42.14817 \\
41.17512 & 41.11 & 41.26 & 0.15 & 0 & 165853 & 40.85354 & 42.14151 \\
41.23292 & 41.17 & 41.26 & 0.09 & 0 & 111439 & 40.85437 & 42.14868 \\
41.2571 & 41.22 & 41.3 & 0.08 & 0 & 122353 & 40.87156 & 42.17811 \\
41.3161 & 41.28 & 41.34 & 0.06 & 0 & 108507 & 40.87609 & 42.19431 \\
41.30265 & 41.1552 & 41.34 & 0.1848 & 20000 & 2977 & 40.88217 & 42.18602
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline minp_3 & maxp_3 & rangep_3 & tradebig_3 & tradesmall & spindex_3 & meanp_4 & minp_4 & maxp_4 \\
\hline 41.1552 & 41.34 & 0.1848 & 20000 & 2977 & 41.3 & 42.18602 & 42.17 & 42.23 \\
\hline 41.3 & 41.3 & 0 & 367200 & 0 & 41.28159 & 42.17 & 42.17 & 42.17 \\
\hline \multirow[t]{3}{*}{40.715} & 42.06 & 1.345 & 165900 & 281 & 41.28079 & & & \\
\hline & & & & & 41.4031 & 42.15 & 42.15 & 42.15 \\
\hline & & & & & 41.40458 & 42.16273 & 42.15 & 42.19 \\
\hline \multirow[t]{3}{*}{40.85} & 40.85 & 0 & 27000 & 0 & 41.28737 & & & \\
\hline & & & & & 41.29267 & & & \\
\hline & & & & & 41.45927 & & & \\
\hline \multirow[t]{6}{*}{41.15} & 41.15 & 0 & 0 & 1000 & 41.26714 & & & \\
\hline & & & & & 41.27624 & & & \\
\hline & & & & & 41.27261 & & & \\
\hline & & & & & 41.2848 & & & \\
\hline & & & & & 41.29704 & & & \\
\hline & & & & & 41.29734 & 41.73069 & 41.6565 & 41.7364 \\
\hline \multirow[t]{2}{*}{41.3} & 41.3 & 0 & 0 & 510 & 41.28316 & & & \\
\hline & & & & & 41.26075 & & & \\
\hline \multirow[t]{4}{*}{41.3} & 41.3 & 0 & 0 & 5015 & 41.44226 & 41.9883 & 41.9883 & 41.9883 \\
\hline & & & & & 41.51938 & & & \\
\hline & & & & & 41.39937 & 41.547 & 41.547 & 41.547 \\
\hline & & & & & 41.26921 & & & \\
\hline 41.3 & 41.3 & 0 & 0 & 600 & 41.25894 & & & \\
\hline \multirow[t]{6}{*}{41.3} & 41.3 & 0 & 0 & 9000 & 41.29011 & & & \\
\hline & & & & & 41.37267 & & & \\
\hline & & & & & 41.26697 & & & \\
\hline & & & & & 41.26374 & & & \\
\hline & & & & & 41.26374 & & & \\
\hline & & & & & 41.26269 & & & \\
\hline \multirow[t]{3}{*}{41.3} & 41.3 & 0 & 100809 & 0 & 41.26374 & & & \\
\hline & & & & & 41.26374 & & & \\
\hline & & & & & 41.25954 & & & \\
\hline \multirow[t]{7}{*}{41.3} & 41.3 & 0 & 0 & 1000 & 41.26374 & 42.1 & 42.1 & 42.1 \\
\hline & & & & & 41.2621 & & & \\
\hline & & & & & 41.26171 & & & \\
\hline & & & & & & & & \\
\hline & & & & & 41.26052 & 42.17 & 42.17 & 42.17 \\
\hline & & & & & 41.25407 & & & \\
\hline & & & & & 41.24792 & & & \\
\hline
\end{tabular}
\begin{tabular}{llll}
41.25284 & & & \\
41.24762 & 42.17 & 42.17 & 42.17 \\
41.25476 & 42.17 & 42.17 & 42.17 \\
41.26052 & & & \\
41.25407 & 42.17 & 42.17 & 42.17
\end{tabular}

41.2573
41.26374
41.26613
\begin{tabular}{lllll}
40.83 & 40.83 & 0 & 0 & 4200
\end{tabular}
\(\begin{array}{lllllllll}41.16 & 41.16 & 0 & 0 & 100 & 41.25085 & 42.2 & 42.2 & 42.2\end{array}\)
\(\begin{array}{llll}41.24762 & 42.2 & 42.2 & 42.2\end{array}\)
\(\begin{array}{lll}42.2 & 42.2 & 42.2\end{array}\)
41.24762
41.2437
41.24762
41.24601
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & & & & & 41.052 & & & \\
\hline & & & & & 41.06055 & & & \\
\hline & & & & & 41.04888 & & & \\
\hline & & & & & 41.1732 & & & \\
\hline & & & & & 41.05495 & & & \\
\hline & & & & & 41.05336 & & & \\
\hline & & & & & 41.05227 & & & \\
\hline & & & & & 41.05855 & & & \\
\hline & & & & & 41.06746 & & & \\
\hline & & & & & 41.08412 & & & \\
\hline & & & & & 41.10024 & & & \\
\hline & & & & & 41.07744 & & & \\
\hline & & & & & 41.08784 & & & \\
\hline & & & & & 41.10282 & 42 & 42 & 42 \\
\hline 40.95 & 41 & 0.05 & 0 & 2000 & 41.10125 & & & \\
\hline & & & & & 41.10439 & & & \\
\hline & & & & & 41.10219 & & & \\
\hline & & & & & 41.10579 & & & \\
\hline & & & & & 41.09466 & & & \\
\hline & & & & & 41.0857 & & & \\
\hline & & & & & 41.08726 & & & \\
\hline & & & & & 41.09627 & & & \\
\hline & & & & & 41.10309 & & & \\
\hline 41 & 41 & 0 & 0 & 300 & 41.09761 & & & \\
\hline & & & & & 41.10333 & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & & & & & 41.07629 & & & \\
\hline & & & & & 41.09108 & & & \\
\hline & & & & & 41.10918 & & & \\
\hline & & & & & 41.12473 & & & \\
\hline & & & & & 41.14294 & & & \\
\hline & & & & & 41.15376 & & & \\
\hline & & & & & 41.15186 & & & \\
\hline & & & & & 41.15815 & & & \\
\hline & & & & & 41.17051 & & & \\
\hline & & & & & 41.16799 & & & \\
\hline 41 & 41 & 0 & 0 & 100 & 41.16434 & & & \\
\hline & & & & & 41.15477 & & & \\
\hline & & & & & 41.16005 & & & \\
\hline & & & & & 41.15854 & & & \\
\hline & & & & & 41.16533 & & & \\
\hline & & & & & 41.16222 & & & \\
\hline & & & & & 41.16964 & & & \\
\hline & & & & & 41.17306 & & & \\
\hline & & & & & 41.16416 & & & \\
\hline & & & & & 41.16058 & & & \\
\hline & & & & & 41.1653 & & & \\
\hline & & & & & 41.18697 & & & \\
\hline & & & & & 41.20733 & & & \\
\hline & & & & & 41.21678 & & & \\
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\hline & & & & & 41.20813 & & & \\
\hline & & & & & 41.21208 & & & \\
\hline & & & & & 41.21627 & & & \\
\hline & & & & & 41.21718 & 41.72 & 41.72 & 41.72 \\
\hline & & & & & 41.22128 & & & \\
\hline & & & & & 41.22333 & & & \\
\hline & & & & & 41.22629 & & & \\
\hline & & & & & 41.23089 & & & \\
\hline & & & & & 41.22421 & & & \\
\hline & & & & & 41.20958 & & & \\
\hline & & & & & 41.20364 & & & \\
\hline & & & & & 41.19527 & & & \\
\hline & & & & & 41.19872 & & & \\
\hline & & & & & 41.1989 & & & \\
\hline & & & & & 41.19717 & & & \\
\hline & & & & & 41.18336 & & & \\
\hline & & & & & 41.17307 & & & \\
\hline & & & & & 41.16733 & & & \\
\hline & & & & & 41.16985 & & & \\
\hline & & & & & 41.18315 & & & \\
\hline & & & & & 41.18343 & & & \\
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & & & & & 41.18338 & & & \\
\hline & & & & & 41.19231 & & & \\
\hline & & & & & 41.19168 & & & \\
\hline & & & & & 41.19479 & & & \\
\hline & & & & & 41.20253 & & & \\
\hline & & & & & 41.21276 & & & \\
\hline & & & & & 41.20991 & & & \\
\hline 41 & 41 & 0 & 0 & 300 & 41.20799 & & & \\
\hline 41 & 41 & 0 & 0 & 200 & 41.20399 & & & \\
\hline & & & & & 41.19517 & & & \\
\hline 41 & 41 & 0 & 0 & 448 & 41.19785 & & & \\
\hline & & & & & 41.2078 & & & \\
\hline & & & & & 41.21589 & & & \\
\hline 40.79 & 41.37 & 0.58 & 56100 & 30850 & 41.23282 & 41.34507 & 41.3 & 41.6 \\
\hline 40.73 & 41 & 0.27 & 0 & 73293 & 41.22426 & 41.57445 & 41.36 & 41.65 \\
\hline 40.96 & 41.01 & 0.05 & 0 & 25890 & 41.24193 & 41.58517 & 41.56 & 41.62 \\
\hline 40.95 & 41 & 0.05 & 0 & 17500 & 41.25261 & 41.59108 & 41.55 & 41.61 \\
\hline 40.93 & 41 & 0.07 & 0 & 28390 & 41.24159 & 41.58061 & 41.54 & 41.66 \\
\hline 40.89 & 40.99 & 0.1 & 0 & 54855 & 41.22338 & 41.76482 & 41.66 & 41.81 \\
\hline 40.83 & 40.93 & 0.1 & 0 & 60477 & 41.1899 & 41.67448 & 41.6 & 41.77 \\
\hline 40.82 & 40.91 & 0.09 & 0 & 47271 & 41.15621 & 41.6307 & 41.6 & 41.91 \\
\hline 40.86 & 40.98 & 0.12 & 0 & 37748 & 41.16389 & 41.88747 & 41.8218 & 41.9 \\
\hline 40.95 & 41.03 & 0.08 & 0 & 29800 & 41.14995 & 41.81097 & 41.7 & 41.89 \\
\hline 40.83 & 40.99 & 0.16 & 0 & 60569 & 41.13132 & 41.78868 & 41.72 & 41.87 \\
\hline 40.87 & 41.06 & 0.19 & 12800 & 68799 & 41.14947 & 41.85969 & 41.76 & 41.9 \\
\hline 40.93 & 41.09 & 0.16 & 0 & 69361 & 41.14183 & 41.8993 & 41.84 & 41.95 \\
\hline 40.96 & 41.06 & 0.1 & 0 & 53874 & 41.12977 & 41.86119 & 41.85 & 41.88 \\
\hline 41.05 & 41.22 & 0.17 & 0 & 55875 & 41.16194 & 41.84061 & 41.78 & 41.87 \\
\hline 41.14 & 41.23 & 0.09 & 0 & 37391 & 41.1626 & 41.83527 & 41.79 & 41.86 \\
\hline 41.17 & 41.24 & 0.07 & 0 & 24478 & 41.13506 & 41.80803 & 41.77 & 41.86 \\
\hline 41.07 & 41.2 & 0.13 & 0 & 27273 & 41.12968 & 41.82863 & 41.76 & 41.87 \\
\hline 41.16 & 41.42 & 0.26 & 0 & 74682 & 41.17279 & 41.91342 & 41.84 & 41.99 \\
\hline 41.36 & 41.5 & 0.14 & 0 & 75589 & 41.22533 & 42.0279 & 41.95 & 42.09 \\
\hline 41.42 & 41.49 & 0.07 & 0 & 33011 & 41.26411 & 42.00415 & 41.95 & 42.07 \\
\hline 41.45 & 41.55 & 0.1 & 0 & 55647 & 41.30313 & 41.99961 & 41.96 & 42.08 \\
\hline 41.51 & 41.65 & 0.14 & 0 & 57407 & 41.30152 & 42.07506 & 41.99 & 42.17 \\
\hline 41.46 & 41.58 & 0.12 & 0 & 31904 & 41.2918 & 41.95202 & 41.82 & 42.04 \\
\hline 41.48 & 41.6 & 0.12 & 0 & 29310 & 41.29532 & 41.94669 & 41.86 & 42.05 \\
\hline 41.52 & 41.59 & 0.07 & 0 & 15968 & 41.29948 & 42.05273 & 41.98 & 42.11 \\
\hline 41.55 & 41.64 & 0.09 & 0 & 54600 & 41.31407 & 42.08635 & 42.04 & 42.15 \\
\hline 41.5 & 41.61 & 0.11 & 0 & 49906 & 41.28932 & 42.08978 & 42.04 & 42.15 \\
\hline 41.5 & 41.53 & 0.03 & 0 & 31630 & 41.26374 & 42.01059 & 41.95 & 42.075 \\
\hline 41.525 & 41.67 & 0.145 & 0 & 47273 & 41.28603 & 41.99611 & 41.94 & 42.04 \\
\hline 41.54 & 41.69 & 0.15 & 0 & 48417 & 41.29838 & 42.05609 & 41.97 & 42.12 \\
\hline 41.59 & 41.8 & 0.21 & 0 & 33777 & 41.34598 & 42.05668 & 41.99 & 42.1 \\
\hline 41.71 & 41.84 & 0.13 & 0 & 67635 & 41.37684 & 42.04106 & 42 & 42.08 \\
\hline 41.65 & 41.84 & 0.19 & 20000 & 37989 & 41.36541 & 42.14076 & 42.03 & 42.21 \\
\hline 41.65 & 41.75 & 0.1 & 0 & 48142 & 41.35829 & 42.2456 & 42.2 & 42.28 \\
\hline 41.68 & 41.78 & 0.1 & 0 & 43948 & 41.37156 & 42.20428 & 42.15 & 42.25 \\
\hline 41.56 & 41.71 & 0.15 & 0 & 39065 & 41.33958 & 42.20614 & 42.17 & 42.24 \\
\hline 41.5 & 41.61 & 0.11 & 0 & 25100 & 41.3058 & 42.22177 & 42.1605 & 42.26 \\
\hline 41.49 & 41.54 & 0.05 & 0 & 39634 & 41.28113 & 42.30713 & 42.2401 & 42.35 \\
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\hline 41.37 & 41.49 & 0.12 & 0 & 84317 & 41.22312 & 42.28533 & 42.23 & 42.34 \\
\hline 41.35 & 41.43 & 0.08 & 15300 & 70068 & 41.21933 & 42.3085 & 42.26 & 42.33 \\
\hline 41.3575 & 41.42 & 0.0625 & 0 & 35092 & 41.21808 & 42.33181 & 42.26 & 42.37 \\
\hline 41.37 & 41.42 & 0.05 & 0 & 35000 & 41.21901 & 42.34546 & 42.29 & 42.37 \\
\hline 41.39 & 41.5 & 0.11 & 0 & 34489 & 41.24859 & 42.29303 & 42.25 & 42.34 \\
\hline 41.41 & 41.51 & 0.1 & 0 & 22727 & 41.25779 & 42.23138 & 42.2 & 42.26 \\
\hline 41.45 & 41.49 & 0.04 & 0 & 8200 & 41.24886 & 42.18039 & 42.12 & 42.21 \\
\hline 41.4 & 41.49 & 0.09 & 0 & 26015 & 41.22613 & 42.16992 & 42.15 & 42.2 \\
\hline 41.39 & 41.455 & 0.065 & 0 & 19400 & 41.20497 & 42.20622 & 42.17 & 42.26 \\
\hline 41.35 & 41.41 & 0.06 & 0 & 25910 & 41.19003 & 42.2278 & 42.19 & 42.29 \\
\hline 41.34 & 41.41 & 0.07 & 0 & 18814 & 41.18178 & 42.25295 & 42.21 & 42.29 \\
\hline 41.34 & 41.51 & 0.17 & 23700 & 29034 & 41.18987 & 42.2444 & 42.22 & 42.26 \\
\hline 41.5 & 41.59 & 0.09 & 0 & 11470 & 41.22313 & 42.1927 & 42.12 & 42.25 \\
\hline 41.57 & 41.61 & 0.04 & 0 & 12053 & 41.24921 & 42.17916 & 42.17 & 42.2 \\
\hline 41.59 & 41.71 & 0.12 & 0 & 43000 & 41.27339 & 42.24132 & 42.19 & 42.3 \\
\hline 41.56 & 41.71 & 0.15 & 0 & 33555 & 41.29033 & 42.20499 & 42.18 & 42.26 \\
\hline 41.55 & 41.679 & 0.129 & 0 & 12100 & 41.27999 & 42.16973 & 42.15 & 42.2 \\
\hline 41.54 & 41.65 & 0.11 & 0 & 15662 & 41.27934 & 42.15634 & 42.11 & 42.2 \\
\hline 41.4201 & 41.58 & 0.1599 & 0 & 22800 & 41.26645 & 42.08317 & 42.04 & 42.12 \\
\hline 41.45 & 41.5248 & 0.0748 & 0 & 16269 & 41.25864 & 42.08808 & 42 & 42.14 \\
\hline 41.5 & 41.63 & 0.13 & 0 & 14300 & 41.28086 & 42.08903 & 42.06 & 42.12 \\
\hline 41.58 & 41.66 & 0.08 & 0 & 16150 & 41.28869 & 42.0241 & 41.96 & 42.1 \\
\hline 41.63 & 41.71 & 0.08 & 0 & 29385 & 41.30391 & 41.93283 & 41.83 & 41.98 \\
\hline 41.54 & 41.63 & 0.09 & 0 & 13800 & 41.28696 & 41.79986 & 41.74 & 41.9301 \\
\hline 41.53 & 41.63 & 0.1 & 0 & 19756 & 41.28876 & 41.75185 & 41.72 & 41.77 \\
\hline 41.62 & 41.69 & 0.07 & 0 & 13677 & 41.32083 & 41.80554 & 41.74 & 41.88 \\
\hline 41.64 & 41.72 & 0.08 & 0 & 16700 & 41.32884 & 41.76774 & 41.71 & 41.85 \\
\hline 41.61 & 41.74 & 0.13 & 0 & 37735 & 41.34135 & 41.71267 & 41.68 & 41.75 \\
\hline 41.66 & 41.76 & 0.1 & 0 & 46090 & 41.36381 & 41.8005 & 41.72 & 41.86 \\
\hline 41.69 & 41.74 & 0.05 & 0 & 17400 & 41.35007 & 41.89367 & 41.85 & 41.94 \\
\hline 41.68 & 41.74 & 0.06 & 0 & 22480 & 41.34542 & 41.78437 & 41.69 & 41.88 \\
\hline 41.68 & 41.82 & 0.14 & 0 & 49209 & 41.37202 & 41.67972 & 41.64 & 41.795 \\
\hline 41.73 & 41.84 & 0.11 & 0 & 36229 & 41.41354 & 41.60598 & 41.56 & 41.6796 \\
\hline 41.71 & 41.77 & 0.06 & 0 & 12531 & 41.40453 & 41.59366 & 41.56 & 41.63 \\
\hline 41.68 & 41.77 & 0.09 & 0 & 26039 & 41.38726 & 41.55609 & 41.53 & 41.59 \\
\hline 41.58 & 41.7 & 0.12 & 0 & 33588 & 41.3438 & 41.66266 & 41.54 & 41.74 \\
\hline 41.6 & 41.73 & 0.13 & 0 & 22820 & 41.35206 & 41.7399 & 41.68 & 41.78 \\
\hline 41.58 & 41.72 & 0.14 & 0 & 43600 & 41.32413 & 41.74138 & 41.71 & 41.78 \\
\hline 41.61 & 41.69 & 0.08 & 0 & 17890 & 41.30158 & 41.69971 & 41.65 & 41.76 \\
\hline 41.6 & 41.68 & 0.08 & 0 & 14390 & 41.28167 & 41.71577 & 41.65 & 41.77 \\
\hline 41.66 & 41.76 & 0.1 & 0 & 29058 & 41.29759 & 41.69683 & 41.65 & 41.76 \\
\hline 41.72 & 41.76 & 0.04 & 0 & 5700 & 41.29094 & 41.78172 & 41.73 & 41.85 \\
\hline 41.65 & 41.74 & 0.09 & 0 & 12810 & 41.27001 & 41.88028 & 41.83 & 41.92 \\
\hline 41.61 & 41.7 & 0.09 & 0 & 14300 & 41.25195 & 41.82119 & 41.77 & 41.9 \\
\hline 41.6 & 41.67 & 0.07 & 0 & 10200 & 41.22639 & 41.77065 & 41.71 & 41.84 \\
\hline 41.6246 & 41.76 & 0.1354 & 0 & 15149 & 41.23722 & 41.74553 & 41.7 & 41.78 \\
\hline 41.68 & 41.75 & 0.07 & 0 & 12800 & 41.24009 & 41.78695 & 41.77 & 41.82 \\
\hline 41.705 & 41.76 & 0.055 & 0 & 10653 & 41.24108 & 41.71649 & 41.66 & 41.78 \\
\hline 41.71 & 41.76 & 0.05 & 0 & 18400 & 41.23522 & 41.64991 & 41.63 & 41.67 \\
\hline 41.63 & 41.75 & 0.12 & 0 & 39000 & 41.21039 & 41.65876 & 41.62 & 41.73 \\
\hline 41.69 & 41.74 & 0.05 & 0 & 15830 & 41.22564 & 41.63352 & 41.57 & 41.7351 \\
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\hline 41.73 & 41.82 & 0.09 & 0 & 22423 & 41.24243 & 41.61447 & 41.53 & 41.69 \\
\hline 41.81 & 41.9 & 0.09 & 0 & 30936 & 41.27182 & 41.56407 & 41.51 & 41.63 \\
\hline 41.79 & 41.89 & 0.1 & 0 & 36164 & 41.28797 & 41.52889 & 41.48 & 41.58 \\
\hline 41.82 & 41.92 & 0.1 & 0 & 17336 & 41.3132 & 41.56209 & 41.47 & 41.67 \\
\hline 41.81 & 41.89 & 0.08 & 0 & 19190 & 41.30927 & 41.58676 & 41.52 & 41.67 \\
\hline 41.86 & 41.95 & 0.09 & 0 & 30926 & 41.32434 & 41.51987 & 41.48 & 41.58 \\
\hline 41.94 & 41.99 & 0.05 & 0 & 22731 & 41.34231 & 41.50902 & 41.47 & 41.57 \\
\hline 41.9 & 41.96 & 0.06 & 0 & 28123 & 41.33529 & 41.5435 & 41.52 & 41.57 \\
\hline 41.8 & 41.91 & 0.11 & 0 & 24410 & 41.29538 & 41.55194 & 41.51 & 41.58 \\
\hline 41.8 & 41.87 & 0.07 & 0 & 23800 & 41.26732 & 41.53687 & 41.5 & 41.57 \\
\hline 41.71 & 41.91 & 0.2 & 0 & 47308 & 41.23592 & 41.53645 & 41.48 & 41.66 \\
\hline 41.75 & 41.83 & 0.08 & 0 & 20210 & 41.22797 & 41.62659 & 41.61 & 41.65 \\
\hline 41.78 & 41.87 & 0.09 & 0 & 19700 & 41.22237 & 41.62002 & 41.6 & 41.64 \\
\hline 41.7 & 41.78 & 0.08 & 0 & 48590 & 41.18377 & 41.64477 & 41.6 & 41.69 \\
\hline 41.59 & 41.74 & 0.15 & 0 & 48350 & 41.17846 & 41.60339 & 41.55 & 41.65 \\
\hline 41.56 & 41.64 & 0.08 & 0 & 52850 & 41.15072 & 41.5774 & 41.53 & 41.62 \\
\hline 41.61 & 41.69 & 0.08 & 0 & 30354 & 41.14208 & 41.5375 & 41.51 & 41.61 \\
\hline 41.63 & 41.76 & 0.13 & 0 & 30589 & 41.16155 & 41.50125 & 41.49 & 41.54 \\
\hline 41.71 & 41.79 & 0.08 & 0 & 25495 & 41.17895 & 41.53374 & 41.5 & 41.6 \\
\hline 41.65 & 41.73 & 0.08 & 0 & 24625 & 41.15618 & 41.62468 & 41.57 & 41.66 \\
\hline 41.68 & 41.74 & 0.06 & 0 & 23750 & 41.17138 & 41.52154 & 41.46 & 41.64 \\
\hline 41.68 & 41.76 & 0.08 & 0 & 13159 & 41.15672 & 41.5051 & 41.48 & 41.56 \\
\hline 41.63 & 41.715 & 0.085 & 0 & 32096 & 41.13239 & 41.52558 & 41.49 & 41.59 \\
\hline 41.68 & 41.73 & 0.05 & 0 & 27500 & 41.13737 & 41.5362 & 41.51 & 41.55 \\
\hline 41.63 & 41.76 & 0.13 & 0 & 64860 & 41.15351 & 41.55051 & 41.51 & 41.59 \\
\hline 41.63 & 41.74 & 0.11 & 0 & 20615 & 41.16196 & 41.50362 & 41.47 & 41.55 \\
\hline 41.64 & 41.69 & 0.05 & 0 & 20610 & 41.14724 & 41.52585 & 41.49 & 41.57 \\
\hline 41.63 & 41.69 & 0.06 & 0 & 34400 & 41.1607 & 41.51184 & 41.44 & 41.56 \\
\hline 41.6 & 41.7 & 0.1 & 0 & 38384 & 41.16115 & 41.50976 & 41.48 & 41.54 \\
\hline 41.63 & 41.69 & 0.06 & 0 & 26636 & 41.16534 & 41.51885 & 41.48 & 41.55 \\
\hline 41.62 & 41.69 & 0.07 & 0 & 37464 & 41.14421 & 41.50924 & 41.48 & 41.54 \\
\hline 41.6 & 41.65 & 0.05 & 0 & 39645 & 41.10286 & 41.49875 & 41.37 & 41.55 \\
\hline 41.55 & 41.66 & 0.11 & 0 & 55900 & 41.09114 & 41.51531 & 41.48 & 41.57 \\
\hline 41.53 & 41.59 & 0.06 & 0 & 29195 & 41.08785 & 41.58531 & 41.54 & 41.62 \\
\hline 41.51 & 41.58 & 0.07 & 0 & 17250 & 41.08153 & 41.53462 & 41.48 & 41.61 \\
\hline 41.48 & 41.53 & 0.05 & 0 & 51720 & 41.03267 & 41.49265 & 41.45 & 41.53 \\
\hline 41.42 & 41.52 & 0.1 & 0 & 39500 & 41.00585 & 41.51001 & 41.46 & 41.55 \\
\hline 41.48 & 41.53 & 0.05 & 0 & 26956 & 41.0117 & 41.47426 & 41.43 & 41.51 \\
\hline 41.51 & 41.61 & 0.1 & 0 & 26871 & 41.01994 & 41.38142 & 41.35 & 41.43 \\
\hline 41.55 & 41.62 & 0.07 & 0 & 52602 & 41.01817 & 41.36941 & 41.35 & 41.385 \\
\hline 41.52 & 41.59 & 0.07 & 0 & 12711 & 40.98925 & 41.38148 & 41.32 & 41.46 \\
\hline 41.52 & 41.62 & 0.1 & 0 & 26000 & 41.00127 & 41.43757 & 41.3801 & 41.4799 \\
\hline 41.55 & 41.61 & 0.06 & 0 & 13000 & 41.00957 & 41.50079 & 41.47 & 41.54 \\
\hline 41.57 & 41.61 & 0.04 & 0 & 8800 & 41.0228 & 41.52242 & 41.5 & 41.55 \\
\hline 41.51 & 41.58 & 0.07 & 0 & 21220 & 41.00755 & 41.46689 & 41.42 & 41.51 \\
\hline 41.48 & 41.54 & 0.06 & 0 & 55272 & 41.01187 & 41.49805 & 41.45 & 41.54 \\
\hline 41.46 & 41.51 & 0.05 & 0 & 14840 & 41.01232 & 41.52772 & 41.5 & 41.55 \\
\hline 41.48 & 41.54 & 0.06 & 0 & 30145 & 41.01134 & 41.51016 & 41.48 & 41.54 \\
\hline 41.47 & 41.53 & 0.06 & 0 & 21400 & 41.01868 & 41.52094 & 41.5 & 41.56 \\
\hline 41.475 & 41.53 & 0.055 & 0 & 27103 & 41.01901 & 41.57432 & 41.51 & 41.61 \\
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\hline 41.42 & 41.53 & 0.11 & 0 & 41000 & 40.99667 & 41.54091 & 41.51 & 41.56 \\
\hline 41.42 & 41.46 & 0.04 & 0 & 24576 & 40.96482 & 41.54293 & 41.5101 & 41.56 \\
\hline 41.4 & 41.47 & 0.07 & 0 & 20029 & 40.95501 & 41.53365 & 41.49 & 41.58 \\
\hline 41.4 & 41.48 & 0.08 & 0 & 17150 & 40.98044 & 41.50728 & 41.49 & 41.53 \\
\hline 41.39 & 41.45 & 0.06 & 0 & 21000 & 40.97688 & 41.50156 & 41.48 & 41.52 \\
\hline 41.4026 & 41.49 & 0.0874 & 0 & 24755 & 40.98167 & 41.51422 & 41.5 & 41.5479 \\
\hline 41.43 & 41.52 & 0.09 & 0 & 32156 & 40.97437 & 41.5243 & 41.5 & 41.54 \\
\hline 41.36 & 41.45 & 0.09 & 0 & 17700 & 40.95443 & 41.53959 & 41.51 & 41.57 \\
\hline 41.31 & 41.4 & 0.09 & 0 & 37400 & 40.94829 & 41.57783 & 41.55 & 41.6 \\
\hline 41.36 & 41.5 & 0.14 & 0 & 30287 & 40.96713 & 41.58052 & 41.55 & 41.62 \\
\hline 41.47 & 41.57 & 0.1 & 0 & 46370 & 40.9929 & 41.62087 & 41.6 & 41.64 \\
\hline 41.46 & 41.53 & 0.07 & 0 & 17634 & 41.00251 & 41.61231 & 41.6 & 41.63 \\
\hline 41.4036 & 41.48 & 0.0764 & 0 & 33854 & 40.99181 & 41.57159 & 41.55 & 41.61 \\
\hline 41.4 & 41.44 & 0.04 & 0 & 14800 & 40.99125 & 41.57934 & 41.54 & 41.63 \\
\hline 41.3 & 41.44 & 0.14 & 0 & 45804 & 40.97422 & 41.5693 & 41.54 & 41.6 \\
\hline 41.3 & 41.7 & 0.4 & 171000 & 17230 & 40.95723 & 41.55756 & 41.54 & 41.6 \\
\hline 41.28 & 41.38 & 0.1 & 0 & 29801 & 40.94454 & 41.55784 & 41.55 & 41.57 \\
\hline 41.32 & 41.416 & 0.096 & 0 & 21581 & 40.97084 & 41.55045 & 41.54 & 41.56 \\
\hline 41.31 & 41.38 & 0.07 & 0 & 14881 & 40.96076 & 41.54898 & 41.54 & 41.55 \\
\hline 41.32 & 41.42 & 0.1 & 0 & 10417 & 40.96479 & 41.55657 & 41.54 & 41.58 \\
\hline 41.37 & 41.42 & 0.05 & 0 & 11520 & 40.98512 & 41.5531 & 41.55 & 41.57 \\
\hline 41.32 & 41.39 & 0.07 & 0 & 17200 & 40.97727 & 41.579 & 41.55 & 41.6 \\
\hline 41.31 & 41.38 & 0.07 & 0 & 18960 & 40.97673 & 41.6263 & 41.6 & 41.66 \\
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\hline 41.34 & 41.45 & 0.11 & 0 & 28726 & 40.97911 & 41.55484 & 41.55 & 41.57 \\
\hline 41.35 & 41.43 & 0.08 & 0 & 12400 & 40.97669 & 41.5984 & 41.55 & 41.65 \\
\hline 41.33 & 41.42 & 0.09 & 0 & 18463 & 40.95373 & 41.60911 & 41.58 & 41.64 \\
\hline 41.32 & 41.4 & 0.08 & 0 & 10390 & 40.96203 & 41.61754 & 41.6 & 41.65 \\
\hline 41.32 & 41.42 & 0.1 & 0 & 12600 & 40.98181 & 41.65637 & 41.65 & 41.67 \\
\hline 41.4105 & 41.5 & 0.0895 & 0 & 21725 & 40.99819 & 41.66321 & 41.61 & 41.69 \\
\hline 41.47 & 41.53 & 0.06 & 0 & 24660 & 40.99867 & 41.57808 & 41.55 & 41.64 \\
\hline 41.48 & 41.5401 & 0.0601 & 0 & 19520 & 41.00485 & 41.56179 & 41.55 & 41.59 \\
\hline 41.5 & 41.56 & 0.06 & 0 & 31100 & 41.01626 & 41.55503 & 41.54 & 41.58 \\
\hline 41.47 & 41.56 & 0.09 & 0 & 29000 & 41.00035 & 41.57627 & 41.57 & 41.6 \\
\hline 41.53 & 41.55 & 0.02 & 0 & 7000 & 41.00732 & 41.56325 & 41.55 & 41.59 \\
\hline 41.46 & 41.545 & 0.085 & 0 & 17500 & 41.00217 & 41.56377 & 41.55 & 41.58 \\
\hline 41.4 & 41.5 & 0.1 & 0 & 10910 & 40.97845 & 41.55899 & 41.55 & 41.58 \\
\hline 41.35 & 41.5 & 0.15 & 0 & 29900 & 40.95928 & 41.56396 & 41.53 & 41.6 \\
\hline 41.43 & 41.48 & 0.05 & 0 & 9700 & 40.96251 & 41.5778 & 41.5475 & 41.7423 \\
\hline 41.47 & 41.5 & 0.03 & 0 & 5400 & 40.96794 & 41.59945 & 41.57 & 41.61 \\
\hline 41.5 & 41.56 & 0.06 & 0 & 8217 & 40.97248 & 41.60378 & 41.58 & 41.62 \\
\hline 41.54 & 41.57 & 0.03 & 0 & 28310 & 40.99953 & 41.60662 & 41.6 & 41.62 \\
\hline 41.54 & 41.57 & 0.03 & 0 & 11900 & 41.0006 & 41.59046 & 41.56 & 41.61 \\
\hline 41.54 & 41.59 & 0.05 & 0 & 18886 & 41.01399 & 41.58071 & 41.56 & 41.595 \\
\hline 41.56 & 41.61 & 0.05 & 0 & 28300 & 41.01685 & 41.58407 & 41.57 & 41.59 \\
\hline 41.53 & 41.6 & 0.07 & 0 & 25184 & 41.01286 & 41.56045 & 41.54 & 41.59 \\
\hline 41.48 & 41.559 & 0.079 & 0 & 22400 & 41.00671 & 41.55166 & 41.53 & 41.56 \\
\hline 41.49 & 41.53 & 0.04 & 0 & 14060 & 41.00162 & 41.57393 & 41.56 & 41.59 \\
\hline 41.5 & 41.54 & 0.04 & 0 & 10978 & 40.99563 & 41.55681 & 41.54 & 41.59 \\
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\hline 41.49 & 41.54 & 0.05 & 0 & 13778 & 40.99331 & 41.60199 & 41.59 & 41.61 \\
\hline 41.47 & 41.54 & 0.07 & 0 & 24144 & 40.99288 & 41.60075 & 41.59 & 41.61 \\
\hline 41.49 & 41.53 & 0.04 & 0 & 19500 & 40.99212 & 41.58 & 41.5 & 41.62 \\
\hline 41.5 & 41.54 & 0.04 & 0 & 7500 & 40.99038 & 41.46375 & 41.42 & 41.53 \\
\hline 41.48 & 41.54 & 0.06 & 0 & 15610 & 40.97942 & 41.43123 & 41.41 & 41.46 \\
\hline 41.49 & 41.53 & 0.04 & 0 & 11400 & 40.98804 & 41.46406 & 41.4 & 41.5 \\
\hline 41.47 & 41.52 & 0.05 & 0 & 10900 & 40.9924 & 41.40378 & 41.38 & 41.43 \\
\hline 41.49 & 41.53 & 0.04 & 0 & 3600 & 40.99111 & 41.38351 & 41.35 & 41.45 \\
\hline 41.49 & 41.56 & 0.07 & 0 & 14788 & 41.00088 & 41.35068 & 41.33 & 41.37 \\
\hline 41.52 & 41.57 & 0.05 & 0 & 20550 & 41.00429 & 41.30761 & 41.28 & 41.34 \\
\hline 41.5 & 41.55 & 0.05 & 0 & 47600 & 40.97428 & 41.28667 & 41.25 & 41.32 \\
\hline 41.51 & 41.57 & 0.06 & 0 & 29100 & 40.97765 & 41.26863 & 41.25 & 41.29 \\
\hline 41.52 & 41.57 & 0.05 & 0 & 26716 & 40.98086 & 41.28391 & 41.27 & 41.3 \\
\hline 41.54 & 41.57 & 0.03 & 0 & 13800 & 40.98893 & 41.28936 & 41.27 & 41.3 \\
\hline 41.53 & 41.55 & 0.02 & 0 & 4200 & 40.98693 & 41.28684 & 41.27 & 41.31 \\
\hline 41.44 & 41.56 & 0.12 & 0 & 26300 & 40.97607 & 41.31424 & 41.29 & 41.34 \\
\hline 41.43 & 41.5 & 0.07 & 0 & 19000 & 40.93935 & 41.34746 & 41.32 & 41.37 \\
\hline 41.46 & 41.54 & 0.08 & 0 & 31960 & 40.95372 & 41.39643 & 41.35 & 41.44 \\
\hline 41.47 & 41.54 & 0.07 & 0 & 17900 & 40.9619 & 41.40289 & 41.36 & 41.45 \\
\hline 41.52 & 41.6 & 0.08 & 0 & 30832 & 40.99002 & 41.38508 & 41.36 & 41.4 \\
\hline 41.55 & 41.6 & 0.05 & 0 & 12100 & 41.00265 & 41.36263 & 41.33 & 41.39 \\
\hline 41.54 & 41.62 & 0.08 & 0 & 17887 & 41.00835 & 41.3504 & 41.31 & 41.39 \\
\hline 41.59 & 41.65 & 0.06 & 0 & 32572 & 41.03373 & 41.29766 & 41.28 & 41.32 \\
\hline 41.57 & 41.64 & 0.07 & 0 & 18100 & 41.03357 & 41.31912 & 41.3 & 41.34 \\
\hline 41.56 & 41.595 & 0.035 & 0 & 9743 & 41.03022 & 41.31294 & 41.3 & 41.32 \\
\hline 41.53 & 41.6 & 0.07 & 0 & 17710 & 41.0218 & 41.32231 & 41.315 & 41.33 \\
\hline 41.52 & 41.58 & 0.06 & 0 & 14574 & 41.01978 & 41.29881 & 41.26 & 41.33 \\
\hline 41.54 & 41.58 & 0.04 & 0 & 8531 & 41.02853 & 41.27008 & 41.25 & 41.28 \\
\hline 41.58 & 41.7 & 0.12 & 0 & 54500 & 41.05486 & 41.27211 & 41.25 & 41.3 \\
\hline 41.67 & 41.73 & 0.06 & 0 & 25600 & 41.06024 & 41.26483 & 41.22 & 41.3 \\
\hline 41.72 & 41.75 & 0.03 & 0 & 18400 & 41.0673 & 41.26856 & 41.23 & 41.3 \\
\hline 41.66 & 41.78 & 0.12 & 0 & 38668 & 41.04864 & 41.24392 & 41.23 & 41.28 \\
\hline 41.65 & 41.74 & 0.09 & 0 & 29702 & 41.05261 & 41.23242 & 41.21 & 41.26 \\
\hline 41.68 & 41.75 & 0.07 & 0 & 10200 & 41.05513 & 41.19399 & 41.18 & 41.22 \\
\hline 41.69 & 41.79 & 0.1 & 0 & 28438 & 41.06757 & 41.16411 & 41.145 & 41.18 \\
\hline 41.73 & 41.81 & 0.08 & 0 & 22028 & 41.06014 & 41.07067 & 41.02 & 41.14 \\
\hline 41.78 & 41.83 & 0.05 & 0 & 8556 & 41.08009 & 41.03543 & 41.01 & 41.05 \\
\hline 41.74 & 41.83 & 0.09 & 0 & 23458 & 41.08623 & 40.98517 & 40.95 & 41.02 \\
\hline 41.72 & 41.8 & 0.08 & 0 & 21300 & 41.08302 & 40.99268 & 40.98 & 41 \\
\hline 41.69 & 41.74 & 0.05 & 0 & 18200 & 41.06936 & 40.9893 & 40.95 & 41.01 \\
\hline 41.64 & 41.7174 & 0.0774 & 0 & 25679 & 41.0508 & 40.94256 & 40.89 & 41 \\
\hline 41.68 & 41.74 & 0.06 & 0 & 12400 & 41.05639 & 40.86661 & 40.82 & 40.9 \\
\hline 41.66 & 41.73 & 0.07 & 0 & 12865 & 41.04985 & 40.80846 & 40.76 & 40.86 \\
\hline 41.66 & 41.75 & 0.09 & 0 & 18718 & 41.06651 & 40.80607 & 40.77 & 40.84 \\
\hline 41.6901 & 41.74 & 0.0499 & 0 & 10100 & 41.06858 & 40.82433 & 40.78 & 40.86 \\
\hline 41.63 & 41.7 & 0.07 & 0 & 10300 & 41.0546 & 40.81308 & 40.78 & 40.85 \\
\hline 41.63 & 41.74 & 0.11 & 0 & 15380 & 41.06437 & 40.8086 & 40.78 & 40.83 \\
\hline 41.68 & 41.74 & 0.06 & 0 & 14410 & 41.07343 & 40.8249 & 40.8 & 40.85 \\
\hline 41.63 & 41.72 & 0.09 & 0 & 14100 & 41.05618 & 40.82705 & 40.81 & 40.84 \\
\hline 41.65 & 41.71 & 0.06 & 0 & 14145 & 41.0564 & 40.84597 & 40.81 & 40.9 \\
\hline 41.67 & 41.71 & 0.04 & 0 & 7100 & 41.058 & 40.90281 & 40.87 & 40.95 \\
\hline 41.67 & 41.7 & 0.03 & 0 & 5100 & 41.05235 & 40.9983 & 40.92 & 41.05 \\
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\hline 41.64 & 41.68 & 0.04 & 0 & 5557 & 41.05099 & 41.04647 & 41.03 & 41.06 \\
\hline 41.68 & 41.74 & 0.06 & 0 & 11100 & 41.06005 & 41.05484 & 41.03 & 41.07 \\
\hline 41.69 & 41.76 & 0.07 & & 10288 & 41.05833 & 41.07012 & 41.04 & 41.11 \\
\hline 41.73 & 41.7518 & 0.0218 & 0 & 7925 & 41.06774 & 41.07791 & 41.06 & 41.09 \\
\hline 41.65 & 41.73 & 0.08 & 0 & 20622 & 41.04189 & 41.12005 & 41.08 & 41.17 \\
\hline 41.65 & 41.74 & 0.09 & 0 & 26865 & 41.04276 & 41.14985 & 41.12 & 41.17 \\
\hline 41.69 & 41.76 & 0.07 & 0 & 22899 & 41.05983 & 41.14933 & 41.12 & 41.16 \\
\hline 41.69 & 41.74 & 0.05 & 0 & 5800 & 41.06013 & 41.15861 & 41.14 & 41.18 \\
\hline 41.73 & 41.86 & 0.13 & 0 & 50903 & 41.09057 & 41.14578 & 41.14 & 41.16 \\
\hline 41.805 & 41.92 & 0.115 & 0 & 35103 & 41.10461 & 41.14352 & 41.13 & 41.15 \\
\hline 41.87 & 41.94 & 0.07 & 0 & 31046 & 41.11888 & 41.14564 & 41.13 & 41.18 \\
\hline 41.83 & 41.9 & 0.07 & 0 & 28496 & 41.11255 & 41.1654 & 41.1424 & 41.19 \\
\hline 41.81 & 41.9 & 0.09 & 0 & 23610 & 41.12512 & 41.16513 & 41.15 & 41.19 \\
\hline 41.81 & 41.9 & 0.09 & 0 & 29600 & 41.12036 & 41.12255 & 41.09 & 41.16 \\
\hline 41.84 & 41.92 & 0.08 & 0 & 25800 & 41.14175 & 41.08736 & 41.06 & 41.11 \\
\hline 41.82 & 41.92 & 0.1 & 0 & 27715 & 41.14741 & 40.88921 & 40.85 & 41.15 \\
\hline 41.81 & 41.85 & 0.04 & 0 & 3910 & 41.13284 & 41.12879 & 41.09 & 41.16 \\
\hline 41.77 & 41.82 & 0.05 & 0 & 19956 & 41.12774 & 41.09898 & 41.09 & 41.11 \\
\hline 41.77 & 41.82 & 0.05 & 0 & 14500 & 41.13185 & 41.10906 & 41.09 & 41.13 \\
\hline 41.76 & 41.84 & 0.08 & 0 & 31330 & 41.14313 & 41.12873 & 41.11 & 41.15 \\
\hline 41.73 & 41.79 & 0.06 & 0 & 17220 & 41.15039 & 41.15784 & 41.13 & 41.19 \\
\hline 41.72 & 41.81 & 0.09 & 0 & 36100 & 41.15285 & 41.20062 & 41.17 & 41.24 \\
\hline 41.57 & 41.735 & 0.165 & 0 & 73012 & 41.06828 & 41.17675 & 41.15 & 41.21 \\
\hline 41.49 & 41.6291 & 0.1391 & 0 & 51800 & 41.06151 & 41.13506 & 41.1 & 41.16 \\
\hline 41.53 & 41.6 & 0.07 & 0 & 27988 & 41.06462 & 41.09925 & 41.08 & 41.12 \\
\hline 41.58 & 41.66 & 0.08 & 0 & 31466 & 41.10032 & 41.10164 & 41.07 & 41.12 \\
\hline 41.64 & 41.75 & 0.11 & 0 & 35690 & 41.16852 & 41.09267 & 41.07 & 41.12 \\
\hline 41.67 & 41.75 & 0.08 & 13850 & 54129 & 41.18567 & 41.07063 & 41.06 & 41.08 \\
\hline 41.61 & 41.71 & 0.1 & 0 & 39578 & 41.18147 & 41.07084 & 41.06 & 41.08 \\
\hline 41.57 & 41.68 & 0.11 & 0 & 33134 & 41.16637 & 41.05127 & 41.03 & 41.07 \\
\hline 41.56 & 41.65 & 0.09 & 0 & 12414 & 41.13813 & 41.03571 & 41.01 & 41.07 \\
\hline 41.54 & 41.61 & 0.07 & & 23305 & 41.13207 & 40.96336 & 40.93 & 41.01 \\
\hline 41.5 & 41.62 & 0.12 & 0 & 19041 & 41.1122 & 40.93769 & 40.91 & 40.97 \\
\hline 41.5 & 41.56 & 0.06 & 0 & 7585 & 41.07186 & 40.87841 & 40.81 & 40.93 \\
\hline 41.45 & 41.52 & 0.07 & 0 & 32900 & 41.03648 & 40.82816 & 40.79 & 40.86 \\
\hline 41.44 & 41.47 & 0.03 & 0 & 31545 & 41.00504 & 40.77165 & 40.7 & 40.81 \\
\hline 41.445 & 41.49 & 0.045 & 0 & 21300 & 41.05065 & 40.7024 & 40.67 & 40.73 \\
\hline 41.44 & 41.48 & 0.04 & 0 & 11075 & 41.0294 & 40.72294 & 40.66 & 40.78 \\
\hline 41.41 & 41.5 & 0.09 & 0 & 28350 & 41.03453 & 40.75044 & 40.71 & 40.78 \\
\hline 41.41 & 41.5 & 0.09 & 0 & 22000 & 41.03766 & 40.75087 & 40.72 & 40.79 \\
\hline 41.46 & 41.52 & 0.06 & 0 & 40135 & 41.05256 & 40.72595 & 40.69 & 40.76 \\
\hline 41.44 & 41.51 & 0.07 & 0 & 21150 & 41.04548 & 40.67292 & 40.63 & 40.79 \\
\hline 41.42 & 41.45 & 0.03 & & 10008 & 41.02923 & 40.66505 & 40.65 & 40.68 \\
\hline 41.36 & 41.44 & 0.08 & 0 & 29590 & 40.99018 & 40.71096 & 40.67 & 40.75 \\
\hline 41.35 & 41.44 & 0.09 & 0 & 26246 & 40.96783 & 40.70276 & 40.68 & 40.73 \\
\hline 41.35 & 41.4599 & 0.1099 & 0 & 29041 & 40.96391 & 40.67695 & 40.64 & 40.71 \\
\hline 41.36 & 41.442 & 0.082 & 0 & 31200 & 40.98429 & 40.66257 & 40.61 & 40.72 \\
\hline 41.36 & 41.48 & 0.12 & 0 & 26100 & 41.00308 & 40.71329 & 40.68 & 40.75 \\
\hline 41.38 & 41.45 & 0.07 & 0 & 29700 & 40.99949 & 40.7411 & 40.7 & 40.8 \\
\hline 41.38 & 41.44 & 0.06 & 0 & 16325 & 41.00644 & 40.7949 & 40.77 & 40.82 \\
\hline 41.43 & 41.48 & 0.05 & 0 & 12709 & 41.02051 & 40.78246 & 40.75 & 40.82 \\
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 41.45 & 41.48 & 0.03 & 0 & 15300 & 41.02212 & 40.77152 & 40.72 & 40.83 \\
\hline 41.44 & 41.5 & 0.06 & 0 & 20810 & 40.99763 & 40.74375 & 40.69 & 40.77 \\
\hline 41.49 & 41.57 & 0.08 & 0 & 9300 & 41.02401 & 40.67271 & 40.63 & 40.71 \\
\hline 41.54 & 41.6 & 0.06 & 0 & 19353 & 41.0402 & 40.62067 & 40.59 & 40.65 \\
\hline 41.59 & 41.63 & 0.04 & 0 & 13455 & 41.04657 & 40.50926 & 40.44 & 40.6 \\
\hline 41.56 & 41.6173 & 0.0573 & 0 & 21446 & 41.03632 & 40.4721 & 40.45 & 40.49 \\
\hline 41.53 & 41.63 & 0.1 & 0 & 25300 & 41.02863 & 40.49572 & 40.48 & 40.51 \\
\hline 41.59 & 41.68 & 0.09 & 0 & 19084 & 41.03345 & 40.49898 & 40.48 & 40.52 \\
\hline 41.64 & 41.68 & 0.04 & 0 & 7710 & 41.0427 & 40.45872 & 40.44 & 40.48 \\
\hline 41.64 & 41.7 & 0.06 & 0 & 22647 & 41.06112 & 40.45046 & 40.42 & 40.48 \\
\hline 41.67 & 41.76 & 0.09 & 0 & 30590 & 41.10776 & 40.46116 & 40.43 & 40.49 \\
\hline 41.64 & 41.76 & 0.12 & 0 & 29970 & 41.10869 & 40.46051 & 40.41 & 40.5 \\
\hline 41.64 & 41.72 & 0.08 & 0 & 22300 & 41.1232 & 40.43361 & 40.4 & 40.47 \\
\hline 41.59 & 41.68 & 0.09 & 0 & 21506 & 41.10742 & 40.5031 & 40.44 & 40.55 \\
\hline 41.35 & 41.66 & 0.31 & 65134 & 30000 & 41.09556 & 40.55842 & 40.54 & 40.58 \\
\hline 41.6 & 41.72 & 0.12 & 0 & 16551 & 41.09851 & 40.5725 & 40.56 & 40.58 \\
\hline 41.67 & 41.74 & 0.07 & 0 & 14206 & 41.11942 & 40.53764 & 40.45 & 40.58 \\
\hline 41.65 & 41.72 & 0.07 & 0 & 31676 & 41.10817 & 40.40069 & 40.34 & 40.46 \\
\hline 41.63 & 41.71 & 0.08 & 0 & 11500 & 41.10184 & 40.29607 & 40.2 & 40.3818 \\
\hline 41.59 & 41.68 & 0.09 & 0 & 12460 & 41.07844 & 40.23511 & 40.2 & 40.289 \\
\hline 41.59 & 41.69 & 0.1 & 0 & 14900 & 41.06234 & 40.2256 & 40.21 & 40.24 \\
\hline 41.55 & 41.64 & 0.09 & 0 & 28610 & 41.02412 & 40.16893 & 40.12 & 40.24 \\
\hline 41.54 & 41.61 & 0.07 & 0 & 21643 & 41.01079 & 40.14238 & 40.11 & 40.16 \\
\hline 41.54 & 41.63 & 0.09 & 0 & 11365 & 41.01591 & 40.03888 & 39.99 & 40.12 \\
\hline 41.62 & 41.66 & 0.04 & 0 & 4200 & 41.27202 & 40.02572 & 40.005 & 40.06 \\
\hline 41.55 & 41.67 & 0.12 & 0 & 33610 & 41.00934 & 40.01152 & 39.98 & 40.03 \\
\hline 41.54 & 41.65 & 0.11 & 0 & 21641 & 40.99934 & 40.00106 & 39.95 & 40.06 \\
\hline 41.65 & 41.68 & 0.03 & 0 & 11390 & 41.01712 & 40.04596 & 40.01 & 40.08 \\
\hline 41.665 & 41.69 & 0.025 & 0 & 4300 & 41.02561 & 40.12041 & 40.055 & 40.18 \\
\hline 41.69 & 41.72 & 0.03 & 0 & 6273 & 41.02716 & 40.14724 & 40.0729 & 40.21 \\
\hline 41.71 & 41.78 & 0.07 & 0 & 20250 & 41.04002 & 40.22433 & 40.19 & 40.29 \\
\hline 41.73 & 41.8 & 0.07 & 0 & 21399 & 41.05274 & 40.31645 & 40.1723 & 40.36 \\
\hline 41.76 & 41.83 & 0.07 & 0 & 21915 & 41.07338 & 40.31228 & 40.28 & 40.35 \\
\hline 41.77 & 41.81 & 0.04 & 0 & 14095 & 41.07774 & 40.35462 & 40.29 & 40.38 \\
\hline 41.75 & 41.8 & 0.05 & 0 & 8380 & 41.0843 & 40.42904 & 40.3223 & 40.45 \\
\hline 41.71 & 41.76 & 0.05 & 0 & 22600 & 41.06323 & 40.39734 & 40.37 & 40.44 \\
\hline 41.65 & 41.72 & 0.07 & 0 & 13675 & 41.03478 & 40.40705 & 40.3975 & 40.43 \\
\hline 41.63 & 41.72 & 0.09 & 0 & 19700 & 41.01799 & 40.421 & 40.39 & 40.46 \\
\hline 41.6605 & 41.7 & 0.0395 & 0 & 12240 & 41.02657 & 40.50424 & 40.4 & 40.56 \\
\hline 41.62 & 41.68 & 0.06 & 0 & 24240 & 41.0053 & 40.50561 & 40.47 & 40.54 \\
\hline 41.65 & 41.73 & 0.08 & 0 & 33265 & 41.01122 & 40.46756 & 40.42 & 40.495 \\
\hline 41.59 & 41.655 & 0.065 & 0 & 31400 & 40.97994 & 40.43638 & 40.36 & 40.48 \\
\hline 41.64 & 41.71 & 0.07 & 0 & 12100 & 40.99891 & 40.50606 & 40.47 & 40.56 \\
\hline 41.66 & 41.75 & 0.09 & 0 & 15163 & 41.01352 & 40.59112 & 40.49 & 40.64 \\
\hline 41.73 & 41.79 & 0.06 & 0 & 19207 & 41.03262 & 40.63802 & 40.5516 & 40.69 \\
\hline 41.705 & 41.78 & 0.075 & 0 & 15955 & 41.0276 & 40.74144 & 40.6417 & 40.82 \\
\hline 41.65 & 41.81 & 0.16 & 0 & 24389 & 41.02636 & 40.78092 & 40.5551 & 40.84 \\
\hline 41.66 & 41.69 & 0.03 & 0 & 12537 & 41.00192 & 40.84166 & 40.72 & 40.9 \\
\hline 41.69 & 41.8 & 0.11 & 0 & 33200 & 41.0112 & 40.68232 & 40.62 & 40.8104 \\
\hline 41.62 & 41.74 & 0.12 & 0 & 35482 & 40.97496 & 40.68242 & 40.63 & 40.74 \\
\hline 41.71 & 41.8 & 0.09 & 0 & 22300 & 41.01738 & 40.61926 & 40.59 & 40.68 \\
\hline 41.73 & 41.81 & 0.08 & 0 & 21838 & 41.02509 & 40.5648 & 40.54 & 40.6045 \\
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\begin{tabular}{rrrrrrrrr} 
& & & & 0 & 17275 & 41.02307 & 40.56317 & 40.51 \\
41.73 & 41.78 & 0.05 & 0 & 64538 & 41.07804 & 40.51746 & 40.47 & 40.5631 \\
41.77 & 41.9 & 0.13 & 0.12 & 0 & 69644 & 41.15029 & 40.54757 & 40.49 \\
41.89 & 42.01 & 0.12 & 40.58 \\
41.93 & 42.05 & 0.12 & 0 & 100531 & 41.16292 & 40.52357 & 40.49 & 40.58 \\
41.95 & 42.09 & 0.14 & 0 & 64318 & 41.14826 & 40.51527 & 40.495 & 40.54 \\
41.98 & 42.05 & 0.07 & 0 & 28956 & 41.13865 & 40.53307 & 40.5 & 40.56 \\
41.9601 & 42.03 & 0.0699 & 0 & 34036 & 41.15409 & 40.57532 & 40.55 & 40.64 \\
41.98 & 42.1 & 0.12 & 0 & 83330 & 41.15725 & 40.6096 & 40.58 & 40.65 \\
41.95 & 42.09 & 0.14 & 0 & 62340 & 41.11455 & 40.60697 & 40.59 & 40.65 \\
41.86 & 41.99 & 0.13 & 0 & 51824 & 41.07531 & 40.62391 & 40.5533 & 40.65 \\
41.83 & 41.938 & 0.108 & 0 & 31596 & 41.06005 & 40.63768 & 40.59 & 40.67 \\
41.83 & 42.01 & 0.18 & 0 & 22590 & 41.0788 & 40.59275 & 40.58 & 40.61 \\
41.96 & 42.03 & 0.07 & 0 & 23657 & 41.18689 & 40.64686 & 40.58 & 40.69 \\
41.97 & 42.06 & 0.09 & 0 & 35464 & 41.11123 & 40.76286 & 40.68 & 40.83 \\
42 & 42.08 & 0.08 & 0 & 39302 & 41.1281 & 40.82906 & 40.6695 & 40.87 \\
42.07 & 42.15 & 0.08 & 0 & 79669 & 41.17741 & 40.81619 & 40.79 & 40.84 \\
42.06 & 42.16 & 0.1 & 0 & 38700 & 41.15816 & 40.81736 & 40.78 & 40.86 \\
42.14 & 42.25 & 0.11 & 0 & 97378 & 41.19878 & 40.77414 & 40.74 & 40.8 \\
42.1499 & 42.28 & 0.1301 & 0 & 88634 & 41.20574 & 40.72287 & 40.68 & 40.8061 \\
42.11 & 42.22 & 0.11 & 0 & 89004 & 41.20252 & 40.68914 & 40.65 & 40.77 \\
42.11 & 42.16 & 0.05 & 0 & 69798 & 41.21065 & 40.71609 & 40.67 & 40.76 \\
42.04 & 42.16 & 0.12 & 0 & 64780 & 41.19361 & 40.71745 & 40.66 & 40.79 \\
42.03 & 42.09 & 0.06 & 0 & 48035 & 41.1842 & 40.75009 & 40.7 & 40.79 \\
41.97 & 42.03 & 0.06 & 0 & 71557 & 41.15569 & 40.75948 & 40.7 & 40.82 \\
41.98 & 42.06 & 0.08 & 0 & 37813 & 41.16799 & 40.75882 & 40.73 & 40.81 \\
41.99 & 42.07 & 0.08 & 0 & 54550 & 41.16575 & 40.74859 & 40.7 & 40.81 \\
41.96 & 42.03 & 0.07 & 0 & 69134 & 41.16198 & 40.72285 & 40.69 & 40.79 \\
41.94 & 42.02 & 0.08 & 0 & 60493 & 41.17441 & 40.7502 & 40.7 & 40.8 \\
41.95 & 42.02 & 0.07 & 0 & 55612 & 41.16451 & 40.72939 & 40.67 & 40.8 \\
42 & 42.03 & 0.03 & 0 & 48320 & 41.17123 & 40.7338 & 40.68 & 40.78 \\
42 & 42.16 & 0.16 & 0 & 135815 & 41.18966 & 40.74014 & 40.7 & 40.78 \\
42.145 & 42.2 & 0.055 & 0 & 82246 & 41.22843 & 40.7545 & 40.74 & 40.78 \\
42.14 & 42.17 & 0.03 & 0 & 69802 & 41.22563 & 40.76572 & 40.72 & 40.81 \\
42.14 & 42.16 & 0.02 & 0 & 78145 & 41.23482 & 40.74651 & 40.7 & 40.805 \\
42.12 & 42.17 & 0.05 & 0 & 110919 & 41.23724 & 40.66374 & 40.61 & 40.75 \\
42.12 & 42.16 & 0.04 & 0 & 55263 & 41.2387 & 40.58119 & 40.52 & 40.62 \\
42.12 & 42.17 & 0.05 & 0 & 85951 & 41.24973 & 40.50049 & 40.46 & 40.53 \\
42.15 & 42.2 & 0.05 & 0 & 94635 & 41.26198 & 40.41278 & 40.37 & 40.47 \\
42.17 & 42.22 & 0.05 & 0 & 81020 & 41.24326 & 40.3381 & 40.31 & 40.38 \\
42.17 & 42.23 & 0.06 & 10100 & 3954 & 41.24016 & 40.35474 & 40.11 & 40.5956
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline rangep_4 & tradebig_4 & tradesmall & spindex_4 & meanp_5 & minp_5 & maxp_5 & rangep_5 & tradebig_5 \\
\hline 0.06 & 10100 & 3954 & 42.17 & 40.35474 & 40.11 & 40.5956 & 0.4856 & 0 \\
\hline 0 & 384800 & 0 & 42.15939 & 40.3399 & 40.27 & 40.34 & 0.07 & 733100 \\
\hline & & & 42.15576 & & & & & \\
\hline 0 & 0 & 200 & 42.14453 & & & & & \\
\hline 0.04 & 0 & 440 & 42.14227 & & & & & \\
\hline & & & 42.13253 & 40.34 & 40.34 & 40.34 & 0 & 69163 \\
\hline & & & 42.13976 & & & & & \\
\hline & & & 42.1414 & & & & & \\
\hline & & & 42.14119 & & & & & \\
\hline & & & 42.1454 & & & & & \\
\hline & & & 42.15581 & 40.27 & 40.27 & 40.27 & 0 & 0 \\
\hline & & & 42.15126 & 41.1551 & 41.1551 & 41.1551 & 0 & 0 \\
\hline & & & 42.16393 & 40.27 & 40.27 & 40.27 & 0 & 0 \\
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\hline & & & 42.16224 & & & & & \\
\hline 0 & 0 & 238 & & & & & & \\
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\hline 0 & 0 & 695 & 42.14137 & & & & & \\
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42.16115
42.15641
42.16115 42.1612
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\hline & & & 41.96723 & & & & & \\
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\hline & & & 42.02727 & & & & & \\
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\hline & & & 41.90755 & & & & & \\
\hline & & & 41.90359 & & & & & \\
\hline & & & 41.88818 & & & & & \\
\hline & & & 41.86987 & 39.5 & 39.5 & 39.5 & 0 & 0 \\
\hline & & & 41.86673 & & & & & \\
\hline & & & 41.90599 & 39.41 & 39.41 & 39.41 & 0 & 0 \\
\hline & & & 41.84296 & & & & & \\
\hline 0.3 & 41300 & 23280 & 41.80125 & 39.99894 & 39.54 & 40.13 & 0.59 & 113100 \\
\hline 0.29 & 0 & 76549 & 41.82572 & 39.73613 & 39.6 & 39.89 & 0.29 & 0 \\
\hline 0.06 & 0 & 17881 & 41.84219 & 39.86688 & 39.68 & 40.01 & 0.33 & 0 \\
\hline 0.06 & 0 & 21204 & 41.83669 & 40.0744 & 40.01 & 40.1 & 0.09 & 0 \\
\hline 0.12 & 0 & 24644 & 41.81784 & 39.98537 & 39.9 & 40.1 & 0.2 & 0 \\
\hline 0.15 & 0 & 41767 & 41.86308 & 40.05662 & 40 & 40.14 & 0.14 & 0 \\
\hline 0.17 & 0 & 46200 & 41.8676 & 40.00568 & 39.9 & 40.15 & 0.25 & 30700 \\
\hline 0.31 & 400000 & 55518 & 41.88967 & 40.1219 & 40.05 & 40.16 & 0.11 & 0 \\
\hline 0.0782 & 19800 & 40385 & 41.90472 & 40.22929 & 40.13 & 40.29 & 0.16 & 0 \\
\hline 0.19 & 35210 & 94684 & 41.89003 & 40.20052 & 40.14 & 40.24 & 0.1 & 0 \\
\hline 0.15 & 0 & 87420 & 41.89023 & 40.18311 & 40.14 & 40.23 & 0.09 & 0 \\
\hline 0.14 & 10577 & 51208 & 41.89896 & 40.19695 & 40.12 & 40.24 & 0.12 & 0 \\
\hline 0.11 & 26200 & 120410 & 41.88954 & 40.20498 & 40.12 & 40.26 & 0.14 & 0 \\
\hline 0.03 & 0 & 31573 & 41.88709 & 40.2511 & 40.14 & 40.3 & 0.16 & 0 \\
\hline 0.09 & 0 & 37088 & 41.87539 & 40.44223 & 40.28 & 40.54 & 0.26 & 0 \\
\hline 0.07 & 0 & 43206 & 41.85294 & 40.62685 & 40.54 & 40.7 & 0.16 & 0 \\
\hline 0.09 & 100000 & 62240 & 41.80564 & 40.70967 & 40.6 & 40.86 & 0.26 & 0 \\
\hline 0.11 & 0 & 40982 & 41.75335 & 40.83129 & 40.77 & 40.88 & 0.11 & 0 \\
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\hline 0.14 & 0 & 85295 & 41.79233 & 40.71795 & 40.66 & 40.8 & 0.14 & 0 \\
\hline 0.12 & 0 & 51403 & 41.80886 & 40.7701 & 40.6 & 40.85 & 0.25 & 0 \\
\hline 0.12 & 0 & 49217 & 41.79858 & 40.63949 & 40.56 & 40.68 & 0.12 & 0 \\
\hline 0.18 & 0 & 94498 & 41.8141 & 40.41478 & 40.23 & 40.68 & 0.45 & 0 \\
\hline 0.22 & 0 & 157625 & 41.79299 & 40.35172 & 40.28 & 40.41 & 0.13 & 0 \\
\hline 0.19 & 0 & 65264 & 41.80502 & 40.37841 & 40.3 & 40.49 & 0.19 & 0 \\
\hline 0.13 & 0 & 23304 & 41.8283 & 40.45113 & 40.35 & 40.5 & 0.15 & 0 \\
\hline 0.11 & 0 & 49500 & 41.84948 & 40.38509 & 40.34 & 40.46 & 0.12 & 0 \\
\hline 0.11 & 0 & 42628 & 41.86762 & 40.35479 & 40.31 & 40.39 & 0.08 & 0 \\
\hline 0.125 & 0 & 54534 & 41.83696 & 40.25128 & 40.18 & 40.35 & 0.17 & 0 \\
\hline 0.1 & 0 & 40565 & 41.81912 & 40.4004 & 40.29 & 40.5 & 0.21 & 0 \\
\hline 0.15 & 0 & 78938 & 41.83897 & 40.28403 & 40.17 & 40.43 & 0.26 & 0 \\
\hline 0.11 & 0 & 33476 & 41.82089 & 40.18381 & 40.15 & 40.22 & 0.07 & 0 \\
\hline 0.08 & 0 & 48988 & 41.79496 & 40.29473 & 40.2 & 40.36 & 0.16 & 0 \\
\hline 0.18 & 0 & 55456 & 41.82733 & 40.41914 & 40.35 & 40.5 & 0.15 & 0 \\
\hline 0.08 & 0 & 59748 & 41.8742 & 40.47535 & 40.38 & 40.56 & 0.18 & 0 \\
\hline 0.1 & 0 & 37888 & 41.88247 & 40.45466 & 40.34 & 40.55 & 0.21 & 0 \\
\hline 0.07 & 0 & 26797 & 41.86762 & 40.35996 & 40.24 & 40.44 & 0.2 & 0 \\
\hline 0.0995 & 0 & 26400 & 41.8907 & 40.23985 & 40.19 & 40.29 & 0.1 & 0 \\
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\hline 0.07 & 0 & 35831 & 41.8748 & 39.946 & 39.92 & 39.95 & 0.03 & 0 \\
\hline 0.11 & 0 & 28890 & 41.90113 & 39.94813 & 39.93 & 39.96 & 0.03 & 0 \\
\hline 0.08 & 0 & 23289 & 41.92116 & 39.90819 & 39.84 & 39.978 & 0.138 & 0 \\
\hline 0.09 & 0 & 24200 & 41.89619 & 39.93494 & 39.89 & 39.99 & 0.1 & 0 \\
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\hline 0.09 & 0 & 27499 & 41.87034 & 40.00765 & 39.96 & 40.06 & 0.1 & 0 \\
\hline 0.1 & 0 & 41074 & 41.86238 & 40.02001 & 39.99 & 40.04 & 0.05 & 0 \\
\hline 0.08 & 0 & 32589 & 41.86396 & 40.01978 & 39.99 & 40.07 & 0.08 & 0 \\
\hline 0.04 & 0 & 10389 & 41.85248 & 39.98627 & 39.91 & 40.08 & 0.17 & 0 \\
\hline 0.13 & 0 & 66158 & 41.8047 & 39.99652 & 39.88 & 40.06 & 0.18 & 0 \\
\hline 0.03 & 0 & 24894 & 41.80613 & 39.94565 & 39.9 & 40 & 0.1 & 0 \\
\hline 0.11 & 0 & 60660 & 41.82045 & 39.91388 & 39.86 & 39.97 & 0.11 & 0 \\
\hline 0.08 & 0 & 35000 & 41.7934 & 39.94204 & 39.87 & 40 & 0.13 & 0 \\
\hline 0.05 & 0 & 20170 & 41.78805 & 39.86524 & 39.83 & 39.94 & 0.11 & 0 \\
\hline 0.09 & 0 & 30290 & 41.80977 & 39.77703 & 39.74 & 39.85 & 0.11 & 0 \\
\hline 0.08 & 0 & 52600 & 41.79588 & 39.77152 & 39.72 & 39.86 & 0.14 & 0 \\
\hline 0.14 & 0 & 78016 & 41.80084 & 39.87408 & 39.8 & 39.96 & 0.16 & 0 \\
\hline 0.06 & 0 & 54992 & 41.78838 & 39.87788 & 39.8 & 39.96 & 0.16 & 0 \\
\hline 0.14 & 0 & 57491 & 41.72471 & 39.97665 & 39.92 & 40.01 & 0.09 & 0 \\
\hline 0.15 & 0 & 71692 & 41.65045 & 39.9808 & 39.95 & 40.01 & 0.06 & 0 \\
\hline 0.1901 & 0 & 90236 & 41.57633 & 39.94315 & 39.89 & 39.99 & 0.1 & 0 \\
\hline 0.05 & 0 & 103744 & 41.59412 & 39.93545 & 39.89 & 39.98 & 0.09 & 0 \\
\hline 0.14 & 0 & 57639 & 41.60393 & 40.065 & 39.98 & 40.18 & 0.2 & 0 \\
\hline 0.14 & 0 & 42234 & 41.57957 & 40.33906 & 40.17 & 40.42 & 0.25 & 0 \\
\hline 0.07 & 0 & 66467 & 41.52894 & 40.39537 & 40.32 & 40.45 & 0.13 & 0 \\
\hline 0.14 & 0 & 101597 & 41.52095 & 40.40772 & 40.37 & 40.46 & 0.09 & 0 \\
\hline 0.09 & 0 & 52381 & 41.53182 & 40.35912 & 40.29 & 40.41 & 0.12 & 0 \\
\hline 0.19 & 0 & 71661 & 41.50332 & 40.29307 & 40.24 & 40.34 & 0.1 & 0 \\
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\hline 0.1196 & 0 & 75781 & 41.44647 & 40.33827 & 40.3 & 40.4 & 0.1 & 0 \\
\hline 0.07 & 0 & 35448 & 41.47123 & 40.42588 & 40.36 & 40.48 & 0.12 & 0 \\
\hline 0.06 & 0 & 40528 & 41.45518 & 40.3796 & 40.33 & 40.45 & 0.12 & 0 \\
\hline 0.2 & 0 & 56883 & 41.47745 & 40.41653 & 40.37 & 40.45 & 0.08 & 0 \\
\hline 0.1 & 0 & 35471 & 41.50151 & 40.28258 & 40.15 & 40.4 & 0.25 & 0 \\
\hline 0.07 & 0 & 37181 & 41.50202 & 40.16498 & 40.14 & 40.21 & 0.07 & 0 \\
\hline 0.11 & 0 & 48725 & 41.44955 & 40.2016 & 40.19 & 40.24 & 0.05 & 14400 \\
\hline 0.12 & 0 & 59190 & 41.42919 & 40.19738 & 40.16 & 40.26 & 0.1 & 0 \\
\hline 0.11 & 0 & 39667 & 41.41428 & 40.24061 & 40.19 & 40.28 & 0.09 & 0 \\
\hline 0.12 & 0 & 47843 & 41.43698 & 40.31346 & 40.23 & 40.37 & 0.14 & 0 \\
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\hline 0.13 & 0 & 48100 & 41.47596 & 40.3074 & 40.26 & 40.37 & 0.11 & 0 \\
\hline 0.13 & 0 & 32881 & 41.45779 & 40.37239 & 40.34 & 40.41 & 0.07 & 0 \\
\hline 0.08 & 0 & 29647 & 41.44866 & 40.35184 & 40.27 & 40.41 & 0.14 & 0 \\
\hline 0.05 & 0 & 17195 & 41.47977 & 40.1813 & 40.03 & 40.33 & 0.3 & 25000 \\
\hline 0.12 & 0 & 27789 & 41.4606 & 40.011 & 39.97 & 40.09 & 0.12 & 0 \\
\hline 0.04 & 0 & 20419 & 41.46541 & 39.94521 & 39.87 & 40.01 & 0.14 & 23000 \\
\hline 0.11 & 0 & 49310 & 41.48084 & 39.87887 & 39.84 & 39.91 & 0.07 & 0 \\
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\hline 0.12 & 0 & 43865 & 41.47098 & 39.79108 & 39.74 & 39.84 & 0.1 & 20000 \\
\hline 0.1 & 0 & 30643 & 41.45986 & 39.63131 & 39.57 & 39.75 & 0.18 & 26000 \\
\hline 0.2 & 0 & 56922 & 41.44348 & 39.6078 & 39.57 & 39.67 & 0.1 & 0 \\
\hline 0.15 & 0 & 29300 & 41.4613 & 39.70881 & 39.65 & 39.74 & 0.09 & 0 \\
\hline 0.1 & 0 & 47575 & 41.44973 & 39.72836 & 39.67 & 39.78 & 0.11 & 0 \\
\hline 0.1 & 0 & 65251 & 41.40547 & 39.78397 & 39.72 & 39.81 & 0.09 & 0 \\
\hline 0.05 & 0 & 28600 & 41.43458 & 39.7687 & 39.73 & 39.8 & 0.07 & 0 \\
\hline 0.07 & 0 & 25750 & 41.43838 & 39.78451 & 39.74 & 39.81 & 0.07 & 0 \\
\hline 0.07 & 0 & 26800 & 41.43229 & 39.70717 & 39.61 & 39.78 & 0.17 & 0 \\
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\hline 0.04 & 0 & 13832 & 41.45259 & 39.68748 & 39.66 & 39.71 & 0.05 & 0 \\
\hline 0.04 & 0 & 9852 & 41.93008 & 39.7538 & 39.7 & 39.78 & 0.08 & 0 \\
\hline 0.09 & 0 & 26343 & 41.43458 & 39.7193 & 39.67 & 39.77 & 0.1 & 0 \\
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\hline 0.08 & 0 & 34081 & 41.29523 & 39.87381 & 39.82 & 39.9 & 0.08 & 0 \\
\hline 0.1 & 12900 & 25100 & 41.30328 & 39.87652 & 39.82 & 39.94 & 0.12 & 0 \\
\hline 0.04 & 0 & 11320 & 41.31505 & 39.96788 & 39.935 & 40.01 & 0.075 & 0 \\
\hline 0.08 & 0 & 48940 & 41.33309 & 40.02021 & 40 & 40.06 & 0.06 & 23000 \\
\hline 0.08 & 0 & 67150 & 41.32465 & 39.99495 & 39.97 & 40.015 & 0.045 & 28000 \\
\hline 0.08 & 0 & 28680 & 41.33791 & 39.98912 & 39.97 & 40 & 0.03 & 0 \\
\hline 0.12 & 0 & 115968 & 41.34013 & 40.01342 & 39.97 & 40.06 & 0.09 & 0 \\
\hline 0.06 & 0 & 43900 & 41.33255 & 40.01967 & 39.97 & 40.045 & 0.075 & 0 \\
\hline 0.07 & 0 & 32640 & 41.32218 & 40.00415 & 39.97 & 40.06 & 0.09 & 0 \\
\hline 0.06 & 0 & 49806 & 41.32282 & 39.99422 & 39.98 & 40 & 0.02 & 0 \\
\hline 0.18 & 96600 & 101352 & 41.32142 & 40.0161 & 39.99 & 40.05 & 0.06 & 0 \\
\hline 0.09 & 0 & 48500 & 41.32362 & 40.0217 & 39.94 & 40.05 & 0.11 & 0 \\
\hline 0.08 & 0 & 48485 & 41.31926 & 39.97523 & 39.96 & 40 & 0.04 & 0 \\
\hline 0.13 & 0 & 33014 & 41.3188 & 40.02272 & 39.99 & 40.05 & 0.06 & 0 \\
\hline 0.08 & 0 & 60429 & 41.32736 & 40.09196 & 40.03 & 40.15 & 0.12 & 0 \\
\hline 0.09 & 0 & 27593 & 41.34104 & 40.11273 & 40.08 & 40.15 & 0.07 & 36500 \\
\hline 0.08 & 0 & 40506 & 41.34288 & 40.11222 & 40.1 & 40.13 & 0.03 & 22506 \\
\hline 0.08 & 0 & 58366 & 41.33185 & 40.04567 & 39.985 & 40.1 & 0.115 & 0 \\
\hline 0.035 & 0 & 27170 & 41.35536 & 40.05692 & 40 & 40.09 & 0.09 & 0 \\
\hline 0.14 & 0 & 54772 & 41.35017 & 40.06011 & 40.04 & 40.09 & 0.05 & 0 \\
\hline 0.0998 & 0 & 13040 & 41.35759 & 40.06199 & 40.03 & 40.11 & 0.08 & 0 \\
\hline 0.07 & 109800 & 30743 & 41.36507 & 40.03789 & 40 & 40.08 & 0.08 & 0 \\
\hline 0.05 & 0 & 7125 & 41.37075 & 39.98104 & 39.955 & 40 & 0.045 & 0 \\
\hline 0.09 & 0 & 19300 & 41.35645 & 39.99715 & 39.96 & 40.03 & 0.07 & 0 \\
\hline 0.09 & 0 & 15734 & 41.35784 & 40.03524 & 39.99 & 40.08 & 0.09 & 0 \\
\hline 0.05 & 0 & 12540 & 41.37415 & 40.15498 & 40.08 & 40.23 & 0.15 & 0 \\
\hline 0.06 & 0 & 33410 & 41.37159 & 40.11029 & 40.08 & 40.17 & 0.09 & 0 \\
\hline 0.06 & 0 & 28322 & 41.37403 & 40.13024 & 40.1 & 40.15 & 0.05 & 0 \\
\hline 0.1 & 0 & 34299 & 41.39918 & 40.16364 & 40.12 & 40.2 & 0.08 & 0 \\
\hline 0.1025 & 0 & 43360 & 41.41441 & 40.27501 & 40.16 & 40.43 & 0.27 & 0 \\
\hline 0.1088 & 0 & 21200 & 41.41113 & 40.50632 & 40.42 & 40.58 & 0.16 & 0 \\
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 0.09 & 0 & 21945 & 41.41648 & 40.53181 & 40.48 & 40.58 & 0.1 & 0 \\
\hline 0.07 & 0 & 37410 & 41.40084 & 40.56957 & 40.51 & 40.62 & 0.11 & 0 \\
\hline 0.05 & 0 & 15831 & 41.38568 & 40.63101 & 40.54 & 40.72 & 0.18 & 0 \\
\hline 0.0499 & 0 & 13600 & 41.38407 & 40.68641 & 40.6 & 40.77 & 0.17 & 0 \\
\hline 0.09 & 0 & 30743 & 41.37461 & 40.66164 & 40.61 & 40.69 & 0.08 & 0 \\
\hline 0.04 & 0 & 20370 & 41.35238 & 40.65603 & 40.58 & 40.72 & 0.14 & 0 \\
\hline 0.04 & 0 & 27488 & 41.33676 & 40.59544 & 40.54 & 40.69 & 0.15 & 0 \\
\hline 0.0479 & 0 & 15313 & 41.33631 & 40.57917 & 40.52 & 40.65 & 0.13 & 0 \\
\hline 0.04 & 0 & 17221 & 41.35611 & 40.67906 & 40.55 & 40.74 & 0.19 & 0 \\
\hline 0.06 & 0 & 9799 & 41.37252 & 40.77814 & 40.69 & 40.81 & 0.12 & 0 \\
\hline 0.05 & 0 & 5060 & 41.39807 & 40.78007 & 40.7 & 40.82 & 0.12 & 0 \\
\hline 0.07 & 0 & 27802 & 41.41136 & 40.72759 & 40.68 & 40.76 & 0.08 & 0 \\
\hline 0.04 & 0 & 11300 & 41.40647 & 40.72353 & 40.7 & 40.75 & 0.05 & 0 \\
\hline 0.03 & 0 & 12100 & 41.40972 & 40.70244 & 40.67 & 40.73 & 0.06 & 0 \\
\hline 0.06 & 0 & 14100 & 41.38548 & 40.63853 & 40.58 & 40.71 & 0.13 & 0 \\
\hline 0.09 & 0 & 27500 & 41.4091 & 40.55857 & 40.51 & 40.59 & 0.08 & 0 \\
\hline 0.06 & 0 & 17200 & 41.41111 & 40.60979 & 40.56 & 40.65 & 0.09 & 0 \\
\hline 0.06 & 0 & 29700 & 41.39467 & 40.62828 & 40.57 & 40.67 & 0.1 & 0 \\
\hline 0.02 & 0 & 19200 & 41.39236 & 40.58801 & 40.54 & 40.63 & 0.09 & 0 \\
\hline 0.02 & 0 & 17915 & 41.38389 & 40.52867 & 40.47 & 40.59 & 0.12 & 0 \\
\hline 0.01 & 0 & 9800 & 41.38385 & 40.36717 & 40.3 & 40.49 & 0.19 & 0 \\
\hline 0.04 & 0 & 17497 & 41.38467 & 40.33655 & 40.31 & 40.36 & 0.05 & 0 \\
\hline 0.02 & 0 & 6300 & 41.37594 & 40.37754 & 40.28 & 40.45 & 0.17 & 0 \\
\hline 0.05 & 0 & 18600 & 41.37757 & 40.33626 & 40.3 & 40.37 & 0.07 & 0 \\
\hline 0.06 & 0 & 14747 & 41.40303 & 40.35375 & 40.32 & 40.38 & 0.06 & 0 \\
\hline 0.09 & 0 & 8874 & 41.38753 & 40.38538 & 40.38 & 40.4 & 0.02 & 0 \\
\hline 0.02 & 0 & 10114 & 41.3701 & 40.35254 & 40.32 & 40.4 & 0.08 & 0 \\
\hline 0.1 & 0 & 21549 & 41.37984 & 40.32891 & 40.31 & 40.36 & 0.05 & 0 \\
\hline 0.06 & 0 & 11984 & 41.37381 & 40.31402 & 40.28 & 40.34 & 0.06 & 0 \\
\hline 0.05 & 0 & 6900 & 42.04868 & 40.3375 & 40.31 & 40.37 & 0.06 & 0 \\
\hline 0.02 & 0 & 8714 & 41.37663 & 40.33874 & 40.27 & 40.39 & 0.12 & 0 \\
\hline 0.08 & 0 & 16825 & 41.37276 & 40.36447 & 40.31 & 40.4 & 0.09 & 0 \\
\hline 0.09 & 0 & 15766 & 41.34347 & 40.35687 & 40.31 & 40.4 & 0.09 & 0 \\
\hline 0.04 & 0 & 9500 & 41.33881 & 40.35565 & 40.3274 & 40.38 & 0.0526 & 0 \\
\hline 0.04 & 0 & 18400 & 41.9856 & 40.41668 & 40.35 & 40.49 & 0.14 & 0 \\
\hline 0.03 & 0 & 8300 & 41.3618 & 40.53049 & 40.48 & 40.58 & 0.1 & 0 \\
\hline 0.04 & 0 & 29861 & 41.34464 & 40.56198 & 40.52 & 40.59 & 0.07 & 0 \\
\hline 0.03 & 0 & 31018 & 41.33635 & 40.65535 & 40.54 & 40.75 & 0.21 & 0 \\
\hline 0.03 & 0 & 13222 & 41.332 & 40.81072 & 40.73 & 40.87 & 0.14 & 0 \\
\hline 0.07 & 0 & 26331 & 41.34231 & 40.79997 & 40.68 & 40.86 & 0.18 & 0 \\
\hline 0.1948 & 0 & 17070 & 41.33192 & 40.6983 & 40.64 & 40.75 & 0.11 & 0 \\
\hline 0.04 & 0 & 6204 & 41.33883 & 40.63462 & 40.6 & 40.67 & 0.07 & 0 \\
\hline 0.04 & 0 & 8200 & 42.01404 & 40.69246 & 40.63 & 40.78 & 0.15 & 0 \\
\hline 0.02 & 0 & 7595 & 41.34609 & 40.82427 & 40.77 & 40.85 & 0.08 & 0 \\
\hline 0.05 & 0 & 9800 & 41.34077 & 40.78192 & 40.72 & 40.84 & 0.12 & 0 \\
\hline 0.035 & 0 & 6300 & 41.34666 & 40.65684 & 40.186 & 40.85 & 0.664 & 0 \\
\hline 0.02 & 0 & 2700 & 41.34547 & 40.78987 & 40.76 & 40.83 & 0.07 & 0 \\
\hline 0.05 & 0 & 15526 & 41.33027 & 40.68581 & 40.62 & 40.79 & 0.17 & 0 \\
\hline 0.03 & 0 & 14669 & 41.3237 & 40.66425 & 40.61 & 40.7 & 0.09 & 0 \\
\hline 0.03 & 0 & 11200 & 41.32378 & 40.64934 & 40.6 & 40.67 & 0.07 & 0 \\
\hline 0.05 & 0 & 11648 & 41.31721 & 40.60704 & 40.56 & 40.65 & 0.09 & 0 \\
\hline 0.06 & 0 & 16370 & 41.32728 & 40.66194 & 40.64 & 40.7 & 0.06 & 0 \\
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\hline 0.02 & 0 & 22642 & 41.29761 & 40.65231 & 40.62 & 40.69 & 0.07 & 0 \\
\hline 0.12 & 0 & 55548 & 41.27629 & 40.73225 & 40.69 & 40.78 & 0.09 & 0 \\
\hline 0.11 & 0 & 83386 & 41.25124 & 40.85872 & 40.78 & 40.92 & 0.14 & 0 \\
\hline 0.05 & 0 & 40374 & 41.24411 & 40.8708 & 40.84 & 40.9 & 0.06 & 0 \\
\hline 0.1 & 0 & 45132 & 41.24896 & 40.85682 & 40.82 & 40.88 & 0.06 & 0 \\
\hline 0.05 & 0 & 16938 & 41.26122 & 40.82468 & 40.8 & 40.86 & 0.06 & 0 \\
\hline 0.1 & 0 & 33193 & 41.25133 & 40.8363 & 40.8 & 40.87 & 0.07 & 0 \\
\hline 0.04 & 0 & 19344 & 41.25043 & 40.90125 & 40.84 & 40.98 & 0.14 & 0 \\
\hline 0.06 & 0 & 28165 & 41.23267 & 40.87737 & 40.82 & 40.96 & 0.14 & 0 \\
\hline 0.07 & 0 & 28198 & 41.23128 & 40.88236 & 40.84 & 40.9 & 0.06 & 0 \\
\hline 0.04 & 0 & 15758 & 41.22466 & 40.83013 & 40.78 & 40.89 & 0.11 & 0 \\
\hline 0.03 & 0 & 13000 & 41.22213 & 40.80034 & 40.77 & 40.83 & 0.06 & 0 \\
\hline 0.03 & 0 & 6728 & 41.23879 & 40.82048 & 40.78 & 40.87 & 0.09 & 0 \\
\hline 0.04 & 0 & 15800 & 41.24528 & 40.90816 & 40.851 & 40.95 & 0.099 & 0 \\
\hline 0.05 & 0 & 11310 & 41.25246 & 40.88514 & 40.86 & 40.9 & 0.04 & 0 \\
\hline 0.05 & 0 & 25780 & 41.24334 & 40.91458 & 40.89 & 40.97 & 0.08 & 0 \\
\hline 0.09 & 0 & 18410 & 41.25283 & 40.94722 & 40.92 & 40.96 & 0.04 & 0 \\
\hline 0.09 & 0 & 18789 & 41.25182 & 40.9524 & 40.931 & 40.98 & 0.049 & 0 \\
\hline 0.04 & 0 & 8000 & 41.24648 & 40.91175 & 40.87 & 40.97 & 0.1 & 0 \\
\hline 0.06 & 0 & 37986 & 41.21974 & 40.97434 & 40.9 & 41.03 & 0.13 & 0 \\
\hline 0.08 & 0 & 22266 & 41.20352 & 41.00481 & 40.966 & 41.04 & 0.074 & 0 \\
\hline 0.04 & 0 & 23619 & 41.20727 & 41.03344 & 40.99 & 41.08 & 0.09 & 0 \\
\hline 0.04 & 0 & 13200 & 41.21969 & 41.12471 & 41.07 & 41.16 & 0.09 & 0 \\
\hline 0.02 & 0 & 9364 & 41.21726 & 41.13108 & 41.08 & 41.16 & 0.08 & 0 \\
\hline 0.015 & 0 & 5200 & 41.22886 & 41.10257 & 41.06 & 41.13 & 0.07 & 0 \\
\hline 0.07 & 0 & 10940 & 41.22532 & 41.10124 & 41.04 & 41.14 & 0.1 & 0 \\
\hline 0.03 & 0 & 12900 & 41.21768 & 41.20546 & 41.13 & 41.27 & 0.14 & 0 \\
\hline 0.05 & 0 & 15086 & 41.22242 & 41.24773 & 41.21 & 41.28 & 0.07 & 0 \\
\hline 0.08 & 0 & 22083 & 41.20956 & 41.22814 & 41.2 & 41.25 & 0.05 & 0 \\
\hline 0.07 & 0 & 12616 & 41.20835 & 41.27281 & 41.23 & 41.31 & 0.08 & 0 \\
\hline 0.05 & 0 & 14158 & 41.19817 & 41.28696 & 41.26 & 41.31 & 0.05 & 0 \\
\hline 0.05 & 0 & 14300 & 41.19433 & 41.23396 & 41.19 & 41.26 & 0.07 & 0 \\
\hline 0.04 & 0 & 17992 & 41.19493 & 41.28113 & 41.23 & 41.32 & 0.09 & 0 \\
\hline 0.035 & 0 & 16133 & 41.19777 & 41.18387 & 41.12 & 41.27 & 0.15 & 0 \\
\hline 0.12 & 0 & 67282 & 41.19023 & 41.17115 & 41.12 & 41.21 & 0.09 & 0 \\
\hline 0.04 & 0 & 28612 & 41.19672 & 41.10777 & 41.07 & 41.18 & 0.11 & 0 \\
\hline 0.07 & 0 & 30305 & 41.17376 & 41.15056 & 41.1 & 41.17 & 0.07 & 0 \\
\hline 0.02 & 0 & 12700 & 41.18287 & 41.11612 & 41.06 & 41.18 & 0.12 & 0 \\
\hline 0.06 & 0 & 19200 & 41.17866 & 41.20437 & 41.16 & 41.25 & 0.09 & 0 \\
\hline 0.11 & 0 & 31957 & 41.14318 & 41.26546 & 41.2497 & 41.28 & 0.0303 & 0 \\
\hline 0.08 & 0 & 28189 & 41.12708 & 41.23287 & 41.2 & 41.275 & 0.075 & 0 \\
\hline 0.1 & 0 & 51604 & 41.0898 & 41.24733 & 41.21 & 41.29 & 0.08 & 0 \\
\hline 0.07 & 0 & 26133 & 41.08811 & 41.23598 & 41.21 & 41.27 & 0.06 & 0 \\
\hline 0.08 & 0 & 25500 & 41.08067 & 41.17175 & 41.13 & 41.23 & 0.1 & 0 \\
\hline 0.07 & 0 & 69978 & 41.07941 & 41.12634 & 41.12 & 41.15 & 0.03 & 0 \\
\hline 0.05 & 0 & 23905 & 41.08806 & 41.13177 & 41.1 & 41.17 & 0.07 & 0 \\
\hline 0.05 & 0 & 37858 & 41.10205 & 41.25547 & 41.1689 & 41.31 & 0.1411 & 0 \\
\hline 0.03 & 0 & 26628 & 41.10315 & 41.24458 & 41.22 & 41.27 & 0.05 & 0 \\
\hline 0.09 & 0 & 107244 & 41.08227 & 41.29989 & 41.25 & 41.35 & 0.1 & 0 \\
\hline 0.08 & 0 & 52429 & 41.10234 & 41.32725 & 41.26 & 41.37 & 0.11 & 0 \\
\hline 0.13 & 0 & 70672 & 41.11466 & 41.18923 & 41.11 & 41.26 & 0.15 & 0 \\
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 0.08 & 0 & 51100 & 41.11773 & 41.09831 & 41.05 & 41.14 & 0.09 & 0 \\
\hline 0.03 & 0 & 18030 & 41.12202 & 41.09414 & 41.05 & 41.15 & 0.1 & 0 \\
\hline 0.04 & 0 & 15601 & 41.13283 & 41.06047 & 40.99 & 41.15 & 0.16 & 0 \\
\hline 0.07 & 0 & 42083 & 41.71855 & 41.03776 & 40.99 & 41.11 & 0.12 & 0 \\
\hline 0.03 & 0 & 13900 & 41.12925 & 41.0919 & 41.01 & 41.15 & 0.14 & 0 \\
\hline 0.09 & 0 & 56816 & 41.13588 & 41.0653 & 41.03 & 41.13 & 0.1 & 0 \\
\hline 0.05 & 0 & 17932 & 41.14101 & 41.05518 & 40.99 & 41.1 & 0.11 & 0 \\
\hline 0.04 & 0 & 23925 & 41.14172 & 41.13883 & 41.1 & 41.16 & 0.06 & 0 \\
\hline 0.04 & 0 & 31822 & 41.14626 & 41.09763 & 41.04 & 41.16 & 0.12 & 0 \\
\hline 0.02 & 0 & 19467 & 41.1325 & 41.05668 & 41.01 & 41.1 & 0.09 & 0 \\
\hline 0.02 & 0 & 19198 & 41.1317 & 40.99245 & 40.95 & 41.05 & 0.1 & 0 \\
\hline 0.05 & 0 & 28243 & 41.9717 & 40.97382 & 40.94 & 41.02 & 0.08 & 0 \\
\hline 0.0476 & 0 & 17800 & 41.14125 & 41.00517 & 40.97 & 41.03 & 0.06 & 0 \\
\hline 0.04 & 0 & 12220 & 41.1391 & 40.9587 & 40.94 & 40.97 & 0.03 & 0 \\
\hline 0.07 & 0 & 26860 & 41.12993 & 40.97306 & 40.95 & 41 & 0.05 & 0 \\
\hline 0.05 & 0 & 12795 & 41.12899 & 41.00658 & 40.98 & 41.03 & 0.05 & 0 \\
\hline 0.3 & 200000 & 37451 & 41.13783 & 41.00058 & 40.95 & 41.04 & 0.09 & 0 \\
\hline 0.07 & 0 & 23200 & 41.14292 & 40.99326 & 40.98 & 41.02 & 0.04 & 0 \\
\hline 0.02 & 0 & 5124 & 41.1268 & 41.06424 & 41.02 & 41.09 & 0.07 & 0 \\
\hline 0.04 & 0 & 15800 & 41.13309 & 41.10265 & 41.07 & 41.12 & 0.05 & 0 \\
\hline 0.04 & 0 & 15409 & 41.14494 & 41.10266 & 41.08 & 41.12 & 0.04 & 0 \\
\hline 0.06 & 0 & 26000 & 41.14954 & 41.09819 & 41.07 & 41.14 & 0.07 & 0 \\
\hline 0.07 & 0 & 44221 & 41.16417 & 41.14468 & 41.09 & 41.18 & 0.09 & 0 \\
\hline 0.06 & 0 & 22072 & 41.15033 & 41.08868 & 41.02 & 41.16 & 0.14 & 0 \\
\hline 0.06 & 0 & 14231 & 41.14021 & 41.08632 & 41.03 & 41.13 & 0.1 & 0 \\
\hline 0.04 & 0 & 6700 & 41.13341 & 41.05239 & 41.02 & 41.095 & 0.075 & 0 \\
\hline 0.05 & 0 & 11600 & 41.1211 & 41.00794 & 40.98 & 41.04 & 0.06 & 0 \\
\hline 0.05 & 0 & 17603 & 41.1175 & 41.02223 & 40.97 & 41.1 & 0.13 & 0 \\
\hline 0.02 & 0 & 11943 & 41.10794 & 41.11676 & 41.072 & 41.14 & 0.068 & 0 \\
\hline 0.02 & 0 & 10914 & 41.10987 & 41.09493 & 41.03 & 41.15 & 0.12 & 0 \\
\hline 0.04 & 0 & 22299 & 41.10026 & 41.11223 & 41.08 & 41.14 & 0.06 & 0 \\
\hline 0.06 & 0 & 51657 & 41.47977 & 41.13933 & 41.09 & 41.19 & 0.1 & 0 \\
\hline 0.08 & 0 & 65760 & 41.04692 & 41.12981 & 41.1 & 41.16 & 0.06 & 0 \\
\hline 0.06 & 0 & 35350 & 41.04197 & 41.10944 & 41.04 & 41.18 & 0.14 & 0 \\
\hline 0.12 & 0 & 60470 & 41.0154 & 41.02365 & 40.98 & 41.07 & 0.09 & 0 \\
\hline 0.07 & 0 & 42254 & 41.30657 & 41.07419 & 40.99 & 41.12 & 0.13 & 0 \\
\hline 0.11 & 0 & 48153 & 40.94859 & 41.15259 & 41.07 & 41.18 & 0.11 & 0 \\
\hline 0.06 & 0 & 80917 & 40.93436 & 41.17835 & 41.15 & 41.2 & 0.05 & 0 \\
\hline 0.12 & 0 & 72522 & 40.96127 & 41.13033 & 41.06 & 41.2 & 0.14 & 0 \\
\hline 0.07 & 0 & 45284 & 41.73295 & 41.16686 & 41.13 & 41.2 & 0.07 & 0 \\
\hline 0.07 & 0 & 46198 & 40.95658 & 41.20376 & 41.15 & 41.24 & 0.09 & 0 \\
\hline 0.07 & 0 & 58700 & 40.96074 & 41.17659 & 41.14 & 41.22 & 0.08 & 0 \\
\hline 0.16 & 0 & 52280 & 40.94885 & 41.23877 & 41.18 & 41.29 & 0.11 & 0 \\
\hline 0.03 & 0 & 21925 & 40.95265 & 41.27313 & 41.22 & 41.31 & 0.09 & 0 \\
\hline 0.08 & 0 & 32893 & 40.95896 & 41.2388 & 41.19 & 41.3 & 0.11 & 0 \\
\hline 0.05 & 0 & 15785 & 40.95322 & 41.25461 & 41.197 & 41.32 & 0.123 & 0 \\
\hline 0.07 & 0 & 27770 & 40.94737 & 41.19185 & 41.14 & 41.23 & 0.09 & 0 \\
\hline 0.11 & 0 & 63063 & 40.93419 & 41.19817 & 41.17 & 41.23 & 0.06 & 0 \\
\hline 0.07 & 0 & 53300 & 40.96857 & 41.21562 & 41.19 & 41.2426 & 0.0526 & 0 \\
\hline 0.1 & 0 & 35143 & 40.99474 & 41.25182 & 41.24 & 41.26 & 0.02 & 0 \\
\hline 0.05 & 0 & 44243 & 41.03158 & 41.22121 & 41.19 & 41.25 & 0.06 & 0 \\
\hline 0.07 & 0 & 41114 & 41.04703 & 41.21874 & 41.18 & 41.25 & 0.07 & 0 \\
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\hline 0.11 & 0 & 27820 & 41.05336 & 41.23727 & 41.17 & 41.31 & 0.14 & 0 \\
\hline 0.08 & 0 & 23715 & 41.0033 & 41.26331 & 41.2 & 41.31 & 0.11 & 0 \\
\hline 0.08 & 0 & 33512 & 41.02034 & 41.27366 & 41.23 & 41.3 & 0.07 & 0 \\
\hline 0.06 & 0 & 35989 & 41.0206 & 41.20871 & 41.16 & 41.26 & 0.1 & 0 \\
\hline 0.16 & 0 & 73655 & 40.99365 & 41.24596 & 41.22 & 41.27 & 0.05 & 0 \\
\hline 0.04 & 0 & 22940 & 40.9938 & 41.20969 & 41.17 & 41.27 & 0.1 & 0 \\
\hline 0.03 & 0 & 16010 & 40.99332 & 41.18332 & 41.16 & 41.21 & 0.05 & 0 \\
\hline 0.04 & 0 & 25897 & 40.99032 & 41.20479 & 41.17 & 41.24 & 0.07 & 0 \\
\hline 0.04 & 0 & 34785 & 40.98183 & 41.21614 & 41.18 & 41.24 & 0.06 & 0 \\
\hline 0.06 & 0 & 32591 & 41.68875 & 41.22018 & 41.16 & 41.28 & 0.12 & 0 \\
\hline 0.06 & 0 & 31439 & 41.0191 & 41.18659 & 41.15 & 41.23 & 0.08 & 0 \\
\hline 0.09 & 0 & 52189 & 41.02826 & 41.17148 & 41.15 & 41.21 & 0.06 & 0 \\
\hline 0.07 & 0 & 55710 & 41.02141 & 41.14245 & 41.11 & 41.175 & 0.065 & 0 \\
\hline 0.11 & 0 & 87633 & 41.05083 & 41.13189 & 41.11 & 41.15 & 0.04 & 0 \\
\hline 0.04 & 0 & 50200 & 41.04013 & 41.11578 & 41.1 & 41.14 & 0.04 & 0 \\
\hline 0.02 & 0 & 13196 & 41.03782 & 41.10494 & 41.09 & 41.12 & 0.03 & 0 \\
\hline 0.13 & 0 & 75942 & 41.0238 & 41.09463 & 41.07 & 41.11 & 0.04 & 0 \\
\hline 0.12 & 0 & 67796 & 41.0048 & 41.0291 & 40.99 & 41.07 & 0.08 & 0 \\
\hline 0.1818 & 0 & 65107 & 41.00813 & 41.01427 & 40.98 & 41.07 & 0.09 & 0 \\
\hline 0.089 & 0 & 43600 & 40.9958 & 40.99665 & 40.97 & 41.02 & 0.05 & 0 \\
\hline 0.03 & 0 & 38497 & 41.00039 & 40.98166 & 40.97 & 41.01 & 0.04 & 0 \\
\hline 0.12 & 0 & 83004 & 40.98317 & 41.02294 & 41 & 41.07 & 0.07 & 0 \\
\hline 0.05 & 0 & 57320 & 40.9955 & 40.99879 & 40.97 & 41.03 & 0.06 & 0 \\
\hline 0.13 & 0 & 111393 & 40.99405 & 40.97259 & 40.93 & 41.01 & 0.08 & 0 \\
\hline 0.055 & 0 & 62397 & 40.98891 & 40.99142 & 40.96 & 41.02 & 0.06 & 0 \\
\hline 0.05 & 0 & 98433 & 40.96818 & 41.00251 & 40.98 & 41.03 & 0.05 & 0 \\
\hline 0.11 & 0 & 73664 & 40.9863 & 41.00739 & 40.97 & 41.04 & 0.07 & 0 \\
\hline 0.07 & 0 & 31500 & 40.99707 & 41.00576 & 40.97 & 41.03 & 0.06 & 0 \\
\hline 0.125 & 0 & 44195 & 41.01474 & 41.00836 & 40.98 & 41.04 & 0.06 & 0 \\
\hline 0.1371 & 0 & 68467 & 41.02816 & 41.01979 & 40.98 & 41.06 & 0.08 & 0 \\
\hline 0.1 & 0 & 76419 & 41.053 & 40.99923 & 40.97 & 41.02 & 0.05 & 0 \\
\hline 0.1877 & 0 & 81706 & 41.07031 & 40.91137 & 40.84 & 40.97 & 0.13 & 0 \\
\hline 0.07 & 0 & 116394 & 41.057 & 40.94979 & 40.9 & 41 & 0.1 & 0 \\
\hline 0.09 & 0 & 42689 & 41.06882 & 40.96465 & 40.92 & 41.01 & 0.09 & 0 \\
\hline 0.1277 & 0 & 40697 & 41.09578 & 40.91696 & 40.81 & 40.97 & 0.16 & 0 \\
\hline 0.07 & 0 & 66231 & 41.09112 & 40.89008 & 40.84 & 40.93 & 0.09 & 0 \\
\hline 0.0325 & 0 & 67507 & 41.08393 & 40.88348 & 40.82 & 40.92 & 0.1 & 0 \\
\hline 0.07 & 0 & 68266 & 41.12365 & 40.86367 & 40.81 & 40.89 & 0.08 & 0 \\
\hline 0.16 & 16300 & 156810 & 41.11196 & 40.84391 & 40.83 & 40.87 & 0.04 & 0 \\
\hline 0.07 & 0 & 43618 & 41.11055 & 40.85357 & 40.81 & 40.9 & 0.09 & 0 \\
\hline 0.075 & 0 & 34219 & 41.09957 & 40.8232 & 40.79 & 40.885 & 0.095 & 0 \\
\hline 0.12 & 0 & 71477 & 41.80791 & 40.73156 & 40.68 & 40.81 & 0.13 & 0 \\
\hline 0.09 & 0 & 49992 & 41.11889 & 40.69903 & 40.67 & 40.73 & 0.06 & 0 \\
\hline 0.15 & 0 & 58323 & 41.14375 & 40.72575 & 40.71 & 40.76 & 0.05 & 0 \\
\hline 0.1384 & 0 & 60492 & 41.13161 & 40.75027 & 40.68 & 40.79 & 0.11 & 32000 \\
\hline 0.1783 & 0 & 91882 & 41.13904 & 40.69874 & 40.68 & 40.7274 & 0.0474 & 0 \\
\hline 0.2849 & 0 & 48861 & 41.15556 & 40.69669 & 40.68 & 40.71 & 0.03 & 0 \\
\hline 0.18 & 0 & 53363 & 41.18761 & 40.74877 & 40.69 & 40.79 & 0.1 & 0 \\
\hline 0.1904 & 0 & 65792 & 41.15771 & 40.72793 & 40.7 & 40.78 & 0.08 & 0 \\
\hline 0.11 & 0 & 34300 & 41.16166 & 40.75788 & 40.71 & 40.82 & 0.11 & 0 \\
\hline 0.09 & 0 & 47295 & 41.13919 & 40.78865 & 40.75 & 40.82 & 0.07 & 0 \\
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0.1 & 0 & 43500 & 41.07753 & 40.66593 & 40.64 & 40.71 & 0.07 & 0 \\
0.0931 & 0 & 56570 & 41.05251 & 40.71496 & 40.65 & 40.77 & 0.12 & 0 \\
0.09 & 0 & 35176 & 41.05084 & 40.72956 & 40.66 & 40.78 & 0.12 & 0 \\
0.09 & 0 & 23331 & 41.05806 & 40.70051 & 40.66 & 40.74 & 0.08 & 0 \\
0.045 & 0 & 31072 & 41.0583 & 40.73209 & 40.6978 & 40.76 & 0.0622 & 0 \\
0.06 & 0 & 15412 & 41.05653 & 40.75898 & 40.72 & 40.79 & 0.07 & 0 \\
0.09 & 0 & 53207 & 41.08922 & 40.71066 & 40.68 & 40.77 & 0.09 & 0 \\
0.07 & 0 & 23641 & 41.10132 & 40.72422 & 40.69 & 40.77 & 0.08 & 0 \\
0.06 & 0 & 35419 & 41.10206 & 40.76964 & 40.72 & 40.8 & 0.08 & 0 \\
0.0667 & 0 & 60657 & 41.08897 & 40.78661 & 40.75 & 40.81 & 0.06 & 0 \\
0.08 & 0 & 40879 & 41.08789 & 40.81139 & 40.77 & 40.85 & 0.08 & 0 \\
0.03 & 0 & 41677 & 41.04849 & 40.81861 & 40.7814 & 40.85 & 0.0686 & 0 \\
0.11 & 0 & 47947 & 41.06344 & 40.85296 & 40.8 & 40.9 & 0.1 & 28300 \\
0.15 & 0 & 89380 & 41.10683 & 40.89603 & 40.86 & 40.91 & 0.05 & 0 \\
0.2005 & 0 & 84499 & 41.11999 & 40.92763 & 40.88 & 40.96 & 0.08 & 0 \\
0.05 & 0 & 59100 & 41.11085 & 40.94245 & 40.91 & 40.97 & 0.06 & 0 \\
0.08 & 0 & 74327 & 41.09833 & 40.95808 & 40.94 & 40.99 & 0.05 & 0 \\
0.06 & 0 & 59936 & 41.06529 & 40.93271 & 40.9 & 40.98 & 0.08 & 0 \\
0.1261 & 0 & 73369 & 41.47288 & 40.96272 & 40.9 & 41.05 & 0.15 & 0 \\
0.12 & 0 & 130723 & 41.00139 & 41.00434 & 40.94 & 41.03 & 0.09 & 0 \\
0.09 & 0 & 87939 & 40.98568 & 40.9064 & 40.88 & 40.96 & 0.08 & 0 \\
0.13 & 0 & 107482 & 40.98381 & 40.94395 & 40.91 & 40.99 & 0.08 & 0 \\
0.09 & 0 & 73730 & 41.02705 & 40.99511 & 40.95 & 41.01 & 0.06 & 0 \\
0.12 & 0 & 64373 & 41.048 & 41.05936 & 41.01 & 41.09 & 0.08 & 0 \\
0.08 & 0 & 107085 & 41.05102 & 41.04477 & 41.03 & 41.08 & 0.05 & 0 \\
0.11 & 0 & 107683 & 41.02354 & 41.03986 & 41 & 41.09 & 0.09 & 0 \\
0.1 & 0 & 62910 & 41.03289 & 41.09881 & 41.04 & 41.2 & 0.16 & 22500 \\
0.1 & 1000 & 113635 & 41.75503 & 41.24414 & 41.18 & 41.32 & 0.14 & 0 \\
0.13 & 0 & 77698 & 41.02322 & 41.30077 & 41.24 & 41.34 & 0.1 & 0 \\
0.1 & 0 & 96944 & 41.02889 & 41.23426 & 41.19 & 41.3 & 0.11 & 10000 \\
0.08 & 0 & 88628 & 41.03585 & 41.32393 & 41.22 & 41.36 & 0.14 & 0 \\
0.04 & 0 & 118387 & 41.04316 & 41.32381 & 41.29 & 41.36 & 0.07 & 0 \\
0.09 & 0 & 119319 & 41.05676 & 41.26323 & 41.23 & 41.32 & 0.09 & 0 \\
0.105 & 0 & 1119499 & 41.04942 & 41.33653 & 41.23 & 41.39 & 0.16 & 0 \\
0.14 & 0 & 127264 & 41.02646 & 41.37298 & 41.36 & 41.39 & 0.03 & 0 \\
0.1 & 0 & 94170 & 40.99969 & 41.33832 & 41.31 & 41.38 & 0.07 & 0 \\
0.07 & 0 & 236700 & 40.96436 & 41.37252 & 41.34 & 41.4 & 0.06 & 0 \\
0.1 & 0 & 182763 & 40.92476 & 41.39996 & 41.37 & 41.44 & 0.07 & 0 \\
0.07 & 48600 & 234100 & 41.19362 & 41.46261 & 41.41 & 41.51 & 0.1 & 24200 \\
0.4856 & 0 & 15200 & 40.91321 & 41.36273 & 41.36 & 41.47 & 0.11 & 19300
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline tradesmall_ & spindex_5 & meanp_8 & minp_8 & maxp_8 & rangep_8 & tradebig_8 & small & spindex_8 \\
\hline 15200 & 40.34 & 41.36273 & 41.36 & 41.47 & 0.11 & 19300 & 500 & 41.36 \\
\hline 1000 & 40.32715 & 41.36007 & 41.36 & 41.47 & 0.11 & 486300 & 300 & 41.34717 \\
\hline & 40.31883 & 41.39431 & 41.36 & 41.47 & 0.11 & 0 & 1603 & 41.33694 \\
\hline & 40.3258 & & & & & & & 41.33879 \\
\hline & 40.31919 & & & & & & & 41.18578 \\
\hline 0 & 40.35547 & & & & & & & 41.32026 \\
\hline & 40.33196 & 41.36 & 41.36 & 41.36 & 0 & 0 & 6030 & 41.3217 \\
\hline & 40.32077 & & & & & & & 41.32267 \\
\hline & 40.30116 & & & & & & & 41.32687 \\
\hline & 40.31134 & 40.75 & 40.75 & 40.75 & 0 & 0 & 2000 & 41.33391 \\
\hline 600 & 40.37196 & 41.36 & 41.36 & 41.36 & 0 & 0 & 1902 & 41.19802 \\
\hline 9800 & 40.33325 & & & & & & & 41.32096 \\
\hline 600 & 40.33623 & 41.36 & 41.36 & 41.36 & 0 & 0 & 204 & 41.31992 \\
\hline 1798 & 40.33453 & & & & & & & 41.28894 \\
\hline 470 & 40.32873 & & & & & & & 41.34083 \\
\hline 1782 & 40.31291 & & & & & & & 41.28823 \\
\hline 1000 & 40.31534 & 41.36 & 41.36 & 41.36 & 0 & 15597 & 0 & 41.30454 \\
\hline & 40.31006 & & & & & & & 41.14694 \\
\hline & 41.4916 & & & & & & & 41.30743 \\
\hline 0 & 40.30604 & & & & & & & 41.30623 \\
\hline 500 & 40.31697 & 41.17 & 41.17 & 41.17 & 0 & 0 & 200 & 41.29256 \\
\hline 2030 & 40.31258 & & & & & & & 41.28932 \\
\hline & 40.31968 & & & & & & & 41.29229 \\
\hline & 40.32862 & 41.36 & 41.36 & 41.36 & 0 & 337358 & 0 & 41.29707 \\
\hline & 40.31261 & & & & & & & 41.30197 \\
\hline & 40.31261 & & & & & & & 41.31509 \\
\hline & 40.42688 & & & & & & & 41.30521 \\
\hline & 40.32236 & 41.35515 & 41.3 & 41.4 & 0.1 & 0 & 5019 & 41.37073 \\
\hline & 40.31911 & & & & & & & 41.41742 \\
\hline & 40.31097 & & & & & & & 41.49837 \\
\hline & 40.32732 & & & & & & & 41.54671 \\
\hline & 40.32561 & 41.76417 & 41.75 & 41.8 & 0.05 & 0 & 1200 & 41.62195 \\
\hline & 40.31586 & & & & & & & 41.64325 \\
\hline & 40.33027 & & & & & & & 41.53242 \\
\hline & 40.33663 & 41.36705 & 41.36 & 41.8 & 0.44 & 0 & 6238 & 41.56886 \\
\hline & 40.45497 & & & & & & & 41.61413 \\
\hline & 40.33397 & & & & & & & 41.64708 \\
\hline 0 & 40.33861 & & & & & & & 41.64012 \\
\hline & 40.33636 & & & & & & & 41.64642 \\
\hline 200 & 40.33926 & & & & & & & 41.63273 \\
\hline & & 41.8 & 41.8 & 41.8 & 0 & 0 & 100 & 41.31398 \\
\hline & & & & & & & & 41.66416 \\
\hline 800 & & 41.36 & 41.36 & 41.36 & 0 & 0 & 5408 & 41.71104 \\
\hline & & 41.36 & 41.36 & 41.36 & 0 & 0 & 500 & 41.70445 \\
\hline & 40.33731 & & & & & & & 41.69525 \\
\hline & 40.33114 & & & & & & & 41.71164 \\
\hline & 40.3329 & & & & & & & 41.71383 \\
\hline & 40.34186 & & & & & & & 41.7113 \\
\hline & 40.35063 & & & & & & & 41.69584 \\
\hline
\end{tabular}

\begin{tabular}{rccr}
40.30806 & 42.37 & 42.37 & 42.37 \\
40.30286 & & 0 & 0 \\
40.30286 \\
40.30272 & & & \\
& & & 41.82577 \\
& & & 41.84227 \\
40.29961 & & 41.85692 \\
40.29961 & & 41.88844 \\
40.29744 & & 41.88646 \\
40.29961 & & 41.8907 \\
40.2996 & & 41.89382 \\
40.29961 & & 41.89766 \\
40.29311 & & 41.91453 \\
& & 41.93853 \\
40.28732 & & 41.92996 \\
40.28701 & & 41.92373 \\
40.28661 & & 41.92755 \\
40.28659 & & 41.92527 \\
& & 41.88984 \\
& & & 41.84779
\end{tabular}
\begin{tabular}{rrrrrrrrr}
100 & 40.23214 & 44.32539 & 44.3 & 44.51 & 0.21 & 0 & 1501 & 42.37873 \\
40.18476 & 44.44075 & 44.3 & 44.56 & 0.26 & 0 & 4000 & 42.4816 \\
40.19505 & 44.39545 & 44.3 & 44.5 & 0.2 & 0 & 3300 & 42.4647 \\
40.14948 & 44.4 & 44.4 & 44.4 & 0 & 0 & 300 & 42.45356 \\
40.14661 & 44.36 & 44.26 & 44.4 & 0.14 & 0 & 700 & 42.45747 \\
40.16725 & 44.4 & 44.4 & 44.4 & 0 & 0 & 120 & 42.46563 \\
40.16518 & 44.48104 & 44.45 & 44.56 & 0.11 & 0 & 2243 & 42.46865 \\
40.20592 & 44.521 & 44.5 & 44.66 & 0.16 & 0 & 2190 & 42.48046 \\
40.21347 & 44.5 & 44.5 & 44.5 & 0 & 0 & 6200 & 42.49035 \\
40.19575 & 44.5 & 44.5 & 44.5 & 0 & 0 & 400 & 42.50489 \\
40.18917 & 44.5 & 44.5 & 44.5 & 0 & 0 & 1000 & 42.50649 \\
40.20008 & & & & & & & 42.52167 \\
40.17843 & & & & & & 42.51892 \\
40.16844 & 44.5 & 44.5 & 44.5 & 0 & 0 & 1000 & 42.50416 \\
40.16877 & & & & & & & 42.50106 \\
& 40.16227 & 44.3 & 44.3 & 44.3 & 0 & 0 & 333 & 42.51111 \\
40.15596 & & & & & & 42.51395 \\
& 40.14359 & 44.3 & 44.3 & 44.3 & 0 & 0 & 1000 & 42.49213 \\
& 40.13895 & 44.3 & 44.3 & 44.3 & 0 & 0 & 300 & 42.48901 \\
& 40.13988 & 44.3 & 44.3 & 44.3 & 0 & 0 & 100 & 42.47317 \\
& 40.14771 & & & & & & & 42.47729 \\
& 40.15346 & & & & & & 42.48843 \\
& 40.15581 & 44.2 & 44.2 & 44.2 & 0 & 0 & 300 & 42.5013 \\
100 & 40.15631 & 44.2 & 44.2 & 44.2 & 0 & 0 & 2298 & 42.50678 \\
& 40.1462 & & & & & & & 42.5281
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & 40.16155 & 43.90143 & 43.9 & 43.91 & 0.01 & 0 & 700 & 42.52473 \\
\hline & 40.16135 & 44.13913 & 44 & 44.2 & 0.2 & 0 & 575 & 42.53426 \\
\hline & 40.17382 & & & & & & & 42.5362 \\
\hline & 40.21361 & 44 & 44 & 44 & 0 & 0 & 1000 & 42.52454 \\
\hline & 40.20954 & & & & & & & 42.51831 \\
\hline & 39.9098 & & & & & & & 42.51976 \\
\hline 140 & 39.90195 & & & & & & & 42.526 \\
\hline & 39.92206 & 43.95 & 43.95 & 43.95 & 0 & 0 & 1500 & 42.55167 \\
\hline & 39.94126 & 43.9 & 43.9 & 43.9 & 0 & 0 & 500 & 42.57813 \\
\hline 100 & 39.9119 & 43.9 & 43.9 & 43.9 & 0 & 0 & 500 & 42.6167 \\
\hline & 39.92155 & & & & & & & 42.64788 \\
\hline & 39.87122 & 43.95 & 43.95 & 43.95 & 0 & 0 & 1450 & 42.54019 \\
\hline & 39.84692 & 43.95 & 43.95 & 43.95 & 0 & 0 & 1000 & 42.60809 \\
\hline & 39.82745 & & & & & & & 42.61551 \\
\hline & 39.82646 & & & & & & & 42.61839 \\
\hline & 39.85743 & 43.99819 & 43.95 & 44 & 0.05 & 0 & 5536 & 42.61176 \\
\hline & 39.86679 & 43.97756 & 43.95 & 44 & 0.05 & 0 & 1114 & 42.61511 \\
\hline & 39.89482 & 44.03947 & 43.95 & 44.1 & 0.15 & 0 & 1900 & 42.61665 \\
\hline & 39.86647 & 44.02 & 43.95 & 44.09 & 0.14 & 0 & 1000 & 42.61423 \\
\hline & 39.85939 & 44.036 & 43.98 & 44.09 & 0.11 & 0 & 500 & 42.62047 \\
\hline & 39.89886 & 44.08 & 44.08 & 44.08 & 0 & 0 & 100 & 42.62271 \\
\hline & 39.89737 & 43.96625 & 43.95 & 44.08 & 0.13 & 0 & 800 & 42.62301 \\
\hline & 39.92663 & & & & & & & 42.6329 \\
\hline & 39.94207 & & & & & & & 42.61896 \\
\hline & 39.94977 & 43.95 & 43.95 & 43.95 & 0 & 0 & 100 & 42.59967 \\
\hline & 39.95173 & 43.95 & 43.95 & 43.95 & 0 & 0 & 1200 & 42.57809 \\
\hline & 39.93657 & 43.95 & 43.95 & 43.95 & 0 & 0 & 2500 & 42.57242 \\
\hline & 39.94988 & 43.94878 & 43.9 & 43.95 & 0.05 & 0 & 4100 & 42.56043 \\
\hline 650 & 39.94211 & 43.9063 & 43.8 & 43.95 & 0.15 & 0 & 3982 & 42.53276 \\
\hline 1660 & 39.96496 & 43.94657 & 43.9 & 43.98 & 0.08 & 0 & 7000 & 42.52878 \\
\hline & 39.97272 & 43.95 & 43.95 & 43.95 & 0 & 0 & 1000 & 42.52512 \\
\hline & 39.96427 & 44 & 44 & 44 & 0 & 0 & 200 & 42.52523 \\
\hline & 39.93939 & 43.95 & 43.95 & 43.95 & 0 & 0 & 1000 & 42.52451 \\
\hline & 39.93247 & 43.95 & 43.95 & 43.95 & 0 & 0 & 1000 & 42.52204 \\
\hline & 39.91724 & & & & & & & 42.53039 \\
\hline & 39.91576 & & & & & & & 42.51262 \\
\hline & 39.93473 & 44 & 44 & 44 & 0 & 0 & 900 & 42.49499 \\
\hline & 39.95081 & 44 & 44 & 44 & 0 & 0 & 2650 & 42.48888 \\
\hline & 39.96943 & 44.02682 & 44 & 44.09 & 0.09 & 0 & 2200 & 42.4782 \\
\hline & 39.97195 & 44.16751 & 44.09 & 44.2 & 0.11 & 0 & 914 & 42.47375 \\
\hline & 40.00729 & 44 & 44 & 44 & 0 & 0 & 214 & 42.4767 \\
\hline & 40.00133 & 44.05 & 44.05 & 44.05 & 0 & 0 & 100 & 42.47076 \\
\hline 300 & 39.9813 & & & & & & & 42.47444 \\
\hline & 39.98738 & 44.06357 & 44 & 44.1 & 0.1 & 0 & 7000 & 42.48744 \\
\hline & 40.00463 & 44 & 44 & 44 & 0 & 0 & 600 & 42.46079 \\
\hline & 40.00216 & 44 & 44 & 44 & 0 & 0 & 500 & 42.44919 \\
\hline & 40.01998 & 44.09762 & 44.05 & 44.1 & 0.05 & 0 & 2100 & 42.44856 \\
\hline & 40.04844 & 44.1 & 44.1 & 44.1 & 0 & 0 & 1400 & 42.4559 \\
\hline & 40.04963 & 44.19 & 44.19 & 44.19 & 0 & 0 & 500 & 42.46419 \\
\hline & 40.03602 & 44.12273 & 44 & 44.2 & 0.2 & 0 & 3300 & 42.46848 \\
\hline & 40.03366 & 44.17 & 44.15 & 44.2 & 0.05 & 0 & 2500 & 42.46812 \\
\hline & 40.02716 & 44.15 & 44.15 & 44.15 & , & 0 & 400 & 42.47542 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & 40.04062 & 44.11875 & 44.1 & 44.15 & 0.05 & 0 & 400 & 42.49941 \\
\hline & 40.05611 & 44.05 & 44.05 & 44.05 & 0 & 0 & 2000 & 42.50708 \\
\hline & 40.08157 & 44.05 & 44.05 & 44.05 & 0 & 0 & 600 & 42.50563 \\
\hline & 40.0684 & 44.05 & 44.05 & 44.05 & 0 & 0 & 100 & 42.49738 \\
\hline & 40.05768 & & & & & & & 42.52154 \\
\hline & 40.06794 & 44.14605 & 44.1 & 44.15 & 0.05 & 0 & 3800 & 42.53196 \\
\hline & 40.06248 & 44.09466 & 44.05 & 44.15 & 0.1 & 0 & 1807 & 42.53868 \\
\hline & 40.0555 & 44.18 & 44.18 & 44.18 & 0 & 0 & 4200 & 42.55644 \\
\hline & 40.06236 & 44.15646 & 44.05 & 44.18 & 0.13 & 0 & 1657 & 42.55954 \\
\hline 200 & 40.07412 & 44.19976 & 44.19 & 44.2 & 0.01 & 0 & 4100 & 42.53929 \\
\hline & 40.091 & 44.21 & 44.21 & 44.21 & 0 & 0 & 700 & 42.53922 \\
\hline 100 & 40.061 & 44.2 & 44.2 & 44.2 & 0 & 0 & 10000 & 42.52503 \\
\hline & 40.05573 & 44.2015 & 44.2 & 44.21 & 0.01 & 0 & 33900 & 42.49821 \\
\hline 44315 & 40.07659 & 44.36771 & 44.21 & 44.41 & 0.2 & 282800 & 130780 & 42.49326 \\
\hline 79774 & 40.10089 & 44.27887 & 44.21 & 44.44 & 0.23 & 10000 & 148161 & 42.50257 \\
\hline 53783 & 40.14806 & 44.31855 & 44.22 & 44.49 & 0.27 & 0 & 158514 & 42.49694 \\
\hline 46803 & 40.16155 & 44.33828 & 44.2 & 44.5 & 0.3 & 43600 & 275331 & 42.52667 \\
\hline 64130 & 40.10434 & 44.31125 & 44.1 & 44.45 & 0.35 & 14900 & 219200 & 42.50044 \\
\hline 104100 & 40.07697 & 44.20386 & 44.08 & 44.31 & 0.23 & 0 & 154189 & 42.46148 \\
\hline 118061 & 40.04144 & 44.19759 & 44.11 & 44.3 & 0.19 & 0 & 152064 & 42.44786 \\
\hline 50206 & 40.06576 & 44.21744 & 44.16 & 44.29 & 0.13 & 0 & 114754 & 42.44604 \\
\hline 63990 & 40.07075 & 44.17995 & 44.11 & 44.26 & 0.15 & 10000 & 176499 & 42.42691 \\
\hline 46000 & 40.03965 & 44.19022 & 44.02 & 44.26 & 0.24 & 0 & 160758 & 42.40157 \\
\hline 65600 & 40.02703 & 44.04158 & 43.89 & 44.18 & 0.29 & 0 & 108318 & 42.39698 \\
\hline 74984 & 40.07387 & 43.96878 & 43.82 & 44.1667 & 0.3467 & 0 & 128366 & 42.37692 \\
\hline 70122 & 40.14036 & 43.83613 & 43.65 & 44.15 & 0.5 & 0 & 108324 & 42.33438 \\
\hline 54831 & 40.14699 & 43.66502 & 43.49 & 43.82 & 0.33 & 0 & 115883 & 42.28007 \\
\hline 86154 & 40.14527 & 43.4624 & 43.29 & 43.64 & 0.35 & 10000 & 119152 & 42.24173 \\
\hline 59818 & 40.18656 & 43.29219 & 43.14 & 43.39 & 0.25 & 0 & 179735 & 42.2502 \\
\hline 53773 & 40.18379 & 43.45565 & 43.38 & 43.58 & 0.2 & 0 & 108324 & 42.2528 \\
\hline 81709 & 40.21563 & 43.66288 & 43.561 & 43.72 & 0.159 & 0 & 104557 & 42.32858 \\
\hline 35015 & 40.21141 & 43.72766 & 43.69 & 43.75 & 0.06 & 0 & 118871 & 42.34287 \\
\hline 78197 & 40.18343 & 43.76174 & 43.72 & 43.85 & 0.13 & 0 & 81519 & 42.33749 \\
\hline 67000 & 40.16514 & 43.81457 & 43.77 & 43.86 & 0.09 & 0 & 147335 & 42.31157 \\
\hline 24440 & 40.1608 & 43.84013 & 43.7 & 44.1 & 0.4 & 59202 & 169850 & 42.2831 \\
\hline 57591 & 40.11769 & 43.62772 & 43.44 & 43.72 & 0.28 & 0 & 201362 & 42.18221 \\
\hline 43227 & 40.0919 & 43.464 & 43.4 & 43.54 & 0.14 & 0 & 180243 & 42.18235 \\
\hline 45200 & 40.1147 & 43.43775 & 43.38 & 43.5 & 0.12 & 10400 & 97091 & 42.15914 \\
\hline 28956 & 40.12236 & 43.4656 & 43.37 & 43.54 & 0.17 & 0 & 128475 & 42.19265 \\
\hline 26910 & 40.10027 & 43.44116 & 43.37 & 43.54 & 0.17 & 0 & 120207 & 42.19398 \\
\hline 9800 & 40.08519 & 43.48472 & 43.45 & 43.5 & 0.05 & 0 & 158630 & 42.1875 \\
\hline 30070 & 40.06408 & 43.46316 & 43.39 & 43.51 & 0.12 & 0 & 272865 & 42.15005 \\
\hline 46420 & 40.10024 & 43.53888 & 43.46 & 43.6332 & 0.1732 & 0 & 233726 & 42.11422 \\
\hline 41009 & 40.06382 & 43.45811 & 43.35 & 43.58 & 0.23 & 0 & 185982 & 42.07453 \\
\hline 33644 & 40.03001 & 43.41373 & 43.32 & 43.47 & 0.15 & 0 & 229808 & 42.05228 \\
\hline 36287 & 40.08783 & 43.39472 & 43.32 & 43.55 & 0.23 & 19800 & 316120 & 42.0717 \\
\hline 37200 & 40.13738 & 43.70273 & 43.52 & 43.8 & 0.28 & 0 & 161612 & 42.12149 \\
\hline 39100 & 40.1295 & 43.80724 & 43.72 & 43.86 & 0.14 & 17800 & 197114 & 42.14354 \\
\hline 43326 & 40.11162 & 43.93205 & 43.79 & 44.02 & 0.23 & 10450 & 203876 & 42.17893 \\
\hline 33423 & 40.05852 & 43.73787 & 43.61 & 43.87 & 0.26 & 18000 & 143330 & 42.19514 \\
\hline 18423 & 40.01317 & 43.68093 & 43.59 & 43.78 & 0.19 & 0 & 120015 & 42.22576 \\
\hline 129208 & 39.98629 & 43.51533 & 43.35 & 43.64 & 0.29 & 0 & 167357 & 42.22131 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 40520 & 40.00425 & 43.49024 & 43.39 & 43.61 & 0.22 & 0 & 76301 & 42.2376 \\
\hline 69330 & 39.95571 & 43.47653 & 43.4 & 43.6 & 0.2 & 0 & 87439 & 42.21232 \\
\hline 55350 & 39.92736 & 43.35415 & 43.28 & 43.44 & 0.16 & 0 & 68824 & 42.1935 \\
\hline 42416 & 39.94878 & 43.33877 & 43.3 & 43.4 & 0.1 & 0 & 62801 & 42.18673 \\
\hline 40700 & 39.93104 & 43.38807 & 43.3 & 43.47 & 0.17 & 0 & 90285 & 42.17875 \\
\hline 37553 & 39.95015 & 43.46352 & 43.37 & 43.5 & 0.13 & 0 & 68358 & 42.20183 \\
\hline 48991 & 39.93547 & 43.42298 & 43.4 & 43.48 & 0.08 & 0 & 47990 & 42.17582 \\
\hline 65412 & 39.96036 & 43.41646 & 43.35 & 43.49 & 0.14 & 0 & 39491 & 42.1616 \\
\hline 92072 & 39.92596 & 43.29593 & 43.2 & 43.43 & 0.23 & 0 & 104301 & 42.13732 \\
\hline 51920 & 39.94621 & 43.12763 & 43.08 & 43.23 & 0.15 & 0 & 94042 & 42.10087 \\
\hline 31140 & 39.94252 & 43.08945 & 42.97 & 43.2 & 0.23 & 0 & 67692 & 42.10267 \\
\hline 90420 & 39.97018 & 43.02795 & 42.95 & 43.1 & 0.15 & 0 & 49379 & 42.12473 \\
\hline 70010 & 39.99116 & 43.04017 & 42.97 & 43.14 & 0.17 & 0 & 53383 & 42.12494 \\
\hline 49200 & 39.99066 & 43.05648 & 43.01 & 43.1 & 0.09 & 0 & 39590 & 42.12426 \\
\hline 24255 & 39.96073 & 43.06453 & 43 & 43.15 & 0.15 & 0 & 50052 & 42.12376 \\
\hline 25875 & 39.91786 & 43.08648 & 43.02 & 43.14 & 0.12 & 0 & 97470 & 42.16217 \\
\hline 35458 & 39.90782 & 43.07713 & 43 & 43.19 & 0.19 & 0 & 53517 & 42.17965 \\
\hline 52118 & 39.89288 & 43.0752 & 43.01 & 43.16 & 0.15 & 0 & 26857 & 42.16931 \\
\hline 46290 & 39.89055 & 43.14882 & 43.08 & 43.22 & 0.14 & 0 & 23210 & 42.17383 \\
\hline 52469 & 39.91542 & 43.03775 & 42.99 & 43.08 & 0.09 & 0 & 66100 & 42.13385 \\
\hline 42599 & 39.92607 & 43.00558 & 42.95 & 43.05 & 0.1 & 20300 & 143906 & 42.11747 \\
\hline 41354 & 39.90199 & 42.96767 & 42.92 & 43.03 & 0.11 & 0 & 85906 & 42.15704 \\
\hline 23488 & 39.91478 & 42.94824 & 42.89 & 43.05 & 0.16 & 10100 & 77723 & 42.20925 \\
\hline 23636 & 39.90184 & 43.04217 & 42.95 & 43.11 & 0.16 & 0 & 70058 & 42.21584 \\
\hline 33410 & 39.89642 & 43.08113 & 43.01 & 43.14 & 0.13 & 0 & 37662 & 42.20685 \\
\hline 29210 & 39.86773 & 43.05212 & 42.97 & 43.16 & 0.19 & 0 & 56386 & 42.18699 \\
\hline 59294 & 39.93645 & 43.01841 & 42.98 & 43.08 & 0.1 & 0 & 32202 & 41.58063 \\
\hline 99218 & 39.97546 & 43.04966 & 43 & 43.13 & 0.13 & 0 & 61003 & 42.17995 \\
\hline 44400 & 39.97678 & 43.03868 & 43 & 43.09 & 0.09 & 0 & 42386 & 42.18533 \\
\hline 17290 & 39.9823 & 43.03804 & 43.01 & 43.11 & 0.1 & 0 & 52132 & 42.23003 \\
\hline 30609 & 39.97221 & 43.18474 & 43.07 & 43.27 & 0.2 & 0 & 71300 & 42.26916 \\
\hline 20900 & 39.931 & 43.27197 & 43.18 & 43.36 & 0.18 & 0 & 69174 & 42.29346 \\
\hline 22557 & 39.93276 & 43.27549 & 43.21 & 43.34 & 0.13 & 0 & 42418 & 42.28915 \\
\hline 33270 & 39.92714 & 43.30475 & 43.23 & 43.35 & 0.12 & 0 & 51497 & 42.28174 \\
\hline 30400 & 39.94962 & 43.34233 & 43.27 & 43.39 & 0.12 & 0 & 68875 & 42.30726 \\
\hline 37860 & 39.93926 & 43.33173 & 43.28 & 43.36 & 0.08 & 0 & 61320 & 42.28833 \\
\hline 34060 & 39.96331 & 43.19528 & 43.1 & 43.3365 & 0.2365 & 0 & 61951 & 42.27036 \\
\hline 34640 & 39.895 & 43.0203 & 43 & 43.1865 & 0.1865 & 0 & 58114 & 42.25272 \\
\hline 56430 & 39.87461 & 43.00605 & 42.99 & 43.04 & 0.05 & 0 & 49271 & 42.27135 \\
\hline 41890 & 39.89274 & 43.00393 & 42.98 & 43.04 & 0.06 & 0 & 27636 & 42.2783 \\
\hline 41540 & 39.87023 & 42.954 & 42.9 & 43.03 & 0.13 & 0 & 45913 & 42.26674 \\
\hline 32810 & 39.85418 & 42.86971 & 42.8 & 42.92 & 0.12 & 0 & 95330 & 42.24104 \\
\hline 63566 & 39.83196 & 42.50405 & 42.37 & 42.81 & 0.44 & 13100 & 225740 & 42.1218 \\
\hline 34215 & 39.84307 & 42.61088 & 42.5 & 42.7 & 0.2 & 0 & 98845 & 42.10758 \\
\hline 48022 & 39.82876 & 42.50318 & 42.43 & 42.62 & 0.19 & 0 & 91844 & 42.09583 \\
\hline 39400 & 39.84705 & 42.3347 & 42.25 & 42.46 & 0.21 & 0 & 118017 & 42.04964 \\
\hline 82085 & 39.83816 & 42.31785 & 42.24 & 42.38 & 0.14 & 0 & 71324 & 41.86978 \\
\hline 123323 & 39.79218 & 42.34124 & 42.25 & 42.56 & 0.31 & 0 & 125450 & 42.04978 \\
\hline 101900 & 39.76909 & 42.58882 & 42.4 & 42.74 & 0.34 & 0 & 82708 & 42.0728 \\
\hline 62710 & 39.75417 & 42.43407 & 42.38 & 42.52 & 0.14 & 0 & 53100 & 42.0202 \\
\hline 27639 & 39.7519 & 42.3369 & 42.2 & 42.46 & 0.26 & 0 & 54075 & 41.97102 \\
\hline 45162 & 39.76511 & 42.08918 & 42 & 42.2 & 0.2 & 0 & 134594 & 41.80943 \\
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\hline 56790 & 39.78087 & 42.01765 & 41.96 & 42.4649 & 0.5049 & 0 & 147811 & 41.78889 \\
\hline 129502 & 39.72854 & 42.2346 & 42.01 & 42.45 & 0.44 & 0 & 74702 & 41.88501 \\
\hline 56469 & 39.73432 & 42.47496 & 42.12 & 42.5818 & 0.4618 & 0 & 115150 & 41.90151 \\
\hline 30754 & 39.78136 & 42.50292 & 42.42 & 42.56 & 0.14 & 0 & 87719 & 41.88024 \\
\hline 38183 & 39.80952 & 42.53944 & 42.42 & 42.69 & 0.27 & 0 & 48139 & 41.91584 \\
\hline 43200 & 39.82319 & 42.67674 & 42.58 & 42.75 & 0.17 & 0 & 94967 & 41.99773 \\
\hline 34600 & 39.80199 & 42.65142 & 42.52 & 42.75 & 0.23 & 0 & 58743 & 41.98247 \\
\hline 23540 & 39.79769 & 42.52541 & 42.47 & 42.58 & 0.11 & 0 & 36785 & 41.93145 \\
\hline 46816 & 39.76935 & 42.50703 & 42.43 & 42.56 & 0.13 & 0 & 22201 & 41.98545 \\
\hline 37939 & 39.74543 & 42.48034 & 42.41 & 42.6 & 0.19 & 0 & 32384 & 41.99409 \\
\hline 14600 & 39.74899 & 42.5723 & 42.47 & 42.63 & 0.16 & 0 & 57339 & 42.06825 \\
\hline 13399 & 39.75064 & 42.6325 & 42.57 & 42.7 & 0.13 & 0 & 55110 & 42.08693 \\
\hline 31619 & 39.73244 & 42.58748 & 42.54 & 42.67 & 0.13 & 0 & 56207 & 42.08533 \\
\hline 13300 & 39.75973 & 42.4466 & 42.35 & 42.56 & 0.21 & 0 & 56127 & 42.05737 \\
\hline 25427 & 39.73343 & 42.40417 & 42.34 & 42.49 & 0.15 & 0 & 30520 & 41.99171 \\
\hline 28610 & 39.74943 & 42.58504 & 42.49 & 42.66 & 0.17 & 0 & 24476 & 42.02866 \\
\hline 24845 & 39.72599 & 42.6263 & 42.57 & 42.69 & 0.12 & 0 & 36910 & 42.02381 \\
\hline 23605 & 39.71242 & 42.55013 & 42.51 & 42.6 & 0.09 & 0 & 16800 & 41.99869 \\
\hline 19400 & 39.71846 & 42.49564 & 42.46 & 42.54 & 0.08 & 0 & 15600 & 41.97687 \\
\hline 25378 & 39.76373 & 42.51061 & 42.47 & 42.54 & 0.07 & 0 & 8900 & 41.97767 \\
\hline 55110 & 39.77421 & 42.58256 & 42.53 & 42.63 & 0.1 & 0 & 18050 & 41.99792 \\
\hline 28776 & 39.78102 & 42.63446 & 42.58 & 42.68 & 0.1 & 0 & 31297 & 42.0061 \\
\hline 40600 & 39.80361 & 42.69108 & 42.65 & 42.74 & 0.09 & 0 & 23809 & 41.99423 \\
\hline 101840 & 39.86847 & 42.67332 & 42.6205 & 42.71 & 0.0895 & 0 & 16916 & 41.99232 \\
\hline 36810 & 39.88055 & 42.70602 & 42.6554 & 42.77 & 0.1146 & 0 & 13368 & 41.98154 \\
\hline 19350 & 39.8879 & 42.57261 & 42.45 & 42.76 & 0.31 & 0 & 38800 & 41.8769 \\
\hline 52438 & 39.88065 & 42.46818 & 42.41 & 42.53 & 0.12 & 0 & 31418 & 41.86352 \\
\hline 27638 & 39.88998 & 42.37523 & 42.3 & 42.45 & 0.15 & 0 & 40066 & 41.83658 \\
\hline 24736 & 39.88928 & 42.42575 & 42.34 & 42.5 & 0.16 & 0 & 17675 & 41.87824 \\
\hline 27300 & 39.86126 & 42.48466 & 42.41 & 42.53 & 0.12 & 0 & 19100 & 41.89711 \\
\hline 46150 & 39.86723 & 42.52683 & 42.46 & 42.59 & 0.13 & 0 & 23371 & 41.90399 \\
\hline 44211 & 39.86187 & 42.56437 & 42.52 & 42.6 & 0.08 & 0 & 18482 & 41.92679 \\
\hline 18014 & 39.84866 & 42.50318 & 42.45 & 42.55 & 0.1 & 0 & 26200 & 41.88806 \\
\hline 8925 & 39.81877 & 42.48521 & 42.45 & 42.52 & 0.07 & 0 & 13100 & 41.88871 \\
\hline 54124 & 39.89846 & 42.65322 & 42.51 & 42.73 & 0.22 & 0 & 31662 & 41.96667 \\
\hline 50700 & 39.91919 & 42.62832 & 42.595 & 42.69 & 0.095 & 0 & 27916 & 41.97644 \\
\hline 35346 & 39.91982 & 42.54317 & 42.49 & 42.61 & 0.12 & 0 & 42405 & 41.95551 \\
\hline 36900 & 39.92189 & 42.50627 & 42.48 & 42.58 & 0.1 & 0 & 23500 & 41.93311 \\
\hline 45284 & 39.94079 & 42.55323 & 42.49 & 42.62 & 0.13 & 0 & 20423 & 41.92738 \\
\hline 20228 & 39.94954 & 42.59579 & 42.5 & 42.67 & 0.17 & 0 & 22919 & 41.9312 \\
\hline 42900 & 39.94392 & 42.38186 & 42.29 & 42.53 & 0.24 & 0 & 55645 & 41.85349 \\
\hline 15200 & 39.92805 & 42.3523 & 42.3 & 42.41 & 0.11 & 0 & 64222 & 41.81891 \\
\hline 35499 & 39.91868 & 42.35799 & 42.26 & 42.47 & 0.21 & & 62500 & 41.83389 \\
\hline 11900 & 39.93073 & 42.29433 & 42.239 & 42.37 & 0.131 & & 45035 & 41.84035 \\
\hline 29534 & 39.96416 & 42.22863 & 42.18 & 42.28 & 0.1 & 0 & 41890 & 41.81804 \\
\hline 39245 & 39.99013 & 42.27707 & 42.21 & 42.37 & 0.16 & 0 & 52400 & 41.84482 \\
\hline 23799 & 39.98103 & 42.17029 & 42.08 & 42.25 & 0.17 & 0 & 53375 & 41.78311 \\
\hline 14737 & 39.99071 & 42.13908 & 42.08 & 42.28 & 0.2 & 0 & 76288 & 41.76725 \\
\hline 47703 & 40.00284 & 42.28903 & 42.21 & 42.37 & 0.16 & 0 & 45515 & 41.79477 \\
\hline 89614 & 40.03456 & 42.3341 & 42.27 & 42.39 & 0.12 & 0 & 39901 & 41.83348 \\
\hline 80233 & 40.09739 & 42.31612 & 42.24 & 42.38 & 0.14 & 0 & 33704 & 41.83365 \\
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\hline 51228 & 40.09917 & 42.12733 & 42.04 & 42.23 & 0.19 & 0 & 50407 & 41.78726 \\
\hline 46398 & 40.10231 & 42.01701 & 41.96 & 42.07 & 0.11 & 0 & 78018 & 41.75261 \\
\hline 51038 & 40.15628 & 41.90193 & 41.8 & 41.998 & 0.198 & 0 & 63554 & 41.70882 \\
\hline 73423 & 40.15397 & 41.88878 & 41.82 & 41.97 & 0.15 & 0 & 68459 & 41.70879 \\
\hline 51411 & 40.11214 & 41.72844 & 41.65 & 41.8725 & 0.2225 & 0 & 98423 & 41.65168 \\
\hline 67857 & 40.08911 & 41.80125 & 41.73 & 41.89 & 0.16 & 0 & 48207 & 41.68022 \\
\hline 48438 & 40.09067 & 41.83077 & 41.7 & 41.95 & 0.25 & 0 & 44163 & 41.71033 \\
\hline 32656 & 40.1156 & 41.88365 & 41.82 & 41.95 & 0.13 & 0 & 65784 & 41.74817 \\
\hline 45598 & 40.13408 & 41.88993 & 41.84 & 41.93 & 0.09 & 0 & 47710 & 41.732 \\
\hline 35204 & 40.15062 & 41.92379 & 41.85 & 42 & 0.15 & 0 & 65401 & 41.75149 \\
\hline 63137 & 40.14026 & 42.04667 & 41.97 & 42.0925 & 0.1225 & 0 & 69002 & 41.78691 \\
\hline 55668 & 40.11479 & 41.96073 & 41.9 & 42.05 & 0.15 & 0 & 63396 & 41.72246 \\
\hline 17934 & 40.11826 & 41.94511 & 41.91 & 42 & 0.09 & 0 & 33035 & 41.70633 \\
\hline 36400 & 40.13006 & 41.892 & 41.86 & 41.94 & 0.08 & 0 & 43000 & 41.67385 \\
\hline 45923 & 40.09885 & 41.89072 & 41.85 & 41.95 & 0.1 & 0 & 35432 & 41.67829 \\
\hline 55980 & 40.09624 & 41.85964 & 41.8 & 41.9 & 0.1 & 0 & 51440 & 41.64898 \\
\hline 26765 & 40.10358 & 41.84798 & 41.78 & 41.93 & 0.15 & 0 & 47275 & 41.627 \\
\hline 25098 & 40.10483 & 41.77937 & 41.71 & 41.88 & 0.17 & 0 & 77839 & 41.57848 \\
\hline 29444 & 40.10065 & 41.72346 & 41.66 & 41.8 & 0.14 & 0 & 53343 & 41.56161 \\
\hline 36999 & 40.0711 & 41.83859 & 41.78 & 41.9 & 0.12 & 0 & 53710 & 41.54372 \\
\hline 50220 & 40.03908 & 41.87905 & 41.84 & 41.92 & 0.08 & 0 & 39329 & 41.55025 \\
\hline 35009 & 40.02815 & 41.95226 & 41.89 & 42 & 0.11 & 0 & 20385 & 41.58374 \\
\hline 47790 & 40.04272 & 42.07039 & 41.97 & 42.14 & 0.17 & 0 & 71446 & 41.61995 \\
\hline 16329 & 40.02756 & 42.10163 & 42.02 & 42.16 & 0.14 & 0 & 31730 & 41.62857 \\
\hline 33620 & 40.04048 & 42.04268 & 42.01 & 42.08 & 0.07 & 0 & 29297 & 41.61713 \\
\hline 2600 & 40.04575 & 42.02318 & 41.99 & 42.08 & 0.09 & 0 & 20862 & 41.62758 \\
\hline 24325 & 40.04115 & 42.05643 & 42.01 & 42.11 & 0.1 & 0 & 39300 & 41.66602 \\
\hline 10905 & 40.03652 & 42.08331 & 42.05 & 42.1 & 0.05 & 0 & 30500 & 41.69002 \\
\hline 17600 & 40.01892 & 42.07588 & 42.06 & 42.09 & 0.03 & 0 & 13907 & 41.69314 \\
\hline 15813 & 40.03004 & 42.08261 & 42.06 & 42.11 & 0.05 & 0 & 18890 & 41.69921 \\
\hline 26904 & 40.0392 & 42.09111 & 42.06 & 42.14 & 0.08 & 0 & 21523 & 41.6935 \\
\hline 29682 & 40.04817 & 42.04656 & 42 & 42.09 & 0.09 & 0 & 33830 & 41.65889 \\
\hline 22520 & 40.04466 & 42.11765 & 42 & 42.18 & 0.18 & 0 & 48530 & 41.70621 \\
\hline 7650 & 40.05324 & 42.16913 & 42.12 & 42.2 & 0.08 & 0 & 39000 & 41.72813 \\
\hline 20800 & 40.08121 & 42.2084 & 42.15 & 42.3 & 0.15 & 0 & 44915 & 41.71619 \\
\hline 51540 & 40.1313 & 42.31514 & 42.28 & 42.34 & 0.06 & 0 & 28270 & 41.73098 \\
\hline 26730 & 40.16758 & 42.38988 & 42.33 & 42.44 & 0.11 & 0 & 61500 & 41.73584 \\
\hline 39154 & 40.2082 & 42.46968 & 42.38 & 42.55 & 0.17 & 0 & 64479 & 41.75532 \\
\hline 94112 & 40.24441 & 42.65376 & 42.54 & 42.76 & 0.22 & 0 & 86016 & 41.83525 \\
\hline 34861 & 40.2243 & 42.66708 & 42.59 & 42.77 & 0.18 & 0 & 59585 & 41.85389 \\
\hline 21524 & 40.1738 & 42.80522 & 42.64 & 42.93 & 0.29 & 0 & 138552 & 41.86807 \\
\hline 22200 & 40.15804 & 42.93257 & 42.85 & 42.98 & 0.13 & 0 & 95483 & 41.88761 \\
\hline 29257 & 40.16002 & 42.86712 & 42.82 & 42.93 & 0.11 & 0 & 61980 & 41.87393 \\
\hline 25372 & 40.19935 & 42.8475 & 42.8 & 42.92 & 0.12 & 0 & 48400 & 41.84964 \\
\hline 16600 & 40.18963 & 42.80678 & 42.76 & 42.85 & 0.09 & 0 & 27600 & 41.85095 \\
\hline 11400 & 40.21679 & 42.73066 & 42.69 & 42.8 & 0.11 & 0 & 31590 & 41.82568 \\
\hline 15600 & 40.21086 & 42.78927 & 42.71 & 42.85 & 0.14 & 0 & 42579 & 41.84043 \\
\hline 20300 & 40.17705 & 42.8531 & 42.81 & 42.9 & 0.09 & 0 & 29872 & 41.88371 \\
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\hline 13430 & 40.15154 & 42.86942 & 42.8 & 42.96 & 0.16 & 0 & 29939 & 41.87631 \\
\hline 10730 & 40.14216 & 42.83824 & 42.77 & 42.89 & 0.12 & 0 & 28433 & 41.85966 \\
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\hline 30203 & 40.19946 & 42.91761 & 42.85 & 42.96 & 0.11 & 0 & 29025 & 41.87667 \\
\hline 54112 & 40.2296 & 42.92943 & 42.85 & 42.98 & 0.13 & 0 & 46360 & 41.88058 \\
\hline 31338 & 40.21918 & 42.82163 & 42.72 & 42.91 & 0.19 & 0 & 45790 & 41.83454 \\
\hline 34246 & 40.19084 & 42.75919 & 42.72 & 42.83 & 0.11 & 0 & 30500 & 41.81242 \\
\hline 20025 & 40.15357 & 42.81913 & 42.77 & 42.86 & 0.09 & 0 & 32116 & 41.81978 \\
\hline 22480 & 40.18075 & 42.84626 & 42.82 & 42.87 & 0.05 & 0 & 18222 & 41.80623 \\
\hline 40121 & 40.21629 & 42.85468 & 42.81 & 42.89 & 0.08 & 0 & 38430 & 41.79408 \\
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\hline 27600 & 40.19029 & 42.99746 & 42.95 & 43.05 & 0.1 & 0 & 50181 & 41.87346 \\
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\hline 18440 & 40.1473 & 43.00138 & 42.96 & 43.06 & 0.1 & 0 & 28296 & 41.89557 \\
\hline 14198 & 40.15714 & 43.06484 & 42.99 & 43.12 & 0.13 & 0 & 76379 & 41.90707 \\
\hline 27400 & 40.18775 & 43.03701 & 43 & 43.09 & 0.09 & 0 & 38742 & 41.91707 \\
\hline 22800 & 40.1734 & 42.99143 & 42.92 & 43.03 & 0.11 & 0 & 37365 & 41.89128 \\
\hline 28456 & 40.17291 & 42.96523 & 42.92 & 43.01 & 0.09 & 0 & 26354 & 41.90978 \\
\hline 26200 & 40.16453 & 43.00736 & 42.95 & 43.06 & 0.11 & 0 & 37558 & 41.92703 \\
\hline 10500 & 40.16001 & 42.91339 & 42.88 & 42.97 & 0.09 & 0 & 24499 & 41.90221 \\
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\hline 20325 & 40.17272 & 42.87525 & 42.85 & 42.92 & 0.07 & 0 & 18010 & 41.87012 \\
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\hline 26670 & 40.2206 & 42.88522 & 42.82 & 42.93 & 0.11 & 0 & 19428 & 41.82922 \\
\hline 29571 & 40.27456 & 42.82103 & 42.78 & 42.86 & 0.08 & 0 & 14584 & 41.79774 \\
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\hline 20288 & 40.22696 & 42.7221 & 42.58 & 42.81 & 0.23 & 0 & 52613 & 41.77674 \\
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\hline 15000 & 40.27467 & 42.85352 & 42.81 & 42.87 & 0.06 & 0 & 48820 & 41.83584 \\
\hline 31966 & 40.29998 & 42.81363 & 42.79 & 42.86 & 0.07 & 0 & 28920 & 41.80871 \\
\hline 24272 & 40.30404 & 42.82952 & 42.81 & 42.85 & 0.04 & 0 & 21941 & 41.7814 \\
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\hline 9851 & 40.27175 & 42.80632 & 42.77 & 42.84 & 0.07 & 0 & 14864 & 41.79783 \\
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\hline 6100 & 40.24685 & 42.8201 & 42.79 & 42.87 & 0.08 & 0 & 15967 & 41.79174 \\
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\hline 13700 & 40.23403 & 42.90951 & 42.86 & 42.94 & 0.08 & 0 & 20836 & 41.82874 \\
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\hline 23617 & 40.17992 & 42.7434 & 42.67 & 42.8 & 0.13 & 0 & 24800 & 41.75738 \\
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\hline 28220 & 40.16591 & 42.6958 & 42.66 & 42.73 & 0.07 & 0 & 14159 & 41.71677 \\
\hline 28724 & 40.18366 & 42.64331 & 42.59 & 42.71 & 0.12 & 0 & 30269 & 41.68297 \\
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\hline 18960 & 40.20875 & 42.52993 & 42.51 & 42.59 & 0.08 & 0 & 55655 & 41.68327 \\
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\hline 17813 & 40.23411 & 42.58818 & 42.51 & 42.67 & 0.16 & 0 & 67739 & 41.70904 \\
\hline 20373 & 40.21044 & 42.62377 & 42.56 & 42.68 & 0.12 & 0 & 54343 & 41.71788 \\
\hline 15614 & 40.19345 & 42.71166 & 42.64 & 42.8 & 0.16 & 0 & 69030 & 41.74164 \\
\hline 25788 & 40.1754 & 42.71116 & 42.67 & 42.781 & 0.111 & 0 & 29109 & 41.7139 \\
\hline 19434 & 40.17663 & 42.6931 & 42.6418 & 42.73 & 0.0882 & 0 & 23545 & 41.70384 \\
\hline 7800 & 40.18262 & 42.63753 & 42.54 & 42.72 & 0.18 & 0 & 38130 & 41.67874 \\
\hline 6900 & 40.16255 & 42.42433 & 42.36 & 42.56 & 0.2 & 0 & 69978 & 41.62002 \\
\hline 12220 & 40.17251 & 42.31685 & 42.28 & 42.37 & 0.09 & 0 & 66891 & 41.59475 \\
\hline 9650 & 40.18822 & 42.37851 & 42.305 & 42.425 & 0.12 & 0 & 31237 & 41.61695 \\
\hline 15452 & 40.18579 & 42.32316 & 42.25 & 42.38 & 0.13 & 0 & 26330 & 41.57541 \\
\hline 5080 & 40.18689 & 42.33898 & 42.28 & 42.4 & 0.12 & 0 & 23830 & 41.58293 \\
\hline 13500 & 40.21168 & 42.43489 & 42.35 & 42.5 & 0.15 & 0 & 44502 & 41.64173 \\
\hline 7025 & 40.2262 & 42.44359 & 42.41 & 42.47 & 0.06 & 0 & 13900 & 41.63537 \\
\hline 8300 & 40.22764 & 42.4258 & 42.38 & 42.48 & 0.1 & 0 & 24900 & 41.6352 \\
\hline 12540 & 40.23273 & 42.37021 & 42.34 & 42.43 & 0.09 & 0 & 36500 & 41.5882 \\
\hline 11315 & 40.24953 & 42.34957 & 42.3 & 42.43 & 0.13 & 0 & 43640 & 41.57354 \\
\hline 32471 & 40.22962 & 42.30523 & 42.28 & 42.35 & 0.07 & 0 & 20000 & 41.56286 \\
\hline 16703 & 40.2066 & 42.34979 & 42.25 & 42.46 & 0.21 & 0 & 41900 & 41.60415 \\
\hline 15700 & 40.18274 & 42.47773 & 42.41 & 42.56 & 0.15 & 0 & 72250 & 41.69107 \\
\hline 13632 & 40.16434 & 42.60055 & 42.51 & 42.68 & 0.17 & 0 & 82844 & 41.75208 \\
\hline 20729 & 40.18673 & 42.51376 & 42.43 & 42.58 & 0.15 & 0 & 40248 & 41.71419 \\
\hline 24956 & 40.22105 & 42.50668 & 42.43 & 42.57 & 0.14 & 0 & 41702 & 41.73397 \\
\hline 35728 & 40.21771 & 42.47508 & 42.45 & 42.51 & 0.06 & 0 & 23534 & 41.72552 \\
\hline 11000 & 40.21884 & 42.44826 & 42.39 & 42.5 & 0.11 & 0 & 50296 & 41.70394 \\
\hline 23786 & 40.24756 & 42.48819 & 42.47 & 42.51 & 0.04 & 0 & 33237 & 41.73833 \\
\hline 14905 & 40.24054 & 42.50153 & 42.46 & 42.54 & 0.08 & 0 & 24111 & 41.74758 \\
\hline 24400 & 40.23693 & 42.46414 & 42.36 & 42.56 & 0.2 & 0 & 73909 & 41.73839 \\
\hline 23572 & 40.22145 & 42.48677 & 42.41 & 42.56 & 0.15 & 0 & 41689 & 41.75546 \\
\hline 27422 & 40.23954 & 42.51541 & 42.47 & 42.56 & 0.09 & 0 & 34376 & 41.8031 \\
\hline 61683 & 40.281 & 42.51705 & 42.48 & 42.58 & 0.1 & 13400 & 62894 & 41.81668 \\
\hline 22300 & 40.29088 & 42.51671 & 42.45 & 42.59 & 0.14 & & 36241 & 41.80693 \\
\hline 33148 & 40.27223 & 42.49557 & 42.43 & 42.58 & 0.15 & 0 & 43004 & 41.79971 \\
\hline 20733 & 40.27772 & 42.45568 & 42.39 & 42.51 & 0.12 & 0 & 24431 & 41.78631 \\
\hline 24900 & 40.28267 & 42.42452 & 42.4 & 42.45 & 0.05 & 0 & 15090 & 41.78349 \\
\hline 26800 & 40.28471 & 42.41024 & 42.35 & 42.46 & 0.11 & 0 & 20510 & 41.76166 \\
\hline 23090 & 40.31066 & 42.43472 & 42.39 & 42.49 & 0.1 & 0 & 23890 & 41.76311 \\
\hline 39050 & 40.35953 & 42.40025 & 42.33 & 42.45 & 0.12 & 0 & 25880 & 41.7264 \\
\hline 26876 & 40.348 & 42.47276 & 42.42 & 42.52 & 0.1 & 0 & 26724 & 41.76867 \\
\hline 36448 & 40.35444 & 42.5217 & 42.46 & 42.57 & 0.11 & 0 & 28435 & 41.7956 \\
\hline 40821 & 40.31423 & 42.53532 & 42.48 & 42.58 & 0.1 & 0 & 29905 & 41.81528 \\
\hline 30100 & 40.30331 & 42.52868 & 42.5 & 42.58 & 0.08 & 0 & 45530 & 41.83513 \\
\hline 20249 & 40.31075 & 42.54242 & 42.5 & 42.59 & 0.09 & 0 & 28598 & 41.83996 \\
\hline 15600 & 40.32975 & 42.50711 & 42.48 & 42.55 & 0.07 & 0 & 18700 & 41.83044 \\
\hline 17344 & 40.32518 & 42.47166 & 42.43 & 42.53 & 0.1 & 0 & 27136 & 41.81858 \\
\hline 15286 & 40.33349 & 42.49949 & 42.42 & 42.55 & 0.13 & 0 & 30332 & 41.8426 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 23962 & 40.35303 & 42.48832 & 42.45 & 42.55 & 0.1 & 0 & 20887 & 41.85046 \\
\hline 43084 & 40.35718 & 42.50757 & 42.45 & 42.55 & 0.1 & 0 & 43233 & 41.87236 \\
\hline 28113 & 40.35584 & 42.50657 & 42.46 & 42.52 & 0.06 & 0 & 24513 & 41.8645 \\
\hline 30417 & 40.32004 & 42.47489 & 42.415 & 42.53 & 0.115 & 0 & 30015 & 41.84896 \\
\hline 19560 & 40.35484 & 42.46297 & 42.38 & 42.55 & 0.17 & 0 & 59255 & 41.8609 \\
\hline 18563 & 40.34884 & 42.36159 & 42.32 & 42.4 & 0.08 & 0 & 39054 & 41.83707 \\
\hline 24804 & 40.33148 & 42.40379 & 42.38 & 42.44 & 0.06 & 0 & 16087 & 41.87064 \\
\hline 15108 & 40.33388 & 42.42349 & 42.38 & 42.45 & 0.07 & 0 & 33798 & 41.88849 \\
\hline 19345 & 40.34413 & 42.3927 & 42.37 & 42.41 & 0.04 & 0 & 13900 & 41.88779 \\
\hline 37710 & 40.36199 & 42.45562 & 42.4 & 42.5 & 0.1 & 0 & 77180 & 41.91958 \\
\hline 24930 & 40.32753 & 42.42868 & 42.38 & 42.46 & 0.08 & 0 & 43450 & 41.91762 \\
\hline 12907 & 40.32564 & 42.38827 & 42.36 & 42.42 & 0.06 & 0 & 34410 & 41.89716 \\
\hline 20395 & 40.32364 & 42.38429 & 42.34 & 42.41 & 0.07 & 0 & 25272 & 41.87503 \\
\hline 21633 & 40.35226 & 42.39829 & 42.37 & 42.44 & 0.07 & 0 & 28323 & 41.87499 \\
\hline 37728 & 40.35806 & 42.46288 & 42.44 & 42.49 & 0.05 & 0 & 31531 & 41.90882 \\
\hline 32495 & 40.39308 & 42.48807 & 42.46 & 42.52 & 0.06 & 0 & 42186 & 41.91378 \\
\hline 52545 & 40.39489 & 42.40345 & 42.37 & 42.46 & 0.09 & 0 & 38959 & 41.88983 \\
\hline 123984 & 40.37757 & 42.44219 & 42.39 & 42.47 & 0.08 & 0 & 24009 & 41.91204 \\
\hline 118726 & 40.40086 & 42.4726 & 42.43 & 42.52 & 0.09 & 0 & 17989 & 41.91091 \\
\hline 50650 & 40.40506 & 42.45048 & 42.37 & 42.54 & 0.17 & 0 & 45641 & 41.90995 \\
\hline 19532 & 40.39457 & 42.35649 & 42.31 & 42.4 & 0.09 & 0 & 29590 & 41.82392 \\
\hline 32996 & 40.42453 & 42.35873 & 42.31 & 42.4 & 0.09 & 0 & 20626 & 41.81029 \\
\hline 34754 & 40.42504 & 42.40509 & 42.39 & 42.44 & 0.05 & 0 & 12544 & 41.82162 \\
\hline 31323 & 40.40039 & 42.42178 & 42.39 & 42.45 & 0.06 & 0 & 20496 & 41.84747 \\
\hline 38043 & 40.40073 & 42.42479 & 42.39 & 42.46 & 0.07 & 0 & 25419 & 41.845 \\
\hline 34256 & 40.41036 & 42.46386 & 42.44 & 42.49 & 0.05 & 0 & 20840 & 41.85627 \\
\hline 76535 & 40.45344 & 42.44243 & 42.36 & 42.49 & 0.13 & 0 & 42175 & 41.84318 \\
\hline 39238 & 40.46364 & 42.39085 & 42.31 & 42.44 & 0.13 & 0 & 38017 & 41.80433 \\
\hline 61981 & 40.48763 & 42.34023 & 42.28 & 42.43 & 0.15 & 0 & 45011 & 41.79726 \\
\hline 74320 & 40.51817 & 42.30914 & 42.24 & 42.4 & 0.16 & 0 & 43097 & 41.78608 \\
\hline 34533 & 40.47823 & 42.35554 & 42.3 & 42.39 & 0.09 & 0 & 30300 & 41.81176 \\
\hline 61506 & 40.43885 & 42.33709 & 42.31 & 42.38 & 0.07 & 0 & 26624 & 41.79891 \\
\hline 43310 & 40.43651 & 42.39412 & 42.34 & 42.45 & 0.11 & 0 & 21735 & 41.82337 \\
\hline 22454 & 40.44391 & 42.38605 & 42.37 & 42.4 & 0.03 & 0 & 12760 & 41.82568 \\
\hline 39500 & 40.42661 & 42.38702 & 42.36 & 42.43 & 0.07 & 0 & 20367 & 41.83155 \\
\hline 24934 & 40.42497 & 42.35755 & 42.31 & 42.3918 & 0.0818 & 0 & 23045 & 41.82483 \\
\hline 30970 & 40.41716 & 42.283 & 42.25 & 42.32 & 0.07 & 0 & 32526 & 41.77975 \\
\hline 18850 & 40.39919 & 42.21309 & 42.16 & 42.3 & 0.14 & 0 & 48768 & 41.74422 \\
\hline 8310 & 40.39459 & 42.28164 & 42.24 & 42.31 & 0.07 & 0 & 30401 & 41.78353 \\
\hline 28750 & 40.39862 & 42.26484 & 42.22 & 42.3 & 0.08 & 0 & 16000 & 41.76255 \\
\hline 59729 & 40.38928 & 42.18258 & 42.14 & 42.26 & 0.12 & 0 & 42925 & 41.71144 \\
\hline 47800 & 40.35491 & 42.1983 & 42.13 & 42.24 & 0.11 & 0 & 81672 & 41.69537 \\
\hline 16720 & 40.33715 & 42.23722 & 42.16 & 42.29 & 0.13 & 0 & 35809 & 41.75255 \\
\hline 16489 & 40.34717 & 42.30669 & 42.24 & 42.37 & 0.13 & 0 & 25932 & 41.77085 \\
\hline 26323 & 40.36765 & 42.39251 & 42.35 & 42.44 & 0.09 & 0 & 43675 & 41.8303 \\
\hline 13081 & 40.35175 & 42.41219 & 42.36 & 42.45 & 0.09 & 0 & 51972 & 41.81393 \\
\hline 7200 & 40.34304 & 42.45388 & 42.42 & 42.5 & 0.08 & 0 & 55037 & 41.85946 \\
\hline 14863 & 40.35663 & 42.44768 & 42.4 & 42.49 & 0.09 & 0 & 43075 & 41.8903 \\
\hline 10655 & 40.36408 & 42.40634 & 42.35 & 42.44 & 0.09 & 0 & 35674 & 41.87951 \\
\hline 21100 & 40.38398 & 42.38597 & 42.35 & 42.42 & 0.07 & 0 & 17829 & 41.84604 \\
\hline 25036 & 40.41272 & 42.42503 & 42.34 & 42.48 & 0.14 & 0 & 35385 & 41.86137 \\
\hline 21700 & 40.38751 & 42.4484 & 42.41 & 42.49 & 0.08 & 0 & 30134 & 41.87658 \\
\hline
\end{tabular}
\begin{tabular}{rrrrrrrrr}
31243 & 40.3568 & 42.49903 & 42.45 & 42.53 & 0.08 & 15700 & 87243 & 41.91621 \\
40542 & 40.3528 & 42.59564 & 42.51 & 42.67 & 0.16 & 0 & 75832 & 41.96335 \\
25200 & 40.37601 & 42.70362 & 42.63 & 42.76 & 0.13 & 0 & 102875 & 42.0058 \\
33100 & 40.34792 & 42.66751 & 42.59 & 42.72 & 0.13 & 0 & 63416 & 41.97606 \\
11419 & 40.3637 & 42.71358 & 42.65 & 42.76 & 0.11 & 0 & 57491 & 41.97444 \\
24347 & 40.3897 & 42.79686 & 42.73 & 42.845 & 0.115 & 0 & 86364 & 41.99767 \\
26384 & 40.37485 & 42.84657 & 42.76 & 42.93 & 0.17 & 0 & 88144 & 42.01184 \\
29852 & 40.37074 & 42.88621 & 42.83 & 42.95 & 0.12 & 0 & 55635 & 42.01488 \\
30585 & 40.38004 & 42.87451 & 42.82 & 42.92 & 0.1 & 0 & 81363 & 42.01463 \\
17870 & 40.38634 & 42.89441 & 42.82 & 42.95 & 0.13 & 0 & 106089 & 42.03646 \\
37200 & 40.40522 & 42.9321 & 42.85 & 42.98 & 0.13 & 0 & 85454 & 42.04462 \\
33824 & 40.38278 & 42.99243 & 42.95 & 43.02 & 0.07 & 0 & 93749 & 42.0841 \\
31718 & 40.3914 & 43.00117 & 42.97 & 43.04 & 0.07 & 0 & 94328 & 42.10201 \\
38356 & 40.41316 & 43.03112 & 43 & 43.06 & 0.06 & 0 & 102379 & 42.13034 \\
100270 & 40.4269 & 42.93608 & 42.7907 & 43.05 & 0.2593 & 57000 & 104232 & 42.12971 \\
26801 & 40.42192 & 43.00979 & 42.96 & 43.05 & 0.09 & 0 & 66276 & 42.11909 \\
52320 & 40.41918 & 43.06042 & 43.02 & 43.09 & 0.07 & 0 & 96565 & 42.13102 \\
106810 & 40.43663 & 43.1308 & 43.0674 & 43.21 & 0.1426 & 0 & 114819 & 42.17531 \\
101800 & 40.45581 & 43.21582 & 43.13 & 43.31 & 0.18 & 10000 & 159308 & 42.18179 \\
105510 & 40.4688 & 43.30434 & 43.25 & 43.35 & 0.1 & 0 & 121430 & 42.19962 \\
83820 & 40.43399 & 43.32752 & 43.26 & 43.38 & 0.12 & 0 & 127959 & 42.1968 \\
38480 & 40.4408 & 43.24838 & 43.12 & 43.31 & 0.19 & 0 & 96765 & 42.15633 \\
43480 & 40.44832 & 43.09752 & 43.03 & 43.17 & 0.14 & 0 & 102892 & 42.11469 \\
103690 & 40.49839 & 43.14388 & 43.06 & 43.23 & 0.17 & 0 & 96467 & 42.13214 \\
55359 & 40.50536 & 43.22916 & 42.174 & 43.3 & 1.126 & 0 & 69607 & 42.16614 \\
71022 & 40.50319 & 43.18528 & 43.14 & 43.24 & 0.1 & 0 & 86924 & 42.13226 \\
141529 & 40.52615 & 43.17787 & 43.13 & 43.25 & 0.12 & 0 & 58608 & 42.13024 \\
108086 & 40.54976 & 43.23057 & 43.19 & 43.27 & 0.08 & 0 & 98014 & 42.16293 \\
88953 & 40.54997 & 43.22114 & 43.16 & 43.28 & 0.12 & 0 & 96110 & 42.17495 \\
121779 & 40.53522 & 43.18114 & 43.15 & 43.21 & 0.06 & 0 & 79257 & 42.14597 \\
86591 & 40.57905 & 43.2041 & 43.15 & 43.25 & 0.1 & 0 & 97531 & 42.13739 \\
57834 & 40.59884 & 43.15304 & 43.13 & 43.19 & 0.06 & 0 & 79163 & 42.11534 \\
47080 & 40.58731 & 43.16887 & 43.13 & 43.2 & 0.07 & 0 & 95512 & 42.1118 \\
216407 & 40.58152 & 43.16578 & 43.09 & 43.22 & 0.13 & 0 & 163630 & 42.11669 \\
171489 & 40.55536 & 43.02557 & 42.95 & 43.11 & 0.16 & 0 & 200799 & 42.11094 \\
149465 & 40.5561 & 43.13835 & 42.99 & 43.22 & 0.23 & 0 & 200438 & 42.13853 \\
65850 & 40.55583 & 43.20279 & 43.16 & 43.25 & 0.09 & 0 & 119052 & 42.16863 \\
86794 & 40.53812 & 43.23701 & 43.18 & 43.3 & 0.12 & 0 & 196527 & 42.17666 \\
167218 & 40.51536 & 43.29876 & 43.21 & 43.35 & 0.14 & 10000 & 175521 & 42.20924 \\
500 & 40.51436 & 43.31222 & 43.29 & 43.32 & 0.03 & 0 & 2700 & 42.22951
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline meanp_9 & minp_9 & maxp_9 & rangep_9 & tradebig_9 & 9 tradesmal & spindex_9 & meanp_10 & p_10 \\
\hline 43.31222 & 43.29 & 43.32 & 0.03 & 0 & - 2700 & 43.27 & 40.48328 & 40.42 \\
\hline 43.295 & 43.295 & 43.295 & 0 & 0 & 0100 & 43.28534 & 40.46516 & 40.44 \\
\hline \multirow[t]{7}{*}{43.27} & 43.27 & 43.27 & 0 & 776500 & - 2000 & 43.2864 & & \\
\hline & & & & & & 43.28747 & 40.4 & 40.4 \\
\hline & & & & & & 43.29211 & & \\
\hline & & & & & & 43.30379 & & \\
\hline & & & & & & 43.2922 & 41.38705 & 40.14 \\
\hline & & & & & & 43.29209 & 40.39607 & 40.39 \\
\hline & & & & & & 43.27971 & & \\
\hline \multirow[t]{6}{*}{42.98} & 42.98 & 42.98 & 0 & 0 & 0200 & 43.28457 & & \\
\hline & & & & & & 43.27412 & 40.4 & 40.4 \\
\hline & & & & & & 43.2712 & 40.4 & 40.4 \\
\hline & & & & & & 43.25376 & 40.4 & 40.4 \\
\hline & & & & & & 42.49178 & & \\
\hline & & & & & & 43.22016 & 42.48999 & 40.4 \\
\hline \multirow[t]{2}{*}{43.27} & 43.27 & 43.27 & 0 & 0 & 1734 & 43.18121 & & \\
\hline & & & & & & 43.2018 & & \\
\hline 43.27 & 43.27 & 43.27 & 0 & 519228 & 0 & 43.06974 & 40.4 & 40.4 \\
\hline \multirow[t]{11}{*}{43.27} & 43.27 & 43.27 & 0 & 0 & 2409 & 43.20837 & 40.33 & 40.33 \\
\hline & & & & & & 43.19989 & & \\
\hline & & & & & & 43.19326 & & \\
\hline & & & & & & 42.39504 & & \\
\hline & & & & & & 43.21279 & & \\
\hline & & & & & & 43.20837 & & \\
\hline & & & & & & 43.21312 & 40.4 & 40.4 \\
\hline & & & & & & 43.20951 & 40.4 & 40.4 \\
\hline & & & & & & 43.21826 & 40.255 & 40.25 \\
\hline & & & & & & 43.21661 & 39.8 & 39.8 \\
\hline & & & & & & 43.24917 & & \\
\hline \multirow[t]{10}{*}{43.27} & 43.27 & 43.27 & 0 & 32569 & - 0 & 43.20914 & & \\
\hline & & & & & & 43.22119 & & \\
\hline & & & & & & 43.18797 & & \\
\hline & & & & & & 43.18461 & & \\
\hline & & & & & & 43.18438 & & \\
\hline & & & & & & 43.18457 & 40.4 & 40.4 \\
\hline & & & & & & 43.18013 & 40.4 & 40.4 \\
\hline & & & & & & 43.18117 & & \\
\hline & & & & & & 43.18797 & & \\
\hline & & & & & & 43.19817 & & \\
\hline \multirow[t]{6}{*}{43.05} & 43.05 & 43.05 & 0 & 0 & 100 & 43.20157 & & \\
\hline & & & & & & 42.38897 & & \\
\hline & & & & & & 43.19817 & & \\
\hline & & & & & & 43.20157 & & \\
\hline & & & & & & 43.20089 & & \\
\hline & & & & & & 43.19137 & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{3}{*}{43} & \multirow[t]{3}{*}{43} & \multirow[t]{3}{*}{43} & \multirow[t]{3}{*}{0} & \multirow[t]{3}{*}{0} & \multirow[t]{3}{*}{100} & 43.19622 & & \\
\hline & & & & & & \multirow[t]{2}{*}{43.20157} & 40.4 & 40.4 \\
\hline & & & & & & & 40.4 & 40.4 \\
\hline & & & & & & 43.17375 & & \\
\hline & & & & & & 43.18457 & & \\
\hline & & & & & & 43.19137 & & \\
\hline & & & & & & 43.19817 & & \\
\hline & & & & & & 43.19817 & & \\
\hline & & & & & & 43.17437 & & \\
\hline \multirow[t]{18}{*}{43.036} & 42.92 & 43.22 & 0.3 & 0 & 500 & & & \\
\hline & & & & & & 43.19817 & & \\
\hline & & & & & & 43.19817 & & \\
\hline & & & & & & 43.19137 & & \\
\hline & & & & & & 43.19052 & & \\
\hline & & & & & & 43.19477 & & \\
\hline & & & & & & 43.19477 & & \\
\hline & & & & & & 43.19761 & & \\
\hline & & & & & & 43.19817 & & \\
\hline & & & & & & 43.19477 & & \\
\hline & & & & & & 43.19137 & & \\
\hline & & & & & & 43.19477 & & \\
\hline & & & & & & 43.19044 & & \\
\hline & & & & & & 43.18091 & & \\
\hline & & & & & & 43.18061 & & \\
\hline & & & & & & 43.18457 & & \\
\hline & & & & & & 43.18457 & & \\
\hline & & & & & & 43.19817 & & \\
\hline
\end{tabular}

43.19137
43.19137
\begin{tabular}{rrr}
43.37897 & 39.975 & 39.95 \\
43.44111 & 39.96667 & 39.9 \\
43.43716 & 39.86438 & 39.75 \\
43.43602 & & \\
43.43494 & & \\
43.43684 & & \\
43.42775 & & \\
43.41245 & 39.70333 & 39.7 \\
43.40712 & & \\
43.40226 & 39.75 & 39.75 \\
43.39504 & 39.75 & 39.75 \\
43.38594 & & \\
43.36809 & 39.75 & 39.75 \\
43.36803 & & \\
43.36688 & & \\
43.37836 & 39.75 & 39.75 \\
43.38079 & & \\
43.37481 & 39.75 & 39.75 \\
43.36267 & 39.75 & 39.75 \\
43.37519 & & \\
43.36174 & & \\
43.35809 & 39.75889 & 39.75 \\
43.36078 & 39.6 & 39.6 \\
43.35445 & 39.75 & 39.75 \\
43.3497 & 39.75 & 39.75
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & & & & & & 43.36903 & & \\
\hline & & & & & & 43.37727 & 39.7425 & 39.74 \\
\hline & & & & & & 43.36877 & 39.75 & 39.75 \\
\hline & & & & & & 43.37147 & 39.75 & 39.75 \\
\hline 43 & 43 & 43 & 0 & 0 & 200 & 43.35627 & 39.75 & 39.75 \\
\hline & & & & & & 43.3489 & 39.75 & 39.75 \\
\hline & & & & & & 43.34174 & 39.75 & 39.75 \\
\hline & & & & & & 43.33727 & 39.7566 & 39.7 \\
\hline & & & & & & 43.33818 & 39.7 & 39.7 \\
\hline & & & & & & 43.33846 & & \\
\hline & & & & & & 43.33189 & 39.89833 & 39.88 \\
\hline & & & & & & 43.34303 & 39.888 & 39.88 \\
\hline & & & & & & 43.34789 & 39.90864 & 39.89 \\
\hline & & & & & & 43.34505 & 39.9 & 39.9 \\
\hline & & & & & & 43.34717 & 39.89963 & 39.87 \\
\hline & & & & & & 43.34002 & 39.92009 & 39.9 \\
\hline & & & & & & 43.34714 & 39.90863 & 39.75 \\
\hline & & & & & & 43.34005 & 39.89 & 39.89 \\
\hline & & & & & & 43.34097 & & \\
\hline & & & & & & 43.34908 & 39.8 & 39.8 \\
\hline & & & & & & 43.33647 & & \\
\hline & & & & & & 43.33392 & & \\
\hline & & & & & & 43.321 & & \\
\hline & & & & & & 43.29852 & & \\
\hline & & & & & & 43.28563 & 39.85 & 39.85 \\
\hline & & & & & & 43.27841 & & \\
\hline & & & & & & 43.28367 & & \\
\hline & & & & & & 43.28779 & 39.93571 & 39.9 \\
\hline & & & & & & 43.29251 & 39.95 & 39.95 \\
\hline & & & & & & 43.2761 & 39.95 & 39.95 \\
\hline & & & & & & 43.26431 & 39.95594 & 39.95 \\
\hline & & & & & & 43.25152 & 40.16667 & 40.05 \\
\hline & & & & & & 43.24497 & 40.01 & 40.01 \\
\hline & & & & & & 43.22838 & 40.18857 & 40.18 \\
\hline & & & & & & 43.21508 & 40.19533 & 40.18 \\
\hline & & & & & & 43.21134 & 40.09909 & 40.09 \\
\hline & & & & & & 43.20664 & 40.21739 & 40.1 \\
\hline & & & & & & 43.19394 & 40.24789 & 40.2 \\
\hline & & & & & & 43.21179 & 40.29 & 40.29 \\
\hline & & & & & & 43.21151 & 40.03598 & 40 \\
\hline & & & & & & 43.20635 & 40 & 40 \\
\hline & & & & & & 43.21432 & 40 & 40 \\
\hline & & & & & & 43.21722 & & \\
\hline & & & & & & 43.21785 & 39.94348 & 39.9 \\
\hline & & & & & & 43.24367 & & \\
\hline & & & & & & 43.26808 & 39.89 & 39.89 \\
\hline & & & & & & 43.26314 & 39.85 & 39.85 \\
\hline & & & & & & 43.26093 & & \\
\hline & & & & & & 43.2373 & 39.86 & 39.86 \\
\hline & & & & & & 43.23412 & & \\
\hline & & & & & & 43.23935 & & \\
\hline & & & & & & 43.22686 & 39.86 & 39.86 \\
\hline
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& & & & & & 43.21548 & 39.88071 \\
& & & & & & 43.22301 & 39.77546 \\
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\hline 42.91456 & 42.88 & 42.983 & 0.103 & 0 & 68501 & 43.1023 & 39.17135 & 39.09 \\
\hline 42.93714 & 42.89 & 42.98 & 0.09 & 0 & 69582 & 43.08494 & 39.10934 & 39.05 \\
\hline 42.95102 & 42.88 & 43.01 & 0.13 & 0 & 65725 & 43.07229 & 39.11398 & 39.03 \\
\hline 42.97445 & 42.93 & 43 & 0.07 & 0 & 52520 & 43.06794 & 39.06909 & 38.98 \\
\hline 43.00563 & 42.97 & 43.05 & 0.08 & 0 & 44900 & 43.09903 & 39.19066 & 39.14 \\
\hline 42.94024 & 42.87 & 43.01 & 0.14 & 0 & 67788 & 43.0503 & 39.10727 & 39 \\
\hline 42.94435 & 42.89 & 43 & 0.11 & 0 & 84363 & 43.0505 & 39.05704 & 39.01 \\
\hline 43.00818 & 42.965 & 43.05 & 0.085 & 0 & 54478 & 43.06798 & 39.09894 & 39.03 \\
\hline 42.98358 & 42.9 & 43.05 & 0.15 & 0 & 73889 & 43.02877 & 39.22874 & 39.18 \\
\hline 42.95193 & 42.9 & 42.98 & 0.08 & 0 & 86496 & 43.02085 & 39.32187 & 39.28 \\
\hline 42.94403 & 42.89 & 42.98 & 0.09 & 0 & 48750 & 43.00865 & 39.28027 & 39.22 \\
\hline 42.92618 & 42.88 & 42.97 & 0.09 & 0 & 90956 & 43.02013 & 39.09997 & 39.01 \\
\hline 42.9316 & 42.9 & 42.97 & 0.07 & 0 & 78110 & 43.0392 & 39.05718 & 38.97 \\
\hline 42.89344 & 42.85 & 42.95 & 0.1 & 0 & 94400 & 43.06784 & 38.98796 & 38.84 \\
\hline 42.86098 & 42.81 & 42.91 & 0.1 & 0 & 117789 & 43.05475 & 39.01105 & 38.92 \\
\hline 42.80163 & 42.73 & 42.9 & 0.17 & 0 & 90546 & 43.0143 & 39.0127 & 38.95 \\
\hline 42.72592 & 42.69 & 42.785 & 0.095 & 0 & 65797 & 42.99055 & 39.01698 & 38.99 \\
\hline 42.62317 & 42.55 & 42.73 & 0.18 & 0 & 91903 & 42.94574 & 38.93341 & 38.87 \\
\hline 42.64929 & 42.58 & 42.71 & 0.13 & 0 & 112070 & 42.95418 & 38.94113 & 38.91 \\
\hline 42.55172 & 42.5 & 42.62 & 0.12 & 0 & 74699 & 42.912 & 38.90579 & 38.86 \\
\hline 42.47972 & 42.39 & 42.55 & 0.16 & 0 & 107580 & 42.89291 & 38.94096 & 38.86 \\
\hline 42.50262 & 42.45 & 42.57 & 0.12 & 0 & 58800 & 42.89282 & 38.8657 & 38.8 \\
\hline 42.52583 & 42.5 & 42.56 & 0.06 & 0 & 52381 & 42.87962 & 38.83391 & 38.8 \\
\hline 42.51192 & 42.45 & 42.57 & 0.12 & 0 & 64187 & 42.87234 & 38.81935 & 38.76 \\
\hline 42.53959 & 42.45 & 42.62 & 0.17 & 0 & 70830 & 42.89699 & 38.78171 & 38.69 \\
\hline 42.4731 & 42.44 & 42.51 & 0.07 & 0 & 46674 & 42.84891 & 38.7364 & 38.67 \\
\hline 42.58831 & 42.51 & 42.68 & 0.17 & 10500 & 56730 & 42.88238 & 38.83963 & 38.69 \\
\hline 42.58895 & 42.54 & 42.64 & 0.1 & 0 & 55120 & 42.90059 & 38.95328 & 38.8088 \\
\hline 42.67888 & 42.6 & 42.73 & 0.13 & 0 & 49473 & 42.89386 & 38.84436 & 38.77 \\
\hline 42.78201 & 42.71 & 42.81 & 0.1 & 0 & 69146 & 42.91103 & 38.77963 & 38.7 \\
\hline 42.78589 & 42.74 & 42.81 & 0.07 & 0 & 57209 & 42.91397 & 38.73315 & 38.65 \\
\hline 42.80922 & 42.79 & 42.83 & 0.04 & 0 & 25930 & 42.92044 & 38.65963 & 38.59 \\
\hline 42.73857 & 42.67 & 42.795 & 0.125 & 0 & 42543 & 42.87927 & 38.72235 & 38.63 \\
\hline 42.73871 & 42.66 & 42.8 & 0.14 & 0 & 74950 & 42.89995 & 38.73122 & 38.65 \\
\hline 42.67348 & 42.6059 & 42.73 & 0.1241 & 0 & 51649 & 42.86921 & 38.6654 & 38.62 \\
\hline 42.67268 & 42.61 & 42.76 & 0.15 & 0 & 35902 & 42.87532 & 38.91148 & 38.62 \\
\hline 42.68531 & 42.64 & 42.73 & 0.09 & 0 & 41553 & 42.86103 & 38.7841 & 38.51 \\
\hline 42.55703 & 42.5 & 42.66 & 0.16 & 0 & 97884 & 42.80611 & 38.49514 & 38.43 \\
\hline 42.48579 & 42.44 & 42.54 & 0.1 & 0 & 70035 & 42.78025 & 38.50583 & 38.47 \\
\hline 42.40457 & 42.34 & 42.47 & 0.13 & 0 & 52439 & 42.76018 & 38.53802 & 38.5 \\
\hline 42.35185 & 42.31 & 42.4 & 0.09 & 0 & 80639 & 42.99722 & 38.51515 & 38.47 \\
\hline 42.27602 & 42.15 & 42.37 & 0.22 & 0 & 127865 & 42.74151 & 38.54363 & 38.5 \\
\hline 42.18942 & 42.13 & 42.23 & 0.1 & 0 & 105082 & 42.74555 & 38.53964 & 38.51 \\
\hline 42.15047 & 42.09 & 42.23 & 0.14 & 0 & 93789 & 42.74832 & 38.57645 & 38.52 \\
\hline 42.04037 & 41.95 & 42.11 & 0.16 & 30000 & 92904 & 42.73229 & 38.5744 & 38.54 \\
\hline 41.86496 & 41.69 & 42.01 & 0.32 & 0 & 116739 & 42.6541 & 38.47913 & 38.38 \\
\hline 41.69295 & 41.59 & 41.77 & 0.18 & 0 & 166500 & 42.61986 & 38.3866 & 38.35 \\
\hline 41.65492 & 41.59 & 41.75 & 0.16 & 0 & 169269 & 42.65169 & 38.43831 & 38.39 \\
\hline 41.66306 & 41.59 & 41.79 & 0.2 & 0 & 147089 & 42.64868 & 38.43715 & 38.4 \\
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\hline 41.72347 & 41.61 & 41.8 & 0.19 & 0 & 60600 & 42.65161 & 38.14807 & 38.11 \\
\hline 41.76572 & 41.7 & 41.82 & 0.12 & 0 & 112471 & 42.68481 & 38.21092 & 38.12 \\
\hline 41.83554 & 41.76 & 41.91 & 0.15 & 0 & 66183 & 42.69455 & 38.27744 & 38.2 \\
\hline 41.99045 & 41.9 & 42.09 & 0.19 & 0 & 70186 & 42.70885 & 38.35543 & 38.3 \\
\hline 41.98029 & 41.87 & 42.11 & 0.24 & 0 & 139627 & 42.70951 & 38.32075 & 38.26 \\
\hline 41.91395 & 41.83 & 41.97 & 0.14 & 0 & 102236 & 42.68747 & 38.39195 & 38.29 \\
\hline 41.8776 & 41.82 & 41.95 & 0.13 & 0 & 41320 & 42.69093 & 38.34059 & 38.27 \\
\hline 41.86314 & 41.79 & 41.96 & 0.17 & 0 & 80440 & 42.67498 & 38.26344 & 38.23 \\
\hline 41.775 & 41.74 & 41.82 & 0.08 & 0 & 61814 & 42.64242 & 38.20079 & 38.15 \\
\hline 41.78763 & 41.73 & 41.83 & 0.1 & 0 & 46566 & 42.62206 & 38.10698 & 38.08 \\
\hline 41.72132 & 41.67 & 41.78 & 0.11 & 0 & 77320 & 42.58081 & 38.15712 & 38.09 \\
\hline 41.68297 & 41.65 & 41.71 & 0.06 & 0 & 66402 & 42.57566 & 38.21132 & 38.16 \\
\hline 41.62747 & 41.55 & 41.7 & 0.15 & 0 & 63385 & 42.56939 & 38.277 & 38.21 \\
\hline 41.53478 & 41.5 & 41.6 & 0.1 & 0 & 68785 & 42.54466 & 38.30021 & 38.2181 \\
\hline 41.50703 & 41.46 & 41.55 & 0.09 & 0 & 77351 & 42.51716 & 38.41368 & 38.34 \\
\hline 41.55501 & 41.5 & 41.6 & 0.1 & 0 & 40897 & 42.57155 & 38.38574 & 38.34 \\
\hline 41.55912 & 41.5 & 41.62 & 0.12 & 0 & 205181 & 42.59235 & 38.38796 & 38.3352 \\
\hline 41.57299 & 41.5 & 41.6548 & 0.1548 & 0 & 102812 & 42.60468 & 38.43139 & 38.32 \\
\hline 41.61691 & 41.511 & 41.69 & 0.179 & 20000 & 73818 & 42.6662 & 38.47346 & 38.38 \\
\hline 41.68944 & 41.59 & 41.79 & 0.2 & 0 & 251278 & 42.69948 & 38.46517 & 38.41 \\
\hline 41.8122 & 41.71 & 41.92 & 0.21 & 0 & 168789 & 42.709 & 38.42227 & 38.34 \\
\hline 41.91513 & 41.87 & 41.95 & 0.08 & 0 & 83090 & 42.69612 & 38.40179 & 38.34 \\
\hline 41.95945 & 41.92 & 42 & 0.08 & 0 & 85964 & 42.70067 & 38.39285 & 38.34 \\
\hline 42.03952 & 41.97 & 42.07 & 0.1 & 0 & 76916 & 42.71794 & 38.40421 & 38.33 \\
\hline 42.10865 & 42.05 & 42.23 & 0.18 & 0 & 96983 & 42.74754 & 38.37557 & 38.28 \\
\hline 42.40307 & 42.225 & 42.54 & 0.315 & 0 & 267436 & 42.76201 & 38.30576 & 38.27 \\
\hline 42.47521 & 42.35 & 42.59 & 0.24 & 0 & 104041 & 42.75581 & 38.31951 & 38.28 \\
\hline 42.65136 & 42.55 & 42.74 & 0.19 & 0 & 118580 & 42.772 & 38.28375 & 38.26 \\
\hline 42.58232 & 41.9267 & 42.76 & 0.8333 & 0 & 100101 & 42.74256 & 38.23549 & 38.1952 \\
\hline 42.39819 & 42.36 & 42.43 & 0.07 & 0 & 50838 & 42.73258 & 38.25116 & 38.19 \\
\hline 42.4093 & 42.35 & 42.47 & 0.12 & 0 & 45398 & 42.73493 & 38.28969 & 38.24 \\
\hline 42.32213 & 42.25 & 42.405 & 0.155 & 0 & 61601 & 42.71495 & 38.35876 & 38.3 \\
\hline 42.31923 & 42.29 & 42.35 & 0.06 & 0 & 47510 & 42.7156 & 38.59327 & 38.47 \\
\hline 42.30161 & 42.24 & 42.37 & 0.13 & 0 & 36481 & 42.70615 & 38.67658 & 38.63 \\
\hline 42.39672 & 42.35 & 42.43 & 0.08 & 0 & 50043 & 42.72921 & 38.66748 & 38.62 \\
\hline 42.36159 & 42.31 & 42.41 & 0.1 & 0 & 41133 & 42.72703 & 38.41577 & 38.2 \\
\hline 42.46511 & 42.41 & 42.54 & 0.13 & 0 & 32961 & 42.74611 & 38.75102 & 38.69 \\
\hline 42.55498 & 42.5 & 42.615 & 0.115 & 0 & 51059 & 42.77999 & 38.65231 & 38.62 \\
\hline 42.54001 & 42.49 & 42.61 & 0.12 & 0 & 47690 & 42.75869 & 38.65644 & 38.61 \\
\hline 42.5121 & 42.46 & 42.55 & 0.09 & 0 & 38200 & 43.20135 & 38.72567 & 38.66 \\
\hline 42.44301 & 42.38 & 42.49 & 0.11 & 0 & 27415 & 42.74599 & 38.92134 & 38.8 \\
\hline 42.33162 & 42.3 & 42.38 & 0.08 & 0 & 35920 & 42.72734 & 38.96713 & 38.87 \\
\hline 42.34111 & 42.3 & 42.37 & 0.07 & 0 & 25032 & 42.73831 & 38.82206 & 38.72 \\
\hline 42.41941 & 42.36 & 42.48 & 0.12 & 0 & 46160 & 42.75579 & 38.76267 & 38.612 \\
\hline 42.33821 & 42.21 & 42.47 & 0.26 & 0 & 64689 & 42.72401 & 38.69578 & 38.64 \\
\hline 42.25954 & 42.22 & 42.3 & 0.08 & 0 & 48776 & 42.7349 & 38.64747 & 38.56 \\
\hline 42.30245 & 42.28 & 42.34 & 0.06 & 0 & 35134 & 42.74447 & 38.64774 & 38.59 \\
\hline 42.26124 & 42.22 & 42.31 & 0.09 & 0 & 45169 & 42.71068 & 38.69598 & 38.66 \\
\hline 42.27175 & 42.2 & 42.35 & 0.15 & 0 & 53500 & 42.71198 & 38.84664 & 38.79 \\
\hline 42.2435 & 42.18 & 42.32 & 0.14 & 0 & 47924 & 42.69405 & 38.83373 & 38.72 \\
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\hline 42.11798 & 42.08 & 42.15 & 0.07 & 0 & 49760 & 42.69516 & 38.47494 & 38.43 \\
\hline 42.0471 & 42.01 & 42.08 & 0.07 & 0 & 34654 & 42.66722 & 38.49159 & 38.46 \\
\hline 42.02259 & 41.99 & 42.05 & 0.06 & 0 & 53370 & 42.66735 & 38.52227 & 38.47 \\
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\hline 41.93469 & 41.89 & 41.99 & 0.1 & 0 & 46150 & 42.63171 & 38.93723 & 38.47 \\
\hline 41.86116 & 41.84 & 41.9 & 0.06 & 0 & 44059 & 42.6141 & 38.45341 & 38.41 \\
\hline 41.83593 & 41.8 & 41.86 & 0.06 & 0 & 26257 & 42.6122 & 38.45078 & 38.41 \\
\hline 41.80348 & 41.78 & 41.84 & 0.06 & 0 & 44628 & 42.60695 & 38.37093 & 38.32 \\
\hline 41.80055 & 41.76 & 41.84 & 0.08 & 0 & 37396 & 42.61173 & 38.42572 & 38.35 \\
\hline 41.82861 & 41.795 & 41.87 & 0.075 & 0 & 45924 & 42.6321 & 38.53523 & 38.45 \\
\hline 41.83867 & 41.8 & 41.87 & 0.07 & 0 & 48340 & 42.62875 & 38.61703 & 38.52 \\
\hline 41.8162 & 41.78 & 41.85 & 0.07 & 0 & 33200 & 42.60412 & 38.79331 & 38.64 \\
\hline 41.80796 & 41.78 & 41.85 & 0.07 & 0 & 36152 & 42.59596 & 38.89879 & 38.86 \\
\hline 41.79234 & 41.75 & 41.84 & 0.09 & 0 & 44850 & 42.57887 & 38.86938 & 38.84 \\
\hline 41.81279 & 41.79 & 41.86 & 0.07 & 0 & 37729 & 42.58066 & 38.88505 & 38.83 \\
\hline 41.85621 & 41.81 & 41.92 & 0.11 & 0 & 46822 & 42.61279 & 38.8676 & 38.83 \\
\hline 41.85582 & 41.73 & 41.95 & 0.22 & 0 & 143176 & 42.57818 & 38.86108 & 38.8375 \\
\hline 41.71965 & 41.66 & 41.76 & 0.1 & 0 & 49890 & 42.54884 & 38.89714 & 38.85 \\
\hline 41.72153 & 41.69 & 41.76 & 0.07 & 0 & 33920 & 42.55768 & 38.95445 & 38.91 \\
\hline 41.69054 & 41.67 & 41.71 & 0.04 & 0 & 24100 & 42.5614 & 38.86586 & 38.78 \\
\hline 41.61844 & 41.58 & 41.8137 & 0.2337 & 0 & 56400 & 42.54576 & 38.76942 & 38.74 \\
\hline 41.59661 & 41.54 & 41.64 & 0.1 & 0 & 42883 & 42.54947 & 38.877 & 38.84 \\
\hline 41.58553 & 41.54 & 41.65 & 0.11 & 0 & 70741 & 42.57819 & 38.85566 & 38.83 \\
\hline 41.55577 & 41.51 & 41.6 & 0.09 & 0 & 51391 & 42.55427 & 38.88097 & 38.85 \\
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\hline 41.62604 & 41.59 & 41.68 & 0.09 & 0 & 53809 & 42.59178 & 38.84769 & 38.81 \\
\hline 41.64804 & 41.62 & 41.68 & 0.06 & 0 & 46710 & 42.58793 & 38.90746 & 38.88 \\
\hline 41.65758 & 41.62 & 41.7 & 0.08 & 0 & 35530 & 42.59402 & 38.92471 & 38.9 \\
\hline 41.70371 & 41.65 & 41.74 & 0.09 & 0 & 54448 & 42.63725 & 38.90736 & 38.87 \\
\hline 41.71403 & 41.68 & 41.76 & 0.08 & 0 & 46851 & 42.62729 & 38.82151 & 38.77 \\
\hline 41.73451 & 41.69 & 41.77 & 0.08 & 0 & 21100 & 42.62339 & 38.7177 & 38.66 \\
\hline 41.8261 & 41.74 & 41.93 & 0.19 & 0 & 46868 & 42.64298 & 38.72452 & 38.65 \\
\hline 41.86191 & 41.8 & 41.94 & 0.14 & 0 & 31280 & 42.65047 & 38.70181 & 38.66 \\
\hline 41.75457 & 41.72 & 41.81 & 0.09 & 0 & 47267 & 42.59922 & 38.7224 & 38.68 \\
\hline 41.76126 & 41.72 & 41.83 & 0.11 & 0 & 35600 & 42.6032 & 38.7723 & 38.73 \\
\hline 41.65794 & 41.58 & 41.73 & 0.15 & 0 & 69037 & 42.5728 & 38.79326 & 38.74 \\
\hline 41.60694 & 41.56 & 41.66 & 0.1 & 0 & 48000 & 42.5672 & 38.80595 & 38.8 \\
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\hline 41.61859 & 41.55 & 41.67 & 0.12 & 0 & 86489 & 42.64512 & 38.82818 & 38.8 \\
\hline 41.59473 & 41.55 & 41.65 & 0.1 & 0 & 48922 & 42.62975 & 38.8074 & 38.78 \\
\hline 41.57914 & 41.55 & 41.65 & 0.1 & 0 & 56310 & 42.62697 & 38.92395 & 38.82 \\
\hline 41.71427 & 41.62 & 42.3938 & 0.7738 & 0 & 64389 & 42.67896 & 38.99094 & 38.94 \\
\hline 41.68197 & 41.65 & 41.71 & 0.06 & 0 & 34950 & 42.69455 & 39.00701 & 38.96 \\
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\hline 41.69238 & 41.65 & 41.73 & 0.08 & 0 & 52010 & 42.68554 & 38.98213 & 38.93 \\
\hline 41.60878 & 41.56 & 41.67 & 0.11 & 0 & 33679 & 42.66317 & 39.06565 & 39 \\
\hline 41.56188 & 41.55 & 41.5901 & 0.0401 & 0 & 32437 & 42.66474 & 39.03826 & 39 \\
\hline 41.55596 & 41.52 & 41.6 & 0.08 & 0 & 59882 & 42.62237 & 39.1008 & 39.08 \\
\hline 41.56122 & 41.54 & 41.59 & 0.05 & 0 & 33987 & 42.62809 & 39.10576 & 39.05 \\
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\hline 42.12901 & 42.06 & 42.17 & 0.11 & 0 & 33169 & 42.75062 & 38.85616 & 38.8 \\
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\hline 42.1458 & 42.06 & 42.2 & 0.14 & 0 & 26437 & 42.68319 & 38.79719 & 38.76 \\
\hline 42.21815 & 42.16 & 42.26 & 0.1 & 0 & 32784 & 42.70459 & 38.75074 & 38.73 \\
\hline 42.25847 & 42.0459 & 42.29 & 0.2441 & 0 & 56166 & 42.72765 & 38.75511 & 38.7 \\
\hline 42.20258 & 42.16 & 42.23 & 0.07 & 0 & 30920 & 42.71334 & 38.68106 & 38.66 \\
\hline 42.21522 & 42.19 & 42.25 & 0.06 & 0 & 40601 & 42.71067 & 38.71531 & 38.7 \\
\hline 42.28138 & 42.225 & 42.31 & 0.085 & 0 & 27175 & 42.74058 & 38.75694 & 38.71 \\
\hline 42.32581 & 42.3 & 42.36 & 0.06 & 0 & 35847 & 42.76041 & 38.78064 & 38.76 \\
\hline 42.32832 & 42.27 & 42.39 & 0.12 & 0 & 77597 & 42.74983 & 38.78998 & 38.77 \\
\hline 42.31537 & 42.28 & 42.35 & 0.07 & 0 & 115987 & 42.76177 & 38.78279 & 38.76 \\
\hline 42.31569 & 42.29 & 42.35 & 0.06 & 0 & 42734 & 42.75176 & 38.76653 & 38.74 \\
\hline 42.31369 & 42.26 & 42.37 & 0.11 & 0 & 74110 & 42.75652 & 38.74804 & 38.72 \\
\hline 42.28379 & 42.25 & 42.31 & 0.06 & 0 & 33813 & 42.73941 & 38.81091 & 38.75 \\
\hline 42.25253 & 42.19 & 42.2919 & 0.1019 & 0 & 61195 & 42.72018 & 38.83053 & 38.8 \\
\hline 42.16047 & 42.12 & 42.23 & 0.11 & 0 & 42520 & 42.69758 & 38.82234 & 38.8 \\
\hline 42.02994 & 41.98 & 42.13 & 0.15 & 0 & 81810 & 42.59985 & 38.84205 & 38.79 \\
\hline 42.05054 & 42 & 42.11 & 0.11 & 0 & 65183 & 42.62503 & 38.85814 & 38.81 \\
\hline 42.09822 & 42.04 & 42.12 & 0.08 & 0 & 29639 & 42.64404 & 38.81149 & 38.78 \\
\hline 42.05138 & 41.95 & 42.11 & 0.16 & 0 & 42500 & 42.62098 & 38.83547 & 38.82 \\
\hline 41.99052 & 41.96 & 42.2204 & 0.2604 & 0 & 49310 & 42.61402 & 38.81504 & 38.8 \\
\hline 41.96607 & 41.88 & 42.009 & 0.129 & 0 & 52282 & 42.59802 & 38.81543 & 38.8 \\
\hline 41.79695 & 41.76 & 41.9 & 0.14 & 0 & 41300 & 42.54057 & 38.82605 & 38.81 \\
\hline 41.80991 & 41.76 & 41.88 & 0.12 & 0 & 44400 & 42.53692 & 38.86087 & 38.81 \\
\hline 41.85467 & 41.8 & 41.92 & 0.12 & 0 & 39727 & 42.56813 & 38.85052 & 38.82 \\
\hline 41.84312 & 41.78 & 41.91 & 0.13 & 0 & 29962 & 42.57001 & 38.8478 & 38.83 \\
\hline 41.77245 & 41.74 & 41.82 & 0.08 & 0 & 33473 & 42.53855 & 38.88669 & 38.84 \\
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 41.78421 & 41.74 & 41.84 & 0.1 & 0 & 26343 & 42.52628 & 38.97762 & 38.92 \\
\hline 41.79801 & 41.75 & 41.84 & 0.09 & 0 & 28364 & 42.54789 & 39.01435 & 38.98 \\
\hline 41.84109 & 41.83 & 41.87 & 0.04 & 0 & 18350 & 42.56853 & 39.0508 & 39 \\
\hline 41.83802 & 41.82 & 41.87 & 0.05 & 0 & 23390 & 42.55651 & 39.037 & 38.99 \\
\hline 41.80339 & 41.75 & 41.86 & 0.11 & 0 & 44913 & 42.51342 & 39.72403 & 38.98 \\
\hline 41.71183 & 41.66 & 41.8 & 0.14 & 0 & 71350 & 42.51996 & 38.98705 & 38.97 \\
\hline 41.74498 & 41.67 & 41.84 & 0.17 & 0 & 43167 & 42.55122 & 39.00255 & 38.95 \\
\hline 41.80198 & 41.77 & 41.84 & 0.07 & 0 & 26700 & 42.57358 & 38.97296 & 38.92 \\
\hline 41.82223 & 41.8 & 41.84 & 0.04 & 0 & 24410 & 42.57045 & 38.9382 & 38.88 \\
\hline 41.82268 & 41.77 & 41.88 & 0.11 & 0 & 32100 & 42.56401 & 38.92593 & 38.88 \\
\hline 41.73244 & 41.65 & 41.84 & 0.19 & 0 & 68718 & 42.4795 & 38.90955 & 38.89 \\
\hline 41.63103 & 41.58 & 41.68 & 0.1 & 0 & 25800 & 42.43763 & 38.95981 & 38.94 \\
\hline 41.57549 & 41.55 & 41.63 & 0.08 & 0 & 31346 & 42.41451 & 38.93729 & 38.89 \\
\hline 41.60472 & 41.55 & 41.69 & 0.14 & 0 & 44443 & 42.41654 & 38.91138 & 38.87 \\
\hline 41.64221 & 41.58 & 41.73 & 0.15 & 0 & 67935 & 42.43728 & 38.89945 & 38.87 \\
\hline 41.63419 & 41.58 & 41.73 & 0.15 & 0 & 67244 & 42.44243 & 38.86444 & 38.85 \\
\hline 41.5981 & 41.57 & 41.65 & 0.08 & 0 & 46835 & 42.45265 & 38.92266 & 38.88 \\
\hline 41.57502 & 41.55 & 41.6 & 0.05 & 0 & 21850 & 42.44508 & 38.96957 & 38.92 \\
\hline 41.55367 & 41.53 & 41.58 & 0.05 & 0 & 48337 & 42.43368 & 38.97472 & 38.94 \\
\hline 41.56703 & 41.53 & 41.6 & 0.07 & 0 & 52072 & 42.45131 & 39.04519 & 38.99 \\
\hline 41.52396 & 41.49 & 41.61 & 0.12 & 0 & 59415 & 42.43957 & 39.06348 & 39.02 \\
\hline 41.54803 & 41.51 & 41.57 & 0.06 & 0 & 20870 & 42.45964 & 39.04456 & 39.01 \\
\hline 41.46784 & 41.41 & 41.54 & 0.13 & 0 & 40230 & 42.44392 & 39.00552 & 38.97 \\
\hline 41.44124 & 41.41 & 41.6181 & 0.2081 & 0 & 35650 & 42.4357 & 39.12242 & 38.98 \\
\hline 41.38402 & 41.34 & 41.43 & 0.09 & 0 & 66488 & 42.42676 & 39.19992 & 39.12 \\
\hline 41.29553 & 41.23 & 41.38 & 0.15 & 0 & 58679 & 42.43237 & 39.18904 & 39.16 \\
\hline 41.23194 & 41.2 & 41.28 & 0.08 & 0 & 87122 & 42.41749 & 39.24588 & 39.205 \\
\hline 41.30482 & 41.23 & 41.38 & 0.15 & 0 & 45686 & 42.42509 & 39.28869 & 39.27 \\
\hline 41.26821 & 41.19 & 41.35 & 0.16 & 0 & 58407 & 42.41332 & 39.31673 & 39.28 \\
\hline 41.27759 & 41.2175 & 41.32 & 0.1025 & 0 & 52226 & 42.39621 & 39.42864 & 39.33 \\
\hline 41.20891 & 41.18 & 41.25 & 0.07 & 0 & 70473 & 42.39763 & 39.50985 & 39.47 \\
\hline 41.22011 & 41.18 & 41.27 & 0.09 & 0 & 54850 & 42.4215 & 39.65196 & 39.545 \\
\hline 41.24528 & 41.2 & 41.3 & 0.1 & 0 & 97382 & 42.44186 & 39.77313 & 39.7 \\
\hline 41.19621 & 41.15 & 41.22 & 0.07 & 0 & 97940 & 42.41372 & 39.80421 & 39.74 \\
\hline 41.1387 & 41.11 & 41.19 & 0.08 & 0 & 83595 & 42.38997 & 39.79915 & 39.74 \\
\hline 41.1148 & 41.06 & 41.18 & 0.12 & 0 & 67813 & 42.40073 & 39.8074 & 39.72 \\
\hline 41.15685 & 41.1 & 41.18 & 0.08 & 0 & 39745 & 42.44848 & 39.78001 & 39.7 \\
\hline 41.12847 & 41.07 & 41.19 & 0.12 & 0 & 51655 & 42.42891 & 39.84397 & 39.78 \\
\hline 41.11591 & 41.06 & 41.16 & 0.1 & 0 & 30820 & 42.42429 & 39.9987 & 39.6158 \\
\hline 41.09271 & 41.05 & 41.15 & 0.1 & 0 & 46240 & 42.40675 & 40.13565 & 40.03 \\
\hline 40.94391 & 40.85 & 41.07 & 0.22 & 0 & 129512 & 42.36174 & 40.00499 & 39.93 \\
\hline 40.91891 & 40.9 & 40.95 & 0.05 & 0 & 29291 & 42.34219 & 40.05227 & 39.96 \\
\hline 40.95317 & 40.9 & 41.01 & 0.11 & 0 & 42260 & 42.33673 & 40.12372 & 40.01 \\
\hline 41.0057 & 40.97 & 41.05 & 0.08 & 0 & 50920 & 42.36783 & 40.00664 & 39.95 \\
\hline 40.93578 & 40.87 & 40.99 & 0.12 & 0 & 71839 & 42.35356 & 39.90378 & 39.84 \\
\hline 40.82158 & 40.75 & 40.9 & 0.15 & 0 & 86938 & 42.33761 & 39.96444 & 39.86 \\
\hline 40.81597 & 40.77 & 40.85 & 0.08 & 0 & 44227 & 42.33252 & 40.07003 & 40.04 \\
\hline 40.84529 & 40.75 & 40.93 & 0.18 & 0 & 40826 & 42.35227 & 40.06208 & 40 \\
\hline 40.9483 & 40.87 & 41.01 & 0.14 & 0 & 39490 & 42.38275 & 40.07282 & 40.03 \\
\hline 41.00265 & 40.95 & 41.04 & 0.09 & 0 & 29300 & 42.38952 & 39.86038 & 39.8055 \\
\hline 41.09757 & 41.04 & 41.14 & 0.1 & 0 & 54882 & 42.4194 & 39.98821 & 39.93 \\
\hline 41.10856 & 41.07 & 41.15 & 0.08 & 0 & 40450 & 42.4177 & 40.07356 & 40.04 \\
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 41.01328 & 40.95 & 41.11 & 0.16 & 0 & 52363 & 42.37983 & 40.04504 & 40.02 \\
\hline 40.87396 & 40.8 & 40.99 & 0.19 & 0 & 48735 & 42.34438 & 40.01711 & 39.98 \\
\hline 40.86192 & 40.81 & 40.94 & 0.13 & 0 & 31940 & 42.33677 & 40.0148 & 40 \\
\hline 40.89029 & 40.87 & 40.92 & 0.05 & 0 & 26200 & 42.36781 & 40.13465 & 40.012 \\
\hline 40.83145 & 40.75 & 40.88 & 0.13 & 0 & 44907 & 42.30956 & 40.22842 & 40.1575 \\
\hline 40.71979 & 40.65 & 40.78 & 0.13 & 0 & 80778 & 42.27626 & 40.27476 & 40.0525 \\
\hline 40.6073 & 40.56 & 40.66 & 0.1 & 0 & 75345 & 42.2321 & 40.25348 & 40.2 \\
\hline 40.5636 & 40.52 & 40.64 & 0.12 & 0 & 91968 & 42.2284 & 40.26848 & 40.15 \\
\hline 40.68138 & 40.61 & 40.73 & 0.12 & 0 & 49100 & 42.25075 & 40.18504 & 40.15 \\
\hline 40.7285 & 40.68 & 40.77 & 0.09 & 0 & 88447 & 42.23704 & 40.14288 & 40.11 \\
\hline 40.73933 & 40.66 & 40.79 & 0.13 & 0 & 42472 & 42.23614 & 40.09825 & 40.06 \\
\hline 40.72179 & 40.61 & 40.78 & 0.17 & 0 & 41480 & 42.22166 & 40.10565 & 40.07 \\
\hline 40.63453 & 40.59 & 40.67 & 0.08 & 0 & 39844 & 42.20211 & 40.05156 & 40.02 \\
\hline 40.61514 & 40.58 & 40.65 & 0.07 & 0 & 54820 & 42.21816 & 40.03413 & 40.01 \\
\hline 40.52079 & 40.49 & 40.59 & 0.1 & 0 & 62153 & 42.18862 & 40.07363 & 40.01 \\
\hline 40.5886 & 40.53 & 40.67 & 0.14 & 0 & 55370 & 42.21518 & 40.06776 & 40.01 \\
\hline 40.59545 & 40.57 & 40.66 & 0.09 & 0 & 37096 & 42.19241 & 40.00313 & 39.97 \\
\hline 40.58841 & 40.56 & 40.62 & 0.06 & 0 & 93600 & 42.15835 & 40.06132 & 40.02 \\
\hline 40.62802 & 40.58 & 40.67 & 0.09 & 0 & 56744 & 42.1931 & 40.06618 & 40.04 \\
\hline 40.64432 & 40.58 & 40.7 & 0.12 & 0 & 57764 & 42.2367 & 40.01182 & 39.97 \\
\hline 40.78495 & 40.7 & 40.89 & 0.19 & 0 & 82123 & 42.29192 & 40.04851 & 39.99 \\
\hline 40.78671 & 40.74 & 40.85 & 0.11 & 0 & 40310 & 42.29604 & 40.03157 & 40 \\
\hline 40.71311 & 40.65 & 40.8 & 0.15 & 0 & 57229 & 42.29864 & 40.00199 & 39.9892 \\
\hline 40.67834 & 40.61 & 40.72 & 0.11 & 0 & 45210 & 42.2908 & 39.984 & 39.96 \\
\hline 40.6768 & 40.63 & 40.71 & 0.08 & 0 & 36985 & 42.27836 & 39.87561 & 39.82 \\
\hline 40.59015 & 40.56 & 40.64 & 0.08 & 0 & 38933 & 42.23965 & 39.8427 & 39.81 \\
\hline 40.59609 & 40.52 & 40.67 & 0.15 & 0 & 25623 & 42.22905 & 39.81224 & 39.75 \\
\hline 40.60782 & 40.54 & 40.67 & 0.13 & 0 & 32583 & 42.23293 & 39.76553 & 39.7 \\
\hline 40.47857 & 40.44 & 40.55 & 0.11 & 0 & 70701 & 42.16882 & 39.80638 & 39.76 \\
\hline 40.46592 & 40.41 & 40.52 & 0.11 & 0 & 39680 & 42.15788 & 39.84239 & 39.82 \\
\hline 40.50152 & 40.43 & 40.55 & 0.12 & 0 & 40778 & 42.1487 & 39.87964 & 39.85 \\
\hline 40.45029 & 40.37 & 40.55 & 0.18 & 0 & 51365 & 42.14891 & 39.92648 & 39.89 \\
\hline 40.37133 & 40.33 & 40.43 & 0.1 & 0 & 38221 & 42.13838 & 40.00368 & 39.91 \\
\hline 40.3157 & 40.25 & 40.4 & 0.15 & 0 & 80512 & 42.13311 & 40.03307 & 39.98 \\
\hline 40.26407 & 40.22 & 40.31 & 0.09 & 0 & 43410 & 42.11214 & 40.01235 & 39.97 \\
\hline 40.15785 & 40.09 & 40.25 & 0.16 & 0 & 153163 & 42.08749 & 39.98383 & 39.95 \\
\hline 40.14978 & 40.06 & 40.22 & 0.16 & 0 & 81178 & 42.64923 & 40.04948 & 39.94 \\
\hline 40.20443 & 40.09 & 40.32 & 0.23 & 0 & 78296 & 42.08527 & 40.13652 & 40.0518 \\
\hline 40.36384 & 40.29 & 40.45 & 0.16 & 0 & 49779 & 42.10332 & 40.17675 & 40.13 \\
\hline 40.33239 & 40.24 & 40.4 & 0.16 & 0 & 40711 & 42.0912 & 40.07314 & 40.03 \\
\hline 40.31917 & 40.29 & 40.39 & 0.1 & 0 & 57128 & 42.10201 & 40.0712 & 40.03 \\
\hline 40.3443 & 40.32 & 40.37 & 0.05 & 0 & 21940 & 42.10192 & 40.02676 & 39.97 \\
\hline 40.35624 & 40.3 & 40.46 & 0.16 & 0 & 54454 & 42.09878 & 39.94454 & 39.92 \\
\hline 40.47819 & 40.39 & 40.54 & 0.15 & 0 & 42912 & 42.12999 & 40.01982 & 39.96 \\
\hline 40.4347 & 40.37 & 40.52 & 0.15 & 0 & 41855 & 42.10153 & 40.03169 & 39.99 \\
\hline 40.51625 & 40.36 & 40.64 & 0.28 & 0 & 69926 & 42.09068 & 40.08516 & 40.05 \\
\hline 40.59112 & 40.39 & 40.68 & 0.29 & 0 & 117222 & 42.07702 & 40.17647 & 40.1 \\
\hline 40.67662 & 40.61 & 40.74 & 0.13 & 0 & 114700 & 42.08357 & 40.27177 & 40.21 \\
\hline 40.69397 & 40.6126 & 40.78 & 0.1674 & 0 & 64464 & 42.10785 & 40.30502 & 40.26 \\
\hline 40.69369 & 40.65 & 40.73 & 0.08 & 0 & 46820 & 42.09718 & 40.28765 & 40.2 \\
\hline 40.59469 & 40.51 & 40.69 & 0.18 & 0 & 56096 & 42.07605 & 40.19608 & 40.17 \\
\hline 40.4999 & 40.45 & 40.54 & 0.09 & 0 & 34600 & 42.05969 & 40.17845 & 40.15 \\
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40.50608 & 40.45 & 40.55 & 0.1 & 0 & 34709 & 42.08473 & 40.21698 & 40.16 \\
40.55308 & 40.51 & 40.59 & 0.08 & 0 & 46210 & 42.10348 & 40.11892 & 40.09 \\
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40.56668 & 40.49 & 40.65 & 0.16 & 0 & 52703 & 42.1174 & 40.05288 & 39.99 \\
40.61107 & 40.55 & 40.69 & 0.14 & 0 & 27228 & 42.13121 & 40.01827 & 39.97 \\
40.7057 & 40.65 & 40.74 & 0.09 & 0 & 57718 & 42.15536 & 39.95429 & 39.86 \\
40.67344 & 40.62 & 40.72 & 0.1 & 0 & 63215 & 42.16081 & 39.8492 & 39.8 \\
40.65536 & 40.62 & 40.7 & 0.08 & 0 & 59280 & 42.15827 & 39.89809 & 39.8 \\
40.64194 & 40.61 & 40.68 & 0.07 & 0 & 53454 & 42.16389 & 39.92865 & 39.87 \\
40.70803 & 40.65 & 40.79 & 0.14 & 0 & 99000 & 42.21483 & 39.93784 & 39.86 \\
40.77897 & 40.73 & 40.82 & 0.09 & 0 & 73514 & 42.24344 & 39.84058 & 39.81 \\
40.72726 & 40.67 & 40.77 & 0.1 & 0 & 46768 & 42.2223 & 39.85327 & 39.81 \\
40.68324 & 40.63 & 40.76 & 0.13 & 0 & 33939 & 42.18794 & 39.82245 & 39.71 \\
40.68767 & 40.65 & 40.73 & 0.08 & 0 & 39795 & 42.19397 & 39.70586 & 39.67 \\
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40.58418 & 40.53 & 40.65 & 0.12 & 0 & 49762 & 42.15138 & 39.603 & 39.57 \\
40.52634 & 40.5 & 40.58 & 0.08 & 0 & 49330 & 42.12673 & 39.46775 & 39.38 \\
40.55018 & 40.5 & 40.57 & 0.07 & 0 & 83660 & 42.1106 & 39.40211 & 39.28 \\
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40.5133 & 40.42 & 40.61 & 0.19 & 0 & 116897 & 42.09283 & 39.28072 & 39.25 \\
40.49163 & 40.44 & 40.54 & 0.1 & 0 & 74188 & 42.04673 & 39.29676 & 39.25 \\
40.40133 & 40.31 & 40.47 & 0.16 & 0 & 79329 & 41.99428 & 39.293 & 39.26 \\
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40.50239 & 40.44 & 40.6 & 0.16 & 0 & 102932 & 42.00532 & 39.41075 & 39.35 \\
40.38629 & 40.3 & 40.5 & 0.2 & 0 & 132500 & 42.00053 & 39.25605 & 39.22 \\
40.40199 & 40.33 & 40.46 & 0.13 & 0 & 64607 & 41.98748 & 39.23134 & 39.19 \\
40.45802 & 40.415 & 40.48 & 0.065 & 12400 & 95708 & 41.96441 & 39.14966 & 39.1 \\
40.4445 & 40.39 & 40.48 & 0.09 & 0 & 95991 & 41.93143 & 39.15882 & 39.08 \\
40.4141 & 40.37 & 40.475 & 0.105 & 0 & 116070 & 41.91873 & 39.15129 & 39.08 \\
40.38888 & 40.33 & 40.45 & 0.12 & 0 & 82359 & 41.91044 & 39.16161 & 39.13 \\
40.37666 & 40.26 & 40.45 & 0.19 & 0 & 129158 & 41.88552 & 39.15528 & 39.06 \\
40.35959 & 40.27 & 40.48 & 0.21 & 10000 & 119833 & 41.88588 & 39.07308 & 39.02 \\
40.48179 & 40.265 & 40.55 & 0.285 & 0 & 165584 & 41.86162 & 39.01626 & 38.98 \\
40.5518 & 40.375 & 40.68 & 0.305 & 10700 & 191955 & 41.85454 & 39.05061 & 39.01 \\
40.66855 & 40.515 & 40.71 & 0.195 & 10000 & 148155 & 41.86194 & 38.98549 & 38.87 \\
40.62168 & 40.54 & 40.69 & 0.15 & 28015 & 207766 & 41.89839 & 38.89017 & 38.85 \\
40.51941 & 40.46 & 40.646 & 0.186 & 37560 & 324786 & 41.86145 & 38.89475 & 38.85 \\
40.52943 & 40.44 & 40.64 & 0.2 & 0 & 159327 & 41.81765 & 38.94065 & 38.87 \\
40.48328 & 40.42 & 40.53 & 0.11 & 0 & 4607 & 41.79124 & 38.90247 & 38.83
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline maxp_10 & rangep_10 & radebig_11 & small & spindex_1( & meanp_11 & inp_ & maxp_11 & gep_11 \\
\hline 40.53 & 0.11 & 0 & 4607 & 40.4 & 38.90247 & 38.83 & 38.97 & 0.14 \\
\hline \multirow[t]{2}{*}{40.5} & 0.06 & 0 & 477 & 40.40304 & & & & \\
\hline & & & & 40.4012 & 38.92117 & 38.83 & 39.1119 & 0.2819 \\
\hline \multirow[t]{3}{*}{40.4} & 0 & 1074200 & 0 & 40.37477 & 38.83 & 38.83 & 38.83 & 0 \\
\hline & & & & 40.42771 & & & & \\
\hline & & & & 40.4807 & 38.83 & 38.83 & 38.83 & 0 \\
\hline 41.4879 & 1.3479 & 0 & 6683 & 40.42032 & 39.54333 & 38.76 & 39.7 & 0.94 \\
\hline \multirow[t]{3}{*}{40.4} & 0.01 & 0 & 509 & 40.42226 & 38.8034 & 38.76 & 39.1072 & 0.3472 \\
\hline & & & & 40.4351 & & & & \\
\hline & & & & 40.45246 & 38.92 & 38.92 & 38.92 & 0 \\
\hline 40.4 & 0 & 0 & 191 & 40.48942 & & & & \\
\hline 40.4 & 0 & 0 & 100 & 40.51247 & & & & \\
\hline \multirow[t]{2}{*}{40.4} & 0 & 0 & 200 & 40.49668 & 39.11045 & 38.92 & 39.1521 & 0.2321 \\
\hline & & & & 40.48004 & & & & \\
\hline \multirow[t]{3}{*}{43.375} & 2.975 & 51972 & 561 & 40.40276 & 38.92 & 38.92 & 38.92 & 0 \\
\hline & & & & 40.49619 & 39.2091 & 39.2091 & 39.2091 & 0 \\
\hline & & & & 41.77388 & & & & \\
\hline 40.4 & 0 & 0 & 187 & 40.47667 & & & & \\
\hline \multirow[t]{6}{*}{40.33} & 0 & 0 & 110 & 40.48757 & & & & \\
\hline & & & & 40.47822 & & & & \\
\hline & & & & 40.46516 & 38.74 & 38.74 & 38.74 & 0 \\
\hline & & & & 40.4446 & 38.92 & 38.92 & 38.92 & 0 \\
\hline & & & & 40.49903 & 38.72692 & 38.72 & 38.73 & 0.01 \\
\hline & & & & 41.76385 & 38.62 & 38.62 & 38.62 & 0 \\
\hline 40.4 & 0 & 0 & 894 & 40.42454 & & & & \\
\hline 40.4 & 0 & 0 & 100 & 40.4323 & & & & \\
\hline 40.26 & 0.01 & 0 & 400 & 40.43442 & & & & \\
\hline \multirow[t]{8}{*}{39.8} & 0 & 0 & 581 & 40.43259 & & & & \\
\hline & & & & 40.48362 & & & & \\
\hline & & & & 40.46238 & & & & \\
\hline & & & & 40.51185 & & & & \\
\hline & & & & 40.48501 & & & & \\
\hline & & & & 40.49549 & & & & \\
\hline & & & & 40.52032 & & & & \\
\hline & & & & 40.51549 & & & & \\
\hline 40.4 & 0 & 0 & 3600 & 40.5108 & & & & \\
\hline \multirow[t]{13}{*}{40.4} & 0 & 515680 & 0 & 40.5147 & & & & \\
\hline & & & & 41.40679 & & & & \\
\hline & & & & 40.53786 & & & & \\
\hline & & & & 40.52048 & 38.92 & 38.92 & 38.92 & 0 \\
\hline & & & & 40.5228 & & & & \\
\hline & & & & 41.80595 & & & & \\
\hline & & & & 40.52685 & & & & \\
\hline & & & & 40.52829 & & & & \\
\hline & & & & 40.53509 & & & & \\
\hline & & & & 40.53131 & & & & \\
\hline & & & & 40.53013 & & & & \\
\hline & & & & 40.51775 & & & & \\
\hline & & & & 40.52011 & & & & \\
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\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & & & & 40.4893 & & & & \\
\hline & & & & 40.45867 & & & & \\
\hline 40.4 & 0 & 41937 & 0 & 40.45163 & & & & \\
\hline 40.4 & 0 & 0 & 200 & 40.43723 & & & & \\
\hline & & & & 40.42403 & & & & \\
\hline & & & & 40.42558 & & & & \\
\hline & & & & 40.49637 & & & & \\
\hline & & & & 40.467 & & & & \\
\hline & & & & 40.44707 & & & & \\
\hline & & & & 40.42295 & & & & \\
\hline & & & & 40.42244 & & & & \\
\hline & & & & 41.78187 & & & & \\
\hline & & & & 40.45242 & & & & \\
\hline & & & & 40.466 & & & & \\
\hline & & & & 40.48067 & & & & \\
\hline & & & & 40.4762 & & & & \\
\hline & & & & 40.4763 & & & & \\
\hline & & & & 40.49159 & & & & \\
\hline & & & & 40.49615 & 38.92 & 38.92 & 38.92 & 0 \\
\hline & & & & 41.80329 & & & & \\
\hline & & & & 40.50642 & & & & \\
\hline & & & & 40.49922 & & & & \\
\hline & & & & 41.80879 & & & & \\
\hline & & & & 41.80376 & & & & \\
\hline & & & & 40.48205 & & & & \\
\hline & & & & 40.47785 & 38.66 & 38.66 & 38.66 & 0 \\
\hline & & & & 40.47502 & & & & \\
\hline & & & & 40.48629 & & & & \\
\hline & & & & 40.4816 & & & & \\
\hline & & & & 40.46332 & & & & \\
\hline & & & & 40.46516 & & & & \\
\hline & & & & 40.4606 & & & & \\
\hline & & & & 40.45859 & & & & \\
\hline & & & & 40.44873 & & & & \\
\hline & & & & 40.45859 & & & & \\
\hline & & & & 40.43887 & & & & \\
\hline & & & & 40.43583 & & & & \\
\hline & & & & 40.46939 & & & & \\
\hline & & & & 40.45781 & & & & \\
\hline
\end{tabular}
40.40432
40.39286
40.42244
40.40931
40.45782
40.45749
40.4334
40.4337
40.41586
40.43955
40.45045
40.45859
40.45859
40.45859
40.43805
\begin{tabular}{rrrrrrrrr}
40 & 0.05 & 0 & 600 & 40.50209 & 37.71002 & 37.62 & 37.75 & 0.13 \\
40 & 0.1 & 0 & 1200 & 40.37752 & 37.62 & 37.62 & 37.62 & 0 \\
39.99 & 0.24 & 0 & 1600 & 40.31194 & 37.6822 & 37.62 & 37.75 & 0.13 \\
& & & & 40.27827 & 37.62 & 37.62 & 37.62 & 0 \\
& & & & 40.30066 & & & & \\
& & & & 40.2936 & 37.74941 & 37.74 & 37.75 & 0.01 \\
39.71 & 0.01 & 0 & 600 & 40.345716 & 37.64083 & 37.6 & 37.75 & 0.15 \\
& & & & 40.39484 & & & & \\
39.75 & 0 & 0 & 300 & 40.39141 & 37.695 & 37.69 & 37.7 & 0.01 \\
39.75 & 0 & 0 & 100 & 40.37037 & 37.68 & 37.68 & 37.68 & 0 \\
& & & & 40.35834 & & & & \\
39.75 & 0 & 0 & 920 & 40.37768 & 37.7 & 37.7 & 37.7 & 0 \\
& & & & 40.36402 & 37.60143 & 37.6 & 37.61 & 0.01 \\
39.75 & 0 & 0 & 700 & 40.3424 & & & & \\
& & & & 40.33706 & 37.5525 & 37.55 & 37.57 & 0.02 \\
39.75 & 0 & 0 & 100 & 40.34502 & 37.55 & 37.55 & 37.55 & 0 \\
39.75 & 0 & 0 & 300 & 40.34381 & & 37.35 & 37.42 & 0.07 \\
& & & & 40.35496 & 37.18636 & 37.15 & 37.55 & 0.4 \\
39.8 & 0.05 & 0 & 1125 & 40.36514 & 30.40174 & 37.388 & 37.34 & 37.4 \\
39.6 & 0 & 0 & 100 & 40.42617 & 37.2 & 37.2 & 37.2 & 0.06 \\
39.75 & 0 & 0 & 500 & 40.41641 & & 37.15 & 37.15 & 0 \\
39.75 & 0 & 0 & 2000 & 40.43438 & 37.03276 & & 37 & 37.12 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & & & & 40.45552 & 36.9 & 36.8 & 36.95 & 0.15 \\
\hline 39.75 & 0.01 & 0 & 400 & 40.47718 & 36.784 & 36.76 & 36.8 & 0.04 \\
\hline 39.75 & 0 & 0 & 400 & 40.50604 & 36.74909 & 36.74 & 36.75 & 0.01 \\
\hline 39.75 & 0 & 0 & 900 & 40.54167 & 36.68 & 36.68 & 36.68 & 0 \\
\hline 39.75 & 0 & 0 & 3700 & 40.6126 & 36.57308 & 36.55 & 36.68 & 0.13 \\
\hline 39.75 & 0 & 0 & 600 & 40.56766 & 36.46421 & 36.4 & 36.59 & 0.19 \\
\hline 39.75 & 0 & 0 & 10105 & 40.56568 & 36.28571 & 36.25 & 36.4 & 0.15 \\
\hline 39.83 & 0.13 & 0 & 3487 & 40.55781 & 36.23 & 36.23 & 36.23 & 0 \\
\hline 39.7 & 0 & 0 & 500 & 40.55989 & 36.29838 & 36.2 & 36.5 & 0.3 \\
\hline & & & & 40.51927 & 35.99517 & 35.88 & 36.23 & 0.35 \\
\hline 39.9 & 0.02 & 0 & 1200 & 40.53156 & 35.72063 & 35.7 & 35.88 & 0.18 \\
\hline 39.89 & 0.01 & 0 & 1500 & 40.55397 & 35.8 & 35.8 & 35.8 & 0 \\
\hline 39.95 & 0.06 & 0 & 2200 & 40.5611 & 35.7058 & 35.7 & 35.77 & 0.07 \\
\hline 39.9 & 0 & 0 & 4450 & 40.5714 & 35.66833 & 35.65 & 35.7 & 0.05 \\
\hline 39.92 & 0.05 & 0 & 2700 & 40.56133 & 35.66939 & 35.65 & 35.7 & 0.05 \\
\hline 40 & 0.1 & 0 & 22750 & 40.55709 & 35.6989 & 35.65 & 35.71 & 0.06 \\
\hline 39.99 & 0.24 & 0 & 2375 & 40.56316 & 35.77283 & 35.7 & 35.9 & 0.2 \\
\hline 39.89 & 0 & 0 & 100 & 40.59043 & 35.68243 & 35.5 & 35.81 & 0.31 \\
\hline & & & & 40.5705 & 35.67992 & 35.55 & 35.78 & 0.23 \\
\hline 39.8 & 0 & 0 & 850 & 40.60341 & 36 & 36 & 36 & 0 \\
\hline & & & & 40.62637 & 35.99 & 35.99 & 35.99 & 0 \\
\hline & & & & 40.62108 & 35.98474 & 35.97 & 36 & 0.03 \\
\hline & & & & 40.60953 & 35.98 & 35.98 & 35.98 & 0 \\
\hline & & & & 40.61098 & 35.91286 & 35.85 & 35.99 & 0.14 \\
\hline 39.85 & 0 & 0 & 500 & 40.59849 & 35.85 & 35.85 & 35.85 & 0 \\
\hline & & & & 40.60813 & 35.87472 & 35.86 & 35.89 & 0.03 \\
\hline & & & & 40.58708 & 35.89375 & 35.86 & 36 & 0.14 \\
\hline 39.95 & 0.05 & 0 & 700 & 40.6005 & 35.98901 & 35.86 & 36 & 0.14 \\
\hline 39.95 & 0 & 0 & 1000 & 40.61389 & 35.83886 & 35.77 & 36 & 0.23 \\
\hline 39.95 & 0 & 0 & 13600 & 40.62881 & 35.872 & 35.75 & 36 & 0.25 \\
\hline 40.23 & 0.28 & 0 & 8085 & 40.67457 & 35.75 & 35.75 & 35.75 & 0 \\
\hline 40.19 & 0.14 & 0 & 600 & 40.70293 & 35.76541 & 35.66 & 35.94 & 0.28 \\
\hline 40.01 & 0 & 0 & 200 & 40.72031 & 35.758 & 35.66 & 35.94 & 0.28 \\
\hline 40.19 & 0.01 & 0 & 2100 & 40.71694 & 35.70833 & 35.7 & 35.72 & 0.02 \\
\hline 40.2 & 0.02 & 0 & 1500 & 40.70681 & 35.82 & 35.72 & 35.88 & 0.16 \\
\hline 40.1 & 0.01 & 0 & 1100 & 40.71606 & 35.84923 & 35.74 & 35.91 & 0.17 \\
\hline 40.35 & 0.25 & 0 & 4171 & 40.71711 & & & & \\
\hline 40.35 & 0.15 & 0 & 2229 & 40.7019 & 35.90779 & 35.9 & 35.92 & 0.02 \\
\hline 40.29 & 0 & 0 & 8867 & 40.7047 & 35.9999 & 35.99 & 36 & 0.01 \\
\hline 40.29 & 0.29 & 0 & 11700 & 40.70086 & & & & \\
\hline 40 & 0 & 0 & 4000 & 40.69949 & 35.86 & 35.86 & 35.86 & 0 \\
\hline 40 & 0 & 0 & 500 & 40.69536 & 35.89947 & 35.85 & 35.97 & 0.12 \\
\hline & & & & 40.68504 & 35.88 & 35.88 & 35.88 & 0 \\
\hline 40 & 0.1 & 0 & 2300 & 40.67515 & 35.82238 & 35.78 & 36 & 0.22 \\
\hline & & & & 40.67365 & 35.77325 & 35.75 & 35.78 & 0.03 \\
\hline 39.89 & 0 & 0 & 100 & 40.677 & 35.99 & 35.99 & 35.99 & 0 \\
\hline 39.85 & 0 & 0 & 950 & 40.67357 & 35.79726 & 35.75 & 35.97 & 0.22 \\
\hline & & & & 40.67065 & 35.77083 & 35.75 & 35.8 & 0.05 \\
\hline 39.86 & 0 & 0 & 500 & 40.6664 & 35.80333 & 35.75 & 35.85 & 0.1 \\
\hline & & & & 40.66145 & 35.70471 & 35.7 & 35.74 & 0.04 \\
\hline & & & & 40.63076 & 35.709 & 35.7 & 35.75 & 0.05 \\
\hline 39.86 & 0 & 0 & 500 & 40.66087 & 35.7 & 35.7 & 35.7 & 0 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 39.94 & 0.13 & 0 & 2192 & 40.67039 & 35.91425 & 35.7 & 36 & 0.3 \\
\hline 39.81 & 0.09 & 0 & 608 & 40.68088 & 35.92144 & 35.7 & 35.99 & 0.29 \\
\hline 39.9 & 0 & 0 & 500 & 40.67468 & 35.99727 & 35.99 & 36 & 0.01 \\
\hline & & & & 40.67204 & 36 & 36 & 36 & 0 \\
\hline 39.8 & 0.04 & 0 & 1200 & 40.70617 & & & & \\
\hline & & & & 40.72139 & 36 & 36 & 36 & 0 \\
\hline 39.85 & 0 & 0 & 200 & 40.72335 & 35.84489 & 35.81 & 36 & 0.19 \\
\hline 39.89 & 0 & 0 & 300 & 40.72923 & 35.75224 & 35.72 & 35.8 & 0.08 \\
\hline 39.9 & 0 & 0 & 576 & 40.73096 & 35.805 & 35.75 & 35.97 & 0.22 \\
\hline & & & & 40.74307 & 35.97857 & 35.97 & 36 & 0.03 \\
\hline & & & & 40.7393 & 35.93531 & 35.78 & 36 & 0.22 \\
\hline 40.13 & 0 & 0 & 100 & 40.73614 & 35.97481 & 35.8 & 36 & 0.2 \\
\hline 40.15 & 0.19 & 0 & 500 & 40.72153 & 35.99607 & 35.88 & 36.2 & 0.32 \\
\hline 40.54 & 0.47 & 0 & 75387 & 40.69888 & 36.58593 & 35.88 & 37.2 & 1.32 \\
\hline 40.37 & 0.56 & 154300 & 127920 & 40.68603 & 36.60231 & 36.3 & 36.88 & 0.58 \\
\hline 39.89 & 0.26 & 0 & 98953 & 40.68372 & 36.07161 & 35.97 & 36.34 & 0.37 \\
\hline 39.95 & 0.35 & 0 & 95131 & 40.67698 & 36.01684 & 35.89 & 36.14 & 0.25 \\
\hline 40 & 0.31 & 73993 & 139288 & 40.63782 & 36.24838 & 36.08 & 36.4 & 0.32 \\
\hline 39.87 & 0.57 & 0 & 103249 & 40.60473 & 36.48036 & 36.36 & 36.59 & 0.23 \\
\hline 39.37 & 0.17 & 0 & 153372 & 40.57132 & 36.76966 & 36.59 & 36.92 & 0.33 \\
\hline 39.44 & 0.3 & 0 & 142964 & 40.59892 & 36.75115 & 36.68 & 36.84 & 0.16 \\
\hline 39.2 & 0.1 & 0 & 95440 & 40.55547 & 36.68673 & 36.54 & 36.7752 & 0.2352 \\
\hline 39.42 & 0.32 & 0 & 150856 & 40.54754 & 36.63622 & 36.56 & 36.69 & 0.13 \\
\hline 39.17 & 0.26 & 0 & 122700 & 40.50752 & 36.61895 & 36.58 & 36.66 & 0.08 \\
\hline 39.13 & 0.18 & 11000 & 108504 & 40.56821 & 36.53185 & 36.35 & 36.64 & 0.29 \\
\hline 39.26 & 0.217 & 38000 & 123895 & 40.63605 & 36.44423 & 36.31 & 36.6 & 0.29 \\
\hline 39.3 & 0.16 & 0 & 102916 & 40.6775 & 36.23569 & 36.11 & 36.48 & 0.37 \\
\hline 39.31 & 0.36 & 0 & 197035 & 40.66161 & 36.00364 & 35.86 & 36.14 & 0.28 \\
\hline 39.02 & 0.11 & 0 & 123938 & 40.66119 & 35.96909 & 35.87 & 36.1832 & 0.3132 \\
\hline 38.93 & 0.38 & 0 & 122176 & 40.65126 & 36.03528 & 36 & 36.08 & 0.08 \\
\hline 38.73 & 0.25 & 0 & 152436 & 40.63791 & 36.23199 & 36.01 & 36.43 & 0.42 \\
\hline 38.72 & 0.2 & 0 & 162925 & 40.63195 & 36.22113 & 36.13 & 36.39 & 0.26 \\
\hline 38.97 & 0.38 & 0 & 146359 & 40.69541 & 36.32094 & 36.22 & 36.39 & 0.17 \\
\hline 39 & 0.18 & 10000 & 156573 & 40.74124 & 36.45205 & 36.295 & 36.52 & 0.225 \\
\hline 39.01 & 0.23 & 0 & 87040 & 40.71182 & 36.4569 & 36.4 & 36.49 & 0.09 \\
\hline 39.24 & 0.36 & 0 & 156361 & 40.78046 & 36.49723 & 36.42 & 36.55 & 0.13 \\
\hline 39.49 & 0.3 & 0 & 141050 & 40.80129 & 36.3332 & 36.24 & 36.51 & 0.27 \\
\hline 39.43 & 0.11 & 0 & 97406 & 40.7948 & 36.21957 & 36.08 & 36.36 & 0.28 \\
\hline 39.4 & 0.23 & 0 & 84965 & 40.78313 & 36.01135 & 35.92 & 36.1 & 0.18 \\
\hline 39.35 & 0.17 & 0 & 84994 & 40.79028 & 36.01771 & 35.75 & 36.1 & 0.35 \\
\hline 39.38 & 0.25 & 0 & 84010 & 40.76955 & 35.94467 & 35.83 & 36 & 0.17 \\
\hline 39.3 & 0.16 & 0 & 66961 & 40.78308 & 35.8496 & 35.68 & 36.01 & 0.33 \\
\hline 39.18 & 0.29 & 0 & 109890 & 40.75339 & 35.71488 & 35.63 & 35.82 & 0.19 \\
\hline 39 & 0.26 & 0 & 72255 & 40.73216 & 35.76856 & 35.67 & 36.1078 & 0.4378 \\
\hline 38.96 & 0.21 & 0 & 57539 & 40.74487 & 36.04794 & 35.87 & 36.17 & 0.3 \\
\hline 39.1 & 0.27 & 0 & 119763 & 40.76249 & 36.23205 & 36.13 & 36.32 & 0.19 \\
\hline 39.23 & 0.23 & 0 & 94251 & 40.73955 & 36.13668 & 35.98 & 36.3 & 0.32 \\
\hline 39.25 & 0.26 & 0 & 53671 & 40.72647 & 36.05798 & 35.97 & 36.14 & 0.17 \\
\hline 39.3 & 0.14 & 0 & 93064 & 40.76218 & 36.15687 & 35.95 & 36.26 & 0.31 \\
\hline 39.3 & 0.23 & 0 & 78950 & 40.73498 & 36.26277 & 36.18 & 36.33 & 0.15 \\
\hline 39.25 & 0.14 & 0 & 51620 & 40.73656 & 36.37513 & 36.31 & 36.42 & 0.11 \\
\hline 39.25 & 0.12 & 0 & 94548 & 40.74141 & 36.43789 & 36.36 & 36.48 & 0.12 \\
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\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 39.3 & 0.17 & 0 & 100796 & 40.73939 & 36.54819 & 36.47 & 36.64 & 0.17 \\
\hline 39.37 & 0.17 & 0 & 105260 & 40.70178 & 36.67952 & 36.2275 & 36.73 & 0.5025 \\
\hline 39.3688 & 0.2788 & 0 & 60041 & 40.67998 & 36.62675 & 36.59 & 36.7 & 0.11 \\
\hline 39.16 & 0.11 & 0 & 47025 & 40.6782 & 36.6874 & 36.63 & 36.73 & 0.1 \\
\hline 39.17 & 0.14 & 0 & 81280 & 40.64046 & 36.63511 & 36.52 & 36.74 & 0.22 \\
\hline 39.18 & 0.2 & 0 & 37710 & 40.62633 & 36.45834 & 36.42 & 36.55 & 0.13 \\
\hline 39.25 & 0.11 & 0 & 52900 & 40.64243 & 36.532 & 36.38 & 36.61 & 0.23 \\
\hline 39.24 & 0.24 & 0 & 78062 & 40.60532 & 36.49268 & 36.42 & 36.6 & 0.18 \\
\hline 39.11 & 0.1 & 0 & 43600 & 40.58825 & 36.37286 & 36.28 & 36.44 & 0.16 \\
\hline 39.2 & 0.17 & 0 & 34031 & 40.60723 & 36.36432 & 36.23 & 36.5 & 0.27 \\
\hline 39.28 & 0.1 & 0 & 50200 & 40.63032 & 36.18821 & 36.12 & 36.29 & 0.17 \\
\hline 39.37 & 0.09 & 0 & 89375 & 40.64604 & 36.19414 & 36.1 & 36.26 & 0.16 \\
\hline 39.33 & 0.11 & 0 & 39871 & 40.65809 & 36.34894 & 36.21 & 36.54 & 0.33 \\
\hline 39.28 & 0.27 & 0 & 89410 & 40.61364 & 36.55644 & 36 & 36.63 & 0.63 \\
\hline 39.13 & 0.16 & 0 & 97019 & 40.59965 & 36.55258 & 36.1 & 36.66 & 0.56 \\
\hline 39.11 & 0.27 & 0 & 116220 & 40.58848 & 36.54805 & 36.51 & 36.59 & 0.08 \\
\hline 39.12 & 0.2 & 115000 & 85834 & 40.57702 & 36.58123 & 36.51 & 36.62 & 0.11 \\
\hline 39.05 & 0.1 & 0 & 58178 & 40.59592 & 36.45501 & 36.32 & 36.53 & 0.21 \\
\hline 39.05 & 0.06 & 0 & 36200 & 40.61386 & 36.27334 & 36.2 & 36.33 & 0.13 \\
\hline 39 & 0.13 & 0 & 35690 & 40.58509 & 36.22291 & 36.17 & 36.3673 & 0.1973 \\
\hline 38.98 & 0.07 & 0 & 23900 & 40.59995 & 36.21966 & 36.19 & 36.28 & 0.09 \\
\hline 38.98 & 0.12 & 0 & 51110 & 40.58561 & 36.18124 & 36.11 & 36.28 & 0.17 \\
\hline 39 & 0.14 & 0 & 81930 & 40.62879 & 36.14363 & 36.06 & 36.24 & 0.18 \\
\hline 38.92 & 0.12 & 0 & 60512 & 40.62577 & 36.21476 & 36.14 & 36.28 & 0.14 \\
\hline 38.905 & 0.105 & 0 & 42102 & 40.62135 & 36.15761 & 36.04 & 36.3 & 0.26 \\
\hline 38.89 & 0.13 & 0 & 34010 & 40.62417 & 36.20504 & 36.06 & 36.29 & 0.23 \\
\hline 38.91 & 0.22 & 0 & 77800 & 40.61411 & 36.40161 & 36.28 & 36.47 & 0.19 \\
\hline 38.83 & 0.16 & 0 & 118200 & 40.5933 & 36.40118 & 36.31 & 36.46 & 0.15 \\
\hline 38.93 & 0.24 & 0 & 77744 & 40.64273 & 36.34377 & 36.28 & 36.4 & 0.12 \\
\hline 39.02 & 0.2112 & 0 & 71481 & 40.68256 & 36.35909 & 36.29 & 36.4 & 0.11 \\
\hline 38.94 & 0.17 & 0 & 54728 & 40.63918 & 36.32339 & 36.19 & 36.46 & 0.27 \\
\hline 38.85 & 0.15 & 0 & 33070 & 40.60903 & 36.47317 & 36.43 & 36.52 & 0.09 \\
\hline 38.82 & 0.17 & 0 & 75400 & 40.62809 & 36.61916 & 36.49 & 36.68 & 0.19 \\
\hline 38.74 & 0.15 & 0 & 41647 & 40.58963 & 36.76443 & 36.69 & 36.83 & 0.14 \\
\hline 38.81 & 0.18 & 0 & 53130 & 40.59092 & 36.847 & 36.8 & 36.9 & 0.1 \\
\hline 38.77 & 0.12 & 0 & 43500 & 40.46756 & 36.66553 & 36.21 & 36.87 & 0.66 \\
\hline 38.72 & 0.1 & 0 & 46180 & 40.57375 & 36.80035 & 36.4587 & 36.88 & 0.4213 \\
\hline 39 & 0.38 & 117500 & 43688 & 40.58337 & 36.94269 & 36.84 & 37 & 0.16 \\
\hline 39 & 0.49 & 65000 & 67540 & 40.53448 & 36.95417 & 36.82 & 37 & 0.18 \\
\hline 38.56 & 0.13 & 0 & 69773 & 40.49076 & 36.79483 & 36.75 & 36.85 & 0.1 \\
\hline 38.54 & 0.07 & 0 & 67947 & 40.50123 & 36.7414 & 36.64 & 36.84 & 0.2 \\
\hline 38.62 & 0.12 & 0 & 65634 & 40.48929 & 36.88966 & 36.81 & 36.98 & 0.17 \\
\hline 38.56 & 0.09 & 0 & 44286 & 40.48558 & 36.98266 & 36.87 & 37.05 & 0.18 \\
\hline 38.58 & 0.08 & 0 & 32164 & 40.4919 & 37.03988 & 36.96 & 37.18 & 0.22 \\
\hline 38.57 & 0.06 & 0 & 54520 & 40.47796 & 37.28168 & 37.15 & 37.46 & 0.31 \\
\hline 38.66 & 0.14 & 0 & 73100 & 40.46825 & 37.5244 & 37.44 & 37.62 & 0.18 \\
\hline 38.63 & 0.09 & 0 & 59945 & 40.43461 & 37.49798 & 37.41 & 37.6 & 0.19 \\
\hline 38.57 & 0.19 & 0 & 65347 & 40.41018 & 37.48533 & 37.44 & 37.54 & 0.1 \\
\hline 38.44 & 0.09 & 0 & 61027 & 40.38853 & 37.46264 & 37.4 & 37.51 & 0.11 \\
\hline 38.5 & 0.11 & 0 & 62151 & 40.40588 & 37.31843 & 37.22 & 37.46 & 0.24 \\
\hline 38.48 & 0.08 & 0 & 70388 & 40.41221 & 37.28174 & 37.2 & 37.4 & 0.2 \\
\hline 38.41 & 0.25 & 15400 & 123978 & 40.376 & 37.33321 & 37.1736 & 37.42 & 0.2464 \\
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\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 38.32 & 0.14 & 0 & 111093 & 40.37693 & 37.31205 & 37.26 & 37.39 & 0.13 \\
\hline 38.25 & 0.14 & 0 & 126729 & 40.37054 & 37.31656 & 37.26 & 37.39 & 0.13 \\
\hline 38.26 & 0.14 & 0 & 83282 & 40.38186 & 37.38743 & 37.31 & 37.44 & 0.13 \\
\hline 38.37 & 0.17 & 0 & 70539 & 40.41322 & 37.40161 & 37.36 & 37.47 & 0.11 \\
\hline 38.39 & 0.09 & 0 & 69534 & 40.42222 & 37.45896 & 37.37 & 37.51 & 0.14 \\
\hline 38.38 & 0.12 & 0 & 38570 & 40.4132 & 37.47922 & 37.45 & 37.51 & 0.06 \\
\hline 38.49 & 0.2 & 0 & 60806 & 40.47305 & 37.47331 & 37.42 & 37.53 & 0.11 \\
\hline 38.41 & 0.14 & 0 & 47250 & 40.44886 & 37.4042 & 37.36 & 37.45 & 0.09 \\
\hline 38.31 & 0.08 & 0 & 54900 & 40.43841 & 37.42218 & 37.35 & 37.5 & 0.15 \\
\hline 38.26 & 0.11 & 0 & 71538 & 40.43735 & 37.38803 & 37.35 & 37.44 & 0.09 \\
\hline 38.15 & 0.07 & 0 & 54887 & 40.4044 & 37.28889 & 37.15 & 37.37 & 0.22 \\
\hline 38.23 & 0.14 & 0 & 60490 & 40.42446 & 37.25963 & 37.15 & 37.41 & 0.26 \\
\hline 38.27 & 0.11 & 0 & 68570 & 40.42235 & 37.3634 & 37.32 & 37.4 & 0.08 \\
\hline 38.32 & 0.11 & 0 & 54377 & 40.43818 & 37.26433 & 37.23 & 37.32 & 0.09 \\
\hline 38.35 & 0.1319 & 0 & 46835 & 40.42448 & 37.29015 & 37.21 & 37.4 & 0.19 \\
\hline 38.45 & 0.11 & 0 & 120077 & 40.4234 & 37.42141 & 37.33 & 37.51 & 0.18 \\
\hline 38.43 & 0.09 & 0 & 65610 & 40.39292 & 37.55366 & 37.5 & 37.6 & 0.1 \\
\hline 38.44 & 0.1048 & 0 & 69907 & 40.40703 & 37.51495 & 37.48 & 37.57 & 0.09 \\
\hline 38.49 & 0.17 & 0 & 53276 & 40.41222 & 37.48364 & 37.42 & 37.51 & 0.09 \\
\hline 38.51 & 0.13 & 0 & 86526 & 40.42025 & 37.44883 & 37.39 & 37.51 & 0.12 \\
\hline 38.51 & 0.1 & 0 & 34171 & 40.42752 & 37.36424 & 37.32 & 37.43 & 0.11 \\
\hline 38.49 & 0.15 & 0 & 48866 & 40.40263 & 37.37789 & 37.33 & 37.43 & 0.1 \\
\hline 38.43 & 0.09 & 0 & 24806 & 40.38672 & 37.34645 & 37.27 & 37.41 & 0.14 \\
\hline 38.44 & 0.1 & 0 & 43519 & 40.37979 & 37.29176 & 37.24 & 37.34 & 0.1 \\
\hline 38.46 & 0.13 & 0 & 102773 & 40.34979 & 37.25959 & 37.2 & 37.31 & 0.11 \\
\hline 38.45 & 0.17 & 0 & 122627 & 40.3469 & 37.3285 & 37.28 & 37.38 & 0.1 \\
\hline 38.34 & 0.07 & 0 & 90390 & 40.33825 & 37.40705 & 37.34 & 37.45 & 0.11 \\
\hline 38.35 & 0.07 & 0 & 42280 & 40.3241 & 37.43344 & 37.41 & 37.48 & 0.07 \\
\hline 38.34 & 0.08 & 0 & 73970 & 40.32827 & 37.47442 & 37.45 & 37.5 & 0.05 \\
\hline 38.3837 & 0.1885 & 0 & 43748 & 40.30703 & 37.50936 & 37.45 & 37.58 & 0.13 \\
\hline 38.31 & 0.12 & 0 & 51284 & 40.32549 & 37.66858 & 37.52 & 37.75 & 0.23 \\
\hline 38.35 & 0.11 & 0 & 68383 & 40.35156 & 37.71651 & 37.68 & 37.74 & 0.06 \\
\hline 38.5 & 0.2 & 0 & 76330 & 40.37729 & 37.83697 & 37.73 & 37.93 & 0.2 \\
\hline 38.67 & 0.2 & 0 & 99642 & 40.48401 & 37.93889 & 37.87 & 37.99 & 0.12 \\
\hline 38.74 & 0.11 & 0 & 63310 & 40.51415 & 37.98497 & 37.88 & 38.05 & 0.17 \\
\hline 38.7 & 0.08 & 0 & 45385 & 40.5084 & 38.04086 & 37.95 & 38.13 & 0.18 \\
\hline 38.78 & 0.58 & 116000 & 80147 & 40.5347 & 38.01497 & 36.6052 & 38.21 & 1.6048 \\
\hline 38.82 & 0.13 & 0 & 140860 & 40.55254 & 38.20895 & 38.19 & 38.24 & 0.05 \\
\hline 38.7 & 0.08 & 0 & 21107 & 40.52722 & 38.1526 & 38.1 & 38.21 & 0.11 \\
\hline 38.72 & 0.11 & 0 & 32330 & 40.56005 & 38.11808 & 38.06 & 38.23 & 0.17 \\
\hline 38.84 & 0.18 & 0 & 76503 & 40.58203 & 38.17785 & 38.15 & 38.21 & 0.06 \\
\hline 39.03 & 0.23 & 0 & 113932 & 40.6487 & 38.1907 & 38.09 & 38.24 & 0.15 \\
\hline 39.04 & 0.17 & 0 & 77391 & 40.63932 & 37.93981 & 37.82 & 38.1 & 0.28 \\
\hline 38.9 & 0.18 & 0 & 79566 & 40.63209 & 37.91855 & 37.86 & 37.98 & 0.12 \\
\hline 38.82 & 0.208 & 0 & 39754 & 40.64044 & 37.8462 & 37.78 & 37.9599 & 0.1799 \\
\hline 38.77 & 0.13 & 0 & 35073 & 40.62188 & 37.86702 & 37.75 & 37.94 & 0.19 \\
\hline 38.72 & 0.16 & 0 & 74914 & 40.61272 & 37.75034 & 37.72 & 37.8 & 0.08 \\
\hline 38.72 & 0.13 & 0 & 40260 & 40.60977 & 37.73291 & 37.72 & 37.79 & 0.07 \\
\hline 38.8 & 0.14 & 0 & 44333 & 40.6288 & 37.73204 & 37.72 & 37.78 & 0.06 \\
\hline 38.92 & 0.13 & 0 & 80550 & 40.66838 & 37.80597 & 37.74 & 37.86 & 0.12 \\
\hline 38.93 & 0.21 & 0 & 48762 & 40.65207 & 37.90398 & 37.86 & 37.96 & 0.1 \\
\hline 38.8 & 0.11 & 0 & 25890 & 40.62259 & 37.98751 & 37.88 & 38.05 & 0.17 \\
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\hline 38.68 & 0.2 & 0 & 41762 & 40.56858 & 37.97819 & 37.95 & 38 & 0.05 \\
\hline 38.53 & 0.1 & 0 & 32417 & 40.55825 & 38.0656 & 37.99 & 38.12 & 0.13 \\
\hline 38.53 & 0.07 & 0 & 27100 & 40.58435 & 38.02323 & 37.89 & 38.15 & 0.26 \\
\hline 38.58 & 0.11 & 0 & 21280 & 40.59518 & 37.77262 & 37.69 & 37.91 & 0.22 \\
\hline 38.59 & 0.06 & 0 & 22700 & 40.60352 & 37.72345 & 37.67 & 37.79 & 0.12 \\
\hline 39 & 0.53 & 211500 & 32500 & 40.57316 & 37.77017 & 37.72 & 37.85 & 0.13 \\
\hline 38.7593 & 0.3493 & 0 & 23505 & 40.56021 & 37.89613 & 37.84 & 37.96 & 0.12 \\
\hline 38.47 & 0.06 & 0 & 11800 & 40.5757 & 38.0569 & 37.93 & 38.18 & 0.25 \\
\hline 38.44 & 0.12 & 0 & 20900 & 40.5554 & 38.18243 & 38.11 & 38.21 & 0.1 \\
\hline 38.49 & 0.14 & 0 & 23000 & 40.58972 & 38.1103 & 38.07 & 38.14 & 0.07 \\
\hline 38.58 & 0.13 & 0 & 34242 & 40.61287 & 38.08335 & 38.02 & 38.14 & 0.12 \\
\hline 38.68 & 0.16 & 0 & 37162 & 40.61639 & 37.98314 & 37.85 & 38.08 & 0.23 \\
\hline 38.89 & 0.25 & 0 & 106527 & 40.66181 & 37.91421 & 37.85 & 38.02 & 0.17 \\
\hline 38.95 & 0.09 & 0 & 74412 & 40.71172 & 37.95893 & 37.89 & 38.03 & 0.14 \\
\hline 38.9 & 0.06 & 0 & 19750 & 40.70127 & 37.91397 & 37.86 & 37.99 & 0.13 \\
\hline 38.92 & 0.09 & 0 & 35466 & 40.69413 & 37.84696 & 37.74 & 37.96 & 0.22 \\
\hline 38.9 & 0.07 & 0 & 22100 & 40.66239 & 37.91427 & 37.87 & 37.96 & 0.09 \\
\hline 38.89 & 0.0525 & 0 & 32057 & 40.66634 & 37.77016 & 37.69 & 37.85 & 0.16 \\
\hline 38.93 & 0.08 & 0 & 37390 & 40.66173 & 37.69797 & 37.63 & 37.76 & 0.13 \\
\hline 39 & 0.09 & 0 & 28060 & 40.68686 & 37.60164 & 37.55 & 37.69 & 0.14 \\
\hline 38.95 & 0.17 & 0 & 58800 & 40.65731 & 37.69472 & 37.66 & 37.73 & 0.07 \\
\hline 38.84 & 0.1 & 0 & 40860 & 40.62563 & 37.64397 & 37.61 & 37.9024 & 0.2924 \\
\hline 38.92 & 0.08 & 0 & 58291 & 40.65562 & 37.71174 & 37.65 & 37.78 & 0.13 \\
\hline 38.91 & 0.08 & 0 & 69285 & 40.66649 & 37.76556 & 37.74 & 37.79 & 0.05 \\
\hline 38.93 & 0.08 & 0 & 20870 & 40.65197 & 37.76905 & 37.73 & 37.78 & 0.05 \\
\hline 38.88 & 0.04 & 0 & 16142 & 40.65892 & 37.69748 & 37.65 & 37.75 & 0.1 \\
\hline 38.9 & 0.09 & 0 & 37100 & 40.64923 & 37.74136 & 37.68 & 37.8 & 0.12 \\
\hline 38.95 & 0.07 & 0 & 17800 & 40.48583 & 37.80303 & 37.7601 & 37.86 & 0.0999 \\
\hline 38.96 & 0.06 & 0 & 13700 & 40.68496 & 37.83226 & 37.8 & 37.86 & 0.06 \\
\hline 38.94 & 0.07 & 0 & 11291 & 40.68041 & 37.82545 & 37.79 & 37.85 & 0.06 \\
\hline 38.924 & 0.154 & 0 & 54172 & 40.63289 & 37.82552 & 37.784 & 37.88 & 0.096 \\
\hline 38.77 & 0.11 & 0 & 68330 & 40.60018 & 37.80421 & 37.75 & 37.86 & 0.11 \\
\hline 38.77 & 0.12 & 0 & 48850 & 40.60521 & 37.85849 & 37.75 & 37.94 & 0.19 \\
\hline 38.73 & 0.07 & 0 & 30990 & 40.59234 & 37.89412 & 37.7781 & 37.93 & 0.1519 \\
\hline 38.76 & 0.08 & 0 & 20192 & 40.61083 & 37.87271 & 37.82 & 37.9 & 0.08 \\
\hline 38.8 & 0.07 & 0 & 20136 & 40.61278 & 37.81715 & 37.81 & 37.83 & 0.02 \\
\hline 38.83 & 0.09 & 0 & 17500 & 40.6143 & 37.58113 & 37.5 & 37.8 & 0.3 \\
\hline 38.9 & 0.1 & 232000 & 25251 & 40.64762 & 37.56911 & 37.54 & 37.61 & 0.07 \\
\hline 38.9 & 0.09 & 0 & 18020 & 40.6451 & 37.55219 & 37.51 & 37.58 & 0.07 \\
\hline 38.86 & 0.06 & 0 & 27316 & 40.63796 & 37.51264 & 37.48 & 37.58 & 0.1 \\
\hline 38.84 & 0.06 & 0 & 26800 & 40.64416 & 37.65512 & 37.47 & 37.79 & 0.32 \\
\hline 38.99 & 0.17 & 0 & 40695 & 40.66605 & 37.71084 & 37.6 & 37.79 & 0.19 \\
\hline 39.03 & 0.09 & 10000 & 91287 & 40.71155 & 37.69628 & 37.6 & 37.76 & 0.16 \\
\hline 39.04 & 0.08 & 0 & 23734 & 40.71909 & 37.69616 & 37.58 & 37.78 & 0.2 \\
\hline 39 & 0.05 & 0 & 19490 & 40.7189 & 37.6019 & 37.55 & 37.67 & 0.12 \\
\hline 39.05 & 0.12 & 0 & 64288 & 40.71093 & 37.61549 & 36.21 & 37.71 & 1.5 \\
\hline 39.09 & 0.09 & 0 & 92443 & 40.73679 & 37.46026 & 37.38 & 37.54 & 0.16 \\
\hline 39.08 & 0.08 & 0 & 24300 & 40.73107 & 37.34499 & 37.29 & 37.41 & 0.12 \\
\hline 39.14 & 0.06 & 0 & 49570 & 40.73969 & 37.44766 & 37.26 & 37.61 & 0.35 \\
\hline 39.15 & 0.1 & 0 & 31860 & 40.46985 & 37.47543 & 37.0055 & 37.63 & 0.6245 \\
\hline 39.09 & 0.1 & 0 & 35500 & 40.69263 & 37.58073 & 37.54 & 37.62 & 0.08 \\
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\hline 38.86 & 0.11 & 0 & 47405 & 40.63066 & 37.55614 & 37.5 & 37.63 & 0.13 \\
\hline 38.94 & 0.14 & 0 & 27410 & 40.65475 & 37.50174 & 37.45 & 37.55 & 0.1 \\
\hline 38.91 & 0.06 & 0 & 20000 & 40.65353 & 37.3786 & 37.31 & 37.45 & 0.14 \\
\hline 38.92 & 0.05 & 0 & 11200 & 40.66124 & 37.46857 & 37.34 & 37.55 & 0.21 \\
\hline 38.87 & 0.06 & 0 & 22400 & 40.63938 & 37.56049 & 37.53 & 37.61 & 0.08 \\
\hline 38.93 & 0.11 & 0 & 14090 & 40.64446 & 37.55083 & 37.49 & 37.6 & 0.11 \\
\hline 38.94 & 0.04 & 0 & 5800 & 40.65405 & 37.51441 & 37.45 & 37.58 & 0.13 \\
\hline 39 & 0.09 & 0 & 15506 & 40.66822 & 37.55664 & 37.53 & 37.58 & 0.05 \\
\hline 38.96 & 0.15 & 0 & 38385 & 40.63269 & 37.59201 & 37.55 & 37.61 & 0.06 \\
\hline 38.85 & 0.04 & 0 & 9755 & 40.62363 & 37.60106 & 37.55 & 37.64 & 0.09 \\
\hline 38.86 & 0.05 & 0 & 29000 & 40.6361 & 37.58851 & 37.52 & 37.66 & 0.14 \\
\hline 38.93 & 0.09 & 0 & 15212 & 40.65472 & 37.69895 & 37.66 & 37.74 & 0.08 \\
\hline 38.93 & 0.06 & 0 & 28810 & 40.6434 & 37.73085 & 37.69 & 37.75 & 0.06 \\
\hline 38.89 & 0.04 & 0 & 18100 & 40.6257 & 37.72546 & 37.68 & 37.77 & 0.09 \\
\hline 38.91 & 0.04 & 0 & 29110 & 40.63779 & 37.74363 & 37.7 & 37.78 & 0.08 \\
\hline 38.8912 & 0.0712 & 0 & 41208 & 40.61002 & 37.62714 & 37.5 & 37.73 & 0.23 \\
\hline 38.9 & 0.1 & 0 & 62867 & 40.62678 & 37.50507 & 37.48 & 37.53 & 0.05 \\
\hline 38.98 & 0.09 & 10000 & 33169 & 40.65221 & 37.55509 & 37.5 & 37.62 & 0.12 \\
\hline 39 & 0.08 & 0 & 35921 & 40.65186 & 37.57579 & 37.49 & 37.61 & 0.12 \\
\hline 38.97 & 0.07 & 0 & 41020 & 40.63137 & 37.41032 & 37.34 & 37.49 & 0.15 \\
\hline 39 & 0.06 & 0 & 29618 & 40.6334 & 37.3779 & 37.35 & 37.45 & 0.1 \\
\hline 39 & 0.11 & 0 & 24579 & 40.6272 & 37.30593 & 37.27 & 37.35 & 0.08 \\
\hline 38.89 & 0.09 & 0 & 22800 & 40.58772 & 37.31627 & 37.27 & 37.37 & 0.1 \\
\hline 38.85 & 0.11 & 0 & 50262 & 40.58147 & 37.32241 & 37.31 & 37.35 & 0.04 \\
\hline 38.83 & 0.1 & 0 & 23850 & 40.57673 & 37.26439 & 37.212 & 37.527 & 0.315 \\
\hline 38.87 & 0.11 & 0 & 24100 & 40.57479 & 37.22166 & 37.2 & 37.26 & 0.06 \\
\hline 38.78 & 0.05 & 0 & 17833 & 40.5815 & 37.21693 & 37.19 & 37.27 & 0.08 \\
\hline 38.82 & 0.12 & 0 & 30200 & 40.59835 & 37.27056 & 37.24 & 37.3 & 0.06 \\
\hline 38.8661 & 0.2061 & 0 & 32655 & 40.56234 & 37.21887 & 37.14 & 37.27 & 0.13 \\
\hline 38.73 & 0.03 & 0 & 14600 & 40.58237 & 37.09523 & 37.07 & 37.14 & 0.07 \\
\hline 38.78 & 0.07 & 0 & 21210 & 40.60285 & 37.12237 & 37.06 & 37.22 & 0.16 \\
\hline 38.8 & 0.04 & 0 & 32200 & 40.61627 & 37.19849 & 37.15 & 37.25 & 0.1 \\
\hline 38.8 & 0.03 & 0 & 12630 & 40.59957 & 37.17759 & 37.14 & 37.21 & 0.07 \\
\hline 38.8 & 0.04 & 0 & 34312 & 40.60241 & 37.22136 & 37.2 & 37.25 & 0.05 \\
\hline 38.8 & 0.06 & 0 & 27200 & 40.59866 & 37.16402 & 37.14 & 37.23 & 0.09 \\
\hline 38.7609 & 0.0409 & 20000 & 10050 & 40.59698 & 37.1452 & 37.12 & 37.18 & 0.06 \\
\hline 38.86 & 0.11 & 0 & 35600 & 40.62085 & 37.14665 & 37.11 & 37.18 & 0.07 \\
\hline 38.8622 & 0.0622 & 0 & 26216 & 40.63571 & 37.13018 & 37.1 & 37.17 & 0.07 \\
\hline 38.85 & 0.05 & 0 & 18600 & 40.62552 & 37.10718 & 37.05 & 37.17 & 0.12 \\
\hline 38.9 & 0.11 & 0 & 34890 & 40.6249 & 37.13041 & 37.09 & 37.17 & 0.08 \\
\hline 38.91 & 0.1 & 0 & 28710 & 40.63712 & 37.11746 & 37.08 & 37.19 & 0.11 \\
\hline 38.83 & 0.05 & 0 & 13707 & 40.62967 & 37.10455 & 37.08 & 37.13 & 0.05 \\
\hline 38.85 & 0.03 & 0 & 21021 & 40.62994 & 37.14903 & 37.09 & 37.19 & 0.1 \\
\hline 38.83 & 0.03 & 0 & 10810 & 40.62459 & 37.27187 & 37.17 & 37.4 & 0.23 \\
\hline 38.83 & 0.03 & 0 & 10400 & 40.63572 & 37.34418 & 37.2928 & 37.4 & 0.1072 \\
\hline 38.85 & 0.04 & 0 & 13290 & 40.63637 & 37.32647 & 37.27 & 37.36 & 0.09 \\
\hline 38.89 & 0.08 & 0 & 20390 & 40.64738 & 37.32521 & 37.29 & 37.35 & 0.06 \\
\hline 38.89 & 0.07 & 0 & 16083 & 40.65243 & 37.33019 & 37.29 & 37.35 & 0.06 \\
\hline 38.87 & 0.04 & 0 & 12110 & 40.65779 & 37.30212 & 37.26 & 37.35 & 0.09 \\
\hline 38.9403 & 0.1003 & 0 & 24402 & 40.67659 & 37.30774 & 37.28 & 37.35 & 0.07 \\
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\hline 39.09 & 0.09 & 0 & 27700 & 40.75765 & 37.51007 & 37.48 & 37.55 & 0.07 \\
\hline 39.08 & 0.09 & 0 & 19000 & 40.7556 & 37.4379 & 37.38 & 37.49 & 0.11 \\
\hline 40.4 & 1.42 & 18960 & 17856 & 40.75139 & 37.46705 & 37.43 & 37.52 & 0.09 \\
\hline 39.02 & 0.05 & 0 & 13020 & 40.72154 & 37.51047 & 37.43 & 37.55 & 0.12 \\
\hline 39.04 & 0.09 & 0 & 31900 & 40.7255 & 37.49742 & 37.44 & 37.53 & 0.09 \\
\hline 39.02 & 0.1 & 0 & 31100 & 40.72105 & 37.56166 & 37.4901 & 37.65 & 0.1599 \\
\hline 38.99 & 0.11 & 0 & 30750 & 40.70264 & 37.59135 & 37.53 & 37.64 & 0.11 \\
\hline 38.96 & 0.08 & 0 & 22279 & 40.6902 & 37.51701 & 37.45 & 37.5764 & 0.1264 \\
\hline 38.96 & 0.07 & 0 & 15700 & 40.6791 & 37.54433 & 37.46 & 37.58 & 0.12 \\
\hline 38.98 & 0.04 & 0 & 20854 & 40.69138 & 37.47259 & 37.45 & 37.5 & 0.05 \\
\hline 38.98 & 0.09 & 0 & 28335 & 40.46819 & 37.55169 & 37.48 & 37.6 & 0.12 \\
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\hline 38.93 & 0.06 & 0 & 25384 & 40.65231 & 37.68834 & 37.64 & 37.73 & 0.09 \\
\hline 38.88 & 0.03 & 0 & 22050 & 40.62105 & 37.66253 & 37.61 & 37.7 & 0.09 \\
\hline 38.96 & 0.08 & 0 & 51366 & 40.6382 & 37.69625 & 37.58 & 37.75 & 0.17 \\
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\hline 39.09 & 0.1 & 0 & 50231 & 40.6745 & 37.85125 & 37.81 & 37.89 & 0.08 \\
\hline 39.09 & 0.07 & 0 & 44950 & 40.66675 & 37.92528 & 37.87 & 37.97 & 0.1 \\
\hline 39.0826 & 0.0726 & 0 & 34061 & 40.66116 & 37.93852 & 37.87 & 37.96 & 0.09 \\
\hline 39.05 & 0.08 & 0 & 24310 & 40.6154 & 37.9188 & 37.88 & 37.93 & 0.05 \\
\hline 39.22 & 0.24 & 0 & 75072 & 40.62961 & 37.95041 & 37.9 & 37.979 & 0.079 \\
\hline 39.26 & 0.14 & 0 & 76808 & 40.65532 & 37.94511 & 37.9 & 37.98 & 0.08 \\
\hline 39.22 & 0.06 & 0 & 31120 & 40.49881 & 37.97537 & 37.91 & 38.01 & 0.1 \\
\hline 39.29 & 0.085 & 0 & 52243 & 40.64285 & 38.06962 & 38.01 & 38.17 & 0.16 \\
\hline 39.31 & 0.04 & 0 & 67696 & 40.6286 & 38.12902 & 38.09 & 38.16 & 0.07 \\
\hline 39.37 & 0.09 & 0 & 49132 & 40.6182 & 38.19794 & 38.13 & 38.24 & 0.11 \\
\hline 39.49 & 0.16 & 0 & 60559 & 40.65233 & 38.302 & 38.22 & 38.36 & 0.14 \\
\hline 39.6 & 0.13 & 0 & 86444 & 40.65892 & 38.32733 & 38.28 & 38.37 & 0.09 \\
\hline 39.72 & 0.175 & 0 & 81896 & 40.68015 & 38.39139 & 38.31 & 38.48 & 0.17 \\
\hline 39.86 & 0.16 & 0 & 65932 & 40.72258 & 38.44741 & 38.39 & 38.48 & 0.09 \\
\hline 39.86 & 0.12 & 0 & 111481 & 40.75242 & 38.43287 & 38.37 & 38.48 & 0.11 \\
\hline 39.84 & 0.1 & 0 & 83783 & 40.78261 & 38.41395 & 38.37 & 38.5 & 0.13 \\
\hline 39.87 & 0.15 & 0 & 69600 & 40.78525 & 38.52789 & 38.46 & 38.59 & 0.13 \\
\hline 39.84 & 0.14 & 0 & 71759 & 40.77716 & 38.40128 & 38.3 & 38.48 & 0.18 \\
\hline 39.96 & 0.18 & 0 & 66252 & 40.80498 & 38.29386 & 38.19 & 38.36 & 0.17 \\
\hline 40.05 & 0.4342 & 40500 & 111950 & 40.85284 & 38.27117 & 38.2 & 38.33 & 0.13 \\
\hline 40.24 & 0.21 & 0 & 133783 & 40.87015 & 38.3034 & 38.26 & 38.38 & 0.12 \\
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\hline 40.17 & 0.21 & 0 & 50847 & 40.8973 & 38.44162 & 38.4 & 38.48 & 0.08 \\
\hline 40.18 & 0.17 & 0 & 48798 & 40.6214 & 38.33477 & 38.28 & 38.42 & 0.14 \\
\hline 40.06 & 0.11 & 0 & 43613 & 40.89595 & 38.35171 & 38.28 & 38.45 & 0.17 \\
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\hline 40.1 & 0.06 & 0 & 43979 & 40.91747 & 38.5995 & 38.55 & 38.66 & 0.11 \\
\hline 40.13 & 0.13 & 0 & 60234 & 40.9047 & 38.63723 & 38.61 & 38.72 & 0.11 \\
\hline 40.13 & 0.1 & 0 & 40613 & 40.92239 & 38.65208 & 38.6 & 38.72 & 0.12 \\
\hline 40.13 & 0.3245 & 135000 & 42731 & 40.88907 & 38.66713 & 38.64 & 38.7 & 0.06 \\
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\hline 40.05 & 0.05 & 0 & 35432 & 40.90489 & 38.81693 & 38.74 & 38.86 & 0.12 \\
\hline 40.23 & 0.218 & 0 & 80681 & 40.92031 & 38.71577 & 38.65 & 38.84 & 0.19 \\
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\hline 40.3 & 0.1 & 0 & 45726 & 40.98344 & 38.61957 & 38.53 & 38.68 & 0.15 \\
\hline 40.33 & 0.18 & 0 & 39395 & 41.00701 & 38.63729 & 38.59 & 38.69 & 0.1 \\
\hline 40.21 & 0.06 & 0 & 27100 & 40.60271 & 38.72731 & 38.56 & 38.75 & 0.19 \\
\hline 40.18 & 0.07 & 0 & 28676 & 40.96507 & 38.66229 & 38.6 & 38.72 & 0.12 \\
\hline 40.14 & 0.08 & 0 & 35472 & 40.95988 & 38.69234 & 38.66 & 38.73 & 0.07 \\
\hline 40.16 & 0.09 & 0 & 32112 & 40.97383 & 38.69662 & 38.59 & 38.74 & 0.15 \\
\hline 40.0704 & 0.0504 & 0 & 17687 & 40.93503 & 38.59986 & 38.56 & 38.64 & 0.08 \\
\hline 40.05 & 0.04 & 0 & 19958 & 40.94683 & 38.51702 & 38.46 & 38.57 & 0.11 \\
\hline 40.11 & 0.1 & 0 & 31700 & 40.94681 & 38.643 & 38.57 & 38.67 & 0.1 \\
\hline 40.1 & 0.09 & 0 & 23759 & 40.9566 & 38.67242 & 38.65 & 38.68 & 0.03 \\
\hline 40.04 & 0.07 & 0 & 30910 & 40.94117 & 38.68626 & 38.65 & 38.75 & 0.1 \\
\hline 40.08 & 0.06 & 0 & 40155 & 40.94823 & 38.73789 & 38.7 & 38.77 & 0.07 \\
\hline 40.09 & 0.05 & 0 & 28962 & 40.94925 & 38.75983 & 38.72 & 38.8 & 0.08 \\
\hline 40.08 & 0.11 & 0 & 31300 & 40.94696 & 38.81416 & 38.77 & 38.87 & 0.1 \\
\hline 40.09 & 0.1 & 0 & 25669 & 40.96775 & 38.91976 & 38.748 & 38.96 & 0.212 \\
\hline 40.06 & 0.06 & 0 & 21625 & 40.95354 & 38.77677 & 38.69 & 38.9 & 0.21 \\
\hline 40.025 & 0.0358 & 0 & 19536 & 40.9409 & 38.72135 & 38.68 & 38.77 & 0.09 \\
\hline 40.02 & 0.06 & 0 & 16832 & 40.9315 & 38.73673 & 38.63 & 38.8 & 0.17 \\
\hline 39.97 & 0.15 & 0 & 38662 & 40.9052 & 38.69853 & 38.64 & 38.78 & 0.14 \\
\hline 39.88 & 0.07 & 0 & 47565 & 40.88266 & 38.76667 & 38.73 & 38.81 & 0.08 \\
\hline 39.86 & 0.11 & 0 & 36558 & 40.8474 & 38.72112 & 38.65 & 38.8 & 0.15 \\
\hline 39.8318 & 0.1318 & 0 & 40804 & 40.8102 & 38.6081 & 38.55 & 38.7 & 0.15 \\
\hline 39.87 & 0.11 & 0 & 44498 & 40.82213 & 38.60747 & 38.5499 & 38.69 & 0.1401 \\
\hline 39.87 & 0.05 & 0 & 19400 & 40.82895 & 38.49583 & 38.44 & 38.57 & 0.13 \\
\hline 39.92 & 0.07 & 0 & 32200 & 40.83578 & 38.4381 & 38.41 & 38.46 & 0.05 \\
\hline 39.96 & 0.07 & 0 & 41300 & 40.84337 & 38.43761 & 38.34 & 38.6827 & 0.3427 \\
\hline 40.06 & 0.15 & 0 & 30300 & 40.87035 & 38.50811 & 38.44 & 38.59 & 0.15 \\
\hline 40.06 & 0.08 & 0 & 21600 & 40.86705 & 38.54004 & 38.5 & 38.56 & 0.06 \\
\hline 40.04 & 0.07 & 0 & 18330 & 40.86346 & 38.56426 & 38.53 & 38.63 & 0.1 \\
\hline 40.02 & 0.07 & 0 & 16600 & 40.85441 & 38.54492 & 38.48 & 38.63 & 0.15 \\
\hline 40.13 & 0.19 & 0 & 56490 & 40.88602 & 38.57064 & 38.49 & 38.65 & 0.16 \\
\hline 40.2 & 0.1482 & 0 & 41025 & 40.92981 & 38.59766 & 38.57 & 38.64 & 0.07 \\
\hline 40.22 & 0.09 & 0 & 41219 & 40.93337 & 38.5624 & 38.49 & 38.65 & 0.16 \\
\hline 40.15 & 0.12 & 0 & 58520 & 40.91206 & 38.47738 & 38.42 & 38.5393 & 0.1193 \\
\hline 40.13 & 0.1 & 0 & 21384 & 40.90993 & 38.53514 & 38.47 & 38.6 & 0.13 \\
\hline 40.08 & 0.11 & 0 & 25367 & 40.87373 & 38.53172 & 38.47 & 38.61 & 0.14 \\
\hline 39.97 & 0.05 & 0 & 22940 & 40.84156 & 38.52923 & 38.48 & 38.56 & 0.08 \\
\hline 40.08 & 0.12 & 0 & 27719 & 40.8801 & 38.46097 & 38.43 & 38.51 & 0.08 \\
\hline 40.08 & 0.09 & 0 & 39565 & 40.89158 & 38.29926 & 38.23 & 38.4624 & 0.2324 \\
\hline 40.11 & 0.06 & 0 & 22071 & 40.9137 & 38.17496 & 38.1 & 38.24 & 0.14 \\
\hline 40.23 & 0.13 & 0 & 67088 & 40.95508 & 38.08802 & 38.03 & 38.16 & 0.13 \\
\hline 40.32 & 0.11 & 0 & 34490 & 40.9978 & 38.08053 & 37.98 & 38.21 & 0.23 \\
\hline 40.34 & 0.08 & 0 & 61604 & 41.02682 & 38.13576 & 38.04 & 38.24 & 0.2 \\
\hline 40.33 & 0.13 & 10000 & 43150 & 41.01094 & 37.89166 & 37.75 & 38.04 & 0.29 \\
\hline 40.25 & 0.08 & 0 & 32510 & 40.99805 & 37.98536 & 37.92 & 38.0205 & 0.1005 \\
\hline 40.22 & 0.07 & 0 & 33232 & 40.97747 & 38.02562 & 37.92 & 38.11 & 0.19 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 40.25 & 0.09 & 0 & 43283 & 40.98197 & 37.97213 & 37.85 & 38.18 & 0.33 \\
\hline 40.18 & 0.09 & 0 & 29100 & 40.94375 & 37.94748 & 37.84 & 38.02 & 0.18 \\
\hline 40.2 & 0.12 & 0 & 37080 & 40.94614 & 38.01181 & 37.97 & 38.06 & 0.09 \\
\hline 40.16 & 0.17 & 0 & 66486 & 40.93396 & 37.99545 & 37.93 & 38.05 & 0.12 \\
\hline 40.07 & 0.1 & 0 & 70588 & 40.92739 & 37.96192 & 37.91 & 38.01 & 0.1 \\
\hline 40 & 0.14 & 0 & 40558 & 40.90661 & 37.90716 & 37.86 & 37.99 & 0.13 \\
\hline 39.91 & 0.11 & 0 & 55861 & 40.85746 & 37.74374 & 37.67 & 37.9 & 0.23 \\
\hline 39.965 & 0.165 & 0 & 46528 & 40.87875 & 37.68131 & 37.55 & 37.79 & 0.24 \\
\hline 39.97 & 0.1 & 0 & 36675 & 40.88677 & 37.51515 & 37.49 & 37.907 & 0.417 \\
\hline 39.98 & 0.12 & 0 & 27829 & 40.89442 & 37.50863 & 37.41 & 37.58 & 0.17 \\
\hline 39.87 & 0.06 & 0 & 56194 & 40.86928 & 37.49848 & 37.4626 & 37.54 & 0.0774 \\
\hline 39.91 & 0.1 & 0 & 47093 & 40.89372 & 37.50085 & 37.45 & 37.57 & 0.12 \\
\hline 39.87 & 0.16 & 0 & 40106 & 40.89019 & 37.54115 & 37.48 & 37.6 & 0.12 \\
\hline 39.75 & 0.08 & 0 & 51052 & 40.84617 & 37.47853 & 37.33 & 37.61 & 0.28 \\
\hline 39.72 & 0.12 & 0 & 52156 & 40.8133 & 37.43727 & 37.35 & 37.58 & 0.23 \\
\hline 39.64 & 0.07 & 0 & 46773 & 40.81927 & 37.62045 & 37.56 & 37.65 & 0.09 \\
\hline 39.57 & 0.19 & 0 & 87616 & 40.77554 & 37.50881 & 37.43 & 37.6 & 0.17 \\
\hline 39.49 & 0.21 & 0 & 114329 & 40.7724 & 37.52269 & 37.41 & 37.63 & 0.22 \\
\hline 39.35 & 0.09 & 0 & 120932 & 40.72748 & 37.6473 & 37.6 & 37.72 & 0.12 \\
\hline 39.37 & 0.12 & 16000 & 109384 & 40.71005 & 37.60337 & 37.56 & 37.7 & 0.14 \\
\hline 39.38 & 0.13 & 0 & 77504 & 40.71673 & 37.67584 & 37.63 & 37.72 & 0.09 \\
\hline 39.33 & 0.07 & 0 & 85640 & 40.71879 & 37.69736 & 37.63 & 37.76 & 0.13 \\
\hline 39.38 & 0.13 & 0 & 80359 & 40.74302 & 37.8848 & 37.75 & 38.08 & 0.33 \\
\hline 39.45 & 0.19 & 0 & 62497 & 40.73323 & 38.023 & 37.93 & 38.11 & 0.18 \\
\hline 39.46 & 0.11 & 0 & 90642 & 40.76223 & 38.06763 & 38.03 & 38.14 & 0.11 \\
\hline 39.36 & 0.14 & 0 & 127851 & 40.72076 & 38.18608 & 38.1 & 38.3 & 0.2 \\
\hline 39.28 & 0.09 & 0 & 89110 & 40.71646 & 38.25459 & 38.16 & 38.36 & 0.2 \\
\hline 39.23 & 0.13 & 0 & 92993 & 40.69522 & 38.10913 & 38.02 & 38.2 & 0.18 \\
\hline 39.21 & 0.13 & 0 & 127042 & 40.7117 & 38.10339 & 38.03 & 38.17 & 0.14 \\
\hline 39.22 & 0.14 & 0 & 131961 & 40.7209 & 38.11655 & 38.04 & 38.21 & 0.17 \\
\hline 39.2 & 0.07 & 0 & 132627 & 40.72271 & 38.29297 & 38.19 & 38.36 & 0.17 \\
\hline 39.21 & 0.15 & 0 & 116278 & 40.73851 & 38.35544 & 38.23 & 38.46 & 0.23 \\
\hline 39.12 & 0.1 & 0 & 139038 & 40.72417 & 38.4658 & 38.45 & 38.49 & 0.04 \\
\hline 39.06 & 0.08 & 0 & 151488 & 40.68596 & 38.48129 & 38.44 & 38.53 & 0.09 \\
\hline 39.08 & 0.07 & 0 & 140201 & 40.66796 & 38.55544 & 38.53 & 38.63 & 0.1 \\
\hline 39.07 & 0.2 & 13500 & 165662 & 40.63803 & 38.81141 & 38.62 & 38.97 & 0.35 \\
\hline 38.95 & 0.1 & 0 & 141004 & 40.59386 & 39.19702 & 38.96 & 39.56 & 0.6 \\
\hline 38.99 & 0.14 & 12800 & 153996 & 40.59375 & 39.19437 & 38.81 & 39.56 & 0.75 \\
\hline 39.02 & 0.15 & 18800 & 202034 & 40.62591 & 38.85598 & 38.67 & 39.12 & 0.45 \\
\hline 38.97 & 0.14 & 0 & 4155 & 40.62703 & 38.82525 & 38.69 & 38.97 & 0.28 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow{3}{*}{0} & mall & dex & eanp_12 & np & maxp_12 & rangep_12 & ig_ & mall \\
\hline & \multirow[t]{2}{*}{4155} & 38.92 & 38.82525 & 38.69 & 38.97 & 0.28 & 0 & 6100 \\
\hline & & 38.91422 & 38.8503 & 38.85 & 39 & 0.15 & 49900 & 200 \\
\hline 557300 & 4000 & 38.95599 & 38.67068 & 38.65 & 38.84 & 0.19 & 70000 & 400 \\
\hline \multirow[t]{2}{*}{0} & \multirow[t]{2}{*}{100} & 38.95357 & 38.71021 & 38.71 & 39 & 0.29 & 963800 & 1200 \\
\hline & & 38.93165 & 38.8 & 38.8 & 38.8 & 0 & 0 & 1000 \\
\hline 0 & 700 & 38.93755 & 38.79 & 38.79 & 38.79 & 0 & 0 & 500 \\
\hline 0 & \multirow[t]{2}{*}{4800
800} & 38.91893 & & & & & & \\
\hline \multirow[t]{2}{*}{0} & & 38.90375 & 38.76499 & 38.71 & 39.1 & 0.39 & 0 & 5910 \\
\hline & & 38.92838 & 39.1 & 39.1 & 39.1 & 0 & 0 & 200 \\
\hline \multirow[t]{3}{*}{0} & \multirow[t]{3}{*}{1840} & 38.91985 & & & & & & \\
\hline & & 38.94982 & 38.71 & 38.71 & 38.71 & 0 & 0 & 6543 \\
\hline & & 38.96332 & & & & & & \\
\hline \multirow[t]{2}{*}{0} & \multirow[t]{2}{*}{3100} & 38.95094 & \multirow[t]{2}{*}{37.4023} & \multirow[t]{2}{*}{37.4023} & \multirow[t]{2}{*}{37.4023} & \multirow[t]{2}{*}{0} & \multirow[t]{2}{*}{0} & \multirow[t]{2}{*}{2100} \\
\hline & & 38.95179 & & & & & & \\
\hline 0 & 238 & 38.95071 & & & & & & \\
\hline \multirow[t]{5}{*}{60000} & \multirow[t]{5}{*}{0} & 38.95594 & & & & & & \\
\hline & & \multicolumn{2}{|l|}{38.95794} & & & & & \\
\hline & & \multicolumn{2}{|l|}{38.96358} & & & & & \\
\hline & & 38.96449 & 38.81198 & 38.715 & 39.01 & 0.295 & 0 & 3841 \\
\hline & & 38.96817 & 39 & 39 & 39 & 0 & 0 & 300 \\
\hline 0 & 200 & 38.9656 & 38.24699 & 37.4021 & 39.1 & 1.6979 & 0 & 2057 \\
\hline 0 & 103 & 38.95409 & & & & & & \\
\hline 0 & 650 & 39.01231 & \multirow[t]{2}{*}{39.1} & \multirow[t]{2}{*}{39.1} & \multirow[t]{2}{*}{39.1} & \multirow[t]{2}{*}{0} & \multirow[t]{3}{*}{0} & \multirow[t]{2}{*}{100} \\
\hline \multirow[t]{16}{*}{0} & \multirow[t]{2}{*}{200} & 38.94781 & & & & & & \\
\hline & & 38.95376 & & & & & & \\
\hline & & 38.95372 & 39.1 & 39.1 & 39.1 & 0 & 0 & 400 \\
\hline & & 38.9507 & \multirow[t]{6}{*}{38.71} & \multirow[t]{6}{*}{38.71} & \multirow[t]{6}{*}{38.71} & \multirow[t]{6}{*}{0} & \multirow[t]{6}{*}{121587} & \multirow[t]{6}{*}{0} \\
\hline & & 38.93619 & & & & & & \\
\hline & & 38.92662 & & & & & & \\
\hline & & 38.92945 & & & & & & \\
\hline & & 38.9461 & & & & & & \\
\hline & & 38.95154 & & & & & & \\
\hline & & 38.95533 & \multirow[t]{7}{*}{38.71} & \multirow[t]{7}{*}{38.71} & \multirow[t]{7}{*}{38.71} & \multirow[t]{7}{*}{0} & \multirow[t]{7}{*}{0} & \multirow[t]{7}{*}{200} \\
\hline & & 38.95707 & & & & & & \\
\hline & & 38.96383 & & & & & & \\
\hline & & 38.96626 & & & & & & \\
\hline & & 38.96329 & & & & & & \\
\hline & & 38.96342 & & & & & & \\
\hline & & 38.96889 & & & & & & \\
\hline \multirow[t]{8}{*}{0} & \multirow[t]{8}{*}{1047} & 38.96015 & \multirow[t]{8}{*}{37.22} & \multirow[t]{8}{*}{37.22} & \multirow[t]{8}{*}{37.22} & \multirow[t]{8}{*}{0} & \multirow[t]{8}{*}{71000} & \multirow[t]{8}{*}{0} \\
\hline & & 38.96441 & & & & & & \\
\hline & & 38.97274 & & & & & & \\
\hline & & 38.96666 & & & & & & \\
\hline & & 38.96702 & & & & & & \\
\hline & & 38.97279 & & & & & & \\
\hline & & 38.97274 & & & & & & \\
\hline & & 38.97634 & & & & & & \\
\hline
\end{tabular}
38.9779
38.98218
38.98197
38.97604
38.98058
38.99638
39.00108
38.99962
38.99163
38.99163
38.98483
38.99425
38.99163
38.99163
38.99193
38.99519
38.99289

03729
38.99478
38.98596
38.97904
38.97904

1000
38.98806
\begin{tabular}{llllll}
38.81463 & 38.71 & 38.85 & 0.14 & 0 & 2290
\end{tabular}
38.99478
\begin{tabular}{llllll}
38.83571 & 38.8 & 38.85 & 0.05 & 0 & 700
\end{tabular}

39
39
39
0
0
673
\begin{tabular}{llllll}
39.09 & 39.09 & 39.09 & 0 & 0 & 100
\end{tabular}
\begin{tabular}{rrrrrrr} 
& 39.07 & 39.07 & 39.07 & 0 & 0 & 100 \\
& & & & & & \\
& & & & & & \\
38.98848 & 39.05293 & 39 & 39.07 & 0.07 & 0 & 410 \\
& & 38.85 & 38.85 & 0 & 0 & 600 \\
& & & & & & \\
& 38.85 & 38.85 & 38.85 & 0 & 0 & 100 \\
& 38.85 & 38.85 & 38.85 & 0 & 0 & 1000 \\
& 38.85 & 38.85 & 38.85 & 0 & 0 & 3700 \\
38.98848 & 38.71 & 38.71 & 38.71 & 0 & 0 & 100 \\
& 38.71 & 38.71 & 38.71 & 0 & 0 & 200 \\
38.99163 & & & & & & \\
& 38.8 & 38.8 & 38.8 & 0 & 0 & 2500 \\
38.99163 & 38.776 & 38.77 & 38.78 & 0.01 & 0 & 2500
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 0 & 621 & 38.49936 & 38.835 & 38.83 & 38.84 & 0.01 & 0 & 200 \\
\hline 0 & 200 & 38.4811 & 38.71 & 38.71 & 38.71 & 0 & 0 & 100 \\
\hline 0 & 209 & 38.4858 & 38.69 & 38.69 & 38.69 & 0 & 0 & 400 \\
\hline 0 & 100 & 38.48656 & & & & & & \\
\hline & & 38.50082 & & & & & & \\
\hline 0 & 3400 & 38.50379 & 38.37 & 38.37 & 38.37 & 0 & 0 & 100 \\
\hline & & 38.49346 & 38.5 & 38.5 & 38.5 & 0 & 0 & 200 \\
\hline 0 & 1090 & 38.50807 & & & & & & \\
\hline & & 38.51784 & & & & & & \\
\hline 0 & 200 & 38.51493 & & & & & & \\
\hline 0 & 100 & 38.52165 & & & & & & \\
\hline & & 38.53417 & & & & & & \\
\hline 0 & 100 & 38.52222 & & & & & & \\
\hline 0 & 700 & 38.5073 & & & & & & \\
\hline & & 38.49586 & & & & & & \\
\hline 0 & 800 & 38.45993 & & & & & & \\
\hline 0 & 225 & 38.42112 & & & & & & \\
\hline 0 & 2000 & 38.42779 & & & & & & \\
\hline & & 38.41733 & & & & & & \\
\hline 0 & 1100 & 38.41453 & & & & & & \\
\hline 0 & 500 & 38.41046 & & & & & & \\
\hline 0 & 500 & 38.40393 & 38.44 & 38.44 & 38.44 & 0 & 0 & 4152 \\
\hline 0 & 200 & 38.4171 & & & & & & \\
\hline & & 38.44445 & & & & & & \\
\hline 0 & 2175 & 38.42934 & & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 0 & 1500 & 38.43361 & & & & & & \\
\hline 0 & 500 & 38.39862 & 38.29994 & 38.25 & 38.43 & 0.18 & 0 & 1384 \\
\hline 0 & 1100 & 38.3602 & 38.11714 & 38.1 & 38.14 & 0.04 & 0 & 245 \\
\hline 0 & 100 & 38.36732 & 38.006 & 38 & 38.01 & 0.01 & 0 & 500 \\
\hline 0 & 1300 & 38.36329 & 38 & 38 & 38 & 0 & 0 & 300 \\
\hline 0 & 1900 & 38.32835 & 37.75 & 37.75 & 37.75 & 0 & 0 & 1616 \\
\hline 0 & 3500 & 38.34317 & & & & & & \\
\hline 0 & 600 & 38.38294 & 37.75 & 37.75 & 37.75 & 0 & 0 & 500 \\
\hline 0 & 3700 & 38.34933 & 38 & 38 & 38 & 0 & 0 & 400 \\
\hline 0 & 3460 & 38.33489 & 38 & 38 & 38 & 0 & 0 & 1000 \\
\hline 0 & 1600 & 38.33808 & & & & & & \\
\hline 0 & 1100 & 38.35876 & & & & & & \\
\hline 0 & 5215 & 38.36678 & & & & & & \\
\hline 0 & 3000 & 38.37328 & & & & & & \\
\hline 0 & 9797 & 38.38675 & & & & & & \\
\hline 0 & 13600 & 38.39644 & & & & & & \\
\hline 0 & 4600 & 38.41044 & 38.22 & 38.22 & 38.22 & 0 & 0 & 500 \\
\hline 0 & 10700 & 38.41303 & & & & & & \\
\hline 0 & 13200 & 38.41383 & & & & & & \\
\hline 0 & 200 & 38.42121 & & & & & & \\
\hline 0 & 200 & 38.42585 & & & & & & \\
\hline 0 & 7600 & 38.41881 & 38.03514 & 38.01 & 38.05 & 0.04 & 0 & 740 \\
\hline 0 & 6560 & 38.42559 & & & & & & \\
\hline 0 & 700 & 38.43077 & & & & & & \\
\hline 0 & 3000 & 38.44926 & 38.0244 & 38.02 & 38.03 & 0.01 & 0 & 455 \\
\hline 0 & 3600 & 38.4368 & & & & & & \\
\hline 0 & 1600 & 38.43227 & & & & & & \\
\hline 0 & 6550 & 38.42003 & & & & & & \\
\hline 18400 & 13200 & 38.41274 & 38.05 & 38.05 & 38.05 & 0 & 0 & 1000 \\
\hline 0 & 7500 & 38.40263 & & & & & & \\
\hline 0 & 6200 & 38.37351 & 38.05 & 38.05 & 38.05 & 0 & 0 & 300 \\
\hline 0 & 12200 & 38.3726 & 38.00269 & 38 & 38.02 & 0.02 & 0 & 3014 \\
\hline 0 & 5000 & 38.38183 & 38.04322 & 38.01 & 38.1 & 0.09 & 0 & 1895 \\
\hline 0 & 1200 & 38.38918 & 38.05 & 38.05 & 38.05 & 0 & 0 & 900 \\
\hline 0 & 3500 & 38.38333 & 38.1 & 38.1 & 38.1 & 0 & 0 & 200 \\
\hline \multirow[t]{2}{*}{0} & 3900 & 38.38485 & & & & & & \\
\hline & & 38.39889 & & & & & & \\
\hline 0 & 1358 & 38.41832 & 38.1 & 38.1 & 38.1 & 0 & 0 & 484 \\
\hline \multirow[t]{2}{*}{0} & 10100 & 38.43055 & & & & & & \\
\hline & & 38.4524 & & & & & & \\
\hline 0 & 1000 & 38.44808 & 38.11 & 38.11 & 38.11 & 0 & 0 & 2352 \\
\hline 0 & 17100 & 38.46002 & & & & & & \\
\hline 0 & 500 & 38.46172 & 38.01667 & 38 & 38.05 & 0.05 & 0 & 300 \\
\hline 0 & 14700 & 38.47562 & & & & & & \\
\hline 0 & 4000 & 38.47541 & & & & & & \\
\hline 0 & 100 & 38.47101 & 37.98 & 37.98 & 37.98 & 0 & 0 & 100 \\
\hline 0 & 5650 & 38.46324 & 38 & 38 & 38 & 0 & 0 & 100 \\
\hline 0 & 2400 & 38.43529 & & & & & & \\
\hline 0 & 2400 & 38.41958 & & & & & & \\
\hline 0 & 5891 & 38.42551 & & & & & & \\
\hline 0 & 12220 & 38.41537 & 37.80183 & 37.8 & 37.81 & 0.01 & 0 & 545 \\
\hline 0 & 1500 & 38.44263 & & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 0 & 54133 & 38.43145 & \multirow[b]{2}{*}{37.62} & \multirow[b]{2}{*}{37.62} & \multirow[b]{2}{*}{37.62} & \multirow[b]{2}{*}{0} & \multirow[b]{2}{*}{0} & \multirow[b]{2}{*}{100} \\
\hline 0 & 34106 & 38.4214 & & & & & & \\
\hline 0 & 5500 & 38.43544 & & & & & \multirow[t]{4}{*}{} & \multirow[t]{4}{*}{} \\
\hline \multirow[t]{2}{*}{0} & 200 & 38.42634 & & & & & & \\
\hline & & 38.41358 & & & & & & \\
\hline 0 & 2000 & 38.42488 & & & & & & \\
\hline 0 & 4700 & 38.42779 & 37.8 & 37.8 & 37.8 & 0 & 0 & 455 \\
\hline 0 & 12750 & 38.43232 & & & & & & \\
\hline 0 & 400 & 38.41648 & 38.71 & 38.71 & 38.71 & 0 & 520000 & 0 \\
\hline 0 & 1400 & 38.41351 & & & & & & \\
\hline 0 & 17205 & 38.42017 & & & & & & \\
\hline 0 & 29300 & 38.42788 & 37.72386 & 37.65 & 37.8 & 0.15 & 0 & 12700 \\
\hline 0 & 65105 & 38.44387 & 37.80555 & 37.76 & 37.92 & 0.16 & 0 & 1096 \\
\hline 242200 & 243715 & 38.45456 & 37.67321 & 37.05 & 37.98 & 0.93 & 144600 & 138701 \\
\hline 12590 & 253365 & 38.44932 & 37.66016 & 37.6 & 37.76 & 0.16 & 17500 & 113653 \\
\hline 40600 & 347121 & 38.408 & 37.85819 & 37.72 & 38.02 & 0.3 & 0 & 81329 \\
\hline 39542 & 316648 & 38.41197 & 37.69617 & 37.51 & 38 & 0.49 & 14600 & 132383 \\
\hline 0 & 165127 & 38.43897 & 37.73541 & 37.61 & 37.81 & 0.2 & 0 & 108456 \\
\hline 0 & 265076 & 38.44347 & 37.96945 & 37.78 & 38.07 & 0.29 & 0 & 140990 \\
\hline 0 & 286083 & 38.47178 & 37.90025 & 37.81 & 38.01 & 0.2 & 0 & 90048 \\
\hline 0 & 123532 & 38.48937 & 37.80658 & 37.72 & 37.88 & 0.16 & 0 & 131422 \\
\hline 0 & 275487 & 38.41356 & 37.60917 & 37.51 & 37.73 & 0.22 & 0 & 169446 \\
\hline 12000 & 102681 & 38.39756 & 37.55909 & 37.41 & 37.65 & 0.24 & 10000 & 139332 \\
\hline 0 & 144270 & 38.40237 & 37.43148 & 37.38 & 37.53 & 0.15 & 0 & 72588 \\
\hline 0 & 232458 & 38.3629 & 37.68358 & 37.47 & 37.82 & 0.35 & 0 & 136031 \\
\hline 0 & 167580 & 38.36385 & 37.78894 & 37.69 & 37.85 & 0.16 & 0 & 149216 \\
\hline 0 & 232777 & 38.32877 & 37.90387 & 37.68 & 38.07 & 0.39 & 0 & 141492 \\
\hline 32500 & 279366 & 38.32222 & 38.0168 & 37.95 & 38.09 & 0.14 & 0 & 114737 \\
\hline 0 & 140521 & 38.31213 & 38.01958 & 37.94 & 38.09 & 0.15 & 10000 & 100019 \\
\hline 0 & 141997 & 38.30831 & 37.89602 & 37.8 & 38 & 0.2 & 0 & 90480 \\
\hline 0 & 178388 & 38.35637 & 37.92349 & 37.85 & 38 & 0.15 & 0 & 62525 \\
\hline 0 & 101220 & 38.37114 & 37.84552 & 37.79 & 37.95 & 0.16 & 0 & 58600 \\
\hline 0 & 106850 & 38.35629 & 37.587 & 37.49 & 37.7925 & 0.3025 & 0 & 182060 \\
\hline 0 & 134857 & 38.38069 & 37.57897 & 37.5 & 37.71 & 0.21 & 0 & 125210 \\
\hline 0 & 121376 & 38.42013 & 37.47038 & 37.4 & 37.57 & 0.17 & 0 & 157109 \\
\hline 0 & 133197 & 38.40361 & 37.53563 & 37.4 & 37.75 & 0.35 & 0 & 185765 \\
\hline 0 & 139016 & 38.45217 & 37.68529 & 37.58 & 37.75 & 0.17 & 0 & 114253 \\
\hline 0 & 97579 & 38.43479 & 37.66939 & 37.57 & 37.77 & 0.2 & 0 & 122484 \\
\hline 31000 & 199696 & 38.39827 & 37.78929 & 37.69 & 37.86 & 0.17 & 0 & 154742 \\
\hline 384400 & 151468 & 38.38 & 37.72217 & 37.67 & 37.8 & 0.13 & 0 & 119381 \\
\hline 98000 & 114786 & 38.37341 & 37.85686 & 37.68 & 37.99 & 0.31 & 0 & 108561 \\
\hline 0 & 133524 & 38.37572 & 37.90468 & 37.78 & 38 & 0.22 & 0 & 62927 \\
\hline 0 & 195783 & 38.35314 & 37.77653 & 37.72 & 37.82 & 0.1 & 0 & 43984 \\
\hline 0 & 93053 & 38.38935 & 37.80369 & 37.74 & 37.86 & 0.12 & 0 & 77153 \\
\hline 0 & 162761 & 38.45477 & 37.74512 & 37.7 & 37.85 & 0.15 & 27600 & 107630 \\
\hline 0 & 128199 & 38.50396 & 37.69385 & 37.65 & 37.74 & 0.09 & 0 & 92652 \\
\hline 0 & 143317 & 38.49049 & 37.68616 & 37.65 & 37.71 & 0.06 & 0 & 80400 \\
\hline 0 & 109660 & 38.45056 & 37.86056 & 37.7 & 38.01 & 0.31 & 0 & 86609 \\
\hline 0 & 101825 & 38.45128 & 38.0052 & 37.95 & 38.05 & 0.1 & 0 & 97410 \\
\hline 0 & 124340 & 38.44516 & 37.96657 & 37.92 & 38.01 & 0.09 & 13400 & 96661 \\
\hline 0 & 73498 & 38.44451 & 38.03705 & 38.01 & 38.06 & 0.05 & 10900 & 96107 \\
\hline 0 & 154797 & 38.47636 & 37.94185 & 37.85 & 38.03 & 0.18 & 0 & 83705 \\
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\hline 0 & 208240 & 38.53788 & 37.8859 & 37.84 & 37.93 & 0.09 & 0 & 59126 \\
\hline 0 & 135375 & 38.53973 & 37.79536 & 37.75 & 37.87 & 0.12 & 0 & 78427 \\
\hline 0 & 117572 & 38.52311 & 37.83999 & 37.79 & 37.88 & 0.09 & 0 & 94506 \\
\hline 0 & 105939 & 38.58717 & 37.93481 & 37.86 & 38.02 & 0.16 & 0 & 70230 \\
\hline 0 & 124708 & 38.62351 & 38.09662 & 37.99 & 38.18 & 0.19 & 0 & 93995 \\
\hline 0 & 81188 & 38.59658 & 38.20795 & 38.12 & 38.3 & 0.18 & 0 & 136704 \\
\hline 80500 & 67905 & 38.60423 & 38.29047 & 38.15 & 38.42 & 0.27 & 0 & 136812 \\
\hline 0 & 57184 & 38.55278 & 38.49514 & 38.41 & 38.59 & 0.18 & 0 & 155493 \\
\hline 0 & 83195 & 38.5351 & 38.6338 & 38.59 & 38.67 & 0.08 & 0 & 122881 \\
\hline 47400 & 90660 & 38.52221 & 38.70837 & 38.66 & 38.75 & 0.09 & 0 & 123486 \\
\hline 0 & 139941 & 38.50301 & 38.63882 & 38.53 & 38.71 & 0.18 & 0 & 100597 \\
\hline 100000 & 129832 & 38.5075 & 38.49023 & 38.39 & 38.72 & 0.33 & 0 & 128311 \\
\hline 0 & 231870 & 38.53727 & 38.49298 & 38.37 & 38.63 & 0.26 & 0 & 111133 \\
\hline 0 & 126776 & 38.57425 & 38.75491 & 38.57 & 38.87 & 0.3 & 0 & 114656 \\
\hline 0 & 111671 & 38.54579 & 38.91821 & 38.85 & 38.96 & 0.11 & 0 & 84453 \\
\hline 0 & 63150 & 38.55294 & 38.8783 & 38.83 & 38.92 & 0.09 & 0 & 90500 \\
\hline 0 & 65799 & 38.60654 & 38.80498 & 38.77 & 38.86 & 0.09 & 0 & 72390 \\
\hline 33069 & 168311 & 38.54529 & 38.79577 & 38.77 & 38.84 & 0.07 & 0 & 90360 \\
\hline 0 & 111220 & 38.52248 & 38.76072 & 38.67 & 38.84 & 0.17 & 0 & 96322 \\
\hline 0 & 84940 & 38.51945 & 38.56853 & 38.48 & 38.7 & 0.22 & 0 & 155204 \\
\hline 0 & 46377 & 38.50298 & 38.46257 & 38.39 & 38.5 & 0.11 & 0 & 87288 \\
\hline 0 & 119661 & 38.48566 & 38.4437 & 38.4 & 38.5 & 0.1 & 0 & 99104 \\
\hline 0 & 60618 & 38.46707 & 38.43295 & 38.39 & 38.48 & 0.09 & 0 & 95660 \\
\hline 0 & 48596 & 38.49428 & 38.39918 & 38.33 & 38.46 & 0.13 & 0 & 80208 \\
\hline 0 & 61078 & 38.47938 & 38.23204 & 38.19 & 38.33 & 0.14 & 0 & 69796 \\
\hline 0 & 71015 & 38.48057 & 38.16204 & 38.12 & 38.2 & 0.08 & 0 & 65200 \\
\hline 0 & 84580 & 38.53093 & 38.21808 & 38.14 & 38.29 & 0.15 & 0 & 99070 \\
\hline 0 & 53184 & 38.50323 & 38.27815 & 38.23 & 38.33 & 0.1 & 0 & 51340 \\
\hline 0 & 49408 & 38.50221 & 38.27689 & 38.2 & 38.36 & 0.16 & 0 & 63250 \\
\hline 0 & 45569 & 38.49562 & 38.24168 & 38.18 & 38.3201 & 0.1401 & 0 & 61770 \\
\hline 0 & 117123 & 38.51418 & 38.38418 & 38.26 & 38.46 & 0.2 & 0 & 94070 \\
\hline 0 & 52293 & 38.56478 & 38.44956 & 38.43 & 38.5 & 0.07 & 0 & 52330 \\
\hline 0 & 65930 & 38.60129 & 38.53872 & 38.46 & 38.62 & 0.16 & 0 & 51748 \\
\hline 0 & 96200 & 38.60959 & 38.58185 & 38.49 & 38.68 & 0.19 & 0 & 93403 \\
\hline 0 & 111085 & 38.61139 & 38.72645 & 38.6 & 38.8 & 0.2 & 13000 & 161710 \\
\hline 52000 & 152787 & 38.59066 & 38.72875 & 38.68 & 38.77 & 0.09 & 0 & 104375 \\
\hline 0 & 63785 & 38.632 & 38.78494 & 38.72 & 38.83 & 0.11 & 0 & 106229 \\
\hline 17000 & 122943 & 38.67292 & 38.84663 & 38.77 & 38.926 & 0.156 & 0 & 91527 \\
\hline 0 & 96230 & 38.65874 & 38.82484 & 38.77 & 38.91 & 0.14 & 40000 & 43391 \\
\hline 0 & 51810 & 38.61911 & 38.87559 & 38.78 & 38.93 & 0.15 & 0 & 76215 \\
\hline 0 & 91064 & 38.62944 & 38.7831 & 38.71 & 38.83 & 0.12 & 0 & 80100 \\
\hline 0 & 86073 & 38.72405 & 38.82111 & 38.7 & 38.94 & 0.24 & 12700 & 142988 \\
\hline 0 & 184542 & 38.73051 & 38.98001 & 38.91 & 39.05 & 0.14 & 0 & 85401 \\
\hline 92600 & 218634 & 38.71999 & 38.85051 & 38.77 & 38.96 & 0.19 & 10500 & 139040 \\
\hline 24600 & 109321 & 38.72763 & 38.92907 & 38.87 & 38.97 & 0.1 & 0 & 64575 \\
\hline 35279 & 105269 & 38.77615 & 38.94457 & 38.91 & 38.98 & 0.07 & 0 & 35618 \\
\hline 0 & 172470 & 38.75246 & 38.86005 & 38.8 & 38.92 & 0.12 & 0 & 62400 \\
\hline 0 & 104289 & 38.7142 & 39.02179 & 38.89 & 39.15 & 0.26 & 16500 & 92795 \\
\hline 0 & 142953 & 38.73017 & 39.10475 & 39 & 39.19 & 0.19 & 0 & 58269 \\
\hline 18251 & 169920 & 38.69408 & 39.21701 & 39.12 & 39.33 & 0.21 & 0 & 53131 \\
\hline 0 & 160384 & 38.70808 & 39.41494 & 39.31 & 39.54 & 0.23 & 0 & 171807 \\
\hline 0 & 84164 & 38.77056 & 39.70529 & 39.49 & 39.82 & 0.33 & 0 & 208660 \\
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\hline 0 & 102903 & 38.73526 & 39.74578 & 39.64 & 39.81 & 0.17 & 57491 & 108127 \\
\hline 0 & 143039 & 38.78924 & 39.54882 & 39.49 & 39.64 & 0.15 & 15092 & 78334 \\
\hline 0 & 76255 & 38.7819 & 39.51687 & 39.49 & 39.55 & 0.06 & 0 & 46509 \\
\hline 0 & 68089 & 38.7561 & 39.46848 & 39.41 & 39.51 & 0.1 & 0 & 44009 \\
\hline 0 & 76393 & 38.81951 & 39.32184 & 39.23 & 39.44 & 0.21 & 0 & 45900 \\
\hline 0 & 75606 & 38.83913 & 39.34239 & 39.23 & 39.45 & 0.22 & 0 & 53910 \\
\hline 0 & 91567 & 38.77962 & 39.38668 & 39.34 & 39.47 & 0.13 & 0 & 51998 \\
\hline 0 & 74808 & 38.74408 & 39.38836 & 39.31 & 39.47 & 0.16 & 0 & 56090 \\
\hline 0 & 296770 & 38.73315 & 39.33098 & 39.28 & 39.38 & 0.1 & 0 & 70044 \\
\hline 0 & 137085 & 38.71156 & 39.38521 & 39.29 & 39.45 & 0.16 & 0 & 45500 \\
\hline 0 & 139332 & 38.68452 & 39.34053 & 39.29 & 39.39 & 0.1 & 0 & 64253 \\
\hline 0 & 125678 & 38.69466 & 39.32679 & 39.28 & 39.37 & 0.09 & 0 & 68295 \\
\hline 0 & 69076 & 38.72289 & 39.28293 & 39.26 & 39.3 & 0.04 & 0 & 29900 \\
\hline 0 & 107105 & 38.70512 & 39.36954 & 39.27 & 39.47 & 0.2 & 0 & 51827 \\
\hline 0 & 81889 & 38.7245 & 39.54801 & 39.45 & 39.68 & 0.23 & 0 & 81323 \\
\hline 0 & 75755 & 38.74267 & 39.75804 & 39.67 & 39.83 & 0.16 & 0 & 105448 \\
\hline 0 & 99794 & 38.75907 & 39.61101 & 39.55 & 39.71 & 0.16 & 0 & 77459 \\
\hline 0 & 86573 & 38.71913 & 39.65523 & 39.6 & 39.7 & 0.1 & 0 & 73024 \\
\hline 0 & 90077 & 38.68553 & 39.64967 & 39.63 & 39.69 & 0.06 & 0 & 59387 \\
\hline 0 & 58016 & 38.6896 & 39.69109 & 39.65 & 39.74 & 0.09 & 0 & 36700 \\
\hline 0 & 27146 & 38.67929 & 39.70549 & 39.64 & 39.77 & 0.13 & 0 & 58610 \\
\hline 0 & 30765 & 38.68765 & 39.65736 & 39.64 & 39.69 & 0.05 & 0 & 33617 \\
\hline 0 & 51592 & 38.66524 & 39.72623 & 39.65 & 39.77 & 0.12 & 0 & 69554 \\
\hline 0 & 65120 & 38.66482 & 39.71863 & 39.68 & 39.75 & 0.07 & 0 & 43793 \\
\hline 0 & 51457 & 38.64779 & 39.81649 & 39.72 & 39.9 & 0.18 & 0 & 79233 \\
\hline 0 & 33133 & 38.65089 & 39.80023 & 39.74 & 39.88 & 0.14 & 0 & 55560 \\
\hline 0 & 41020 & 38.67992 & 39.69267 & 39.54 & 39.81 & 0.27 & 0 & 125458 \\
\hline 0 & 25173 & 38.66786 & 39.51414 & 39.42 & 39.55 & 0.13 & 0 & 57197 \\
\hline 0 & 24900 & 38.68841 & 39.4469 & 39.39 & 39.5 & 0.11 & 0 & 72587 \\
\hline 0 & 104965 & 38.7268 & 39.35683 & 39.24 & 39.46 & 0.22 & 0 & 88921 \\
\hline 0 & 91661 & 38.74062 & 39.29426 & 39.25 & 39.36 & 0.11 & 0 & 46440 \\
\hline 0 & 52238 & 38.76312 & 39.37391 & 39.29 & 39.44 & 0.15 & 0 & 35600 \\
\hline 0 & 86627 & 38.82717 & 39.4202 & 39.4 & 39.46 & 0.06 & 0 & 43971 \\
\hline 0 & 87296 & 38.85653 & 39.45062 & 39.42 & 39.4814 & 0.0614 & 0 & 21069 \\
\hline 10000 & 128967 & 38.87203 & 39.46162 & 39.42 & 39.51 & 0.09 & 0 & 22828 \\
\hline 0 & 81031 & 38.85647 & 39.53356 & 39.435 & 39.56 & 0.125 & 14600 & 71922 \\
\hline 0 & 69411 & 38.89438 & 39.51381 & 39.48 & 39.56 & 0.08 & 0 & 82288 \\
\hline 0 & 79960 & 38.8903 & 39.61083 & 39.57 & 39.64 & 0.07 & 0 & 57057 \\
\hline 0 & 65356 & 38.86488 & 39.61418 & 39.56 & 39.66 & 0.1 & 0 & 33601 \\
\hline 0 & 64056 & 38.85546 & 39.45721 & 39.39 & 39.58 & 0.19 & 0 & 55425 \\
\hline 0 & 123835 & 38.85494 & 39.42471 & 39.29 & 39.461 & 0.171 & 0 & 35050 \\
\hline 0 & 86196 & 38.90391 & 39.35471 & 39.29 & 39.4 & 0.11 & 0 & 34876 \\
\hline 0 & 182190 & 38.89974 & 39.2882 & 39.23 & 39.35 & 0.12 & 0 & 30412 \\
\hline 0 & 63900 & 38.90471 & 39.32134 & 39.28 & 39.4 & 0.12 & 0 & 55418 \\
\hline 0 & 63395 & 38.87601 & 39.26109 & 39.16 & 39.32 & 0.16 & 0 & 30150 \\
\hline 49100 & 50750 & 38.85475 & 39.20515 & 39.15 & 39.3 & 0.15 & 0 & 29303 \\
\hline 0 & 39240 & 38.83013 & 39.25381 & 39.2 & 39.29 & 0.09 & 0 & 25980 \\
\hline 0 & 56602 & 38.82114 & 39.33745 & 39.28 & 39.42 & 0.14 & 0 & 62085 \\
\hline 0 & 52250 & 38.83788 & 39.50085 & 39.34 & 39.52 & 0.18 & 167000 & 40491 \\
\hline 0 & 68495 & 38.85289 & 39.32593 & 39.26 & 39.39 & 0.13 & 0 & 34755 \\
\hline 0 & 98950 & 38.911 & 39.2899 & 39.24 & 39.36 & 0.12 & 0 & 32372 \\
\hline 0 & 102101 & 38.94 & 39.2482 & 39.17 & 39.34 & 0.17 & 0 & 85555 \\
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\hline 0 & 119996 & 38.95339 & 39.13122 & 39.06 & 39.21 & 0.15 & 0 & 27857 \\
\hline 0 & 45965 & 38.94557 & 39.02986 & 39.01 & 39.07 & 0.06 & 0 & 31286 \\
\hline 0 & 93390 & 38.95386 & 39.04321 & 38.99 & 39.08 & 0.09 & 0 & 16200 \\
\hline 0 & 86451 & 38.96302 & 38.9842 & 38.9347 & 39.05 & 0.1153 & 0 & 26114 \\
\hline 0 & 144645 & 38.92877 & 39.07496 & 38.97 & 39.16 & 0.19 & 0 & 40088 \\
\hline 0 & 65143 & 38.93634 & 39.08075 & 39.05 & 39.12 & 0.07 & 0 & 19298 \\
\hline 0 & 34038 & 38.93256 & 39.09728 & 39.07 & 39.13 & 0.06 & 0 & 26599 \\
\hline 0 & 60982 & 39.00533 & 39.227 & 39.14 & 39.27 & 0.13 & 0 & 31760 \\
\hline 0 & 83726 & 39.06364 & 39.19463 & 39.16 & 39.23 & 0.07 & 0 & 15867 \\
\hline 0 & 91771 & 39.07307 & 39.1346 & 39.1 & 39.2 & 0.1 & 0 & 23475 \\
\hline 0 & 31150 & 39.06197 & 39.13296 & 39.1 & 39.18 & 0.08 & 0 & 14210 \\
\hline 0 & 46187 & 39.0653 & 39.10394 & 39.05 & 39.17 & 0.12 & 0 & 15200 \\
\hline 0 & 49581 & 39.04587 & 39.11928 & 39.08 & 39.16 & 0.08 & 0 & 16800 \\
\hline 0 & 29308 & 39.01461 & 39.10297 & 39.08 & 39.11 & 0.03 & 0 & 16400 \\
\hline 0 & 46592 & 39.02406 & 39.01466 & 38.99 & 39.08 & 0.09 & 0 & 34250 \\
\hline 0 & 26310 & 39.01084 & 39.03777 & 39.02 & 39.06 & 0.04 & 0 & 6691 \\
\hline 0 & 65064 & 38.98211 & 39.06057 & 39 & 39.12 & 0.12 & 0 & 17738 \\
\hline 0 & 55017 & 38.96608 & 39.16501 & 39.11 & 39.21 & 0.1 & 0 & 21240 \\
\hline 0 & 40747 & 38.95099 & 39.08529 & 39.04 & 39.15 & 0.11 & 0 & 33063 \\
\hline 0 & 53422 & 38.93281 & 39.07888 & 39.05 & 39.11 & 0.06 & 0 & 12900 \\
\hline 0 & 115395 & 38.93204 & 39.0761 & 39.05 & 39.1 & 0.05 & 0 & 19500 \\
\hline 0 & 34731 & 38.93356 & 39.03026 & 39.01 & 39.1 & 0.09 & 0 & 47945 \\
\hline 0 & 24236 & 38.9037 & 39.01066 & 38.99 & 39.02 & 0.03 & 0 & 39496 \\
\hline 0 & 25760 & 38.92733 & 39.06486 & 39.02 & 39.1 & 0.08 & 0 & 28956 \\
\hline 0 & 12779 & 38.9396 & 39.13673 & 39.07 & 39.2 & 0.13 & 0 & 30156 \\
\hline 0 & 14580 & 38.93455 & 39.18417 & 39.15 & 39.22 & 0.07 & 0 & 13907 \\
\hline 0 & 32021 & 38.91821 & 39.11326 & 39.08 & 39.2 & 0.12 & 0 & 54212 \\
\hline 0 & 33310 & 38.92142 & 39.15494 & 39.12 & 39.23 & 0.11 & 0 & 49010 \\
\hline 0 & 40545 & 38.94724 & 39.15898 & 39.1199 & 39.18 & 0.0601 & 0 & 41490 \\
\hline 0 & 56784 & 38.94888 & 39.11004 & 39.06 & 39.43 & 0.37 & 0 & 18937 \\
\hline 0 & 15800 & 38.93572 & 39.12259 & 39.07 & 39.19 & 0.12 & 0 & 18500 \\
\hline 0 & 28600 & 38.92714 & 39.043 & 39.01 & 39.08 & 0.07 & 0 & 15250 \\
\hline 0 & 30037 & 38.90114 & 38.89703 & 38.84 & 39.02 & 0.18 & 0 & 98355 \\
\hline 0 & 27946 & 38.89878 & 38.97085 & 38.9 & 39.03 & 0.13 & 0 & 25464 \\
\hline 0 & 12250 & 38.93258 & 38.97828 & 38.9 & 39.04 & 0.14 & 0 & 40459 \\
\hline 0 & 14620 & 38.92023 & 38.99277 & 38.96 & 39.02 & 0.06 & 0 & 8200 \\
\hline 0 & 5310 & 38.90434 & 38.98932 & 38.96 & 39.02 & 0.06 & 0 & 9745 \\
\hline 10100 & 67754 & 38.83068 & 39.00412 & 38.9554 & 39.03 & 0.0746 & 0 & 8497 \\
\hline 0 & 15825 & 38.80308 & 39.02938 & 38.5212 & 39.06 & 0.5388 & 0 & 14500 \\
\hline 0 & 24125 & 38.81249 & 39.01972 & 39 & 39.05 & 0.05 & 0 & 11997 \\
\hline 0 & 22600 & 38.80995 & 38.89621 & 38.678 & 39.02 & 0.342 & 0 & 20298 \\
\hline 0 & 83870 & 38.87863 & 39.00041 & 38.95 & 39.06 & 0.11 & 0 & 23500 \\
\hline 0 & 93430 & 38.92457 & 38.95828 & 38.93 & 38.99 & 0.06 & 0 & 12320 \\
\hline 0 & 38865 & 38.9026 & 39.01051 & 38.92 & 39.06 & 0.14 & 0 & 38254 \\
\hline & 38477 & 38.89616 & 39.08921 & 39.03 & 39.12 & 0.09 & 0 & 12364 \\
\hline 0 & 24631 & 38.84744 & 39.04194 & 39 & 39.11 & 0.11 & 0 & 17880 \\
\hline 0 & 57745 & 38.86781 & 39.01905 & 38.99 & 39.04 & 0.05 & 0 & 7225 \\
\hline 0 & 62294 & 38.81592 & 39.04622 & 38.99 & 39.06 & 0.07 & 220000 & 35324 \\
\hline 0 & 60076 & 38.79938 & 39.02939 & 39 & 39.06 & 0.06 & 0 & 28089 \\
\hline 0 & 54487 & 38.8033 & 39.03062 & 39 & 39.05 & 0.05 & 0 & 21318 \\
\hline 0 & 38397 & 38.84741 & 39.01135 & 38.99 & 39.04 & 0.05 & 0 & 15300 \\
\hline 0 & 29975 & 38.83768 & 38.95517 & 38.9 & 39.03 & 0.13 & 0 & 36499 \\
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\hline 0 & 20200 & 38.84965 & 38.80246 & 38.76 & 38.91 & 0.15 & 0 & 78941 \\
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\hline 0 & 15150 & 38.87128 & 38.64179 & 38.56 & 38.76 & 0.2 & 0 & 94104 \\
\hline 0 & 13700 & 38.8607 & 38.58589 & 38.52 & 38.63 & 0.11 & 0 & 68914 \\
\hline 0 & 63720 & 38.83056 & 38.65361 & 38.59 & 38.7 & 0.11 & 0 & 43927 \\
\hline 0 & 17315 & 38.86146 & 38.65328 & 38.62 & 38.71 & 0.09 & 0 & 59337 \\
\hline 0 & 22300 & 38.89297 & 38.60875 & 38.5 & 38.72 & 0.22 & 0 & 64560 \\
\hline 0 & 23926 & 38.87339 & 38.5197 & 38.47 & 38.56 & 0.09 & 0 & 74284 \\
\hline 0 & 22560 & 38.83534 & 38.51086 & 38.45 & 38.56 & 0.11 & 0 & 95642 \\
\hline 0 & 22234 & 38.86255 & 38.44856 & 38.37 & 38.545 & 0.175 & 0 & 55504 \\
\hline 0 & 38325 & 38.87543 & 38.39829 & 38.37 & 38.43 & 0.06 & 0 & 39051 \\
\hline 0 & 52762 & 38.87117 & 38.39375 & 38.33 & 38.47 & 0.14 & 0 & 67937 \\
\hline 0 & 24375 & 38.85036 & 38.43605 & 38.4 & 38.48 & 0.08 & 0 & 47026 \\
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\hline 0 & 37229 & 38.85266 & 38.33151 & 38.32 & 38.36 & 0.04 & 0 & 42256 \\
\hline 0 & 41201 & 38.86601 & 38.32998 & 38.32 & 38.35 & 0.03 & 0 & 27994 \\
\hline 0 & 59350 & 38.8226 & 38.36634 & 38.32 & 38.4 & 0.08 & 0 & 60660 \\
\hline 0 & 22053 & 38.79624 & 38.436 & 38.39 & 38.5 & 0.11 & 0 & 51230 \\
\hline 0 & 28700 & 38.81405 & 38.37632 & 38.32 & 38.43 & 0.11 & 75000 & 57687 \\
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\hline 0 & 28790 & 38.74503 & 38.14526 & 38.11 & 38.2 & 0.09 & 0 & 83894 \\
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\hline 0 & 33570 & 38.7179 & 37.76772 & 37.72 & 37.84 & 0.12 & 0 & 110638 \\
\hline 0 & 41064 & 38.72254 & 37.77617 & 37.7 & 37.81 & 0.11 & 75000 & 128324 \\
\hline 0 & 48695 & 38.73924 & 37.6421 & 37.59 & 37.71 & 0.12 & 0 & 174669 \\
\hline 0 & 47780 & 38.69278 & 37.64531 & 37.6 & 37.7 & 0.1 & 0 & 128550 \\
\hline 0 & 58844 & 38.67006 & 37.69791 & 37.65 & 37.75 & 0.1 & 0 & 86617 \\
\hline 0 & 40426 & 38.70203 & 37.64098 & 37.55 & 37.72 & 0.17 & 12600 & 131157 \\
\hline 0 & 18000 & 38.71952 & 37.63874 & 37.55 & 37.71 & 0.16 & 0 & 72070 \\
\hline 0 & 19600 & 38.69982 & 37.56957 & 37.52 & 37.62 & 0.1 & 0 & 98919 \\
\hline 0 & 15394 & 38.72392 & 37.58154 & 37.54 & 37.61 & 0.07 & 0 & 69802 \\
\hline 0 & 19900 & 38.69694 & 37.57875 & 37.53 & 37.66 & 0.13 & 0 & 43560 \\
\hline 0 & 25545 & 38.68362 & 37.61478 & 37.56 & 37.67 & 0.11 & 0 & 45547 \\
\hline 0 & 16401 & 38.67963 & 37.6766 & 37.6 & 37.71 & 0.11 & 0 & 52019 \\
\hline 0 & 20580 & 38.6585 & 37.6342 & 37.6 & 37.67 & 0.07 & 0 & 35895 \\
\hline 0 & 35252 & 38.64427 & 37.71339 & 37.62 & 37.79 & 0.17 & 0 & 39600 \\
\hline 0 & 14300 & 38.66727 & 37.89289 & 37.77 & 38.05 & 0.28 & 0 & 98830 \\
\hline 0 & 28549 & 38.67692 & 38.08151 & 37.99 & 38.18 & 0.19 & 0 & 105261 \\
\hline 0 & 13900 & 38.70589 & 38.07454 & 37.99 & 38.16 & 0.17 & 18000 & 47060 \\
\hline 0 & 24544 & 38.72533 & 37.98571 & 37.9 & 38.03 & 0.13 & 0 & 50032 \\
\hline 0 & 82080 & 38.76526 & 37.97267 & 37.92 & 38.02 & 0.1 & 0 & 42952 \\
\hline 0 & 49901 & 38.78771 & 37.96163 & 37.92 & 37.99 & 0.07 & 0 & 40996 \\
\hline 0 & 42261 & 38.79081 & 37.94649 & 37.89 & 38.01 & 0.12 & 0 & 59470 \\
\hline 0 & 35904 & 38.7873 & 37.95944 & 37.92 & 38.01 & 0.09 & 0 & 28400 \\
\hline 0 & 35737 & 38.79506 & 38.00252 & 37.96 & 38.05 & 0.09 & 0 & 36196 \\
\hline 0 & 25500 & 38.78764 & 38.12404 & 37.99 & 38.21 & 0.22 & 0 & 35959 \\
\hline 0 & 28404 & 38.80016 & 38.10383 & 38.02 & 38.19 & 0.17 & 0 & 33968 \\
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\hline 0 & 44256 & 38.79547 & 37.98676 & 37.94 & 38.03 & 0.09 & 0 & 32572 \\
\hline 10000 & 60697 & 38.8523 & 38.05496 & 37.99 & 38.1 & 0.11 & 0 & 21420 \\
\hline 0 & 44239 & 38.86584 & 38.12009 & 38.09 & 38.16 & 0.07 & 0 & 37430 \\
\hline 0 & 53526 & 38.83775 & 38.07112 & 37.95 & 38.19 & 0.24 & 0 & 47306 \\
\hline 0 & 24700 & 38.84622 & 38.12444 & 38.05 & 38.18 & 0.13 & 0 & 33300 \\
\hline 0 & 25800 & 38.86214 & 38.16287 & 38.12 & 38.21 & 0.09 & 0 & 28767 \\
\hline 0 & 26888 & 38.85478 & 38.24463 & 38.14 & 38.34 & 0.2 & 0 & 51416 \\
\hline 0 & 50449 & 38.89872 & 38.40187 & 38.31 & 38.48 & 0.17 & 0 & 117475 \\
\hline 0 & 20400 & 38.88915 & 38.40754 & 38.33 & 38.47 & 0.14 & 0 & 43765 \\
\hline 0 & 28750 & 38.85698 & 38.50906 & 38.42 & 38.64 & 0.22 & 0 & 66363 \\
\hline 0 & 25050 & 38.85331 & 38.11581 & 37.975 & 38.74 & 0.765 & 240000 & 62707 \\
\hline 0 & 24224 & 38.84689 & 38.56516 & 38.44 & 38.69 & 0.25 & 0 & 42492 \\
\hline 0 & 31485 & 38.86372 & 38.66757 & 38.47 & 38.82 & 0.35 & 0 & 117095 \\
\hline 0 & 34094 & 38.90769 & 38.86495 & 38.77 & 38.95 & 0.18 & 0 & 146742 \\
\hline 0 & 55120 & 38.98194 & 38.95978 & 38.89 & 39.03 & 0.14 & 0 & 130408 \\
\hline 0 & 29430 & 38.95933 & 38.90844 & 38.81 & 38.99 & 0.18 & 0 & 58661 \\
\hline 0 & 63045 & 38.9752 & 38.75084 & 38.6659 & 38.93 & 0.2641 & 130000 & 97266 \\
\hline 0 & 75676 & 38.9701 & 38.8271 & 38.76 & 38.9 & 0.14 & & 120536 \\
\hline 0 & 51029 & 39.00569 & 38.73261 & 38.69 & 38.78 & 0.09 & 0 & 68905 \\
\hline 0 & 80606 & 38.97928 & 38.74043 & 38.6974 & 38.77 & 0.0726 & 0 & 66332 \\
\hline 0 & 85714 & 38.98748 & 38.66396 & 38.6 & 38.77 & 0.17 & 0 & 60789 \\
\hline 0 & 100900 & 38.95301 & 38.67524 & 38.65 & 38.74 & 0.09 & 0 & 32712 \\
\hline 100000 & 34500 & 38.9504 & 38.58811 & 38.5308 & 38.66 & 0.1292 & 0 & 87069 \\
\hline 0 & 25526 & 38.94938 & 38.5775 & 38.53 & 38.63 & 0.1 & 0 & 62472 \\
\hline 0 & 67753 & 38.91902 & 38.39159 & 38.34 & 38.5599 & 0.2199 & 0 & 106125 \\
\hline 0 & 58021 & 38.92146 & 38.2191 & 38.15 & 38.37 & 0.22 & 0 & 103120 \\
\hline 0 & 114381 & 38.96439 & 38.12421 & 38.03 & 38.22 & 0.19 & 0 & 110644 \\
\hline 0 & 34350 & 38.99905 & 38.09312 & 38.04 & 38.15 & 0.11 & 0 & 115887 \\
\hline 0 & 77774 & 39.04029 & 38.21626 & 38.14 & 38.27 & 0.13 & 11100 & 69083 \\
\hline 0 & 123735 & 39.03141 & 38.29676 & 38.22 & 38.37 & 0.15 & 0 & 75550 \\
\hline 0 & 90923 & 39.08981 & 38.41018 & 38.34 & 38.48 & 0.14 & 0 & 81554 \\
\hline 0 & 170002 & 39.09011 & 38.40628 & 38.35 & 38.45 & 0.1 & 0 & 57286 \\
\hline 72484 & 79288 & 39.08015 & 38.40853 & 38.39 & 38.44 & 0.05 & & 35818 \\
\hline 0 & 98843 & 39.05122 & 38.34497 & 38.31 & 38.4099 & 0.0999 & 0 & 35371 \\
\hline 37000 & 76828 & 39.05718 & 38.41749 & 38.38 & 38.46 & 0.08 & 0 & 32485 \\
\hline 0 & 93635 & 39.08359 & 38.41762 & 38.38 & 38.47 & 0.09 & 0 & 28344 \\
\hline 0 & 98878 & 39.03791 & 38.54854 & 38.46 & 38.6 & 0.14 & 0 & 39481 \\
\hline 0 & 46330 & 39.02693 & 38.52286 & 38.45 & 38.59 & 0.14 & 0 & 48734 \\
\hline 0 & 49520 & 39.01396 & 38.48741 & 38.46 & 38.58 & 0.12 & 0 & 55045 \\
\hline 11200 & 39473 & 39.04418 & 38.59611 & 38.57 & 38.65 & 0.08 & 0 & 43377 \\
\hline 0 & 57209 & 39.06485 & 38.59626 & 38.56 & 38.64 & 0.08 & 0 & 45105 \\
\hline 0 & 48566 & 39.12393 & 38.59957 & 38.55 & 38.66 & 0.11 & 0 & 32669 \\
\hline 0 & 62278 & 39.09473 & 38.58664 & 38.53 & 38.64 & 0.11 & 0 & 18838 \\
\hline 0 & 56263 & 39.13666 & 38.64872 & 38.61 & 38.72 & 0.11 & 0 & 35929 \\
\hline 0 & 79099 & 39.15914 & 38.84902 & 38.72 & 38.9 & 0.18 & 0 & 56542 \\
\hline 0 & 51870 & 39.18248 & 38.79052 & 38.73 & 38.84 & 0.11 & 0 & 24157 \\
\hline 0 & 44014 & 39.1604 & 38.83104 & 38.8 & 38.87 & 0.07 & 0 & 18478 \\
\hline 0 & 106928 & 39.18732 & 38.71541 & 38.68 & 38.8 & 0.12 & 0 & 36768 \\
\hline 0 & 38603 & 39.16224 & 38.69654 & 38.65 & 38.75 & 0.1 & 0 & 49653 \\
\hline 0 & 43904 & 39.16372 & 38.70501 & 38.68 & 38.74 & 0.06 & 0 & 44431 \\
\hline 0 & 54850 & 39.14039 & 38.70528 & 38.67 & 38.74 & 0.07 & 0 & 39489 \\
\hline 0 & 31350 & 39.13884 & 38.66613 & 38.62 & 38.71 & 0.09 & 0 & 51219 \\
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\hline 0 & 58120 & 39.16721 & 38.57682 & 38.53 & 38.65 & 0.12 & 0 & 46530 \\
\hline 0 & 54682 & 39.15094 & 38.59172 & 38.53 & 38.66 & 0.13 & 0 & 62878 \\
\hline 0 & 89462 & 39.1583 & 38.54519 & 38.47 & 38.6 & 0.13 & 0 & 74820 \\
\hline 0 & 56720 & 39.10936 & 38.55419 & 38.52 & 38.59 & 0.07 & 0 & 111440 \\
\hline 0 & 31001 & 39.10238 & 38.57157 & 38.53 & 38.63 & 0.1 & 0 & 63138 \\
\hline 0 & 43762 & 39.09426 & 38.63188 & 38.6 & 38.66 & 0.06 & 0 & 61010 \\
\hline 0 & 55037 & 39.0744 & 38.60011 & 38.56 & 38.67 & 0.11 & 0 & 47739 \\
\hline 0 & 31104 & 39.09761 & 38.61581 & 38.59 & 38.66 & 0.07 & 0 & 22207 \\
\hline 261000 & 24797 & 39.0815 & 38.57854 & 38.56 & 38.6 & 0.04 & 0 & 28850 \\
\hline 0 & 38831 & 39.08551 & 38.50197 & 38.46 & 38.57 & 0.11 & 0 & 41143 \\
\hline 0 & 29043 & 39.09451 & 38.57796 & 38.45 & 38.67 & 0.22 & 0 & 67067 \\
\hline 0 & 32800 & 39.07082 & 38.66256 & 38.59 & 38.74 & 0.15 & 0 & 32334 \\
\hline 0 & 35948 & 39.05793 & 38.70852 & 38.67 & 38.75 & 0.08 & 0 & 28875 \\
\hline 0 & 41500 & 39.04204 & 38.68019 & 38.65 & 38.75 & 0.1 & 0 & 18080 \\
\hline 0 & 17310 & 39.08492 & 38.79743 & 38.75 & 38.84 & 0.09 & 0 & 39440 \\
\hline 0 & 23055 & 39.11761 & 38.70131 & 38.64 & 38.762 & 0.122 & 0 & 22284 \\
\hline 0 & 53663 & 39.12285 & 38.68653 & 38.64 & 38.72 & 0.08 & 0 & 60322 \\
\hline 0 & 39331 & 39.14104 & 38.68095 & 38.65 & 38.7125 & 0.0625 & 0 & 39720 \\
\hline 0 & 72441 & 39.16964 & 38.67515 & 38.61 & 38.7 & 0.09 & 0 & 39010 \\
\hline 0 & 47465 & 39.19869 & 38.65534 & 38.602 & 38.7 & 0.098 & 0 & 48134 \\
\hline 55000 & 39160 & 39.2219 & 38.623 & 38.5718 & 38.68 & 0.1082 & 0 & 46257 \\
\hline 0 & 46800 & 39.19522 & 38.59864 & 38.59 & 38.61 & 0.02 & 0 & 19590 \\
\hline 0 & 20600 & 39.17554 & 38.57092 & 38.54 & 38.61 & 0.07 & 0 & 34976 \\
\hline 0 & 56235 & 39.17931 & 38.59065 & 38.5542 & 38.62 & 0.0658 & 0 & 62019 \\
\hline 0 & 42254 & 39.17614 & 38.52578 & 38.45 & 38.61 & 0.16 & 0 & 61874 \\
\hline 0 & 33800 & 39.19918 & 38.39484 & 38.35 & 38.46 & 0.11 & 0 & 109675 \\
\hline 0 & 41507 & 39.18901 & 38.39594 & 38.38 & 38.4 & 0.02 & 0 & 53573 \\
\hline 0 & 46500 & 39.15287 & 38.39992 & 38.39 & 38.41 & 0.02 & 0 & 115478 \\
\hline 0 & 33428 & 39.14493 & 38.49001 & 38.4 & 38.63 & 0.23 & 0 & 182033 \\
\hline 0 & 74935 & 39.10767 & 38.59714 & 38.57 & 38.63 & 0.06 & 0 & 53634 \\
\hline 0 & 67544 & 39.09923 & 38.49888 & 38.41 & 38.61 & 0.2 & 0 & 90746 \\
\hline 0 & 79378 & 39.09396 & 38.41566 & 38.38 & 38.45 & 0.07 & 0 & 83780 \\
\hline 0 & 51622 & 39.12943 & 38.28272 & 38.2 & 38.4 & 0.2 & 0 & 101966 \\
\hline 0 & 31810 & 39.13444 & 38.32252 & 38.27 & 38.36 & 0.09 & 0 & 66700 \\
\hline 0 & 42800 & 39.18371 & 38.34538 & 38.31 & 38.37 & 0.06 & 0 & 43971 \\
\hline 0 & 46161 & 39.1594 & 38.31959 & 38.27 & 38.37 & 0.1 & 0 & 40091 \\
\hline 0 & 53520 & 39.20896 & 38.31103 & 38.28 & 38.34 & 0.06 & 0 & 49961 \\
\hline 0 & 79100 & 39.22997 & 38.32131 & 38.27 & 38.36 & 0.09 & 0 & 40379 \\
\hline 0 & 78175 & 39.22181 & 38.35332 & 38.34 & 38.37 & 0.03 & 0 & 59700 \\
\hline 0 & 127080 & 39.20785 & 38.35325 & 38.3 & 38.39 & 0.09 & 0 & 54838 \\
\hline 0 & 36544 & 39.21852 & 38.29835 & 38.25 & 38.34 & 0.09 & 0 & 35194 \\
\hline 10000 & 57336 & 39.21378 & 38.24432 & 38.2 & 38.29 & 0.09 & 0 & 56615 \\
\hline 0 & 26520 & 39.20948 & 38.29647 & 38.23 & 38.35 & 0.12 & 0 & 69441 \\
\hline 0 & 64630 & 39.2023 & 38.25109 & 38.2 & 38.3 & 0.1 & 0 & 67568 \\
\hline 0 & 135497 & 39.1811 & 38.17217 & 38.06 & 38.31 & 0.25 & 0 & 99840 \\
\hline 0 & 84675 & 39.13489 & 38.16956 & 38.14 & 38.21 & 0.07 & 0 & 47570 \\
\hline 0 & 64588 & 39.09564 & 38.2373 & 38.2 & 38.28 & 0.08 & 0 & 35625 \\
\hline 0 & 80002 & 39.09194 & 38.31022 & 38.27 & 38.34 & 0.07 & 0 & 45500 \\
\hline 0 & 55727 & 39.11664 & 38.27897 & 38.21 & 38.34 & 0.13 & 0 & 23769 \\
\hline 0 & 153410 & 39.05187 & 38.25116 & 38.21 & 38.27 & 0.06 & 0 & 52130 \\
\hline 0 & 107978 & 39.00597 & 38.21019 & 38.17 & 38.2513 & 0.0813 & 0 & 30786 \\
\hline 0 & 60051 & 39.00765 & 38.22003 & 38.17 & 38.25 & 0.08 & 0 & 49477 \\
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0 & 110077 & 39.01476 & 38.22831 & 38.21 & 38.25 & 0.04 & 0 & 32600 \\
0 & 91788 & 38.99243 & 38.1658 & 38.13 & 38.22 & 0.09 & 0 & 57649 \\
10000 & 65280 & 39.0078 & 38.18859 & 38.15 & 38.21 & 0.06 & 0 & 53417 \\
0 & 68633 & 39.02926 & 38.20553 & 38.18 & 38.24 & 0.06 & 0 & 49297 \\
0 & 73291 & 39.04112 & 38.16451 & 38.11 & 38.21 & 0.1 & 0 & 64087 \\
0 & 39778 & 39.02441 & 38.13652 & 38.1 & 38.17 & 0.07 & 0 & 23891 \\
0 & 142285 & 38.98107 & 38.012 & 37.97 & 38.11 & 0.14 & 0 & 58362 \\
0 & 141106 & 38.98154 & 37.97552 & 37.95 & 38.02 & 0.07 & 0 & 35587 \\
0 & 94160 & 38.92604 & 37.98657 & 37.95 & 38.01 & 0.06 & 0 & 68707 \\
0 & 135672 & 38.90572 & 37.97551 & 37.95 & 38.02 & 0.07 & 0 & 51405 \\
0 & 157957 & 38.89761 & 38.00754 & 37.98 & 38.03 & 0.05 & 0 & 64875 \\
0 & 179202 & 38.9472 & 37.95415 & 37.92 & 37.99 & 0.07 & 0 & 49390 \\
0 & 159274 & 38.97576 & 37.90972 & 37.84 & 37.95 & 0.11 & 0 & 49263 \\
0 & 156313 & 38.95879 & 37.86385 & 37.85 & 37.89 & 0.04 & 0 & 48526 \\
0 & 119876 & 38.96009 & 37.82221 & 37.76 & 37.88 & 0.12 & 0 & 103101 \\
0 & 108038 & 38.99913 & 37.66564 & 37.55 & 37.79 & 0.24 & 0 & 131493 \\
0 & 72543 & 38.97348 & 37.54331 & 37.5 & 37.58 & 0.08 & 0 & 120424 \\
0 & 84479 & 38.97607 & 37.51944 & 37.49 & 37.56 & 0.07 & 0 & 112055 \\
0 & 88200 & 39.01411 & 37.57134 & 37.53 & 37.65 & 0.12 & 0 & 63816 \\
0 & 96332 & 38.99432 & 37.56012 & 37.49 & 37.72 & 0.23 & 0 & 148933 \\
0 & 77662 & 39.00348 & 37.65591 & 37.58 & 37.76 & 0.18 & 0 & 86283 \\
10000 & 91178 & 39.02974 & 37.63503 & 37.56 & 37.7 & 0.14 & 0 & 95926 \\
0 & 118679 & 39.1011 & 37.63987 & 37.58 & 37.67 & 0.09 & 0 & 114905 \\
0 & 140734 & 39.11656 & 37.55342 & 37.48 & 37.62 & 0.14 & 14600 & 247951 \\
0 & 81539 & 39.14091 & 37.49441 & 37.47 & 37.53 & 0.06 & 0 & 142658 \\
0 & 98153 & 39.17767 & 37.4533 & 37.41 & 37.49 & 0.08 & 0 & 138341 \\
0 & 119580 & 39.18928 & 37.37249 & 37.3 & 37.44 & 0.14 & 0 & 135450 \\
0 & 104331 & 39.17393 & 37.30294 & 37.25 & 37.35 & 0.1 & 0 & 142153 \\
0 & 98946 & 39.1889 & 37.27743 & 37.24 & 37.31 & 0.07 & 0 & 116843 \\
0 & 148736 & 39.22478 & 37.24339 & 37.17 & 37.33 & 0.16 & 0 & 237928 \\
15300 & 124917 & 39.25878 & 37.3487 & 37.2463 & 37.42 & 0.1737 & 0 & 239091 \\
0 & 168315 & 39.28895 & 37.35434 & 37.29 & 37.4 & 0.11 & 0 & 131344 \\
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77700 & 338585 & 3999954 & 37.24828 & 37.13 & 37.39 & 0.26 & 17723 & 459614 \\
133300 & 259982 & 39.50429 & 37.24738 & 37.13 & 37.39 & 0.26 & 189200 & 510129 \\
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\hline 38.72157 & & & & & & & 37.26393 & 33.19033 \\
\hline 38.68368 & 37.36 & 37.36 & 37.36 & 0 & 0 & 100 & 37.27609 & 32.31694 \\
\hline 38.7012 & 37.25 & 37.25 & 37.25 & 0 & 0 & 245 & 37.28357 & 32.194 \\
\hline 38.65706 & & & & & & & 37.28778 & 32.79198 \\
\hline 38.65516 & & & & & & & 37.30693 & 32.50246 \\
\hline 38.6519 & 37.23 & 37.23 & 37.23 & 0 & 0 & 5000 & 37.32971 & 32.89605 \\
\hline 38.66785 & & & & & & & 37.17067 & 32.52161 \\
\hline 38.66866 & & & & & & & 37.32851 & 32.75 \\
\hline 38.65155 & 38.15123 & 37.3 & 38.2672 & 0.9672 & 0 & 11647 & 37.34061 & 32.51 \\
\hline 38.65697 & 37.6 & 37.6 & 37.6 & 0 & 0 & 500 & 37.28302 & 32.75 \\
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\hline 38.65539 & & & & & & & 37.3431 & 32.73235 \\
\hline 38.69494 & & & & & & & 37.35152 & 33.2538 \\
\hline 38.71168 & & & & & & & 37.3329 & \\
\hline 38.61934 & & & & & & & 37.32986 & 32.73387 \\
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\hline 38.72483 & & & & & & & 37.1262 & 32.75 \\
\hline 38.73898 & & & & & & & 37.35129 & \\
\hline 38.11551 & & & & & & & 37.3613 & \\
\hline 38.24874 & & & & & & & 37.35785 & \\
\hline 38.71608 & & & & & & & 37.35677 & \\
\hline 38.72625 & & & & & & & 37.36547 & \\
\hline 38.72913 & & & & & & & 37.36674 & \\
\hline 38.72924 & & & & & & & 37.3634 & \\
\hline 38.72379 & 37.23 & 37.23 & 37.23 & 0 & 53400 & 0 & 37.36345 & 32.19 \\
\hline 37.9842 & & & & & & & 37.12593 & \\
\hline 38.15283 & & & & & & & 37.33114 & 33.9584 \\
\hline 38.70027 & & & & & & & 37.37075 & \\
\hline 38.70566 & & & & & & & 37.36341 & \\
\hline 38.71728 & & & & & & & 37.36636 & 32.19 \\
\hline 38.71109 & & & & & & & 37.36677 & 32.7 \\
\hline 38.7214 & & & & & & & 37.33188 & 32.69108 \\
\hline 38.71915 & & & & & & & 37.35361 & 32.60497 \\
\hline 38.72032 & & & & & & & 37.3634 & 32.65 \\
\hline 38.70783 & 37.23 & 37.23 & 37.23 & 0 & 36669 & 0 & 37.36106 & 32.55556 \\
\hline 38.71145 & & & & & & & 37.353 & 32.19038 \\
\hline 38.70723 & & & & & & & 37.35632 & 32.26 \\
\hline 38.70658 & & & & & & & 37.3634 & \\
\hline 38.70039 & & & & & & & 37.3634 & 32.25545 \\
\hline 38.71159 & & & & & & & 37.36518 & \\
\hline 38.71453 & & & & & & & 37.36797 & 32.26 \\
\hline 38.71453 & 37.23 & 37.23 & 37.23 & 0 & 0 & 306 & & \\
\hline 38.71453 & 37.23 & 37.23 & 37.23 & 0 & 0 & 2178 & 37.36932 & \\
\hline 38.71457 & & & & & & & 37.3634 & 32.2025 \\
\hline 38.72053 & & & & & & & 37.36458 & \\
\hline 38.71028 & & & & & & & 37.36488 & \\
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\hline 38.74528 & & & & & & & 37.37751 & \\
\hline 38.71173 & & & & & & & 37.37838 & 31.57 \\
\hline 38.73921 & & & & & & & & 32.03667 \\
\hline 38.74526 & & & & & & & 37.37524 & 32 \\
\hline 38.75079 & & & & & & & & \\
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\hline 38.78375 & & & & & & & & \\
\hline 38.78685 & & & & & & & 37.37686 & \\
\hline 38.78761 & & & & & & & & 31.68 \\
\hline 38.77005 & & & & & & & & \\
\hline & & & & & & & 37.36771 & 32.19 \\
\hline & & & & & & & 37.3636 & \\
\hline 38.75502 & & & & & & & 37.3634 & \\
\hline 38.74902 & & & & & & & 37.3634 & \\
\hline 38.74846 & & & & & & & 37.3634 & \\
\hline 38.16927 & & & & & & & 37.36778 & \\
\hline 38.15971 & & & & & & & 37.36383 & 31.9 \\
\hline 38.72746 & & & & & & & 37.33971 & \\
\hline 38.73377 & & & & & & & 37.34129 & 31.8 \\
\hline 38.73524 & & & & & & & 37.34071 & 31.8 \\
\hline & & & & & & & 37.34056 & 31.70894 \\
\hline 38.73921 & & & & & & & & \\
\hline 38.71145 & & & & & & & 37.34268 & \\
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\hline 38.15815 & & & & & & & 37.27725 & \\
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\hline 38.32864 & 33.10272 & 33.08 & 33.15 & 0.07 & 0 & 5034 & 36.04699 & 25.36364 \\
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\hline 38.33756 & 33.34025 & 33.22 & 33.35 & 0.13 & 0 & 4000 & 36.03637 & 24.90321 \\
\hline 38.34749 & 33.39665 & 33.35 & 33.4 & 0.05 & 0 & 2984 & 36.03226 & 24.77024 \\
\hline 38.35374 & 33.251 & 33.25 & 33.26 & 0.01 & 0 & 1000 & 36.02686 & 24.52543 \\
\hline 38.36411 & 33.1796 & 33.15 & 33.35 & 0.2 & 0 & 2500 & 36.0361 & 24.52946 \\
\hline 38.36458 & 33.3 & 33.25 & 33.35 & 0.1 & 0 & 1625 & 36.03813 & 24.38431 \\
\hline 38.36765 & 33.27021 & 33.2 & 33.3 & 0.1 & 0 & 16850 & 36.07102 & 24.06161 \\
\hline 38.37072 & 33.18159 & 33.06 & 33.21 & 0.15 & 0 & 1575 & 36.06029 & 24.19607 \\
\hline 38.36172 & 33.2293 & 33.11 & 33.3 & 0.19 & 0 & 11400 & 36.06414 & 23.9562 \\
\hline 38.34207 & 33.51384 & 33.29 & 33.75 & 0.46 & 0 & 205576 & 36.06509 & 23.99084 \\
\hline 38.34575 & 33.57073 & 33.46 & 33.67 & 0.21 & 32850 & 176709 & 36.12252 & 24.1728 \\
\hline 38.37337 & 33.13993 & 32.98 & 33.64 & 0.66 & 850200 & 276029 & 36.13471 & 24.5118 \\
\hline 38.37104 & 32.74201 & 32.35 & 33.15 & 0.8 & 0 & 482364 & 36.16267 & 24.67562 \\
\hline 38.37591 & 32.77484 & 32.37 & 33 & 0.63 & 11300 & 606695 & 36.15745 & 25.20517 \\
\hline 38.36644 & 33.07882 & 32.84 & 33.39 & 0.55 & 38600 & 551403 & 36.18606 & 25.79221 \\
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\hline 38.30415 & 33.15834 & 32.98 & 33.38 & 0.4 & 0 & 165370 & 36.1197 & 25.23138 \\
\hline 38.29788 & 33.30049 & 32.99 & 33.5 & 0.51 & 66600 & 821062 & 36.11891 & 25.25202 \\
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\hline 38.26174 & 33.1849 & 33.07 & 33.27 & 0.2 & 49000 & 296947 & 36.06157 & 27.1271 \\
\hline 38.2921 & 33.26903 & 33.2 & 33.3 & 0.1 & 14900 & 210024 & 36.09391 & 27.12505 \\
\hline 38.34765 & 33.31601 & 33.2 & 33.43 & 0.23 & 0 & 531012 & 36.11017 & 27.35419 \\
\hline 38.38215 & 33.2146 & 33.02 & 33.35 & 0.33 & 0 & 447846 & 36.20847 & 27.23993 \\
\hline 38.37948 & 33.3159 & 33.03 & 33.55 & 0.52 & 0 & 356702 & 36.26961 & 27.19919 \\
\hline 38.35985 & 33.66653 & 33.5 & 33.84 & 0.34 & 0 & 517106 & 36.29098 & 27.43158 \\
\hline 38.32968 & 33.92047 & 33.79 & 34 & 0.21 & 11400 & 402767 & 36.35535 & 27.32546 \\
\hline 38.31338 & 33.9805 & 33.86 & 34.12 & 0.26 & 0 & 289289 & 36.34998 & 26.3882 \\
\hline 38.30862 & 33.98024 & 33.88 & 34.15 & 0.27 & 0 & 247686 & 36.35486 & 25.95018 \\
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\hline 38.2316 & 34.32669 & 34.12 & 34.43 & 0.31 & 0 & 274147 & 36.36605 & 26.85952 \\
\hline 38.21517 & 34.33979 & 34.13 & 34.5 & 0.37 & 0 & 341754 & 36.35358 & 27.02512 \\
\hline 38.25439 & 34.44447 & 34.2 & 34.68 & 0.48 & 0 & 397382 & 36.34131 & 26.35411 \\
\hline 38.29859 & 34.46917 & 34.38 & 34.56 & 0.18 & 0 & 216994 & 36.28383 & 26.2454 \\
\hline 38.3253 & 34.59353 & 34.29 & 34.84 & 0.55 & 0 & 347054 & 36.23874 & 26.43836 \\
\hline 38.39062 & 34.50188 & 34.45 & 34.63 & 0.18 & 0 & 374224 & 36.16554 & 26.36797 \\
\hline 38.38267 & 34.57838 & 34.48 & 34.77 & 0.29 & 0 & 157838 & 36.1644 & 26.45994 \\
\hline 38.35131 & 34.57967 & 34.5 & 34.65 & 0.15 & 0 & 209566 & 36.12037 & 26.79893 \\
\hline 38.36722 & 34.63989 & 34.59 & 34.68 & 0.09 & 0 & 177050 & 36.1839 & 27.01517 \\
\hline 38.32285 & 34.46454 & 34.22 & 34.64 & 0.42 & 55000 & 295920 & 36.15549 & 26.40386 \\
\hline 38.28154 & 34.10728 & 34 & 34.3 & 0.3 & 99838 & 346073 & 36.17582 & 26.28844 \\
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\hline 38.2788 & 34.0259 & 33.88 & 34.18 & 0.3 & 0 & 270651 & 36.18213 & 26.91567 \\
\hline 38.307 & 33.9573 & 33.9 & 34.03 & 0.13 & 0 & 169617 & 36.26686 & 27.25501 \\
\hline 38.37144 & 34.0669 & 33.99 & 34.17 & 0.18 & 0 & 209042 & 36.27221 & 27.95674 \\
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\hline 38.42312 & 34.24516 & 34.14 & 34.29 & 0.15 & 0 & 133134 & 36.31555 & 28.05242 \\
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\hline 38.52071 & 33.51331 & 33.4 & 33.59 & 0.19 & 0 & 161125 & 36.40336 & 28.26524 \\
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\hline 38.4787 & 33.44766 & 33.31 & 33.54 & 0.23 & 0 & 151432 & 36.38493 & 27.85786 \\
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\hline 38.58624 & 34.42333 & 34.35 & 34.52 & 0.17 & 0 & 102455 & 36.54863 & 30.04878 \\
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\hline 38.59923 & 34.27266 & 34.23 & 34.32 & 0.09 & 0 & 55981 & 36.53328 & 29.48711 \\
\hline 38.61205 & 34.26883 & 34.18 & 34.33 & 0.15 & 0 & 225713 & 36.55339 & 29.58401 \\
\hline 38.62108 & 34.35832 & 34.3 & 34.41 & 0.11 & 0 & 145043 & 36.51872 & 29.33847 \\
\hline 38.60996 & 34.38159 & 34.34 & 34.41 & 0.07 & 0 & 56134 & 36.25926 & 29.20891 \\
\hline 38.65058 & 34.39353 & 34.35 & 34.43 & 0.08 & 0 & 126690 & 36.55567 & 28.62103 \\
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\hline 38.75914 & 34.28183 & 34.23 & 34.31 & 0.08 & 0 & 90019 & 36.55846 & 27.88389 \\
\hline 38.75049 & 34.20032 & 34.17 & 34.28 & 0.11 & 0 & 61646 & 36.55366 & 28.0256 \\
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\hline 38.76572 & 34.06445 & 34.01 & 34.15 & 0.14 & 0 & 94380 & 36.60819 & 27.48176 \\
\hline 38.78106 & 34.12093 & 34.09 & 34.16 & 0.07 & 0 & 57976 & 36.60421 & 27.24367 \\
\hline 38.7709 & 34.20541 & 34.11 & 34.27 & 0.16 & 0 & 85017 & 36.61839 & 27.25199 \\
\hline 38.7997 & 34.09574 & 33.97 & 34.21 & 0.24 & 0 & 69208 & 36.56669 & 27.09451 \\
\hline 38.8114 & 34.0547 & 34.01 & 34.1 & 0.09 & 0 & 41850 & 36.53694 & 27.04393 \\
\hline 38.84352 & 33.94005 & 33.89 & 34.01 & 0.12 & 0 & 142363 & 36.49625 & 26.99202 \\
\hline 38.84558 & 33.95305 & 33.9 & 34.06 & 0.16 & 0 & 67486 & 36.45828 & 26.83565 \\
\hline 38.81162 & 33.94143 & 33.92 & 33.97 & 0.05 & 0 & 53711 & 36.43784 & 26.38398 \\
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\hline 38.7777 & 33.99268 & 33.96 & 34.01 & 0.05 & 0 & 64809 & 36.40863 & 26.5664 \\
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\hline 38.72928 & 34.03616 & 34 & 34.1 & 0.1 & 0 & 59006 & 36.44662 & 26.41388 \\
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\hline 38.75337 & 33.89588 & 33.82 & 33.95 & 0.13 & 0 & 129291 & 36.39094 & 26.08254 \\
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\hline 38.7539 & 33.89443 & 33.81 & 34 & 0.19 & 0 & 113321 & 36.37831 & 25.82783 \\
\hline 38.75251 & 33.9269 & 33.88 & 33.98 & 0.1 & 0 & 97142 & 36.3832 & 25.61107 \\
\hline 38.70922 & 33.98121 & 33.91 & 34.04 & 0.13 & 0 & 90752 & 36.3771 & 25.40178 \\
\hline 38.68357 & 33.9782 & 33.9382 & 34.02 & 0.0818 & 0 & 92950 & 36.36055 & 24.88522 \\
\hline 38.66127 & 33.98685 & 33.95 & 34.03 & 0.08 & 0 & 111693 & 36.36909 & 25.13069 \\
\hline 38.65935 & 33.92508 & 33.83 & 33.99 & 0.16 & 0 & 106918 & 37.11661 & 25.3909 \\
\hline 38.68436 & 33.84795 & 33.81 & 33.94 & 0.13 & 0 & 89562 & 36.32017 & 25.59033 \\
\hline 38.67027 & 33.84411 & 33.81 & 33.9 & 0.09 & 0 & 92190 & 36.31597 & 25.69813 \\
\hline 38.64382 & 33.81099 & 33.79 & 33.848 & 0.058 & 0 & 86864 & 36.31812 & 25.95661 \\
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\hline 38.69586 & 33.92136 & 33.83 & 34.02 & 0.19 & 0 & 187497 & 36.36423 & 26.29047 \\
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\hline 38.68878 & 33.30698 & 33.26 & 33.39 & 0.13 & 0 & 46851 & 36.24237 & 26.94968 \\
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\hline 38.65645 & 33.52896 & 33.31 & 33.7693 & 0.4593 & 62000 & 111239 & 36.33976 & 27.07108 \\
\hline 38.64518 & 33.38969 & 33.34 & 33.45 & 0.11 & 0 & 109351 & 36.33102 & 26.95241 \\
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\hline 38.63408 & 33.75428 & 33.69 & 33.81 & 0.12 & 0 & 80056 & 36.33296 & 26.59721 \\
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\hline 38.66393 & 33.69696 & 33.64 & 33.75 & 0.11 & 0 & 44698 & 36.34018 & 26.50705 \\
\hline 38.64122 & 33.80186 & 33.71 & 33.88 & 0.17 & 0 & 97450 & 36.38936 & 26.53179 \\
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\hline 38.67875 & 33.85463 & 33.4141 & 34.03 & 0.6159 & 10802 & 60487 & 36.4253 & 26.52516 \\
\hline 38.70143 & 33.97225 & 33.82 & 34.06 & 0.24 & 10000 & 70010 & 36.44823 & 26.6208 \\
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\hline 38.72207 & 34.19268 & 34.03 & 34.32 & 0.29 & 0 & 111805 & 36.56653 & 26.16973 \\
\hline 38.69679 & 34.06392 & 33.95 & 34.195 & 0.245 & 10000 & 150459 & 36.52026 & 26.26062 \\
\hline 38.71941 & 33.86077 & 33.78 & 34.15 & 0.37 & 0 & 85195 & 36.49849 & 26.38636 \\
\hline 38.67433 & 33.74904 & 33.65 & 34.035 & 0.385 & 0 & 40290 & 36.48838 & 26.47173 \\
\hline 38.63401 & 33.70128 & 33.66 & 33.76 & 0.1 & 0 & 32060 & 36.47214 & 26.35712 \\
\hline 38.65999 & 33.71723 & 33.65 & 33.8 & 0.15 & 0 & 89685 & 36.46087 & 26.16741 \\
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\hline 38.66768 & 33.90838 & 33.79 & 33.99 & 0.2 & 0 & 70610 & 36.44954 & 26.45846 \\
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\hline 38.65245 & 33.99076 & 33.94 & 34.01 & 0.07 & 0 & 62053 & 36.46028 & 26.48397 \\
\hline 38.65389 & 33.93876 & 33.86 & 34.005 & 0.145 & 0 & 18341 & 36.45514 & 26.65209 \\
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\hline 38.65763 & 33.76429 & 33.74 & 33.8 & 0.06 & 0 & 46571 & 36.98944 & 26.69494 \\
\hline 38.65572 & 33.77014 & 33.74 & 33.8 & 0.06 & 0 & 32142 & 36.35231 & 26.63935 \\
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\hline 38.50876 & 33.74321 & 33.64 & 33.82 & 0.18 & 0 & 86731 & 36.35896 & 26.66983 \\
\hline 38.49226 & 33.76764 & 33.67 & 33.87 & 0.2 & 0 & 98167 & 36.43177 & 26.68962 \\
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\hline 38.49024 & 33.75014 & 33.72 & 33.78 & 0.06 & 0 & 74040 & 36.38582 & 26.70487 \\
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\hline 38.4168 & 33.94054 & 33.92 & 33.96 & 0.04 & 0 & 6850 & 36.49112 & 27.9867 \\
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\hline 38.40297 & 33.75458 & 33.72 & 33.875 & 0.155 & 0 & 61056 & 36.4486 & 28.14018 \\
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\hline 38.41939 & 33.67416 & 33.63 & 33.75 & 0.12 & 0 & 35100 & 36.44111 & 28.17661 \\
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\hline 38.45496 & 33.60194 & 33.51 & 33.655 & 0.145 & 14000 & 76725 & 36.45905 & 27.81823 \\
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\hline 38.45404 & 33.57696 & 33.55 & 33.6 & 0.05 & 0 & 31890 & 36.44311 & 27.75698 \\
\hline 38.4447 & 33.50943 & 33.46 & 33.595 & 0.135 & 0 & 63208 & 36.43854 & 27.70535 \\
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\hline 38.47637 & 33.44045 & 33.39 & 33.49 & 0.1 & 0 & 103194 & 36.43243 & 27.61716 \\
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\hline 38.57504 & 33.15309 & 33.07 & 33.26 & 0.19 & 0 & 106314 & 36.35292 & 27.89225 \\
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\hline 38.56048 & 33.05606 & 32.925 & 33.14 & 0.215 & 0 & 305224 & 36.34739 & 26.93305 \\
\hline 38.54724 & 32.90875 & 32.79 & 33.1 & 0.31 & 0 & 81080 & 36.3184 & 26.80072 \\
\hline 38.55988 & 32.76587 & 32.66 & 32.83 & 0.17 & 11200 & 88668 & 36.29775 & 26.87118 \\
\hline 38.57393 & 32.65544 & 32.59 & 32.775 & 0.185 & 0 & 74564 & 36.25533 & 26.31206 \\
\hline 38.64038 & 32.64135 & 32.58 & 32.69 & 0.11 & 0 & 81920 & 36.26291 & 26.18672 \\
\hline 38.64494 & 32.56556 & 32.5 & 32.63 & 0.13 & 0 & 166556 & 36.27719 & 26.24392 \\
\hline 38.65664 & 32.52009 & 32.5 & 32.55 & 0.05 & 0 & 92768 & 36.28067 & 26.16301 \\
\hline 38.62359 & 32.5509 & 32.49 & 32.61 & 0.12 & 0 & 108112 & 36.2951 & 26.09721 \\
\hline 38.6097 & 32.54326 & 32.5 & 32.64 & 0.14 & 0 & 85474 & 36.3037 & 25.65833 \\
\hline 38.58348 & 32.46761 & 32.35 & 32.6 & 0.25 & 0 & 154730 & 36.2848 & 25.66136 \\
\hline 38.57889 & 32.52705 & 32.425 & 32.57 & 0.145 & 0 & 91259 & 36.96631 & 25.53364 \\
\hline 38.55777 & 32.54467 & 32.48 & 32.61 & 0.13 & 0 & 36000 & 36.31121 & 25.72815 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 38.54373 & 32.38956 & 32.27 & 32.5 & 0.23 & 0 & 57552 & 36.244 & 25.45375 \\
\hline 38.5543 & 32.3115 & 32.25 & 32.36 & 0.11 & 0 & 65625 & 36.21926 & 24.79902 \\
\hline 38.54104 & 32.42021 & 32.33 & 32.51 & 0.18 & 0 & 54310 & 36.24622 & 25.01557 \\
\hline 38.51584 & 32.4874 & 32.44 & 32.51 & 0.07 & 0 & 77397 & 37.01874 & 24.83737 \\
\hline 38.50749 & 32.37607 & 32.27 & 32.495 & 0.225 & 0 & 91849 & 36.24691 & 24.4464 \\
\hline 38.53597 & 32.25519 & 32.11 & 32.32 & 0.21 & 0 & 92738 & 36.23592 & 24.72255 \\
\hline 38.54796 & 32.10104 & 32.01 & 32.24 & 0.23 & 0 & 141708 & 36.23207 & 24.64177 \\
\hline 38.54978 & 32.02574 & 32.01 & 32.1 & 0.09 & 0 & 119447 & 36.25576 & 24.64321 \\
\hline 38.55702 & 31.98342 & 31.93 & 32.03 & 0.1 & 0 & 224095 & 36.23641 & 25.01289 \\
\hline 38.55716 & 31.9449 & 31.83 & 32.03 & 0.2 & 0 & 156487 & 36.21759 & 25.93981 \\
\hline 38.59484 & 31.94921 & 31.89 & 32.02 & 0.13 & 0 & 132984 & 36.20175 & 27.01241 \\
\hline 38.62786 & 31.93639 & 31.85 & 32.01 & 0.16 & 0 & 177496 & 36.15237 & 27.02496 \\
\hline 38.63937 & 31.79398 & 31.68 & 31.95 & 0.27 & 0 & 158291 & 36.08369 & 27.05143 \\
\hline 38.64608 & 31.62704 & 31.59 & 31.73 & 0.14 & 0 & 168829 & 36.04026 & 26.7842 \\
\hline 38.6951 & 31.65819 & 31.56 & 31.72 & 0.16 & 10000 & 177020 & 36.0448 & 26.32914 \\
\hline 38.67649 & 31.46751 & 31.25 & 31.6518 & 0.4018 & 0 & 314964 & 36.05696 & 25.97757 \\
\hline 38.7011 & 31.19317 & 31.09 & 31.33 & 0.24 & 18600 & 321080 & 36.05558 & 26.12493 \\
\hline 38.71348 & 31.21811 & 31.13 & 31.31 & 0.18 & 0 & 245856 & 36.04429 & 26.29702 \\
\hline 38.69993 & 31.067 & 30.91 & 31.245 & 0.335 & 0 & 253609 & 36.01604 & 26.65158 \\
\hline 38.69795 & 30.84074 & 30.73 & 30.97 & 0.24 & 0 & 308782 & 35.98498 & 26.85615 \\
\hline 38.71878 & 31.06876 & 30.79 & 31.25 & 0.46 & 0 & 217470 & 36.04696 & 26.7888 \\
\hline 38.71183 & 31.21646 & 31.1 & 31.34 & 0.24 & 0 & 151048 & 36.07111 & 27.08126 \\
\hline 38.70279 & 31.264 & 31.14 & 31.38 & 0.24 & 0 & 163225 & 36.10762 & 27.18384 \\
\hline 38.69849 & 31.31371 & 31.2 & 31.44 & 0.24 & 10600 & 175327 & 36.12734 & 26.82133 \\
\hline 38.68317 & 31.32579 & 31.25 & 31.44 & 0.19 & 0 & 119542 & 36.15102 & 26.85814 \\
\hline 38.67178 & 31.3372 & 31.27 & 31.4 & 0.13 & 0 & 75446 & 36.13521 & 26.93087 \\
\hline 38.71699 & 31.29891 & 31.19 & 31.38 & 0.19 & 0 & 120766 & 36.09847 & 27.15841 \\
\hline 38.76593 & 31.27239 & 31.2 & 31.34 & 0.14 & 0 & 99474 & 36.08117 & 27.45059 \\
\hline 38.80502 & 31.22203 & 31.15 & 31.35 & 0.2 & 15300 & 209699 & 36.07411 & 27.56101 \\
\hline 38.82916 & 31.28556 & 31.165 & 31.38 & 0.215 & 0 & 86841 & 37.01376 & 27.80634 \\
\hline 38.81672 & 31.3407 & 31.27 & 31.38 & 0.11 & 0 & 89107 & 36.07961 & 27.87475 \\
\hline 38.81268 & 31.23496 & 31.17 & 31.28 & 0.11 & 0 & 112001 & 36.05011 & 27.84829 \\
\hline 38.75851 & 31.10983 & 31.03 & 31.23 & 0.2 & 0 & 101995 & 36.02268 & 27.64453 \\
\hline 38.76993 & 31.17749 & 31.12 & 31.345 & 0.225 & 0 & 131651 & 36.01449 & 27.65332 \\
\hline 38.77745 & 31.2291 & 31.095 & 31.31 & 0.215 & 0 & 193031 & 35.98669 & 27.45872 \\
\hline 38.75765 & 31.46067 & 31.215 & 31.53 & 0.315 & 0 & 273176 & 35.96257 & 27.35921 \\
\hline 38.72563 & 31.40476 & 31.32 & 31.515 & 0.195 & 0 & 200125 & 35.97484 & 27.17021 \\
\hline 38.72677 & 31.34741 & 31.26 & 31.45 & 0.19 & 0 & 173393 & 35.94114 & 27.08921 \\
\hline 38.77607 & 31.22848 & 31.13 & 31.34 & 0.21 & 0 & 141120 & 35.87207 & 27.15704 \\
\hline 38.79282 & 31.22746 & 31.1 & 31.35 & 0.25 & 0 & 144116 & 35.86213 & 27.24939 \\
\hline 38.76992 & 31.09259 & 31 & 31.405 & 0.405 & 14100 & 165049 & 35.88538 & 27.29028 \\
\hline 38.74215 & 31.14896 & 31.05 & 31.275 & 0.225 & 44100 & 157308 & 35.87074 & 27.32988 \\
\hline 38.79347 & 31.14983 & 31.06 & 31.2 & 0.14 & & 201390 & 35.87346 & 27.72745 \\
\hline 38.78239 & 31.28898 & 31.18 & 31.48 & 0.3 & 0 & 154911 & 35.86927 & 27.76031 \\
\hline 38.78409 & 31.51408 & 31.44 & 31.59 & 0.15 & 0 & 151222 & 35.88292 & 27.68119 \\
\hline 38.7838 & 31.31365 & 31.23 & 31.575 & 0.345 & 16668 & 169603 & 35.92165 & 27.92806 \\
\hline 38.78218 & 31.3132 & 31.24 & 31.4 & 0.16 & 0 & 163213 & 35.91494 & 28.09001 \\
\hline 38.82954 & 31.36076 & 31.26 & 31.45 & 0.19 & 0 & 132676 & 35.89773 & 28.3544 \\
\hline 38.82662 & 31.26133 & 31.24 & 31.29 & 0.05 & 0 & 128610 & 35.83851 & 28.83004 \\
\hline 38.80111 & 31.28694 & 31.24 & 31.35 & 0.11 & 0 & 141780 & 35.84365 & 28.99171 \\
\hline 38.76651 & 31.2579 & 31.22 & 31.31 & 0.09 & 0 & 111186 & 35.8093 & 28.83489 \\
\hline 38.68971 & 31.42384 & 31.2991 & 31.55 & 0.2509 & 0 & 125229 & 35.80505 & 28.69976 \\
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 38.74142 & 31.56653 & 31.5 & 31.6 & 0.1 & 0 & 119536 & 35.81086 & 28.63779 \\
\hline 38.70529 & 31.6227 & 31.58 & 31.66 & 0.08 & 0 & 126295 & 35.81527 & 28.50026 \\
\hline 38.72816 & 31.84302 & 31.64 & 31.95 & 0.31 & 0 & 252270 & 35.76094 & 28.50663 \\
\hline 38.75693 & 31.85914 & 31.69 & 32.05 & 0.36 & 0 & 228206 & 35.74899 & 28.62119 \\
\hline 38.75449 & 32.17919 & 32.03 & 32.34 & 0.31 & 0 & 226062 & 35.76497 & 28.45894 \\
\hline 38.73754 & 32.12514 & 32.06 & 32.23 & 0.17 & 0 & 90517 & 35.789 & 28.10404 \\
\hline 38.69983 & 32.29393 & 32.17 & 32.42 & 0.25 & 0 & 245905 & 35.7853 & 27.88525 \\
\hline 38.69103 & 32.58198 & 32.395 & 32.72 & 0.325 & 55600 & 390641 & 35.74148 & 27.42264 \\
\hline 38.72365 & 32.57777 & 32.46 & 32.79 & 0.33 & 0 & 336940 & 35.71212 & 27.31442 \\
\hline 38.67934 & 33.04204 & 32.47 & 33.47 & 1 & 0 & 355515 & 35.79477 & 27.17302 \\
\hline 38.75344 & 33.92453 & 31.9387 & 34.28 & 2.3413 & 32289 & 712652 & 35.85878 & 27.20821 \\
\hline 38.74561 & 34.0407 & 33.83 & 34.35 & 0.52 & 0 & 549090 & 35.87609 & 27.19874 \\
\hline 38.70188 & 33.93131 & 33.71 & 34.15 & 0.44 & 0 & 752593 & 35.87377 & 27.00868 \\
\hline 38.68182 & 34.40334 & 33.97 & 34.58 & 0.61 & 55700 & 527593 & 35.99987 & 27.02888 \\
\hline 38.64524 & 34.5344 & 34.28 & 34.7 & 0.42 & 35400 & 550040 & 36.02286 & 26.99019 \\
\hline 38.6264 & 34.0233 & 33.73 & 34.3 & 0.57 & 0 & 379964 & 36.00174 & 27.03687 \\
\hline 38.58255 & 33.7681 & 33.64 & 33.93 & 0.29 & 10000 & 318653 & 35.94772 & 27.36737 \\
\hline 38.59252 & 33.55819 & 33.21 & 33.86 & 0.65 & 0 & 368142 & 35.97845 & 27.53611 \\
\hline 38.59556 & 33.26257 & 33.06 & 33.46 & 0.4 & 0 & 272077 & 35.97564 & 27.60699 \\
\hline 38.65398 & 33.39671 & 33.22 & 33.63 & 0.41 & 0 & 287907 & 35.93403 & 27.57256 \\
\hline 38.63513 & 33.59019 & 33.5 & 33.9999 & 0.4999 & 0 & 224023 & 35.97543 & 27.10539 \\
\hline 38.64991 & 34.12043 & 33.67 & 34.51 & 0.84 & 0 & 616268 & 36.02833 & 27.07611 \\
\hline 38.67416 & 34.21926 & 33.92 & 34.53 & 0.61 & 13700 & 344209 & 35.95802 & 27.02537 \\
\hline 38.65385 & 33.84517 & 33.71 & 33.975 & 0.265 & 0 & 295083 & 35.94647 & 27.14976 \\
\hline 38.65736 & 33.6651 & 33.57 & 33.81 & 0.24 & 0 & 305101 & 35.86877 & 27.30745 \\
\hline 38.6513 & 33.71039 & 33.47 & 33.94 & 0.47 & 0 & 385319 & 35.83918 & 27.35304 \\
\hline 38.64803 & 33.56934 & 33.33 & 33.7 & 0.37 & 0 & 270248 & 35.85429 & 27.2527 \\
\hline 38.66389 & 33.26763 & 33.19 & 33.38 & 0.19 & 0 & 237553 & 35.80737 & 27.19438 \\
\hline 38.6399 & 33.27518 & 33.15 & 33.4 & 0.25 & 23800 & 261350 & 35.80135 & 27.11591 \\
\hline 38.65676 & 33.15141 & 33.01 & 33.29 & 0.28 & 17850 & 283450 & 35.74243 & 27.30038 \\
\hline 38.67176 & 33.06592 & 32.96 & 33.18 & 0.22 & 25400 & 336914 & 35.67728 & 27.41608 \\
\hline 38.67508 & 32.89385 & 32.74 & 33.01 & 0.27 & 11200 & 381644 & 36.07312 & 27.41433 \\
\hline 38.67883 & 32.85096 & 32.72 & 33.02 & 0.3 & 0 & 334032 & 35.6505 & 27.44538 \\
\hline 38.68675 & 32.87817 & 32.72 & 33.01 & 0.29 & 44600 & 527718 & 35.70821 & 27.45061 \\
\hline 38.72099 & 32.84346 & 32.74 & 33 & 0.26 & 0 & 277392 & 35.71227 & 27.7484 \\
\hline 38.74289 & 32.81917 & 32.76 & 32.9 & 0.14 & 18400 & 326980 & 35.70778 & 28.23655 \\
\hline 38.7213 & 32.93132 & 32.8 & 33.1785 & 0.3785 & 68092 & 393783 & 35.67983 & 28.90019 \\
\hline 38.74255 & 32.88038 & 32.8 & 32.98 & 0.18 & 30500 & 395124 & 35.64949 & 29.02255 \\
\hline 38.77461 & 32.54815 & 32.32 & 32.9446 & 0.6246 & 93905 & 499239 & 35.60235 & 29.64452 \\
\hline 38.7853 & 32.59621 & 32.15 & 33.0872 & 0.9372 & 0 & 7964 & 35.61884 & 30.07662 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline minp_16 & maxp_16 & rangep_16 & radebig & esm & spindex & meanp & minp_17 & maxp_17 \\
\hline 32.15 & 33.0872 & 0.9372 & 0 & 7964 & 32.19 & 30.07662 & 29.62 & 30.99 \\
\hline 32.4 & 33.12 & 0.72 & 0 & 8200 & 32.20304 & 30.11059 & 30 & 30.4 \\
\hline 33.12 & 33.38 & 0.26 & 0 & 13748 & 32.12965 & 30.08619 & 29.75 & 30.6 \\
\hline 32.19 & 33.5 & 1.31 & 46400 & 6300 & 32.11837 & 29.86367 & 29.65 & 30.28 \\
\hline 32.19 & 33.19 & 1 & 1676600 & 10612 & 32.12832 & 29.27575 & 28.7 & 30.2 \\
\hline 32.75 & 32.81 & 0.06 & 0 & 2493 & 32.55487 & 28.71465 & 28.7 & 30.3 \\
\hline 32.5 & 32.7 & 0.2 & 20000 & 5200 & 32.42848 & 29.77457 & 29.07 & 30.47 \\
\hline 32.6262 & 33.1588 & 0.5326 & 60000 & 0 & 32.13867 & 29.57896 & 27.2969 & 31 \\
\hline 32.51 & 32.53 & 0.02 & 0 & 2239 & 32.14673 & 29.60867 & 29.01 & 30 \\
\hline 32.75 & 32.75 & 0 & 0 & 100 & 32.13701 & 28.10733 & 27.3003 & 29.65 \\
\hline 32.51 & 32.51 & 0 & 0 & 100 & 32.12099 & 29.78086 & 27.3023 & 32.01 \\
\hline 32.75 & 32.75 & 0 & 0 & 300 & 32.10771 & 30.84016 & 27.3032 & 32.04 \\
\hline 32.75 & 32.9186 & 0.1686 & 100000 & 1000 & 32.1032 & 32.07504 & 30.74 & 32.75 \\
\hline 32.7 & 33.2538 & 0.5538 & 0 & 5600 & 32.12398 & 32.10444 & 27.2878 & 32.7 \\
\hline 33.2538 & 33.2538 & 0 & 0 & 300 & 33.31217 & 31.50018 & 28.7 & 32.1 \\
\hline & & & & & 32.13117 & 31.51248 & 28.7 & 31.77 \\
\hline 32.7 & 32.75 & 0.05 & 0 & 3100 & 32.12005 & 31.45409 & 31.23 & 31.75 \\
\hline & & & & & 33.34772 & 31.02947 & 30.8 & 31.5 \\
\hline 32.75 & 32.75 & 0 & 0 & 200 & 32.70938 & 30.79175 & 27.9286 & 31.12 \\
\hline & & & & & 32.10846 & 30.98711 & 30.82 & 31.22 \\
\hline & & & & & 32.10423 & 31.28921 & 31.14 & 31.45 \\
\hline & & & & & 32.10931 & 31.28287 & 31.18 & 31.38 \\
\hline & & & & & 32.10988 & 31.34625 & 31.13 & 31.55 \\
\hline & & & & & 32.11174 & 31.80445 & 31.5 & 32 \\
\hline & & & & & 32.12267 & 31.7403 & 31.65 & 31.81 \\
\hline & & & & & 32.12765 & 31.83607 & 31.7 & 32 \\
\hline 32.19 & 32.19 & 0 & 0 & 1637 & 32.11006 & 31.66189 & 31.33 & 31.95 \\
\hline & & & & & 32.12913 & 31.38098 & 31.29 & 31.48 \\
\hline 32.9 & 34 & 1.1 & 10000 & 393 & 32.12744 & 31.37564 & 31.11 & 31.54 \\
\hline & & & & & 32.11014 & 31.01398 & 30.68 & 31.45 \\
\hline & & & & & 32.11313 & 30.65779 & 30.5 & 31 \\
\hline 32.19 & 32.19 & 0 & 0 & 4949 & 32.51274 & 30.51435 & 30.39 & 30.73 \\
\hline 32.7 & 32.7 & 0 & 0 & 1300 & 32.086 & 30.67872 & 30.5 & 30.73 \\
\hline 32.67 & 32.7 & 0.03 & 0 & 2846 & 33.59846 & 30.64902 & 30.6 & 30.74 \\
\hline 32.55 & 32.67 & 0.12 & 0 & 700 & 33.56246 & 30.34548 & 30 & 30.64 \\
\hline 32.65 & 32.65 & 0 & 0 & 300 & 32.47763 & 30.12883 & 30 & 30.23 \\
\hline 32.55 & 32.56 & 0.01 & 0 & 900 & 32.09923 & 30.0261 & 29.8 & 30.12 \\
\hline 32.19 & 32.5 & 0.31 & 161729 & 200 & 32.07941 & 30.06338 & 29.82 & 30.17 \\
\hline 32.26 & 32.26 & 0 & 0 & 300 & 32.0997 & 29.82807 & 29.75 & 30 \\
\hline & & & & & 32.09167 & 29.9612 & 29.75 & 30.01 \\
\hline 32.25 & 32.26 & 0.01 & 0 & 2200 & 32.10014 & 29.57756 & 29.4 & 29.99 \\
\hline & & & & & 32.09405 & 29.98523 & 29.67 & 30 \\
\hline 32.26 & 32.26 & 0 & 0 & 100 & 32.09279 & 29.92327 & 29.75 & 30 \\
\hline & & & & & 32.10181 & 29.95992 & 29.83 & 30.01 \\
\hline & & & & & 32.10772 & 29.84777 & 29.76 & 29.99 \\
\hline 32.2 & 32.21 & 0.01 & 0 & 400 & 32.10836 & 29.46743 & 29 & 29.9 \\
\hline & & & & & 32.11843 & 29.01335 & 28.96 & 29.28 \\
\hline & & & & & 32.13065 & 29.02994 & 28.8 & 29.24 \\
\hline 32.12 & 32.12 & 0 & 0 & 550 & 32.13197 & 28.89027 & 28.67 & 29.5 \\
\hline
\end{tabular}

\begin{tabular}{rrrrrrrr}
31.78 & 31.78 & 0 & 0 & 200 & 32.13448 & & \\
& & & 32.13448 & 28.39375 & 28.35 & 28.4 \\
& & & & 33.56154 & 28.48515 & 28.47 & 28.49 \\
& & & 32.12713 & 28.56783 & 28.42 & 28.73 \\
& & & 32.10995 & 28.67447 & 28.6 & 28.7 \\
& & & & 32.10772 & 28.534 & 28.48 & 28.6 \\
& & & & 32.10772 & 28.38 & 28.31 & 28.64 \\
& & 0 & 100 & 32.10772 & 28.5 & 28.5 & 28.5 \\
& & & & 28.3293 & 28.31 & 28.4 \\
& & & & 28.36727 & 28.31 & 28.4 \\
& & & 32.0956 & 28.30899 & 28.3 & 28.31 \\
& & & 32.09702 & 28.29636 & 28.29 & 28.31 \\
& & & 32.12913 & 28.29 & 28.29 & 28.29 \\
& & & 32.10906 & 28.38435 & 28.27 & 28.4 \\
& & & 32.11426 & 28.302 & 28.29 & 28.29 \\
& & & 32.10772 & 28.33 & 28.33 & 28.33 \\
& & & 32.10772 & 28.32962 & 28.32 & 28.35
\end{tabular}
\begin{tabular}{rrrrrrrrr}
28 & 29.5 & 1.5 & 100000 & 8764 & 31.72807 & 28.67242 & 28.49 & 28.89 \\
29.2 & 29.32 & 0.12 & 0 & 8500 & 31.80266 & 28.37688 & 28.15 & 28.68 \\
29.21 & 29.33 & 0.12 & 0 & 4776 & 31.79572 & 27.74214 & 27.25 & 28.48 \\
29.2 & 29.33 & 0.13 & 0 & 4350 & 31.75937 & 27.95344 & 27.36 & 28.24 \\
29.2 & 29.2 & 0 & 0 & 100 & 31.74021 & 28.14056 & 28.1 & 28.29 \\
29.2 & 29.3 & 0.1 & 0 & 3100 & 31.73335 & 28.03216 & 28 & 28.24 \\
29.2 & 29.33 & 0.13 & 0 & 1303 & 31.72872 & 28.01277 & 28 & 28.2 \\
29.2 & 29.3 & 0.1 & 0 & 6300 & 31.73925 & 27.98616 & 27.9 & 28.09 \\
29.06 & 29.28 & 0.22 & 0 & 9468 & 31.76973 & 27.87075 & 27.64 & 27.99 \\
29.1 & 29.2 & 0.1 & 0 & 1600 & 31.7548 & 27.66125 & 27.52 & 27.89 \\
29.1 & 29.2 & 0.1 & 0 & 6992 & 31.76561 & 27.79957 & 27.65 & 27.98 \\
29.12 & 29.24 & 0.12 & 0 & 21392 & 31.80762 & 27.2695 & 26.87 & 27.8 \\
29.19 & 29.2 & 0.01 & 0 & 5908 & 31.79841 & 26.98352 & 26.82 & 27 \\
29.2 & 29.2 & 0 & 0 & 2800 & 31.79997 & 26.80011 & 26.57 & 27 \\
29.2 & 29.45 & 0.25 & 0 & 18700 & 31.82636 & 26.51953 & 26.3 & 26.75 \\
28.02 & 29.35 & 1.33 & 0 & 29600 & 31.80329 & 26.60691 & 26.4 & 26.71 \\
28.8 & 29.2 & 0.4 & 0 & 9881 & 31.80898 & 26.10275 & 25.81 & 26.57 \\
27.61 & 29.01 & 1.4 & 0 & 49204 & 31.72884 & 25.40951 & 25 & 25.82 \\
27.48 & 28.01 & 0.53 & 64810 & 60230 & 31.64472 & 25.2125 & 24.8 & 26 \\
27.23 & 27.69 & 0.46 & 0 & 81653 & 31.65661 & 24.80816 & 24.5 & 25 \\
27.43 & 28.26 & 0.83 & 0 & 93032 & 31.70614 & 24.20258 & 23.76 & 24.77 \\
27.88 & 28.15 & 0.27 & 0 & 15663 & 31.69766 & 24.07566 & 23.58 & 24.57 \\
27.68 & 28.24 & 0.56 & 0 & 31236 & 31.67799 & 24.37084 & 24.01 & 24.7 \\
27.81 & 28.25 & 0.44 & 0 & 39400 & 31.66207 & 24.50025 & 24.24 & 24.7 \\
27.74 & 28.03 & 0.29 & 10850 & 40262 & 31.66778 & 24.77747 & 24.57 & 24.9
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 27.86 & 28.24 & 0.38 & 0 & 60290 & 31.67596 & 24.39042 & 24.03 & 24.85 \\
\hline 27.64 & 27.95 & 0.31 & 0 & 15400 & 31.66425 & 24.3301 & 24.12 & 24.5 \\
\hline 27.76 & 28 & 0.24 & 0 & 29685 & 31.67695 & 24.41834 & 24.3 & 24.51 \\
\hline 27.71 & 28 & 0.29 & 0 & 35486 & 31.6703 & 24.65648 & 24.42 & 24.98 \\
\hline 27.26 & 27.75 & 0.49 & 0 & 24219 & 31.6717 & 24.7189 & 24.52 & 24.87 \\
\hline 27.2 & 27.48 & 0.28 & 0 & 62373 & 31.65609 & 24.54052 & 24.39 & 24.75 \\
\hline 27.23 & 27.7 & 0.47 & 0 & 28058 & 31.6087 & 24.1089 & 23.93 & 24.41 \\
\hline 27.25 & 27.61 & 0.36 & 0 & 39700 & 31.63407 & 23.88588 & 23.7 & 24.41 \\
\hline 27.38 & 27.44 & 0.06 & 0 & 7600 & 31.601 & 24.0157 & 23.81 & 24.18 \\
\hline 27.19 & 27.43 & 0.24 & 0 & 25074 & 31.57036 & 23.94263 & 23.83 & 24.03 \\
\hline 27.26 & 27.53 & 0.27 & 0 & 16380 & 31.57421 & 23.93121 & 23.72 & 24.35 \\
\hline 27.39 & 27.61 & 0.22 & 0 & 5600 & 31.58731 & 24.04511 & 23.81 & 24.5 \\
\hline 27.51 & 27.88 & 0.37 & 14900 & 17650 & 31.59286 & 23.96462 & 23.72 & 24.32 \\
\hline 27.66 & 27.8 & 0.14 & 0 & 8700 & 31.5707 & 24.44368 & 24.25 & 24.57 \\
\hline 27.7 & 27.9 & 0.2 & 0 & 8790 & 31.53656 & 24.57653 & 24.38 & 24.74 \\
\hline 27.8 & 27.99 & 0.19 & 12600 & 36400 & 31.52896 & 24.54132 & 24.43 & 24.65 \\
\hline 27.79 & 27.92 & 0.13 & 0 & 31990 & 31.51143 & 24.46504 & 24.36 & 24.5 \\
\hline 27.7 & 28.01 & 0.31 & 0 & 32200 & 31.52368 & 24.48454 & 24.41 & 24.51 \\
\hline 27.95 & 28.46 & 0.51 & 0 & 93668 & 31.55091 & 24.68362 & 24.49 & 24.83 \\
\hline 27.7 & 28 & 0.3 & 0 & 42260 & 31.5453 & 24.63664 & 24.47 & 24.85 \\
\hline 27.48 & 27.96 & 0.48 & 0 & 41124 & 31.5538 & 24.94753 & 24.79 & 25.04 \\
\hline 27.45 & 27.82 & 0.37 & 0 & 26520 & 31.56473 & 24.97267 & 24.92 & 25.1 \\
\hline 27.57 & 27.85 & 0.28 & 0 & 18738 & 31.55962 & 24.84694 & 24.8 & 24.97 \\
\hline 27.44 & 27.6 & 0.16 & 0 & 21149 & 31.57611 & 24.91086 & 24.85 & 24.98 \\
\hline 27.55 & 27.66 & 0.11 & 0 & 12113 & 31.56583 & 24.94905 & 24.9 & 25 \\
\hline 27.5 & 27.73 & 0.23 & 0 & 13662 & 31.56603 & 24.97057 & 24.82 & 25.05 \\
\hline 27.46 & 27.58 & 0.12 & 0 & 18910 & 31.5555 & 24.74507 & 24.64 & 24.9 \\
\hline 27.46 & 27.59 & 0.13 & 0 & 12000 & 31.55506 & 25.15494 & 24.78 & 25.5 \\
\hline 27.54 & 27.69 & 0.15 & 0 & 20775 & 31.52255 & 24.89431 & 24.7 & 25.01 \\
\hline 27.4 & 27.54 & 0.14 & 0 & 40521 & 31.4873 & 24.58135 & 24.5 & 24.76 \\
\hline 27.2 & 27.48 & 0.28 & 0 & 29347 & 31.4803 & 24.57827 & 24.5 & 24.84 \\
\hline 27.25 & 27.36 & 0.11 & 0 & 32124 & 31.49837 & 24.75886 & 24.67 & 24.79 \\
\hline 27.17 & 27.43 & 0.26 & 0 & 35012 & 31.44507 & 24.7133 & 24.63 & 24.79 \\
\hline 26.5 & 27.17 & 0.67 & 0 & 62223 & 31.4174 & 24.5573 & 24.49 & 24.68 \\
\hline 26.66 & 27.16 & 0.5 & 0 & 17933 & 31.45068 & 24.62983 & 24.5 & 24.69 \\
\hline 26.66 & 26.82 & 0.16 & 0 & 34200 & 31.47227 & 24.54703 & 24.49 & 24.72 \\
\hline 26.84 & 27 & 0.16 & 0 & 6229 & 31.4682 & 24.37145 & 24.11 & 24.61 \\
\hline 26.88 & 27 & 0.12 & 0 & 7500 & 31.49345 & 24.18714 & 24.13 & 24.28 \\
\hline 26.92 & 27 & 0.08 & 0 & 3200 & 31.48301 & 24.20341 & 24.14 & 24.25 \\
\hline 26.88 & 26.95 & 0.07 & 0 & 12177 & 31.46178 & 24.29198 & 24.11 & 24.42 \\
\hline 26.71 & 26.9 & 0.19 & 28730 & 31325 & 31.43549 & 24.32648 & 24.15 & 24.4 \\
\hline 26.63 & 26.8 & 0.17 & 0 & 12700 & 31.41432 & 24.14684 & 24 & 24.25 \\
\hline 26.43 & 26.7 & 0.27 & 0 & 22238 & 31.39373 & 24.14198 & 24.05 & 24.29 \\
\hline 25.67 & 26.5 & 0.83 & 0 & 59903 & 31.37459 & 24.1821 & 24.07 & 24.39 \\
\hline 25.24 & 25.9 & 0.66 & 0 & 60162 & 31.35514 & 24.05836 & 23.99 & 24.25 \\
\hline 25.02 & 25.34 & 0.32 & 0 & 55325 & 31.3425 & 24.11377 & 24.04 & 24.24 \\
\hline 25.18 & 25.87 & 0.69 & 0 & 27321 & 31.27669 & 23.9793 & 23.89 & 24.1 \\
\hline 25.46 & 25.86 & 0.4 & 40412 & 48309 & 31.30389 & 23.95971 & 23.87 & 24.15 \\
\hline 25.5 & 25.61 & 0.11 & 0 & 20383 & 31.30862 & 23.8696 & 23.76 & 23.96 \\
\hline 25.37 & 25.64 & 0.27 & 24613 & 34217 & 31.34953 & 23.8439 & 23.79 & 23.88 \\
\hline 25.57 & 25.8 & 0.23 & 25087 & 19300 & 31.39259 & 23.77376 & 23.67 & 23.89 \\
\hline 25.56 & 25.8 & 0.24 & 0 & 45000 & 31.4071 & 23.45155 & 23.34 & 23.7 \\
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\hline 25.58 & 25.75 & 0.17 & 40500 & 51336 & 31.39352 & 23.29565 & 23.05 & 23.42 \\
\hline 25.35 & 25.81 & 0.46 & 0 & 55164 & 31.37499 & 23.05959 & 22.84 & 23.25 \\
\hline 25.01 & 25.5 & 0.49 & 0 & 44570 & 31.39229 & 23.01365 & 22.88 & 23.27 \\
\hline 24.89 & 25.24 & 0.35 & 0 & 90734 & 31.37195 & 23.07471 & 22.9 & 23.38 \\
\hline 24.74 & 25 & 0.26 & 0 & 52690 & 31.38574 & 23.35608 & 23.01 & 23.71 \\
\hline 24.65 & 24.95 & 0.3 & 0 & 44505 & 31.38629 & 23.66147 & 23.5 & 23.8 \\
\hline 24.38 & 24.69 & 0.31 & 0 & 35744 & 31.40844 & 23.3621 & 23.19 & 23.53 \\
\hline 24.15 & 25 & 0.85 & 0 & 84822 & 31.40639 & 23.2143 & 23 & 23.5 \\
\hline 24.01 & 24.61 & 0.6 & 16900 & 87833 & 31.40197 & 23.10585 & 23.01 & 23.25 \\
\hline 23.82 & 24.2 & 0.38 & 0 & 112332 & 31.37958 & 22.97186 & 22.9 & 23.14 \\
\hline 24.05 & 24.4 & 0.35 & 0 & 62948 & 31.32439 & 22.75771 & 22.2 & 22.91 \\
\hline 23.65 & 24.26 & 0.61 & 0 & 84514 & 31.35493 & 22.46865 & 22 & 22.95 \\
\hline 23.5 & 24.54 & 1.04 & 1025684 & 679893 & 31.39112 & 22.43395 & 22.24 & 23.065 \\
\hline 23.21 & 24.75 & 1.54 & 59500 & 686717 & 31.38804 & 22.75039 & 22.17 & 23.39 \\
\hline 23.53 & 24.75 & 1.22 & 25800 & 806996 & 31.4619 & 23.17903 & 22.84 & 23.49 \\
\hline 24.32 & 25.25 & 0.93 & 266296 & 662918 & 31.52488 & 23.53038 & 23.308 & 23.67 \\
\hline 24.69 & 26 & 1.31 & 35110 & 832408 & 31.56195 & 23.36345 & 22.98 & 23.9 \\
\hline 25.2 & 26.44 & 1.24 & 10000 & 842622 & 31.54458 & 23.73345 & 23.39 & 24 \\
\hline 25.3 & 26.57 & 1.27 & 10000 & 561432 & 31.4895 & 24.31724 & 23.97 & 24.5 \\
\hline 25.01 & 25.635 & 0.625 & 10700 & 477277 & 31.45773 & 24.04842 & 23.71 & 24.44 \\
\hline 24.87 & 25.58 & 0.71 & 73423 & 523819 & 31.4403 & 23.86919 & 23.69 & 24.08 \\
\hline 25.125 & 26.85 & 1.725 & 0 & 549976 & 31.45656 & 24.40233 & 23.784 & 24.77 \\
\hline 25.58 & 27.61 & 2.03 & 0 & 740793 & 31.53808 & 24.23448 & 23.72 & 24.7 \\
\hline 25.415 & 27.585 & 2.17 & 37023 & 693690 & 31.64371 & 24.26351 & 23.95 & 24.5 \\
\hline 25.5 & 27.73 & 2.23 & 0 & 530553 & 31.71958 & 24.19 & 24 & 24.43 \\
\hline 26.86 & 27.71 & 0.85 & 80373 & 553496 & 31.74769 & 24.06224 & 23.75 & 24.45 \\
\hline 27.08 & 27.41 & 0.33 & 0 & 503578 & 31.70904 & 24.42861 & 24 & 24.75 \\
\hline 27.11 & 27.75 & 0.64 & 0 & 519838 & 31.73557 & 24.26471 & 24.04 & 24.45 \\
\hline 26.62 & 27.75 & 1.13 & 0 & 556432 & 31.77634 & 24.62493 & 24.368 & 25 \\
\hline 26.2 & 26.75 & 0.55 & 11500 & 506510 & 31.64146 & 24.61008 & 24.42 & 24.88 \\
\hline 25.5 & 28 & 2.5 & 66700 & 566857 & 31.69781 & 24.3931 & 24.28 & 24.6088 \\
\hline 26.27 & 26.74 & 0.47 & 0 & 367355 & 31.6855 & 24.52677 & 24.34 & 24.74 \\
\hline 26.63 & 27.05 & 0.42 & 19900 & 282625 & 31.68194 & 24.61993 & 24.5 & 24.77 \\
\hline 26.88 & 27.24 & 0.36 & 0 & 342605 & 31.71851 & 24.66422 & 24.46 & 24.89 \\
\hline 26.04 & 26.98 & 0.94 & 15890 & 253168 & 31.67531 & 24.70311 & 24.47 & 25 \\
\hline 26 & 26.5 & 0.5 & 0 & 169785 & 31.62612 & 24.69414 & 24.51 & 24.83 \\
\hline 26.2854 & 27.06 & 0.7746 & 0 & 237447 & 31.61545 & 24.94285 & 24.6488 & 25.13 \\
\hline 26.0854 & 26.57 & 0.4846 & 17110 & 323675 & 31.54465 & 25.07548 & 24.9 & 25.28 \\
\hline 26.22 & 26.7 & 0.48 & 0 & 370819 & 31.49817 & 25.12812 & 24.94 & 25.35 \\
\hline 26.6 & 26.99 & 0.39 & 0 & 252341 & 31.53627 & 25.12503 & 24.97 & 25.34 \\
\hline 26.83 & 27.13 & 0.3 & 47433 & 401580 & 31.56888 & 25.26911 & 25.12 & 25.36 \\
\hline 25.83 & 26.91 & 1.08 & 67500 & 687104 & 31.5438 & 25.41675 & 25.25 & 25.51 \\
\hline 25.79 & 26.76 & 0.97 & 46648 & 404701 & 31.54348 & 25.62414 & 24.5 & 26.12 \\
\hline 26.495 & 26.91 & 0.415 & 39100 & 274071 & 31.58299 & 25.68186 & 25.5 & 25.85 \\
\hline 26.7 & 27 & 0.3 & 10700 & 283872 & 31.64247 & 25.76065 & 25.5 & 25.94 \\
\hline 26.93 & 27.6 & 0.67 & 0 & 501817 & 31.68482 & 25.80806 & 25.58 & 26 \\
\hline 27.45 & 28.22 & 0.77 & 45070 & 689447 & 31.75556 & 25.80957 & 25.49 & 26 \\
\hline 27.9 & 28.2 & 0.3 & 24100 & 678551 & 31.77818 & 25.4947 & 25.3 & 25.67 \\
\hline 27.82 & 28.36 & 0.54 & 205321 & 783943 & 31.76317 & 25.223 & 24.98 & 25.48 \\
\hline 27.21 & 28.5 & 1.29 & 10100 & 595014 & 31.80382 & 25.09028 & 24.88 & 25.31 \\
\hline 28.29 & 28.76 & 0.47 & 33400 & 497558 & 31.81347 & 25.16969 & 25.08 & 25.2 \\
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\hline 28.005 & 29.32 & 1.315 & 0 & 608815 & 31.72703 & 24.81192 & 24.7 & 24.98 \\
\hline 29.01 & 29.8 & 0.79 & 0 & 613357 & 31.73787 & 24.87736 & 24.72 & 25.02 \\
\hline 29.17 & 29.74 & 0.57 & 66000 & 729579 & 31.75115 & 24.67574 & 24.5 & 24.96 \\
\hline 29.6 & 30.05 & 0.45 & 0 & 567594 & 31.83432 & 24.42848 & 24.28 & 24.68 \\
\hline 29.67 & 30.25 & 0.58 & 17300 & 692526 & 31.84585 & 24.4368 & 24.27 & 24.62 \\
\hline 29.95 & 30.5 & 0.55 & 10400 & 584562 & 31.90022 & 24.34602 & 24.25 & 24.44 \\
\hline 29.38 & 30.21 & 0.83 & 50200 & 438037 & 31.90274 & 24.22043 & 24.07 & 24.35 \\
\hline 29.19 & 29.71 & 0.52 & 14200 & 510762 & 31.85769 & 24.24035 & 24 & 24.52 \\
\hline 29.41 & 29.88 & 0.47 & 0 & 297624 & 31.82573 & 24.48167 & 24.25 & 24.69 \\
\hline 29.02 & 29.84 & 0.82 & 34303 & 275221 & 31.79968 & 24.26257 & 24.15 & 24.41 \\
\hline 28.84 & 29.38 & 0.54 & 10503 & 337860 & 31.79676 & 24.20057 & 24.05 & 24.35 \\
\hline 29.03 & 29.63 & 0.6 & 13400 & 401157 & 31.87053 & 24.24738 & 24.17 & 24.33 \\
\hline 29.0967 & 29.69 & 0.5933 & 12200 & 303421 & 31.8808 & 24.11316 & 24.04 & 24.23 \\
\hline 29.3 & 29.86 & 0.56 & 0 & 247069 & 31.90607 & 24.23608 & 24.13 & 24.33 \\
\hline 28.8952 & 29.45 & 0.5548 & 0 & 190756 & 31.93884 & 23.96496 & 23.75 & 24.17 \\
\hline 28.38 & 28.95 & 0.57 & 10400 & 308447 & 31.88724 & 23.78034 & 23.61 & 23.95 \\
\hline 28.23 & 28.8 & 0.57 & 17500 & 253369 & 31.8552 & 23.68024 & 23.57 & 23.85 \\
\hline 28.08 & 28.49 & 0.41 & 0 & 311795 & 31.88569 & 23.79201 & 23.6 & 24.6 \\
\hline 28 & 28.6 & 0.6 & 0 & 312419 & 31.89499 & 23.88533 & 23.66 & 24 \\
\hline 27.87 & 28.33 & 0.46 & 0 & 259317 & 31.95253 & 23.87073 & 23.64 & 24.05 \\
\hline 27.57 & 28.15 & 0.58 & 0 & 302981 & 31.94891 & 23.95059 & 23.7 & 24.26 \\
\hline 27.75 & 28 & 0.25 & 10000 & 167919 & 31.91447 & 24.14815 & 24.0482 & 24.23 \\
\hline 27.75 & 28.14 & 0.39 & 0 & 190976 & 31.90849 & 24.04728 & 23.83 & 24.17 \\
\hline 28.115 & 28.5 & 0.385 & 0 & 295895 & 31.95345 & 23.77289 & 23.64 & 24.0288 \\
\hline 28.44 & 28.91 & 0.47 & 0 & 351296 & 31.92739 & 23.84669 & 23.73 & 24.03 \\
\hline 28.07 & 30 & 1.93 & 0 & 246163 & 31.91227 & 23.83417 & 23.77 & 23.96 \\
\hline 28.3 & 28.67 & 0.37 & 0 & 155362 & 31.98636 & 23.74758 & 23.7 & 23.81 \\
\hline 28.18 & 28.42 & 0.24 & 0 & 179758 & 31.94145 & 23.77714 & 23.68 & 23.86 \\
\hline 28.18 & 28.44 & 0.26 & 24500 & 182115 & 31.92827 & 23.64159 & 23.53 & 23.745 \\
\hline 28.29 & 28.5 & 0.21 & 0 & 110081 & 31.91803 & 23.82944 & 23.71 & 23.96 \\
\hline 28.23 & 28.5 & 0.27 & 0 & 200218 & 31.91023 & 23.82362 & 23.76 & 23.92 \\
\hline 28.18 & 28.4 & 0.22 & 0 & 207741 & 31.86423 & 23.80628 & 23.72 & 23.9 \\
\hline 28.22 & 28.73 & 0.51 & 0 & 188907 & 31.84873 & 24.03616 & 23.8 & 24.2 \\
\hline 27.8 & 28.452 & 0.652 & 69900 & 197875 & 31.81475 & 24.01548 & 23.91 & 24.15 \\
\hline 27.75 & 28.3254 & 0.5754 & 0 & 123603 & 31.84134 & 24.07757 & 24.01 & 24.14 \\
\hline 27.65 & 28.15 & 0.5 & 0 & 148213 & 31.85126 & 24.01619 & 23.81 & 24.1 \\
\hline 27.68 & 28 & 0.32 & 0 & 175512 & 31.86216 & 23.88275 & 23.8 & 23.96 \\
\hline 27.53 & 27.95 & 0.42 & 0 & 175824 & 31.84724 & 23.89146 & 23.8 & 23.99 \\
\hline 27.52 & 27.73 & 0.21 & 0 & 152675 & 31.84667 & 24.07804 & 23.81 & 24.15 \\
\hline 27.55 & 27.9 & 0.35 & 0 & 136035 & 31.84888 & 24.27045 & 24.09 & 24.49 \\
\hline 27.59 & 28.08 & 0.49 & 0 & 244432 & 31.864 & 24.18241 & 24.1 & 24.37 \\
\hline 27.57 & 28.17 & 0.6 & 10500 & 774396 & 31.83625 & 24.18533 & 24.1 & 24.3 \\
\hline 27.4 & 28.05 & 0.65 & 0 & 346257 & 31.80598 & 23.97553 & 23.81 & 24.26 \\
\hline 27.6 & 28.3 & 0.7 & 0 & 532820 & 31.97261 & 23.88084 & 23.77 & 24.07 \\
\hline 28.13 & 28.61 & 0.48 & 20600 & 531523 & 32.0661 & 24.09826 & 23.77 & 24.3 \\
\hline 25.635 & 29.13 & 3.495 & 19000 & 519309 & 32.19903 & 23.77649 & 23.52 & 24.19 \\
\hline 28.89 & 29.13 & 0.24 & 23108 & 407297 & 32.21369 & 23.59072 & 23.5 & 23.79 \\
\hline 28.76 & 29.05 & 0.29 & 12764 & 340740 & 32.18281 & 23.31973 & 23.15 & 23.51 \\
\hline 28.98 & 29.11 & 0.13 & 24700 & 245341 & 32.15494 & 23.31006 & 23.19 & 23.44 \\
\hline 28.98 & 29.06 & 0.08 & 0 & 206277 & 32.10888 & 23.02005 & 22.74 & 23.4 \\
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\hline 29.53 & 29.72 & 0.19 & 0 & 241120 & 32.31095 & 23.04399 & 23.01 & 23.12 \\
\hline 29.55 & 29.84 & 0.29 & 19550 & 202335 & 32.31429 & 23.23215 & 23.02 & 23.9 \\
\hline 29.69 & 30 & 0.31 & 58068 & 405021 & 32.28182 & 23.08521 & 23.02 & 23.25 \\
\hline 29.75 & 30.1 & 0.35 & 0 & 242404 & 32.29413 & 23.11701 & 23.02 & 23.29 \\
\hline 29.57 & 30.21 & 0.64 & 14200 & 254042 & 32.28647 & 23.29949 & 23.09 & 23.49 \\
\hline 29.74 & 30.24 & 0.5 & 12800 & 359417 & 32.24217 & 23.13412 & 23.02 & 23.43 \\
\hline 29.6 & 29.82 & 0.22 & 41097 & 303450 & 32.17754 & 23.08991 & 23.05 & 23.23 \\
\hline 29.31 & 29.7 & 0.39 & 17400 & 361092 & 32.10616 & 22.91741 & 22.55 & 23.07 \\
\hline 25.46 & 29.65 & 4.19 & 0 & 412655 & 32.12463 & 22.58048 & 22.46 & 23.1 \\
\hline 29.1 & 29.53 & 0.43 & 0 & 198789 & 32.14379 & 22.30457 & 22.07 & 22.92 \\
\hline 28.83 & 29.49 & 0.66 & 0 & 164115 & 32.14764 & 22.27015 & 22.12 & 22.41 \\
\hline 28.31 & 28.89 & 0.58 & 15900 & 230030 & 32.12567 & 22.10705 & 21.79 & 22.4 \\
\hline 27.9 & 28.42 & 0.52 & 11084 & 370325 & 32.08881 & 21.90696 & 21.81 & 22.07 \\
\hline 27.7 & 28.05 & 0.35 & - & 312154 & 32.03322 & 21.57763 & 21.16 & 21.99 \\
\hline 27.88 & 28.19 & 0.31 & 0 & 165137 & 32.02364 & 21.69922 & 21.38 & 23.3 \\
\hline 27.6 & 28.18 & 0.58 & & 156020 & 31.99623 & 21.62372 & 21.46 & 21.85 \\
\hline 27.38 & 28.0749 & 0.6949 & 0 & 210030 & 32.0182 & 21.77325 & 21.64 & 21.92 \\
\hline 27.31 & 27.75 & 0.44 & 0 & 387966 & 31.98118 & 21.63517 & 21.5 & 21.73 \\
\hline 27.12 & 27.46 & 0.34 & 0 & 302535 & 31.94419 & 21.5819 & 21.3 & 21.73 \\
\hline 27.13 & 27.44 & 0.31 & 0 & 240013 & 31.88696 & 21.5623 & 21.35 & 21.698 \\
\hline 26.96 & 27.39 & 0.43 & 0 & 280839 & 31.81654 & 21.19266 & 20.95 & 21.42 \\
\hline 26.91 & 27.16 & 0.25 & 11800 & 264387 & 31.81033 & 21.26702 & 20.93 & 21.6 \\
\hline 26.8 & 27.24 & 0.44 & 13442 & 396032 & 31.83957 & 20.79151 & 20.5 & 21.08 \\
\hline 26.6 & 26.99 & 0.39 & 0 & 306151 & 31.87017 & 20.48469 & 20.1 & 21.21 \\
\hline 26.11 & 26.72 & 0.61 & 15400 & 344351 & 31.87807 & 19.27103 & 18.3 & 20.18 \\
\hline 26.47 & 26.96 & 0.49 & 0 & 262971 & 31.86141 & 18.34228 & 17.02 & 19.01 \\
\hline 26.51 & 26.64 & 0.13 & 0 & 181055 & 31.81644 & 17.20766 & 16.08 & 18.48 \\
\hline 26.48 & 26.75 & 0.27 & 0 & 257132 & 31.79288 & 16.98253 & 16.26 & 18.7 \\
\hline 26.55 & 26.93 & 0.38 & 51800 & 295142 & 31.86423 & 17.06993 & 16.51 & 17.65 \\
\hline 26.6 & 26.82 & 0.22 & 0 & 235128 & 31.87852 & 18.24571 & 17.5 & 18.72 \\
\hline 26.09 & 26.64 & 0.55 & 0 & 302095 & 31.87828 & 18.49862 & 16.73 & 23.9697 \\
\hline 25.66 & 26.18 & 0.52 & 0 & 464901 & 32.0054 & 19.13185 & 16.59 & 19.42 \\
\hline 25.7 & 26.9 & 1.2 & 43000 & 392039 & 31.86985 & 19.03898 & 18.5 & 19.48 \\
\hline 25.46 & 26.9 & 1.44 & 34200 & 413080 & 31.9065 & 18.58853 & 18.12 & 18.88 \\
\hline 25.79 & 26.23 & 0.44 & 15500 & 329701 & 31.88691 & 18.05794 & 17.5 & 18.49 \\
\hline 25.6 & 25.97 & 0.37 & 0 & 328545 & 31.85103 & 18.2519 & 17.42 & 19.14 \\
\hline 25.42 & 25.92 & 0.5 & 0 & 581814 & 31.86835 & 18.81685 & 18.16 & 19.22 \\
\hline 25.01 & 25.63 & 0.62 & 0 & 494886 & 31.83092 & 19.1277 & 18.77 & 19.35 \\
\hline 24.54 & 25.16 & 0.62 & 0 & 616901 & 31.83062 & 18.80405 & 18.63 & 22.27 \\
\hline 24.76 & 25.47 & 0.71 & 13100 & 481522 & 31.87074 & 19.27919 & 18.88 & 19.56 \\
\hline 25.31 & 25.52 & 0.21 & 0 & 353399 & 31.87913 & 19.50203 & 19.25 & 19.78 \\
\hline 25.38 & 25.75 & 0.37 & 0 & 277624 & 31.8642 & 19.38846 & 19.02 & 19.7 \\
\hline 25.5 & 25.89 & 0.39 & 0 & 242252 & 31.9004 & 19.78135 & 19.5 & 20 \\
\hline 25.86 & 27 & 1.14 & 0 & 293674 & 31.93155 & 20.11222 & 19.76 & 20.4 \\
\hline 25.95 & 28.975 & 3.025 & 160000 & 321559 & 31.95544 & 19.87473 & 19.66 & 20.3075 \\
\hline 25.805 & 26.43 & 0.625 & 0 & 225323 & 31.94707 & 19.58377 & 17.78 & 20.01 \\
\hline 26.01 & 26.314 & 0.304 & 10000 & 249808 & 31.92123 & 19.73067 & 19.3 & 19.9 \\
\hline 26.2 & 26.62 & 0.42 & 0 & 206821 & 31.95787 & 19.1862 & 19.03 & 19.35 \\
\hline 26.23 & 26.6 & 0.37 & 0 & 189999 & 31.9689 & 19.26355 & 19.1 & 19.58 \\
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\hline 26.1 & 26.45 & 0.35 & 10000 & 221657 & 31.95106 & 19.03727 & 18.89 & 19.1 \\
\hline 26.34 & 26.84 & 0.5 & 0 & 261821 & 31.96641 & 19.04404 & 18.95 & 19.11 \\
\hline 26.76 & 27 & 0.24 & 0 & 199108 & 32.03931 & 19.05091 & 18.91 & 19.19 \\
\hline 26.37 & 27.03 & 0.66 & 0 & 235763 & 32.08183 & 18.63321 & 18.34 & 19.05 \\
\hline 26.54 & 27 & 0.46 & 0 & 138620 & 32.06296 & 18.22116 & 17.99 & 18.79 \\
\hline 26.56 & 26.76 & 0.2 & 0 & 158275 & 32.07218 & 18.11161 & 17.74 & 18.63 \\
\hline 26.67 & 29 & 2.33 & 0 & 303160 & 32.14031 & 18.05738 & 17.75 & 18.33 \\
\hline 26.87 & 27.32 & 0.45 & 0 & 258458 & 32.16945 & 18.33756 & 17.95 & 18.72 \\
\hline 26.9 & 27.29 & 0.39 & 0 & 166745 & 32.15742 & 18.13804 & 17.87 & 18.3 \\
\hline 26.78 & 27.1 & 0.32 & 0 & 159205 & 32.06593 & 17.87133 & 17.65 & 18.09 \\
\hline 26.59 & 26.79 & 0.2 & 0 & 152481 & 32.00803 & 17.58196 & 17.25 & 19.07 \\
\hline 26.57 & 26.74 & 0.17 & 0 & 99282 & 31.97816 & 17.63718 & 17.24 & 18 \\
\hline 26.53 & 26.77 & 0.24 & 0 & 135483 & 31.99627 & 17.57807 & 17.22 & 17.97 \\
\hline 26.51 & 26.69 & 0.18 & 0 & 164844 & 31.98986 & 17.45341 & 17.2 & 17.74 \\
\hline 26.51 & 26.63 & 0.12 & 0 & 116624 & 32.00826 & 17.83837 & 17.3652 & 18.38 \\
\hline 26.45 & 26.61 & 0.16 & 0 & 84765 & 32.00429 & 18.13763 & 17.89 & 18.5 \\
\hline 26.46 & 26.62 & 0.16 & 0 & 87874 & 32.00637 & 17.91204 & 17.65 & 18.16 \\
\hline 26.47 & 26.61 & 0.14 & 26000 & 109363 & 32.00195 & 18.00318 & 17.9 & 18.13 \\
\hline 26.45 & 26.61 & 0.16 & 0 & 49573 & 31.99814 & 17.9812 & 17.81 & 18.08 \\
\hline 26.46 & 26.77 & 0.31 & 0 & 126278 & 31.98682 & 17.97254 & 17.83 & 18.1 \\
\hline 26.71 & 26.94 & 0.23 & 0 & 112527 & 32.0057 & 18.14329 & 17.91 & 18.49 \\
\hline 26.5412 & 26.98 & 0.4388 & 0 & 179190 & 31.99834 & 18.07777 & 17.83 & 18.57 \\
\hline 26.45 & 26.66 & 0.21 & 0 & 293209 & 32.0549 & 18.08049 & 17.928 & 18.23 \\
\hline 26.5 & 26.7 & 0.2 & 0 & 142778 & 32.14202 & 18.26564 & 18.07 & 18.4 \\
\hline 26.48 & 26.71 & 0.23 & 0 & 115107 & 32.19 & 18.42249 & 18.25 & 18.74 \\
\hline 26.1 & 26.58 & 0.48 & 22600 & 197894 & 32.15621 & 18.80428 & 18.64 & 19 \\
\hline 26.1 & 26.3 & 0.2 & 0 & 138651 & 32.07008 & 18.88917 & 18.73 & 19.1 \\
\hline 26.15 & 26.42 & 0.27 & 0 & 115991 & 32.12434 & 19.29794 & 18.7775 & 19.5 \\
\hline 26.2 & 26.55 & 0.35 & 0 & 80028 & 32.12125 & 19.46268 & 19.2 & 19.72 \\
\hline 26.25 & 26.57 & 0.32 & 0 & 119291 & 32.1819 & 19.37201 & 19 & 19.73 \\
\hline 26.12 & 26.51 & 0.39 & 0 & 112679 & 32.15791 & 19.41503 & 19.03 & 19.56 \\
\hline 26.04 & 26.33 & 0.29 & 0 & 118065 & 32.13884 & 19.03739 & 18.86 & 19.39 \\
\hline 26.18 & 26.36 & 0.18 & 0 & 102726 & 32.18312 & 18.93019 & 18.62 & 19.2 \\
\hline 26.26 & 26.49 & 0.23 & 0 & 75487 & 32.15293 & 18.72018 & 18.46 & 18.83 \\
\hline 26.35 & 26.57 & 0.22 & 0 & 114395 & 32.07784 & 18.34849 & 18.03 & 18.8 \\
\hline 26.4 & 26.55 & 0.15 & 0 & 75367 & 32.13191 & 18.28768 & 18.15 & 18.42 \\
\hline 26.34 & 26.53 & 0.19 & 0 & 79301 & 32.09743 & 18.4131 & 18.22 & 18.61 \\
\hline 26.3 & 26.42 & 0.12 & 0 & 52188 & 32.07677 & 18.29288 & 18.14 & 18.48 \\
\hline 26.34 & 26.6 & 0.26 & 10000 & 82220 & 32.10512 & 18.72585 & 18.23 & 18.94 \\
\hline 26.54 & 26.76 & 0.22 & 22200 & 175235 & 32.11508 & 18.76192 & 18.46 & 19.11 \\
\hline 26.59 & 26.73 & 0.14 & 0 & 90396 & 32.13249 & 19.35442 & 18.86 & 19.57 \\
\hline 26.57 & 26.68 & 0.11 & 0 & 93006 & 32.10314 & 19.47716 & 19.24 & 19.7 \\
\hline 26.59 & 26.65 & 0.06 & 0 & 28599 & 32.10801 & 19.49408 & 19.27 & 19.7 \\
\hline 26.6 & 26.72 & 0.12 & 0 & 46515 & 32.09861 & 19.80695 & 19.52 & 20 \\
\hline 26.7 & 27 & 0.3 & 0 & 130065 & 32.09636 & 20.00261 & 19.7266 & 20.2 \\
\hline 26.91 & 26.99 & 0.08 & 107398 & 157322 & 32.09328 & 19.89219 & 19.75 & 20.1075 \\
\hline 26.68 & 26.93 & 0.25 & 0 & 133044 & 32.0752 & 19.98446 & 19.8 & 20.14 \\
\hline 26.63 & 26.79 & 0.16 & 0 & 48645 & 32.07505 & 19.93741 & 19.8075 & 20.1 \\
\hline 26.6 & 26.7 & 0.1 & 0 & 97972 & 32.03305 & 20.12388 & 19.98 & 20.28 \\
\hline 26.63 & 26.75 & 0.12 & 0 & 111213 & 32.05649 & 20.04403 & 18.15 & 20.46 \\
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\hline 26.63 & 26.78 & 0.15 & 0 & 78160 & 32.03756 & 20.02724 & 19.93 & 20.155 \\
\hline 26.65 & 26.78 & 0.13 & 13400 & 40799 & 32.03908 & 19.78828 & 19.6 & 20.03 \\
\hline 26.65 & 26.7 & 0.05 & 0 & 60476 & 32.02643 & 19.58122 & 19.31 & 19.85 \\
\hline 26.66 & 26.72 & 0.06 & 0 & 75274 & 32.00869 & 19.62236 & 19.32 & 19.83 \\
\hline 26.65 & 26.7 & 0.05 & 10495 & 80786 & 32.05713 & 19.76778 & 19.66 & 19.88 \\
\hline 26.6775 & 26.77 & 0.0925 & 0 & 53000 & 32.05365 & 19.80534 & 19.73 & 19.87 \\
\hline 26.7 & 26.72 & 0.02 & 0 & 80404 & 32.05418 & 19.6457 & 19.52 & 19.782 \\
\hline 26.7 & 26.71 & 0.01 & 0 & 64874 & 32.058 & 19.70808 & 19.535 & 19.84 \\
\hline 26.7 & 26.9 & 0.2 & 0 & 175008 & 32.08735 & 19.54424 & 19.3 & 19.77 \\
\hline 26.81 & 26.92 & 0.11 & 26225 & 73495 & 32.09494 & 19.49974 & 19.41 & 19.57 \\
\hline 26.85 & 26.9 & 0.05 & 0 & 46154 & 32.09107 & 19.65859 & 19.445 & 19.73 \\
\hline 26.81 & 26.87 & 0.06 & 0 & 54966 & 32.09682 & 19.69015 & 19.6 & 19.72 \\
\hline 26.87 & 27.09 & 0.22 & 10000 & 177116 & 32.11589 & 19.59295 & 19.51 & 19.7 \\
\hline 27.02 & 27.2 & 0.18 & 0 & 138438 & 32.12297 & 19.53832 & 19.49 & 19.6 \\
\hline 27.13 & 27.22 & 0.09 & 16000 & 85210 & 32.13295 & 19.46548 & 19.21 & 19.57 \\
\hline 27.19 & 27.32 & 0.13 & 0 & 136676 & 32.16389 & 18.88767 & 18.61 & 19.246 \\
\hline 27.1818 & 27.6 & 0.4182 & 0 & 242635 & 32.14072 & 18.62966 & 18.5 & 19.5375 \\
\hline 27.2583 & 27.8 & 0.5417 & 0 & 263365 & 32.12949 & 18.53799 & 18.33 & 18.73 \\
\hline 27.55 & 27.9 & 0.35 & 0 & 125763 & 32.11851 & 18.86068 & 18.57 & 19.13 \\
\hline 27.49 & 27.7 & 0.21 & 0 & 117185 & 32.0643 & 19.11719 & 18.91 & 19.28 \\
\hline 27.67 & 27.97 & 0.3 & 0 & 224813 & 32.10753 & 19.23077 & 19.14 & 19.26 \\
\hline 27.81 & 28 & 0.19 & 0 & 262519 & 32.10484 & 19.13983 & 18.98 & 19.26 \\
\hline 27.91 & 28.12 & 0.21 & 24531 & 230816 & 32.13495 & 19.23503 & 19 & 19.33 \\
\hline 28.03 & 28.24 & 0.21 & 23300 & 179035 & 32.16579 & 18.88892 & 18.66 & 19.18 \\
\hline 27.46 & 28.35 & 0.89 & 50000 & 255484 & 32.16681 & 18.72225 & 18.49 & 18.99 \\
\hline 27.99 & 28.29 & 0.3 & 0 & 194964 & 32.1987 & 18.80916 & 18.62 & 18.96 \\
\hline 27.95 & 28.15 & 0.2 & 0 & 114447 & 32.20642 & 18.76317 & 18.69 & 18.86 \\
\hline 27.93 & 28.24 & 0.31 & 0 & 151213 & 32.19761 & 18.46475 & 18.22 & 18.71 \\
\hline 28.09 & 28.23 & 0.14 & 0 & 83358 & 32.20316 & 18.38396 & 18.2 & 18.61 \\
\hline 28.02 & 28.3 & 0.28 & 0 & 129661 & 32.2032 & 18.57265 & 18.33 & 18.91 \\
\hline 28.1 & 28.21 & 0.11 & 0 & 59400 & 32.21767 & 18.64911 & 18.4498 & 18.87 \\
\hline 27.85 & 28.17 & 0.32 & 0 & 114593 & 32.19795 & 18.7591 & 18.62 & 18.86 \\
\hline 27.76 & 27.93 & 0.17 & 0 & 68956 & 32.05745 & 18.71063 & 18.65 & 18.8 \\
\hline 27.73 & 27.93 & 0.2 & 0 & 56635 & 32.15626 & 18.72248 & 18.7 & 18.79 \\
\hline 27.7 & 27.8 & 0.1 & 29650 & 68311 & 32.12546 & 18.71341 & 18.68 & 18.75 \\
\hline 27.66 & 27.79 & 0.13 & 0 & 70286 & 32.15232 & 18.6799 & 18.53 & 18.79 \\
\hline 27.73 & 27.79 & 0.06 & 0 & 71055 & 32.17728 & 18.75583 & 18.68 & 18.9 \\
\hline 27.66 & 27.74 & 0.08 & 0 & 63442 & 32.21554 & 18.67421 & 18.51 & 18.88 \\
\hline 27.68 & 27.73 & 0.05 & 0 & 64419 & 32.18515 & 18.62 & 18.5 & 18.72 \\
\hline 27.57 & 28.6 & 1.03 & 66500 & 100393 & 32.18954 & 18.57397 & 18.5 & 18.63 \\
\hline 27.54 & 27.67 & 0.13 & 0 & 70837 & 32.16977 & 18.45987 & 18 & 18.62 \\
\hline 27.545 & 27.65 & 0.105 & 0 & 69895 & 32.13866 & 18.04688 & 17.91 & 18.43 \\
\hline 27.57 & 27.75 & 0.18 & 81900 & 87889 & 32.13011 & 18.11569 & 18.03 & 18.71 \\
\hline 27.65 & 27.76 & 0.11 & 37200 & 51499 & 32.14769 & 18.14128 & 18.05 & 18.23 \\
\hline 27.72 & 27.95 & 0.23 & 0 & 95438 & 32.08838 & 18.14689 & 18.03 & 24.0699 \\
\hline 27.83 & 27.93 & 0.1 & 0 & 75930 & 32.15034 & 18.02728 & 17.9 & 18.15 \\
\hline 27.83 & 27.95 & 0.12 & 0 & 48273 & 32.16207 & 18.21398 & 18.04 & 18.32 \\
\hline 27.88 & 28 & 0.12 & 0 & 152040 & 32.16071 & 18.31438 & 18.09 & 18.45 \\
\hline 27.97 & 28.06 & 0.09 & 32723 & 146460 & 32.15449 & 18.28777 & 18.18 & 18.34 \\
\hline 27.98 & 28.08 & 0.1 & 0 & 116143 & 32.1479 & 18.25206 & 18.01 & 18.39 \\
\hline 27.93 & 28.1 & 0.17 & 0 & 122391 & 32.15541 & 18.0878 & 18 & 18.14 \\
\hline 27.94 & 28.03 & 0.09 & 0 & 117020 & 32.16166 & 17.93034 & 17.66 & 18.11 \\
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\hline 27.83 & 27.995 & 0.165 & 0 & 85468 & 32.13794 & 17.61996 & 17.53 & 17.71 \\
\hline 27.7 & 27.88 & 0.18 & 0 & 77517 & 32.09663 & 17.78739 & 17.66 & 17.93 \\
\hline 27.7 & 28 & 0.3 & 0 & 110898 & 32.09296 & 18.16599 & 17.85 & 18.35 \\
\hline 27.87 & 27.97 & 0.1 & 0 & 52722 & 32.09479 & 18.14334 & 17.98 & 18.25 \\
\hline 27.77 & 27.8875 & 0.1175 & 0 & 59978 & 32.09607 & 18.043 & 17.86 & 18.2475 \\
\hline 27.81 & 27.9 & 0.09 & 15100 & 75064 & 32.08221 & 17.96438 & 17.9 & 18.1375 \\
\hline 27.74 & 27.84 & 0.1 & 0 & 54813 & 32.08146 & 18.03717 & 17.82 & 18.25 \\
\hline 27.71 & 27.75 & 0.04 & 18598 & 62975 & 32.06791 & 18.09959 & 18.01 & 18.21 \\
\hline 27.71 & 27.79 & 0.08 & 0 & 52630 & 32.06069 & 18.00573 & 17.92 & 18.15 \\
\hline 27.71 & 27.75 & 0.04 & 0 & 49673 & 32.03934 & 18.03142 & 17.95 & 18.15 \\
\hline 27.61 & 27.72 & 0.11 & 28400 & 72558 & 32.01914 & 18.02822 & 17.99 & 18.12 \\
\hline 27.6252 & 27.7 & 0.0748 & 0 & 36810 & 32.02869 & 18.07778 & 18.05 & 18.11 \\
\hline 27.55 & 27.66 & 0.11 & 0 & 50389 & 32.02143 & 18.06632 & 18.06 & 18.07 \\
\hline 27.53 & 27.57 & 0.04 & 0 & 71948 & 32.01334 & 18.05084 & 18 & 18.07 \\
\hline 27.34 & 27.54 & 0.2 & 0 & 111455 & 31.99611 & 17.99982 & 17.95 & 18.07 \\
\hline 27.28 & 27.38 & 0.1 & 0 & 108131 & 31.99688 & 18.05722 & 17.98 & 18.22 \\
\hline 27.36 & 27.49 & 0.13 & 0 & 93306 & 32.03329 & 18.09394 & 18.01 & 18.2 \\
\hline 27.43 & 27.5 & 0.07 & 0 & 45606 & 32.04833 & 17.88316 & 17.8 & 18.03 \\
\hline 27.45 & 27.49 & 0.04 & 0 & 57932 & 32.06479 & 17.63558 & 17.46 & 17.82 \\
\hline 27.37 & 27.46 & 0.09 & 0 & 51669 & 32.04226 & 17.58009 & 17.5 & 17.8 \\
\hline 27.35 & 27.42 & 0.07 & 0 & 48795 & 32.04723 & 18.00619 & 17.5688 & 18.17 \\
\hline 27.34 & 27.37 & 0.03 & 0 & 46966 & 32.05364 & 17.9536 & 17.73 & 18.15 \\
\hline 27.25 & 27.35 & 0.1 & 12000 & 105681 & 32.02999 & 17.92986 & 17.78 & 18 \\
\hline 27.22 & 27.52 & 0.3 & 0 & 168565 & 32.02551 & 18.01931 & 17.97 & 18.11 \\
\hline 27.46 & 27.75 & 0.29 & 0 & 157296 & 32.03297 & 18.00614 & 17.96 & 18.03 \\
\hline 27.45 & 27.6 & 0.15 & 0 & 93943 & 32.02927 & 18.00734 & 17.95 & 18.09 \\
\hline 27.49 & 27.54 & 0.05 & 50900 & 73910 & 32.00805 & 18.00683 & 17.97 & 18.11 \\
\hline 27.5 & 27.55 & 0.05 & 30900 & 41539 & 32.02073 & 18.04251 & 17.96 & 18.23 \\
\hline 27.5 & 27.55 & 0.05 & 0 & 46529 & 32.01645 & 18.10939 & 18 & 18.28 \\
\hline 27.5 & 27.54 & 0.04 & 0 & 64181 & 32.0059 & 18.1274 & 18 & 18.21 \\
\hline 27.49 & 27.67 & 0.18 & 0 & 45000 & 32.04432 & 18.02147 & 17.95 & 18.14 \\
\hline 27.61 & 28 & 0.39 & 22000 & 113072 & 32.0916 & 17.99986 & 17.94 & 18.12 \\
\hline 27.77 & 27.86 & 0.09 & 0 & 64228 & 32.09534 & 17.85148 & 17.75 & 17.98 \\
\hline 27.71 & 27.88 & 0.17 & 20000 & 72865 & 32.0682 & 17.91439 & 17.83 & 17.98 \\
\hline 27.8 & 28 & 0.2 & 10000 & 77137 & 32.0448 & 17.91574 & 17.84 & 17.94 \\
\hline 27.81 & 28 & 0.19 & 17631 & 90532 & 32.08528 & 17.97792 & 17.9 & 18.05 \\
\hline 27.91 & 28.37 & 0.46 & 31536 & 163935 & 32.10326 & 17.717 & 17.54 & 17.91 \\
\hline 26.82 & 28.5 & 1.68 & 0 & 344777 & 31.73793 & 17.56467 & 17.49 & 17.72 \\
\hline 25 & 27.64 & 2.64 & 79670 & 353701 & 31.70447 & 17.52609 & 17.3 & 17.81 \\
\hline 26.24 & 27.64 & 1.4 & 33800 & 272872 & 31.81443 & 17.61521 & 17.29 & 17.91 \\
\hline 26.6 & 27.64 & 1.04 & 0 & 310552 & 31.85021 & 17.85145 & 17.73 & 17.95 \\
\hline 26.61 & 27.64 & 1.03 & 0 & 177417 & 31.78743 & 17.98331 & 17.84 & 18.18 \\
\hline 26.53 & 27.64 & 1.11 & 0 & 151063 & 31.79797 & 17.95808 & 17.87 & 18.105 \\
\hline 25.94 & 27.64 & 1.7 & 0 & 200000 & 31.68956 & 17.89148 & 17.77 & 17.99 \\
\hline 25.97 & 27.64 & 1.67 & 0 & 177661 & 31.61887 & 17.99466 & 17.93 & 18.51 \\
\hline 26.02 & 27.64 & 1.62 & 0 & 304856 & 31.71072 & 18.0431 & 17.92 & 18.18 \\
\hline 25.9 & 27.64 & 1.74 & 20000 & 279222 & 31.69235 & 18.1455 & 17.94 & 18.48 \\
\hline 25.71 & 27.64 & 1.93 & 12900 & 176376 & 31.68769 & 18.27155 & 18.1 & 18.41 \\
\hline 25.33 & 27.63 & 2.3 & 69000 & 464491 & 31.68378 & 18.05193 & 17.9 & 18.23 \\
\hline 25.36 & 25.82 & 0.46 & 0 & 248814 & 31.6651 & 18.21992 & 17.83 & 18.48 \\
\hline 25.36 & 25.77 & 0.41 & 0 & 375456 & 31.74804 & 17.8855 & 17.62 & 18.2 \\
\hline 25.55 & 25.86 & 0.31 & 0 & 321906 & 31.7859 & 18.17421 & 18 & 18.53 \\
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\hline 25.25 & 25.63 & 0.38 & 0 & 302504 & 31.77291 & 17.96098 & 17.71 & 18.27 \\
\hline 24.47 & 25.29 & 0.82 & 0 & 762053 & 31.84388 & 18.10216 & 17.81 & 18.27 \\
\hline 24.8 & 25.25 & 0.45 & 100000 & 451913 & 31.891 & 18.43014 & 18.11 & 18.78 \\
\hline 24.65 & 25 & 0.35 & 0 & 243175 & 31.88802 & 18.83671 & 18.57 & 19.19 \\
\hline 24.21 & 24.708 & 0.498 & 0 & 377522 & 31.83459 & 18.82206 & 18.4 & 19.0875 \\
\hline 24.3888 & 27.6 & 3.2112 & 0 & 398045 & 31.85054 & 18.82021 & 18.3 & 19. \\
\hline 24.53 & 27.61 & 3.08 & 0 & 292872 & 31.75537 & 18.50554 & 17.51 & 18.73 \\
\hline 24.5 & 27.61 & 3.11 & 28200 & 372172 & 31.74904 & 18.69933 & 18.26 & 19.15 \\
\hline 24.72 & 27.61 & 2.89 & 47300 & 307849 & 31.73312 & 18.68745 & 18.4 & 19.04 \\
\hline 25.03 & 27.61 & 2.58 & 46800 & 460319 & 31.97534 & 19.34884 & 18.78 & 19.8 \\
\hline 26 & 27.61 & 1.61 & 87500 & 642202 & 32.2429 & 20.16543 & 19.3 & 20.6 \\
\hline 26.67 & 27.31 & 0.64 & 22700 & 621382 & 32.27415 & 20.18605 & 19.8 & 20.51 \\
\hline 26.8 & 27.32 & 0.52 & 0 & 415776 & 32.24466 & 20.48558 & 20.08 & 21.13 \\
\hline 26.3 & 27.155 & 0.855 & 80700 & 393499 & 32.17033 & 20.88722 & 20.44 & 21.25 \\
\hline 26.05 & 27.12 & 1.07 & 0 & 221086 & 32.10912 & 21.29112 & 21.02 & 21.72 \\
\hline 25.72 & 26.43 & 0.71 & 10000 & 278481 & 32.10824 & 21.43805 & 21.13 & 22 \\
\hline 25.78 & 26.775 & 0.995 & 0 & 155149 & 32.16778 & 21.14311 & 20 & 25 \\
\hline 26 & 27.04 & 1.04 & 21100 & 251763 & 32.23921 & 21.22666 & 20.95 & 21.59 \\
\hline 26.27 & 27 & 0.73 & 0 & 238288 & 32.34958 & 20.83867 & 19.64 & 21.39 \\
\hline 26.4 & 27 & 0.6 & 111300 & 308632 & 32.3758 & 21.16344 & 20.65 & 21.64 \\
\hline 26.5 & 27.04 & 0.54 & 100000 & 154219 & 32.28849 & 21.08947 & 20.92 & 21.39 \\
\hline 26.85 & 27.26 & 0.41 & 12699 & 327437 & 32.36762 & 20.75361 & 20.38 & 21.02 \\
\hline 26.9 & 27.33 & 0.43 & 0 & 294833 & 32.32346 & 19.90153 & 19.4 & 20.5 \\
\hline 26.7 & 27.0026 & 0.3026 & 30900 & 183378 & 32.33618 & 19.30187 & 19 & 21.41 \\
\hline 26.74 & 26.96 & 0.22 & 0 & 168938 & 32.29929 & 19.14179 & 18.8 & 21.41 \\
\hline 26.86 & 27 & 0.14 & 0 & 188144 & 32.33724 & 19.60573 & 19.27 & 19.97 \\
\hline 26.92 & 27.28 & 0.36 & 0 & 136808 & 32.36943 & 19.94392 & 19.53 & 20.24 \\
\hline 27.1575 & 27.6 & 0.4425 & 13500 & 235904 & 32.43629 & 19.90132 & 19.72 & 20.03 \\
\hline 27.42 & 27.65 & 0.23 & 0 & 236729 & 32.44743 & 19.69497 & 19.55 & 20 \\
\hline 27.53 & 27.97 & 0.44 & 23178 & 338139 & 32.48088 & 19.62861 & 19.33 & 19.96 \\
\hline 27.75 & 28 & 0.25 & 126300 & 403511 & 32.44075 & 20.0678 & 19.81 & 20.35 \\
\hline 26.3 & 27.97 & 1.67 & 0 & 392952 & 32.43091 & 19.92067 & 19.7 & 20.2 \\
\hline 27.53 & 27.86 & 0.33 & 0 & 194386 & 32.38332 & 20.23894 & 20 & 20.46 \\
\hline 27.53 & 27.72 & 0.19 & 22500 & 199136 & 32.37398 & 20.45697 & 20.14 & 21.04 \\
\hline 26.04 & 27.64 & 1.6 & 0 & 227340 & 32.32388 & 20.68574 & 20.45 & 21 \\
\hline 27.18 & 27.52 & 0.34 & 0 & 123694 & 32.33171 & 20.89837 & 20.7 & 21.37 \\
\hline 27 & 27.4 & 0.4 & 12501 & 197383 & 32.34927 & 21.0155 & 20.805 & 21. \\
\hline 27.03 & 27.21 & 0.18 & 16045 & 277417 & 32.38347 & 21.06204 & 20 & 21. \\
\hline 27.06 & 27.27 & 0.21 & 0 & 253819 & 32.42285 & 21.08431 & 20.9 & 21.65 \\
\hline 27.08 & 27.39 & 0.31 & 24400 & 135901 & 32.41805 & 21.05975 & 20.88 & 21.296 \\
\hline 27.075 & 27.4 & 0.325 & 0 & 177317 & 32.4222 & 21.12112 & 20.92 & 21.36 \\
\hline 27.25 & 27.4 & 0.15 & 24200 & 138659 & 32.45112 & 21.22912 & 20.91 & 21.5 \\
\hline 27.3175 & 27.99 & 0.6725 & 0 & 397773 & 32.43446 & 21.47617 & 21.29 & 21.67 \\
\hline 27.65 & 27.91 & 0.26 & 14300 & 203144 & 32.4186 & 21.55981 & 21.2275 & 21.74 \\
\hline 26.23 & 27.78 & 1.55 & 0 & 94390 & 32.4445 & 21.28848 & 21.02 & 21.55 \\
\hline 27.72 & 28.1 & 0.38 & 26900 & 365383 & 32.51498 & 20.9783 & 20.8 & 21.15 \\
\hline 27.94 & 28.242 & 0.302 & 0 & 265364 & 32.52299 & 21.23721 & 21.04 & 21.78 \\
\hline 28.17 & 28.51 & 0.34 & 10000 & 251314 & 32.55117 & 21.5248 & 21.3788 & 21.66 \\
\hline 28.42 & 29.17 & 0.75 & 25100 & 426076 & 32.61675 & 21.16833 & 20.75 & 21.55 \\
\hline 28.89 & 29.16 & 0.27 & 0 & 353751 & 32.61925 & 20.92003 & 20.65 & 21.26 \\
\hline 28.68 & 28.99 & 0.31 & 20000 & 208398 & 32.62541 & 21.03091 & 20.63 & 21.25 \\
\hline 28.55 & 28.85 & 0.3 & 15100 & 279539 & 32.59423 & 20.73398 & 20.3 & 21.2475 \\
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& & & & & \\
28.42 & 28.8 & 0.38 & 40100 & 308589 & 32.55888 & 20.15905 & 20 & 20.48 \\
28.29 & 28.72 & 0.43 & 0 & 246278 & 32.53172 & 20.20873 & 20.03 & 21 \\
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\hline 3.4 & 0 & 204530 & 28.73809 & 20.67757 & 20.1054 & 21.6 & 1.4946 & 55800 \\
\hline 3.07 & 15600 & 76784 & 28.63709 & 21.51218 & 21.25 & 21.7 & 0.45 & 0 \\
\hline 0.52 & 0 & 66407 & 28.78043 & 21.35195 & 21.25 & 21.5 & 0.25 & 0 \\
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\hline 3.1914 & 10500 & 154371 & 28.59553 & 18.54816 & 18.5036 & 21.42 & 2.9164 & 2335300 \\
\hline 0.4 & 0 & 87696 & 28.82192 & 20.72303 & 20.1405 & 21.49 & 1.3495 & 40700 \\
\hline 0.31 & 0 & 36200 & 28.82031 & 20.52027 & 19.7129 & 21.38 & 1.6671 & 166400 \\
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\hline 0.42 & 0 & 73213 & 28.84688 & 19.78605 & 19.4336 & 21.33 & 1.8964 & 224936 \\
\hline 0.5 & 0 & 96602 & 28.86401 & 21.24035 & 21.03 & 21.26 & 0.23 & 0 \\
\hline 0.16 & 0 & 27536 & 28.84059 & 21.25225 & 21.1 & 21.26 & 0.16 & 0 \\
\hline 0.3 & 0 & 46363 & 28.86332 & 21.10346 & 21.05 & 21.22 & 0.17 & 0 \\
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\hline 0.13 & 0 & 11585 & 28.43561 & 22.63843 & 22.56 & 22.7 & 0.14 & 0 \\
\hline 0.63 & 0 & 32087 & 28.42343 & 22.56969 & 22.52 & 22.69 & 0.17 & 0 \\
\hline 0.39 & 0 & 24745 & 28.4389 & 22.50863 & 22.46 & 22.65 & 0.19 & 0 \\
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\hline 0.6 & 0 & 3300 & 28.44089 & 20.55189 & 19.91 & 22.6 & 2.69 & 0 \\
\hline 0.2 & 0 & 10300 & 28.44536 & 22.14822 & 22 & 22.35 & 0.35 & 0 \\
\hline 0.16 & 0 & 9751 & 28.41292 & 22.00953 & 19.971 & 22.21 & 2.239 & 0 \\
\hline 0.22 & 0 & 7900 & 28.33879 & 21.77808 & 20.0388 & 22.07 & 2.0312 & 0 \\
\hline 0.1 & 0 & 2851 & 28.39289 & 21.77524 & 20.1 & 22.24 & 3:21 AM & 0 \\
\hline 0.33 & 0 & 6769 & 28.39203 & 20.68915 & 20 & 22.37 & 2.37 & 0 \\
\hline 0.26 & 0 & 4701 & 28.3808 & 22.25954 & 22.2 & 22.39 & 0.19 & 0 \\
\hline 0.26 & 0 & 3815 & 28.37419 & 22.23463 & 22.2 & 22.35 & 0.15 & 0 \\
\hline 0.35 & 0 & 16294 & 28.38762 & 22.28346 & 22.25 & 22.31 & 0.06 & 0 \\
\hline 0.03 & 0 & 5560 & 28.4102 & 22.21002 & 20.5 & 22.35 & 1.85 & 0 \\
\hline 0.09 & 0 & 7436 & 28.4057 & 22.08244 & 22.02 & 22.12 & 0.1 & 0 \\
\hline 0.06 & 0 & 4240 & 28.4313 & 22.26044 & 22.2 & 22.3 & 0.1 & 0 \\
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\hline 0.14 & 0 & 15550 & 28.43275 & 21.99551 & 21.88 & 22.05 & 0.17 & 0 \\
\hline 0.16 & 0 & 23971 & 28.46472 & 21.79324 & 21.75 & 21.86 & 0.11 & 0 \\
\hline 0.09 & 0 & 14500 & 28.48528 & 21.81408 & 21.75 & 21.88 & 0.13 & 0 \\
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\hline 0.56 & 0 & 39420 & 28.36415 & 19.64871 & 19.51 & 19.75 & 0.24 & 17100 \\
\hline 0.35 & 0 & 32443 & 28.3614 & 19.7987 & 19.69 & 19.9 & 0.21 & 46150 \\
\hline 0.36 & 0 & 101488 & 28.35465 & 19.70276 & 19.6 & 19.77 & 0.17 & 49850 \\
\hline 0.48 & 0 & 129155 & 28.40958 & 19.53431 & 19.45 & 19.7 & 0.25 & 18200 \\
\hline 0.71 & 0 & 115559 & 28.38144 & 19.54927 & 19.49 & 19.75 & 0.26 & 63700 \\
\hline 0.37 & 0 & 71831 & 28.35663 & 19.60634 & 19.5 & 19.73 & 0.23 & 0 \\
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\hline 0.63 & 0 & 122118 & 28.32767 & 19.47236 & 19.4 & 19.7 & 0.3 & 14500 \\
\hline 0.69 & 0 & 97163 & 28.30197 & 19.47323 & 19.4 & 19.6 & 0.2 & 117800 \\
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\hline 0.31 & 30000 & 67820 & 28.35144 & 20.20761 & 19.95 & 20.37 & 0.42 & 13200 \\
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\hline 0.34 & 0 & 40916 & 28.30729 & 20.44794 & 20.25 & 20.6 & 0.35 & 21650 \\
\hline 0.12 & 0 & 11290 & 28.31746 & 20.7547 & 20.5 & 21 & 0.5 & 0 \\
\hline 0.16 & 13300 & 36679 & 28.28177 & 20.61158 & 20.4 & 20.85 & 0.45 & 0 \\
\hline 0.19 & 0 & 22119 & 28.25912 & 20.16693 & 19.95 & 20.4 & 0.45 & 0 \\
\hline 0.19 & 48000 & 27830 & 28.20861 & 19.98828 & 19.85 & 20.14 & 0.29 & 0 \\
\hline 0.23 & 91447 & 104475 & 28.22195 & 19.93388 & 19.88 & 20 & 2:52 AM & 0 \\
\hline 0.5 & 0 & 142081 & 28.24055 & 19.9839 & 19.9 & 20.12 & 0.22 & 38265 \\
\hline 0.15 & 44600 & 109970 & 28.23452 & 20.01843 & 19.89 & 20.1 & 0.21 & 48226 \\
\hline 0.11 & 0 & 86002 & 28.21481 & 19.90309 & 19.89 & 19.94 & 0.05 & 0 \\
\hline 0.31 & 17300 & 45813 & 28.21534 & 19.90453 & 19.9 & 20 & 0.1 & 54500 \\
\hline 0.25 & 0 & 51820 & 28.24352 & 19.91729 & 19.85 & 19.95 & 0.1 & 60000 \\
\hline 0.25 & 40412 & 92300 & 28.20898 & 19.8263 & 19.71 & 19.9 & 0.19 & 61300 \\
\hline 0.24 & 0 & 79712 & 28.21174 & 19.80312 & 19.8 & 19.84 & 0.04 & 0 \\
\hline 0.32 & 10665 & 100644 & 28.19626 & 19.84863 & 19.8 & 19.9 & 0.1 & 19000 \\
\hline 0.26 & 24500 & 121202 & 28.20071 & 19.91787 & 19.85 & 20.06 & 0.21 & 64495 \\
\hline 0.2 & 0 & 63392 & 28.21008 & 20.16066 & 19.95 & 20.34 & 0.39 & 0 \\
\hline 0.21 & 38325 & 204712 & 28.21244 & 20.38777 & 20.2 & 20.52 & 0.32 & 0 \\
\hline 0.28 & 17175 & 74587 & 28.2153 & 20.22879 & 20.03 & 20.43 & 0.4 & 19950 \\
\hline 0.2 & 33825 & 92501 & 28.2256 & 20.08888 & 19.9 & 20.2 & 0.3 & 0 \\
\hline 0.09 & 0 & 69475 & 28.17506 & 19.96941 & 19.9 & 20.01 & 0.11 & 0 \\
\hline 0.22 & 18416 & 126740 & 28.13784 & 20.03184 & 19.95 & 20.15 & 0.2 & 0 \\
\hline 0.36 & 106800 & 181356 & 28.11575 & 20.01574 & 19.99 & 20.1 & 0.11 & 0 \\
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\hline 0.46 & 23416 & 91786 & 28.11341 & 20.14171 & 20.01 & 20.25 & 0.24 & 25900 \\
\hline 0.37 & 36805 & 213020 & 28.1336 & 20.25585 & 20.01 & 20.39 & 0.38 & 0 \\
\hline 0.41 & 35163 & 188217 & 28.14708 & 20.31746 & 20.11 & 20.44 & 0.33 & 0 \\
\hline 0.39 & 21800 & 170805 & 28.14168 & 20.45763 & 20.38 & 20.55 & 0.17 & 14800 \\
\hline 0.48 & 0 & 94470 & 28.11838 & 20.56689 & 20.45 & 20.64 & 0.19 & 0 \\
\hline 0.7 & 0 & 92306 & 28.12906 & 20.54164 & 20.28 & 20.62 & 0.34 & 32576 \\
\hline 0.3 & 0 & 65276 & 28.11156 & 20.35941 & 20.25 & 20.41 & 0.16 & 0 \\
\hline 0.34 & 22196 & 69275 & 28.11028 & 20.24466 & 20.11 & 20.35 & 0.24 & 15100 \\
\hline 0.5 & 0 & 65130 & 28.10505 & 20.30296 & 20.14 & 20.44 & 0.3 & 0 \\
\hline 0.24 & 13811 & 79049 & 28.12982 & 20.2084 & 19.9 & 20.5 & 0.6 & 195956 \\
\hline 0.24 & 13600 & 104068 & 28.13063 & 20.32148 & 20.12 & 20.4 & 0.28 & 0 \\
\hline 0.71 & 62500 & 173859 & 28.17273 & 20.29852 & 20.12 & 20.39 & 0.27 & 34742 \\
\hline 0.95 & 0 & 153454 & 28.18636 & 20.37277 & 20.07 & 20.5 & 0.43 & 24900 \\
\hline 0.825 & 1617806 & 762729 & 28.18547 & 19.95729 & 19.57 & 20.35 & 0.78 & 2215003 \\
\hline 1.22 & 247899 & 1158245 & 28.12591 & 20.07671 & 19.55 & 20.35 & 0.8 & 520584 \\
\hline 0.65 & 194964 & 952233 & 28.10694 & 19.88753 & 19.25 & 20.23 & 0.98 & 315238 \\
\hline 0.362 & 285345 & 1247698 & 28.08028 & 19.4573 & 18.8 & 19.84 & 1.04 & 97054 \\
\hline 0.92 & 84601 & 907084 & 28.10668 & 20.07288 & 19.035 & 20.82 & 1.785 & 262700 \\
\hline 0.61 & 89240 & 1031790 & 28.06357 & 20.00371 & 19.67 & 20.27 & 0.6 & 32205 \\
\hline 0.53 & 122100 & 1261146 & 28.09806 & 19.88883 & 19.55 & 20.02 & 0.47 & 471000 \\
\hline 0.73 & 107400 & 1056268 & 28.12328 & 20.03268 & 19.55 & 20.52 & 0.97 & 235326 \\
\hline 0.39 & 24500 & 873069 & 28.10685 & 20.28776 & 19.87 & 20.8 & 0.93 & 199232 \\
\hline 0.986 & 100800 & 824116 & 28.13275 & 20.89557 & 20.57 & 21.14 & 0.57 & 122572 \\
\hline 0.98 & 47150 & 721163 & 28.14582 & 21.26729 & 19.7 & 21.49 & 1.79 & 21759 \\
\hline 0.55 & 26300 & 902683 & 28.2065 & 21.12681 & 20.83 & 21.52 & 0.69 & 78256 \\
\hline 0.43 & 61700 & 749379 & 28.26298 & 20.819 & 20.53 & 21.027 & 0.497 & 0 \\
\hline 0.7 & 134474 & 1200602 & 28.26175 & 20.52839 & 20.23 & 20.81 & 0.58 & 33200 \\
\hline 0.75 & 184367 & 779479 & 28.2688 & 20.56599 & 20.4 & 20.76 & 0.36 & 0 \\
\hline 0.41 & 91173 & 611272 & 28.22026 & 20.38124 & 20.01 & 20.66 & 0.65 & 90200 \\
\hline 0.632 & 43626 & 1003544 & 28.21229 & 19.81937 & 19.58 & 20.04 & 0.46 & 12500 \\
\hline 0.46 & 34100 & 682291 & 28.23669 & 19.45658 & 19.2 & 19.65 & 0.45 & 0 \\
\hline 0.3288 & 47000 & 869603 & 28.49372 & 19.6718 & 19.5 & 19.9 & 0.4 & 30970 \\
\hline 0.4 & 227748 & 1101602 & 28.24996 & 19.74318 & 19.5 & 19.83 & 0.33 & 11300 \\
\hline 0.27 & 278300 & 694727 & 28.27329 & 19.88348 & 19.72 & 20.02 & 0.3 & 36293 \\
\hline 0.43 & 24400 & 866649 & 28.23586 & 19.85542 & 19.71 & 19.99 & 0.28 & 0 \\
\hline 0.53 & 21900 & 761534 & 28.21543 & 20.06574 & 19.83 & 20.22 & 0.39 & 36387 \\
\hline 0.32 & 0 & 471913 & 28.25305 & 20.56785 & 20 & 21 & 1 & 107800 \\
\hline 0.4812 & 84735 & 1074726 & 28.29092 & 20.97906 & 20.57 & 21.47 & 0.9 & 260110 \\
\hline 0.38 & 0 & 974178 & 28.31661 & 21.38191 & 20.77 & 21.71 & 0.94 & 110158 \\
\hline 0.41 & 21418 & 1003273 & 28.33753 & 21.77419 & 21.0404 & 22.2 & 1.1596 & 284441 \\
\hline 0.37 & 21210 & 614083 & 28.30946 & 21.70239 & 21.41 & 21.97 & 0.56 & 75960 \\
\hline 0.24 & 0 & 686744 & 28.28361 & 21.76214 & 21.53 & 21.97 & 0.44 & 60400 \\
\hline 0.26 & 165130 & 749316 & 28.27959 & 22.00158 & 21.81 & 22.21 & 0.4 & 377500 \\
\hline 1.62 & 186800 & 1075046 & 28.33587 & 21.95757 & 21.56 & 22.3 & 5:45 PM & 53827 \\
\hline 0.35 & 13200 & 804673 & 28.32295 & 22.07573 & 21.6 & 22.32 & 0.72 & 418084 \\
\hline 0.44 & 0 & 648991 & 28.34929 & 21.96443 & 21.81 & 22.06 & 0.25 & 285935 \\
\hline 0.42 & 0 & 525349 & 28.35019 & 21.70625 & 20.8 & 21.9975 & 1.1975 & 92900 \\
\hline 0.51 & 0 & 662940 & 28.34123 & 21.76176 & 21.58 & 21.9 & 0.32 & 12500 \\
\hline 0.37 & 0 & 723791 & 28.29954 & 21.73381 & 21.46 & 21.87 & 0.41 & 81100 \\
\hline 0.5 & 0 & 686168 & 28.24872 & 21.89127 & 21.76 & 22.07 & 0.31 & 115900 \\
\hline 0.43 & 52910 & 463338 & 28.22484 & 21.72116 & 21.605 & 21.85 & 0.245 & 208800 \\
\hline 0.2 & 10000 & 401758 & 28.25063 & 21.72102 & 21.67 & 21.8 & 0.13 & 45450 \\
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\hline 1.502 & 13000 & 513243 & 28.23406 & 21.42267 & 21.1 & 21.72 & 0.62 & 12100 \\
\hline 0.28 & 18800 & 477176 & 28.30266 & 21.19316 & 21.06 & 21.28 & 0.22 & 14500 \\
\hline 0.3 & 10000 & 416920 & 28.28554 & 20.92254 & 20.6 & 22 & 1.4 & 62068 \\
\hline 0.46 & 10000 & 619935 & 28.26608 & 21.01941 & 20.8 & 21.2 & 0.4 & 132400 \\
\hline 0.4 & 24700 & 694262 & 28.23146 & 20.4714 & 20.18 & 20.81 & 0.63 & 21000 \\
\hline 0.35 & 0 & 295165 & 28.20806 & 20.03329 & 19.86 & 20.25 & 0.39 & 11600 \\
\hline 0.19 & 0 & 345856 & 28.24284 & 20.06826 & 19.79 & 20.25 & 0.46 & 0 \\
\hline 0.28 & 0 & 495653 & 28.23252 & 20.24474 & 20.1 & 21.8 & 1.7 & 0 \\
\hline 0.52 & 1000000 & 483812 & 28.23015 & 20.17028 & 20 & 21.8 & 1.8 & 0 \\
\hline 0.44 & 0 & 502340 & 28.23298 & 20.27908 & 19.98 & 20.44 & 0.46 & 0 \\
\hline 0.26 & 10000 & 286700 & 28.20672 & 20.29883 & 20.15 & 20.42 & 0.27 & 53500 \\
\hline 0.3 & 0 & 311883 & 28.20106 & 20.18767 & 20.05 & 20.23 & 0.18 & 20000 \\
\hline 0.16 & 0 & 301524 & 28.18118 & 20.17192 & 20.11 & 20.28 & 0.17 & 120151 \\
\hline 0.19 & 0 & 385222 & 28.1748 & 20.04346 & 19.85 & 20.23 & 0.38 & 112000 \\
\hline 0.2 & 0 & 252773 & 28.18452 & 19.99061 & 19.8 & 20.65 & 0.85 & 159710 \\
\hline 0.42 & 61600 & 541927 & 28.14409 & 20.33346 & 20.13 & 20.54 & 0.41 & 96951 \\
\hline 0.34 & 15000 & 491195 & 28.09871 & 20.19327 & 20.1 & 20.26 & 0.16 & 13250 \\
\hline 0.28 & 0 & 551861 & 28.09825 & 20.27915 & 20.18 & 20.44 & 0.26 & 57662 \\
\hline & 20000 & 399451 & 28.11321 & 20.35857 & 20.195 & 20.54 & 0.345 & 25500 \\
\hline 0.34 & 214285 & 505899 & 28.11547 & 20.56241 & 20.38 & 20.71 & 0.33 & 0 \\
\hline 0.41 & 118511 & 387656 & 28.11042 & 20.444 & 20.11 & 20.625 & 0.515 & 195200 \\
\hline 0.56 & 0 & 424845 & 28.12319 & 20.36587 & 20.1 & 20.625 & 0.525 & 24000 \\
\hline 0.1818 & 0 & 296918 & 28.14401 & 20.43504 & 20.38 & 20.49 & 0.11 & 0 \\
\hline 0.34 & 23300 & 349919 & 28.12004 & 20.44929 & 20.14 & 20.63 & 0.49 & 0 \\
\hline 0.3888 & 0 & 444156 & 28.07237 & 20.25576 & 20.12 & 20.34 & 0.22 & 67700 \\
\hline 0.3 & 13400 & 371259 & 28.09142 & 20.06647 & 19.98 & 20.49 & 0.51 & 106585 \\
\hline 0.19 & 20600 & 375629 & 28.08739 & 20.26077 & 20.147 & 20.36 & 0.213 & 72571 \\
\hline 0.11 & 10000 & 414109 & 28.02933 & 20.34209 & 20.28 & 20.38 & 0.1 & 127640 \\
\hline 0.18 & 0 & 372695 & 28.02227 & 20.23089 & 20.02 & 20.3 & 0.28 & 110700 \\
\hline 0.215 & 10000 & 400717 & 27.99632 & 20.26104 & 20.14 & 22.22 & 2.08 & 10100 \\
\hline 0.25 & 0 & 329428 & 27.99456 & 20.2956 & 20.11 & 20.4 & 0.29 & 26400 \\
\hline 0.16 & 0 & 186583 & 27.97369 & 20.22 & 20.12 & 20.3 & 0.18 & 75200 \\
\hline 0.18 & 0 & 216201 & 27.96369 & 20.22733 & 20.15 & 20.263 & 0.113 & 148521 \\
\hline 0.4 & 10000 & 361851 & 27.96151 & 20.27868 & 20.23 & 20.39 & 0.16 & 0 \\
\hline 0.24 & 0 & 258716 & 28.04739 & 20.26659 & 20.24 & 20.33 & 0.09 & 0 \\
\hline 0.13 & 0 & 241606 & 28.00848 & 20.29412 & 20.25 & 20.38 & 0.13 & 0 \\
\hline 0.29 & 24900 & 278986 & 28.00679 & 20.22722 & 20.09 & 20.35 & 0.26 & 87800 \\
\hline 0.16 & 0 & 182771 & 27.99763 & 20.0408 & 19.9 & 20.3 & 0.4 & 222005 \\
\hline 0.19 & 0 & 218177 & 27.98838 & 19.99915 & 19.92 & 20.06 & 0.14 & 52785 \\
\hline 0.34 & 0 & 505600 & 27.93822 & 20.0091 & 19.98 & 20.04 & 0.06 & 71831 \\
\hline 0.4 & 0 & 324197 & 27.95221 & 19.97646 & 19.85 & 20.03 & 0.18 & 401400 \\
\hline 0.27 & 0 & 170003 & 27.92634 & 19.82635 & 19.75 & 19.945 & 0.195 & 13300 \\
\hline 0.2 & 0 & 203300 & 27.97462 & 19.95785 & 19.8243 & 20.04 & 0.2157 & 10000 \\
\hline 0.45 & 0 & 389399 & 27.95305 & 19.99617 & 19.95 & 20.01 & 0.06 & 185774 \\
\hline 0.3 & 0 & 506282 & 27.95448 & 20.05276 & 19.98 & 20.19 & 0.21 & 28000 \\
\hline 0.53 & 44200 & 551537 & 27.99755 & 20.19789 & 20.09 & 20.29 & 0.2 & 27680 \\
\hline 0.67 & 14000 & 562995 & 28.02856 & 20.22397 & 20.15 & 20.25 & 0.1 & 25200 \\
\hline 0.29 & 0 & 487669 & 28.00874 & 20.07842 & 20.01 & 20.18 & 0.17 & 10600 \\
\hline 0.36 & 0 & 709005 & 27.99784 & 19.99043 & 19.91 & 20.06 & 0.15 & 0 \\
\hline 0.25 & 17600 & 346232 & 28.01851 & 20.00393 & 19.92 & 20.12 & 0.2 & 0 \\
\hline 0.66 & 101900 & 792400 & 28.00821 & 20.09831 & 20.01 & 20.15 & 0.14 & 30600 \\
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\hline 0.2 & 0 & 155303 & 27.98283 & 19.50408 & 19.4 & 19.7 & 0.3 & 132320 \\
\hline 0.11 & 35000 & 210658 & 27.95984 & 19.44781 & 19.33 & 19.627 & 0.297 & 97318 \\
\hline 0.88 & 80000 & 259972 & 27.94308 & 19.31472 & 19.25 & 19.39 & 0.14 & 0 \\
\hline 0.23 & 21900 & 296767 & 27.91873 & 19.22608 & 18.92 & 19.3 & 0.38 & 112451 \\
\hline 0.27 & 0 & 364451 & 27.91003 & 19.26728 & 19.16 & 19.33 & 0.17 & 60620 \\
\hline 0.4 & 20300 & 388494 & 27.92412 & 19.22671 & 19.06 & 19.33 & 0.27 & 48300 \\
\hline 0.41 & 0 & 278229 & 27.91809 & 18.66132 & 18.05 & 19.1 & 1.05 & 43500 \\
\hline 0.18 & 82100 & 198677 & 27.90877 & 18.66625 & 18.25 & 18.93 & 0.68 & 65600 \\
\hline 0.52 & 140000 & 741582 & 27.90475 & 18.87082 & 18.66 & 18.98 & 0.32 & 52521 \\
\hline 0.64 & 147013 & 735785 & 27.88316 & 18.72523 & 18.61 & 18.8 & 0.19 & 39638 \\
\hline 0.85 & 27300 & 774895 & 27.85453 & 18.60335 & 18.43 & 18.79 & 0.36 & 14200 \\
\hline 0.29 & 20300 & 667152 & 27.85128 & 18.4644 & 18.24 & 18.68 & 0.44 & 0 \\
\hline 0.61 & 32700 & 843247 & 27.84426 & 18.26344 & 18.13 & 18.55 & 0.42 & 10000 \\
\hline 0.26 & 45500 & 783236 & 27.83532 & 17.76598 & 17.5 & 18.16 & 0.66 & 97100 \\
\hline 0.83 & 45600 & 823318 & 27.8328 & 17.66279 & 17.46 & 17.8 & 0.34 & 59200 \\
\hline 1.92 & 55600 & 878855 & 27.85152 & 17.87646 & 17.75 & 18.04 & 0.29 & 25000 \\
\hline 0.39 & 61285 & 868427 & 27.88727 & 17.76013 & 17.44 & 18.03 & 0.59 & 37000 \\
\hline 0.28 & 60400 & 657268 & 27.8786 & 17.21433 & 16.96 & 17.6 & 0.64 & 42550 \\
\hline 0.23 & 34200 & 981588 & 27.89675 & 17.24226 & 17.12 & 17.37 & 0.25 & 20000 \\
\hline 0.43 & 139950 & 1029125 & 27.9028 & 17.24027 & 17.01 & 17.5 & 0.49 & 102140 \\
\hline 0.348 & 30000 & 806674 & 27.87479 & 17.14265 & 16.98 & 17.5 & 0.52 & 35200 \\
\hline 0.47 & 16044 & 1070038 & 27.85297 & 17.02356 & 16.95 & 17.1 & 0.15 & 166834 \\
\hline 0.67 & 11800 & 863254 & 27.87011 & 17.12414 & 16.99 & 17.41 & 0.42 & 121219 \\
\hline 0.58 & 118960 & 954807 & 27.82681 & 17.14846 & 16.97 & 17.29 & 0.32 & 31100 \\
\hline 1.11 & 40700 & 1004163 & 27.81233 & 17.47086 & 17.25 & 17.72 & 0.47 & 13150 \\
\hline 1.88 & 164300 & 2319736 & 27.7656 & 17.72442 & 17.5 & 17.93 & 0.43 & 38259 \\
\hline 1.99 & 308004 & 2160913 & 27.68262 & 17.83181 & 17.59 & 17.96 & 0.37 & 92608 \\
\hline 2.4 & 153286 & 2236553 & 27.64325 & 17.60264 & 17.5 & 17.72 & 0.22 & 39355 \\
\hline 2.44 & 339460 & 2456505 & 27.64975 & 17.73868 & 17.58 & 17.95 & 0.37 & 22500 \\
\hline 1.14 & 306973 & 1936658 & 27.65789 & 18.16149 & 17.86 & 18.45 & 0.59 & 10000 \\
\hline 1.22 & 110200 & 2029849 & 27.68438 & 18.41666 & 18.15 & 18.67 & 0.52 & 0 \\
\hline 7.2397 & 122000 & 1875129 & 27.76827 & 18.45879 & 18.27 & 18.62 & 0.35 & 56800 \\
\hline 2.83 & 398469 & 1903700 & 27.71544 & 18.23576 & 18.1 & 18.31 & 0.21 & 10000 \\
\hline 0.98 & 179211 & 1190164 & 27.74552 & 17.94998 & 17.71 & 18.25 & 0.54 & 0 \\
\hline 0.76 & 26800 & 1296672 & 27.73787 & 17.88326 & 17.73 & 18 & 0.27 & 10000 \\
\hline 0.99 & 87500 & 1046613 & 27.72059 & 17.8754 & 17.7 & 18.06 & 0.36 & \\
\hline 1.72 & 73800 & 959928 & 27.72822 & 18.24675 & 17.97 & 18.34 & 0.37 & 0 \\
\hline 1.06 & 0 & 849105 & 27.77149 & 18.09524 & 17.95 & 18.41 & 0.46 & 37402 \\
\hline 0.58 & 0 & 679876 & 27.76075 & 17.92424 & 17.75 & 18.03 & 0.28 & 34400 \\
\hline 3.64 & 0 & 674655 & 27.72154 & 17.64712 & 17.42 & 17.837 & 0.417 & 56306 \\
\hline 0.68 & 64550 & 688158 & 27.76239 & 17.56525 & 17.43 & 17.69 & 0.26 & 0 \\
\hline 0.53 & 20000 & 872804 & 27.77911 & 17.51785 & 17.36 & 17.71 & 0.35 & 0 \\
\hline 0.68 & 11200 & 573042 & 27.78962 & 17.47289 & 17.3 & 17.71 & 0.41 & 0 \\
\hline 0.5 & 32512 & 848894 & 27.81342 & 17.53468 & 17.4598 & 17.67 & 0.2102 & 0 \\
\hline 0.64 & 25900 & 1022242 & 27.86835 & 17.57264 & 17.45 & 17.68 & 0.23 & 0 \\
\hline 0.6475 & 24700 & 712552 & 27.87372 & 17.68889 & 17.5495 & 17.86 & 0.3105 & 11180 \\
\hline 2.23 & 20800 & 541928 & 27.86111 & 17.9429 & 17.54 & 18.18 & 0.64 & 27300 \\
\hline 0.6 & 0 & 449557 & 27.84874 & 17.87851 & 17.61 & 18.08 & 0.47 & 11700 \\
\hline 0.32 & 0 & 515944 & 27.82558 & 17.53789 & 17.15 & 17.795 & 0.645 & 61700 \\
\hline 0.48 & 0 & 526276 & 27.81724 & 17.15616 & 17.05 & 17.33 & 0.28 & 93559 \\
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\hline 2.8967 & 30500 & 652773 & 27.80184 & 17.41454 & 17.25 & 17.6 & 0.35 & 59300 \\
\hline 0.29 & 15065 & 645157 & 27.79839 & 17.31753 & 17.19 & 17.5 & 0.31 & 20000 \\
\hline 0.21 & 0 & 425131 & 27.79754 & 17.41511 & 17.34 & 17.51 & 0.17 & 0 \\
\hline 0.16 & 0 & 449941 & 27.79756 & 17.44581 & 17.3 & 17.62 & 0.32 & 11800 \\
\hline 0.28 & 34900 & 1039051 & 27.81265 & 17.59933 & 17.42 & 17.78 & 0.36 & 132200 \\
\hline 0.71 & 0 & 704598 & 27.78726 & 17.62087 & 17.53 & 17.73 & 0.2 & 0 \\
\hline 0.8 & 49977 & 973014 & 27.76605 & 17.49551 & 17.4 & 17.58 & 0.18 & 0 \\
\hline 0.89 & 94160 & 1022157 & 27.72653 & 17.27529 & 16.97 & 17.5 & 12:43 PM & 11000 \\
\hline 0.58 & 39800 & 654080 & 27.69455 & 17.15738 & 17.09 & 17.24 & 0.15 & 0 \\
\hline 0.77 & 10000 & 548876 & 27.6737 & 17.14321 & 17.05 & 17.27 & 0.22 & 10660 \\
\hline 0.43 & 15200 & 708192 & 27.66449 & 17.12175 & 17.05 & 17.19 & 0.14 & 0 \\
\hline 0.44 & 21774 & 701484 & 27.63319 & 17.05522 & 17.01 & 17.12 & 0.11 & 59128 \\
\hline 1.82 & 167000 & 944028 & 27.54449 & 17.02324 & 17.01 & 17.1 & 0.09 & 30263 \\
\hline 0.76 & 75000 & 917338 & 27.55911 & 17.00013 & 16.7 & 17.22 & 0.52 & 97607 \\
\hline 0.75 & 22400 & 676854 & 27.58527 & 16.6913 & 16.41 & 17.2 & 0.79 & 23000 \\
\hline 0.54 & 51700 & 780675 & 27.58625 & 16.97125 & 16.75 & 17.11 & 0.36 & 65031 \\
\hline 1.0148 & 125517 & 813476 & 27.60913 & 17.03088 & 16.92 & 17.25 & 0.33 & 42200 \\
\hline 0.61 & 0 & 692490 & 27.63767 & 17.0844 & 17 & 17.25 & 0.25 & 17916 \\
\hline 0.51 & 10079 & 384707 & 27.64092 & 17.20637 & 16.95 & 17.35 & 0.4 & 27311 \\
\hline 0.23 & 0 & 363425 & 27.64487 & 17.23497 & 17.12 & 17.4 & 0.28 & 0 \\
\hline 0.27 & 0 & 438306 & 27.62176 & 17.49979 & 17.29 & 19.94 & 2.65 & 0 \\
\hline 0.27 & 0 & 502805 & 27.63457 & 17.28872 & 17.09 & 17.63 & 0.54 & 22300 \\
\hline 0.58 & 107800 & 636422 & 27.67887 & 17.16664 & 17.02 & 17.3074 & 0.2874 & 0 \\
\hline 0.74 & 51100 & 606198 & 27.70094 & 17.32998 & 17.21 & 17.5 & 0.29 & 40000 \\
\hline 0.302 & 44625 & 422370 & 27.67665 & 17.54626 & 17.46 & 17.64 & 0.18 & 27000 \\
\hline 0.33 & 77415 & 734092 & 27.64941 & 17.34863 & 16.98 & 17.5 & 0.52 & 0 \\
\hline 0.49 & 65475 & 777886 & 27.64429 & 17.29712 & 17.21 & 17.35 & 0.14 & 0 \\
\hline 0.36 & 31654 & 729136 & 27.6861 & 17.22176 & 17.11 & 17.4 & 0.29 & 0 \\
\hline 0.37 & 0 & 702764 & 27.68884 & 17.2332 & 17.16 & 17.28 & 0.12 & 90000 \\
\hline 0.7225 & 12528 & 585259 & 27.72251 & 17.19327 & 17.08 & 17.28 & 0.2 & 10000 \\
\hline 0.52 & 23315 & 654043 & 27.74042 & 17.41447 & 17.25 & 17.49 & 0.24 & 135600 \\
\hline 0.73 & 12200 & 658989 & 27.71916 & 17.4012 & 17.32 & 17.49 & 0.17 & 85712 \\
\hline 0.53 & 28400 & 610343 & 27.68471 & 17.43735 & 17.32 & 17.48 & 0.16 & 14707 \\
\hline 0.53 & 26300 & 528678 & 27.66588 & 17.07138 & 17.01 & 17.35 & 0.34 & 373525 \\
\hline 0.58 & 0 & 415830 & 27.64111 & 16.96404 & 16.88 & 17.03 & 0.15 & 208700 \\
\hline 0.37 & 0 & 435401 & 27.60956 & 16.85746 & 16.69 & 16.93 & 0.24 & 123008 \\
\hline 0.77 & 13200 & 608549 & 27.5923 & 16.70873 & 16.57 & 16.84 & 0.27 & 100000 \\
\hline 0.27 & 0 & 343868 & 27.58045 & 16.81508 & 16.69 & 16.9 & 0.21 & 10000 \\
\hline 0.39 & 15000 & 527880 & 27.63407 & 16.73513 & 16.63 & 16.85 & 0.22 & 55025 \\
\hline 0.34 & 0 & 344513 & 27.63066 & 16.83487 & 16.7 & 16.98 & 0.28 & 70140 \\
\hline 0.71 & 168106 & 597000 & 27.65598 & 16.93708 & 16.87 & 17 & 0.13 & 40400 \\
\hline 0.65 & 122293 & 823958 & 27.67909 & 16.86761 & 16.7 & 16.95 & 0.25 & 81137 \\
\hline 0.71 & 45008 & 819681 & 27.77353 & 16.74217 & 16.67 & 16.87 & 0.2 & 0 \\
\hline 0.46 & 0 & 485809 & 27.75916 & 16.52706 & 16.2 & 16.79 & 0.59 & 23810 \\
\hline 0.43 & 0 & 365927 & 27.7381 & 16.11209 & 16.04 & 16.58 & 0.54 & 196600 \\
\hline 0.48 & 0 & 586004 & 28.2809 & 15.85919 & 15.46 & 16.27 & 0.81 & 113599 \\
\hline 0.4734 & 128071 & 704292 & 27.75414 & 15.66616 & 15.5 & 16 & 0.5 & 43900 \\
\hline 0.3575 & 0 & 362159 & 27.73395 & 15.59099 & 15.25 & 16 & 0.75 & 260570 \\
\hline 0.34 & 20000 & 398688 & 27.78354 & 15.53306 & 15.2 & 15.94 & 0.74 & 160060 \\
\hline 0.2925 & 0 & 371664 & 27.8043 & 15.36244 & 15.2 & 15.74 & 0.54 & 97694 \\
\hline 0.3 & 66800 & 678921 & 27.86186 & 15.58653 & 15.44 & 15.89 & 0.45 & 0 \\
\hline 2.31 & 109100 & 771452 & 27.87099 & 15.3335 & 15.1 & 15.5 & 0.4 & 70200 \\
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\hline 0.225 & 0 & 494911 & 27.84082 & 15.32434 & 14.76 & 15.44 & 0.68 & 71600 \\
\hline 0.43 & 22105 & 595987 & 27.82862 & 15.37879 & 15.3 & 15.44 & 0.14 & 49133 \\
\hline 0.54 & 0 & 471587 & 27.77834 & 15.35659 & 15.29 & 15.42 & 0.13 & 40000 \\
\hline 0.51 & 0 & 390500 & 27.83209 & 15.4543 & 15.25 & 17 & 1.75 & 81100 \\
\hline 0.22 & 0 & 308601 & 28.46657 & 15.37135 & 15.25 & 15.42 & 0.17 & 75954 \\
\hline 0.14 & 0 & 380053 & 27.82154 & 15.44583 & 15.3 & 15.62 & 0.32 & 130277 \\
\hline 0.262 & 0 & 275670 & 27.77352 & 15.01007 & 14.54 & 15.41 & 0.87 & 257100 \\
\hline 0.305 & 15300 & 267326 & 27.69871 & 14.73193 & 14.42 & 15.17 & 0.75 & 54200 \\
\hline 0.47 & 37590 & 319753 & 27.79525 & 15.03759 & 14.78 & 15.21 & 0.43 & 0 \\
\hline 0.16 & 0 & 282561 & 27.81429 & 15.36137 & 15.05 & 15.62 & 0.57 & 21100 \\
\hline 0.285 & 38550 & 254515 & 27.83274 & 15.33262 & 15.21 & 15.51 & 0.3 & 20300 \\
\hline 0.12 & 0 & 355508 & 27.8639 & 14.86058 & 14.45 & 15.27 & 0.82 & 123165 \\
\hline 0.19 & 12400 & 289070 & 27.86857 & 14.17742 & 13.9 & 14.6 & 0.7 & 82250 \\
\hline 0.11 & 0 & 258854 & 27.84434 & 13.36294 & 12.57 & 14.044 & 1.474 & 125520 \\
\hline 0.36 & 0 & 341075 & 27.8117 & 12.71536 & 12 & 13.35 & 1.35 & 174500 \\
\hline 0.636 & 10000 & 615019 & 28.30506 & 12.0911 & 11.7 & 12.59 & 9:21 PM & 141900 \\
\hline 1.0375 & 57000 & 494657 & 27.78842 & 12.49498 & 11.85 & 13.02 & 1.17 & 186990 \\
\hline 0.4 & 39500 & 577683 & 27.79839 & 13.1292 & 12.83 & 13.46 & 0.63 & 203265 \\
\hline 0.56 & 70200 & 723480 & 27.86071 & 12.90288 & 12.65 & 13.48 & 0.83 & 87516 \\
\hline 0.37 & 0 & 556936 & 27.90964 & 12.86347 & 12.64 & 13.4 & 0.76 & 202180 \\
\hline 0.12 & 15716 & 414813 & 27.88508 & 13.84469 & 13.344 & 14.25 & 0.906 & 87900 \\
\hline 0.28 & 0 & 403168 & 27.84146 & 13.8629 & 13.54 & 15.77 & 2.23 & 83000 \\
\hline 0.33 & 0 & 359529 & 27.85571 & 13.99077 & 13.57 & 14.23 & 0.66 & 31000 \\
\hline 0.52 & 11900 & 464323 & 27.86982 & 14.41588 & 13.9 & 15 & 1.1 & 248608 \\
\hline 0.5 & 10000 & 499834 & 27.82883 & 14.89133 & 14 & 15.11 & 1.11 & 54432 \\
\hline 0.34 & 0 & 362281 & 27.83132 & 15.13876 & 14.9 & 15.3 & 0.4 & 174554 \\
\hline 0.17 & 21050 & 579587 & 27.84016 & 15.4821 & 15 & 15.88 & 0.88 & 223500 \\
\hline 0.49 & 12000 & 633000 & 27.82301 & 15.94062 & 15.61 & 16.42 & 0.81 & 221900 \\
\hline 0.41 & 0 & 466363 & 27.80946 & 15.95658 & 15.51 & 16.2888 & 0.7788 & 51100 \\
\hline 0.58 & 0 & 414032 & 27.78902 & 15.41463 & 15.04 & 15.98 & 0.94 & 26800 \\
\hline 0.4202 & 48680 & 430401 & 27.75524 & 15.64528 & 15.39 & 16.07 & 0.68 & 142353 \\
\hline 0.24 & 0 & 390121 & 27.77779 & 15.90602 & 15.5 & 16.33 & 0.83 & 144594 \\
\hline 0.15 & 46895 & 334302 & 27.73813 & 16.10107 & 15.85 & 16.46 & 0.61 & 475553 \\
\hline 0.09 & 34600 & 517626 & 27.73599 & 16.45098 & 16.15 & 16.61 & 0.46 & 362257 \\
\hline 0.07 & 203725 & 361257 & 27.72891 & 16.05334 & 15.81 & 16.33 & 0.52 & 180331 \\
\hline 0.26 & 25000 & 375818 & 27.7358 & 15.94829 & 15.51 & 16.21 & 0.7 & 69250 \\
\hline 0.22 & 254800 & 571863 & 27.77784 & 15.93461 & 15.73 & 16 & 0.27 & 10100 \\
\hline 0.37 & 0 & 513377 & 27.80509 & 16.01278 & 15.84 & 16.29 & 0.45 & 26714 \\
\hline 0.22 & 22500 & 560506 & 27.79356 & 15.96754 & 15.74 & 16.21 & 0.47 & 0 \\
\hline 0.13 & 12000 & 188234 & 27.7757 & 16.0009 & 15.83 & 16.2 & 0.37 & 122817 \\
\hline 0.62 & 0 & 507503 & 27.77055 & 15.70854 & 15.48 & 15.97 & 0.49 & 0 \\
\hline 0.52 & 62247 & 917099 & 27.74218 & 15.94805 & 12 & 16.01 & 4.01 & 74490 \\
\hline 0.68 & 13480 & 385831 & 27.69416 & 15.77008 & 15.55 & 15.97 & 0.42 & 12600 \\
\hline 0.18 & 74000 & 422472 & 27.66002 & 15.65743 & 15.48 & 15.92 & 0.44 & 45000 \\
\hline 6.0399 & 0 & 268614 & 27.63219 & 15.9946 & 15.6913 & 16.2 & 0.5087 & 238088 \\
\hline 0.25 & 93900 & 505622 & 27.5861 & 16.35065 & 16.0713 & 16.72 & 0.6487 & 259130 \\
\hline 0.28 & 33300 & 391465 & 27.59362 & 16.87954 & 16.61 & 17.05 & 0.44 & 144210 \\
\hline 0.36 & 152000 & 570784 & 27.60345 & 16.88867 & 16.67 & 17.08 & 0.41 & 86626 \\
\hline 0.16 & 126300 & 507317 & 27.64267 & 17.23464 & 16.88 & 17.59 & 0.71 & 206568 \\
\hline 0.38 & 210000 & 472029 & 27.62357 & 17.56067 & 17.31 & 17.79 & 0.48 & 93125 \\
\hline 0.14 & 112220 & 689587 & 27.59135 & 17.70152 & 17.25 & 18 & 0.75 & 82900 \\
\hline 0.45 & 0 & 760253 & 27.57805 & 17.03156 & 16.51 & 17.5988 & 1.0888 & 100500 \\
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\hline 0.18 & 0 & 757108 & 27.58261 & 16.99154 & 16.77 & 17.2 & 0.43 & 18900 \\
\hline 0.27 & 27500 & 555189 & 27.52475 & 17.34784 & 16.99 & 17.58 & 0.59 & 27200 \\
\hline 0.5 & 0 & 474335 & 27.55967 & 17.1293 & 16.92 & 17.44 & 0.52 & 223500 \\
\hline 0.27 & 0 & 423033 & 27.59225 & 17.03307 & 16.8 & 17.2 & 0.4 & 32000 \\
\hline 0.3875 & 33900 & 448356 & 27.58658 & 16.87038 & 16.74 & 17.04 & 0.3 & 0 \\
\hline 0.2375 & 57260 & 600690 & 28.31401 & 17.1511 & 16.9 & 17.4 & 0.5 & 17400 \\
\hline 0.43 & 0 & 483582 & 27.53789 & 16.91749 & 16.61 & 17.35 & 0.74 & 41093 \\
\hline 0.2 & 0 & 282505 & 27.55237 & 16.21996 & 15.91 & 16.9599 & 1.0499 & 90505 \\
\hline 0.23 & 0 & 306276 & 27.55232 & 16.31913 & 16 & 16.56 & 0.56 & 34100 \\
\hline 0.2 & 22144 & 403471 & 27.54041 & 16.658 & 16.47 & 16.76 & 0.29 & 17300 \\
\hline 0.13 & 57625 & 520823 & 27.53752 & 16.75992 & 16.43 & 17.19 & 0.76 & 40200 \\
\hline 0.06 & 24400 & 545986 & 27.52075 & 17.24184 & 16.97 & 17.5 & 0.53 & 55900 \\
\hline 0.01 & 0 & 358652 & 27.52256 & 17.18884 & 17.06 & 17.39 & 0.33 & 10000 \\
\hline 0.07 & 99435 & 388678 & 27.51201 & 17.08058 & 16.83 & 17.32 & 0.49 & 15000 \\
\hline 0.12 & 40911 & 493207 & 27.53962 & 17.3376 & 17.1 & 17.5 & 0.4 & 23600 \\
\hline 0.24 & 37882 & 721071 & 28.13032 & 17.2691 & 17.07 & 17.5 & 0.43 & 57800 \\
\hline 0.19 & 0 & 527062 & 27.59704 & 17.48237 & 17.29 & 17.7 & 0.41 & 33285 \\
\hline 0.23 & 49090 & 696085 & 27.60713 & 17.3746 & 17.03 & 17.58 & 0.55 & 37800 \\
\hline 0.36 & 221994 & 946475 & 27.59582 & 17.11782 & 16.9 & 17.32 & 0.42 & 19800 \\
\hline 0.3 & 98100 & 614760 & 27.88036 & 17.37718 & 17.16 & 17.69 & 0.53 & 10000 \\
\hline 0.6012 & 18300 & 795718 & 27.66745 & 17.74708 & 17.41 & 17.95 & 0.54 & 102301 \\
\hline 0.42 & 78050 & 766188 & 27.69191 & 17.7994 & 17.585 & 17.94 & 0.355 & 10000 \\
\hline 0.22 & 0 & 565730 & 27.63888 & 17.62511 & 17.52 & 17.7 & 0.18 & 43231 \\
\hline 0.14 & 35598 & 378571 & 27.62545 & 17.79639 & 17.59 & 17.91 & 7:40 AM & 29450 \\
\hline 0.07 & 10600 & 418417 & 27.65647 & 17.70867 & 17.5 & 17.94 & 0.44 & 0 \\
\hline 0.14 & 0 & 295017 & 27.63048 & 17.91879 & 17.73 & 18 & 0.27 & 51206 \\
\hline 0.14 & 26000 & 416854 & 27.65141 & 17.80679 & 17.61 & 17.92 & 0.31 & 23865 \\
\hline 0.27 & 0 & 623921 & 27.67522 & 18.11612 & 17.91 & 18.32 & 0.41 & 88074 \\
\hline 0.28 & 47800 & 794436 & 27.73108 & 18.15551 & 17.94 & 18.4 & 0.46 & 24700 \\
\hline 0.21 & 35600 & 572242 & 27.72586 & 17.82318 & 17.51 & 18.05 & 0.54 & 160300 \\
\hline 0.19 & 34690 & 631186 & 27.69554 & 17.62556 & 17.49 & 17.77 & 0.28 & 167846 \\
\hline 0.18 & 34500 & 419809 & 27.67969 & 17.35581 & 17.22 & 17.58 & 0.36 & 84700 \\
\hline 0.23 & 16100 & 448446 & 27.70526 & 17.66418 & 17.26 & 18 & 0.74 & 10000 \\
\hline 0.15 & 10000 & 216807 & 27.70518 & 18.08157 & 17.8 & 18.29 & 0.49 & 90000 \\
\hline 0.1 & 0 & 197139 & 27.70002 & 17.75589 & 17.5 & 18 & 0.5 & 77200 \\
\hline 0.15 & 94753 & 492865 & 27.7181 & 17.94016 & 17.74 & 18.1 & 0.36 & 22700 \\
\hline 0.37 & 184300 & 626500 & 27.69494 & 17.87675 & 17.82 & 17.99 & 0.17 & 0 \\
\hline 0.23 & 33135 & 640570 & 27.63711 & 17.69232 & 17.51 & 17.89 & 0.38 & 13200 \\
\hline 0.51 & 0 & 625059 & 27.57447 & 17.62456 & 17.48 & 17.89 & 0.41 & 10100 \\
\hline 0.62 & 80600 & 617051 & 27.57982 & 17.79492 & 17.495 & 17.89 & 0.395 & 0 \\
\hline 0.22 & 0 & 418890 & 27.61399 & 17.7292 & 17.5 & 17.85 & 0.35 & 20000 \\
\hline 0.34 & 159560 & 1076594 & 27.64108 & 17.55709 & 17.4 & 17.7 & 0.3 & 66800 \\
\hline 0.235 & 11195 & 606306 & 27.68274 & 17.59481 & 17.41 & 17.82 & 0.41 & 147800 \\
\hline 0.22 & 0 & 581376 & 27.70663 & 17.53851 & 17.49 & 17.7302 & 0.2402 & 0 \\
\hline 0.58 & 15800 & 717330 & 27.71713 & 17.49711 & 17.45 & 17.56 & 0.11 & 15000 \\
\hline 0.26 & 77450 & 799359 & 28.33016 & 17.44503 & 17.3 & 17.56 & 0.26 & 96300 \\
\hline 0.54 & 109134 & 1081868 & 27.78402 & 17.58292 & 17.5 & 17.69 & 0.19 & 0 \\
\hline 0.31 & 30805 & 1017087 & 28.25874 & 17.42291 & 17.3 & 17.55 & 0.25 & 0 \\
\hline 0.33 & 26700 & 943887 & 27.75969 & 17.45564 & 17.24 & 17.58 & 0.34 & 0 \\
\hline 0.65 & 31725 & 1040790 & 27.7734 & 17.16003 & 16.99 & 17.33 & 0.34 & 26600 \\
\hline 0.58 & 43600 & 1093991 & 27.77763 & 17.30869 & 17.15 & 17.4 & 0.25 & 0 \\
\hline 0.53 & 85080 & 1023847 & 27.85474 & 17.45271 & 17.35 & 17.55 & 0.2 & 0 \\
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\hline 0.56 & 145997 & 1370219 & 27.91591 & 17.44295 & 17.22 & 17.63 & 0.41 & 38360 \\
\hline 0.46 & 306700 & 1021779 & 27.97182 & 17.443 & 17.24 & 17.69 & 0.45 & 25700 \\
\hline 0.67 & 78100 & 1218486 & 28.14827 & 17.65385 & 17.45 & 17.77 & 0.32 & 10700 \\
\hline 0.62 & 83200 & 1141887 & 27.89942 & 17.64717 & 17.53 & 17.71 & 0.18 & 33000 \\
\hline 0.6875 & 52008 & 1020336 & 27.94159 & 17.55324 & 17.44 & 17.66 & 0.22 & 83756 \\
\hline 0.8 & 250775 & 1340165 & 28.0124 & 17.36134 & 17.28 & 17.5 & 0.22 & 12800 \\
\hline 1.22 & 220871 & 1113997 & 28.04249 & 17.45257 & 17.34 & 17.61 & 0.27 & 12500 \\
\hline 0.89 & 71980 & 874585 & 28.00844 & 17.43721 & 17.28 & 17.54 & 0.26 & 66600 \\
\hline 0.64 & 139362 & 895411 & 27.97684 & 16.97806 & 16.55 & 17.3 & 0.75 & 0 \\
\hline 1.02 & 225292 & 1703748 & 28.03319 & 16.45762 & 16.15 & 17.59 & 1.44 & 0 \\
\hline 1.3 & 247270 & 1930473 & 28.05833 & 16.2182 & 15.84 & 16.43 & 0.59 & 141270 \\
\hline 0.71 & 72660 & 2061044 & 28.03584 & 16.40068 & 16.0288 & 16.6 & 0.5712 & 69477 \\
\hline 1.05 & 35778 & 1716833 & 28.02914 & 16.42531 & 16.28 & 16.63 & 0.35 & 0 \\
\hline 0.81 & 76500 & 2103855 & 28.03416 & 16.21431 & 15.82 & 16.458 & 0.638 & 29580 \\
\hline 0.7 & 169900 & 1710833 & 28.05946 & 16.49561 & 16.26 & 16.77 & 0.51 & 33700 \\
\hline 0.87 & 111617 & 1612052 & 28.05439 & 16.48471 & 16.25 & 16.67 & 0.42 & 20400 \\
\hline 5 & 199900 & 1715578 & 28.00841 & 16.36264 & 16.28 & 16.53 & 0.25 & 59439 \\
\hline 0.64 & 11800 & 1420875 & 28.06872 & 16.56402 & 16.36 & 16.8 & 0.44 & 0 \\
\hline 1.75 & 10000 & 1685298 & 28.09548 & 16.68292 & 16.54 & 16.88 & 0.34 & 10000 \\
\hline 0.99 & 68948 & 1580378 & 28.06629 & 16.53589 & 16.41 & 16.69 & 0.28 & 54800 \\
\hline 0.47 & 0 & 1061048 & 28.03785 & 16.70466 & 16.55 & 16.9 & 0.35 & 20000 \\
\hline 0.64 & 50920 & 1386209 & 27.98556 & 16.64976 & 16.58 & 16.81 & 0.23 & 163600 \\
\hline 1.1 & 330421 & 1953059 & 27.94884 & 16.718 & 16.51 & 16.9 & 0.39 & 0 \\
\hline 2.41 & 142328 & 1977268 & 27.91397 & 16.34826 & 16.2 & 16.58 & 0.38 & 10000 \\
\hline 2.61 & 51400 & 1528834 & 27.91468 & 16.44432 & 16.295 & 16.57 & 0.275 & 0 \\
\hline 0.7 & 43100 & 981432 & 27.93526 & 16.05452 & 15.6 & 16.47 & 0.87 & 34900 \\
\hline 0.71 & 14300 & 1176787 & 28.29887 & 16.20513 & 15.6388 & 16.3 & 0.6612 & 0 \\
\hline 0.31 & 18300 & 714609 & 27.9176 & 16.29806 & 16.16 & 16.35 & 0.19 & 0 \\
\hline 0.45 & 0 & 928000 & 27.89041 & 16.28371 & 16.1 & 16.54 & 0.44 & 36949 \\
\hline 0.63 & 15000 & 763166 & 27.85405 & 16.80887 & 16.51 & 17.16 & 0.65 & 60754 \\
\hline 0.54 & 41805 & 772288 & 27.92281 & 17.40104 & 17.04 & 17.65 & 0.61 & 24400 \\
\hline 0.5 & 0 & 473035 & 27.91252 & 17.04067 & 16.69 & 17.5 & 7:26 PM & 11500 \\
\hline 0.46 & 102200 & 936834 & 27.98413 & 17.69838 & 16.7201 & 18.57 & 1.8499 & 126862 \\
\hline 0.9 & 289500 & 1178213 & 28.04899 & 18.55569 & 17.2 & 18.88 & 1.68 & 37900 \\
\hline 0.55 & 143669 & 1276945 & 28.07014 & 18.48365 & 18.15 & 18.81 & 0.66 & 10245 \\
\hline 0.67 & 36700 & 1117687 & 28.10351 & 18.70132 & 18.5 & 18.93 & 0.43 & 0 \\
\hline 0.595 & 26963 & 1535475 & 28.10835 & 18.96008 & 18.6 & 19.2 & 0.6 & 40293 \\
\hline 1.4 & 26353 & 1288139 & 28.15889 & 19.3105 & 18.59 & 19.6 & 1.01 & 167813 \\
\hline 0.75 & 10000 & 1129281 & 28.10646 & 19.74819 & 18.67 & 20 & 1.33 & 101161 \\
\hline 0.416 & 10000 & 889748 & 28.10468 & 19.83884 & 19.43 & 20 & 0.57 & 0 \\
\hline 0.44 & 17200 & 817907 & 28.12018 & 19.35065 & 19.03 & 19.735 & 0.705 & 39960 \\
\hline 0.59 & 10000 & 1045287 & 28.14007 & 19.06824 & 18.74 & 19.55 & 0.81 & 20000 \\
\hline 0.38 & 28200 & 956007 & 28.18372 & 19.51332 & 19.03 & 19.85 & 0.82 & 128411 \\
\hline 0.5125 & 0 & 860451 & 28.17136 & 20.17414 & 19.45 & 21 & 1.55 & 286487 \\
\hline 0.53 & 20000 & 926492 & 28.09765 & 21.37164 & 19.6 & 22.17 & 2.57 & 308528 \\
\hline 0.35 & 10600 & 854452 & 28.05521 & 21.578 & 19.58 & 22.11 & 2.53 & 31000 \\
\hline 0.74 & 0 & 635990 & 28.30205 & 21.05597 & 20.49 & 22 & 1.51 & 87200 \\
\hline 0.2812 & 107645 & 789880 & 28.07935 & 20.56547 & 20.22 & 21.82 & 1.6 & 0 \\
\hline 0.8 & 53910 & 977076 & 28.02571 & 20.54458 & 20.2 & 21.38 & 1.18 & 99485 \\
\hline 0.61 & 71400 & 852735 & 28.05693 & 20.71217 & 20.2 & 20.87 & 0.67 & 108980 \\
\hline 0.62 & 13000 & 670028 & 28.09863 & 21.32441 & 20.62 & 21.87 & 1.25 & 181340 \\
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\hline 0.48 & 214400 & 1413369 & 28.0026 & 22.27708 & 21.72 & 22.5 & 0.78 & 128300 \\
\hline 0.97 & 31250 & 882502 & 28.04881 & 22.55285 & 22 & 23 & 1 & 209364 \\
\hline 0.28 & 0 & 546172 & 27.9225 & 23.30846 & 22.29 & 23.76 & 1.47 & 268550 \\
\hline 0.47 & 27905 & 708243 & 27.92626 & 23.36184 & 22.32 & 23.76 & 1.44 & 602045 \\
\hline 0.59 & 0 & 810272 & 27.95968 & 23.03612 & 22 & 23.66 & 1.66 & 546354 \\
\hline 0.83 & 10000 & 865049 & 27.99812 & 22.90874 & 22.5 & 23.54 & 1.04 & 554181 \\
\hline 0.38 & 62909 & 1152135 & 28.01921 & 22.97607 & 22.62 & 23.2 & 0.58 & 56730 \\
\hline 0.33 & 11879 & 963656 & 27.99952 & 23.04121 & 22.75 & 23.47 & 0.72 & 72800 \\
\hline 0.45 & 328690 & 739520 & 27.98433 & 22.83742 & 22.48 & 23.46 & 0.98 & 49889 \\
\hline 0.5475 & 13200 & 665783 & 27.95908 & 22.92274 & 22.5 & 23.13 & 0.63 & 128900 \\
\hline 0.63 & 83080 & 860314 & 27.87832 & 22.95828 & 22.69 & 23.15 & 0.46 & 88000 \\
\hline 0.31 & 23300 & 713460 & 27.86435 & 23.1962 & 22.73 & 23.77 & 1.04 & 91410 \\
\hline 0.34 & 20000 & 651597 & 27.9045 & 23.4192 & 23.07 & 23.7 & 0.63 & 177220 \\
\hline 0.25 & 42600 & 830974 & 27.8583 & 23.74214 & 23.37 & 23.92 & 0.55 & 219000 \\
\hline 0.2288 & 57300 & 586549 & 27.82282 & 23.39316 & 22.81 & 23.9 & 1.09 & 225043 \\
\hline 0.45 & 0 & 896636 & 28.19449 & 23.59474 & 22.895 & 24 & 1.105 & 133833 \\
\hline 0.37 & 240500 & 790243 & 27.73424 & 23.97329 & 23.26 & 24.25 & 0.99 & 487461 \\
\hline 0.63 & 44200 & 867199 & 27.70557 & 23.47218 & 23 & 24.25 & 1.25 & 216980 \\
\hline 0.69 & 121200 & 602522 & 27.67762 & 23.13933 & 22.75 & 24.24 & 1.49 & 62300 \\
\hline 0.59 & 12432 & 670017 & 27.6881 & 23.18106 & 22.76 & 23.75 & 0.99 & 111025 \\
\hline 0.2212 & 53278 & 767072 & 27.72547 & 23.15786 & 22.75 & 23.58 & 0.83 & 185040 \\
\hline 0.32 & 156975 & 889446 & 27.72847 & 22.94236 & 22.75 & 23.73 & 0.98 & 23191 \\
\hline 0.6 & 132742 & 1062128 & 27.71311 & 23.02249 & 22.56 & 23.4 & 0.84 & 116832 \\
\hline 0.39 & 217640 & 1649445 & 27.67555 & 23.55686 & 22.6 & 23.89 & 1.29 & 51000 \\
\hline 0.32 & 43000 & 855181 & 27.67342 & 23.92079 & 23.66 & 24.15 & 0.49 & 166003 \\
\hline 0.5125 & 168045 & 1396781 & 27.72394 & 24.1511 & 23.83 & 24.5 & 0.67 & 241477 \\
\hline 0.56 & 100112 & 1519375 & 27.7093 & 24.24508 & 23.9 & 24.56 & 0.66 & 252061 \\
\hline 0.18 & 88300 & 1074531 & 27.68704 & 24.24536 & 23.81 & 24.72 & 0.91 & 286700 \\
\hline 0.37 & 89783 & 1201164 & 27.68183 & 23.85329 & 23.27 & 24.31 & 1.04 & 182111 \\
\hline 0.36 & 70000 & 1141526 & 27.6356 & 23.25886 & 22.69 & 24.59 & 1.9 & 55200 \\
\hline 0.23 & 14000 & 960724 & 27.6091 & 22.5105 & 22.21 & 22.84 & 0.63 & 249873 \\
\hline 0.52 & 112607 & 877250 & 27.57609 & 22.0867 & 21.44 & 22.52 & 1.08 & 66800 \\
\hline 0.57 & 125484 & 782536 & 27.5578 & 20.92334 & 20.41 & 21.603 & 1.193 & 130617 \\
\hline 0.15 & 137458 & 928591 & 27.52981 & 20.98553 & 20.38 & 22.16 & 1.78 & 312875 \\
\hline 0.4 & 52900 & 862896 & 27.4997 & 21.96914 & 20.81 & 22.61 & 1.8 & 472095 \\
\hline 0.57 & 36300 & 907424 & 27.46687 & 22.73227 & 21.55 & 23.38 & 1.83 & 301153 \\
\hline 0.38 & 103989 & 853309 & 27.43926 & 23.15842 & 22.26 & 23.45 & 1.19 & 106010 \\
\hline 0.58 & 294934 & 1152879 & 27.40531 & 22.32947 & 20.84 & 23.35 & 2.51 & 692742 \\
\hline 1.28 & 174192 & 1697985 & 27.36891 & 22.08701 & 20.5 & 23.33 & 2.83 & 269097 \\
\hline 1.15 & 12500 & 69743 & 27.45837 & 22.38745 & 21.5 & 23.3 & 7:12 PM & 0 \\
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\hline 8888 & 21.76698 & 22.25342 & 21.55 & 22.94 & 1.39 & 0 & 16344 & 22.5234 \\
\hline 22341 & 21.77746 & 21.515 & 21.47 & 21.54 & 0.07 & 0 & 4600 & 22.5295 \\
\hline 11052 & 21.76116 & 22.5415 & 21.36 & 22.55 & 1.19 & 3233300 & 54033 & 22.52178 \\
\hline 22550 & 21.75536 & 21.97294 & 21.75 & 22.04 & 0.29 & 0 & 6183 & 22.51557 \\
\hline 32820 & 21.76251 & 22.16845 & 22 & 22.4 & 0.4 & 0 & 25836 & 22.51057 \\
\hline 21302 & 21.7733 & 22.2 & 22.2 & 22.2 & 0 & 0 & 1100 & 22.51011 \\
\hline 67376 & 21.84375 & 22.00598 & 22 & 22.55 & 0.55 & 0 & 9200 & 22.49367 \\
\hline 22065 & 21.78652 & 21.90971 & 21.75 & 22.1 & 0.35 & 0 & 2348 & 22.4891 \\
\hline 49480 & 21.91238 & 22.56565 & 21.75 & 23.0373 & 1.2873 & 0 & 11115 & 22.48961 \\
\hline 74625 & 21.76301 & 21.97665 & 21.94 & 22 & 0.06 & 0 & 3671 & 22.49605 \\
\hline 10409 & 21.76531 & 19.34093 & 19.0963 & 22.55 & 3.4537 & 1004900 & 18200 & 22.45438 \\
\hline 56525 & 21.78452 & 22.17335 & 22.09 & 22.2 & 0.11 & 0 & 2439 & 22.49231 \\
\hline 36900 & 21.77878 & 21.43643 & 18.7333 & 22.25 & 3.5167 & 0 & 6784 & 22.48343 \\
\hline 22350 & 22.56713 & 22.22619 & 22.2 & 22.3 & 0.1 & 0 & 4200 & 22.47427 \\
\hline 56095 & 21.79153 & 19.43372 & 19.3454 & 23.0141 & 3.6687 & 1555581 & 2700 & 22.50508 \\
\hline 17725 & 21.79004 & 22.064 & 22.06 & 22.07 & 0.01 & 0 & 500 & 22.53886 \\
\hline 13275 & 21.79221 & 19.50588 & 17.6349 & 23.0144 & 5.3795 & 244086 & 3600 & 22.4303 \\
\hline 12025 & 21.67822 & 21.96496 & 21.8 & 22.03 & 0.23 & 0 & 5194 & 22.40187 \\
\hline 33335 & 21.89524 & 21.77342 & 21.53 & 21.9 & 0.37 & 0 & 7450 & 22.45699 \\
\hline 81923 & 21.76173 & 21.80178 & 21.75 & 21.89 & 0.14 & 0 & 2675 & 21.81285 \\
\hline 66570 & 21.75966 & 22.58214 & 21.75 & 22.9767 & 1.2267 & 0 & 921 & 22.18489 \\
\hline 5267 & 21.76373 & 22.2745 & 21.89 & 22.55 & 0.66 & 14209 & 12352 & 22.46864 \\
\hline 6765 & 21.78221 & 21.9975 & 21.96 & 22 & 0.04 & 0 & 3200 & 22.51667 \\
\hline 8980 & 22.65443 & 22.48103 & 21.96 & 22.55 & 0.59 & 0 & 3335 & 22.4457 \\
\hline 5200 & 21.79355 & 21.98531 & 21.96 & 22 & 0.04 & 0 & 497 & 22.46752 \\
\hline 4350 & 21.79354 & 21.99084 & 21.96 & 22 & 0.04 & 0 & 1528 & 22.46459 \\
\hline 14395 & 21.7978 & 22.01164 & 21.93 & 22.2 & 0.27 & 12100 & 28650 & 22.46534 \\
\hline 9790 & 21.80802 & 22.25048 & 22.19 & 22.55 & 0.36 & 0 & 6704 & 22.47653 \\
\hline 1300 & 21.80621 & 22.29362 & 22.2 & 22.3 & 0.1 & 0 & 4700 & 22.48668 \\
\hline 14770 & 21.8345 & & & & & & & 22.55754 \\
\hline 915 & 21.83667 & 22.07417 & 22.02 & 22.47 & 0.45 & 0 & 1200 & 22.50821 \\
\hline 91230 & 21.83572 & 22.2 & 22.2 & 22.2 & 0 & 0 & 100 & 22.49927 \\
\hline 178116 & 21.86656 & 22.03 & 22.03 & 22.03 & 0 & 0 & 656 & 22.49982 \\
\hline 72730 & 22.69106 & 22.02 & 22.02 & 22.02 & 0 & 0 & 100 & 22.5256 \\
\hline 74480 & 21.93251 & 22.26 & 22.1 & 22.3 & 0.2 & 0 & 600 & 22.52794 \\
\hline 107767 & 22.43429 & 21.79172 & 21.53 & 22.03 & 0.5 & & 10445 & 22.51894 \\
\hline 38140 & 21.86918 & 21.40802 & 21.28 & 21.95 & 0.67 & 0 & 23551 & 22.49822 \\
\hline 73922 & 21.8431 & 21.32634 & 21.3 & 22.55 & 1.25 & 22870 & 6790 & 22.49315 \\
\hline 106671 & 21.86991 & 21.74924 & 21.39 & 21.94 & 0.55 & 0 & 3140 & 22.50219 \\
\hline 76984 & 21.87337 & 21.95088 & 21.85 & 22.1 & 0.25 & 0 & 12780 & 21.75751 \\
\hline 57466 & 21.87003 & 22 & 22 & 22 & 0 & 0 & 1000 & 22.51523 \\
\hline 35530 & 22.60851 & & & & & & & 22.51661 \\
\hline 64940 & 21.88248 & 22.11629 & 22.06 & 22.2 & 0.14 & 0 & 4107 & 22.529 \\
\hline 25575 & 21.87798 & 22.24024 & 22.19 & 22.25 & 0.06 & 0 & 6944 & 22.52336 \\
\hline 45000 & 21.85758 & 22.1 & 22.1 & 22.1 & 0 & 0 & 262 & 22.50768 \\
\hline 22500 & 21.86244 & 22.18615 & 22.1 & 22.2 & 0.1 & 0 & 722 & 22.50495 \\
\hline 26065 & 21.8297 & 22.54896 & 22.16 & 22.55 & 0.39 & 70782 & 200 & 21.76568 \\
\hline 33360 & 21.84092 & & & & & & & 22.50383 \\
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\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 30355 & 21.81963 & 22.0425 & 22 & 22.07 & 0.07 & 0 & 1200 & 22.4714 \\
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\hline 12296 & 21.82046 & 22.15625 & 22.13 & 22.2 & 0.07 & 0 & 800 & 22.52184 \\
\hline 32715 & 21.81805 & 22.2 & 22.2 & 22.2 & 0 & 0 & 1100 & 22.51426 \\
\hline 5435 & 21.82676 & 21.01068 & 21 & 22.21 & 1.21 & 200000 & 1800 & 22.51065 \\
\hline 22901 & 21.85993 & 22.31769 & 22.21 & 22.35 & 0.14 & 0 & 1300 & 22.52008 \\
\hline 10600 & 21.8224 & 22.33895 & 22.21 & 22.35 & 0.14 & 0 & 5700 & 22.52495 \\
\hline 39947 & 21.76386 & 22.33 & 22.33 & 22.33 & 0 & 0 & 300 & 22.53598 \\
\hline 33342 & 22.74503 & 22.19891 & 22.1 & 22.3 & 0.2 & 0 & 4300 & 22.52848 \\
\hline 23254 & 21.81471 & 22.2 & 22.2 & 22.2 & 0 & 0 & 6500 & 22.52392 \\
\hline 8454 & 21.82163 & & & & & & & 22.52558 \\
\hline 7460 & 22.73159 & 22.055 & 22 & 22.1 & 0.1 & 0 & 1000 & 22.5258 \\
\hline 2470 & 21.80981 & & & & & & & 22.48942 \\
\hline 5000 & 21.81342 & 22.1 & 22.1 & 22.1 & 0 & 0 & 200 & 22.52558 \\
\hline 5660 & 21.8175 & 22.141 & 22.1 & 22.2 & 0.1 & 0 & 2000 & 22.52628 \\
\hline 2600 & 21.79727 & & & & & & & 22.51925 \\
\hline 11280 & 21.80365 & 22.2125 & 22.2 & 22.25 & 0.05 & 0 & 400 & 22.52552 \\
\hline 10250 & 21.8276 & 22.39056 & 22.28 & 22.47 & 0.19 & 0 & 4035 & 21.73719 \\
\hline 5650 & 21.83698 & 22.50174 & 22.44 & 22.62 & 0.18 & 0 & 11960 & 22.5249 \\
\hline 2600 & 21.83658 & 22.5 & 22.5 & 22.5 & 0 & 0 & 4000 & 22.53287 \\
\hline 7766 & 21.83634 & 22.45 & 22.45 & 22.45 & 0 & 0 & 200 & 22.53466 \\
\hline 2880 & 21.85885 & 22.45836 & 22.23 & 22.54 & 0.31 & 0 & 3050 & 22.54535 \\
\hline 5200 & 21.85415 & & & & & & & 22.52756 \\
\hline 1795 & & 22.53329 & 22.42 & 22.55 & 0.13 & 0 & 6305 & 22.52184 \\
\hline 17427 & 21.85299 & 22.55 & 22.55 & 22.55 & 0 & 0 & 1441 & \\
\hline 7400 & 22.71497 & 22.57938 & 22.54 & 22.65 & 0.11 & 0 & 1600 & 22.52071 \\
\hline 7315 & 21.84276 & 22.83265 & 22.7 & 22.9 & 0.2 & 0 & 3400 & 21.73724 \\
\hline 12798 & 21.84197 & 22.84323 & 22.65 & 22.9 & 0.25 & 0 & 3100 & 22.54347 \\
\hline 7850 & 21.83954 & 22.68455 & 22.53 & 22.7 & 0.17 & 0 & 1100 & 22.55847 \\
\hline 7733 & 21.82791 & 22.76897 & 22.7 & 22.8 & 0.1 & 0 & 1450 & 22.54771 \\
\hline 4155 & 21.90399 & 22.85 & 22.85 & 22.85 & 0 & 0 & 100 & 22.53766 \\
\hline 2375 & 21.82097 & 22.73667 & 22.72 & 22.77 & 0.05 & 0 & 1200 & 22.53924 \\
\hline 22476 & 21.82121 & 22.77652 & 22.77 & 22.8 & 0.03 & 0 & 2300 & 22.54031 \\
\hline 13600 & 21.81981 & 22.88283 & 22.83 & 22.9 & 0.07 & 0 & 16450 & 22.53817 \\
\hline 11054 & 21.82599 & 22.866 & 22.75 & 22.9 & 0.15 & 0 & 3125 & 22.5237 \\
\hline 12068 & 21.81754 & 22.71 & 22.71 & 22.71 & 0 & 0 & 500 & 22.52535 \\
\hline 13873 & 21.82163 & 22.7 & 22.7 & 22.7 & 0 & 0 & 1000 & 22.52745 \\
\hline 4600 & 22.74596 & & & & & & & 22.5368 \\
\hline 1800 & 22.74515 & & & & & & & 22.54593 \\
\hline 6850 & 21.81693 & 22.70451 & 22.7 & 22.78 & 0.08 & 0 & 1775 & 22.5537 \\
\hline 11800 & 21.81164 & 22.55064 & 22.5 & 22.7 & 0.2 & 0 & 14375 & \\
\hline 13950 & & 22.7 & 22.7 & 22.7 & 0 & 0 & 500 & \\
\hline 7000 & 21.81205 & 22.7 & 22.7 & 22.7 & 0 & 0 & 700 & 21.73697 \\
\hline 1700 & & 22.9814 & 22.9814 & 22.9814 & 0 & 17500 & 0 & 22.56218 \\
\hline 3266 & 21.82194 & 22.71333 & 22.7 & 22.78 & 0.08 & 0 & 600 & 22.56969 \\
\hline 1890 & 21.8042 & & & & & & & \\
\hline 20697 & 21.80109 & 22.69786 & 22.65 & 22.7 & 0.05 & 0 & 11700 & \\
\hline 4623 & 21.82163 & 22.62 & 22.62 & 22.62 & 0 & 0 & 200 & \\
\hline 3900 & 21.80303 & 22.45 & 22.45 & 22.45 & 0 & 0 & 470 & 22.56776 \\
\hline 4460 & 21.81229 & & & & & & & 22.5686 \\
\hline 13360 & 21.80296 & 22.68875 & 22.6 & 22.7 & 0.1 & 0 & 1600 & 22.56612 \\
\hline 4100 & 21.79884 & & & & & & & 22.57236 \\
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6100 & & & & & & & & 22.56487 \\
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4500 & 21.78914 & 22.51143 & 22.5 & 22.53 & 0.03 & 0 & 1400 & 22.57423 \\
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200 & 21.79176 & 22.42671 & 22.24 & 22.55 & 0.31 & 0 & 5149 & 22.57304 \\
6475 & 21.78989 & 22.51471 & 22.5 & 22.55 & 0.05 & 0 & 3400 & 22.58152 \\
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2800 & 21.78669 & 22.49333 & 22.49 & 22.5 & 0.01 & 0 & 300 & 22.60767 \\
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6000 & 22.72436 & 22.55 & 22.55 & 22.55 & 0 & 0 & 800 & 22.59516
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18925 & 22.01312 & 30.52768 & 30.5 & 30.71 & 0.21 & 19500 & 27934 & 23.3458 \\
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155509 & 22.02567 & 30.305 & 30.2 & 30.47 & 0.27 & 0 & 25890 & 23.3591 \\
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116995 & 21.96324 & 30.64152 & 30.5 & 30.8 & 0.3 & 18735 & 103977 & 23.35706 \\
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98860 & 21.97015 & 31.1712 & 31 & 31.39 & 0.39 & 0 & 14889 & 23.365 \\
68762 & 21.96574 & 31.10399 & 31 & 31.25 & 0.25 & 31000 & 40189 & 23.36871 \\
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\hline 51600 & 21.95749 & 33.06509 & 32.8 & 33.25 & 0.45 & 0 & 27299 & 23.38584 \\
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\hline 46496 & 21.96113 & 33.98092 & 33.5 & 34.34 & 0.84 & 0 & 118656 & 23.43848 \\
\hline 159001 & 21.99192 & 34.25223 & 34 & 34.52 & 0.52 & 46538 & 94317 & 23.44529 \\
\hline 122107 & 21.96298 & 34.3356 & 34 & 35 & 1 & 64923 & 120767 & 23.46089 \\
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\hline 33550 & 22.00159 & 34.46156 & 34.25 & 34.68 & 0.43 & 0 & 88559 & 23.49099 \\
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\hline 56263 & 21.91757 & 33.96589 & 33.75 & 34.05 & 0.3 & 18430 & 23280 & 23.51039 \\
\hline 26271 & 21.91052 & 33.84828 & 33.77 & 33.95 & 0.18 & 89160 & 16340 & 23.51312 \\
\hline 66861 & 21.89995 & 33.70506 & 33.55 & 33.83 & 0.28 & 0 & 31850 & 23.5022 \\
\hline 48215 & 21.90722 & 33.7829 & 33.66 & 33.85 & 0.19 & 0 & 22050 & 23.51004 \\
\hline 7312 & 21.91023 & 33.81215 & 33.75 & 33.91 & 0.16 & 0 & 33285 & 23.49744 \\
\hline 19830 & 21.93467 & 34.08992 & 33.94 & 34.35 & 0.41 & 0 & 29664 & 23.54774 \\
\hline 122367 & 21.93067 & 34.35 & 34.1 & 34.42 & 0.32 & 0 & 33236 & 23.54911 \\
\hline 99770 & 22.0078 & 34.3737 & 34.26 & 34.4 & 0.14 & 0 & 55466 & 23.56439 \\
\hline 35725 & 21.93796 & 34.08155 & 34 & 34.3 & 0.3 & 0 & 26719 & 23.55529 \\
\hline 70116 & 21.94924 & 34.06537 & 34 & 34.23 & 0.23 & 0 & 33500 & 23.58278 \\
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\hline 26845 & 21.96388 & 34.10978 & 34.05 & 34.2 & 0.15 & 0 & 34098 & 23.6302 \\
\hline 63350 & 21.94543 & 34.19885 & 34.07 & 34.35 & 0.28 & 37400 & 56894 & 23.60607 \\
\hline 31246 & 21.92692 & 34.07678 & 34 & 34.14 & 0.14 & 0 & 21255 & 23.64732 \\
\hline 40865 & 21.91557 & 34.08805 & 34.06 & 34.09 & 0.03 & 19000 & 27621 & 23.67212 \\
\hline 64695 & 21.92762 & 34.00321 & 34 & 34.07 & 0.07 & 55800 & 49210 & 23.66838 \\
\hline 117689 & 21.90518 & 33.56394 & 33.51 & 33.94 & 0.43 & 100000 & 8000 & 23.66676 \\
\hline 13154 & 21.92683 & 33.40307 & 33.25 & 33.68 & 0.43 & 0 & 26550 & 23.66477 \\
\hline 47190 & 21.87177 & 33.41695 & 33.01 & 33.57 & 0.56 & 0 & 37276 & 23.66864 \\
\hline 75446 & 21.87465 & 33.32597 & 33.12 & 33.41 & 0.29 & 13700 & 43251 & 23.69739 \\
\hline 47100 & 21.86378 & 33.29062 & 32.94 & 33.41 & 0.47 & 0 & 83612 & 23.73156 \\
\hline 31371 & 21.86411 & 33.11184 & 33 & 33.5 & 0.5 & 221949 & 68794 & 23.6978 \\
\hline 5225 & 21.8833 & 33.03351 & 33 & 33.15 & 0.15 & 0 & 25022 & 23.7143 \\
\hline 18130 & 21.89429 & 33.19713 & 33 & 33.28 & 0.28 & 0 & 9075 & 23.67191 \\
\hline 25368 & 21.89688 & 33.27445 & 33.15 & 33.3 & 0.15 & 0 & 42015 & 23.68109 \\
\hline 53046 & 21.93224 & 33.17785 & 33.15 & 33.22 & 0.07 & 0 & 16753 & 23.706 \\
\hline 12920 & 21.93297 & 32.99058 & 32.64 & 33.21 & 0.57 & 216120 & 64928 & 23.69576 \\
\hline 35764 & 21.9128 & 32.77678 & 32.45 & 33.25 & 0.8 & 13808 & 52860 & 23.6925 \\
\hline 21266 & 21.9091 & 32.99662 & 32.81 & 33.3 & 0.49 & 0 & 15961 & 23.6857 \\
\hline 67300 & 21.89719 & 33.04792 & 33 & 33.11 & 0.11 & 0 & 4528 & 23.68762 \\
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\hline 58550 & 21.92751 & 33.21182 & 33.05 & 33.3 & 0.25 & 0 & 12002 & 23.83135 \\
\hline 130057 & 21.93811 & 33.19344 & 33.1 & 33.28 & 0.18 & 0 & 6300 & 23.83435 \\
\hline 47450 & 21.95912 & 33.31515 & 33.25 & 33.4 & 0.15 & 0 & 20492 & 23.88304 \\
\hline 58776 & 21.99466 & 33.29949 & 33.25 & 33.34 & 0.09 & 0 & 22550 & 23.9105 \\
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\hline 64453 & 21.9954 & 33.32432 & 33.2 & 33.4 & 0.2 & 12800 & 121267 & 23.86527 \\
\hline 49394 & 22.00615 & 33.45665 & 33.31 & 33.58 & 0.27 & 0 & 34668 & 23.8532 \\
\hline 444559 & 22.02137 & 33.60439 & 33.5 & 33.73 & 0.23 & 43000 & 61600 & 23.84604 \\
\hline 157207 & 22.02013 & 33.4674 & 33.36 & 33.66 & 0.3 & 76300 & 76522 & 23.79552 \\
\hline 149745 & 22.04033 & 33.71251 & 33.49 & 33.99 & 0.5 & 38500 & 97548 & 23.86522 \\
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\hline 281036 & 22.01652 & 33.50647 & 33.27 & 33.62 & 0.35 & 56084 & 273981 & 23.78551 \\
\hline 382032 & 22.06271 & 33.24214 & 32.69 & 33.62 & 0.93 & 24180 & 155916 & 23.78175 \\
\hline 110762 & 22.07233 & 31.81943 & 29.96 & 32.76 & 2.8 & 4483459 & 729917 & 23.76403 \\
\hline 831292 & 22.04466 & 29.13464 & 27.13 & 31 & 3.87 & 626655 & 733223 & 23.73267 \\
\hline 625615 & 22.07474 & 28.86511 & 28 & 29.88 & 1.88 & 369204 & 542465 & 23.67048 \\
\hline 823959 & 22.10421 & 28.88541 & 27.99 & 30 & 2.01 & 105333 & 501566 & 23.65566 \\
\hline 1195044 & 22.09597 & 28.8194 & 28.3 & 29.75 & 1.45 & 166922 & 661505 & 23.69398 \\
\hline 999127 & 22.08404 & 28.67034 & 28.24 & 29.09 & 0.85 & 130744 & 376625 & 23.60521 \\
\hline 1163015 & 22.07991 & 28.68488 & 28.27 & 29.06 & 0.79 & 107365 & 339828 & 23.59729 \\
\hline 901227 & 22.08002 & 28.4228 & 28.16 & 30 & 1.84 & 140509 & 512281 & 23.5892 \\
\hline 819035 & 22.07652 & 28.88946 & 28.3 & 29.51 & 1.21 & 239500 & 687166 & 23.28562 \\
\hline 490776 & 22.05879 & 29.04734 & 28.69 & 29.55 & 0.86 & 24400 & 418046 & 23.54925 \\
\hline 675994 & 22.02871 & 29.0753 & 28.84 & 29.49 & 0.65 & 348380 & 502966 & 23.51026 \\
\hline 597522 & 22.00826 & 29.73108 & 28.19 & 30 & 1.81 & 10000 & 495757 & 23.47335 \\
\hline 604654 & 21.96083 & 29.51825 & 28.99 & 29.99 & & 130775 & 187189 & 23.50026 \\
\hline 651583 & 21.94236 & 29.57375 & 29.43 & 29.83 & 0.4 & 72500 & 312145 & 23.51772 \\
\hline 657905 & 21.93608 & 30.01259 & 29.76 & 30.36 & 0.6 & 135850 & 599412 & 23.49072 \\
\hline 644708 & 21.92656 & 30.92788 & 30.28 & 31.28 & 1 & 75072 & 472913 & 23.52828 \\
\hline 606687 & 21.91757 & 30.65664 & 30.01 & 31.26 & 1.25 & 183789 & 288998 & 23.55117 \\
\hline 694856 & 21.92006 & 30.24342 & 29.96 & 30.53 & 0.57 & 47300 & 256401 & 23.56353 \\
\hline 553172 & 21.93838 & 30.49387 & 30.3 & 30.7 & 0.4 & 59500 & 283936 & 23.55008 \\
\hline 868697 & 21.9735 & 30.36391 & 30.22 & 30.47 & 0.25 & 12000 & 349351 & 23.50819 \\
\hline 1486140 & 22.00816 & 29.98625 & 29.55 & 30.44 & 0.89 & 55300 & 354526 & 23.42707 \\
\hline 1511030 & 22.03321 & 29.38415 & 29 & 29.7 & 0.7 & 0 & 416761 & 23.41409 \\
\hline 1643100 & 22.03821 & 28.77768 & 28.19 & 29.23 & 1.04 & 81233 & 361156 & 23.45101 \\
\hline 1670071 & 22.05495 & 27.90887 & 27.05 & 28.8 & 1.75 & 0 & 404872 & 23.43481 \\
\hline 124015 & 22.09692 & 26.96783 & 26.57 & 27.4 & 0.83 & 0 & 447709 & 23.4066 \\
\hline 1269049 & 22.1324 & 26.72544 & 26.24 & 28.19 & 1.95 & 34000 & 467526 & 23.39585 \\
\hline 350469 & 22.1201 & 27.35133 & 26.49 & 28.72 & 2.23 & 90800 & 693001 & 23.34903 \\
\hline 011583 & 22.15145 & 26.816 & 26.31 & 28.19 & 1.88 & 19400 & 225010 & 23.3422 \\
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\hline 377522 & 22.19666 & 26.7129 & 26.47 & 27.3 & 0.83 & 5197946 & 373944 & 23.24316 \\
\hline 105990 & 22.14104 & 26.75127 & 26.53 & 27.02 & 0.49 & 377000 & 278154 & 23.27959 \\
\hline 627662 & 22.11823 & 26.87026 & 26.52 & 27.27 & 0.75 & 84900 & 612338 & 23.25458 \\
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\hline 019972 & 22.13808 & 26.91898 & 26.24 & 28.15 & 1.91 & 113500 & 405819 & 23.2529 \\
\hline 522110 & 22.13175 & 25.64463 & 25 & 26.41 & 1.41 & 200000 & 441829 & 23.19542 \\
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\hline 1041476 & 22.12969 & 26.29185 & 26.15 & 26.52 & 0.37 & & 257455 & 23.20935 \\
\hline 638659 & 22.10882 & 26.21699 & 25.95 & 26.73 & 0.78 & 0 & 450415 & 23.16848 \\
\hline 774917 & 22.0668 & 26.61802 & 26.1488 & 27.14 & 0.9912 & 160300 & 276018 & 23.15857 \\
\hline 953105 & 22.06007 & 27.18537 & 27 & 27.38 & 0.38 & 18700 & 386949 & 23.18283 \\
\hline 701539 & 22.03999 & 27.19234 & 26.59 & 27.93 & 1.34 & 54200 & 480885 & 23.19934 \\
\hline 806690 & 22.03224 & 27.84734 & 27.32 & 28.2 & 0.88 & 12200 & 354048 & 23.22913 \\
\hline 562631 & 22.00934 & 28.28256 & 27.8 & 31 & 3.2 & 0 & 378954 & 23.27 \\
\hline 628355 & 22.01366 & 28.26473 & 28.02 & 28.67 & 0.65 & 0 & 253294 & 23.31541 \\
\hline 583516 & 22.02755 & 27.398 & 26.8 & 28.1 & 1.3 & 45200 & 302613 & 23.31363 \\
\hline 522707 & 22.00183 & 27.11388 & 26.7 & 27.55 & 0.85 & 13300 & 248071 & 23.26212 \\
\hline 543873 & 22.01511 & 27.53682 & 27.0605 & 28.13 & 1.0695 & 63500 & 208619 & 23.24487 \\
\hline 671036 & 22.01165 & 27.40222 & 27.2 & 29.4068 & 2.2068 & 26500 & 231367 & 23.2389 \\
\hline 950796 & 22.00861 & 27.37696 & 27.2 & 28.16 & 0.96 & 30500 & 245293 & 23.23886 \\
\hline 517559 & 22.03997 & 27.33962 & 27.22 & 27.59 & 0.37 & 0 & 199835 & 23.2258 \\
\hline 269172 & 22.05306 & 27.3458 & 27.05 & 27.59 & 0.54 & 28000 & 245380 & 23.22854 \\
\hline 383403 & 22.06535 & 27.46987 & 27.37 & 27.61 & 0.24 & 0 & 138685 & 23.25963 \\
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\hline 491237 & 22.0996 & 27.58992 & 27.3374 & 28 & 0.6626 & 0 & 263965 & 23.22934 \\
\hline 487687 & 22.0913 & 27.79407 & 27.37 & 28.1 & 0.73 & 83000 & 257493 & 23.21342 \\
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\hline 304202 & 22.05619 & 28.11377 & 27.52 & 28.5 & 0.98 & 0 & 371073 & 23.15541 \\
\hline 386783 & 22.07016 & 27.5323 & 27.26 & 28 & 0.74 & 0 & 214723 & 23.14074 \\
\hline 461746 & 22.0566 & 27.61712 & 27.45 & 28 & 0.55 & 0 & 193624 & 23.17226 \\
\hline 702712 & 22.05893 & 27.96259 & 27.77 & 28.1 & 0.33 & 0 & 227165 & 23.18123 \\
\hline 464896 & 22.06637 & 28.02027 & 27.9 & 28.18 & 0.28 & 0 & 268160 & 23.21649 \\
\hline 588558 & 22.0645 & 28.12812 & 28 & 28.5 & 0.5 & 19000 & 249139 & 23.23106 \\
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\hline 513998 & 22.04783 & 27.97751 & 27.81 & 28.06 & 0.25 & 175500 & 252532 & 23.24214 \\
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\hline 240457 & 22.05445 & 27.9667 & 27.8 & 28.07 & 0.27 & 17900 & 206344 & 23.21396 \\
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\hline 282656 & 22.01765 & 27.58241 & 27.16 & 27.84 & 0.68 & 192276 & 287438 & 23.14356 \\
\hline 417091 & 21.94877 & 27.62555 & 27.41 & 27.71 & 0.3 & 0 & 248143 & 23.15995 \\
\hline 636289 & 21.9446 & 27.57044 & 27.5 & 27.8 & 0.3 & 0 & 137185 & 23.12136 \\
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\hline 370739 & 21.94285 & 27.67183 & 27.5 & 27.89 & 0.39 & 85200 & 204518 & 23.14677 \\
\hline 361105 & 21.95162 & 27.75189 & 27.64 & 28 & 0.36 & 48700 & 139099 & 23.14315 \\
\hline 399513 & 21.96474 & 27.93028 & 27.79 & 28 & 0.21 & 0 & 192559 & 23.14231 \\
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\hline 254383 & 21.97959 & 28.08256 & 27.95 & 28.31 & 0.36 & 80800 & 309729 & 23.15685 \\
\hline 204196 & 21.95387 & 28.1661 & 27.99 & 28.48 & 0.49 & 34800 & 268162 & 23.129 \\
\hline 177763 & 21.92207 & 28.20313 & 28.05 & 28.41 & 0.36 & 20900 & 169209 & 23.10196 \\
\hline 243747 & 21.88014 & 28.02829 & 27.79 & 28.21 & 0.42 & 0 & 219420 & 23.10968 \\
\hline 424708 & 21.84901 & 28.0329 & 27.88 & 28.17 & 0.29 & 24800 & 163635 & 23.13253 \\
\hline 321581 & 21.83535 & 27.79791 & 27.6 & 28.02 & 0.42 & 0 & 165680 & 23.15479 \\
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\hline 1115885 & 21.83674 & 27.97807 & 27.83 & 28.04 & 0.21 & 196756 & 206814 & 23.32896 \\
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\hline 531016 & 21.81232 & 28.14079 & 27.99 & 28.25 & 0.26 & 0 & 229409 & 23.3573 \\
\hline 578211 & 21.81097 & 28.21787 & 28.13 & 28.28 & 0.15 & 0 & 184852 & 23.37693 \\
\hline 563027 & 21.80829 & 28.07409 & 27.9 & 28.23 & 0.33 & 0 & 198014 & 23.33535 \\
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\hline 1128855 & 21.75388 & 27.91623 & 27.83 & 28.02 & 0.19 & 11100 & 120166 & 23.3251 \\
\hline 888294 & 21.74587 & 27.82809 & 27.7 & 27.97 & 0.27 & 20600 & 222998 & 23.35399 \\
\hline 865710 & 21.75158 & 27.81562 & 27.6 & 27.97 & 0.37 & 48700 & 205581 & 23.35275 \\
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\hline 1049238 & 21.70419 & 27.57248 & 27.44 & 27.71 & 0.27 & 0 & 191130 & 23.36299 \\
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\hline 1041300 & 21.70301 & 27.49407 & 27.25 & 27.6699 & 0.4199 & 858900 & 215416 & 23.34091 \\
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\hline 505311 & 21.73367 & 28.25978 & 28.12 & 28.38 & 0.26 & 0 & 91831 & 23.27621 \\
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\hline 521322 & 21.78738 & 28.03465 & 28 & 28.05 & 0.05 & 0 & 71656 & 23.27281 \\
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\begin{tabular}{rrrrr}
25.88 & 0.7412 & 22900 & 356592 & 23.12557 \\
26.73 & 0.98 & 76300 & 380702 & 23.16813 \\
26.8 & 0.91 & 56000 & 286284 & 23.18675 \\
27.11 & 1.08 & 71650 & 407153 & 23.23192 \\
26.98 & 0.62 & 48400 & 290299 & 23.23524 \\
27.28 & 0.78 & 0 & 422691 & 23.26682 \\
31.94 & 4.81 & 0 & 231184 & 23.26592 \\
27.24 & 0.59 & 0 & 171586 & 23.25124 \\
26.79 & 0.34 & 0 & 218166 & 23.24756 \\
26.7 & 0.3 & 0 & 138563 & 23.24783 \\
26.72 & 0.28 & 18288 & 193674 & 23.24139 \\
27 & 0.32 & 0 & 198037 & 23.28324 \\
26.77 & 0.37 & 0 & 171532 & 23.25924 \\
26.81 & 0.4 & 0 & 258962 & 23.19931 \\
26.78 & 0.24 & 0 & 149645 & 23.24491 \\
26.85 & 0.23 & 0 & 218721 & 23.21971 \\
26.8 & 0.24 & 22400 & 207260 & 23.18582 \\
27 & 0.35 & 15300 & 203375 & 23.22426 \\
27 & 0.3 & 12300 & 108908 & 23.22391 \\
26.76 & 0.13 & 10500 & 239179 & 23.25208 \\
28.165 & 1.525 & 22000 & 152575 & 23.31144 \\
26.8299 & 0.1899 & 0 & 229578 & 23.33479 \\
26.95 & 0.31 & 0 & 313806 & 23.36712 \\
27.26 & 0.43 & 0 & 437922 & 23.35664 \\
27.43 & 0.7303 & 19900 & 515706 & 23.36098 \\
27.66 & 0.28 & 0 & 420403 & 23.34564 \\
27.48 & 0.82 & 10950 & 354607 & 23.32441 \\
27.3174 & 1.2574 & 0 & 366815 & 23.33209 \\
26.33 & 0.13 & 10200 & 338847 & 23.33846 \\
27.77 & 1.475 & 103700 & 544196 & 23.33352 \\
27.35 & 0.41 & 74794 & 314763 & 23.36714 \\
27.94 & 1.2337 & 178966 & 378533 & 23.40858 \\
27.41 & 0.41 & 74400 & 366958 & 23.39643 \\
27.25 & 0.43 & 15000 & 301848 & 23.37599 \\
26.96 & 0.69 & 214577 & 378345 & 23.36155 \\
27.35 & 1.1 & 144700 & 378273 & 23.37099 \\
26.53 & 0.73 & 75101 & 432397 & 23.36731 \\
27 & 1.15 & 115528 & 418955 & 23.36881 \\
27.5 & 1.61 & 74843 & 455277 & 23.37278 \\
26.4 & 0.43 & 0 & 23170 & 23.36937 \\
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\hline meanp_22 & _22 & maxp_22 & rangep_22 & adebig_2: & desmall & spindex_2ısort & \multicolumn{2}{|r|}{hourlab} \\
\hline 26.00874 & 25.97 & 26.4 & 0.43 & 0 & 23170 & 27.21 & 0 & 4:00 PM \\
\hline 25.88197 & 25.67 & 25.97 & 0.3 & 0 & 11400 & 27.19079 & 0 & \\
\hline 26.9225 & 25.9 & 27.21 & 1.31 & 70000 & 21200 & 27.16114 & 0 & \\
\hline 27.2068 & 26 & 27.21 & 1.21 & 1962240 & 24938 & 27.14926 & 0 & \\
\hline 26.41923 & 26.35 & 26.45 & 0.1 & 0 & 1300 & 27.16548 & 0 & \\
\hline 26.10611 & 26.01 & 26.2 & 0.19 & 0 & 1800 & 27.1862 & 0 & \\
\hline 26.23125 & 26.08 & 26.3 & 0.22 & 0 & 3200 & 27.19597 & 0 & \\
\hline 26.30645 & 26.01 & 26.37 & 0.36 & 0 & 5331 & 27.20562 & 0 & \\
\hline 26.31667 & 26.2 & 26.35 & 0.15 & 0 & 900 & 27.20689 & 0 & \\
\hline 26.00851 & 26 & 26.02 & 0.02 & 0 & 4700 & 27.19524 & 0 & \\
\hline 25.6145 & 25.5 & 26.01 & 0.51 & 0 & 13568 & 27.17367 & 0 & \\
\hline 25.6 & 25.6 & 25.6 & 0 & 0 & 330 & 27.15718 & 0 & \\
\hline 26.8787 & 25.9 & 28.8361 & 2.9361 & 0 & 300 & 27.11081 & 0 & \\
\hline 25.94286 & 25.9 & 25.96 & 0.06 & 0 & 1400 & 27.07613 & 0 & \\
\hline 26.00158 & 25.71 & 27.21 & 1.5 & 0 & 8250 & 27.11585 & 0 & \\
\hline 25.95498 & 25.71 & 26.35 & 0.64 & 0 & 13495 & 27.04532 & 0 & \\
\hline 26.80174 & 26.35 & 27.18 & 0.83 & 0 & 8600 & 27.07579 & 0 & \\
\hline 27.10243 & 26.2 & 27.18 & 0.98 & 0 & 4930 & 27.08338 & 0 & \\
\hline & & & & & & 27.08536 & 0 & \\
\hline 26.2 & 26.2 & 26.2 & 0 & 0 & 5800 & 27.09113 & 0 & \\
\hline 26.2 & 26.2 & 26.2 & 0 & 0 & 500 & 26.4063 & 0 & \\
\hline 26.34461 & 26.05 & 26.39 & 0.34 & 0 & 19625 & 27.10995 & 0 & \\
\hline 26.24875 & 26.2 & 26.39 & 0.19 & 0 & 800 & 27.07919 & 0 & \\
\hline 26.25 & 26.25 & 26.25 & 0 & 0 & 100 & 26.78856 & 0 & \\
\hline 26.25 & 26.25 & 26.25 & 0 & 0 & 700 & 27.07866 & 0 & \\
\hline & & & & & & 27.06633 & 0 & \\
\hline 26.25 & 26.25 & 26.25 & 0 & 0 & 1800 & 27.08107 & 0 & \\
\hline 28.1 & 28.1 & 28.1 & 0 & 0 & 200 & 27.06733 & 0 & \\
\hline 26.30833 & 26.25 & 26.39 & 0.14 & 0 & 1200 & 27.01692 & 0 & \\
\hline 27.16162 & 26.28 & 27.21 & 0.93 & 13724 & 1138 & 27.03969 & 0 & \\
\hline 26.35625 & 26.3 & 26.39 & 0.09 & 0 & 2400 & 27.05794 & 0 & \\
\hline 26.39 & 26.39 & 26.39 & 0 & 0 & 400 & 27.02507 & 0 & \\
\hline 26.26525 & 26.05 & 26.28 & 0.23 & 0 & 8100 & 26.28747 & 0 & \\
\hline 26.25 & 26.25 & 26.25 & 0 & 0 & 2750 & 27.02993 & 0 & \\
\hline & & & & & & 26.25591 & 0 & \\
\hline 26.05 & 26.05 & 26.05 & 0 & 0 & 850 & 27.02161 & 0 & \\
\hline 26.05 & 26.05 & 26.05 & 0 & 0 & 100 & 26.98418 & 0 & \\
\hline & & & & & & 26.2811 & 0 & \\
\hline & & & & & & 27.02475 & 0 & \\
\hline 26.2 & 26.2 & 26.2 & 0 & 0 & 2000 & 26.25143 & 0 & \\
\hline & & & & & & 27.04758 & 0 & \\
\hline 26.20049 & 26.2 & 26.21 & 0.01 & 0 & 2048 & 27.05495 & & \\
\hline & & & & & & 27.04965 & 0 & \\
\hline 26.41284 & 26.26 & 26.51 & 0.25 & 0 & 19748 & 26.2543 & 0 & \\
\hline 26.87167 & 26.8 & 26.9 & 0.1 & 0 & 600 & 27.0788 & 0 & \\
\hline 26.92204 & 26.9 & 27 & 0.1 & 13900 & 7585 & 26.25284 & 0 & \\
\hline 26.9 & 26.9 & 26.9 & 0 & 0 & 100 & 27.08157 & 0 & \\
\hline 26.99677 & 26.9 & 27 & 0.1 & 0 & 3100 & 27.07954 & 0 & \\
\hline & & & & & & 27.09714 & 0 & \\
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\hline & & & & & & 27.09373 & 0 & \\
\hline 26.89034 & 26.75 & 26.9 & 0.15 & 0 & 1552 & 27.08378 & 0 & \\
\hline 26.88393 & 26.85 & 26.9 & 0.05 & 0 & 1400 & 26.25408 & 0 & \\
\hline 26.91494 & 26.89 & 26.98 & 0.09 & 0 & 2142 & 27.08504 & 0 & \\
\hline 26.97 & 26.97 & 26.97 & 0 & 0 & 100 & 27.08468 & 0 & \\
\hline 26.99814 & 26.95 & 27 & 0.05 & 0 & 15000 & 27.08908 & 0 & \\
\hline 27.20642 & 26.99 & 27.21 & 0.22 & 169244 & 2800 & 27.29574 & 0 & \\
\hline 26.895 & 26.75 & 26.99 & 0.24 & 0 & 2000 & 27.09439 & 0 & \\
\hline 26.85 & 26.85 & 26.85 & 0 & 0 & 1200 & 27.3059 & 0 & \\
\hline & & & & & & 27.09044 & 0 & \\
\hline 26.79 & 26.75 & 26.85 & 0.1 & 0 & 5000 & 27.09695 & 0 & \\
\hline & & & & & & 27.08589 & 0 & 5:00 PM \\
\hline & & & & & & 27.075 & 0 & \\
\hline 26.92611 & 26.9 & 26.95 & 0.05 & 0 & 900 & 27.075 & 0 & \\
\hline 26.99156 & 26.99 & 27 & 0.01 & 0 & 4300 & 26.26667 & 0 & \\
\hline 27 & 27 & 27 & 0 & 0 & 1000 & 27.10332 & 0 & \\
\hline 27.20042 & 26.9 & 27.21 & 0.31 & 37639 & 1750 & 27.10115 & 0 & \\
\hline & & & & & & 27.1055 & 0 & \\
\hline 26.97197 & 26.9 & 27 & 0.1 & 0 & 7850 & 27.10114 & 0 & \\
\hline 26.92092 & 26.91 & 27.06 & 0.15 & 0 & 2197 & 27.10332 & 0 & \\
\hline 27 & 27 & 27 & 0 & 0 & 3403 & 27.10985 & 0 & \\
\hline 26.92 & 26.9 & 26.95 & 0.05 & 0 & 750 & 27.10985 & 0 & \\
\hline 26.75617 & 26.75 & 26.9 & 0.15 & 0 & 2432 & 27.10114 & 0 & \\
\hline 28 & 28 & 28 & 0 & 2600000 & 0 & 27.10129 & 0 & \\
\hline 26.9967 & 26.9 & 27 & 0.1 & 0 & 4550 & 27.10985 & 0 & \\
\hline 26.975 & 26.9 & 27 & 0.1 & 0 & 2000 & 27.12662 & 0 & \\
\hline 26.9 & 26.9 & 26.9 & 0 & 0 & 500 & 27.12946 & 0 & \\
\hline 26.92424 & 26.9 & 27 & 0.1 & 0 & 3300 & 27.13687 & 0 & \\
\hline 26.9 & 26.9 & 26.9 & 0 & 0 & 300 & 27.12946 & 0 & \\
\hline 27 & 27 & 27 & 0 & 0 & 1530 & 27.13428 & 0 & \\
\hline 27.03 & 27 & 27.06 & 0.06 & 0 & 200 & 27.136 & 0 & \\
\hline 27.09 & 27.09 & 27.09 & 0 & 0 & 300 & 27.136 & 0 & \\
\hline 27.0046 & 27 & 27.11 & 0.11 & 0 & 4783 & 27.14471 & 0 & \\
\hline 27 & 27 & 27 & 0 & 0 & 5000 & 26.25209 & 0 & \\
\hline 27 & 27 & 27 & 0 & 0 & 1000 & 27.14719 & 0 & \\
\hline 27 & 27 & 27 & 0 & 0 & 900 & 27.15493 & 0 & \\
\hline & & & & & & 27.15129 & 0 & \\
\hline 27 & 27 & 27 & 0 & 0 & 1600 & 27.15098 & 0 & \\
\hline 27.04819 & 26.7 & 27.1 & 0.4 & 0 & 8715 & 27.14582 & 0 & \\
\hline 27 & 27 & 27 & 0 & 0 & 500 & 27.14672 & 0 & \\
\hline 26.98696 & 26.7 & 27 & 0.3 & 0 & 6900 & 27.14478 & 0 & \\
\hline 26.5 & 26.5 & 26.5 & 0 & 0 & 3283 & 27.14471 & 0 & \\
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\hline & & & & & & 26.24955 & 0 & \\
\hline 26.8 & 26.8 & 26.8 & 0 & 0 & 200 & 27.23448 & 0 & \\
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\hline 26.61 & 26.61 & 26.61 & 0 & 0 & 100 & 27.13997 & 0 & \\
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\hline & & & & & & 26.2662 & 0 & \\
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\hline 26.7 & 26.7 & 26.7 & 0 & 0 & 4915 & & 0 & \\
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\hline 26.6345 & 26.5 & 26.7 & 0.2 & 0 & 2974 & & 0 & \\
\hline & & & & & & 27.14639 & 0 & \\
\hline & & & & & & 27.14471 & 0 & \\
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verticle close_1 close_2 close_3 close_4 close_5 close_8 close_9 close_10 \(\left.\begin{array}{lllllll}\overline{4} 0.83 & - & 41.3 & \overline{4} 2.17 & \overline{4} 0.34 & \overline{4} 1.36 & \overline{43.27}\end{array}\right]\)
close_11 close_12 close_15 close_16 close_17 close_18 close_19 close_22 \(\begin{array}{llllllll}\overline{38} .92 & 38.71 & \overline{37.23} & \overline{32.19} & -28.7 & 21.75 & 22.55 & 27.21\end{array}\) ..... 13
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\(\begin{array}{lllllllll}35.92 & 37.98 & 33.3 & 23.89 & 22.83 & 20.2 & 33.25 & 30.76\end{array}\) ..... 271272
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\section*{623}

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643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659
\begin{tabular}{lllllllll}
38.71 & 37.23 & 32.19 & 28.7 & 21.75 & 22.55 & 27.21 & 27.09 & 661
\end{tabular}

Morgan Stanley Intraday Trading by Assent
2 September 2, 2008
Morgan Stanley Intraday Trading by Assent
3 September 3, 2008
Morgan Stanley Intraday Trading by Assent
4 September 4, 2008
Morgan Stanley Intraday Trading by Assent
5 September 5, 2008
Morgan Stanley Intraday Trading by Assent
September, 2008
Morgan Stanley Intraday Trading by Assent
September, 2008
Morgan Stanley Intraday Trading by Assent
8 September 8, 2008
Morgan Stanley Intraday Trading by Assent
9 September 9, 2008
Morgan Stanley Intraday Trading by Assent
10 September 10, 2008
Morgan Stanley Intraday Trading by Assent
11 September 11, 2008
Morgan Stanley Intraday Trading by
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12 September 12, 2008
Morgan Stanley Intraday Trading by Assent
September, 2008
Morgan Stanley Intraday Trading by Assent
September, 2008
Morgan Stanley Intraday Trading by Assent
15 September 15, 2008
Morgan Stanley Intraday Trading by Assent
16 September 16, 2008
Morgan Stanley Intraday Trading by Assent
17 September 17, 2008
Morgan Stanley Intraday Trading by Assent
18 September 18, 2008

Morgan Stanley Intraday Trading by

\title{
Goldman Sachs \\ September Activity
}

January 27, 2009

\section*{Agenda}
- Trading Patterns of Interest
- Trades that could contribute to a stock downturn
- Trades that would be profitable after a downturn
- Data Sources
- Summary of the Activity for the first three weeks of September
- Stock Price, Volume, and News
- CDS volume and prices
- Activity of 21(a) Respondents
- Stock Examples
- CDS Examples
- Excel spreadsheet to view daily summaries.

\section*{Trading Patterns of Interest}
- Trades that could contribute to a stock downturn
- High volume of selling activity (short selling or long selling) just prior to or during the downturn.
- High volume of CDS purchases (buying insurance), or exiting sell side (stop providing insurance).
- Writing calls or buying puts
- Trades that would be profitable after a downturn
- Long purchases and covers
- Exiting the buy side of CDS (stop getting insurance), or Selling CDS (providing insurance)
- Buying calls or writing puts
- The list above are profitable if the financial strength of the company and the stock price recover
- The list of 'bearish' strategies above remain profitable if the company's value and financial viability continues to decline

\section*{Data Sources}
- Stock
- Intra-day trades
- short sales separately identified
- NYSER identified times of 'price dislocation’
- do not have the entities making the trades
- CDS **** Goldman Sachs Data was not in the file provided ****
- DTCC Deriv/SERV data.
- The company estimates its database has 90\% of the CDS transactions.
- Entities are identified.
- 21(a) Response
- Includes all financial instruments Stock, CDS, Options and Debt
- Some respondents included trades made for many different outside clients
- Some respondents did not include trade time.
- The data for the financial instruments other than common stock is less standard and will take more effort to summarize.

\section*{Goldman Sachs Stock Price Summary}

\(\square\) Short Sales Volume \(\quad\) Total Volume \(\quad\) _- Price Range \(\rightarrow\) Average Price \(\quad\) Opening/Closing Price \(\quad\) S\&P 500 (SPDRs)

\section*{Goldman Sachs Stock Price Summary Third Week of September}

Goldman Sachs Intraday Trading
Week 3 -September 15, 2008 -September 19, 2008


\section*{Goldman Sachs Intra-Day Stock Price Movements September 16, 2008}

Goldman Sachs Intraday Trading
September 16, 2008


\section*{Goldman Sachs Intra-Day Stock Price Movements September 17, 2008}

Goldman Sachs Intraday Trading
September 17, 2008


\section*{Goldman Sachs Intra-Day Stock Price Movements September 18, 2008}

Goldman Sachs Intraday Trading
September 18, 2008


Goldman Sachs 21(a) Response Common Stock Top Net Bearish 9/15/2008-9/19/2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{\begin{tabular}{l}
Top Net Bearish \\
Entity
\end{tabular}} & \multicolumn{4}{|l|}{Common Stock Sales (shares)} & \multicolumn{4}{|l|}{Common Stock Buys (shares)} & \multicolumn{4}{|l|}{Net Bearish Position} \\
\hline & Sell & Short & Total & Rank & Buy & Cover & Total & Rank & Total & Net Bearish Rank & Share & CShr \\
\hline Morgan Stanley & -88,446,083 & -28,805,181 & -117,251,264 & 1 & 115,009,837 & & 115,009,837 & 1 & -2,241,427 & 1 & 39.3\% & 39.3\% \\
\hline RBC & -3,470,071 & -262,552 & -3,732,623 & 5 & 1,507,323 & & 1,507,323 & 9 & -2,225,300 & 2 & 39.0\% & 78.4\% \\
\hline Renaissance Technologies & -1,400,000 & -2,500 & -1,402,500 & 8 & 1,021,700 & 48,800 & 1,070,500 & 12 & -332,000 & 3 & 5.8\% & 84.2\% \\
\hline Citigroup Global Markets & -68,050 & -479,528 & -547,578 & 14 & 184,840 & 42,000 & 226,840 & 19 & -320,738 & 4 & 5.6\% & 89.8\% \\
\hline Pacific Select & -262,316 & -6,773 & -269,089 & 16 & 4,000 & & 4,000 & 33 & -265,089 & 5 & 4.7\% & 94.5\% \\
\hline JPMorgan Chase & -1,343,200 & -600,000 & -1,943,200 & 7 & 1,655,100 & 80,220 & 1,735,320 & 8 & -207,880 & 6 & 3.6\% & 98.1\% \\
\hline SAC Capital Advisors & -1,940,398 & -245,003 & -2,185,401 & 6 & 2,124,949 & & 2,124,949 & 7 & -60,452 & 7 & 1.1\% & 99.2\% \\
\hline Cedar Hill Capital Partners & -61,800 & -9,000 & -70,800 & 27 & 25,900 & 9,000 & 34,900 & 29 & -35,900 & 8 & 0.6\% & 99.8\% \\
\hline Schonfeld Securities & -3,671,627 & -2,105,913 & -5,777,540 & 4 & 5,767,714 & & 5,767,714 & 5 & -9,826 & 9 & 0.2\% & 100.0\% \\
\hline Merrill Lynch & -41,500 & -60,000 & -101,500 & 23 & 41,400 & 59,800 & 101,200 & 25 & -300 & 10 & 0.0\% & 100.0\% \\
\hline Fortress Investment Group & -229 & -150,000 & -150,229 & 20 & 58 & 150,000 & 150,058 & 21 & -171 & 11 & 0.0\% & 100.0\% \\
\hline
\end{tabular}

Goldman Sachs 21(a) Response - Example 1: Citadel Investment Common Stock: A Lot of Shorts - Flat Net Position (Covers not identified)

Goldman Sachs
Citadel Investment Group*
Bearish \#2 / Bullish \#2 I Net Bullish \#4


\footnotetext{
*Respondent did not identify any cover transactions.
}

Goldman Sachs 21(a) Response - Example 2: Paulson \& Company Common Stock: Already Short - Cover at Low Prices

Goldman Sachs Paulson \& Company
Bearish - / Bullish \#4 / Net Bullish \#1


Goldman Sachs 21(a) Response - Example 3: RBC Common Stock: Substantial Sales on 9/18

Goldman Sachs
RBC
Bearish \#5 / Bullish \#9 / Net Bearish \#2


Goldman Sachs 21(a) Response - Example 4: DE Shaw Common Stock: Short Early in the Week, Buy on the 18th

Goldman Sachs
D.E. Shaw Group*

Bearish \#13 / Bullish \#13 / Net Bullish \#5

*Respondent did not identify any cover transactions.

\section*{Morgan Stanley CDS Summary} (Goldman Sachs Not in Data Production)

Morgan Stanley Credit Default Swap Transactions


\section*{Morgan Stanley CDS Prices of New Trades}
(Goldman Sachs Not in Data Production)

\section*{Morgan Stanley Credit Default Swap Transactions Trades}


Morgan Stanley CDS Transactions (Goldman Sachs Not in Data Production) Top 15 Net Bearish 9/15/2008-9/19/2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Top 15 Net Bearish & \multicolumn{4}{|l|}{Bearish (Benefitif ifrobability of Morgan Stanley Default Increases)} & \multicolumn{4}{|l|}{Bullish (Benefit if Probability of Morgan Stanley Default Decreases)} & \multicolumn{4}{|l|}{Net Bearish Position} \\
\hline Entity & Add to Buy Side & Reduce Sell Side & Total & Rank & \begin{tabular}{l}
Reduce Buy \\
Side
\end{tabular} & \[
\begin{gathered}
\text { Add to Sell } \\
\text { Side }
\end{gathered}
\] & Total & Rank & Total &  & Share & CShr \\
\hline MERRILLLYNCH & .886, 100,000 & .80,000,000 & .966,100,000 & 5 & 15,000,000 & 162,800,000 & 177,800,000 & 12 & .780,300,000 & 1 & 21.0\% & 21.0\% \\
\hline CITBANK & -1,361,868,500 & - 136,250,000 & -1,498,118,500 & 3 & 57,500,000 & 1,106,935,765 & 1,164,435,765 & 4 & . \(333,682,735\) & 2 & 8.9\% & 29.9\% \\
\hline CREDIT SUISSE & -983,307,200 & -113,500,000 & -1,096,807,200 & 4 & 10,000,000 & 815,577,140 & 825,577,140 & 5 & -271,230,060 & 3 & 7.2\% & 37.1\% \\
\hline GOLDMAN SACHS & -194,500,000 & -1,350,300,000 & -1,544,800,000 & 1 & 82,875,000 & 1,20,530,000 & 1,285,405,000 & 3 & -259,395,000 & 4 & 6.9\% & 44.0\% \\
\hline HSEC BANK & -445,561,000 & -326,817,500 & .772,378,500 & 6 & 167,977,500 & 461,538,500 & 629,516,000 & 6 & -142,862,500 & 5 & 3.8\% & 47.8\% \\
\hline DEUTSCHE BANK & . \(513,000,000\) & -160,000,000 & -673,000,000 & 7 & 61,200,000 & 474,860,000 & 533,060,000 & 8 & - \(136,940,000\) & 6 & 3.6\% & 51.4\% \\
\hline DZBANK & - 150,459,500 & & -150,459,500 & 13 & & 18,699,200 & 18,699,200 & 59 & - \(131,760,300\) & 7 & 3.5\% & 55.0\% \\
\hline KING STREET CAPTAL & - \(148,729,695\) & & -148,729,695 & 14 & 22,810,735 & & 22,810,735 & 47 & - \(125,918,960\) & 8 & 3.4\% & 58.3\% \\
\hline STICHTING & - \(113,465,670\) & & - \(113,465,670\) & 17 & & 11,27, 350 & 11,279,350 & 71 & -102,186,320 & 9 & 2.7\% & 61.0\% \\
\hline BAYERISCHE & - 101,299,500 & & - 101,299,500 & 18 & & & & 148 & - \(101,299,500\) & 10 & 2.7\% & 63.7\% \\
\hline ROYAL BANK OF CANADA & . \(121,000,000\) & . 14,000,000 & -135,000,000 & 15 & & 44,000,000 & 44,000,000 & 29 & .91,000,000 & 11 & 2.4\% & 66.2\% \\
\hline MOORE MACRO FUND, L.P. & - \(110,000,000\) & -10,000,000 & - 120,000,000 & 16 & 10,000,000 & 20,000,000 & 30,000,000 & 34 & -90,000,000 & 12 & 2.4\% & 68.5\% \\
\hline ROYAL BANK OF SCOTLAND & -229,000,000 & -40,000,000 & -269,000,000 & 9 & & 187,000,000 & 187,000,000 & 11 & .82,000,000 & 13 & 2.2\% & 70.7\% \\
\hline NORGES BANK & 78,310,000 & & 78,310,000 & 21 & & 7,107,500 & 7,107,500 & 85 & .71,202,500 & 14 & 1.9\% & 72.6\% \\
\hline BANK OF AMERICA & -227,060,000 & & -227,060,000 & 11 & 250,000 & 168,566,000 & 168,836,000 & 13 & -58,224,000 & 15 & 1.6\% & 74.2\% \\
\hline
\end{tabular}

\section*{Example 5: CDS (Using Morgan Stanley Data)}

Deutsche Bank Activity in Both Directions Overall Bearish

\section*{Morgan Stanley CDS Transactions (9/15/2008-9/19/2008) \\ DEUTSCHE BANK \\ Bearish \#7 / Bullish \#8 / Net Bearish \#6}


\section*{Example 6: CDS (Using Morgan Stanley Data)}

Paulson \& Company: Exit Buy Side Protection at High Prices


\section*{Example 7: CDS (Using Morgan Stanley Data)}

Merrill Lynch \#1 Net Bearish over the week


Goldman Sachs Example 8a: Assent Stock Trades Relatively Flat each Day -Provided Time Stamp on Trades

Goldman Sachs
Assent*
Bearish \#3 / Bullish \#3 / Net Bullish \#13

*Respondent did not identify any cover transactions.

Goldman Sachs Example 8b: Assent Stock Trades September 17 \({ }^{\text {th }}\) Each Side Minute by Minute

Goldman Sachs Intraday Trading by Assent
September 17, 2008


Goldman Sachs Example 8c: Assent Stock Trades September 17 \({ }^{\text {th }}\) Net Position Minute by Minute

Goldman Sachs Intraday Trading by Assent
September 17, 2008


Summary File Common Stock Transactions for all 21(a) Respondents


Summary File Common Stock Transactions for all 21(a) Respondents Example: Citadel Goldman Sachs Trades

\section*{GS Common Stock Transactions \#12 Citadel Investment Group}

\begin{tabular}{|r|l|}
\hline\(\#\) & Producer \\
\hline 1 & Amber Capital Investment Management \\
\hline & \\
\hline 3 & Assent \\
\hline 4 & Atlantic Investment Management Trading \\
\hline 5 & Blue Ridge Capital \\
\hline 6 & BlueMountain Capital Management \\
\hline 7 & Brahman Capital Corp \\
\hline 8 & Bridger Management \\
\hline 9 & Bright Trading \\
\hline 10 & Canyon Capital Advisors \\
\hline 11 & Cedar Hill Capital Partners \\
\hline 12 & Citigroup Global Markets \\
\hline 13 & Cougar Trading LLC \\
\hline 14 & D.E. Shaw Group \\
\hline 15 & Deutsche Bank \\
\hline 16 & Diamondback Capital Management \\
\hline 17 & Farrallon Capital Management \\
\hline 18 & Fortress Investment Group \\
\hline 19 & GLG Partners \\
\hline 20 & Goldman Sachs \\
\hline 21 & Greenlight Capital \\
\hline 22 & Harbinger Capital Partners \\
\hline 23 & Hayman Capital Partners \\
\hline 24 & JPMorgan Chase \\
\hline 25 & Kingdom Capital Management \\
\hline 26 & Macquarie Capital \\
\hline 27 & Merrill Lynch \\
\hline 28 & Moore Capital Management \\
\hline 29 & Morgan Stanley \\
\hline 30 & Och-Ziff Financial \\
\hline 31 & Pacific Select \\
\hline 32 & Paulson \& Company \\
\hline 33 & Pequot Capital Management \\
\hline 34 & \\
\hline 34 & QvT Financial \\
\hline 35 & RBC \\
\hline 36 & Ram Partners LP \\
\hline 37 & Renaissance Technologies \\
\hline 38 & SAC Capital Advisors \\
\hline 39 & Schonfeld Securities \\
\hline 40 & Scottwood Capital Management \\
\hline 41 & Silverback Asset Management \\
\hline 42 & TCS Capital Management \\
\hline 43 & Wachovia \\
\hline 44 & Weintraub Capital Management \\
\hline & \\
\hline
\end{tabular}

\section*{How To Use This Workbook}

OVERVIEW: Using this file you can get a summary chart of each producer's common stock transactions in the SQL server database of the 21a responses, and 6 charts describing the producers daily common stock trades in each of the 6 securities.

The 45 producers in this summary file have been assigned a number (1-45). Listed to the left.

\section*{Step 1. The data for each producer can be accessed by going to the 'choose_producer' tab and typing a producer number (1-45) in cell B2}


OUTPUT \#1: The chart on the choose_producer tab should update to show the total volume of transactions over the three weeks in September for the six issuers.

For example, Bridger Management sold short 1.4 million shares of AIG during the time period and bought the same amount to cover

\section*{CAVEAT: Some producers did not distinquish cover buys from their other buys}

For example Producer \#2 Assent has only three transaction types (Shorts, Sells, and Buys)

OUTPUT \#2: The six issuer tabs should update to show the producer volume and prices by day.
For each type of transaction there is a volume bar that is read on the right scale and a symbol that shows the price for that transaction type. The price can be read on the left scale.

The green line shows the daily closing price.


\title{
OEA DRAFT - INTERNAL
}

\section*{Office of Economic Analysis Draft Memorandum}

\author{
To: Jim Overdahl \\ From: Tim McCormick \\ Date: October 16, 2008 \\ Re: "Gaming" to Prevent Stocks from Appearing on the Threshold List
}

This memo summarizes OEA's analysis of potentially manipulative patterns in the closeout of fails in order to prevent a stock from appearing on the threshold list. In this memo, we specifically look at the 9 stocks that Mark Mitchell claimed experienced threshold list manipulation. We find no evidence supportive of his claims.

We know from prior work that many fails tend to be short-lived. In fact, about 86.5\% of fail positions are closed out within 4 days of occurring. The threshold list criteria of Regulation SHO attempts to identify securities with large fails that persist for longer than 4 days. Under Rule 203, stocks with large fails that persist for longer than 4 days are deemed to have a problem with fails that require increased regulation. Therefore, it is certainly possible that persons could be involved in a pattern of fails and close-outs in order to avoid the increased regulatory requirements of the threshold list. On the other hand, it may be difficult for one clearing firm to manipulate the threshold list because they may be closing out their fails at the same time that another clearing firm creates a new fail. So, the aggregate fails at the NSCC are not readily controllable by a single clearing firm, except perhaps when a single clearing firm has a large and dominant fail position at the NSCC. Further, since clearing firms tend to clear for multiple broker dealers it would be difficult for one broker dealer or one trader to control the aggregate fails at the NSCC for a security.

We note that the data we have on fails does not allow us to know intent. That is, a fails position that disappears after 4 straight days may simply be due to the normal course of business rather than any gaming strategy. In light of this constraint, the best approach we have is to attempt to detect a pattern of fails - above the threshold list criteria of \(0.5 \%\) of shares outstanding for 4 days, then below \(0.5 \%\) for a day or two, then above \(0.5 \%\) for 4 days, then below \(0.5 \%\) for a day or two and so on. The more repeats of the above-below-above-below pattern, the more confidence we have that the pattern of fails is not driven by normal close-out activity. Also, if someone was gaming the threshold list, they would want to take full advantage of the five consecutive day threshold criteria of \(0.5 \%\).

\section*{OEA DRAFT - INTERNAL}

Therefore, examining the data for patterns of fails that disappear after 4 consecutive settlement days is a simple way to detect gaming. \({ }^{1}\)

We note that a web page article by Mark Mitchell on October 2, 2008 suggests that the type of threshold list manipulation being discussed in this memorandum is widespread. \({ }^{2}\) He also suggests a number of stocks and time periods where this threshold list manipulation is occurring. Specifically, he mentions Bear Stearns, Lehman, Morgan Stanley, Goldman Sachs, AIG, Freddie Mac, Fannie Mae, Merrill Lynch and Citibank.

As a first cut, we examine aggregate fails in these stocks to see if there is any evidence to support Mark Mitchell's claims of repeated threshold list manipulation in these stocks. In summary, there is no evidence of threshold list manipulation in the 9 specific stocks Mark Mitchell mentions in his article.

We plot fails as a percentage of shares outstanding in each of the 9 stocks in Figures 1 to 9 and visually look for any systematic patterns that would indicate threshold list manipulation. Specifically, we are looking for repeated patterns of 4 days about the \(0.5 \%\) of shares outstanding threshold, a day or two below \(0.5 \%\) of shares outstanding, and then back above \(0.5 \%\) of shares outstanding. After each figure, we provide a short discussion of the results.

\footnotetext{
\({ }^{1}\) If we had found any repeated patterns of fails consistent with threshold list manipulation, we could have further examined the dominance of particular clearing firms in establishing those patterns. However, since we found no suspicious patterns in the nine firms examined, further investigation is not warranted.
\({ }^{2}\) We should also note that Mark Mitchell's web site was founded by Patrick Byrne, CEO of
Overstock.com. Among other things, the web site suggests that failing to deliver is a crime.
}

\section*{OEA DRAFT - INTERNAL}

Figure 1


Figure 1 shows that the pattern of fails in Bear Stearns prior to their collapse is not consistent with any repeated pattern to prevent it from getting on the threshold list. In fact, there were no instances of 4 straight days of fails about \(0.5 \%\) and no systematic pattern emerges.

OEA DRAFT - INTERNAL

Figure 2


Figure 2 shows that the pattern of fails in Lehman prior to September 15, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. In fact, there were no instances of any systematic pattern of manipulation above the threshold list criteria of \(0.5 \%\). Further, Lehman fails never reached the \(0.5 \%\) criteria until September 15, 2008 so there is no evidence consistent with Lehman stock being aggressively attacked by naked short sellers up until that date. \({ }^{3}\)

\footnotetext{
\({ }^{3}\) We note that fails did jump from September \(15^{\text {th }}\) onward and OEA highlighted those days for further investigation by Enforcement. However, the date after Sept \(15^{\text {th }}\) are largely irrelevant to our discussion about threshold list manipulation because Lehman fails were consistently above \(0.5 \%\) from that date onward (no evidence of manipulation to keep it off the threshold list).
}

\section*{OEA DRAFT - INTERNAL}

Figure 3


Figure 3 shows that the pattern of fails in Morgan Stanley from January 1 to September 30, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. In fact, there were no instances of any systematic pattern of manipulation above the threshold list criteria of \(0.5 \%\) and Morgan Stanley fails never reached the \(0.5 \%\) criteria during the entire period. Therefore, there is no evidence consistent with the stock being aggressively attacked by naked short sellers.

\section*{OEA DRAFT - INTERNAL}

Figure 4


Figure 4 shows that the pattern of fails in Goldman Sachs from January 1 to September 30, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. In fact, there were no instances of any systematic pattern of manipulation above the threshold list criteria of \(0.5 \%\) and Goldman Sachs fails never reached the \(0.5 \%\) criteria during the entire period. Therefore, there is no evidence consistent with the stock being aggressively attacked by naked short sellers.

\section*{OEA DRAFT - INTERNAL}

Figure 5


Figure 5 shows that the pattern of fails in Fannie Mae from January 1 to September 30, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. There were two instances where Fannie fails were above \(0.5 \%\) for two consecutive days but the short duration of these instances does not fit our gaming profile. Those instances correspond to trading after the announced government bailout.
Therefore, there is no evidence supportive of manipulation to prevent Fannie Mae from

\section*{Deleted:} getting on the threshold list.

\section*{OEA DRAFT - INTERNAL}

Figure 6


Figure 6 shows that the pattern of fails in Freddie Mac from January 1 to September 30, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. There is not pattern of fails going repeatedly above and below the threshold list criteria of \(0.5 \%\). The government bailout was announced on September 7, 2008. Therefore, the first settlement date corresponding to trading after the announcement was September 11, 2008. From September 11, 2008 to September 29, 2008, Freddie Mac fails were above \(0.5 \%\) for 13 consecutive days and, as expected, it entered the threshold list on September 17, 2008. Therefore, there is no evidence supportive of manipulation to prevent Freddie Mac from getting on the threshold list.

\section*{OEA DRAFT - INTERNAL}

Figure 7


Figure 7 shows that the pattern of fails in American International Group from January 1 to September 30, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. In fact, there were no instances of any systematic pattern of manipulation above the threshold list criteria of \(0.5 \%\) and AIG fails never reached the \(0.5 \%\) criteria during the entire period. Therefore, there is no evidence consistent with the stock being aggressively attacked by naked short sellers.

\section*{OEA DRAFT - INTERNAL}

Figure 8


Figure 8 shows that the pattern of fails in Citigroup, Inc. from January 1 to September 30, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. In fact, there were no instances of any systematic pattern of manipulation above the threshold list criteria of \(0.5 \%\) and Citigroup fails never reached the \(0.5 \%\) criteria during the entire period. Therefore, there is no evidence consistent with the stock being aggressively attacked by naked short sellers.

\section*{OEA DRAFT - INTERNAL}

Figure 9


Figure 9 shows that the pattern of fails in Merrill Lynch \& Co., Inc. from January 1 to September 30, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. In fact, there were no instances of any systematic pattern of manipulation above the threshold list criteria of \(0.5 \%\) and Merrill Lynch fails never reached the \(0.5 \%\) criteria during the entire period. Therefore, there is no evidence consistent with the stock being aggressively attacked by naked short sellers.

\title{
Merrill Lynch September Activity
}

January 27, 2009

\section*{Agenda}
- Trading Patterns of Interest
- Trades that could contribute to a stock downturn
- Trades that would be profitable after a downturn
- Data Sources
- Summary of the Activity for the first three weeks of September
- Stock Price, Volume, and News
- CDS volume and prices
- Activity of 21(a) Respondents
- Stock Examples
- CDS Examples
- Excel spreadsheet to view daily summaries.

\section*{Trading Patterns of Interest}
- Trades that could contribute to a stock downturn
- High volume of selling activity (short selling or long selling) just prior to or during the downturn.
- High volume of CDS purchases (buying insurance), or exiting sell side (stop providing insurance).
- Writing calls or buying puts
- Trades that would be profitable after a downturn
- Long purchases and covers
- Exiting the buy side of CDS (stop getting insurance), or Selling CDS (providing insurance)
- Buying calls or writing puts
- The list above are profitable if the financial strength of the company and the stock price recover
- The list of 'bearish' strategies above remain profitable if the company's value and financial viability continues to decline

\section*{Data Sources}
- Stock
- Intra-day trades
- short sales separately identified
- NYSER identified times of 'price dislocation'
- do not have the entities making the trades
- CDS
- DTCC Deriv/SERV data.
- The company estimates its database has 90\% of the CDS transactions.
- Entities are identified.
- 21(a) Response
- Includes all financial instruments Stock, CDS, Options and Debt
- Some respondents included trades made for many different outside clients
- Some respondents did not include trade time.
- The data for the financial instruments other than common stock is less standard and will take more effort to summarize.

\section*{Merrill Lynch Stock Price Summary}

Merrill Lynch Intraday Trading
September 2, 2008 -September 19, 2008

Short Sales Volume \(\quad\) Total Volume ——Price Range \(\quad\) - Average Price \(\quad\) Opening/Closing Price 500 (SPDRs)

\section*{Merrill Lynch Stock Price Summary Second Week of September}

Merrill Lynch Intraday Trading


\section*{Merrill Lynch Intra-Day Stock Price Movements September 9, 2008}

Merrill Lynch Intraday Trading
September 9, 2008


\section*{Merrill Lynch Intra-Day Stock Price Movements} September 10, 2008

Merrill Lynch Intraday Trading
September 10, 2008


\section*{Merrill Lynch Intra-Day Stock Price Movements September 11, 2008}

Merrill Lynch Intraday Trading
September 11, 2008

\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline Volume & NYSER 4/5 Up & NYSER 4/5 Down & -Price Range & - & Opening/Closing Price & & Average Price & S\&P 500 (SPDRs) \\
\hline
\end{tabular}

\section*{Merrill Lynch CDS Summary}

Merrill Lynch Credit Default Swap Transactions


Page 10

\section*{Merrill Lynch CDS Prices of New Trades}

Merrill Lynch Credit Default Swap Transactions
Trades


\section*{Merrill Lynch 21(a) Response Common Stock Top Net Bearish 9/8/2008-9/12/2008}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Top Net Bearish} & \multicolumn{4}{|l|}{Common Stock Sales (shares)} & \multicolumn{4}{|l|}{Common Stock Buys (shares)} & \multicolumn{4}{|l|}{Net Bearish Position} \\
\hline & Sell & Short & Total & Rank & Buy & Cover & Total & Rank & Total & \begin{tabular}{l}
Net \\
Bearish \\
Rank
\end{tabular} & Share & CShr \\
\hline D.E. Shaw Group & -3,187,522 & -3,900,353 & -7,087,875 & 3 & 3,334,251 & & 3,334,251 & 6 & -3,753,624 & 1 & 43.6\% & 43.6\% \\
\hline Harbinger Capital Partners & & -2,000,000 & -2,000,000 & & & & 0 & 28 & -2,000,000 & 2 & 23.2\% & 66.9\% \\
\hline Blue Ridge Capital & & -1,325,000 & -1,325,000 & 13 & & & 0 & 29 & -1,325,000 & 3 & 15.4\% & 82.3\% \\
\hline Renaissance Technologies & -3,274,400 & -400 & -3,274,800 & 7 & 2,037,200 & 385,800 & 2,423,000 & 7 & -851,800 & 4 & 9.9\% & 92.2\% \\
\hline Moore Capital Management & -365,000 & -1,350,000 & -1,715,000 & 12 & 550,000 & 850,000 & 1,400,000 & 11 & -315,000 & 5 & 3.7\% & 95.8\% \\
\hline SAC Capital Advisors & & -481,315 & -481,315 & 17 & 382,115 & & 382,115 & 18 & -99,200 & 6 & 1.2\% & 97.0\% \\
\hline Citigroup Global Markets & -137,106 & -903,889 & -1,040,995 & 14 & 977,997 & & 977,997 & 12 & -62,998 & 7 & 0.7\% & 97.7\% \\
\hline Schonfeld Securities & -1,209,523 & -3,604,473 & -4,813,996 & 5 & 4,762,286 & & 4,762,286 & 5 & -51,710 & 8 & 0.6\% & 98.3\% \\
\hline Wachovia & -38,861 & -21,800 & -60,661 & 22 & 9,244 & & 9,244 & 26 & -51,417 & 9 & 0.6\% & 98.9\% \\
\hline Cougar Trading LLC & -125,000 & & -125,000 & 21 & 75,000 & & 75,000 & 22 & -50,000 & 10 & 0.6\% & 99.5\% \\
\hline QVT Financial & & -2,305,600 & -2,305,600 & 8 & & 2,284,800 & 2,284,800 & 8 & -20,800 & 11 & 0.2\% & 99.7\% \\
\hline Wellington Capital Managem & & -35,000 & -35,000 & 23 & 400 & 19,300 & 19,700 & 25 & -15,300 & 12 & 0.2\% & 99.9\% \\
\hline Och-Ziff Financial & -29,000 & & -29,000 & 24 & 21,900 & & 21,900 & 24 & -7,100 & 13 & 0.1\% & 100.0\% \\
\hline Fortress Investment Group & & -643 & -643 & 27 & & 63 & 63 & 27 & -580 & 14 & 0.0\% & 100.0\% \\
\hline
\end{tabular}

\section*{Merrill Lynch CDS Transactions \\ Top 15 Net Bearish 9/8/2008-9/12/2008}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Top 15 Net Bearish & & sh (Benefit if errill Default & robability creases) & & & sh (Benefit if rrill Default & robability acreases) & & Net Be & earish & Positio & \\
\hline Entity & Add to Buy Side & Reduce Sell
Side & Total & Rank & Reduce Buy Side & Add to Sell
Side & Total & Rank & Total & \[
\begin{array}{|c|}
\hline \text { Net } \\
\text { Bearish } \\
\text { Rank }
\end{array}
\] & Share & CShr \\
\hline MORGAN STANLEY & -287,800,000 & -53,000,000 & . \(340,800,000\) & 3 & 53,000,000 & 80,000,000 & 133,000,000 & 8 & -207,800,000 & 1 & 15.7\% & 15.7\% \\
\hline GOLDMAN SACHS & .705,700,000 & -178,550,000 & -884,250,000 & 1 & 79,750,000 & 600,986,000 & 680,736,000 & 2 & -203,514,000 & 2 & 15.4\% & 31.0\% \\
\hline MOORE MACRO FUND,L.P. & -25,000,000 & 70,000,000 & -95,000,000 & 10 & & 5,000,000 & 5,000,000 & 45 & -90,000,000 & 3 & 6.8\% & 37.8\% \\
\hline BNP PARIBAS & -182,000,000 & -25,000,000 & -207,000,000 & 5 & 7,000,000 & 118,200,000 & 125,200,000 & 9 & -81,800,000 & 4 & 6.2\% & 44.0\% \\
\hline KING STREET CAPITAL & .70,000,000 & & -70,000,000 & 12 & & & & 62 & -70,000,000 & 5 & 5.3\% & 49.3\% \\
\hline CITIBANK & -224,600,000 & -29,500,000 & - \(254,100,000\) & 4 & 20,000,000 & 171,000,000 & 191,000,000 & 6 & -63,100,000 & 6 & 4.8\% & 54.0\% \\
\hline HSBC BANK & -107,500,000 & -39,172,000 & -146,672,000 & 9 & 39,172,000 & 45,000,000 & 84,172,000 & 12 & -62,500,000 & 7 & 4.7\% & 58.7\% \\
\hline CREDIT SUISSE & -60,000,000 & & -60,000,000 & 14 & & 20,000,000 & 20,000,000 & 22 & -40,000,000 & 8 & 3.0\% & 61.8\% \\
\hline GLG & -35,000,000 & & -35,000,000 & 16 & & & & 63 & -35,000,000 & 9 & 2.6\% & 64.4\% \\
\hline CONTINENTAL CASUALTY COMPA & -30,000,000 & & -30,000,000 & 18 & & & & 64 & -30,000,000 & 10 & 2.3\% & 66.7\% \\
\hline DIAMONDBACK & -20,000,000 & -10,000,000 & -30,000,000 & 19 & & 5,000,000 & 5,000,000 & 46 & \(-25,000,000\) & 11 & 1.9\% & 68.5\% \\
\hline STICHTING & -25,000,000 & & \(-25,000,000\) & 20 & & & & 65 & \(-25,000,000\) & 12 & 1.9\% & 70.4\% \\
\hline BAYERISCHE & -24,000,000 & & \(-24,000,000\) & 21 & & & & 66 & -24,000,000 & 13 & 1.8\% & 72.2\% \\
\hline ELLIOT INTERNATIONAL, L.P. & & \(-21,000,000\) & \(-21,000,000\) & 23 & & & & 67 & \(-21,000,000\) & 14 & 1.6\% & 73.8\% \\
\hline \multicolumn{2}{|l|}{ROUND TABLE GLBL MLTI-SRATGY MSTR FD LTD} & -20,000,000 & -20,000,000 & 24 & & & & 68 & \(-20,000,000\) & 15 & 1.5\% & 75.3\% \\
\hline
\end{tabular}

\section*{Merrill Lynch 21(a) Response - Example 1: Citadel Investment Common Stock: A Lot of Shorts - Flat Net Position (Covers not identified)}

Merrill Lynch Common Stock Transactions (9/8/2008-9/12/2008)
Citadel Investment Group*
Bearish \#2 / Bullish \#2 / Net Bullish \#2

*Respondent did not identify any cover transactions.

\section*{Merrill Lynch 21(a) Response - Example 2: Amber Capital Common Stock: Already Short - Cover at Low Prices}

Merrill Lynch Common Stock Transactions (9/8/2008-9/12/2008)
Amber Capital Investment Management
Bearish - / Bullish \#14 / Net Bullish \#3


\section*{Merrill Lynch - Example 3: Paulson \& Company CDS: Exit Buy Side Protection at High Prices}

Merrill Lynch CDS Transactions (9/8/2008-9/12/2008)
PAULSON (FIRST WORD)
Bearish - / Bullish \#1 / Net Bullish \#1


\section*{Merrill Lynch 21(a) Response - Example 4a: Moore Capital Common Stock: Short and Cover}

Merrill Lynch Common Stock Transactions (9/8/2008-9/12/2008)
Moore Capital Management
Bearish \#12 / Bullish \#11 / Net Bearish \#5

*Respondent did not identify any cover transactions.

\section*{Morgan Stanley Example 4b: Moore Capital \\ CDS: Substantial Bearish Trades on September 11 \({ }^{\text {th }}\) (same day as cover)}

Merrill Lynch CDS Transactions (9/8/2008-9/12/2008)
MOORE MACRO FUND,L.P.
Bearish \#10 / Bullish \#45 / Net Bearish \#3


\section*{Merrill Lynch 21(a) Response - Example 5: DE Shaw Common Stock: \#1 Net Bearish over the Week}

Merrill Lynch Common Stock Transactions (9/8/2008-9/12/2008)
D.E. Shaw Group*

Bearish \#3 / Bullish \#6 / Net Bearish \#1


\footnotetext{
*Respondent did not identify any cover transactions
}

\section*{Merrill Lynch Example 6: Goldman Sachs CDS: \#2 Net Bearish Over the Week}

Merrill Lynch CDS Transactions (9/8/2008-9/12/2008)
GOLDMAN SACHS
Bearish \#1 / Bullish \#2 / Net Bearish \#2


\section*{Merrill Lynch Example 7a: Assent Stock Trades \\ Relatively Flat each Day -Provided Time Stamp on Trades}

Merrill Lynch Common Stock Transactions (9/8/2008-9/12/2008)
Assent*
Bearish \#4 / Bullish \#3 / Net Bullish \#14


\footnotetext{
*Respondent did not identify any cover transactions.
}

\section*{Merrill Lynch Example 7b: Assent Stock Trades September 11 \({ }^{\text {th }}\) Each Side Minute by Minute}

Merrill Lynch Intraday Trading by Assent
September 11, 2008


\section*{Merrill Lynch Example 7c: Assent Stock Trades September 11 \({ }^{\text {th }}\) Net Position Minute by Minute}

\section*{Merrill Lynch Intraday Trading by Assent}

September 11, 2008


\section*{Summary File Common Stock Transactions for all 21(a) Respondents}


\section*{Summary File Common Stock Transactions for all 21(a) Respondents Example: Citadel Merrill Lynch Trades}

MER Common Stock Transactions \#12 Citadel Investment Group


\section*{Morgan Stanley Stock Price Summary}


\section*{Morgan Stanley Stock Price Summary Third Week of September}

Morgan Stanley Intraday Trading
Week 3 -September 15, 2008 -September 19, 2008

\begin{tabular}{|cccccc|}
\hline Short Sales Volume \(\quad\) Total Volume \(\quad\) ——Price Range & \(\rightarrow\) Average Price & Opening/Closing Price & —S\&P 500 (SPDRs) \\
\hline
\end{tabular}

\section*{Morgan Stanley Intra-Day Stock Price Movements September 16, 2008}

Morgan Stanley Intraday Trading
September 16, 2008

\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline Volume & - NYSER 4/5 Up & - NYSER 4/5 Down & -Price Range & * & Opening/Closing Price & * & Average Price & -S\&P 500 (SPDRs) \\
\hline
\end{tabular}

\section*{Morgan Stanley Intra-Day Stock Price Movements September 17, 2008}

Morgan Stanley Intraday Trading
September 17, 2008

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline Volume & \(\square\) NYSER 4/5 Up & - NYSER 4/5 Down & -_Price Range & * & Opening/Closing Price & * Average Price & -S\&P 500 (SPDRs) \\
\hline
\end{tabular}

\section*{Morgan Stanley Intra-Day Stock Price Movements September 18, 2008}

Morgan Stanley Intraday Trading
September 18, 2008


\section*{Morgan Stanley CDS Summary}

Morgan Stanley Credit Default Swap Transactions


\section*{Morgan Stanley CDS Prices of New Trades}

Morgan Stanley Credit Default Swap Transactions Trades


\section*{Morgan Stanley 21(a) Response - Example 1a: Common Stock Citadel Investment: A Lot of Shorts - Flat Net Position (Covers not identified)}

Morgan Stanley Common Stock Transactions (9/15/2008-9/19/2008)
Citadel Investment Group*
Bearish \#2 / Bullish \#2 / Net Bullish \#12


Respondent did not identify any cover transactions.

\section*{Morgan Stanley Example 1b: CDS Citadel Investment: CDS Trades Rather Bullish}

Morgan Stanley CDS Transactions (9/15/2008-9/19/2008)
CITADEL EQUITY FUND LTD
Bearish \#31 / Bullish \#22 / Net Bullish \#22


\section*{Morgan Stanley 21(a) Response - Example 2a: Common Stock Paulson \& Company: Already Short - Cover at Low Prices}

Morgan Stanley Common Stock Transactions (9/15/2008-9/19/2008)
Paulson \& Company
Bearish - / Bullish \#5 / Net Bullish \#3


\section*{Morgan Stanley Example 2b: CDS Paulson \& Company: Exit Buy Side Protection at High Prices}

Morgan Stanley CDS Transactions (9/15/2008-9/19/2008)
PAULSON (FIRST WORD)
Bearish - / Bullish \#1 / Net Bullish \#1


\section*{Morgan Stanley 21(a) Response - Example 3a: Common Stock Deutsche Bank - Short Sales on September 17th}

Morgan Stanley Common Stock Transactions (9/15/2008-9/19/2008)
Deutsche Bank
Bearish \#19 / Bullish \#21 / Net Bearish \#7


\section*{Morgan Stanley Example 3b: CDS \\ Deutsche Bank Activity in Both Directions Overall Bearish}

Morgan Stanley CDS Transactions (9/15/2008-9/19/2008)
DEUTSCHE BANK
Bearish \#7 / Bullish \#8 / Net Bearish \#6


\section*{Morgan Stanley 21(a) Response - Example 4a: Common Stock Merrill Lynch Short Sales on September 17th}

Morgan Stanley Common Stock Transactions (9/15/2008-9/19/2008)
Merrill Lynch
Bearish \#24 / Bullish \#32 / Net Bearish \#4


\section*{Morgan Stanley Example 4b: CDS \\ Merrill Lynch \#1 Net Bearish over the week}


\section*{Summary File Common Stock Transactions for all 21(a) Respondents}


\section*{Summary File Common Stock Transactions for all 21(a) Respondents Example: Citadel Morgan Stanley Trades}

MS Common Stock Transactions \#12 Citadel Investment Group


\title{
Morgan Stanley September Activity
}

\author{
January 27, 2009
}

\section*{Agenda}
- Trading Patterns of Interest
- Trades that could contribute to a stock downturn
- Trades that would be profitable after a downturn
- Data Sources
- Summary of the Activity for the first three weeks of September
- Stock Price, Volume, and News
- CDS volume and prices
- Activity of 21(a) Respondents
- Stock Examples
- CDS Examples
- Excel spreadsheet to view daily summaries.

\section*{Trading Patterns of Interest}
- Trades that could contribute to a stock downturn
- High volume of selling activity (short selling or long selling) just prior to or during the downturn.
- High volume of CDS purchases (buying insurance), or exiting sell side (stop providing insurance).
- Writing calls or buying puts
- Trades that would be profitable after a downturn
- Long purchases and covers
- Exiting the buy side of CDS (stop getting insurance), or Selling CDS (providing insurance)
- Buying calls or writing puts
- The list above are profitable if the financial strength of the company and the stock price recover
- The list of 'bearish' strategies above remain profitable if the company's value and financial viability continues to decline

\section*{Data Sources}
- Stock
- Intra-day trades
- short sales separately identified
- NYSER identified times of 'price dislocation'
- do not have the entities making the trades
- CDS
- DTCC Deriv/SERV data.
- The company estimates its database has 90\% of the CDS transactions.
- Entities are identified.
- 21(a) Response
- Includes all financial instruments Stock, CDS, Options and Debt
- Some respondents included trades made for many different outside clients
- Some respondents did not include trade time.
- The data for the financial instruments other than common stock is less standard and will take more effort to summarize.

\section*{Morgan Stanley Stock Price Summary}

\(\square\) Short Sales Volume \(\quad\) Total Volume \(\quad\) ——Price Range \(\quad\) Average Price \(\quad\) Opening/Closing Price \(\quad\) S8P 500 (SPDRs)

\section*{Morgan Stanley Stock Price Summary Third Week of September}

Morgan Stanley Intraday Trading

\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Short Sales Volume & Total Volume & -_Price Range & \(\rightarrow\) Average Price & , & Opening/Closing Price & \&P500(SPDRs) \\
\hline
\end{tabular}

\section*{Morgan Stanley Intra-Day Stock Price Movements September 16, 2008}

Morgan Stanley Intraday Trading
September 16, 2008

\(\square\) Volume NYSER 4/5 Up \(\quad\) NYSER 4/5 Down ——Price Range \(\quad\) Opening/Closing Price \(\quad\) Average Price - S\&P 500 (SPDRs)

\section*{Morgan Stanley Intra-Day Stock Price Movements September 17, 2008}

Morgan Stanley Intraday Trading
September 17, 2008



\section*{Morgan Stanley Intra-Day Stock Price Movements September 18, 2008}

Morgan Stanley Intraday Trading
September 18, 2008


\section*{Morgan Stanley CDS Summary}

Morgan Stanley Credit Default Swap Transactions


\section*{Morgan Stanley CDS Prices of New Trades}

Morgan Stanley Credit Default Swap Transactions
Trades


\section*{Morgan Stanley 21(a) Response Common Stock \\ Top Net Bearish 9/15/2008-9/19/2008}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Top Net Bearish & \multicolumn{4}{|l|}{Common Stock Sales (shares)} & \multicolumn{4}{|l|}{Common Stock Buys (shares)} & \multicolumn{4}{|l|}{Net Bearish Position} \\
\hline Entity & Sell & Short & Total & Rank & Buy & Cover & Total & Rank & Total & \begin{tabular}{|c|}
\hline Net \\
Bearish \\
Rank
\end{tabular} & Share & CShr \\
\hline Citigroup Global Markets & -292,554 & -1,45,947 & -1,746,501 & 12 & 692,574 & & 692,574 & 22 & -1,053,927 & 1 & 47.3\% & 47.3\% \\
\hline SAC Capital Advisors & -5,362,688 & -158,237 & . \(5,520,925\) & 6 & 5,148,925 & & 5,148,225 & 8 & .372,000 & 2 & 16.7\% & 63.9\% \\
\hline JPMorgan Chase & -1,095,000 & -500,000 & -1,595,000 & 13 & 1,180,000 & 146,700 & 1,326,700 & 17 & -268,300 & 3 & 12.0\% & 76.0\% \\
\hline Merill Lynch & -35,000 & .252,500 & -287,500 & 24 & 35,000 & 50,000 & 85,000 & 32 & -202,500 & 4 & 9.1\% & 85.1\% \\
\hline Diamonothack Capital Manage & -26,637 & .253,000 & -279,637 & 25 & 12,824 & 100,000 & 112,824 & 30 & . 166,813 & 5 & 7.5\% & 92.5\% \\
\hline RBC & -3,109,469 & -468,010 & - \(3,577,479\) & 7 & 3,414,071 & 468 & 3,414,539 & 10 & -162,940 & - & 7.3\% & 99.8\% \\
\hline Deutsche Bank & -208,673 & -588,245 & .796,918 & 19 & 380,785 & 413,000 & 793,785 & 21 & -3,133 & 7 & 0.1\% & 100.0\% \\
\hline Fortress Investment Group & . 246 & -450,000 & -450,246 & 21 & 50 & 450,000 & 450,050 & 25 & . 196 & - & 0.0\% & 100.0\% \\
\hline Assent & -12,707,495 & -9,237,359 & -21,944,854 & 3 & 21,944,72 & & 21,944,772 & 3 & .82 & 9 & 0.0\% & 100.0\% \\
\hline
\end{tabular}

Morgan Stanley CDS Transactions
Top 15 Net Bearish 9/15/2008-9/19/2008
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Top 15 Net Bearish & \multicolumn{4}{|l|}{Bearish (Benefiti if Probabilily of Morgan Stanley Default Increases)} & \multicolumn{4}{|l|}{Bullish (Benefit if Probability of Morgan Stanley Default Decreases)} & \multicolumn{4}{|l|}{Net Bearish Position} \\
\hline Entity & \begin{tabular}{l}
Add to Buy \\
Side
\end{tabular} & Reduce Sell Side & Total & Rank & \begin{tabular}{l}
Reduce Buy \\
Side
\end{tabular} & \[
\begin{gathered}
\text { Add to Sell } \\
\text { Side }
\end{gathered}
\] & Total & Rank & Total &  & Share & CShr \\
\hline MERRILLLYMCH & -886,100,000 & .80,000,000 & .966,100,000 & 5 & 15,000,000 & 162,800,000 & 177,800,000 & 12 & .780,300,000 & 1 & 21.0\% & 21.0\% \\
\hline CITIBANK & -1,361,868,500 & - \(136,250,000\) & -1,498,118,500 & 3 & 57,500,000 & 1,106,935,765 & 1,164,435,765 & 4 & . \(333,682,735\) & 2 & 8.9\% & 29.9\% \\
\hline CREDIT SUISSE & -988,307, 200 & - 113,500,000 & -1,096,007,200 & 4 & 10,000,000 & 815,577,40 & 825,577,140 & 5 & -271,230,060 & 3 & 7.2\% & 37.1\% \\
\hline GOLDMAN SACHS & - 194,500,000 & -1,350,300,000 & -1,544,800,000 & 1 & 82,875,000 & 1,202,530,000 & 1,285,405,000 & 3 & - 259,395,000 & 4 & 6.9\% & 44.0\% \\
\hline HSEC BANK & -445,561,000 & -326,817,500 & .772,378,500 & 6 & 167,977,500 & 461,538,500 & 629,516,000 & 6 & -142,862,500 & 5 & 3.8\% & 47.8\% \\
\hline DEUTSCHE BANK & . \(513,000,000\) & . \(160,000,000\) & . \(673,000,000\) & 7 & 61,200,000 & 474,860,000 & 533,060,000 & 8 & . \(136,940,000\) & 6 & 3.6\% & 51.4\% \\
\hline DZBANK & - 150,459,500 & & - 150,459,500 & 13 & & 18,699,200 & 18,699,200 & 59 & . 13117600300 & 7 & 3.5\% & 55.0\% \\
\hline KING STREET CAPTTAL & -148,729,695 & & -148,729,695 & 14 & 22,810,735 & & 22,80,735 & 47 & -125,918,960 & 8 & 3.4\% & 58.3\% \\
\hline STCHTING & -113,465,670 & & -113,465,670 & 17 & & 11,279,350 & 11,279,50 & 71 & -102,186,320 & 9 & 2.7\% & 61.0\% \\
\hline BAYERISCHE & - 101, 299,500 & & - 101,299,500 & 18 & & & & 148 & - 101,299,500 & 10 & 2.7\% & 63.7\% \\
\hline ROYAL BANK OF CANADA & - \(121,000,000\) & -14,000,000 & -135,000,000 & 15 & & 44,000,000 & 44,000,000 & 29 & .91,000,000 & 11 & 2.4\% & 66.2\% \\
\hline MOORE MACRO FUND, L.P. & . 110,000,000 & -10,000,000 & -120,000,000 & 16 & 10,000,000 & 20,000,000 & 30,000,000 & 34 & .90,000,000 & 12 & 2.4\% & 68.5\% \\
\hline ROYAL BANK OF SCOTLAND & -229,000,000 & -40,000,000 & -269,000,000 & 9 & & 187,000,000 & 187,000,000 & 11 & . 82,0000000 & 13 & 2.2\% & 70.7\% \\
\hline NORGES BANK & 78,310,000 & & 78,310,000 & 21 & & 7,107,500 & 7,107,500 & 85 & 71,202,500 & 14 & 1.9\% & 72.6\% \\
\hline BANK OF AMERICA & -227,060,000 & & -227,060,000 & 11 & 250,000 & 168,566,000 & 168,836,000 & 13 & -58,224,000 & 15 & 1.6\% & 74.2\% \\
\hline
\end{tabular}

\section*{Morgan Stanley 21(a) Response - Example 1a: Common Stock}

Citadel Investment: A Lot of Shorts - Flat Net Position (Covers not identified)

Morgan Stanley Common Stock Transactions (9/15/2008-9/19/2008)
Citadel Investment Group*
Bearish \#2 / Bullish \#2 / Net Bullish \#12

*Respondent did not identify any cover transactions.

\section*{Morgan Stanley Example 1b: CDS}

Citadel Investment: CDS Trades Rather Bullish

Morgan Stanley CDS Transactions (9/15/2008-9/19/2008)
CITADEL EQUITY FUND LTD
Bearish \#31 / Bullish \#22 / Net Bullish \#22


\section*{Morgan Stanley 21(a) Response - Example 2a: Common Stock Paulson \& Company: Already Short - Cover at Low Prices}

Morgan Stanley Common Stock Transactions (9/15/2008-9/19/2008)
Paulson \& Company
Bearish - / Bullish \#5 / Net Bullish \#3


\section*{Morgan Stanley Example 2b: CDS}

Paulson \& Company: Exit Buy Side Protection at High Prices


\section*{Morgan Stanley 21(a) Response - Example 3a: Common Stock Deutsche Bank - Short Sales on September 17th}

Morgan Stanley Common Stock Transactions (9/15/2008-9/19/2008)
Deutsche Bank
Bearish \#19 / Bullish \#21 / Net Bearish \#7


\section*{Morgan Stanley Example 3b: CDS}

Deutsche Bank Activity in Both Directions Overall Bearish

\section*{Morgan Stanley CDS Transactions (9/15/2008-9/19/2008) DEUTSCHE BANK \\ Bearish \#7 / Bullish \#8 / Net Bearish \#6}


\section*{Morgan Stanley 21(a) Response - Example 4a: Common Stock Merrill Lynch Short Sales on September 17th}

Morgan Stanley Common Stock Transactions (9/15/2008-9/19/2008)
Merrill Lynch
Bearish \#24 / Bullish \#32 / Net Bearish \#4


Morgan Stanley Example 4b: CDS
Merrill Lynch \#1 Net Bearish over the week


\section*{Morgan Stanley Example 5a: Assent Stock Trades} Relatively Flat each Day -Provided Time Stamp on Trades

Morgan Stanley Common Stock Transactions (9/15/2008-9/19/2008)
Assent*
Bearish \#3 / Bullish \#3 / Net Bearish \#9

*Respondent did not identify any cover transactions.

\section*{Morgan Stanley Example 5b: Assent Stock Trades September 17 \({ }^{\text {th }}\)}

Each Side Minute by Minute

Morgan Stanley Intraday Trading by Assent
September 17, 2008



Morgan Stanley Example 5c: Assent Stock Trades September \(17^{\text {th }}\) Net Position Minute by Minute

Morgan Stanley Intraday Trading by Assent
September 17, 2008


\section*{Summary File Common Stock Transactions for all 21(a) Respondents}


Summary File Common Stock Transactions for all 21(a) Respondents Example: Citadel Morgan Stanley Trades

MS Common Stock Transactions \#12 Citadel Investment Group


\title{
Washington Mutual September Activity
}

January 27, 2009

\section*{Agenda}
- Trading Patterns of Interest
- Trades that could contribute to a stock downturn
- Trades that would be profitable after a downturn
- Data Sources
- Summary of the Activity for the first three weeks of September
- Stock Price, Volume, and News
- CDS volume and prices
- Activity of 21(a) Respondents
- Stock Examples
- CDS Examples
- Excel spreadsheet to view daily summaries.

\section*{Trading Patterns of Interest}
- Trades that could contribute to a stock downturn
- High volume of selling activity (short selling or long selling) just prior to or during the downturn.
- High volume of CDS purchases (buying insurance), or exiting sell side (stop providing insurance).
- Writing calls or buying puts
- Trades that would be profitable after a downturn
- Long purchases and covers
- Exiting the buy side of CDS (stop getting insurance), or Selling CDS (providing insurance)
- Buying calls or writing puts
- The list above are profitable if the financial strength of the company and the stock price recover
- The list of 'bearish' strategies above remain profitable if the company's value and financial viability continues to decline

\section*{Data Sources}
- Stock
- Intra-day trades
- short sales separately identified
- NYSER identified times of 'price dislocation'
- do not have the entities making the trades
- CDS
- DTCC Deriv/SERV data.
- The company estimates its database has 90\% of the CDS transactions.
- Entities are identified.
- 21(a) Response
- Includes all financial instruments Stock, CDS, Options and Debt
- Some respondents included trades made for many different outside clients
- Some respondents did not include trade time.
- The data for the financial instruments other than common stock is less standard and will take more effort to summarize.

\section*{Washington Mutual Stock Price Summary}

\(\square\) Short Sales Volume \(\quad\) Total Volume \(\quad\) ——Price Range \(\quad\) Average Price \(\quad\) Opening/Closing Price \(\quad\) S\&P 500 (SPDRs)

\section*{Washington Mutual Stock Price Summary Second Week of September}


\section*{Washington Mutual Intra-Day Stock Price Movements \\ September 8, 2008}

Washington Mutual Intraday Trading
September 8, 2008


\section*{Washington Mutual Intra-Day Stock Price Movements \\ September 9, 2008}

Washington Mutual Intraday Trading
September 9, 2008


\section*{Washington Mutual Intra-Day Stock Price Movements \\ September 10, 2008}

Washington Mutual Intraday Trading
September 10, 2008


\section*{Washington Mutual CDS Summary}

Washington Mutual Credit Default Swap Transactions


\section*{Washington Mutual CDS Prices of New Trades}

Washington Mutual Credit Default Swap Transactions Trades


\section*{Washington Mutual 21(a) Response Common Stock \\ Top Net Bearish 9/8/2008 - 9/12/2008}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Top Net Bearish} & \multicolumn{4}{|l|}{Common Stock Sales (shares)} & \multicolumn{4}{|l|}{Common Stock Buys (shares)} & \multicolumn{4}{|l|}{Net Bearish Position} \\
\hline & Sell & Short & Total & Rank & Buy & Cover & Total & Rank & Total & \[
\begin{array}{|c|}
\hline \text { Net } \\
\text { Bearish } \\
\text { Rank } \\
\hline
\end{array}
\] & Share & CShr \\
\hline Blue Ridge Capital & & -11,200,000 & . \(11,200,000\) & 3 & & & 0 & 25 & -11,200,000 & 1 & 47.1\% & 47.1\% \\
\hline Citigroup Global Maikets & .778,100 & 7,639,029 & -8,417,129 & 7 & 1,151,859 & 37,700 & 1,189,559 & 14 & 7, 7227,570 & 2 & 30.4\% & 77.6\% \\
\hline Renaissance Technologies & -9,564,800 & . 700 & -9,565,500 & 4 & 7,316,400 & & 7,316,400 & 6 & -2,49,100 & 3 & 9.5\% & 87.0\% \\
\hline D.E. Shaw Group & -676,767 & 7, 120,924 & 7,886,691 & 8 & 6,376,646 & & 6,376,646 & 7 & -1,510,045 & 4 & 6.4\% & 93.4\% \\
\hline Fortress Investment Group & -17,200 & -1,226,200 & -1,243,400 & 14 & 300,000 & 26,200 & 326,200 & 19 & .917,200 & 5 & 3.9\% & 97.2\% \\
\hline SAC Capita Advisors & .766,566 & -1,357,115 & -2,124,281 & 12 & 1,703,481 & & 1,703,481 & 12 & -420,800 & 6 & 1.8\% & 99.0\% \\
\hline Diamondlack Capital Manage & .8,458 & . 450,000 & . 458,458 & 17 & 110,723 & 200,000 & 310,723 & 20 & . 1477735 & 7 & 0.6\% & 99.6\% \\
\hline Citadel Investment Group & .75,229,362 & -21,393,450 & .96,622,812 & 2 & 96,546,774 & & 96,546,074 & 2 & .76,738 & 8 & 0.3\% & 99.9\% \\
\hline Cougar Trading LLC & -12,500 & & -12,500 & 22 & & & 0 & 26 & -12,500 & 9 & 0.1\% & 100.0\% \\
\hline
\end{tabular}

\section*{Washington Mutual CDS Transactions \\ Top 15 Net Bearish 9/8/2008-9/12/2008}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline Top 15 Net Bearish & \multicolumn{4}{|c|}{Bearish (Benefit if Probability of WaMu Default Increases)} & \multicolumn{4}{|c|}{Bullish (Benefit if Probability of WaMu Default Decreases)} & \multicolumn{4}{|l|}{Net Bearish Position} \\
\hline Entity & Add to Buy Side & Reduce Sell Side & Total & Rank & Reduce Buy Side & Add to Sell Side & Total & Rank & Total & \begin{tabular}{c|}
\hline Net \\
Bearish \\
Rank
\end{tabular} & Share & CShr \\
\hline MERRILLL LYNCH & -158,955,000 & -12,200,000 & . \(171,155,000\) & 4 & 12,000,000 & 86,800,000 & 98,800,000 & 6 & .72,355,000 & 1 & 16.4\% & 16.4\% \\
\hline MORGAN STANLEY & -113,000,000 & -46,000,000 & -159,000,000 & 6 & 64,000,000 & 35,804,000 & 99,804,000 & 5 & -59,196,000 & 2 & 13.4\% & 29.8\% \\
\hline UBS & -86,800,000 & & -86,800,000 & 8 & & 31,000,000 & 31,000,000 & 16 & -55,800,000 & 3 & 12.6\% & 42.4\% \\
\hline MOORE MACRO FUND, L.P. & & -41,000,000 & -41,000,000 & 11 & & & & 79 & \(-41,000,000\) & 4 & 9.3\% & 51.6\% \\
\hline CITIBANK & -150,700,000 & -35,000,000 & -185,700,000 & 3 & 4,350,000 & 154,000,000 & 158,350,000 & 4 & -27,350,000 & 5 & 6.2\% & 57.8\% \\
\hline JPMORGAN & -108,003,900 & -12,000,000 & - \(120,003,900\) & 7 & 5,000,000 & 89,100,000 & 94,100,000 & 8 & - \(25,903,900\) & 6 & 5.9\% & 63.7\% \\
\hline CFIP MASTER FUND, LTD. & -23,000,000 & & -23,000,000 & 15 & & & & 80 & -23,000,000 & 7 & 5.2\% & 68.9\% \\
\hline DZBANK & -20,000,000 & & -20,000,000 & 16 & & & & 81 & \(-20,000,000\) & 8 & 4.5\% & 73.4\% \\
\hline PLAINFIELD SPEC SITUATIONS MA & - 19,000,000 & & -19,000,000 & 18 & & & & 82 & -19,000,000 & 9 & 4.3\% & 77.7\% \\
\hline CREDIT SUISSE & -276,000,000 & & -276,000,000 & 2 & & 265,500,000 & 265,500,000 & 2 & -10,500,000 & 10 & 2.4\% & 80.1\% \\
\hline ROYAL BANK OF SCOTLAND & -54,000,000 & -15,000,000 & -69,000,000 & 9 & & 59,000,000 & 59,000,000 & 9 & -10,000,000 & 11 & 2.3\% & 82.3\% \\
\hline P1M6246 & & -20,000,000 & -20,000,000 & 17 & 10,000,000 & & 10,000,000 & 25 & -10,000,000 & 12 & 2.3\% & 84.6\% \\
\hline BLUECREST & -8,600,000 & & -8,600,000 & 24 & & & & 83 & -8,600,000 & 13 & 1.9\% & 86.6\% \\
\hline WACHOVIA BANK & -8,500,000 & & -8,500,000 & 25 & & & & 84 & -8,500,000 & 14 & 1.9\% & 88.5\% \\
\hline HSEC BANK & -16,173,000 & & -16,173,000 & 19 & & 11,086,500 & 11,086,500 & 24 & -5,086,500 & 15 & 1.2\% & 89.6\% \\
\hline
\end{tabular}

\section*{Washington Mutual 21(a) Response - Example 1: Citadel Investment Common Stock: A Lot of Shorts - Flat Net Position (Covers not identified)}

*Respondent did not identify any cover transactions.

\section*{Washington Mutual 21(a) Response - Example 2: Farralon Capital Management Common Stock: Already Short - Cover at Low Prices}


\section*{Washington Mutual - Example 3: Fore CDS: Exit Buy Side Protection at High Prices}

\section*{Washington Mutual}

FORE
Bearish - / Bullish \#10 / Net Bullish \#1


\section*{Washington Mutual 21(a) Response - Example 4a: Blue Ridge Capital Common Stock: \#1 Net Bearish}


\footnotetext{
*Respondent did not identify any cover transactions.
}

\section*{Washington Mutual Example 4b: Blue Ridge Capital CDS: Bearish in CDS as well}


\section*{Washington Mutual 21(a) Response - Example 5: DE Shaw Common Stock: Net Bearish Until the \(\mathbf{1 2}^{\text {th }}\) and the Buy}

*Respondent did not identify any cover transactions

\section*{Washington Mutual - Example 6: Merrill Lynch CDS: \#1 Net Bearish}

\section*{Washington Mutual \\ MERRILL LYNCH \\ Bearish \#4 / Bullish \#6 / Net Bearish \#1}


\section*{Washington Mutual Example 7a: Assent Stock Trades}

Relatively Flat each Day -Provided Time Stamp on Trades

Washington Mutual
Assent \({ }^{*}\)
Bearish \#5 / Bullish \#5 / Net Bullish \#15

*Respondent did not identify any cover transactions.

\section*{Washington Mutual Example 7b: Assent Stock Trades September 8 \({ }^{\text {th }}\) Each Side Minute by Minute}

Washington Mutual Intraday Trading by Assent
September 8, 2008


Washington Mutual Example 7c: Assent Stock Trades September 8 \({ }^{\text {th }}\) Net Position Minute by Minute

Washington Mutual Intraday Trading by Assent September 8, 2008


\section*{Summary File Common Stock Transactions for all 21(a) Respondents}


\section*{Summary File Common Stock Transactions for all 21(a) Respondents Example: Citadel Washington Mutual Trades}

WM Common Stock Transactions \#12 Citadel Investment Group


\section*{Fallon, Zachary}
\begin{tabular}{ll} 
From: & McCormick, Tim \\
Sent: & Wednesday, December 17, 2008 6:30 PM \\
To: & OEA-Archives; Edwards, Amy K. \\
Subject: & FW: Convertible Preferred Offering \\
& \\
Attachments: & NATIONALCITYCOR424B2.rtf; NATIONALCITYCOR8K[1].pdf
\end{tabular}

I talked to Nick Panos in Corp Fin briefly about this over the phone and then sent him this. He told me that a few years ago, there was a uproar over shareholder approval related to a transaction by Sovereign Bank.

\author{
From: McCormick, Tim \\ Sent: Tuesday, December 16, 2008 5:30 PM \\ To: Panos, Nicholas \\ Subject: Convertible Preferred Offering
}
http://dealbook.blogs.nytimes.com/2008/04/22/the-rights-issue/


NATIONALCITYCOR
8K[1].pdf (441 ...

\section*{http://seekingalpha.com/article/95670-national-city-gets-approval-to-raise-capital}

It seems like you can raise capital first via convertible preferred (with senior dividend rights to common and other significant advantages to common) and then much later ask for shareholder approval to convert the shares. That is much different requirement than having to go get shareholder approval first and then issuing the convertibles. My read of the NYSE rule is that they needed PRIOR approval to do this deal since the effective offer price was discounted to stock's market price and the preferred stock dilutes common shareholders by more than \(20 \%\). Why were they able to do this offering?
http://content.lawyerlinks.com/default.htm\#http://content.lawyerlinks.com/sec/NASDAQ/shldr approval reqs.html

\section*{Tim McCormick}

Office of Economic Analysis
U.S. Securities and Exchange Commission

100 F Street NE
Washington, DC 20549-9040
(202) 551-6633

Form 424B2
NATIONAL CITY CORP - ncc

Filed: May 16, 2008 (period: )
Form of prospectus filed in connection with primary offering of securities on a delayed basis

\section*{CALCULATION OF REGISTRATION FEE}
\begin{tabular}{|l|c|c|c|c|}
\hline \begin{tabular}{l} 
Title of Each Class of \\
Securities to Be Registered
\end{tabular} & \begin{tabular}{c} 
Amount to Be \\
Registered
\end{tabular} & \begin{tabular}{c} 
Proposed Maximum \\
Offering Price per \\
Unit
\end{tabular} & \begin{tabular}{c} 
Proposed Maximum \\
Aggregate Offering \\
Price
\end{tabular} & \begin{tabular}{c} 
Amount of \\
Registration Fee
\end{tabular} \\
\hline Preferred Stock, Series G & 51,340 & \(\$ 100,000.00(1)\) & \(5,134,000,000.00(1)\) & \(\$ 201,766.20(1)\) \\
\hline Common Stock, no par value & \(126,200,000\) & \(\$ 5.88(2)\) & \(\$ 742,056,000(2)\) & \(\$ 29,162.80(2)\) \\
\hline \begin{tabular}{l} 
Common Stock, no par value, \\
issuable upon conversion of \\
Series G Preferred Stock
\end{tabular} & \(1,026,800,000\) & not applicable(3) & not applicable(3) & not applicable(3) \\
\hline Total & & & & \\
\hline
\end{tabular}
(1)

Calculated pursuant to Rule 457(i) under the Securities Act of 1933, as amended. Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(c) under the Securities Act of 1933, as amended, based on the average of the high and low prices of the common stock
(2)
on May 14, 2008, as reported on the New York Stock Exchange. Pursuant to Rule 457(i) under the Securities Act of 1933, as amended, the registration fee shall be calculated only on the basis of the price of the convertible securities, and, therefore, the underlying common stock issuable upon the conversion of the preferred stock shall not be included for purposes of
(3) calculating the registration fee.

Prospectus Supplement to Prospectus dated January 18, 2008
National City
Corporation
National City Corporation
Common Stock
Series G Contingent Convertible Perpetual Non-Cumulative Preferred Stock
This prospectus supplement relates to resales of up to \(1,153,000,000\) shares of our common stock, no par value, and up to 51,340 shares of Series G Contingent Convertible Perpetual Non-Cumulative Preferred Stock, referred to as the Series G Preferred Stock, and together with the common stock, the "securities." The securities may be resold from time to time by and for the accounts of certain selling stockholders named in this prospectus supplement.

The methods of resale of the securities offered hereby are described under the heading "Plan of Distribution." We will receive none of the proceeds from such resales.

Our common stock is listed on the New York Stock Exchange under the symbol "NCC." The last reported sale price of the common stock on May 15, 2008 was \(\$ 5.81\) per share.

The Series G Preferred Stock is mandatorily convertible into shares of common stock on the fifth business day after which (i) we have received the approval by the holders of our common stock of each of (A) the amendment of our amended and restated certificate of incorporation (our "Certificate of Incorporation") to increase the number of authorized shares of common stock to at least such number as shall be sufficient to permit full conversion of the Series G Preferred Stock into common stock and (B) the conversion of the Series G Preferred Stock into common stock for purposes of Section 312.03 of the NYSE Listed Company Manual and (ii), with respect to a holder who is required to obtain any applicable regulatory approval, such holder has received such approval. The Series G Preferred Stock is initially convertible into shares of common stock at a rate of \(\$ 5.00\) per share of common stock, subject to antidilution adjustments; provided, however, the conversion price shall be reduced by \(\$ 0.50\) at the end of each six-month period following the original issue date if the Stockholder Approvals have not been obtained, up to a maximum reduction of \$2.00.

Dividends on the Series G Preferred Stock are payable on a non-cumulative basis, when, as and if declared by our board of directors, in cash, on an as-converted basis. Initially, if our board declares a dividend on our common stock, then it is required to declare a dividend on the Series G Preferred Stock in an amount per share equal to the per share common stock dividend times the number of shares into which the shares of Series G Preferred Stock is then convertible. If the Series G Preferred Stock has not been converted into shares of common stock by September 30, 2008, it will begin to accrue non-cumulative dividends commencing with the dividend period relating to the dividend payment date on December 31, 2008 at an annual rate of \(14 \%\) of the liquidation preference of the Series G Preferred Stock; this rate will further increase to \(15.5 \%\) of the liquidation preference commencing with the dividend period relating to the dividend payment date on March 31, 2009, and to \(17 \%\) of the liquidation preference commencing with the dividend period relating to the dividend payment date on September 30, 2009 (the "Special Dividend"). However, in any event, dividends on the Preferred Stock will always be paid at the higher of the Special Dividend rate and the dividend rate payable on an asconverted basis on the common stock during the applicable dividend period.

The Series G Preferred Stock is not redeemable by the holders, but may be redeemed by the Company beginning on April 29,

2013 at a redemption price per share equal to the greater of (i) \(125 \%\) of the liquidation preference and (ii) the average of the closing prices of the common stock for the ten trading days ending on the sixth trading day prior to the date of redemption multiplied by the number of shares of common stock into which one share of Series G Preferred Stock would be convertible on such date if such shares of Series G Preferred Stock were converted on that date following receipt of the stockholder approvals described above, together with ( x ) an amount equal to any dividends that have been declared but not paid prior to the redemption date and (y) an amount equal to any dividends for periods after such issuance for which dividends were not declared and paid prior to the redemption date.

Prior to resales by use of this prospectus supplement, there has been no public market for the Series G Preferred Stock.
The selling stockholders may sell the securities on the open market at market prices in ordinary broker transactions or in negotiated transactions, and they may pay broker commissions in connection with such transactions. The selling stockholders and any broker dealer executing sell orders on behalf of or purchasing from the selling stockholders may be deemed to be an "underwriter" within the meaning of the Securities Act of 1933 (the "Securities Act"). Commissions received by any such broker dealer may be deemed to be underwriting commissions or discounts under the Securities Act.

The securities are not savings accounts, deposits or other obligations of any bank and are not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency.

Investing in the securities involves risks. See "Risk Factors" on page S-6 of this prospectus supplement to read about factors you should consider before buying securities.

Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement. Any representation to the contrary is a criminal offense.

May 16, 2008.

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\section*{ABOUT THIS PROSPECTUS SUPPLEMENT}

This prospectus supplement is part of a "shelf" registration statement that we have filed with the Securities and Exchange Commission (the "SEC"). By using a shelf registration statement, certain selling stockholders may resell, at any time and from time to time, in one or more offerings, any combination of the securities described in this prospectus supplement. The exhibits to our registration statement contain the full text of certain contracts and other important documents we have summarized in this prospectus supplement. Because these summaries may not contain all the information that you may find important in deciding whether to purchase the securities offered, you should review the full text of these documents. The registration statement and the exhibits can be obtained from the SEC as indicated under the heading "Where You Can Find More Information" in the accompanying prospectus.

This document consists of two parts. The first part is the prospectus supplement, which describes the specific terms of this offering. The second part is the prospectus, which describes more general information, some of which may not apply to this offering. You should read both this prospectus supplement and the accompanying prospectus, together with additional information described under the heading "Where You Can Find More Information" in the accompanying prospectus.

Unless otherwise mentioned or unless the context requires otherwise, all references in this prospectus supplement to " National City ", " we ", " us ", " our ", " the Company" or similar references mean National City Corporation and its successors and references to "National City Bank" mean National City Bank or its successor.

If the information set forth in this prospectus supplement differs in any way from the information set forth in the accompanying prospectus, you should rely on the information set forth in this prospectus supplement and any pricing supplement.

Unless otherwise indicated, currency amounts in this prospectus supplement are stated in U.S. dollars.
You should rely only on the information contained in or incorporated by reference into this prospectus supplement. This prospectus supplement may be used only for the purpose for which it has been prepared. No one is authorized to give information other than that contained in this prospectus supplement and in the documents referred to in this prospectus supplement and which are made available to the public. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it.

We and the selling stockholders are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information appearing in this prospectus supplement, any accompanying pricing supplement or any document incorporated by reference is accurate as of any date other than the date of the applicable document. Our business, financial condition, results of operations and prospects may have changed since that date. Neither this prospectus supplement nor the accompanying prospectus constitutes an offer, or an invitation on our behalf or on behalf of the selling stockholders, to subscribe for and purchase, any of the securities and may not be used for or in connection with an offer or solicitation by anyone, in any jurisdiction in which such an offer or solicitation is not authorized or to any person to whom it is unlawful to make such an offer or solicitation.

\section*{FORWARD-LOOKING STATEMENTS}

This prospectus supplement and the accompanying prospectus contain or incorporate by reference forward-looking statements. Forward-looking statements, written or oral, provide current expectations or forecasts of future events and are not guarantees of future performance, nor should they be relied upon as representing management's views as of any subsequent date. The forward-looking statements are based on management's expectations and are subject to a number of risks and uncertainties. Although management believes that the expectations reflected in such forward-looking statements are reasonable, actual results may differ materially from those expressed or implied in such statements.

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Risks and uncertainties that could cause actual results to differ materially include, without limitation, our ability to effectively execute our business plans; changes in general economic and financial market conditions, including the stock market, and residential and commercial real estate markets; changes in interest rates; Visa indemnification obligations; changes in the competitive environment; continuing consolidation in the financial services industry; new litigation or changes in existing litigation; losses, customer bankruptcies, claims and assessments; changes in banking regulations or other regulatory or legislative requirements affecting our business; and changes in accounting policies or procedures as may be required by the Financial Accounting Standards Board or other regulatory agencies.

Additional information concerning factors that could cause actual results to differ materially from those expressed or implied in forward-looking statements is available in our annual report on Form 10-K for the year ended December 31, 2007, and subsequent filings with the SEC. Copies of these filings are available at no cost on the SEC's Web site at www.sec.gov or on our Web site at www.nationalcity.com. We are not incorporating any information from our Web site into this prospectus supplement or the accompanying prospectus. Management may elect to update forward-looking statements at some future point; however, it specifically disclaims any obligation to do so.

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\section*{SUMMARY}

This summary highlights information contained elsewhere in, or incorporated by reference into, this prospectus supplement. As a result, it does not contain all of the information that may be important to you or that you should consider before investing in the securities. You should read carefully this entire prospectus supplement and accompanying prospectus, including the "Risk Factors" section and the documents incorporated by reference, which are described under "Where You Can Find More Information" in the accompanying prospectus.

\section*{National City Corporation}

National City Corporation is a financial holding company headquartered in Cleveland, Ohio. National City operates through an extensive distribution network in Ohio, Florida, Illinois, Indiana, Kentucky, Michigan, Missouri, Pennsylvania and Wisconsin, and also conducts selected consumer lending and other financial services businesses on a nationwide basis. National City's primary businesses include commercial and retail banking, mortgage financing and servicing, consumer finance and asset management. Operations are primarily conducted through more than 1,400 branch banking offices located within a nine-state footprint and over 380 wholesale and retail mortgage offices located throughout the United States. Including its subsidiaries, National City had 30,804 full-time-equivalent employees at March 31, 2008. As of March 31, 2008, National City's consolidated total assets were approximately \(\$ 155.0\) billion and its total stockholders' equity was approximately \(\$ 13.2\) billion. Based on asset size, National City is one of the largest commercial banking organizations in the United States.

National City's principal banking subsidiary is National City Bank. National City is a legal entity separate and distinct from National City Bank and National City’s other subsidiaries.

Our common stock is traded on the New York Stock Exchange under the ticker symbol "NCC." Our principal executive offices are located at 1900 East Ninth Street, Cleveland, Ohio 44114. Our telephone number is (216) 222-2000.

\section*{Recent Developments}

During the last several months our board of directors and management determined that it would be prudent to engage in a strategic transaction or to seek substantial additional capital in order to provide us with financial flexibility to address the asset quality challenges posed by the disruptions in the credit and housing markets, to continue investing in our core businesses and to maintain our capital ratios at well above previous target levels. The board of directors also concluded that in light of a variety of factors, including capital markets volatility, rating agency actions and general economic uncertainties, it was important that any process to raise additional capital be executed promptly and with a high degree of certainty of completion. After exploring and considering a broad range of potential financing and other alternatives, our board of directors determined that the equity investment transactions described below was the most effective means to address our needs on a prompt basis.

On April 21, 2008, we announced that we had entered into agreements to raise approximately \(\$ 7\) billion in the aggregate through the sales of equity securities to an investment vehicle managed by an affiliate of Corsair Capital LLC and to other institutional investors ("Institutional Investors").

In the offering, we sold approximately 126.2 million shares of our common stock and 63,690 shares of Series G Preferred Stock, and we also issued warrants (the "Warrants"), to certain investors to purchase shares of our common stock. Upon approval by our stockholders of (A) the amendment of our Certificate of Incorporation to increase the number of authorized shares of common stock to at least such number as shall be sufficient to permit full conversion of the Series G Preferred Stock into common stock and permit full exercise of the Warrants for common stock, (B) the conversion of the Series G Preferred Stock into common stock for purposes of Section 312.03 of the NYSE Listed Company Manual and (C) the exercise of the Warrants for common stock for purposes of Section 312.03 of the NYSE Listed Company Manual (the "Stockholder Approvals"), as well as satisfaction of regulatory conditions to the extent applicable, the Series G Preferred

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Stock will automatically convert into approximately 1.274 billion shares of our common stock and the Warrants will become exercisable for approximately 61.75 million shares of our common stock. The shares of common stock were sold at a price of \(\$ 5.00\) per share, the preferred stock is convertible into shares of common stock at \(\$ 5.00\) per share (subject to adjustment) and the Warrants are exercisable at \(\$ 7.10\) per share of common stock (subject to adjustment).

\section*{The Resales}
Issuer
Securities Offered by Selling
Stockholders

Listing

Use of Proceeds

Risk Factors

Dividends

National City Corporation, a Delaware corporation.
Up to \(1,153,000,000\) shares of common stock, par value \(\$ 4.00\) per share.

Up to 51,340 shares of Series G Non-Cumulative Perpetual Preferred Stock without par value.

Our common stock is listed on the New York Stock Exchange under the symbol "NCC."

Our Series G Preferred Stock is not listed on any national securities exchange and, prior to resale by use of this prospectus supplement, there has been no public market for the Series G Preferred Stock.

We will not receive any proceeds from the resale of the shares by the selling stockholders.

For a discussion of risks and uncertainties involved with an investment in our common stock or the Series G Preferred Stock, see "Risk Factors" beginning on page S-6 of this prospectus supplement.

For information relating to dividends declared per share of common stock, see "Common Stock Price Range and Dividends" on page S-11 of this prospectus supplement.

Holders of Series G Preferred Stock are entitled to receive, when, as and if declared by our board of directors, non-cumulative cash dividends in the amount determined as set forth below. Initially, if our board of directors declares and pays a cash dividend in respect of any shares of common stock, then the board of directors is required to declare and pay to the holders of the Series G Preferred Stock a cash dividend in an amount per share of Series G Preferred Stock equal to the product of (i) the per share dividend declared and paid in respect of each share of common stock and (ii) the number of shares of common stock into which such share of Series G Preferred Stock is then convertible, assuming receipt of the Stockholder Approvals and any applicable regulatory approvals.

Commencing with the dividend period ending on December 31, 2008, in lieu of the dividends provided for in the preceding paragraph, dividends will be payable quarterly in arrears on March 31, June 30, September 30 and December 31 of each year. If the Series G Preferred Stock has not been converted into shares of common stock by September 30, 2008, it will begin to accrue non-cumulative dividends commencing with the dividend period relating to the dividend payment date on December 31, 2008 at an annual rate of \(14 \%\) of the liquidation preference of the Series G

Dividend Stopper

Repurchase of Junior Securities

Redemption

Preferred Stock; this rate will further increase to \(15.5 \%\) of the liquidation preference commencing with the dividend period relating to the dividend payment date on March 31, 2009, and to \(17 \%\) of the liquidation preference commencing with the dividend period relating to the dividend payment date on September 30, 2009. Notwithstanding the foregoing sentence, dividends on the Series G Preferred Stock will always be paid at the higher of the Special Dividend rate and the dividend rate payable on an asconverted basis on the common stock during the applicable dividend period.

Dividends on the Series G Preferred Stock are non-cumulative. If the board of directors does not declare a dividend on the Series G Preferred Stock in respect of any dividend period, the holders will have no right to receive any dividend for that dividend period, and we will have no obligation to pay a dividend for that dividend period.

Subject to limited exceptions, if full quarterly dividends payable on all outstanding shares of the Series G Preferred Stock for any dividend period have not been declared and paid, we will not be permitted to declare or pay dividends with respect to, or redeem, purchase or acquire, any of our junior securities during the next succeeding dividend period.

For as long as the Series G Preferred Stock is outstanding, we are prohibited from redeeming, purchasing or acquiring any shares of common stock or other junior securities, subject to limited exceptions.

The Series G Preferred Stock is not redeemable by the holders, but may be redeemed by the Company beginning on April 29, 2013 at a redemption price per share equal to the greater of (i) \(125 \%\) of the liquidation preference and (ii) the average of the closing prices of the common stock for the ten trading days ending on the sixth trading day prior to the date of redemption multiplied by the number of shares of common stock into which one share of Series G Preferred Stock would be convertible on such date if such shares of Series G Preferred Stock were converted on that date following receipt of the Stockholder Approvals relating to the Series G Preferred Stock, together with (x) an amount equal to any dividends that have been declared but not paid prior to the redemption date and (y) an amount equal to any dividends for periods after such issuance for which dividends were not declared and paid prior to the redemption date.
\begin{tabular}{ll} 
Maturity & \begin{tabular}{l} 
The Series G Preferred Stock is perpetual, meaning it has no \\
fixed maturity date.
\end{tabular} \\
Mandatory Conversion & \begin{tabular}{l} 
The Series G Preferred Stock is mandatorily convertible into \\
shares of common stock on the fifth business day after which the \\
Stockholder Approvals relating to the Series G Preferred Stock \\
have been received. The number of shares of common stock into \\
which a share of Series G Preferred Stock will be convertible
\end{tabular} \\
will be determined by dividing the liquidation preference by the \\
then applicable conversion price. No fractional shares of \\
common stock will be issued. Upon conversion, cash will be \\
paid in lieu of fractional
\end{tabular}

\author{
Anti-Dilution Adjustments
}

Reorganization Events (Including Mergers)
shares based on the closing price of the common stock determined as of the second trading day immediately preceding the date of the mandatory conversion.

The Series G Preferred Stock is convertible into shares of common stock initially at the conversion price of \(\$ 5.00\) per share of common stock. The conversion price of the Series G Preferred Stock will be reduced by \(\$ 0.50\) at the end of each six-month period following the date of issuance of the Series G Preferred Stock if the Stockholder Approvals relating to the Series G Preferred Stock have not been obtained, up to a maximum reduction of \$2.00.

The conversion price of the Series G Preferred Stock may be adjusted in the event of, among other things, (1) subdivisions, splits and combinations of the common stock, (2) dividends or distributions in common stock, debt, capital stock or other assets, (3) issuances to all holders of our common stock of stock purchase rights or warrants, (4) increases in cash dividends or (5) certain self tender offers for common stock. See "Description of National City Capital Stock - Description of the Series G Preferred Stock - Anti-Dilution Adjustments."

If we enter into a transaction constituting a consolidation or merger of National City or similar transaction or any sale or other transfer of all or substantially all of the consolidated assets of National City and its subsidiaries, taken as a whole (in each case pursuant to which our common stock will be converted into cash, securities or other property) or for certain reclassifications or exchanges of our common stock, then each share of Series G Preferred Stock will convert, effective on the day on which such share would automatically convert into common stock, into the securities, cash and other property receivable in the transaction by the holder of the greater of (1) the number of shares of common stock into which such share of Series G Preferred Stock would then be convertible, assuming receipt of any applicable regulatory approval and (2) the number of shares of common stock for which the fair market value of the securities, cash or other property receivable in the transaction in respect of such shares equals \(\$ 100,000\). The Company shall not enter into any agreement for a transaction described in this section unless such agreement provides for or does not interfere with or prevent (as applicable) conversion of the Series G Preferred Stock in a manner that is consistent with this section. See "Description of National City Capital Stock -Description of the Series G Preferred Stock - Reorganization Events."

Liquidation Rights
In the event we voluntarily or involuntarily liquidate, dissolve or wind up, the holders of the Series G Preferred Stock will be entitled to the greater of (1) \(\$ 100,000\) and (2) an amount equal to the liquidation amount payable on an as-converted basis on the number of shares of common stock into which such shares of Series G Preferred Stock could have been converted on a date at least ten business days before the first liquidating distribution is made on the Series G Preferred Stock, plus any declared but unpaid dividends.

Voting Rights

Ranking

Preemptive Rights
Certain United States Federal Income Tax Considerations

In the event our assets available for distribution to stockholders upon any liquidation, dissolution or winding-up of our affairs, whether voluntary or involuntary, are insufficient to pay in full the amounts payable with respect to all outstanding shares of the Series G Preferred Stock and the corresponding amounts payable on any parity securities, holders of Series G Preferred Stock and the holders of parity securities will share ratably in any distribution of our assets in proportion to the full respective liquidating distributions to which they would otherwise be respectively entitled.

Except as set forth below under "Description of National City Capital Stock -Description of the Series G Preferred Stock Voting Rights," holders of Series G Preferred Stock will not have any voting rights, including the right to elect any directors.

The Series G Preferred Stock, with respect to dividend rights and rights on liquidation, winding-up and dissolution, ranks on a parity with our other authorized series of preferred stock and with each other class or series of preferred stock, established after the date of issuance of the Series G Preferred Stock, the terms of which do not expressly provide that such class or series will rank senior or junior to the Series G Preferred Stock as to dividend rights and rights on liquidation, winding-up and dissolution of the Company. The Series G Preferred Stock ranks senior to the common stock, and each other class or series of capital stock outstanding or established after the date of issuance of the Series G Preferred Stock by the Company the terms of which expressly provide that it ranks junior to the Series G Preferred Stock as to dividend rights and rights on liquidation, winding-up and dissolution.

None.
For a discussion of certain U.S. federal income tax considerations of purchasing, owning and disposing of the securities are described in "Certain U.S. Federal Income Tax Considerations."

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\section*{RISK FACTORS}

An investment in our securities is subject to certain risks. You should carefully consider the risks described below, as well as the other information included or incorporated by reference into this prospectus supplement, including our financial statements and the notes thereto, before making an investment decision.

\section*{Risks Relating to Offerings by the Selling Stockholders}

We are a holding company and our ability to pay dividends on the securities will depend upon the operations of our subsidiaries.
We are a separate and distinct legal entity from our banking and non-banking subsidiaries and depend on dividends, distributions and other payments from our banking and non-banking subsidiaries to fund dividend payments on our common stock and our preferred stock and to fund all payments on our other obligations, including dividend payments. Many of our subsidiaries are subject to laws that authorize regulatory bodies to block or reduce the flow of funds from those subsidiaries to us. Regulatory action of that kind could impede access to funds we need to make payments on our obligations or dividend payments. Additionally, if our subsidiaries' earnings are not sufficient to make dividend payments to us while maintaining adequate capital levels, we may not be able to make dividend payments to our common or preferred stockholders. Furthermore, our right to participate in a distribution of assets upon a subsidiary's liquidation or reorganization is subject to the prior claims of the subsidiary's creditors.

\section*{We are subject to restrictions on paying cash dividends.}

Holders of the securities are only entitled to receive such dividends as our board of directors may declare out of funds legally available for such payments. Furthermore, holders of our common stock are subject to the prior dividend rights of any holders of our preferred stock or depositary shares representing such preferred stock then outstanding. As of March 31, 2008, 70,272 shares of preferred stock, Series D, were issued and outstanding; no shares of preferred stock, Series E, were issued and outstanding; and 1,500 shares of preferred stock, Series F, were issued and outstanding. Although we have historically declared cash dividends on our common stock, we are not required to do so and may further reduce or eliminate our common stock dividend in the future. This could adversely affect the market price of the securities.

In addition, any other financing agreements that we enter into in the future may limit our ability to pay cash dividends on our capital stock, including the securities. In the event that any other financing agreements in the future restrict our ability to pay dividends in cash on the securities, we may be unable to pay dividends in cash on the securities unless we can refinance amounts outstanding under those agreements.

\section*{Dividends on the securities are non-cumulative.}

Dividends on the securities are non-cumulative. Consequently, if our board of directors does not authorize and declare a dividend for any dividend period, holders of the securities will not be entitled to receive a dividend for such period, and such undeclared dividend will not accrue and be payable. We will have no obligation to pay dividends for a dividend period after the dividend payment date for such period if our board of directors has not declared such dividend before the related dividend payment date, whether or not dividends are declared for any subsequent dividend period with respect to the securities. Our board of directors may determine that it would be in our best interest to pay less than the full amount of the stated dividends on the securities or no dividend for any quarter even if funds are available. Factors that would be considered by our board of directors in making this determination are our financial condition and capital needs, the impact of current and pending legislation and regulations, economic conditions, tax considerations and such other factors as our board of directors may deem relevant.

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\section*{The market price of our common stock may be volatile, which will also affect the market price of the Series G Preferred Stock.}

We cannot predict how the shares of our common stock will trade in the future. In addition, to the extent that a secondary market for the Series G Preferred Stock develops, we believe that the market price of the Series G Preferred Stock will be significantly affected by the market price of our common stock. This may result in greater volatility in the market price of the Series G Preferred Stock than would be expected for nonconvertible preferred stock. From January 1, 2005 to May 15, 2008 the reported high and low sales prices for our common stock ranged from a low of \(\$ 5.77\) per share to a high of \(\$ 10.80\) per share. The market price of our common stock will likely continue to fluctuate in response to a number of factors including, without limitation, the following:
- weakness in the real estate market, including the secondary residential loan markets, has adversely affected us and may continue to do so;
- our real estate portfolios are exposed to weakness in the U.S. housing markets and the overall state of the economy;
- the residential mortgage loan market and business have adversely affected our credit ratings;
- the allowance for loan losses may prove inadequate or be negatively affected by credit risk exposures;
- we could experience difficulties in managing growth and effectively integrating acquisitions;
- if we do not adjust to rapid changes in the financial services industry, our financial performance may suffer;
- future governmental regulation and legislation could limit future growth;
- changes in interest rates could reduce income and cash flows; and
- our results of operations and ability to make distributions to securities holders depend upon the results of operations of our subsidiaries.
The market price of our common stock may also be affected by market conditions affecting the stock markets in general, including, without limitation, changes in general economic, financial and other market conditions; changes in securities analysts’ estimates of financial performance; volatility of securities market prices and volumes; rumors or erroneous information; changes in market valuations of similar companies; changes in interest rates; new developments or exceptions regarding the financial services banking industry; changes in quarterly or annual operation results or outlook; changes in competitive conditions; continuing consolidation in the financial services industry; new litigation or changes in existing litigation; regulatory actions and changes in rules or policies; changes in accounting policies and procedures; losses and customer bankruptcies, claims and assessments. These conditions may result in (i) volatility in the level of, and fluctuations in, the market prices of stocks generally and, in turn, our common stock and (ii) sales of substantial amounts of our common stock in the market, in each case that could be unrelated or disproportionate to changes in our operating performance. These broad market fluctuations may adversely affect the market prices of our common stock, and, in turn, the Series G Preferred Stock.

In addition, we expect that the market price of the Series G Preferred Stock will be influenced by yield and interest rates in the capital markets, our creditworthiness and the occurrence of events affecting us that do not require an adjustment to the conversion price.

\section*{There may be future sales or other dilution of our equity, which may adversely affect the market price of our common stock or the Series G Preferred Stock.}

We are not restricted from issuing additional common stock or preferred stock, including any securities that are convertible into or exchangeable for, or that represent the right to receive, common stock or preferred stock or any substantially similar securities. The market price of our common stock or preferred stock could

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decline as a result of sales of a large number of shares of common stock or preferred stock or similar securities in the market after this or the perception that such sales could occur.

Each share of Series G Preferred Stock will be mandatorily converted into shares of our common stock, subject to anti-dilution adjustments, once the Stockholder Approvals and any applicable regulatory approvals are received. The conversion of the Series G Preferred Stock will dilute the ownership interest of our existing common stockholders. The dilutive effect of the conversion of the Series G Preferred Stock will increase if the conversion price is reduced because the Stockholder Approvals have not been obtained within certain timeframes as described below under "Description of National City Capital Stock - Description of the Series G Preferred Stock - Mandatory Conversion." Additional dilution will result upon the exercise of the Warrants. The dilutive effect of the exercise of the Warrants will increase if the exercise price is reduced because (i) the Stockholder Approvals have not been obtained within certain time frames as described below under "Description of National City Capital Stock - Description of the Warrants - Exercise Price" or (ii) we issue or sell, or agree to issue or sell, more than \(\$ 300\) million of equity or equity-linked securities, other than certain permitted issuances, for consideration per share less than the \(\$ 5.00\) as described under "Description of Capital Stock - Description of the Warrants - Anti-Dilution and Other Provisions."

Any sales in the public market of our common stock issuable upon the conversion of the Series G Preferred Stock or the exercise of the Warrants could adversely affect prevailing market prices of the outstanding shares of our common stock and the Series G Preferred Stock. In addition, the existence of our Series G Preferred Stock and the Warrants may encourage short selling or arbitrage trading activity by market participants because the conversion of our Series G Preferred Stock or the exercise of the Warrants could depress the price of our equity securities.

\section*{The issuance of additional preferred or common shares could adversely affect the rights of holders of common stock, which may negatively impact your investment in the common stock or Series G Preferred Stock.}

Our board of directors is authorized to issue additional shares of common stock and additional classes or series of preferred stock without any action on the part of the stockholders. The board of directors also has the power, without stockholder approval, to set the terms of any such classes or series of preferred stock that may be issued, including voting rights, dividend rights and preferences over the common stock with respect to dividends or upon the liquidation, dissolution or winding up of our business and other terms. If we issue preferred shares in the future that have a preference over the common stock with respect to the payment of dividends or upon liquidation, dissolution or winding up, or if we issue preferred shares with voting rights that dilute the voting power of the common stock, the rights of holders of the common stock or the market price of the common stock could be adversely affected. As noted above, a decline in the market price of the common stock may negatively impact the market price for the Series G Preferred Stock.

\section*{Holders of the Series G Preferred Stock will have no rights as holders of common stock until they acquire the common stock.}

Until the conversion of shares of Series G Preferred Stock into common stock, holders will have no rights with respect to the common stock, including voting rights (except as described under "Description of National City Capital Stock - Description of the Series G Preferred Stock - Voting Rights" and as required by applicable state law), rights to respond to tender offers and rights to receive any dividends or other distributions on the common stock, but an investment in our Series G Preferred Stock may be negatively affected by these events. Upon conversion, you will be entitled to exercise the rights of a holder of common stock only as to matters for which the record date occurs on or after the applicable conversion date. For example, in the event that an amendment is proposed to our Certificate of Incorporation or by-laws requiring approval of the holders of our common stock, and the record date for determining the holders of record entitled to vote on the amendment occurs prior to the conversion date, holders of Series G Preferred Stock will not be entitled to vote on the amendment, although they will nevertheless be subject to any changes in the powers, preferences or special rights of our common stock that may occur as a result of such amendment.

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\section*{The Series G Preferred Stock is a new series of securities and an active trading market for it may not develop.}

Prior to resales by our selling stockholders by use of this prospectus supplement, there has been no public market for the Series \(G\) Preferred Stock. There can be no assurance that an active trading market will develop, or if developed, that an active trading market will be maintained.
The securities will rank junior to all of our and our subsidiaries' liabilities in the event of a bankruptcy, liquidation or winding up.
In the event of bankruptcy, liquidation or winding-up, our assets will be available to pay obligations on the securities only after all of our liabilities have been paid. Our common stock will rank junior to our preferred stock. In addition, the Series G Preferred Stock will rank in parity with the other existing series of preferred stock and will effectively rank junior to all existing and future liabilities of our subsidiaries and the capital stock (other than common stock) of the subsidiaries held by entities or persons other than us or entities owned or controlled by us. In addition, upon our voluntary or involuntary liquidation, dissolution or winding-up, holders of common stock share ratably in the assets remaining after payments to creditors and provision for the preference of any preferred stock. The rights of holders of the Series G Preferred Stock to participate in the assets of our subsidiaries upon any liquidation, reorganization, receivership or conservatorship of any subsidiary will rank junior to the prior claims of that subsidiary's creditors and equity holders. As of March 31, 2008, we had total consolidated liabilities of approximately 141.8 billion. In the event of bankruptcy, liquidation or winding up, there may not be sufficient assets remaining, after paying our and our subsidiaries' liabilities, to pay amounts due on any or all of the common stock or the Series G Preferred Stock then outstanding.

\section*{The conversion price of the Series G Preferred Stock may not be adjusted for all dilutive events that may adversely affect the} market price of the Series G Preferred Stock or the common stock issuable upon conversion of the Series G Preferred Stock.

The number of shares of our common stock that you are entitled to receive upon conversion of a share of Series G Preferred Stock is subject to adjustment for certain events arising from (1) subdivisions, splits and combinations of the common stock, (2) dividends or distributions in common stock, debt, capital stock or other assets, (3) issuances to all holders of our common stock of stock purchase rights or warrants, (4) increases in cash dividends or (5) certain self tender offers for common stock. See "Description of National City Capital Stock - Description of the Series G Preferred Stock - Anti-Dilution Adjustments." We will not adjust the conversion price for other events, including offerings of common stock for cash by us or in connection with acquisitions. There can be no assurance that an event that adversely affects the value of the Series G Preferred Stock, but does not result in an adjustment to the conversion price, will not occur. Further, if any of these other events adversely affects the market price of our common stock, it may also adversely affect the market price of the Series G Preferred Stock. In addition, we are not restricted from offering common stock in the future or engaging in other transactions that could dilute our common stock.

\section*{You may be subject to tax upon an adjustment to the conversion price of the Series G Preferred Stock even though you do not receive a corresponding cash distribution.}

For so long as the Stockholder Approvals relating to the Series G Preferred Stock have not been obtained, the conversion price of the Series G Preferred Stock is subject to reduction every six months up to a maximum reduction of \(\$ 2.00\). Upon any adjustment of the conversion price, you will generally be deemed to have received for U.S. federal income tax purposes a taxable dividend to the extent of our earnings and profits without the receipt of any cash. If you are a non-U.S. holder (as defined in "Certain U.S. Federal Income Tax Considerations"), such deemed dividend may be subject to U.S. federal withholding tax (currently at a \(30 \%\) rate, or such lower rate as may be specified by an applicable treaty), which may be set off against subsequent payments on the Series G Preferred Stock. See "Certain U.S. Federal Income Tax Considerations."

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\section*{USE OF PROCEEDS}

We will not receive any proceeds from the sale of any securities offered by the selling stockholders.

\section*{COMMON STOCK PRICE RANGE AND DIVIDENDS}

Our common stock is traded on the New York Stock Exchange under the symbol "NCC." The following table sets forth the reported high and low intraday sales prices for our common stock as quoted by the New York Stock Exchange and the dividends declared per share of common stock for the periods included:
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{} & \multicolumn{4}{|c|}{Price Range} & \multicolumn{2}{|c|}{\multirow[t]{2}{*}{Cash Dividend per Share}} \\
\hline & \multicolumn{2}{|r|}{High} & \multicolumn{2}{|r|}{Low} & & \\
\hline \multicolumn{7}{|l|}{2006} \\
\hline First Quarter & \$ & 36.25 & \$ & 33.26 & \$ & . 37 \\
\hline Second Quarter & & 38.04 & & 34.38 & & . 37 \\
\hline Third Quarter & & 37.42 & & 34.50 & & . 39 \\
\hline Fourth Quarter & & 37.47 & & 35.29 & & . 39 \\
\hline \multicolumn{7}{|l|}{2007} \\
\hline First Quarter & & 38.94 & & 34.82 & & . 39 \\
\hline Second Quarter & & 38.32 & & 33.08 & & . 39 \\
\hline Third Quarter & & 34.30 & & 24.88 & & . 41 \\
\hline Fourth Quarter & & 27.21 & & 15.76 & & . 41 \\
\hline \multicolumn{7}{|l|}{2008} \\
\hline First Quarter & & 18.14 & & 6.56 & & . 21 \\
\hline Second Quarter (through May 8, 2008) & & 10.80 & & 5.77 & & .01* \\
\hline
\end{tabular}
* Payable by us on May 16, 2008 to stockholders of record as of May 1, 2008.

The reported last sale price for our common stock on the New York Stock Exchange on May 15, 2008, was \(\$ 5.81\) per share. At May 14, 2008, there were \(760,510,985\) shares of our common stock outstanding held by approximately 64,576 registered stockholders.

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\section*{DESCRIPTION OF NATIONAL CITY CAPITAL STOCK}

We are authorized to issue a total of \(1,405,000,000\) shares of all classes of stock. Of the total number of authorized shares of stock, \(1,400,000,000\) shares are common stock, par value \(\$ 4.00\) per share, and \(5,000,000\) shares are preferred stock without par value. A statement of the designations of the authorized classes of stock or of any series thereof, and the powers, preferences and relative, participating, optional or other special rights, and qualifications, limitations or restrictions of that stock, or of the authority of our board of directors to fix by resolution those designations and other terms, is as follows.

\section*{Description of the Securities Offered by this Prospectus Supplement \\ Description of the Common Stock}

The following description of the general terms and provisions of the shares of our common stock is not complete. You should read our Certificate of Incorporation and our by-laws, which are filed as exhibits to the registration statement and any certificate of designation, for additional information before you buy our common stock or any securities which may be converted into our common stock.

\section*{General}

As of March 31, 2008, our authorized common stock was \(1,400,000,000\) shares. From these authorized shares, \(634,117,970\) were outstanding. As part of the Stockholder Approvals required for the conversion of the Series G Preferred Stock we will seek to amend our Certificate of Incorporation to increase the number of authorized shares of common stock to at least such number as shall be sufficient to permit both full conversion of the Series G Preferred Stock into common stock and full exercise of the Warrants for common stock.

Holders of common stock may receive dividends when declared by our board of directors out of our funds that we can legally use to pay dividends. We may pay dividends in cash, stock or other property. In certain cases, holders of common stock may not receive dividends until we have satisfied our obligations to any holders of outstanding preferred stock. See "Description of National City Capital Stock - Description of the Series G Preferred Stock - Dividends." Other restrictions on our ability to pay dividends are described below under "- Restrictions on Payment of Dividends."

Holders of common stock have the exclusive power to vote on all matters presented to our stockholders unless Delaware law or the certificate of designation for an outstanding series of preferred stock gives the holders of that preferred stock the right to vote on certain matters. Each holder of common stock is entitled to one vote per share. When a quorum is present at a meeting of our stockholders, the vote of the holders of a majority of the stock having voting power present in person or represented by proxy is required to take any action properly brought before the meeting, unless a different vote is required by law or our Certificate of Incorporation, as in the case of election of directors, for which a plurality is required. Holders of common stock have no cumulative voting rights for the election of directors. This means a holder of a single share of common stock cannot cast more than one vote for each position to be filled on our board of directors.

If we voluntarily or involuntarily liquidate, dissolve or wind up our business, holders of common stock will receive pro rata, according to shares held by them, any of our remaining assets available for distribution to stockholders after we have provided for payment of all debts and other liabilities, including any liquidation preference for outstanding shares of preferred stock. See "Description of National City Capital Stock - Description of the Series G Preferred Stock - Liquidation." When we issue securities in the future, holders of common stock have no preemptive rights. This means the holders of common stock have no right, as holders of common stock, to buy any portion of those issued securities.

Our outstanding shares of common stock are listed on the New York Stock Exchange under the symbol "NCC." National City Bank serves as the transfer agent and registrar for the common stock.

The outstanding shares of common stock are fully paid and nonassessable. This means the full purchase price for the outstanding shares of common stock has been paid and the holders of such shares will not be assessed any additional amounts for such shares. Any additional common stock that we may issue in the future

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upon the conversion of other securities offered under this prospectus supplement will also be fully paid and nonassessable.

\section*{Restrictions on Payment of Dividends}

We are incorporated in Delaware, and are governed by the Delaware General Corporation Law. Delaware law allows a corporation to pay dividends only out of surplus, as determined under Delaware law, or, if there is no surplus, out of net profits for the fiscal year in which the dividend was declared and/or the preceding fiscal year. However, under Delaware law, we cannot pay dividends out of net profits if, after we pay the dividend, our capital would be less than the capital represented by the outstanding stock of all classes having a preference upon the distribution of our assets.
Anti-takeover Provisions Contained in our Certificate of Incorporation and By-laws
Certain provisions of our Certificate of Incorporation may make it less likely that our management would be changed or someone would acquire voting control of our Company without our board's consent. These provisions may delay, deter or prevent tender offers or takeover attempts that stockholders may believe are in their best interests, including tender offers or attempts that might allow stockholders to receive premiums over the market price of their common stock.

Preferred Stock. Our Certificate of Incorporation allows our board of directors to issue one or more new series of preferred stock without stockholder approval. In some cases, the issuance of preferred stock without stockholder approval could discourage or make more difficult attempts to take control of our Company through a merger, tender offer, proxy contest or otherwise. Preferred stock with special voting rights or other features issued to persons favoring our management could stop a takeover by preventing the person trying to take control of our Company from acquiring enough voting shares necessary to take control.

Nomination Procedures. In addition to our board of directors, stockholders can nominate candidates for our board of directors. However, a stockholder must follow the advance notice procedures described in Article III, Section 7(c) of our by-laws. In general, a stockholder must submit a written notice of the nomination, and the notice must be delivered to or mailed and received at our principal executive offices not less than 60 calendar days prior to the meeting of stockholders. If public announcement of the date of the stockholders meeting is not made at least 75 calendar days prior to the date of such meeting, notice must be received no later than the close of business on the tenth calendar day following the date the meeting was announced.

Proposal Procedures. Stockholders can propose that business other than nominations to our board of directors be considered at an annual meeting of stockholders only if a stockholder follows the advance notice procedures described in Article II, Section 9(c) of our by-laws. In general, a stockholder must submit a written notice of the proposal to our corporate secretary, and that notice must be delivered to or received at our principal executive offices not less than 60 calendar days prior to the annual meeting. However, if public announcement of the annual meeting date is not made at least 75 calendar days prior to the date of the annual meeting, notice must be received no later than the close of business on the tenth calendar day following the date the annual meeting was announced.

Amendment of By-laws. Under Article IX of our by-laws, our board of directors can alter, amend or repeal the by-laws or adopt new by-laws, subject to limitations under the Delaware General Corporation Law. Our stockholders also have the power to alter, amend or repeal our by-laws or adopt new by-laws.

\section*{Description of the Series G Preferred Stock}

The following is a summary of the material terms and provisions of the preferences, limitations, voting powers and relative rights of the Series G Preferred Stock as contained in the Certificate of Designations of the Company relating to the Series \(G\) Preferred Stock, which was filed with the SEC as an exhibit to Form 8-K on April 30, 2008. Stockholders are urged to read the Certificate of Designations relating to the Series G Preferred Stock in its entirety. While we believe this summary covers the material terms and provisions of the

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Certificate of Designations of the Company relating to the Series G Preferred Stock, it may not contain all of the information that is important to you and is qualified in its entirety by reference to the Certificate of Designations .

\section*{Authorized Shares and Liquidation Preference}

The number of authorized shares of the Series G Preferred Stock is 70,000. Shares of the Series G Preferred Stock have no par value per share and the liquidation preference of the Series G Preferred Stock is \(\$ 100,000\) per share.

\section*{Ranking}

The Series G Preferred Stock, with respect to dividend rights and rights on liquidation, winding-up and dissolution, ranks on a parity with our other authorized series of preferred stock and with each other class or series of preferred stock, established after the date of issuance of the Series G Preferred Stock, the terms of which do not expressly provide that such class or series will rank senior or junior to the Series G Preferred Stock as to dividend rights and rights on liquidation, winding-up and dissolution of the Company.

\section*{Dividends}

Holders of Series G Preferred Stock are entitled to receive, when, as and if declared by the board of directors, non-cumulative cash dividends in the amount determined as set forth below.

If our board of directors declares and pays a cash dividend in respect of any shares of common stock, then the board of directors is required to declare and pay to the holders of the Series G Preferred Stock a cash dividend in an amount per share of Series G Preferred Stock equal to the product of (i) the per share dividend declared and paid in respect of each share of common stock and (ii) the number of shares of common stock into which such share of Series G Preferred Stock is then convertible, assuming receipt of the Stockholder Approvals and any applicable regulatory approval.

If the Series G Preferred Stock remains outstanding after September 30, 2008, it will begin to accrue the Special Dividends on a non-cumulative basis. Notwithstanding the foregoing sentence, dividends on the Series G Preferred Stock will always be paid at the higher of the Special Dividend rate and the dividend payable on an as-converted basis based on the last dividend declared on the common stock during the applicable dividend period.

Dividends on the Series G Preferred Stock are non-cumulative. If the board of directors does not declare a dividend on the Series G Preferred Stock in respect of any dividend period, the holders of the Series G Preferred Stock will have no right to receive any dividend for that dividend period, and we will have no obligation to pay a dividend for that dividend period.

Subject to limited exceptions, if full quarterly dividends payable on all outstanding shares of the Series G Preferred Stock for any dividend period have not been declared and paid, we will not be permitted to declare or pay dividends with respect to, or redeem, purchase or acquire, any of its junior securities during the next succeeding dividend period.

\section*{Repurchase of Junior Securities}

For as long as the Series G Preferred Stock is outstanding, we are prohibited from redeeming, repurchasing or acquiring any shares of our common stock or other junior securities, subject to limited exceptions.

\section*{Liquidation}

In the event the Company voluntarily or involuntarily liquidates, dissolves or winds up, the holders of the Series G Preferred Stock will be entitled, for each share of the Series G Preferred Stock held, to the greater of (1) \(\$ 100,000\) and (2) an amount equal to the liquidation amount payable on an as-converted basis on the

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number of shares of common stock into which such shares of Series G Preferred Stock could have been converted on a date at least ten business days before the first liquidating distribution is made on the Series G Preferred Stock, plus any declared but unpaid dividends.

In the event the assets of the Company available for distribution to stockholders upon any liquidation, dissolution or winding-up of the affairs of the Company, whether voluntary or involuntary, are insufficient to pay in full the amounts payable with respect to all outstanding shares of the Series G Preferred Stock and the corresponding amounts payable on any parity securities, holders of Series G Preferred Stock and the holders of parity securities will share ratably in any distribution of assets of the Company in proportion to the full respective liquidating distributions to which they would otherwise be respectively entitled.

\section*{Preemption}

When we issue securities in the future, holders of our Series G Preferred Stock have no preemptive rights. This means the holders of Series G Preferred Stock have no right, as holders of Series G Preferred Stock, to buy any portion of those securities.

\section*{Redemption}

The Series G Preferred Stock is not redeemable by the holders, but may be redeemed by the Company beginning on April 29, 2013 at a redemption price per share equal to the greater of (i) \(125 \%\) of the liquidation preference and (ii) the average of the closing prices of the common stock for the ten trading days ending on the sixth trading day prior to the date of redemption multiplied by the number of shares of common stock into which one share of Series G Preferred Stock would be convertible on such date if such shares of Series G Preferred Stock were converted on that date following receipt of the Stockholder Approvals relating to the Series G Preferred Stock, together with ( x ) an amount equal to any dividends that have been declared but not paid prior to the redemption date and (y) an amount equal to any dividends for periods after such issuance for which dividends were not declared and paid prior to the redemption date.

\section*{Mandatory Conversion}

The Series G Preferred Stock is mandatorily convertible on the fifth business day following the date on which (A) the Stockholder Approvals relating to the Series G Preferred Stock have been received and (B) with respect to a holder who is required to obtain any applicable regulatory approval, such holder has received such approval. The number of shares of common stock into which a share of Series G Preferred Stock will be convertible will be determined by dividing the liquidation preference by the then applicable conversion price. No fractional shares of common stock will be issued. Upon conversion, cash will be paid in lieu of fractional shares based on the closing price of the common stock determined as of the second trading day immediately preceding the date of the mandatory conversion.

The initial conversion price of the Series G Preferred Stock is \(\$ 5.00\) per share. The conversion price of the Series G Preferred Stock will be reduced by \(\$ 0.50\) on the last day of each six-month period following the date of issuance of the Series G Preferred Stock if the Stockholder Approvals relating to the Series G Preferred Stock have not been obtained by such date, up to a maximum reduction of \$2.00.

\section*{Anti-Dilution Adjustments}

The conversion price of the Series G Preferred Stock will be adjusted in the following circumstances:
(1) Stock Dividend Distributions. If we pay dividends or other distributions on the common stock in shares of common stock, then the conversion price in effect immediately prior to the ex-date for such dividend or distribution will be multiplied by the following fraction:
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OS 0

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nc

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Where,
\(\mathrm{OS}_{0}=\) the number of shares of common stock outstanding immediately prior to the ex-date for such dividend or distribution.
\(\mathrm{OS}_{1}=\) the sum of the number of shares of common stock outstanding immediately prior to the ex-date for such dividend or distribution plus the total number of shares of our common stock constituting such dividend.
For the purposes of this clause (1), the number of shares of common stock at the time outstanding shall not include shares acquired by us. If any dividend or distribution described in this clause (1) is declared but not so paid or made, the conversion price shall be readjusted, effective as of the date the board of directors publicly announces its decision not to make such dividend or distribution, to such conversion price that would be in effect if such dividend or distribution had not been declared.
(2) Subdivisions, Splits and Combination of the Common Stock. If we subdivide, split or combine the shares of common stock, then the conversion price in effect immediately prior to the effective date of such share subdivision, split or combination will be multiplied by the following fraction:
\(\mathrm{OS}_{0}\)
nc

Where,
\(\mathrm{OS}_{0}=\quad\) the number of shares of common stock outstanding immediately prior to the effective date of such share subdivision, split or combination.
\(\mathrm{OS}_{1}=\) the number of shares of common stock outstanding immediately after the opening of business on the effective date of such share subdivision, split or combination.
For the purposes of this clause (2), the number of shares of common stock at the time outstanding shall not include shares acquired by us. If any subdivision, split or combination described in this clause (2) is announced but the outstanding shares of common stock are not subdivided, split or combined, the conversion price shall be readjusted, effective as of the date the board of directors publicly announces its decision not to subdivide, split or combine the outstanding shares of common stock, to such conversion price that would be in effect if such subdivision, split or combination had not been announced.
(3) Issuance of Stock Purchase Rights. If we issue to all holders of the shares of our common stock rights or warrants (other than rights or warrants issued pursuant to a dividend reinvestment plan or share purchase plan or other similar plans) entitling them, for a period of up to 45 days from the date of issuance of such rights or warrants, to subscribe for or purchase the shares of our common stock at less than the current market price, as defined below, of the common stock on the date fixed for the determination of stockholders entitled to receive such rights or warrants, then the conversion price in effect immediately prior to the ex-date for such distribution will be multiplied by the following fraction:
\[
\begin{aligned}
& \mathrm{OS}_{0}+\mathrm{Y} \\
& \mathrm{nc}+\mathrm{y}
\end{aligned}
\]

Where,
\(\mathrm{OS}_{0}=\) the number of shares of common stock outstanding immediately prior to the ex-date for such distribution.
\(\mathrm{X}=\quad\) the total number of shares of common stock issuable pursuant to such rights or warrants.
\(\mathrm{Y}=\quad\) the number of shares of common stock equal to the aggregate price payable to exercise such rights or warrants divided by the current market price on the date fixed for the determination of stockholders to receive such rights or warrants.
For the purposes of this clause (3), the number of shares of common stock at the time outstanding shall not include shares acquired by us. We shall not issue any such rights or warrants in respect of shares of the common stock acquired by us. In the event that such rights or warrants described in this clause (3) are not so issued, the conversion price shall be readjusted, effective as of the date the board of directors publicly announces its decision

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not to issue such rights or warrants, to the conversion price that would then be in effect if such issuance had not been declared. To the extent that such rights or warrants are not exercised prior to their expiration or shares of common stock are otherwise not delivered pursuant to such rights or warrants upon the exercise of such rights or warrants, the conversion price shall be readjusted to such conversion price that would then be in effect had the adjustment made upon the issuance of such rights or warrants been made on the basis of the delivery of only the number of shares of common stock actually delivered. In determining the aggregate offering price payable for such shares of common stock, there shall be taken into account any consideration received for such rights or warrants and the value of such consideration (if other than cash, to be determined by the board of directors).
(4) Debt or Asset Distributions. If we distribute to all holders of shares of our common stock evidences of indebtedness, shares of capital stock, securities, cash or other assets (excluding any dividend or distribution referred to in clause (1) above, any rights or warrants referred to in clause (3) above, any dividend or distribution paid exclusively in cash, any consideration payable in connection with a tender or exchange offer made by us or any of our subsidiaries, and any dividend of shares of capital stock of any class or series, or similar equity interests, of or relating to a subsidiary or other business unit in the case of certain spin-off transactions as described below), then the conversion price in effect immediately prior to the ex-date for such distribution will be multiplied by the following fraction:


Where,
\(\mathrm{SP}_{0}=\quad\) the current market price per share of common stock on such date.
FMV \(=\) the fair market value of the portion of the distribution applicable to one share of common stock on such date as determined by our board of directors.
In a "spin-off," where we make a distribution to all holders of our shares of common stock consisting of capital stock of any class or series, or similar equity interests of, or relating to, a subsidiary or other business unit, the conversion price will be adjusted on the fifteenth trading day after the effective date of the distribution by multiplying such conversion price in effect immediately prior to such fifteenth trading day by the following fraction:
\[
\begin{gathered}
\mathrm{MP}_{0} \\
\boldsymbol{M D}+\boldsymbol{M D} \mathbf{D}
\end{gathered}
\]

Where,
\(\mathrm{MP}_{0}=\) the average of the closing prices of the common stock over the first ten trading days commencing on and including the fifth trading day following the effective date of such distribution.

MPs \(=\) the average of the closing prices of the capital stock or equity interests representing the portion of the distribution applicable to one share of common stock over the first ten trading days commencing on and including the fifth trading day following the effective date of such distribution, or, if not traded on a national or regional securities exchange or over-the-counter market, the fair market value of the capital stock or equity interests representing the portion of the distribution applicable to one share of our common stock on such date as determined by our board of directors.

In the event that such distribution described in this clause (4) is not so paid or made, the conversion price shall be readjusted, effective as of the date the board of directors publicly announces its decision not to pay or make such dividend or distribution, to the conversion price that would then be in effect if such dividend or distribution had not been declared.
(5) Cash Distributions. If we make a distribution consisting exclusively of cash to all holders of the common stock, excluding (a) any cash dividend on the common stock to the extent a corresponding cash dividend is paid on the Series G Preferred Stock, (b) any cash that is distributed in a reorganization event (as described above) or as part of a "spin-off" referred to in clause (4) above, (c) any dividend or distribution in connection with our liquidation, dissolution or winding-up, and (d) any consideration payable in connection

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with a tender or exchange offer made by us or any of our subsidiaries, then in each event, the conversion price in effect immediately prior to the ex-date for such distribution will be multiplied by the following fraction:
\[
\begin{gathered}
\mathrm{SP} \text { o }-\mathrm{DIV} \\
\mathrm{SP}_{0} \\
\hline
\end{gathered}
\]

Where,
\(\mathrm{SP}_{0}=\) the closing price per share of common stock on the trading day immediately preceding the ex-date.

DIV \(=\) the amount per share of common stock of the cash distribution, as determined pursuant to the introduction to this paragraph (5).
(6) Self Tender Offers and Exchange Offers. If we or any of our subsidiaries successfully complete a tender or exchange offer for our common stock where the cash and the value of any other consideration included in the payment per share of the common stock exceeds the closing price per share of the common stock on the trading day immediately succeeding the expiration of the tender or exchange offer, then the conversion price in effect at the close of business on such immediately succeeding trading day will be multiplied by the following fraction:
\[
\begin{gathered}
\mathrm{OS}_{0} \times \mathrm{SP}_{0} \\
\mathrm{AC}+\left(\mathrm{SP}_{0} \mathrm{x}\right. \\
\left.\mathrm{OS}_{1}\right) \\
\hline
\end{gathered}
\]

Where,
\(\mathrm{SP}_{0}=\) the closing price per share of common stock on the trading day immediately succeeding the expiration of the tender or exchange offer.
\(\mathrm{OS}_{0}=\) number of shares of common stock outstanding immediately prior to the expiration of the tender or exchange offer, including any shares validly tendered and not withdrawn.
\(\mathrm{OS}_{1}=\) the number of shares of common stock outstanding immediately after the expiration of the tender or exchange offer.
\(\mathrm{AC}=\quad\) the aggregate cash and fair market value of the other consideration payable in the tender or exchange offer, as determined by our board of directors.
In the event that we are, or one of our subsidiaries is, obligated to purchase shares of our common stock pursuant to any such tender offer or exchange offer, but we are, or such subsidiary is, permanently prevented by applicable law from effecting any such purchases, or all such purchases are rescinded, then the conversion price shall be readjusted to be such conversion price that would then be in effect if such tender offer or exchange offer had not been made.
(7) Rights Plans. To the extent that we have a rights plan in effect with respect to the common stock on any conversion date, upon conversion of any shares of the Series G Preferred Stock, you will receive, in addition to the shares of our common stock, the rights under the rights plan, unless, prior to such conversion date, the rights have separated from the shares of our common stock, in which case the conversion price will be adjusted at the time of separation as if we made a distribution to all holders of the common stock as described in clause (4) above, subject to readjustment in the event of the expiration, termination or redemption of such rights.

In addition, we may make such decreases in the conversion price as we deem advisable in order to avoid or diminish any income tax to holders of the common stock resulting from any dividend or distribution of the shares (or issuance of rights or warrants to acquire the shares) or from any event treated as such for income tax purposes or for any other reason.

All adjustments to the conversion price shall be calculated to the nearest 1 / 10 of a cent. No adjustment in the conversion price shall be required if such adjustment would be less than \(\$ 0.01\); provided, that any adjustments which by reason of this subparagraph are not required to be made shall be carried forward and taken into account in any subsequent adjustment; provided further that on the mandatory conversion date

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adjustments to the conversion price will be made with respect to any such adjustment carried forward and which has not been taken into account before such date.

No adjustment to the conversion price will be made if holders may participate in the transaction that would otherwise give rise to such adjustment as a result of holding the Series G Preferred Stock, without having to convert the Series G Preferred Stock, as if they held the full number of shares of common stock into which a share of the Series G Preferred Stock may then be converted.

The applicable conversion price will not be adjusted:
(a) upon the issuance of any shares of common stock pursuant to any present or future plan providing for the reinvestment of dividends or interest payable on the securities and the investment of additional optional amounts in common stock under any such plan;
(b) upon the issuance of any shares of common stock or rights or warrants to purchase those shares pursuant to any present or future employee, director or consultant benefit plan or program of or assumed by us or any of our subsidiaries;
(c) upon the issuance of any shares of common stock pursuant to any option, warrant, right or exercisable, exchangeable or convertible security outstanding as of the date the shares of Series G Preferred Stock were first issued;
(d) for a change in the par value or no par value of the common stock; or
(e) for accrued and unpaid dividends on the Series G Preferred Stock.

We will be required, as soon as practicable after the conversion price is adjusted, to provide or cause to be provided written notice of the adjustment to the holders of shares of Series G Preferred Stock. We will also be required to deliver a statement setting forth in reasonable detail the method by which the adjustment to the conversion price was determined and setting forth the revised conversion price.

The "current market price" on any date is the average of the daily closing price per share of the common stock or other securities on each of the five consecutive trading days preceding the earlier of the day before the date in question and the day before the "exdate" with respect to the issuance or distribution requiring such computation. The term "ex-date," when used with respect to any such issuance or distribution, means the first date on which the common stock or other securities trade without the right to receive such issuance or distribution.

\section*{Reorganization Events}

If the Company enters into a transaction constituting a consolidation or merger of the Company or similar transaction or any sale or other transfer of all or substantially all of the consolidated assets of the Company and its subsidiaries, taken as a whole (in each case pursuant to which its common stock will be converted into cash, securities or other property) or for certain reclassifications or exchanges of its common stock, then each share of Series G Preferred Stock will convert, effective on the day on which such share would automatically convert into common stock of the Company, into the securities, cash and other property receivable in the transaction by the holder of the greater of (1) the number of shares of common stock into which such share of Series G Preferred Stock would then be convertible, assuming receipt of any applicable regulatory approval and (2) the number of shares of common stock for which the fair market value of the securities, cash or other property receivable in the transaction in respect of such shares equals \(\$ 100,000\). The Company shall not enter into any agreement for a transaction described in this section unless such agreement provides for or does not interfere with or prevent (as applicable) conversion of the Series G Preferred Stock in a manner that is consistent with this section.

\section*{Voting Rights}

Except as set forth below, holders of the Series G Preferred Stock will not have any voting rights.

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Right to Elect Two Directors Upon Non-Payment of Dividends. If and when the dividends on the Series G Preferred Stock or any other class or series of our stock ranking on parity with the Series G Preferred Stock, or Parity Stock, have not been declared and paid (1) in the case of the Series G Preferred Stock and Parity Stock bearing non-cumulative dividends, in full for at least six quarterly dividend periods or their equivalent (whether or not consecutive), or (2) in the case of Parity Stock bearing cumulative dividends, in an aggregate amount equal to full dividends for at least six quarterly dividend periods or their equivalent (whether or not consecutive), the authorized number of directors then constituting our board of directors will be increased by two. Holders of Series G Preferred Stock, together with the holders of all other affected classes and series of Parity Stock, voting as a single class, will be entitled to elect the two additional members of our board of directors, or the Series G Preferred Stock Directors, at any annual or special meeting of stockholders at which directors are to be elected or any special meeting of the holders of Series G Preferred Stock and any Parity Stock for which dividends have not been paid, called as provided below, but only if the election of any Series G Preferred Stock Directors would not cause us to violate the corporate governance requirement of the New York Stock Exchange (or any other exchange on which our securities may be listed) that listed companies must have a majority of independent directors. In addition, our board of directors shall at no time have more than two Series G Preferred Stock Directors.

At any time after this voting power has vested as described above, our Secretary may, and upon the written request of holders of record of at least \(20 \%\) of the outstanding shares of Series G Preferred Stock and Parity Stock must, call a special meeting of the holders of Series G Preferred Stock and Parity Stock for the election of the Series G Preferred Stock Directors. Notice for a special meeting will be given in a similar manner to that provided in our by-laws for a special meeting of our stockholders, which we will provide upon request, or as required by law. If our Secretary is required to call a meeting but does not do so within 20 days after receipt of any such request, then any holder of shares of Series G Preferred Stock may (at our expense) call such meeting and for that purpose will have access to our stock books. The Series G Preferred Stock Directors elected at any such special meeting will hold office until the next annual meeting of our stockholders unless they have been previously terminated as described below. In case any vacancy occurs among the Series G Preferred Stock Directors, a successor will be elected by our board of directors to serve until the next annual meeting of the stockholders upon the nomination of the then remaining Series G Preferred Stock Director or if none remains in office, by the vote of the holders of record of a majority of the voting power of the outstanding shares of Series G Preferred Stock and all Parity Stock, voting as a single class. The Series G Preferred Stock Directors shall each be entitled to one vote per director on any matter.

Whenever full dividends have been paid on the Series G Preferred Stock and any non-cumulative Parity Stock for at least one year and all dividends on any cumulative Parity Stock have been paid in full, then the right of the holders of Series G Preferred Stock to elect the Series G Preferred Stock Directors will cease (but subject always to the same provisions for the vesting of these voting rights in the case of any similar non-payment of dividends in respect of future Dividend Periods), the terms of office of all Series \(G\) Preferred Stock Directors will immediately terminate and the number of directors constituting our board of directors will be reduced accordingly.

Unless we amend our Certificate of Incorporation to require different classes and series of preferred stock to vote in proportion to their respective liquidation preferences when voting together with the Series G Preferred Stock as a single class, so long as any shares of Series G Preferred Stock have been issued and are outstanding, we have agreed not to issue Parity Stock with a liquidation preference that is less than \(\$ 100,000\) per share. We have no obligation to propose such an amendment, and the holders of the Series G Preferred Stock would not be entitled to vote on any such amendment if we do propose it.

Other Voting Rights. So long as any shares of Series G Preferred Stock are outstanding, in addition to any other vote or consent of stockholders required by law or by our Certificate of Incorporation, the vote or consent of the holders of at least two-thirds of the outstanding shares of Series G Preferred Stock voting as a single class with all other classes and series of Parity Stock having similar voting rights then outstanding (other than Series D Preferred Stock, Series E Preferred Stock (if issued), and any excluded class, as defined below), given in person or by proxy, either in writing without a meeting or by vote at any meeting called for the purpose, shall be necessary for effecting or authorizing any amendment of our Certificate of Incorporation

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to authorize, or increase the authorized amount of, any shares of any class or series of capital stock ranking senior to the Series \(G\) Preferred Stock with respect to the payment of dividends or the distribution of assets on our liquidation.

For purposes of the foregoing, "excluded class" refers to any class or series of Company preferred stock with a liquidation preference that is less than \(\$ 100,000\) per share, unless our Certificate of Incorporation requires such class or series of preferred stock to vote in proportion to their respective liquidation preferences when voting together with the Series G Preferred Stock as a single class. We have no obligation to propose an amendment to our Certificate of Incorporation to require classes or series of preferred stock to vote in proportion to their respective liquidation preferences when voting together as a single class, and the holders of the Series G Preferred Stock would not be entitled to vote on such an amendment if we do propose it.

So long as any shares of Series G Preferred Stock are outstanding, the vote or consent of the holders of a majority of the outstanding shares of Series G Preferred Stock, voting as a single class with all other classes and series of Parity Stock, will be necessary for effecting or validating any of the following actions, whether or not such approval is required by Delaware law:
- any amendment, alteration or repeal of any provision of the Certificate of Incorporation (including the Certificate of Designations relating to the Series G Preferred Stock) or the Company's by-laws that would alter or change the voting powers, preferences or special rights of the Series G Preferred Stock so as to affect them adversely; and
- the consummation of a binding share exchange or reclassification involving the Series G Preferred Stock or a merger or consolidation of the Company with another entity, except that holders will have no right to vote under this provision or under any provision of Delaware law if the agreement for such transaction provides for or does not interfere with or prevent (as applicable) conversion of the Series G Preferred Stock into the securities, cash or other property described above under "- Fundamental Change."
Notwithstanding the foregoing, any increase in the amount of the Company's authorized preferred stock or any securities convertible into preferred stock or the creation and issuance, or an increase in the authorized or issued amount, of any series of preferred stock, other than the Series G Preferred Stock or the Company’s Series F Preferred Stock, or any securities convertible into preferred stock ranking equally with and/or junior to the Series G Preferred Stock with respect to the payment of dividends (whether such dividends are cumulative or non-cumulative) and/or the distribution of assets upon the Company's liquidation, dissolution or winding up will not, in and of itself, be deemed to adversely affect the voting powers, preferences or special rights of the Series \(G\) Preferred Stock and, notwithstanding any provision of Delaware law, holders of Series G Preferred Stock will have no right to vote solely by reason of such an increase, creation or issuance.

If an amendment, alteration, repeal, share exchange, reclassification, merger or consolidation described above would adversely affect one or more but not all series of preferred stock with like voting rights (including the Series G Preferred Stock for this purpose), then only the series affected and entitled to vote will vote as a class in lieu of all such series of preferred stock.

\section*{Form of Series G Preferred Stock}

The Series G Preferred Stock may only be transferred in physical certificate form. National City Bank acts as transfer agent for registering shares of Series G Preferred Stock in the names of holders and transferring Series G Preferred Stock.

\section*{Description of Certain Other Securities \\ Other Preferred Stock}

Shares of preferred stock may be issued from time to time in one or more series. Our board of directors is authorized, within the limitations and restrictions stated in Article Fourth of our Certificate of Incorporation, to fix by resolution the designation of each series of preferred stock and the powers, preferences and relative,

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participating, optional or other special rights, and qualifications, limitations or restrictions thereof, including, without limiting the generality of the foregoing, provisions concerning voting, redemption, dividends, dissolution or the distribution of assets, conversion or exchange, and such other subjects or matters as may be fixed by resolution or exchange, and such other subjects or matters as may be fixed by resolution of our board of directors under the General Corporation Law of the State of Delaware. In no event shall any holder of any series of preferred stock have more than one vote per whole share of preferred stock.

We have issued 70,272 shares of Series D non-voting convertible preferred stock ("Series D Preferred Stock"). Each share of Series D Preferred Stock is convertible at any time by the holder into 15.96 shares of our common stock. The conversion rate is subject to adjustment in the event we take certain actions such as paying a dividend in stock or splitting its common stock into a smaller number of shares. Dividends are paid on the Series D Preferred Stock when, as and if declared by our board of directors, out of any of our funds legally available for the payment of such dividends. The Series D Preferred Stock has a preference of \(\$ 100\) per share over our common stock in the event of liquidation or dissolution of the Company. In such event, the Series D Preferred Stock holders will be entitled to receive the liquidation value of their stock which is \(\$ 100\) per share, from funds lawfully available.

In January 2008, we designated 5,751 shares as no par, Series E perpetual preferred stock ("Series E Preferred Stock"), of which 5,001 of these shares are reserved for issuance pursuant to a stock purchase contract with National City Preferred Capital Trust I. The stock purchase date is expected to be December 10, 2012, but could occur earlier or later, under certain conditions. In January 2008, we also designated 1,725 shares as no par, Series F preferred stock ("Series F Preferred Stock"), of which 1,500 of these shares were issued. Both the Series E Preferred Stock and Series F Preferred Stock will rank senior to the common stock and on parity with the Series D Preferred Stock and the Series G Preferred Stock in the event of liquidation or dissolution of the Company. Both the Series E Preferred Stock and Series F Preferred Stock have a liquidation value of \(\$ 100,000\) per share. Both series are noncumulative with respect to dividends and will have limited voting rights except in the event of nonpayment of dividends and certain other events. Holders of both the Series E Preferred Stock and the Series F Preferred Stock will be entitled to receive dividends, when and as declared by our board of directors. Series E Preferred Stock shall be redeemable at our option, and subject to Federal Reserve approval, at any date after December 10, 2012. Series F Preferred Stock shall be redeemable at our option, subject to Federal Reserve approval, at any date after February 1, 2013. Subject to these conditions, both Series E Preferred Stock and Series F Preferred Stock may be redeemed for \(\$ 100,000\) per share plus any declared but unpaid dividends. We will be limited in our right to redeem both Series E Preferred Stock and Series F Preferred Stock prior to ten years after their initial issuance dates by a replacement capital covenant. Pursuant to this covenant, we must have received proceeds from the issuance of equity or hybrid securities that qualify as Tier I capital and may be required to obtain the approval of the Federal Reserve. The current beneficiaries of this limitation are the holders of our 6.875\% subordinated notes due 2019.

\section*{Description of the Warrants}

The following is a summary of the material terms and provisions of the Warrant issued to an affiliate of Corsair Capital LLC, such affiliate, referred to as "Corsair", a form of which was filed with the SEC as an exhibit to Form 8-K on April 23, 2008, and is incorporated by reference into this prospectus supplement. Stockholders are urged to read such form of warrant in its entirety; the Warrants issued to investors other than Corsair are substantially similar to the terms of such form of warrant. While National City believes this summary covers the material terms and provisions of the Warrant issued to Corsair, it may not contain all of the information that is important to you and is qualified in its entirety by reference to such form of warrant.

\section*{Exercise of Warrants}

The Warrant issued to Corsair (together with a third party transferee of Corsair) entitles it (and such third party transferee) to, upon exercise in the manner described below, acquire up to \(39,250,000\) shares of common stock in the aggregate. The Warrants issued to the other investors entitle them to, upon exercise in the manner described below, acquire up to 22,500,000 shares of common stock in the aggregate. The Warrants can only be

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exercised by the holders thereof to purchase shares of common stock after receipt of the Stockholder Approvals relating to the Warrants and upon the receipt of regulatory approvals to the extent applicable and, upon receipt of such approvals, can be exercised to purchase shares of common stock at any time, in whole or in part, after issuance until the fifth anniversary of the issuance of such Warrants.

\section*{Exercise Price of the Warrants}

The Warrants are exercisable for \(\$ 7.10\) per share of common stock. The exercise price of the Warrants will be reduced by \(\$ 0.50\) on the last day of each six-month period following the date of issuance of the Warrants if the Stockholder Approvals relating to the Warrants have not been obtained by such date, up to a maximum reduction of \$2.00.

\section*{Anti-Dilution and Other Provisions}

If prior to the third anniversary (or the second anniversary in certain circumstances) after the date of issuance of the Warrants, (i) we issue or sell, or agree to issue or sell, more than \(\$ 300\) million of equity or equity-linked securities, other than certain permitted issuances, for consideration per share less than the Applicable Price (as defined below), or (ii) there occurs any Fundamental Change (as defined below) relating to the Company in which the price of the underlying security is less than the Applicable Price, then the exercise price of the Warrants in effect immediately prior to each such issuance or sale will immediately be reduced to the price of the securities in such issuance, sale or Fundamental Change, as applicable. In that event, the number of shares of common stock issuable upon the exercise of the Warrants will be increased to the number obtained by dividing ( x ) the product of (1) the number of shares of common stock issuable upon the exercise of the Warrants before that adjustment and (2) the exercise price in effect immediately prior to the issuance, sale or Fundamental Change giving rise to this adjustment, by (y) the new exercise price determined in accordance with the immediately preceding sentence. Our obligation to deliver additional shares of common stock upon exercise of the Warrants in these circumstances is subject to a maximum aggregate issuance limitation. "Applicable Price" means the greater of (A) the greater of the market price per share of outstanding common stock on (i) the date on which we issue or sell any common stock and (ii) the first date of the announcement of such issuance, sale or Fundamental Change and (B) \(\$ 5.00\). The exercise price is also subject to customary anti-dilution adjustments.

\section*{Fundamental Change}

Upon the occurrence of a "Fundamental Change," which is defined in the form of warrant as certain events pertaining to a change of control or liquidation of the Company, the holder of a Warrant may cause us to purchase its Warrant, in whole or in part, at the higher of (1) the fair market value of the Warrant and (2) a valuation based on a computation of the option value of the Warrant using a Black-Scholes methodology. Payment by us to the holder of the Warrant of the purchase price will be due upon the occurrence of the Fundamental Change. At our election, all or any portion of the purchase price may be paid in cash or in our common stock valued at the market price of a share of our common stock as of (A) the last trading day prior to the date on which this payment occurs or (B) the first date of the announcement of a Fundamental Change (whichever is less), so long as the payment does not cause us to fail to comply with applicable NYSE requirements or other regulatory requirements. To the extent that a payment in our common stock would cause us to fail to comply with NYSE rules or the other regulatory requirements, once the maximum number of shares of our common stock that would not result in the contravention of such requirements has been delivered, the remainder of such purchase price may be paid in the form of cash or other equity securities having a fair market value equal to the value of the shares of our common stock that would have been issued to the holder of the Warrant absent the limitations described above.

\section*{Exchange for Preferred Stock}

At any time after September 30, 2008 but prior to the receipt of the Stockholder Approvals and any applicable regulatory approval, the holders of the Warrants may cause us to exchange the Warrants for a number of shares of Series G Preferred Stock equal to the quotient of (1) the value of the Warrants exchanged

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based on the higher of (A) the fair market value of the Warrants exchanged and (B) a computation of the option value of the Warrants using a Black-Scholes methodology divided by (2) the lower of (A) \$100,000 or (B) the fair market value of a share of the Series G Preferred Stock. The Warrant issued to Corsair contains a limitation on the maximum number of shares of Series G Preferred Stock such that upon exchange, assuming the conversion of such shares of Series G Preferred Stock into shares of Common Stock, Corsair would not have beneficial ownership of \(10 \%\) or more of the outstanding shares of a class of voting securities of the Company.

\section*{Transfer Restrictions}

The Warrants are subject to transfer restrictions as set forth in the applicable investment agreement, a form of which was filed with the SEC as an exhibit to Form 8-K on April 23, 2008 and subsequently amended by the First Amendment to the Investment Agreement, which was filed with the SEC as an exhibit to Form 8-K on May 8, 2008 (the "Investment Agreement"). Additionally, in the case of the Warrant issued to Corsair, prior to receipt of the Stockholder Approvals relating to the Warrants and any applicable regulatory approval, Corsair may transfer its Warrant only to us, in a widely distributed public offering, to a person acquiring at least a majority of our voting securities or to persons that Corsair reasonably believes would not own more than \(2 \%\) of our common stock or any class of our voting securities after such transfer.

\section*{Registration of the Warrants}

The Warrants have not been registered and bear a legend specifying that such securities may not be transferred, sold or otherwise disposed of unless a registration statement relating to such securities is in effect under applicable federal and state securities laws or pursuant to an available exemption from registration. Under the Investment Agreement and certain purchase agreements entered into with certain other investors who received Warrants in the equity investment transactions described above, we have agreed to file a registration statement covering such securities with the SEC no later than six months after the closing date of the issuance of such securities.

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\section*{DIRECT REGISTRATION SYSTEM}

We have a direct registration (book-entry) program with respect to record ownership of our common stock. Direct registration is a service that allows shares to be owned, reported and transferred electronically without having a physical stock certificate issued. Persons who acquire shares of the common stock upon an offering and sale by a selling stockholder by use of this prospectus supplement will not receive a physical stock certificate (unless certificates are specifically requested); rather, ownership of the shares acquired will be recorded in the names of such persons electronically on the books and records of National City Bank. Direct registration is intended to alleviate the problems relating to stolen, misplaced or lost stock certificates and to reduce the paperwork relating to the transfer of ownership of our stock. Under direct registration, the voting, dividend and other rights and benefits of holders of our common stock remain the same as with holders of certificates.

Prior to this registration, the shares of common stock which may be sold from time to time by the selling stockholders named in this prospectus supplement were "restricted securities" under the Securities Act. Upon completion of a resale by use of this prospectus supplement, the acquiring stockholders whose shares are registered in their own names will receive a statement confirming the appropriate number of shares of common stock through direct registration, rather than a physical stock certificate, unless such stockholder gives specific instructions to our transfer agent to issue such a certificate. For a stockholder who is acquiring common stock through a broker or other nominee that is a member of (or has a correspondent relationship with) The Depository Trust Company, that stockholder's shares of common stock will be credited to the stockholder's account by the broker or other nominee.

To utilize the services of a stockbroker to sell shares, a stockholder holding shares through direct registration must first add the appropriate stockbroker information to the direct registration account maintained by the transfer agent.

\section*{CERTAIN U.S. FEDERAL INCOME TAX CONSIDERATIONS}

The following is a summary of certain U.S. federal income tax and, for non-U.S. holders (as defined below), estate tax consequences of the purchase, ownership, conversion and disposition of the Series G Preferred Stock and our common stock received in respect thereof as of the date hereof. Except where noted, this summary deals only with the Series G Preferred Stock and our common stock held as capital assets. As used herein, the term "U.S. holder" means a beneficial owner of the Series G Preferred Stock or our common stock that is for U.S. federal income tax purposes:
- an individual citizen or resident of the United States;
- a corporation (or any other entity treated as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia;
- an estate the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust if it (1) is subject to the primary supervision of a court within the United States and one or more U.S. persons have the authority to control all substantial decisions of the trust or (2) has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

As used herein, the term "non-U.S. holder" means a beneficial owner of the Series G Preferred Stock or our common stock that is neither a U.S. holder nor a partnership (or other entity treated as a partnership for U.S. federal income tax purposes).

This summary is not a detailed description of the U.S. federal income tax consequences applicable to you if you are subject to special treatment under the U.S. federal income tax laws, including if you are:
- a dealer in securities or currencies;
- a financial institution;
- a regulated investment company;
- a real estate investment trust;
- an insurance company;
- a tax-exempt organization;
- a person holding the Series G Preferred Stock or our common stock as part of a hedging, integrated, conversion or constructive sale transaction or a straddle;
- a trader in securities that has elected the mark-to-market method of accounting for your securities;
- a person liable for alternative minimum tax;
- a partnership or other pass-through entity for U.S. federal income tax purposes;
- a person who is an investor in a pass-through entity;
- a U.S. holder whose "functional currency" is not the U.S. dollar;
- a "controlled foreign corporation";
- a "passive foreign investment company"; or
- a U.S. expatriate.

This summary is based upon the provisions of the Internal Revenue Code of 1986, as amended (the "Code"), and regulations, rulings and judicial decisions as of the date hereof. Those authorities may be changed, perhaps retroactively, so as to result in U.S. federal income and estate tax consequences different from those summarized below.

If a partnership holds the Series G Preferred Stock or our common stock, the tax treatment of a partner will generally depend upon the status of the partner and the activities of the partnership. If you are a partner

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of a partnership holding the Series G Preferred Stock or our common stock, you should consult your own tax advisors.
This summary does not contain a detailed description of all the U.S. federal income and estate tax consequences to you in light of your particular circumstances and does not address the effects of any state, local or non-U.S. tax laws. If you are considering the purchase, ownership or disposition of the Series G Preferred Stock, you should consult your own tax advisors concerning the U.S. federal income and estate tax consequences to you in light of your particular situation as well as any consequences arising under the laws of any other taxing jurisdiction.

\section*{U.S. Holders}

\section*{Dividends}

Distributions on the Series G Preferred Stock or our common stock will be dividends for U.S. federal income tax purposes to the extent paid out of our current or accumulated earnings and profits, as determined for U.S. federal income tax purposes, and will be taxable as ordinary income although possibly at reduced rates, as discussed below. Our accumulated earnings and profits and our current earnings and profits in future years will depend in significant part on our future profits or losses, which we cannot accurately predict. To the extent that the amount of any distribution paid on the Series G Preferred Stock or our common stock exceeds our current and accumulated earnings and profits attributable to that share of the Series G Preferred Stock or our common stock, the distribution will be treated first as a tax-free return of capital and will be applied against and will reduce the U.S. holder's adjusted tax basis (but not below zero) in that share of the Series G Preferred Stock or our common stock. This reduction in basis will increase any gain, or reduce any loss realized by the U.S. holder on the subsequent sale, redemption or other disposition of the Series G Preferred Stock or our common stock. The amount of any such distribution in excess of the U.S. holder's adjusted tax basis will be taxed as capital gain. For purposes of the remainder of the discussion under this heading, it is assumed that distributions paid on the Series \(G\) Preferred Stock will constitute dividends for U.S. federal income tax purposes.

If we make a distribution on the Series G Preferred Stock in the form of our Series G Preferred Stock, such distribution will generally be taxable for U.S. federal income tax purposes in the same manner as distributions described above to the extent we distribute property, including cash, to other holders of our stock or certain of our other securities. If such a distribution is taxable, a U.S. holder's tax basis in such Series G Preferred Stock received will equal the fair market value of such Series G Preferred Stock on the distribution date, and such U.S. holder's holding period for such Series G Preferred Stock received will begin on the day following the distribution date. If such a distribution is not taxable, a U.S. holder's tax basis in its Series G Preferred Stock prior to such distribution will be allocated between such Series G Preferred Stock and the Series G Preferred Stock received in the distribution, and such U.S. holder's holding period for such Series G Preferred Stock received will include such U.S. holder's holding period for the Series G Preferred Stock on which such distribution was made.

If a U.S. holder is a corporation, dividends that are received by it will generally be eligible for a \(70 \%\) dividends received deduction under the Code. However, the Code disallows this dividends received deduction in its entirety if the Series G Preferred Stock or our common stock with respect to which the dividend is paid is held by such U.S. holder for less than 46 days during the 91day period beginning on the date which is 45 days before the date on which the Series G Preferred Stock or our common stock becomes ex-dividend with respect to such dividend. A 91-day minimum holding period applies to any dividends on the Series G Preferred Stock that are attributable to periods in excess of 366 days.

Under current law, if a U.S. holder is an individual or other non-corporate holder, dividends received by such U.S. holder generally will be subject to a reduced maximum tax rate of \(15 \%\) for taxable years beginning before January 1, 2011. The rate reduction does not apply to dividends received to the extent that U.S. holders elect to treat the dividends as "investment income," for purposes of the rules relating to the limitation on the deductibility of investment-related interest, which may be offset by investment expense. Furthermore, the rate reduction will also not apply to dividends that are paid to such holders with respect to the Series \(G\) Preferred

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Stock or our common stock that is held by the holder for less than 61 days during the 121-day period beginning on the date which is 60 days before the date on which the Series G Preferred Stock or our common stock become ex-dividend with respect to such dividend. A 91-day minimum holding period applies to any dividends on the Series G Preferred Stock that are attributable to periods in excess of 366 days.

In general, for purposes of meeting the holding period requirements for both the dividends received deduction and the reduced maximum tax rate on dividends described above, U.S. holders may not count towards their holding period any period in which they (a) have the option to sell, are under a contractual obligation to sell, or have made (and not closed) a short sale of the Series G Preferred Stock or our common stock, as the case may be, or substantially identical stock or securities, (b) are the grantor of an option to buy the Series G Preferred Stock or our common stock, as the case may be, or substantially identical stock or securities or (c) otherwise have diminished their risk of loss on the Series G Preferred Stock or our common stock, as the case may be, by holding one or more other positions with respect to substantially similar or related property. The U.S. Treasury regulations provide that a taxpayer has diminished its risk of loss on stock by holding a position in substantially similar or related property if the taxpayer is the beneficiary of a guarantee, surety agreement, or similar arrangement that provides for payments that will substantially offset decreases in the fair market value of the stock. In addition, the Code disallows the dividends received deduction as well as the reduced maximum tax rate on dividends if the recipient of a dividend is obligated to make related payments with respect to positions in substantially similar or related property. This disallowance applies even if the minimum holding period has been met. U.S. holders are advised to consult their own tax advisors regarding the implications of these rules in light of their particular circumstances.
U.S. holders that are corporations should consider the effect of Section 246A of the Code, which reduces the dividends received deduction allowed with respect to "debt-financed portfolio stock." The Code also imposes a \(20 \%\) alternative minimum tax on corporations. In some circumstances, the portion of dividends subject to the dividends received deduction will serve to increase a corporation's minimum tax base for purposes of the determination of the alternative minimum tax. In addition, a corporate stockholder may be required to reduce its basis in stock with respect to certain "extraordinary dividends," as provided under Section 1059 of the Code. U.S. holders should consult their own tax advisors in determining the application of these rules in light of their particular circumstances.

\section*{Sale or Other Disposition}

A sale, exchange, or other disposition of the Series G Preferred Stock or our common stock will generally result in gain or loss equal to the difference between the amount realized upon the disposition (not including any amount attributable to declared and unpaid dividends, which will be taxable as described above to U.S. holders of record who have not previously included such dividends in income) and a U.S. holder's adjusted tax basis in the Series G Preferred Stock or our common stock, as the case may be. Such gain or loss will be capital gain or loss and will be long-term capital gain or loss if the U.S. holder's holding period for the Series G Preferred Stock or our common stock, as applicable, exceeds one year. Under current law, if a U.S. holder is an individual or other non-corporate holder, net long-term capital gain realized by such U.S. holder is subject to a reduced maximum tax rate of \(15 \%\). The deduction of capital losses is subject to limitations.

\section*{Conversion of the Series G Preferred Stock into Common Stock}

As a general rule, a U.S. holder will not recognize any gain or loss in respect of the receipt of common stock upon the conversion of the Series G Preferred Stock. The adjusted tax basis of common stock received on conversion will equal the adjusted tax basis of the Series G Preferred Stock converted (reduced by the portion of adjusted tax basis allocated to any fractional common stock exchanged for cash, as described below), and the holding period of such common stock received on conversion will generally include the period during which the converted Series G Preferred Stock was held prior to conversion.

Cash received in lieu of a fractional common share will generally be treated as a payment in a taxable exchange for such fractional common share, and capital gain or loss will be recognized on the receipt of cash

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in an amount equal to the difference between the amount of cash received and the amount of adjusted tax basis allocable to the fractional common share. Any cash received attributable to any declared and unpaid dividends on the Series G Preferred Stock will be treated as described above under "U.S. Holders - Dividends."

\section*{Adjustment of Conversion Rate}

The conversion rate of the Series G Preferred Stock is subject to adjustment under certain circumstances. U.S. Treasury regulations promulgated under Section 305 of the Code generally treat a U.S. holder of the Series G Preferred Stock as having received a constructive distribution includable in such U.S. holder's income in the manner as described above under "U.S. Holders Dividends," above, if and to the extent that certain adjustments in the conversion rate increase the proportionate interest of a U.S. holder in our assets or our earnings and profits. For example, any decrease in the conversion price described above under "Description of the Series G Preferred Stock - Mandatory Conversion" would result in an upward adjustment in the conversion rate and so will generally give rise to a deemed taxable dividend to the holders of the Series G Preferred Stock to the extent of our current and accumulated earnings and profits. Thus, under certain circumstances, U.S. holders may recognize income in the event of a constructive distribution even though they may not receive any cash or property. However, adjustments to the conversion price made pursuant to a bona fide reasonable adjustment formula which has the effect of preventing dilution in the interest of the U.S. holders of the Series G Preferred Stock will generally not be considered to result in a constructive dividend distribution.

\section*{Information Reporting and Backup Withholding}

In general, information reporting will apply to dividends in respect of the Series G Preferred Stock or our common stock and the proceeds from the sale, exchange or other disposition of the Series G Preferred Stock or our common stock that are paid to a U.S. holder within the United States (and in certain cases, outside the United States), unless a U.S. holder is an exempt recipient such as a corporation. A backup withholding tax may apply to such payments if a U.S. holder fails to provide a taxpayer identification number or certification of other exempt status or fails to report in full dividend and interest income.

Any amounts withheld under the backup withholding rules will be allowed as a refund or a credit against a U.S. holder's U.S. federal income tax liability provided the required information is furnished to the IRS.

\section*{Non-U.S. Holders}

\section*{Dividends}

Dividends (including distributions in the form of our Series G Preferred Stock or common stock taxable as dividends and any constructive distributions taxable as dividends) paid to a non-U.S. holder of the Series G Preferred Stock or our common stock generally will be subject to withholding of U.S. federal income tax at a \(30 \%\) rate or such lower rate as may be specified by an applicable income tax treaty. However, dividends that are effectively connected with the conduct of a trade or business by the nonU.S. holder within the United States (and, if required by an applicable income tax treaty, are attributable to a U.S. permanent establishment) are not subject to the withholding tax, provided certain certification and disclosure requirements are satisfied. Instead, such dividends are subject to U.S. federal income tax on a net income basis in the same manner as if the non-U.S. holder were a U.S. person as defined under the Code. Any such effectively connected dividends received by a foreign corporation may be subject to an additional "branch profits tax" at a \(30 \%\) rate or such lower rate as may be specified by an applicable income tax treaty.

A non-U.S. holder of the Series G Preferred Stock or our common stock who wishes to claim the benefit of an applicable treaty rate and avoid backup withholding, as discussed below, for dividends will be required (a) to complete Internal Revenue Service Form W-8BEN (or other applicable form) and certify under penalty of perjury that such holder is not a U.S. person as defined under the Code and is eligible for treaty benefits or (b) if the Series G Preferred Stock or our common stock is held through certain foreign intermediaries, to satisfy the relevant certification requirements of applicable U.S. Treasury regulations. Special certification and

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other requirements apply to certain non-U.S. holders that are pass-through entities rather than corporations or individuals.
A non-U.S. holder of the Series G Preferred Stock or our common stock eligible for a reduced rate of U.S. withholding tax pursuant to an income tax treaty may obtain a refund of any excess amounts withheld by filing an appropriate claim for refund with the Internal Revenue Service.

\section*{Sale or Other Disposition}

Any gain realized on the disposition of the Series G Preferred Stock or our common stock (including, in the case of conversion, the deemed exchange that gives rise to a payment of cash in lieu of a fractional common share) generally will not be subject to U.S. federal income tax unless:
- the gain is effectively connected with a trade or business of the non-U.S. holder in the United States (and, if required by an applicable income tax treaty, is attributable to a U.S. permanent establishment of the non-U.S. holder);
- the non-U.S. holder is an individual who is present in the United States for 183 days or more in the taxable year of that disposition, and certain other conditions are met; or
- we are or have been a "United States real property holding corporation" for U.S. federal income tax purposes.
An individual non-U.S. holder described in the first bullet point immediately above will be subject to tax on the net gain derived from the sale under regular graduated U.S. federal income tax rates. An individual non-U.S. holder described in the second bullet point immediately above will be subject to a flat \(30 \%\) tax on the gain derived from the sale, which may be offset by U.S. source capital losses, even though the individual is not considered a resident of the United States. If a non-U.S. holder that is a foreign corporation falls under the first bullet point immediately above, it will be subject to tax on its net gain in the same manner as if it were a U.S. person as defined under the Code and, in addition, may be subject to the branch profits tax equal to \(30 \%\) of its effectively connected earnings and profits or at such lower rate as may be specified by an applicable income tax treaty.

We believe we are not and do not anticipate becoming a "United States real property holding corporation" for U.S. federal income tax purposes.

\section*{Conversion into Common Stock}

Non-U.S. holders will generally not recognize any gain or loss in respect of the receipt of common stock upon the conversion of the Series G Preferred Stock, except with respect to any cash received in lieu of a fractional share that is taxable as described above under "Non-U.S. Holders - Sale or Other Disposition."

\section*{Adjustment of Conversion Rate}

As described above under "U.S. Holders - Adjustment of Conversion Rate," adjustments in the conversion rate (or failures to adjust the conversion rate) that increase the proportionate interest of a non-U.S. holder in our earning and profits could result in deemed distributions to the non-U.S. holder that are taxed as described under "Non-U.S. Holders - Dividends."

\section*{Federal Estate Tax}

The Series G Preferred Stock and common stock owned or treated as owned by an individual who is not a citizen or resident of the United States (as specially defined for U.S. federal estate tax purposes) at the time of death will be included in the individual's gross estate for U.S. federal estate tax purposes, unless an applicable estate tax or other treaty provides otherwise and, therefore, may be subject to U.S. federal estate tax.

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\section*{Information Reporting and Backup Withholding}

We must report annually to the Internal Revenue Service and to each non-U.S. holder the amount of dividends paid to such holder and the tax withheld with respect to such dividends, regardless of whether withholding was required. Copies of the information returns reporting such dividends and withholding may also be made available to the tax authorities in the country in which the nonU.S. holder resides under the provisions of an applicable income tax treaty.

A non-U.S. holder will be subject to backup withholding for dividends paid to such holder unless such holder certifies under penalty of perjury that it is a non-U.S. holder (and the payor does not have actual knowledge or reason to know that such holder is a U.S. person as defined under the Code), or such holder otherwise establishes an exemption.

Information reporting and, depending on the circumstances, backup withholding will apply to the proceeds of a sale of the Series G Preferred Stock or our common stock within the United States or conducted through certain U.S.-related financial intermediaries, unless the beneficial owner certifies under penalty of perjury that it is a non-U.S. holder (and the payor does not have actual knowledge or reason to know that the beneficial owner is a U.S. person as defined under the Code), or such owner otherwise establishes an exemption.

Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a non-U.S. holder’s U.S. federal income tax liability provided the required information is furnished to the Internal Revenue Service.

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\section*{CERTAIN ERISA CONSIDERATIONS}

The following is a summary of certain considerations associated with the purchase of the common stock or Series G Preferred Stock, as the case may be, by employee benefit plans subject to Title I of the U.S. Employee Retirement Income Security Act of 1974, as amended, which we refer to as ERISA; plans, individual retirement accounts and other arrangements subject to Section 4975 of the Code or provisions under any federal, state, local, non-U.S. or other laws or regulations that are similar to such provisions of ERISA or the Code, which we collectively refer to as Similar Laws; and entities whose underlying assets are considered to include "plan assets" of any such plan, account or arrangement (each of which we call a "Plan").

Each fiduciary of a Plan should consider the fiduciary standards of ERISA or any applicable Similar Laws in the context of the Plan's particular circumstances before authorizing an investment in the common stock or Series G Preferred Stock. Accordingly, among other factors, the fiduciary should consider whether the investment would satisfy the prudence and diversification requirements of ERISA or any applicable Similar Laws and would be consistent with the documents and instruments governing the Plan.

Section 406 of ERISA and Section 4975 of the Code prohibit Plans subject to such provisions, which we call ERISA Plans, from engaging in certain transactions involving "plan assets" with persons that are "parties in interest" under ERISA or "disqualified persons" under the Code with respect to such ERISA Plans. A violation of these "prohibited transaction" rules may result in an excise tax or other liabilities under ERISA and/or Section 4975 of the Code for those persons, unless exemptive relief is available under an applicable individual, class, statutory or administrative exemption. Employee benefit plans that are governmental plans (as defined in Section 3(32) of ERISA), certain church plans (as defined in Section 3(33) of ERISA) and foreign plans (as described in Section 4(b)(4) of ERISA) are not subject to the requirements of ERISA or Section 4975 of the Code, but may be subject to Similar Laws.

Prohibited transactions within the meaning of Section 406 of ERISA or Section 4975 of the Code could arise if the common stock or Series G Preferred Stock were acquired or held by an ERISA Plan with respect to which a selling stockholder, we or any of their or our affiliates are a party in interest or a disqualified person. For example, if we are a party in interest or disqualified person with respect to an investing ERISA Plan (either directly or by reason of our ownership of our subsidiaries), a prohibited transaction between the investing ERISA Plan and us may be deemed to occur, unless exemptive relief were available under an applicable exemption. In this regard, the United States Department of Labor has issued prohibited transaction class exemptions, or PTCEs, that may provide exemptive relief for direct or indirect prohibited transactions resulting from the purchase, holding or disposition of the common stock or Series G Preferred Stock. Those class exemptions include:
- PTCE 96-23 — for certain transactions determined by in-house asset managers;
- PTCE 95-60 - for certain transactions involving insurance company general accounts;
- PTCE 91-38 — for certain transactions involving bank collective investment funds;
- PTCE 90-1 — for certain transactions involving insurance company separate accounts; and
- PTCE 84-14 - for certain transactions determined by independent qualified professional asset managers.
In addition, Section 408(b)(17) of ERISA and Section 4075(d)(20) of the Internal Revenue Code provide a limited exemption for the purchase and sale of securities, provided that neither the issuer of the securities nor any of its affiliates have or exercise any discretionary authority or control or render any investment advice with respect to the assets of any ERISA Plan involved in the transaction and provided further that the ERISA Plan pays no more and receives no less than adequate consideration in connection with the transaction. No assurance can be made that all of the conditions of any such exemptions will be satisfied.

Because of the possibility that direct or indirect prohibited transactions or similar violations of applicable Similar Laws could occur as a result of the purchase or holding of the common stock or Series G Preferred Stock by a Plan, neither the common stock nor Series G Preferred Stock may be purchased or held by any

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Plan, or any person investing the assets of any Plan, unless its purchase and holding of any such securities will not constitute or result in a non-exempt prohibited transaction under ERISA or the Code or a similar violation of any applicable Similar Laws. Each purchaser and holder of the common stock or Series G Preferred Stock or any interest in the common stock or Series G Preferred Stock will be deemed to have represented by its purchase and holding of the common stock or Series G Preferred Stock that either:
- it is not a Plan and is not purchasing or holding the shares of such security or any interest in such security on behalf of or with the assets of any Plan; or
- its purchase and holding of any of the shares of common stock or Series G Preferred Stock or interest in any of the common stock or Series G Preferred Stock will not constitute or result in a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code or a similar violation of any applicable Similar Laws.
Due to the complexity of these rules and the penalties imposed upon persons involved in non-exempt prohibited transactions, it is important that any person considering the purchase or holding of the common stock or Series G Preferred Stock on behalf of or with the assets of any Plan consult with its counsel regarding the consequences under ERISA, the Code and any applicable Similar Laws, whether any exemption would be applicable, and whether all conditions of such exemption have been satisfied such that the purchase and holding of the common stock or Series G Preferred Stock by the Plan is entitled to full exemptive relief thereunder.

Nothing herein shall be construed as, and the sale of shares of common stock or Series G Preferred Stock to a Plan is in no respect, a representation by us or the selling stockholders that any investment in the common stock or Series G Preferred Stock would meet any or all of the relevant legal requirements with respect to investment by, or is appropriate for, Plans generally or any particular Plan.

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SELLING STOCKHOLDERS
The table below sets forth information with respect to the selling stockholders and the number of shares of our common stock and Series G Preferred Stock that may be resold pursuant to this prospectus supplement.

We have prepared the table based on information given to us by, or on behalf of, the selling stockholders on or about May 9, 2008. The selling stockholders may have sold, transferred or otherwise disposed of some or all of their shares of common stock since the date on which the selling stockholders provided this information.

The number of shares beneficially owned by each selling stockholder is determined according to the rules of the SEC, and the information is not necessarily indicative of ownership for any other purpose. Under these rules, beneficial ownership includes any shares as to which the individual or entity has sole or shared voting power or investment power. As a consequence, several persons may be deemed to be the "beneficial owners" of the same shares. The selling stockholders and their respective transferees, pledgees, donees or successors, may from time to time offer and sell pursuant to this prospectus supplement any or all of the shares of common stock or Series G Preferred Stock owned by such selling stockholder, but are under no obligation to offer or sell any of the shares.
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{Number of Shares of Common Stock Beneficially
\(\qquad\)} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby(1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After Completion of the Offering)(3) & Number & \% (After Completion of the Offering)(4) \\
\hline Abitibi-Consolidated Company of Canada Master Trust Fund (nominee: Desjardins Trust Inc./00907631/6)(5) & 11,745 & 111,745 & * & 5 & * \\
\hline Advanced Series Trust T. Rowe Price Asset Allocation Portfolio(6) & 45,600 & 52,100 & * & 2 & * \\
\hline AEGON/Transamerica Series - & & & & & \\
\hline T. Rowe Price Equity Income(6) & 139,900 & 233,600 & * & 9 & * \\
\hline American Airlines, Inc. Master Fixed Benefit Pension Plan Trust(7) & 143,700 & 1,443,700 & * & 65 & * \\
\hline American Bar Association Members Retirement Trust and American Bar Association Members Pooled Trust for Retirement Plans (nominee: Greatbreaker \& Сo.)(5) & 14,094 & 134,094 & * & 6 & * \\
\hline American Beacon Balanced Fund(7) & 87,400 & 807,400 & * & 36 & * \\
\hline American Beacon Large Cap Value Fund(7) & 312,700 & 3,072,700 & * & 138 & * \\
\hline \begin{tabular}{l}
American Beverage \\
Association(8)
\end{tabular} & 19,900 & 39,900 & * & 1 & * \\
\hline American Funds Insurance Series - Asset Allocation Fund(9) & 1,100,000 & 10,500,000 & * & 470 & * \\
\hline American Funds Insurance Series - Blue Chip Income and Growth Fund(10) & 190,900 & 1,385,000 & * & 62 & * \\
\hline American Funds Insurance Series - Global Growth and Income Fund(9) & 1,338,986 & 6,125,000 & * & 274 & * \\
\hline American Funds Insurance Series — Growth Fund(9) & 930,000 & 8,750,000 & * & 391 & * \\
\hline Anchorage Capital Master Offshore, Ltd. (11) & 1,580,000 & 15,000,000 & * & 671 & * \\
\hline Aristeia International Limited(12) & 1,721,614 & 16,401,614 & * & 734 & * \\
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\end{tabular}

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\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{\begin{tabular}{c} 
Number of \\
Shares of \\
Common Stock \\
Beneficially \\
Owned(2) \\
\hline
\end{tabular}} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby(1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After Completion of the Offering)(3) & Number & \% (After Completion of the Offering)(4) \\
\hline Aristeia Partners, L.P. (13) & 214,586 & 2,034,586 & * & 91 & * \\
\hline Aristeia Special Investments Masters, L.P. (12) & 163,800 & 1,563,800 & * & 70 & * \\
\hline Asahi Glass CPF(14) & 64,800 & 280,000 & * & 14 & * \\
\hline ATU/TriMet Joint Pension Trust(7) & 14,900 & 134,900 & * & 6 & * \\
\hline AustralianSuper Pty Ltd(14) & 97,048 & 560,000 & * & 28 & * \\
\hline AXA Premier VIP Small/Mid Cap Value Portfolio (nominee: Cudd \& Co.)(5) & 68,122 & 648,122 & * & 29 & * \\
\hline Bank of America Structured Research(6) & 49,100 & 52,800 & * & 2 & * \\
\hline Black Canyon Direct Investment Fund, L.P. (15) & 249,935 & 2,429,935 & * & 109 & * \\
\hline Brandes Global Mid Cap Portfolio(14) & 87,848 & 87,848 & * & 0 & * \\
\hline \begin{tabular}{l}
Brandes Investment Funds plc \\
Brandes Global Equities \\
Fund(14)
\end{tabular} & 435,640 & 4,060,000 & * & 203 & * \\
\hline Brandes U.S. Mid Cap Equity Portfolio(14) & 5,590 & 5,590 & * & 0 & * \\
\hline Canadian Medical Association Pension Plan(14) & 1,483,109 & 798,620 & * & 0 & * \\
\hline \begin{tabular}{l}
Canadian Pacific Railway \\
Company Pension Plan (nominee: Mac and Co.)(5)
\end{tabular} & 70,471 & 670,471 & * & 30 & * \\
\hline Canyon Balanced Equity Master Fund, Ltd. (15) & 1,709,647 & 9,000,000 & * & 403 & * \\
\hline Canyon Capital Arbitrage Master Fund, Ltd. (15) & 148,251 & 800,000 & * & 36 & * \\
\hline \begin{tabular}{l}
Canyon Special Opportunities \\
Master Fund (Cayman) \\
Ltd. (15)
\end{tabular} & 719,081 & 4,000,000 & * & 179 & * \\
\hline Canyon Value Realization Fund, L.P. (15) & 3,777,871 & 19,842,145 & * & 887 & * \\
\hline Canyon Value Realization MAC-18 Ltd. (15) & 411,129 & 2,180,000 & * & 98 & * \\
\hline Canyon VRF Trading Limited(15) & 40,000 & 400,000 & * & 18 & * \\
\hline CIF All Cap Equity Fund (nominee: Chains \& Co.)(5) & 54,028 & 514,028 & * & 23 & * \\
\hline Citi Canyon Ltd. (15) & 123,025 & 650,000 & * & 29 & * \\
\hline City of Austin Police Retirement System(14) & 468,703 & 408,494 & * & 0 & * \\
\hline Co-operative Superannuation Society Pension Plan(14) & 996,459 & 793,329 & * & 0 & * \\
\hline D.E. Shaw Oculus Portfolios, L.L.C. (16) & 3,670,000 & 34,990,000 & * & 1,566 & * \\
\hline D.E. Shaw Valence Portfolios, L.L.C. (16) & 3,902,100 & 35,010,000 & * & 1,567 & * \\
\hline Delta Institutional, LP(17) & 981,600 & 9,381,600 & * & 420 & * \\
\hline Delta Offshore Master, Ltd. (18) & 1,871,700 & 17,891,700 & * & 801 & * \\
\hline Delta Onshore, LP(17) & 109,300 & 1,029,300 & * & 46 & * \\
\hline Delta Pleiades, LP(17) & 177,400 & 1,697,400 & * & 76 & * \\
\hline
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\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{\begin{tabular}{c} 
Number of \\
Shares of \\
Common Stock \\
Beneficially \\
Owned(2) \\
\hline
\end{tabular}} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby(1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After
Completion of
the Offering)(3) & Number & \% (After Completion of the Offering)(4) \\
\hline Diversified Investment Advisors Value Fund(7) & 65,900 & 605,900 & * & 27 & * \\
\hline DMC (DR) Limited(7) & 17,900 & 37,900 & * & 1 & * \\
\hline Duluth Teachers' Retirement Fund (nominee: EMSEG \& Co.)(5) & 4,698 & 44,698 & * & 2 & * \\
\hline Electronic Data Systems(7) & 114,600 & 1,174,600 & * & 53 & * \\
\hline Elliott Associates, L.P. (19) & 800,000 & 7,600,000 & * & 340 & * \\
\hline Elliott International, L.P. (20) & 1,200,000 & 11,400,000 & * & 510 & * \\
\hline Employee's Pension Fund of Tokyo Pharmaceutical Industry(14) & 155,800 & 300,000 & * & 15 & * \\
\hline Exel plc Pension(14) & 1,134,805 & 898,447 & * & 0 & * \\
\hline Farallon Capital Institutional Partners II, L.P. (21)(22) & 66,200 & 1,265,500 & * & 15 & * \\
\hline Farallon Capital Institutional Partners III, L.P. (21)(22) & 81,400 & 439,300 & * & 20 & * \\
\hline Farallon Capital Institutional Partners, L.P. (21)(22) & 1,583,000 & 8,307,100 & * & 413 & * \\
\hline Farallon Capital Offshore Investors, Inc. (21)(23) & 1,228,000 & 6,990,000 & * & 313 & * \\
\hline Farallon Capital Offshore Investors II, L.P. (21)(22) & 1,304,300 & 7,213,600 & * & 323 & * \\
\hline Farallon Capital Partners, L.P. (21)(22) & 1,031,600 & 5,784,500 & * & 259 & * \\
\hline Fidelity Advisor Series VII Trust: Fidelity Advisor Financial Services Fund(24) & 17,900 & 157,900 & * & 7 & * \\
\hline Fidelity Central Investment Portfolios LLC: Fidelity Financials Central Fund(24) & 92,000 & 752,000 & * & 33 & * \\
\hline Fidelity Northstar Fund(25) & 499,900 & 8,279,900 & * & 389 & * \\
\hline Fidelity Puritan Trust: Fidelity Low-Priced Stock Fund(24) & 3,520,000 & 30,000,000 & * & 1,324 & * \\
\hline Fidelity Select Portfolios: Banking Portfolio(24) & 257,200 & 238,600 & * & 11 & * \\
\hline Fidelity Select Portfolios: Financial Services Portfolio(24) & 29,500 & 269,500 & * & 12 & * \\
\hline Fidelity Select Portfolios: Home Finance Portfolio(24) & 55,898 & 239,500 & * & 11 & * \\
\hline FIP USA Large Cap(14) & 53,864 & 32,244 & * & 0 & * \\
\hline France-Merrick Foundation(8) & 6,800 & 86,800 & * & 4 & * \\
\hline Frank B. Foster III(8) & 6,400 & 6,400 & * & 0 & * \\
\hline Fundamental Investors, Inc. (9) & 550,000 & 5,250,000 & * & 235 & * \\
\hline GA Fund L Equities World Mid Cap Value TP(14) & 184,681 & 184,681 & * & 0 & * \\
\hline Girl Scouts of the USA(7) & 17,900 & 37,900 & * & 1 & * \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{Number of
Shares of
Common Stock
Beneficially
Owned(2)} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby (1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After Completion of the Offering)(3) & Number & \% (After Completion of the Offering)(4) \\
\hline Girl Scouts of the USA & & & & & \\
\hline Retirement Plan(7) & 7,200 & 27,200 & * & 1 & * \\
\hline Gordel Holdings Limited(26) & 0 & 640,000 & * & 32 & * \\
\hline GPC LVII, LLC(26) & 0 & 1,100,000 & * & 55 & * \\
\hline Guggenheim Portfolio Company X, L.L.C. (27) & 58,015 & 558,015 & * & 25 & * \\
\hline Hallmark Cards, Incorporated Master Trust (nominee: Deeprock \& Co.)(5) & 4,698 & 44,698 & * & 2 & * \\
\hline Harris Corp Retirement Trust(6) & 93,100 & 155,700 & * & 6 & * \\
\hline Hartford Capital Appreciation HLS Fund (nominee: Playroom \& Co.)(5) & 138,592 & 1,318,592 & * & 59 & * \\
\hline Hartford MidCap Value HLS Fund (nominee: Palmbeach \& Co.)(5) & 164,432 & 1,564,432 & * & 70 & * \\
\hline Hartford Value Opportunities HLS Fund (nominee: Watchcourse \& Co.)(5) & 96,310 & 916,310 & * & 41 & * \\
\hline Health Services Retirement Plan(8) & 11,800 & 91,800 & * & 4 & * \\
\hline Hotchkis and Wiley Core Value Fund(7) & 856,400 & 8,296,400 & * & 372 & * \\
\hline Hotchkis and Wiley Mid-Cap Value Fund(7) & 1,836,700 & 17,856,700 & * & 801 & * \\
\hline Hyperion (EQ) Limited(7) & 16,300 & 56,300 & * & 2 & * \\
\hline IKANO International Funds Value Portfolio(14) & 145,989 & 900,000 & * & 45 & * \\
\hline Indiana Public Employees’ Retirement Fund(14) & 1,521,199 & 1,176,566 & * & 0 & * \\
\hline ING Investors Trust - ING T. Rowe Price Capital Appreciation Portfolio(6) & 323,700 & 1,423,700 & * & 55 & * \\
\hline \begin{tabular}{l}
ING Investors Trust - ING T. \\
Rowe Price Equity Income Portfolio(6)
\end{tabular} & 374,200 & 671,400 & * & 26 & * \\
\hline ING LargeCap Value Fund(14) & 0 & 300,000 & * & 15 & * \\
\hline Institutional Benchmarks Series (Master Feeder) Ltd. (15) & 202,536 & 1,040,000 & * & 46 & * \\
\hline ITT Industries INC-SRS(6) & 10,400 & 22,700 & * & 1 & * \\
\hline Jackson County, Missouri Revised Pension Plan(7) & 22,100 & 122,100 & * & 5 & * \\
\hline \begin{tabular}{l}
JNL Series Trust — JNL/ T. \\
Rowe Price Value Fund(6)
\end{tabular} & 61,100 & 261,100 & * & 10 & * \\
\hline John Hancock Funds II Equity Income Fund(6) & 261,800 & 442,900 & * & 17 & * \\
\hline John Hancock Funds II Spectrum Income Fund(6) & 48,100 & 78,200 & * & 3 & * \\
\hline John Hancock Trust - EquityIncome Trust(6) & 597,600 & 1,063,200 & * & 41 & * \\
\hline \[
\begin{aligned}
& \text { John Hancock Trust — Mid } \\
& \text { Value Trust(6) }
\end{aligned}
\] & 38,200 & 178,200 & * & 7 & * \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{Number of Shares of Common Stock Beneficially Owned(2)} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby(1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After Completion of
\(\qquad\) & Number & \% (After Completion of
\(\qquad\) \\
\hline John Hancock Trust Spectrum Income Trust(6) & 52,600 & 79,800 & * & 3 & * \\
\hline KDDI CPF(14) & 55,844 & 280,000 & * & 14 & * \\
\hline Kuwait Fund for Arab Economic Development(14) & 142,892 & 560,000 & * & 28 & * \\
\hline Kuwait Investment Authority(7) & 182,200 & 1,802,200 & * & 81 & * \\
\hline Lansdowne Global Financial Fund L.P. & 1,501,060 & 11,182,000 & * & 500 & * \\
\hline Lansdowne Global Financial Fund Limited & 8,478,940 & 63,818,000 & * & 2,857 & * \\
\hline Legg Mason American Leading Companies(8) & 104,620 & 1,004,620 & * & 45 & * \\
\hline Legg Mason Opportunities Trust(39) & 983,380 & 9,403,380 & * & 421 & * \\
\hline Legg Mason Partners Equity Trust - Legg Mason Partners All Cap Fund(8) & 402,400 & 4,002,400 & * & 180 & * \\
\hline Legg Mason Special Investment Trust(8) & 983,600 & 9,943,600 & * & 448 & * \\
\hline \begin{tabular}{l}
Lloyd's Register \\
Superannuation \\
Fund Association(14)
\end{tabular} & 268,183 & 1,160,000 & * & 58 & * \\
\hline Lumber Industry Pension Fund(7) & 17,400 & 97,400 & * & 4 & * \\
\hline MarketPLUS Mid Cap Value Portfolio (nominee: Cudd \& Co.)(5) & 89,263 & 849,263 & * & 38 & * \\
\hline Mason Capital, L.P. (27) & 258,210 & 2,478,210 & * & 111 & * \\
\hline Mason Capital, Ltd. (27) & 1,143,775 & 10,963,775 & * & 491 & * \\
\hline Maverick Fund II, Ltd. (28) & 2,932,074 & 13,892,850 & * & 622 & * \\
\hline Maverick Fund USA, Ltd. (28) & 741,090 & 3,887,540 & * & 174 & * \\
\hline Maverick Fund, L.D.C(28) & 1,990,110 & 10,363,660 & * & 464 & * \\
\hline Maverick Long Enhanced Fund, Ltd. (28) & 79,830 & 469,120 & * & 21 & * \\
\hline Maverick Long Fund, Ltd. (28) & 56,090 & 247,030 & * & 11 & * \\
\hline Maverick Neutral Fund, Ltd. (28) & 68,500 & 246,590 & * & 11 & * \\
\hline Maverick Neutral Levered Fund, Ltd. (28) & 71,850 & 557,820 & * & 25 & * \\
\hline Maxim Series Fund, Inc. Maxim T. Rowe Price Equity/Income Portfolio(6) & 256,600 & 463,500 & * & 18 & * \\
\hline McDermott Incorporated Master Trust (nominee: Bost \& Co.)(5) & 9,396 & 89,396 & * & 4 & * \\
\hline Meditor European Master Fund Limited(29) & 3,140,000 & 30,000,000 & * & 1,343 & * \\
\hline \begin{tabular}{l}
MidMichigan Medical \\
Center - Midland \\
Employees' Pension Plan(8)
\end{tabular} & 18,800 & 138,800 & * & 6 & * \\
\hline MidMichigan Medical Center - Midland Employees' Retirement Healthcare Plan(8) & 10,300 & 10,300 & * & 0 & * \\
\hline Mitsubishi Corporation Pension Fund(14) & 52,490 & 220,000 & * & 11 & * \\
\hline \begin{tabular}{l}
MML Series Investment Fund - MML Equity Income Fund(6) \\
Monsanto Company(7)
\end{tabular} & 112,300
9,100 & 182,800
149,100 & * & 7 & * \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{Number of Shares of Common Stock Beneficially Owned(2)} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby (1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After Completion of the Offering)(3) & Number & \% (After Completion of the Offering)(4) \\
\hline \begin{tabular}{l}
Montana Board of \\
Investments - SRS(6)
\end{tabular} & 20,000 & 25,200 & * & 1 & * \\
\hline National Girl Scout Council Retirement Plan(7) & 7,400 & 147,400 & * & 7 & * \\
\hline Nebraska Public Power District Employee Retirement Plan(7) & 4,600 & 84,600 & * & 4 & * \\
\hline New York State Common Retirement Fund(14) & 629,869 & 4,860,000 & * & 243 & * \\
\hline Norges Bank (Central Bank of Norway)(30) & 5,325,948 & 30,000,000 & * & 1,342 & * \\
\hline \begin{tabular}{l}
Norges Bank US Radnor \\
Concentrated Portfolio (nominee: Cudd \& Co.)(5)
\end{tabular} & 418,126 & 3,978,126 & * & 178 & * \\
\hline Nortel Networks Limited(14) & 178,480 & 1,000,000 & * & 50 & * \\
\hline North Carolina Department of State Treasurer(7) & 131,200 & 1,331,200 & * & 60 & * \\
\hline \begin{tabular}{l}
Northwestern Mutual \\
Series Fund, Inc. - T. Rowe \\
Price Equity Income \\
Portfolio(6)
\end{tabular} & 56,600 & 82,300 & * & 3 & * \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multicolumn{6}{|l|}{Northwestern Mutual} \\
\hline \multicolumn{6}{|l|}{Series Fund, Inc. - T. Rowe} \\
\hline Price Small-Cap Value & & & & & \\
\hline Portfolio(6) & 11,000 & 51,000 & * & 2 & * \\
\hline Nunavut Trust(14) & 879,302 & 810,249 & * & 0 & * \\
\hline NVIT Multi-Manager Large Cap Value Fund (nominee: Cudd \& Co.)(5) & 2,349 & 22,349 & * & 1 & * \\
\hline Old Lane Cayman Master Fund, L.P. (31) & 96,400 & 976,400 & * & 44 & * \\
\hline Old Lane HMA Master Fund, L.P. (31) & 29,400 & 289,400 & * & 13 & * \\
\hline Old Lane US Master Fund, L.P. (31) & 74,200 & 734,200 & * & 33 & * \\
\hline Oregon State University Foundation(7) & 11,200 & 111,200 & * & 5 & * \\
\hline \begin{tabular}{l}
Oregon-Washington Carpenters- \\
Employers Pension \\
Trust Fund(7)
\end{tabular} & 6,100 & 126,100 & * & 6 & * \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multicolumn{6}{|l|}{OZ Global Special Investments} \\
\hline Master Fund, LP(26) & 0 & 2,520,000 & * & 126 & * \\
\hline OZ Master Fund, Ltd. (26) & 0 & 35,740,000 & * & 1,787 & * \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline Penn Series Funds, Inc. Flexibly Managed Fund(6) & 130,000 & 570,000 & * & 22 & * \\
\hline Pensioenfonds Voor De & & & & & \\
\hline Grafische Bedrijven (PGB)(6) & 57,800 & 55,600 & * & 2 & * \\
\hline Permal York Limited(32) & 183,529 & 1,763,529 & * & 79 & * \\
\hline \begin{tabular}{l}
Principal Investors Fund, Inc - \\
Partners Largecap Blend \\
Fund(6)
\end{tabular} & 92,553 & 84,353 & * & 3 & * \\
\hline \begin{tabular}{l}
Principal Variable Contracts \\
Fund, Inc. -Large Cap Blend \\
Series(6)
\end{tabular} & 23,900 & 26,300 & * & 1 & * \\
\hline \begin{tabular}{l}
Prudential Retirement Mid Cap \\
Value Fund (nominee: \\
IFTCO)(5)
\end{tabular} & 129,196 & 1,229,196 & * & 55 & * \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{Number of Shares of Common Stock Beneficially
\(\qquad\)} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby(1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After Completion of the Offering)(3) & Number & \% (After Completion of the Offering)(4) \\
\hline Public Employees' Retirement System of Mississippi (nominee: Hare \& Co.)(5) & 84,565 & 804,565 & * & 36 & * \\
\hline Railways Pension Trustee Co
\[
\operatorname{Ltd}(14)
\] & 423,288 & 2,300,000 & * & 115 & * \\
\hline RBS Asset Management Equator INV Funds(6) & 13,000 & 23,400 & * & 1 & * \\
\hline RMB Unit Trusts Limited(14) & 88,000 & 280,000 & * & 14 & * \\
\hline Roseburg Forest Products Co. and Carpenters Industrial Council Pension Plan(7) & 19,600 & 79,600 & * & 3 & * \\
\hline S.A.C. Arbitrage Fund, LLC(33) & 209,916 & 2,009,916 & * & 90 & * \\
\hline S.A.C. Capital Associates, LLC(33) & 2,730,084 & 25,990,084 & * & 1,163 & * \\
\hline Samlyn Offshore, Ltd. (34) & 490,560 & 4,670,560 & * & 209 & * \\
\hline Samlyn Onshore Fund, L.P. (35) & 349,440 & 3,329,440 & * & 149 & * \\
\hline Saudi Arabian Monetary Agency(14) & 3,506,606 & 11,217,274 & * & 482 & * \\
\hline Saudi Arabian Monetary Agency - Global Portfolio II(14) & 984,875 & 5,860,000 & * & 293 & * \\
\hline Saudi Arabian Monetary Agency - Global Portfolio III(14) & 821,392 & 3,660,000 & * & 183 & * \\
\hline \[
\begin{aligned}
& \text { SBL Fund — Series O (Equity } \\
& \text { Income Series)(6) }
\end{aligned}
\] & 78,500 & 131,500 & * & 5 & * \\
\hline Selector Management Fund Selector Global Value(14) & 65,927 & 40,000 & * & 2 & * \\
\hline Skandia US Value Fund(7) & 42,600 & 422,600 & * & 19 & * \\
\hline SKL Investment Group, LLC(7) & 13,800 & 93,800 & * & 4 & * \\
\hline Sony Corporation CPF(14) & 59,624 & 260,000 & * & 13 & * \\
\hline Southern California UFCWU \& FE Joint Pension(6) & 23,500 & 26,100 & * & 1 & * \\
\hline Stark Criterion Master Fund Ltd. (36) & 31,400 & 311,400 & * & 14 & * \\
\hline Stark Global Opportunities Master Fund Ltd. (36) & 157,000 & 1,497,000 & * & 67 & * \\
\hline Stark Master Fund Ltd. (36) & 2,951,600 & 28,191,600 & * & 1,262 & * \\
\hline State of California — Mid Cap Value(6) & 56,800 & 256,800 & * & 10 & * \\
\hline State Retirement \& Pension System of Maryland(6) & 45,900 & 51,900 & * & 2 & * \\
\hline State Universities Retirement System of Illinois(6) & 21,700 & 25,300 & * & 1 & * \\
\hline \begin{tabular}{l}
Stichting \\
Bedrijfstakpensioenfonds voor het Schilders-, Afwerkings- en Glaszetefrijf(7)
\end{tabular} & 10,300 & 110,300 & * & 5 & * \\
\hline Sunamerica Seasons Series Trust - Large-Cap Value Portfolio(6) & 37,200 & 54,700 & * & 2 & * \\
\hline SUPERVALU Inc. Benefit Plan(7) & 107,100 & 927,100 & * & 41 & * \\
\hline T. Rowe Price Balanced Fund(6) & 72,000 & 182,400 & * & 7 & * \\
\hline
\end{tabular}

\section*{Table of Contents}
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{\begin{tabular}{c} 
Number of \\
Shares of \\
Common Stock \\
Beneficially \\
Owned(2) \\
\hline
\end{tabular}} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby (1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After Completion of the Offering)(3) & Number & \% (After Completion of the Offering)(4) \\
\hline T. Rowe Price Capital Appreciation Fund(6) & 920,835 & 4,100,835 & * & 159 & * \\
\hline T. Rowe Price Capital Appreciation Trust(6) & 9,000 & 29,000 & * & 1 & * \\
\hline T. Rowe Price Capital Opportunity Fund(6) & 23,400 & 26,100 & * & 1 & * \\
\hline T. Rowe Price Equity Income Fund(6) & 6,118,325 & 10,608,325 & * & 412 & * \\
\hline T. Rowe Price Equity Income Portfolio(6) & 494,300 & 879,000 & * & 34 & * \\
\hline T. Rowe Price Equity Income Trust(6) & 84,400 & 133,400 & * & 5 & * \\
\hline T. Rowe Price Financial Services Fund, Inc(6) & 212,218 & 932,218 & * & 36 & * \\
\hline T. Rowe Price Institutional U.S. Structured Research Fund(6) & 11,000 & 23,100 & * & 1 & * \\
\hline T. Rowe Price Mid-Cap Value Fund, Inc(6) & 1,641,796 & 7,261,796 & * & 281 & * \\
\hline T. Rowe Price Personal Strategy Growth Fund(6) & 29,300 & 129,300 & * & 5 & * \\
\hline T. Rowe Price Personal Strategy Income Fund(6) & 10,000 & 50,000 & * & 2 & * \\
\hline T. Rowe Price PS Balanced Fund(6) & 27,200 & 107,200 & * & 4 & * \\
\hline T. Rowe Price PS Balanced Portfolio(6) & 3,400 & 23,400 & * & 1 & * \\
\hline T. Rowe Price Value Fund(6) & 735,873 & 3,275,873 & * & 127 & * \\
\hline TD Mutual Funds - TD U.S. Large-Cap Value Fund(6) & 135,790 & 234,500 & * & 9 & * \\
\hline Teachers' Retirement System of Oklahoma; Mid-Cap(7) & 220,200 & 2,080,200 & * & 93 & * \\
\hline The 1199SEIU Health Care Employees Pension Fund(7) & 257,100 & 46,600 & * & 0 & * \\
\hline The Canyon Value Realization Fund (Cayman), Ltd. (15) & 11,218,525 & 59,657,920 & * & 2,670 & * \\
\hline The Energy East Master Trust(7) & 42,100 & 382,100 & * & 17 & * \\
\hline The Growth Fund of America, Inc. (37) & 8,285,000 & 79,145,000 & * & 3,543 & * \\
\hline The Hartford Capital Appreciation II Fund (nominee: Barnaclewind \& Co.)(5) & 91,612 & 871,612 & * & 39 & * \\
\hline The Hartford MidCap Value Fund (nominee: Palmbeach \& Co.)(5) & 68,122 & 648,122 & * & 29 & * \\
\hline The Hartford Value Opportunities Fund (nominee: Watchpond \& Co.)(5) & 44,631 & 424,631 & * & 19 & * \\
\hline The Investment Company of America(10) & 2,505,000 & 23,845,000 & * & 1,067 & * \\
\hline The Lynde and Harry Bradley Foundation, Inc. (7) & 16,500 & 156,500 & * & 7 & * \\
\hline The Promotion \& Mutual Aid Corp for Private Schools of Japan(14) & 96,180 & 400,000 & * & 20 & * \\
\hline
\end{tabular}
\(\left.\begin{array}{lcccccc}\hline & & & & & \begin{array}{c}\text { Shares of Series G } \\ \text { Preferred Stock }\end{array} \\ \text { Bumber of } \\ \text { Shares of } \\ \text { which may be Resold }\end{array}\right\}\)

Wellington Trust Company, National Association Multiple
Collective Investment Funds
Trust, Mid Cap Value
Portfolio (nominee: Fidwell
\begin{tabular}{|c|c|c|c|c|c|}
\hline \& Co.)(5) & 21,141 & 201,141 & * & 9 & * \\
\hline WellPoint Cash Balance Pension Plan(7) & 55,200 & 535,200 & * & 24 & * \\
\hline Wells Fargo \& Company Master Pension Trust(6) & 9,700 & 22,500 & * & 1 & * \\
\hline Wilton R. Stephens, Jr. (7) & 4,600 & 104,600 & * & 5 & * \\
\hline York Capital Management, L.P. (32) & 825,882 & 7,885,882 & * & 353 & * \\
\hline York Enhanced Strategies Fund,
LLC(32) & 367,059 & 3,507,059 & * & 157 & * \\
\hline York Global Value Partners,
L.P. (32) & 494,118 & 4,714,118 & * & 211 & * \\
\hline York Investment Limited(32) & 2,202,353 & 21,022,353 & * & 941 & * \\
\hline York Select Unit Trust(32) & 931,765 & 8,891,765 & * & 398 & * \\
\hline York Select LP(32) & 755,294 & 7,215,294 & * & 323 & * \\
\hline
\end{tabular}

\footnotetext{
* Less than one percent
}

\section*{Table of Contents}
(1) The "Maximum Number of Shares of Common Stock which may be Resold Hereby" column includes all common stock issuable upon conversion of such selling stockholder’s Series G Preferred Stock and the exercise of all of the Warrants issued to such selling stockholder, if any, in the equity investment transaction.
(2)

The "Number of Shares of Common Stock Beneficially Owned" column does not include any common stock issuable upon exercise of the warrants such selling stockholder received, if any, in the equity investment transaction, nor does it include common stock issuable upon conversion of Series G Preferred Stock; thus this amount may be less than the amount reflected for such selling stockholder in the "Maximum Number of Shares of Common Stock which may be Resold Hereby" column.
(3)

The percentage ownership of shares of common stock in the "\% (after completion of the offering)" column is calculated based on a share count which includes, in addition to outstanding shares, as of May 15, 2008 all shares of common stock issuable upon the conversion of the Series G Preferred Stock and the exercise of all of the warrants issued in the equity investment transaction.
(4)

The percentage ownership of Series G Preferred Stock in the "\% (after completion of the offering)" column is calculated based on 63,690 shares of our Series G Preferred Stock outstanding.
(5) Wellington Management Company, LLP ("Wellington") is an investment adviser registered under the Investment Advisers Act of 1940, as amended. Wellington, in such capacity, may be deemed to share beneficial ownership over the shares held by its client accounts.
(6)
T. Rowe Price Associates, Inc. ("TRPA") serves as investment adviser with power to direct investments and/or sole power to vote the securities owned by the selling stockholder named in the table, as well as securities owned by certain other individual and institutional investors. For purposes of reporting requirements of the Exchange Act, TRPA may be deemed to be the beneficial owner of all of the shares owned by each selling stockholder to which this footnote applies; however, TRPA expressly disclaims that it is, in fact, the beneficial owner of such securities. TRPA is the wholly owned subsidiary of T. Rowe Price Group, Inc., which is a publicly traded financial services holding company.
(7)

Hotchkis and Wiley Capital Management, LLC ("HWCM") serves as investment adviser with power to direct investments and/or sole power to vote the securities owned by the selling stockholder named in the table, as well as securities owned by certain other institutional investors. For purposes of reporting requirements of the Exchange Act, HWCM may be deemed to be the beneficial owner of all of the shares owned by each selling stockholder to which this footnote applies; however, HWCM expressly disclaims that it is, in fact, the beneficial owner of such securities.
(8) Legg Mason Capital Management, Inc. is the investment advisor of this selling stockholder and consequently has voting control and investment discretion over the shares held by this selling stockholder.

The selling stockholder is an investment company registered under the Investment Company Act of 1940. Capital Research and Management Company, or CRMC, an investment adviser registered under the Investment Advisers Act of 1940, is the investment adviser to this selling stockholder. CRMC provides investment advisory services to this selling stockholder through its division Capital World Investors, or CWI. In that capacity, CWI may be deemed to be the beneficial owner of shares held by this selling stockholder. CWI, however, disclaims such beneficial ownership.
(10)

The selling stockholder is an investment company registered under the Investment Company Act of 1940. Capital Research and Management Company, or CRMC, an investment adviser registered under the Investment Advisers Act of 1940, is the investment adviser to this selling stockholder. CRMC provides investment advisory services to this selling stockholder through its division Capital Research Global Investors, or CRGI. In that capacity, CRGI may be deemed to be the beneficial owner of shares held by this selling stockholder. CRGI, however, disclaims such beneficial ownership.
(11) Anchorage Advisors L.L.C. ("Advisors") is the investment advisor to the selling stockholder. In such capacity, Advisors exercises voting and investment power over the securities held for the account of the selling stockholder.
(12) Aristeia Capital LLC is the investment manager of the selling stockholder. Aristeia Capital LLC is jointly owned by Kevin Toner, Robert H. Lynch Jr., Anthony Frascella, and William R. Techar, who are the
natural persons that exercise voting power and investment control over the shares owned by the selling stockholder.
(13)

Aristeia Advisers LLC is the general partner of the selling stockholder. Aristeia Advisers LLC is jointly owned by Kevin Toner, Robert H. Lynch Jr., Anthony Frascella, and William R. Techar, who are the natural persons that exercise voting power and investment control over the shares owned by the selling stockholder.

Brandes Investment Partners, L.P. serves as investment adviser with power to direct investments and/or sole power to vote the shares owned by the selling stockholders named in the table, as well as shares owned by certain other individual and institutional investors. For purposes of reporting requirements of the Securities Exchange Act of 1934, Brandes Investment Partners, L.P. may be deemed to be the beneficial owner of all of the shares listed above; however, Brandes Investment Partners, L.P. expressly disclaims that it is, in fact, the beneficial owner of such securities.
(15)

Canyon Capital Advisors LLC serves as investment adviser with power to direct investments and/or sole power to vote the shares owned by the selling stockholders named in the table, as well as shares owned by certain other individual and institutional investors. For purposes of reporting requirements of the Securities Exchange Act of 1934, as amended, (the "Exchange Act"), Canyon Capital Advisors LLC may be deemed to be the beneficial owner of all of the shares listed above; however, Canyon Capital Advisors LLC expressly disclaims that it is, in fact, the beneficial owner of such securities.
(16) D. E. Shaw \& Co. L.P., as investment adviser, has voting and investment control over the securities owned by the selling stockholder named in the table. Julius Gaudio, Eric Wepsic, Maximilian Stone, Anne Dinning, and Lou Salkind, or their designees, exercise voting and investment control over the securities on D. E. Shaw \& Co. L.P.'s behalf.

Trafelet \& Company Advisors, LLC is the general partner to this selling stockholder. By reason of such relationship, Trafelet \& Company Advisors, LLC may be deemed to exercise dispositive power or investment control over the securities stated as beneficially owned by the selling stockholder. Remy W. Trafelet is the managing member of Trafelet \& Company Advisors, LLC. By reason of such relationship, Mr. Trafelet may be deemed to share dispositive power or investment control over the securities stated as beneficially owned by this selling stockholder.

Trafelet Capital Management, LP is the investment manager of this selling stockholder and consequently has investment discretion over securities held by this selling stockholder. Remy W. Trafelet is the managing member of Trafelet Capital Management, LP and therefore has ultimate investment discretion over securities held by this selling stockholder. Trafelet Capital Management, LP and Mr. Trafelet each disclaim beneficial ownership in the securities except to the extent of their pecuniary interest therein.
(19) Paul E. Singer, Elliott Capital Advisors, L.P., a Delaware limited partnership which is controlled by Mr. Singer, and Elliott Special GP, LLC, a Delaware limited liability company which is controlled by Mr. Singer, are the general partners of Elliott Associates, L.P.

Hambledon, Inc., a Cayman Islands corporation controlled by Paul E. Singer, is the sole general partner of Elliott International, L.P. In addition, Elliott International Capital Advisors Inc., the investment manager of Elliott International, L.P. which is controlled by Mr. Singer, has shared power with Elliott International, L.P. to vote and dispose of the shares owned by Elliott International, L.P.

As the general partner of the partnership (each such partnership being a "Farallon Partnership"), Farallon Partners, L.L.C. ("FPLLC"), may, for purposes of Rule 13d-3 under the Exchange Act, be deemed to beneficially own the shares beneficially owned by such Farallon Partnership. As managing members of FPLLC, each of William F. Duhamel, Richard B. Fried, Monica R. Landry, Douglas M. MacMahon, William F. Mellin, Stephen L. Millham, Jason E. Moment, Ashish H. Pant, Rajiv A. Patel, Derek C. Schrier, Andrew J.M. Spokes and Mark C. Wehrly and, as Senior Managing Member of FPLLC, Thomas F. Steyer (together, the "Farallon Managing Members") may, for purposes of Rule 13d-3 under the Exchange Act, be deemed to beneficially own the shares beneficially owned by such Farallon Partnership.

\section*{Table of Contents}
(22) All of the entities and individuals identified in these footnotes 21 and 23 disclaim group attribution. FPLLC, FCMLLC and each of the Farallon Managing Members disclaim any beneficial ownership of the shares owned by the Farallon Partnerships and/or Managed Account, as appropriate. The address for each of the above-mentioned entities and persons is c/o Farallon Capital Management, L.L.C., One Maritime Plaza, Suite 2100, San Francisco, CA 94111.
(23)

As the manager of Farallon Capital Offshore Investors, Inc. (the "Managed Account"), Farallon Capital Management, L.L.C. ("FCMLLC") may, for purposes of Rule 13d-3 under the Exchange Act, be deemed to beneficially own the shares beneficially owned by the Managed Account. As managing members and, in the case of Mr. Steyer, as Senior Managing Member, of FCMLLC, each of the Farallon Managing Members may, for purposes of Rule 13d-3 under the Exchange Act, be deemed to beneficially own the shares beneficially owned by the Managed Account.
(24) The entity is a registered investment fund (the "Fund") advised by Fidelity Management \& Research Company ("FMR Co."), a registered investment adviser under the Investment Advisers Act of 1940, as amended. FMR Co., 82 Devonshire Street, Boston, Massachusetts 02109, is a wholly-owned subsidiary of FMR Corp. and an investment adviser registered under Section 203 of the Investment Advisers Act of 1940.

Edward C. Johnson 3d, FMR Corp., through its control of FMR Co., and the Fund each has sole power to dispose of the Securities owned by the Fund.

Neither FMR Corp. nor Edward C. Johnson 3d, Chairman of FMR Corp., has the sole power to vote or direct the voting of the shares owned directly by the Fund, which power resides with the Fund's Board of Trustees.

The Fund is an affiliate of a broker-dealer. The Fund purchased the Securities in the ordinary course of business and, at the time of the purchase of the securities to be resold, the Fund did not have any agreements or understandings, directly or indirectly, with any person to distribute the notes or conversion shares.

The Fund does not intend to sell, transfer, assign, pledge or hypothecate or otherwise enter into any hedging, short sale, derivative, put or call transaction that would result in the effective economic disposition of the securities through an affiliated broker-dealer.
(25) The entity is an Ontario Mutual Fund Trust. Its trustee and manager is Fidelity Investments Canada Limited ("FICL"). FICL is advised by FMR Co. FMR Co. shares investment power over the notes and the conversion shares held by the selling stockholder with Mr. Edward C. Johnson 3rd. These holdings are as of April 28, 2008.

Fidelity International Limited ("FIL"), Pembroke Hall, 42 Crow Lane, Hamilton, Bermuda, and various foreign-based subsidiaries provide investment advisory and management services to these nonU.S. investment companies. FIL, which is a qualified institution under section 240.13d-1(b)(1) pursuant to an SEC No-Action letter dated October 5, 2000, is the beneficial owner of the Common Stock shares listed above.

A partnership controlled predominantly by members of the family of Edward C. Johnson 3d, Chairman of FMR Corp. and FIL, or trusts for their benefit, owns shares of FIL voting stock with the right to cast approximately \(38 \%\) of the total votes which may be cast by all holders of FIL voting stock. FMR Corp. and FIL are separate and independent corporate entities, and their Boards of Directors are generally composed of different individuals.

FMR Corp. and FIL are of the view that they are not acting as a "group" for purposes of Section 13(d) under the Exchange Act and that they are not otherwise required to attribute to each other the "beneficial ownership" of securities "beneficially owned" by the other corporation within the meaning of Rule 13d-3 promulgated under the Exchange Act. Therefore, they are of the view that the shares held by the other corporation need not be aggregated for purposes of Section 13(d).

None of the selling stockholders listed above has, or within the past three years has had, any position, office or other material relationship with the Company or any of its predecessors or affiliates.

Because the selling stockholders may offer all or some portion of the above referenced securities pursuant to this prospectus supplement or otherwise, no estimate can be given as to the amount or percentage of such securities that will be held by the selling stockholders upon termination of any such sale. In addition, the selling stockholders identified above may have sold, transferred or otherwise disposed of all or a portion of such securities since April 28, 2008 in transactions exempt from the registration requirements of the Securities Act of 1933. The selling stockholders may sell all, part or none of the securities listed above.
(26) Daniel S. Och as CEO of Oz Management, LP, the investment manager to the selling stockholder, may be deemed to have voting/investment control of the registerable securities held by the selling stockholder. His address is 9 West 57th Street, 39th floor, New York, NY 10019.
(27) Mason Capital Management, LLC is the investment manager and has shared investment and voting power with respect to these shares and, consequently, may be deemed to be a beneficial owner of such shares.
(28)

Maverick Capital, Ltd. is an investment adviser registered under Section 203 of the Investment Advisers Act of 1940 and, as such, may be deemed to have beneficial ownership of the shares held by Maverick Fund, L.D.C., Maverick Fund USA, Ltd., Maverick Fund II, Ltd., Maverick Neutral Fund, Ltd., Maverick Neutral Levered Fund, Ltd., Maverick Long Fund, Ltd., Maverick Long Enhanced Fund, Ltd. and UVIMCO II, LLC through the investment discretion it exercises over these accounts. Maverick Capital Management, LLC is the general partner of Maverick Capital, Ltd. Lee S. Ainslie III is the manager of Maverick Capital Management, LLC who possesses sole investment discretion pursuant to Maverick Capital Management, LLC’s regulations. The address for the entities affiliated with Maverick Capital, Ltd. is 300 Crescent Court, 18th Floor, Dallas, TX 75201.
(29) Meditor Group Limited serves as investment manager with power to direct investments and shared power to vote the shares owned by the selling stockholders to which this footnote applies. For purposes of reporting requirements of the Exchange Act, Meditor Group Limited may be deemed to be the beneficial owner of all of the shares listed above; however, Meditor Group Limited expressly disclaims that it is, in fact, the beneficial owner of such securities.
(30)

Norges Bank owns a total of 5,325,948 shares of common stock, of which 196,191 shares are in Norges Bank’s Foreign Exchange Reserves and 5,129,787 shares are in the Government Pension Fund - Global (including the 3,160,000 shares of common stock being registered hereby).

Norges Bank also confirms that it owns 1,342 shares of Series G Preferred Stock in the Government Pension Fund - Global.

Norges Bank serves as the operational manager with power to direct investments and sole power to vote the shares held for the benefit of the State of Norway’s Government Pension Fund - Global. For purposes of reporting requirements of the Exchange Act, Norges Bank may be deemed to be the beneficial owner of all of the shares listed above; however, Norges Bank expressly disclaims that it is, in fact, the beneficial owner of securities held for the State of Norway Government Pension Fund Global.
(31) Old Lane, LP, the investment manager to the selling stockholder, may be deemed to have voting/investment control of the registerable securities held by the selling stockholder.
(32) Certain management and administrative duties of this investment fund have been delegated by the general partner or investment adviser of such investment fund, as applicable, to JGD Management Corp., a Delaware corporation ("JGD"). Accordingly, JGD may be deemed to have beneficial ownership over the shares reported as held by such investment fund. The sole shareholder of JGD is James G. Dinan.
(33)

Pursuant to investment management agreements, each of S.A.C. Capital Advisors, LLC, a Delaware limited liability company ("SAC Capital Advisors") and S.A.C. Capital Management, LLC, a Delaware limited liability company ("SAC Capital Management"), share all investment and voting power with respect to the securities held by S.A.C. Arbitrage Fund, LLC and S.A.C. Capital Associates, LLC. Mr. Steven A. Cohen controls both SAC Capital Advisors and SAC Capital Management and as such may be deemed to beneficially own the securities held by S.A.C. Arbitrage Fund, LLC and S.A.C. Capital Associates, LLC.


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Each of SAC Capital Advisors, SAC Capital Management and Mr. Cohen disclaim beneficial ownership of any of the securities owned by S.A.C. Arbitrage Fund, LLC and S.A.C. Capital Associates, LLC.

Samlyn Capital, LLC ("Samlyn Capital") is the Investment Manager to Samlyn Offshore Ltd. Robert Pohly is the managing member of Samlyn Capital, and as such has investment power and voting control over these securities. Samlyn Capital and Mr. Pohly each disclaims beneficial ownership of these securities except to the extent of their pecuniary interest. The address of the selling shareholder is c /o Goldman Sachs (Cayman) Trust, Limited, Gardenia Court, Suite 3307, 45 Market Street, Camana Bay, P O Box 896, KY1-1103, Cayman Islands.
(35)

Samlyn Capital, LLC ("Samlyn Capital") is the Investment Manager to, and Samlyn Partners, LLC ("Samlyn Partners") is the General Partner of, Samlyn Onshore Fund, LP. Robert Pohly is the managing member of Samlyn Capital and Samlyn Partners, and as such has investment power and voting control over these securities. Samlyn Capital, Samlyn Partners and Mr. Pohly each disclaims beneficial ownership of these securities except to the extent of their pecuniary interest. The address of the selling shareholder is 527 Madison Avenue, 17th Floor, New York, New York 10022.
(36) Michael A. Roth and Brian J. Stark have voting and investment control over securities owned by the selling stockholder, but Messrs. Roth and Stark disclaim beneficial ownership of such securities.
(37)

The selling stockholder is an investment company registered under the Investment Company Act of 1940. Capital Research and Management Company, or CRMC, an investment adviser registered under the Investment Advisers Act of 1940, is the investment adviser to this selling stockholder. CRMC provides investment advisory services to this selling stockholder through its divisions Capital Research Global Investors, or CRGI, and Capital World Investors, or CWI. In that capacity, CRGI and CWI may be deemed to be the beneficial owner of certain shares held by this selling stockholder. Both CRGI and CWI, however, disclaim such beneficial ownership.
(38)

TPG-Axon Capital Management, LP ("TPG-Axon Management") as investment manager to TPGAxon Partners, LP ("TPG-Axon Domestic") and TPG-Axon Partners (Offshore), Ltd.("TPG-Axon Offshore"), has the power to direct the disposition and voting of the shares held by TPG-Axon Domestic and TPG-Axon Offshore. TPG-Axon Partners GP, LP ("PartnersGP") is the general partner of TPG-Axon Domestic. TPG-Axon GP, LLC ("GPLLC") is the general partner of PartnersGP and TPG-Axon Management. Dinakar Singh LLC ("Singh LLC") is a Managing Member of GPLLC. Mr. Dinakar Singh, an individual, is the Managing Member of Singh LLC and in such capacity may be deemed to control Singh LLC, GPLLC and TPG-Axon Management, and therefore may be deemed the beneficial owner of the securities held by TPG-Axon Domestic and TPG-Axon Offshore. Each of Singh LLC, GPLLC, PartnersGP and Mr. Singh disclaim beneficial ownership of all of the shares.
(39) LMM, LCC is the investment adviser of this selling stockholder and consequently has voting control and investment discretion over the shares held by this selling stockholder.

\section*{PLAN OF DISTRIBUTION}

This prospectus supplement may be used for resales from time to time by the selling stockholders set forth under "Selling Stockholders."

Subject to the restrictions described in this prospectus supplement, the securities being resold under this prospectus supplement may be resold from time to time in any of the following ways:
- with respect to the common stock, on the New York Stock Exchange or such other national security exchange on which our common stock is listed, in transactions that may include special offerings and exchange distributions pursuant to and in accordance with the rules of such exchange;
- in the over-the-counter market;
- in transactions otherwise than on an exchange or in the over-the-counter market, or in a combination of any such transactions;
- through the writing of options;
- through ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- through block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- through purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- in privately negotiated transactions;
- in short sales;
- through transactions in which broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- through a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

In connection with resales of the securities or otherwise, the selling stockholders may enter into hedging transactions with brokerdealers, which may in turn engage in short sales of the securities and deliver securities to close out such short positions, or loan or pledge common stock to broker-dealers that in turn may sell such securities. Such transactions may be effected by the selling stockholders at market prices prevailing at the time of sale, at prices related to such prevailing market prices, at negotiated prices or at fixed prices. The selling stockholders may effect such transactions by selling the securities to or through broker-dealers and such broker-dealers may receive compensation in the form of discounts or commissions from the selling stockholders and may receive commissions from the purchasers of the securities for whom they may act as agent (which discounts or commissions from the selling stockholders or such purchasers will not exceed those customary in the type of transactions involved).

Any broker-dealers that participate with the selling stockholders in the distribution of the securities may be deemed to be "underwriters" within the meaning of the Securities Act, and any commissions or discounts received by such broker-dealers and any profit on the resale of the securities by such broker-dealers might be deemed to be underwriting discounts and commissions under such act.

We are required to pay all fees and expenses incident to the registration of the Shares. We have agreed to indemnify the selling stockholders against certain losses, claims, damages and liabilities.

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\section*{EXPERTS}

The consolidated financial statements of National City appearing in National City's Annual Report (Form 10-K) for the year ended December 31, 2007, and the effectiveness of National City’s internal control over financial reporting as of December 31, 2007 have been audited by Ernst \& Young LLP, independent registered public accounting firm, as set forth in their reports thereon, included therein, and incorporated herein by reference. Such consolidated financial statements and National City management's assessment of the effectiveness of internal control over financial reporting are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

\author{
Senior Debt Securities \\ Subordinated Debt Securities
}

Junior Subordinated Debt Securities
Preferred Stock
Depositary Shares
Common Stock
Purchase Contracts
Units
Warrants
Guarantees
NATIONAL CITY PREFERRED CAPITAL TRUST I
NATIONAL CITY PREFERRED CAPITAL TRUST II NATIONAL CITY PREFERRED CAPITAL TRUST III

\section*{Normal Securities \\ Stripped Securities \\ Capital Securities}

Fully and unconditionally guaranteed by National City Corporation as
described in its applicable prospectus supplement
The securities listed above may be offered and sold by us and/or the Trusts, and/or may be offered and sold from time to time, by one or more selling security holders to be identified in the future. We will provide the specific terms of these securities in supplements to this prospectus. You should read this prospectus and the applicable prospectus supplement carefully before you invest in the securities described in the applicable prospectus supplement. This prospectus may not be used to consummate sales of securities unless accompanied by a prospectus supplement and a pricing supplement, if any.

The common stock of National City Corporation is traded on the New York Stock Exchange under the symbol "NCC".
Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy of this prospectus. Any representation to the contrary is a criminal offense in the United States.

These securities are unsecured and are not deposits and are not insured by the Federal Deposit Insurance Corporation or any other governmental agency.

This prospectus is dated January 18, 2008.

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Where You Can Find More Information & 1 \\
\hline Use of Proceeds & 2 \\
\hline Validity of Securities & 2 \\
\hline Experts & 2
\end{tabular}

\section*{ABOUT THIS PROSPECTUS}

This prospectus is a part of a registration statement that we and the Trusts filed with the Securities and Exchange Commission ("SEC") using a "shelf" registration process. Under this shelf registration statement, we may sell, either separately or together, senior debt securities, subordinated debt securities, junior subordinated debt securities, preferred stock, depositary shares representing interests in preferred stock, common stock, purchase contracts, units and warrants, in one or more offerings. The Trusts may sell normal securities, stripped securities and capital securities representing undivided beneficial interests in the Trusts, which may be guaranteed by National City, to the public.

Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read this prospectus and the applicable prospectus supplement together with the additional information described under the heading "Where You Can Find More Information."

The registration statement that contains this prospectus, including the exhibits to the registration statement, contains additional information about us and the securities offered under this prospectus. That registration statement can be read at the SEC website or at the SEC office mentioned under the heading "Where You Can Find More Information."

Unless the context requires otherwise, references to (1) "National City Corporation", "National City", the "Company", "we", "our", "ours" and "us" are to National City Corporation and its subsidiaries, and (2) the "Trusts" are to National City Preferred Capital Trust I, National City Preferred Capital Trust II and National City Preferred Capital Trust III, each of which is a Delaware statutory trust.

\section*{WHERE YOU CAN FIND MORE INFORMATION}

We file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any document that we file at the SEC’s public reference room at 100 F Street, N.E., Washington, D.C 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room. Our SEC filings are also available to the public from the SEC's website at http://www.sec.gov. Our SEC filings are also available at the offices of the New York Stock Exchange. For further information on obtaining copies of our public filings at the New York Stock Exchange, you should call (212) 656-5060.

The SEC allows us to incorporate by reference the information we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the following documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), until we or any underwriters sell all of the securities (other than Current Reports or portions thereof furnished under Item 2.02 or Item 7.01 of Form 8-K):
- Annual Report on Form 10-K for the year ended December 31, 2006;
- Quarterly Report on Form 10-Q for the quarters ended March 31, 2007; June 30, 2007 and September 30, 2007;
- Current Reports on Form 8-K filed on January 3, 2007, January 8, 2007, January 23, 2007, January 25, 2007, February 6, 2007, March 2, 2007, March 23, 2007, April 24, 2007, May 1, 2007, May 25, 2007, July 25, 2007, August 16, 2007, August 30, 2007, September 4, 2007, September 6, 2007, October 26, 2007, November 21, 2007, December 7, 2007 and December 18, 2007; and
- The description of our common stock, which is registered under Section 12 of the Securities Exchange Act, in our Form 8-A filed with the SEC on October 3, 1988, including any subsequently filed amendments and reports updating such description.

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You may request a copy of these filings, at no cost, by writing or telephoning us at the following address:

> National City Corporation
> 1900 East Ninth Street
> Cleveland, Ohio 44114

Attn: Investor Relations Department
(800) 622-4204

The Trusts have no separate financial statements. The statements would not be material to holders of the normal, stripped or capital securities because the Trusts have no independent operations.

Unless otherwise indicated, currency amounts in this prospectus and in any applicable prospectus supplement are stated in U.S. dollars.

You should rely only on the information contained or incorporated by reference in this prospectus and the applicable prospectus supplement. We have not authorized anyone else to provide you with additional or different information. We may only use this prospectus to sell securities if it is accompanied by a prospectus supplement. We are only offering these securities in jurisdictions where the offer is permitted. You should not assume that the information in this prospectus or the applicable prospectus supplement or any document incorporated by reference is accurate as of any date other than the dates of the applicable documents.

\section*{USE OF PROCEEDS}

We intend to use the net proceeds from the sales of the securities as set forth in the applicable prospectus supplement.

\section*{VALIDITY OF SECURITIES}

Unless otherwise indicated in the applicable prospectus supplement, certain legal matters will be passed upon for us by the National City Law Department and by Jones Day, New York, New York, our counsel. Richards, Layton \& Finger, P.A., Wilmington, Delaware, special Delaware counsel for the Trusts, will pass on certain legal matters for the Trusts. The National City Law Department and Jones Day will rely on the opinion of Richards, Layton \& Finger, P.A., Wilmington, Delaware as to matters of Delaware law regarding the Trusts. Any underwriters will be represented by their own legal counsel.

\section*{EXPERTS}

The consolidated financial statements of National City appearing in National City's Annual Report (Form 10-K) for the year ended December 31, 2006, and National City management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2006, included therein, have been audited by Ernst \& Young LLP, independent registered public accounting firm, as set forth in their reports thereon, included therein, and incorporated herein by reference. Such consolidated financial statements and management's assessment are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

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No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus supplement. You must not rely on any unauthorized information or representations. This prospectus supplement is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus supplement is current only as of its date.

\footnotetext{
Created by 10KWizard www.10KWizard.comSource: NATIONAL CITY CORP, 424B2, May 16, 2008
}

From:
Sent:
To:
Cc:
Subject:
Attachments:

McCormick, Tim
Friday, December 12, 2008 6:15 PM
Edwards, Amy K.
Caglio, Cecilia; Overdahl, James
NCC
NATIONALCITYCOR424B2.rtf

Amy,
You were right about this April 2008 issuance that started all the problems for NCC shareholders (at least in terms of dilution and potentially price pressure from short selling) being the Preferred Series G that later converted into 1.3 billion common shares in Sept 2008. The bank needed money and the buyers got a deal where they effectively bought stock for \(\$ 5\) per share with downside protection such that they would get back \(\$ 5\) in value regardless of the stock price (effectively a "unit" that included common stock + a put for \(\$ 5\) a share). There were some death spiral characteristics of the preferred stock if not converted within 6 months (conversion price declined by 50 cents every 6 months) but it wasn't really a death spiral because the conversion price was not dependent on future market price. Anyway, it seems like the company intended ( \(\&\) did) force conversion within 6 months whereas a true death spiral manipulation would have had to prevent conversion within 6 months to potentially yield "control" gains.

The attached document says:
"Any sales in the public market of our common stock issuable upon the conversion of the Series G Preferred Stock or the exercise of the Warrants could adversely affect prevailing market prices of the outstanding shares of our common stock and the Series G Preferred Stock. In addition, the existence of our Series G Preferred Stock and the Warrants may encourage short selling or arbitrage trading activity by market participants because the conversion of our Series G Preferred Stock or the exercise of the Warrants could depress the price of our equity securities."

Also, the supplement at the end implies that the buyers were allowed to hedge their long positions via short sales so now I am starting to get a clearer picture of why short selling and fails may have been high, particularly leading up to the preferred stock conversion. Anyone who hedged their preferred stock position by shorting the common stock knew that they'd get the common stock they needed to deliver upon conversion. There were many, many buyers so it is likely that some, if not many, were short selling post-April issuance. It would be very interesting to see how many of these institutional buyers reduced or eliminated their economic position before conversion to see if the issuance was effective at placing shares in the hands of long term investors. There is certainly the possibility that some institutional buyers did not intend to be long term holders (maybe they just wanted to capture the issuance discount) so there could have been a failure in the placement of the offering that contributed to the decline in stock price.

By the way, what is a bit eye-opening is that I downloaded this document directly from the NCC investor web site but the people bringing the accusations of short seller wrongdoing clearly did not read this document.

\section*{Tim McCormick}

Office of Economic Analysis
U.S. Securities and Exchange Commission

100 F Street NE

Washington, DC 20549-9040
(202) 551-6633

Form 424B2
NATIONAL CITY CORP - ncc

Filed: May 16, 2008 (period: )
Form of prospectus filed in connection with primary offering of securities on a delayed basis

\section*{CALCULATION OF REGISTRATION FEE}
\begin{tabular}{|l|c|c|c|c|}
\hline \begin{tabular}{l} 
Title of Each Class of \\
Securities to Be Registered
\end{tabular} & \begin{tabular}{c} 
Amount to Be \\
Registered
\end{tabular} & \begin{tabular}{c} 
Proposed Maximum \\
Offering Price per \\
Unit
\end{tabular} & \begin{tabular}{c} 
Proposed Maximum \\
Aggregate Offering \\
Price
\end{tabular} & \begin{tabular}{c} 
Amount of \\
Registration Fee
\end{tabular} \\
\hline Preferred Stock, Series G & 51,340 & \(\$ 100,000.00(1)\) & \(5,134,000,000.00(1)\) & \(\$ 201,766.20(1)\) \\
\hline Common Stock, no par value & \(126,200,000\) & \(\$ 5.88(2)\) & \(\$ 742,056,000(2)\) & \(\$ 29,162.80(2)\) \\
\hline \begin{tabular}{l} 
Common Stock, no par value, \\
issuable upon conversion of \\
Series G Preferred Stock
\end{tabular} & \(1,026,800,000\) & not applicable(3) & not applicable(3) & not applicable(3) \\
\hline Total & & & & \\
\hline
\end{tabular}
(1)

Calculated pursuant to Rule 457(i) under the Securities Act of 1933, as amended. Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(c) under the Securities Act of 1933, as amended, based on the average of the high and low prices of the common stock
(2)
on May 14, 2008, as reported on the New York Stock Exchange. Pursuant to Rule 457(i) under the Securities Act of 1933, as amended, the registration fee shall be calculated only on the basis of the price of the convertible securities, and, therefore, the underlying common stock issuable upon the conversion of the preferred stock shall not be included for purposes of
(3) calculating the registration fee.

Prospectus Supplement to Prospectus dated January 18, 2008
National City
Corporation
National City Corporation
Common Stock
Series G Contingent Convertible Perpetual Non-Cumulative Preferred Stock
This prospectus supplement relates to resales of up to \(1,153,000,000\) shares of our common stock, no par value, and up to 51,340 shares of Series G Contingent Convertible Perpetual Non-Cumulative Preferred Stock, referred to as the Series G Preferred Stock, and together with the common stock, the "securities." The securities may be resold from time to time by and for the accounts of certain selling stockholders named in this prospectus supplement.

The methods of resale of the securities offered hereby are described under the heading "Plan of Distribution." We will receive none of the proceeds from such resales.

Our common stock is listed on the New York Stock Exchange under the symbol "NCC." The last reported sale price of the common stock on May 15, 2008 was \(\$ 5.81\) per share.

The Series G Preferred Stock is mandatorily convertible into shares of common stock on the fifth business day after which (i) we have received the approval by the holders of our common stock of each of (A) the amendment of our amended and restated certificate of incorporation (our "Certificate of Incorporation") to increase the number of authorized shares of common stock to at least such number as shall be sufficient to permit full conversion of the Series G Preferred Stock into common stock and (B) the conversion of the Series G Preferred Stock into common stock for purposes of Section 312.03 of the NYSE Listed Company Manual and (ii), with respect to a holder who is required to obtain any applicable regulatory approval, such holder has received such approval. The Series G Preferred Stock is initially convertible into shares of common stock at a rate of \(\$ 5.00\) per share of common stock, subject to antidilution adjustments; provided, however, the conversion price shall be reduced by \(\$ 0.50\) at the end of each six-month period following the original issue date if the Stockholder Approvals have not been obtained, up to a maximum reduction of \$2.00.

Dividends on the Series G Preferred Stock are payable on a non-cumulative basis, when, as and if declared by our board of directors, in cash, on an as-converted basis. Initially, if our board declares a dividend on our common stock, then it is required to declare a dividend on the Series G Preferred Stock in an amount per share equal to the per share common stock dividend times the number of shares into which the shares of Series G Preferred Stock is then convertible. If the Series G Preferred Stock has not been converted into shares of common stock by September 30, 2008, it will begin to accrue non-cumulative dividends commencing with the dividend period relating to the dividend payment date on December 31, 2008 at an annual rate of \(14 \%\) of the liquidation preference of the Series G Preferred Stock; this rate will further increase to \(15.5 \%\) of the liquidation preference commencing with the dividend period relating to the dividend payment date on March 31, 2009, and to \(17 \%\) of the liquidation preference commencing with the dividend period relating to the dividend payment date on September 30, 2009 (the "Special Dividend"). However, in any event, dividends on the Preferred Stock will always be paid at the higher of the Special Dividend rate and the dividend rate payable on an asconverted basis on the common stock during the applicable dividend period.

The Series G Preferred Stock is not redeemable by the holders, but may be redeemed by the Company beginning on April 29,

2013 at a redemption price per share equal to the greater of (i) \(125 \%\) of the liquidation preference and (ii) the average of the closing prices of the common stock for the ten trading days ending on the sixth trading day prior to the date of redemption multiplied by the number of shares of common stock into which one share of Series G Preferred Stock would be convertible on such date if such shares of Series G Preferred Stock were converted on that date following receipt of the stockholder approvals described above, together with ( x ) an amount equal to any dividends that have been declared but not paid prior to the redemption date and (y) an amount equal to any dividends for periods after such issuance for which dividends were not declared and paid prior to the redemption date.

Prior to resales by use of this prospectus supplement, there has been no public market for the Series G Preferred Stock.
The selling stockholders may sell the securities on the open market at market prices in ordinary broker transactions or in negotiated transactions, and they may pay broker commissions in connection with such transactions. The selling stockholders and any broker dealer executing sell orders on behalf of or purchasing from the selling stockholders may be deemed to be an "underwriter" within the meaning of the Securities Act of 1933 (the "Securities Act"). Commissions received by any such broker dealer may be deemed to be underwriting commissions or discounts under the Securities Act.

The securities are not savings accounts, deposits or other obligations of any bank and are not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency.

Investing in the securities involves risks. See "Risk Factors" on page S-6 of this prospectus supplement to read about factors you should consider before buying securities.

Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement. Any representation to the contrary is a criminal offense.

May 16, 2008.

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\section*{ABOUT THIS PROSPECTUS SUPPLEMENT}

This prospectus supplement is part of a "shelf" registration statement that we have filed with the Securities and Exchange Commission (the "SEC"). By using a shelf registration statement, certain selling stockholders may resell, at any time and from time to time, in one or more offerings, any combination of the securities described in this prospectus supplement. The exhibits to our registration statement contain the full text of certain contracts and other important documents we have summarized in this prospectus supplement. Because these summaries may not contain all the information that you may find important in deciding whether to purchase the securities offered, you should review the full text of these documents. The registration statement and the exhibits can be obtained from the SEC as indicated under the heading "Where You Can Find More Information" in the accompanying prospectus.

This document consists of two parts. The first part is the prospectus supplement, which describes the specific terms of this offering. The second part is the prospectus, which describes more general information, some of which may not apply to this offering. You should read both this prospectus supplement and the accompanying prospectus, together with additional information described under the heading "Where You Can Find More Information" in the accompanying prospectus.

Unless otherwise mentioned or unless the context requires otherwise, all references in this prospectus supplement to " National City ", " we ", " us ", " our ", " the Company" or similar references mean National City Corporation and its successors and references to "National City Bank" mean National City Bank or its successor.

If the information set forth in this prospectus supplement differs in any way from the information set forth in the accompanying prospectus, you should rely on the information set forth in this prospectus supplement and any pricing supplement.

Unless otherwise indicated, currency amounts in this prospectus supplement are stated in U.S. dollars.
You should rely only on the information contained in or incorporated by reference into this prospectus supplement. This prospectus supplement may be used only for the purpose for which it has been prepared. No one is authorized to give information other than that contained in this prospectus supplement and in the documents referred to in this prospectus supplement and which are made available to the public. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it.

We and the selling stockholders are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information appearing in this prospectus supplement, any accompanying pricing supplement or any document incorporated by reference is accurate as of any date other than the date of the applicable document. Our business, financial condition, results of operations and prospects may have changed since that date. Neither this prospectus supplement nor the accompanying prospectus constitutes an offer, or an invitation on our behalf or on behalf of the selling stockholders, to subscribe for and purchase, any of the securities and may not be used for or in connection with an offer or solicitation by anyone, in any jurisdiction in which such an offer or solicitation is not authorized or to any person to whom it is unlawful to make such an offer or solicitation.

\section*{FORWARD-LOOKING STATEMENTS}

This prospectus supplement and the accompanying prospectus contain or incorporate by reference forward-looking statements. Forward-looking statements, written or oral, provide current expectations or forecasts of future events and are not guarantees of future performance, nor should they be relied upon as representing management's views as of any subsequent date. The forward-looking statements are based on management's expectations and are subject to a number of risks and uncertainties. Although management believes that the expectations reflected in such forward-looking statements are reasonable, actual results may differ materially from those expressed or implied in such statements.

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Risks and uncertainties that could cause actual results to differ materially include, without limitation, our ability to effectively execute our business plans; changes in general economic and financial market conditions, including the stock market, and residential and commercial real estate markets; changes in interest rates; Visa indemnification obligations; changes in the competitive environment; continuing consolidation in the financial services industry; new litigation or changes in existing litigation; losses, customer bankruptcies, claims and assessments; changes in banking regulations or other regulatory or legislative requirements affecting our business; and changes in accounting policies or procedures as may be required by the Financial Accounting Standards Board or other regulatory agencies.

Additional information concerning factors that could cause actual results to differ materially from those expressed or implied in forward-looking statements is available in our annual report on Form 10-K for the year ended December 31, 2007, and subsequent filings with the SEC. Copies of these filings are available at no cost on the SEC's Web site at www.sec.gov or on our Web site at www.nationalcity.com. We are not incorporating any information from our Web site into this prospectus supplement or the accompanying prospectus. Management may elect to update forward-looking statements at some future point; however, it specifically disclaims any obligation to do so.

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\section*{SUMMARY}

This summary highlights information contained elsewhere in, or incorporated by reference into, this prospectus supplement. As a result, it does not contain all of the information that may be important to you or that you should consider before investing in the securities. You should read carefully this entire prospectus supplement and accompanying prospectus, including the "Risk Factors" section and the documents incorporated by reference, which are described under "Where You Can Find More Information" in the accompanying prospectus.

\section*{National City Corporation}

National City Corporation is a financial holding company headquartered in Cleveland, Ohio. National City operates through an extensive distribution network in Ohio, Florida, Illinois, Indiana, Kentucky, Michigan, Missouri, Pennsylvania and Wisconsin, and also conducts selected consumer lending and other financial services businesses on a nationwide basis. National City's primary businesses include commercial and retail banking, mortgage financing and servicing, consumer finance and asset management. Operations are primarily conducted through more than 1,400 branch banking offices located within a nine-state footprint and over 380 wholesale and retail mortgage offices located throughout the United States. Including its subsidiaries, National City had 30,804 full-time-equivalent employees at March 31, 2008. As of March 31, 2008, National City's consolidated total assets were approximately \(\$ 155.0\) billion and its total stockholders' equity was approximately \(\$ 13.2\) billion. Based on asset size, National City is one of the largest commercial banking organizations in the United States.

National City's principal banking subsidiary is National City Bank. National City is a legal entity separate and distinct from National City Bank and National City’s other subsidiaries.

Our common stock is traded on the New York Stock Exchange under the ticker symbol "NCC." Our principal executive offices are located at 1900 East Ninth Street, Cleveland, Ohio 44114. Our telephone number is (216) 222-2000.

\section*{Recent Developments}

During the last several months our board of directors and management determined that it would be prudent to engage in a strategic transaction or to seek substantial additional capital in order to provide us with financial flexibility to address the asset quality challenges posed by the disruptions in the credit and housing markets, to continue investing in our core businesses and to maintain our capital ratios at well above previous target levels. The board of directors also concluded that in light of a variety of factors, including capital markets volatility, rating agency actions and general economic uncertainties, it was important that any process to raise additional capital be executed promptly and with a high degree of certainty of completion. After exploring and considering a broad range of potential financing and other alternatives, our board of directors determined that the equity investment transactions described below was the most effective means to address our needs on a prompt basis.

On April 21, 2008, we announced that we had entered into agreements to raise approximately \(\$ 7\) billion in the aggregate through the sales of equity securities to an investment vehicle managed by an affiliate of Corsair Capital LLC and to other institutional investors ("Institutional Investors").

In the offering, we sold approximately 126.2 million shares of our common stock and 63,690 shares of Series G Preferred Stock, and we also issued warrants (the "Warrants"), to certain investors to purchase shares of our common stock. Upon approval by our stockholders of (A) the amendment of our Certificate of Incorporation to increase the number of authorized shares of common stock to at least such number as shall be sufficient to permit full conversion of the Series G Preferred Stock into common stock and permit full exercise of the Warrants for common stock, (B) the conversion of the Series G Preferred Stock into common stock for purposes of Section 312.03 of the NYSE Listed Company Manual and (C) the exercise of the Warrants for common stock for purposes of Section 312.03 of the NYSE Listed Company Manual (the "Stockholder Approvals"), as well as satisfaction of regulatory conditions to the extent applicable, the Series G Preferred

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Stock will automatically convert into approximately 1.274 billion shares of our common stock and the Warrants will become exercisable for approximately 61.75 million shares of our common stock. The shares of common stock were sold at a price of \(\$ 5.00\) per share, the preferred stock is convertible into shares of common stock at \(\$ 5.00\) per share (subject to adjustment) and the Warrants are exercisable at \(\$ 7.10\) per share of common stock (subject to adjustment).

\section*{The Resales}
Issuer
Securities Offered by Selling
Stockholders

Listing

Use of Proceeds

Risk Factors

Dividends

National City Corporation, a Delaware corporation.
Up to \(1,153,000,000\) shares of common stock, par value \(\$ 4.00\) per share.

Up to 51,340 shares of Series G Non-Cumulative Perpetual Preferred Stock without par value.

Our common stock is listed on the New York Stock Exchange under the symbol "NCC."

Our Series G Preferred Stock is not listed on any national securities exchange and, prior to resale by use of this prospectus supplement, there has been no public market for the Series G Preferred Stock.

We will not receive any proceeds from the resale of the shares by the selling stockholders.

For a discussion of risks and uncertainties involved with an investment in our common stock or the Series G Preferred Stock, see "Risk Factors" beginning on page S-6 of this prospectus supplement.

For information relating to dividends declared per share of common stock, see "Common Stock Price Range and Dividends" on page S-11 of this prospectus supplement.

Holders of Series G Preferred Stock are entitled to receive, when, as and if declared by our board of directors, non-cumulative cash dividends in the amount determined as set forth below. Initially, if our board of directors declares and pays a cash dividend in respect of any shares of common stock, then the board of directors is required to declare and pay to the holders of the Series G Preferred Stock a cash dividend in an amount per share of Series G Preferred Stock equal to the product of (i) the per share dividend declared and paid in respect of each share of common stock and (ii) the number of shares of common stock into which such share of Series G Preferred Stock is then convertible, assuming receipt of the Stockholder Approvals and any applicable regulatory approvals.

Commencing with the dividend period ending on December 31, 2008, in lieu of the dividends provided for in the preceding paragraph, dividends will be payable quarterly in arrears on March 31, June 30, September 30 and December 31 of each year. If the Series G Preferred Stock has not been converted into shares of common stock by September 30, 2008, it will begin to accrue non-cumulative dividends commencing with the dividend period relating to the dividend payment date on December 31, 2008 at an annual rate of \(14 \%\) of the liquidation preference of the Series G

Dividend Stopper

Repurchase of Junior Securities

Redemption

Preferred Stock; this rate will further increase to \(15.5 \%\) of the liquidation preference commencing with the dividend period relating to the dividend payment date on March 31, 2009, and to \(17 \%\) of the liquidation preference commencing with the dividend period relating to the dividend payment date on September 30, 2009. Notwithstanding the foregoing sentence, dividends on the Series G Preferred Stock will always be paid at the higher of the Special Dividend rate and the dividend rate payable on an asconverted basis on the common stock during the applicable dividend period.

Dividends on the Series G Preferred Stock are non-cumulative. If the board of directors does not declare a dividend on the Series G Preferred Stock in respect of any dividend period, the holders will have no right to receive any dividend for that dividend period, and we will have no obligation to pay a dividend for that dividend period.

Subject to limited exceptions, if full quarterly dividends payable on all outstanding shares of the Series G Preferred Stock for any dividend period have not been declared and paid, we will not be permitted to declare or pay dividends with respect to, or redeem, purchase or acquire, any of our junior securities during the next succeeding dividend period.

For as long as the Series G Preferred Stock is outstanding, we are prohibited from redeeming, purchasing or acquiring any shares of common stock or other junior securities, subject to limited exceptions.

The Series G Preferred Stock is not redeemable by the holders, but may be redeemed by the Company beginning on April 29, 2013 at a redemption price per share equal to the greater of (i) \(125 \%\) of the liquidation preference and (ii) the average of the closing prices of the common stock for the ten trading days ending on the sixth trading day prior to the date of redemption multiplied by the number of shares of common stock into which one share of Series G Preferred Stock would be convertible on such date if such shares of Series G Preferred Stock were converted on that date following receipt of the Stockholder Approvals relating to the Series G Preferred Stock, together with (x) an amount equal to any dividends that have been declared but not paid prior to the redemption date and (y) an amount equal to any dividends for periods after such issuance for which dividends were not declared and paid prior to the redemption date.
\begin{tabular}{ll} 
Maturity & \begin{tabular}{l} 
The Series G Preferred Stock is perpetual, meaning it has no \\
fixed maturity date.
\end{tabular} \\
Mandatory Conversion & \begin{tabular}{l} 
The Series G Preferred Stock is mandatorily convertible into \\
shares of common stock on the fifth business day after which the \\
Stockholder Approvals relating to the Series G Preferred Stock \\
have been received. The number of shares of common stock into \\
which a share of Series G Preferred Stock will be convertible
\end{tabular} \\
will be determined by dividing the liquidation preference by the \\
then applicable conversion price. No fractional shares of \\
common stock will be issued. Upon conversion, cash will be \\
paid in lieu of fractional
\end{tabular}

\author{
Anti-Dilution Adjustments
}

Reorganization Events (Including Mergers)
shares based on the closing price of the common stock determined as of the second trading day immediately preceding the date of the mandatory conversion.

The Series G Preferred Stock is convertible into shares of common stock initially at the conversion price of \(\$ 5.00\) per share of common stock. The conversion price of the Series G Preferred Stock will be reduced by \(\$ 0.50\) at the end of each six-month period following the date of issuance of the Series G Preferred Stock if the Stockholder Approvals relating to the Series G Preferred Stock have not been obtained, up to a maximum reduction of \$2.00.

The conversion price of the Series G Preferred Stock may be adjusted in the event of, among other things, (1) subdivisions, splits and combinations of the common stock, (2) dividends or distributions in common stock, debt, capital stock or other assets, (3) issuances to all holders of our common stock of stock purchase rights or warrants, (4) increases in cash dividends or (5) certain self tender offers for common stock. See "Description of National City Capital Stock - Description of the Series G Preferred Stock - Anti-Dilution Adjustments."

If we enter into a transaction constituting a consolidation or merger of National City or similar transaction or any sale or other transfer of all or substantially all of the consolidated assets of National City and its subsidiaries, taken as a whole (in each case pursuant to which our common stock will be converted into cash, securities or other property) or for certain reclassifications or exchanges of our common stock, then each share of Series G Preferred Stock will convert, effective on the day on which such share would automatically convert into common stock, into the securities, cash and other property receivable in the transaction by the holder of the greater of (1) the number of shares of common stock into which such share of Series G Preferred Stock would then be convertible, assuming receipt of any applicable regulatory approval and (2) the number of shares of common stock for which the fair market value of the securities, cash or other property receivable in the transaction in respect of such shares equals \(\$ 100,000\). The Company shall not enter into any agreement for a transaction described in this section unless such agreement provides for or does not interfere with or prevent (as applicable) conversion of the Series G Preferred Stock in a manner that is consistent with this section. See "Description of National City Capital Stock -Description of the Series G Preferred Stock - Reorganization Events."

Liquidation Rights
In the event we voluntarily or involuntarily liquidate, dissolve or wind up, the holders of the Series G Preferred Stock will be entitled to the greater of (1) \(\$ 100,000\) and (2) an amount equal to the liquidation amount payable on an as-converted basis on the number of shares of common stock into which such shares of Series G Preferred Stock could have been converted on a date at least ten business days before the first liquidating distribution is made on the Series G Preferred Stock, plus any declared but unpaid dividends.

Voting Rights

Ranking

Preemptive Rights
Certain United States Federal Income Tax Considerations

In the event our assets available for distribution to stockholders upon any liquidation, dissolution or winding-up of our affairs, whether voluntary or involuntary, are insufficient to pay in full the amounts payable with respect to all outstanding shares of the Series G Preferred Stock and the corresponding amounts payable on any parity securities, holders of Series G Preferred Stock and the holders of parity securities will share ratably in any distribution of our assets in proportion to the full respective liquidating distributions to which they would otherwise be respectively entitled.

Except as set forth below under "Description of National City Capital Stock -Description of the Series G Preferred Stock Voting Rights," holders of Series G Preferred Stock will not have any voting rights, including the right to elect any directors.

The Series G Preferred Stock, with respect to dividend rights and rights on liquidation, winding-up and dissolution, ranks on a parity with our other authorized series of preferred stock and with each other class or series of preferred stock, established after the date of issuance of the Series G Preferred Stock, the terms of which do not expressly provide that such class or series will rank senior or junior to the Series G Preferred Stock as to dividend rights and rights on liquidation, winding-up and dissolution of the Company. The Series G Preferred Stock ranks senior to the common stock, and each other class or series of capital stock outstanding or established after the date of issuance of the Series G Preferred Stock by the Company the terms of which expressly provide that it ranks junior to the Series G Preferred Stock as to dividend rights and rights on liquidation, winding-up and dissolution.

None.
For a discussion of certain U.S. federal income tax considerations of purchasing, owning and disposing of the securities are described in "Certain U.S. Federal Income Tax Considerations."

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\section*{RISK FACTORS}

An investment in our securities is subject to certain risks. You should carefully consider the risks described below, as well as the other information included or incorporated by reference into this prospectus supplement, including our financial statements and the notes thereto, before making an investment decision.

\section*{Risks Relating to Offerings by the Selling Stockholders}

We are a holding company and our ability to pay dividends on the securities will depend upon the operations of our subsidiaries.
We are a separate and distinct legal entity from our banking and non-banking subsidiaries and depend on dividends, distributions and other payments from our banking and non-banking subsidiaries to fund dividend payments on our common stock and our preferred stock and to fund all payments on our other obligations, including dividend payments. Many of our subsidiaries are subject to laws that authorize regulatory bodies to block or reduce the flow of funds from those subsidiaries to us. Regulatory action of that kind could impede access to funds we need to make payments on our obligations or dividend payments. Additionally, if our subsidiaries' earnings are not sufficient to make dividend payments to us while maintaining adequate capital levels, we may not be able to make dividend payments to our common or preferred stockholders. Furthermore, our right to participate in a distribution of assets upon a subsidiary's liquidation or reorganization is subject to the prior claims of the subsidiary's creditors.

\section*{We are subject to restrictions on paying cash dividends.}

Holders of the securities are only entitled to receive such dividends as our board of directors may declare out of funds legally available for such payments. Furthermore, holders of our common stock are subject to the prior dividend rights of any holders of our preferred stock or depositary shares representing such preferred stock then outstanding. As of March 31, 2008, 70,272 shares of preferred stock, Series D, were issued and outstanding; no shares of preferred stock, Series E, were issued and outstanding; and 1,500 shares of preferred stock, Series F, were issued and outstanding. Although we have historically declared cash dividends on our common stock, we are not required to do so and may further reduce or eliminate our common stock dividend in the future. This could adversely affect the market price of the securities.

In addition, any other financing agreements that we enter into in the future may limit our ability to pay cash dividends on our capital stock, including the securities. In the event that any other financing agreements in the future restrict our ability to pay dividends in cash on the securities, we may be unable to pay dividends in cash on the securities unless we can refinance amounts outstanding under those agreements.

\section*{Dividends on the securities are non-cumulative.}

Dividends on the securities are non-cumulative. Consequently, if our board of directors does not authorize and declare a dividend for any dividend period, holders of the securities will not be entitled to receive a dividend for such period, and such undeclared dividend will not accrue and be payable. We will have no obligation to pay dividends for a dividend period after the dividend payment date for such period if our board of directors has not declared such dividend before the related dividend payment date, whether or not dividends are declared for any subsequent dividend period with respect to the securities. Our board of directors may determine that it would be in our best interest to pay less than the full amount of the stated dividends on the securities or no dividend for any quarter even if funds are available. Factors that would be considered by our board of directors in making this determination are our financial condition and capital needs, the impact of current and pending legislation and regulations, economic conditions, tax considerations and such other factors as our board of directors may deem relevant.

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\section*{The market price of our common stock may be volatile, which will also affect the market price of the Series G Preferred Stock.}

We cannot predict how the shares of our common stock will trade in the future. In addition, to the extent that a secondary market for the Series G Preferred Stock develops, we believe that the market price of the Series G Preferred Stock will be significantly affected by the market price of our common stock. This may result in greater volatility in the market price of the Series G Preferred Stock than would be expected for nonconvertible preferred stock. From January 1, 2005 to May 15, 2008 the reported high and low sales prices for our common stock ranged from a low of \(\$ 5.77\) per share to a high of \(\$ 10.80\) per share. The market price of our common stock will likely continue to fluctuate in response to a number of factors including, without limitation, the following:
- weakness in the real estate market, including the secondary residential loan markets, has adversely affected us and may continue to do so;
- our real estate portfolios are exposed to weakness in the U.S. housing markets and the overall state of the economy;
- the residential mortgage loan market and business have adversely affected our credit ratings;
- the allowance for loan losses may prove inadequate or be negatively affected by credit risk exposures;
- we could experience difficulties in managing growth and effectively integrating acquisitions;
- if we do not adjust to rapid changes in the financial services industry, our financial performance may suffer;
- future governmental regulation and legislation could limit future growth;
- changes in interest rates could reduce income and cash flows; and
- our results of operations and ability to make distributions to securities holders depend upon the results of operations of our subsidiaries.
The market price of our common stock may also be affected by market conditions affecting the stock markets in general, including, without limitation, changes in general economic, financial and other market conditions; changes in securities analysts’ estimates of financial performance; volatility of securities market prices and volumes; rumors or erroneous information; changes in market valuations of similar companies; changes in interest rates; new developments or exceptions regarding the financial services banking industry; changes in quarterly or annual operation results or outlook; changes in competitive conditions; continuing consolidation in the financial services industry; new litigation or changes in existing litigation; regulatory actions and changes in rules or policies; changes in accounting policies and procedures; losses and customer bankruptcies, claims and assessments. These conditions may result in (i) volatility in the level of, and fluctuations in, the market prices of stocks generally and, in turn, our common stock and (ii) sales of substantial amounts of our common stock in the market, in each case that could be unrelated or disproportionate to changes in our operating performance. These broad market fluctuations may adversely affect the market prices of our common stock, and, in turn, the Series G Preferred Stock.

In addition, we expect that the market price of the Series G Preferred Stock will be influenced by yield and interest rates in the capital markets, our creditworthiness and the occurrence of events affecting us that do not require an adjustment to the conversion price.

\section*{There may be future sales or other dilution of our equity, which may adversely affect the market price of our common stock or the Series G Preferred Stock.}

We are not restricted from issuing additional common stock or preferred stock, including any securities that are convertible into or exchangeable for, or that represent the right to receive, common stock or preferred stock or any substantially similar securities. The market price of our common stock or preferred stock could

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decline as a result of sales of a large number of shares of common stock or preferred stock or similar securities in the market after this or the perception that such sales could occur.

Each share of Series G Preferred Stock will be mandatorily converted into shares of our common stock, subject to anti-dilution adjustments, once the Stockholder Approvals and any applicable regulatory approvals are received. The conversion of the Series G Preferred Stock will dilute the ownership interest of our existing common stockholders. The dilutive effect of the conversion of the Series G Preferred Stock will increase if the conversion price is reduced because the Stockholder Approvals have not been obtained within certain timeframes as described below under "Description of National City Capital Stock - Description of the Series G Preferred Stock - Mandatory Conversion." Additional dilution will result upon the exercise of the Warrants. The dilutive effect of the exercise of the Warrants will increase if the exercise price is reduced because (i) the Stockholder Approvals have not been obtained within certain time frames as described below under "Description of National City Capital Stock - Description of the Warrants - Exercise Price" or (ii) we issue or sell, or agree to issue or sell, more than \(\$ 300\) million of equity or equity-linked securities, other than certain permitted issuances, for consideration per share less than the \(\$ 5.00\) as described under "Description of Capital Stock - Description of the Warrants - Anti-Dilution and Other Provisions."

Any sales in the public market of our common stock issuable upon the conversion of the Series G Preferred Stock or the exercise of the Warrants could adversely affect prevailing market prices of the outstanding shares of our common stock and the Series G Preferred Stock. In addition, the existence of our Series G Preferred Stock and the Warrants may encourage short selling or arbitrage trading activity by market participants because the conversion of our Series G Preferred Stock or the exercise of the Warrants could depress the price of our equity securities.

\section*{The issuance of additional preferred or common shares could adversely affect the rights of holders of common stock, which may negatively impact your investment in the common stock or Series G Preferred Stock.}

Our board of directors is authorized to issue additional shares of common stock and additional classes or series of preferred stock without any action on the part of the stockholders. The board of directors also has the power, without stockholder approval, to set the terms of any such classes or series of preferred stock that may be issued, including voting rights, dividend rights and preferences over the common stock with respect to dividends or upon the liquidation, dissolution or winding up of our business and other terms. If we issue preferred shares in the future that have a preference over the common stock with respect to the payment of dividends or upon liquidation, dissolution or winding up, or if we issue preferred shares with voting rights that dilute the voting power of the common stock, the rights of holders of the common stock or the market price of the common stock could be adversely affected. As noted above, a decline in the market price of the common stock may negatively impact the market price for the Series G Preferred Stock.

\section*{Holders of the Series G Preferred Stock will have no rights as holders of common stock until they acquire the common stock.}

Until the conversion of shares of Series G Preferred Stock into common stock, holders will have no rights with respect to the common stock, including voting rights (except as described under "Description of National City Capital Stock - Description of the Series G Preferred Stock - Voting Rights" and as required by applicable state law), rights to respond to tender offers and rights to receive any dividends or other distributions on the common stock, but an investment in our Series G Preferred Stock may be negatively affected by these events. Upon conversion, you will be entitled to exercise the rights of a holder of common stock only as to matters for which the record date occurs on or after the applicable conversion date. For example, in the event that an amendment is proposed to our Certificate of Incorporation or by-laws requiring approval of the holders of our common stock, and the record date for determining the holders of record entitled to vote on the amendment occurs prior to the conversion date, holders of Series G Preferred Stock will not be entitled to vote on the amendment, although they will nevertheless be subject to any changes in the powers, preferences or special rights of our common stock that may occur as a result of such amendment.

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\section*{The Series G Preferred Stock is a new series of securities and an active trading market for it may not develop.}

Prior to resales by our selling stockholders by use of this prospectus supplement, there has been no public market for the Series \(G\) Preferred Stock. There can be no assurance that an active trading market will develop, or if developed, that an active trading market will be maintained.
The securities will rank junior to all of our and our subsidiaries' liabilities in the event of a bankruptcy, liquidation or winding up.
In the event of bankruptcy, liquidation or winding-up, our assets will be available to pay obligations on the securities only after all of our liabilities have been paid. Our common stock will rank junior to our preferred stock. In addition, the Series G Preferred Stock will rank in parity with the other existing series of preferred stock and will effectively rank junior to all existing and future liabilities of our subsidiaries and the capital stock (other than common stock) of the subsidiaries held by entities or persons other than us or entities owned or controlled by us. In addition, upon our voluntary or involuntary liquidation, dissolution or winding-up, holders of common stock share ratably in the assets remaining after payments to creditors and provision for the preference of any preferred stock. The rights of holders of the Series G Preferred Stock to participate in the assets of our subsidiaries upon any liquidation, reorganization, receivership or conservatorship of any subsidiary will rank junior to the prior claims of that subsidiary's creditors and equity holders. As of March 31, 2008, we had total consolidated liabilities of approximately 141.8 billion. In the event of bankruptcy, liquidation or winding up, there may not be sufficient assets remaining, after paying our and our subsidiaries' liabilities, to pay amounts due on any or all of the common stock or the Series G Preferred Stock then outstanding.

\section*{The conversion price of the Series G Preferred Stock may not be adjusted for all dilutive events that may adversely affect the} market price of the Series G Preferred Stock or the common stock issuable upon conversion of the Series G Preferred Stock.

The number of shares of our common stock that you are entitled to receive upon conversion of a share of Series G Preferred Stock is subject to adjustment for certain events arising from (1) subdivisions, splits and combinations of the common stock, (2) dividends or distributions in common stock, debt, capital stock or other assets, (3) issuances to all holders of our common stock of stock purchase rights or warrants, (4) increases in cash dividends or (5) certain self tender offers for common stock. See "Description of National City Capital Stock - Description of the Series G Preferred Stock - Anti-Dilution Adjustments." We will not adjust the conversion price for other events, including offerings of common stock for cash by us or in connection with acquisitions. There can be no assurance that an event that adversely affects the value of the Series G Preferred Stock, but does not result in an adjustment to the conversion price, will not occur. Further, if any of these other events adversely affects the market price of our common stock, it may also adversely affect the market price of the Series G Preferred Stock. In addition, we are not restricted from offering common stock in the future or engaging in other transactions that could dilute our common stock.

\section*{You may be subject to tax upon an adjustment to the conversion price of the Series G Preferred Stock even though you do not receive a corresponding cash distribution.}

For so long as the Stockholder Approvals relating to the Series G Preferred Stock have not been obtained, the conversion price of the Series G Preferred Stock is subject to reduction every six months up to a maximum reduction of \(\$ 2.00\). Upon any adjustment of the conversion price, you will generally be deemed to have received for U.S. federal income tax purposes a taxable dividend to the extent of our earnings and profits without the receipt of any cash. If you are a non-U.S. holder (as defined in "Certain U.S. Federal Income Tax Considerations"), such deemed dividend may be subject to U.S. federal withholding tax (currently at a \(30 \%\) rate, or such lower rate as may be specified by an applicable treaty), which may be set off against subsequent payments on the Series G Preferred Stock. See "Certain U.S. Federal Income Tax Considerations."

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\section*{USE OF PROCEEDS}

We will not receive any proceeds from the sale of any securities offered by the selling stockholders.

\section*{COMMON STOCK PRICE RANGE AND DIVIDENDS}

Our common stock is traded on the New York Stock Exchange under the symbol "NCC." The following table sets forth the reported high and low intraday sales prices for our common stock as quoted by the New York Stock Exchange and the dividends declared per share of common stock for the periods included:
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{} & \multicolumn{4}{|c|}{Price Range} & \multicolumn{2}{|c|}{\multirow[t]{2}{*}{Cash Dividend per Share}} \\
\hline & \multicolumn{2}{|r|}{High} & \multicolumn{2}{|r|}{Low} & & \\
\hline \multicolumn{7}{|l|}{2006} \\
\hline First Quarter & \$ & 36.25 & \$ & 33.26 & \$ & . 37 \\
\hline Second Quarter & & 38.04 & & 34.38 & & . 37 \\
\hline Third Quarter & & 37.42 & & 34.50 & & . 39 \\
\hline Fourth Quarter & & 37.47 & & 35.29 & & . 39 \\
\hline \multicolumn{7}{|l|}{2007} \\
\hline First Quarter & & 38.94 & & 34.82 & & . 39 \\
\hline Second Quarter & & 38.32 & & 33.08 & & . 39 \\
\hline Third Quarter & & 34.30 & & 24.88 & & . 41 \\
\hline Fourth Quarter & & 27.21 & & 15.76 & & . 41 \\
\hline \multicolumn{7}{|l|}{2008} \\
\hline First Quarter & & 18.14 & & 6.56 & & . 21 \\
\hline Second Quarter (through May 8, 2008) & & 10.80 & & 5.77 & & .01* \\
\hline
\end{tabular}
* Payable by us on May 16, 2008 to stockholders of record as of May 1, 2008.

The reported last sale price for our common stock on the New York Stock Exchange on May 15, 2008, was \(\$ 5.81\) per share. At May 14, 2008, there were \(760,510,985\) shares of our common stock outstanding held by approximately 64,576 registered stockholders.

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\section*{DESCRIPTION OF NATIONAL CITY CAPITAL STOCK}

We are authorized to issue a total of \(1,405,000,000\) shares of all classes of stock. Of the total number of authorized shares of stock, \(1,400,000,000\) shares are common stock, par value \(\$ 4.00\) per share, and \(5,000,000\) shares are preferred stock without par value. A statement of the designations of the authorized classes of stock or of any series thereof, and the powers, preferences and relative, participating, optional or other special rights, and qualifications, limitations or restrictions of that stock, or of the authority of our board of directors to fix by resolution those designations and other terms, is as follows.

\section*{Description of the Securities Offered by this Prospectus Supplement \\ Description of the Common Stock}

The following description of the general terms and provisions of the shares of our common stock is not complete. You should read our Certificate of Incorporation and our by-laws, which are filed as exhibits to the registration statement and any certificate of designation, for additional information before you buy our common stock or any securities which may be converted into our common stock.

\section*{General}

As of March 31, 2008, our authorized common stock was \(1,400,000,000\) shares. From these authorized shares, \(634,117,970\) were outstanding. As part of the Stockholder Approvals required for the conversion of the Series G Preferred Stock we will seek to amend our Certificate of Incorporation to increase the number of authorized shares of common stock to at least such number as shall be sufficient to permit both full conversion of the Series G Preferred Stock into common stock and full exercise of the Warrants for common stock.

Holders of common stock may receive dividends when declared by our board of directors out of our funds that we can legally use to pay dividends. We may pay dividends in cash, stock or other property. In certain cases, holders of common stock may not receive dividends until we have satisfied our obligations to any holders of outstanding preferred stock. See "Description of National City Capital Stock - Description of the Series G Preferred Stock - Dividends." Other restrictions on our ability to pay dividends are described below under "- Restrictions on Payment of Dividends."

Holders of common stock have the exclusive power to vote on all matters presented to our stockholders unless Delaware law or the certificate of designation for an outstanding series of preferred stock gives the holders of that preferred stock the right to vote on certain matters. Each holder of common stock is entitled to one vote per share. When a quorum is present at a meeting of our stockholders, the vote of the holders of a majority of the stock having voting power present in person or represented by proxy is required to take any action properly brought before the meeting, unless a different vote is required by law or our Certificate of Incorporation, as in the case of election of directors, for which a plurality is required. Holders of common stock have no cumulative voting rights for the election of directors. This means a holder of a single share of common stock cannot cast more than one vote for each position to be filled on our board of directors.

If we voluntarily or involuntarily liquidate, dissolve or wind up our business, holders of common stock will receive pro rata, according to shares held by them, any of our remaining assets available for distribution to stockholders after we have provided for payment of all debts and other liabilities, including any liquidation preference for outstanding shares of preferred stock. See "Description of National City Capital Stock - Description of the Series G Preferred Stock - Liquidation." When we issue securities in the future, holders of common stock have no preemptive rights. This means the holders of common stock have no right, as holders of common stock, to buy any portion of those issued securities.

Our outstanding shares of common stock are listed on the New York Stock Exchange under the symbol "NCC." National City Bank serves as the transfer agent and registrar for the common stock.

The outstanding shares of common stock are fully paid and nonassessable. This means the full purchase price for the outstanding shares of common stock has been paid and the holders of such shares will not be assessed any additional amounts for such shares. Any additional common stock that we may issue in the future

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upon the conversion of other securities offered under this prospectus supplement will also be fully paid and nonassessable.

\section*{Restrictions on Payment of Dividends}

We are incorporated in Delaware, and are governed by the Delaware General Corporation Law. Delaware law allows a corporation to pay dividends only out of surplus, as determined under Delaware law, or, if there is no surplus, out of net profits for the fiscal year in which the dividend was declared and/or the preceding fiscal year. However, under Delaware law, we cannot pay dividends out of net profits if, after we pay the dividend, our capital would be less than the capital represented by the outstanding stock of all classes having a preference upon the distribution of our assets.
Anti-takeover Provisions Contained in our Certificate of Incorporation and By-laws
Certain provisions of our Certificate of Incorporation may make it less likely that our management would be changed or someone would acquire voting control of our Company without our board's consent. These provisions may delay, deter or prevent tender offers or takeover attempts that stockholders may believe are in their best interests, including tender offers or attempts that might allow stockholders to receive premiums over the market price of their common stock.

Preferred Stock. Our Certificate of Incorporation allows our board of directors to issue one or more new series of preferred stock without stockholder approval. In some cases, the issuance of preferred stock without stockholder approval could discourage or make more difficult attempts to take control of our Company through a merger, tender offer, proxy contest or otherwise. Preferred stock with special voting rights or other features issued to persons favoring our management could stop a takeover by preventing the person trying to take control of our Company from acquiring enough voting shares necessary to take control.

Nomination Procedures. In addition to our board of directors, stockholders can nominate candidates for our board of directors. However, a stockholder must follow the advance notice procedures described in Article III, Section 7(c) of our by-laws. In general, a stockholder must submit a written notice of the nomination, and the notice must be delivered to or mailed and received at our principal executive offices not less than 60 calendar days prior to the meeting of stockholders. If public announcement of the date of the stockholders meeting is not made at least 75 calendar days prior to the date of such meeting, notice must be received no later than the close of business on the tenth calendar day following the date the meeting was announced.

Proposal Procedures. Stockholders can propose that business other than nominations to our board of directors be considered at an annual meeting of stockholders only if a stockholder follows the advance notice procedures described in Article II, Section 9(c) of our by-laws. In general, a stockholder must submit a written notice of the proposal to our corporate secretary, and that notice must be delivered to or received at our principal executive offices not less than 60 calendar days prior to the annual meeting. However, if public announcement of the annual meeting date is not made at least 75 calendar days prior to the date of the annual meeting, notice must be received no later than the close of business on the tenth calendar day following the date the annual meeting was announced.

Amendment of By-laws. Under Article IX of our by-laws, our board of directors can alter, amend or repeal the by-laws or adopt new by-laws, subject to limitations under the Delaware General Corporation Law. Our stockholders also have the power to alter, amend or repeal our by-laws or adopt new by-laws.

\section*{Description of the Series G Preferred Stock}

The following is a summary of the material terms and provisions of the preferences, limitations, voting powers and relative rights of the Series G Preferred Stock as contained in the Certificate of Designations of the Company relating to the Series \(G\) Preferred Stock, which was filed with the SEC as an exhibit to Form 8-K on April 30, 2008. Stockholders are urged to read the Certificate of Designations relating to the Series G Preferred Stock in its entirety. While we believe this summary covers the material terms and provisions of the

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Certificate of Designations of the Company relating to the Series G Preferred Stock, it may not contain all of the information that is important to you and is qualified in its entirety by reference to the Certificate of Designations .

\section*{Authorized Shares and Liquidation Preference}

The number of authorized shares of the Series G Preferred Stock is 70,000. Shares of the Series G Preferred Stock have no par value per share and the liquidation preference of the Series G Preferred Stock is \(\$ 100,000\) per share.

\section*{Ranking}

The Series G Preferred Stock, with respect to dividend rights and rights on liquidation, winding-up and dissolution, ranks on a parity with our other authorized series of preferred stock and with each other class or series of preferred stock, established after the date of issuance of the Series G Preferred Stock, the terms of which do not expressly provide that such class or series will rank senior or junior to the Series G Preferred Stock as to dividend rights and rights on liquidation, winding-up and dissolution of the Company.

\section*{Dividends}

Holders of Series G Preferred Stock are entitled to receive, when, as and if declared by the board of directors, non-cumulative cash dividends in the amount determined as set forth below.

If our board of directors declares and pays a cash dividend in respect of any shares of common stock, then the board of directors is required to declare and pay to the holders of the Series G Preferred Stock a cash dividend in an amount per share of Series G Preferred Stock equal to the product of (i) the per share dividend declared and paid in respect of each share of common stock and (ii) the number of shares of common stock into which such share of Series G Preferred Stock is then convertible, assuming receipt of the Stockholder Approvals and any applicable regulatory approval.

If the Series G Preferred Stock remains outstanding after September 30, 2008, it will begin to accrue the Special Dividends on a non-cumulative basis. Notwithstanding the foregoing sentence, dividends on the Series G Preferred Stock will always be paid at the higher of the Special Dividend rate and the dividend payable on an as-converted basis based on the last dividend declared on the common stock during the applicable dividend period.

Dividends on the Series G Preferred Stock are non-cumulative. If the board of directors does not declare a dividend on the Series G Preferred Stock in respect of any dividend period, the holders of the Series G Preferred Stock will have no right to receive any dividend for that dividend period, and we will have no obligation to pay a dividend for that dividend period.

Subject to limited exceptions, if full quarterly dividends payable on all outstanding shares of the Series G Preferred Stock for any dividend period have not been declared and paid, we will not be permitted to declare or pay dividends with respect to, or redeem, purchase or acquire, any of its junior securities during the next succeeding dividend period.

\section*{Repurchase of Junior Securities}

For as long as the Series G Preferred Stock is outstanding, we are prohibited from redeeming, repurchasing or acquiring any shares of our common stock or other junior securities, subject to limited exceptions.

\section*{Liquidation}

In the event the Company voluntarily or involuntarily liquidates, dissolves or winds up, the holders of the Series G Preferred Stock will be entitled, for each share of the Series G Preferred Stock held, to the greater of (1) \(\$ 100,000\) and (2) an amount equal to the liquidation amount payable on an as-converted basis on the

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number of shares of common stock into which such shares of Series G Preferred Stock could have been converted on a date at least ten business days before the first liquidating distribution is made on the Series G Preferred Stock, plus any declared but unpaid dividends.

In the event the assets of the Company available for distribution to stockholders upon any liquidation, dissolution or winding-up of the affairs of the Company, whether voluntary or involuntary, are insufficient to pay in full the amounts payable with respect to all outstanding shares of the Series G Preferred Stock and the corresponding amounts payable on any parity securities, holders of Series G Preferred Stock and the holders of parity securities will share ratably in any distribution of assets of the Company in proportion to the full respective liquidating distributions to which they would otherwise be respectively entitled.

\section*{Preemption}

When we issue securities in the future, holders of our Series G Preferred Stock have no preemptive rights. This means the holders of Series G Preferred Stock have no right, as holders of Series G Preferred Stock, to buy any portion of those securities.

\section*{Redemption}

The Series G Preferred Stock is not redeemable by the holders, but may be redeemed by the Company beginning on April 29, 2013 at a redemption price per share equal to the greater of (i) \(125 \%\) of the liquidation preference and (ii) the average of the closing prices of the common stock for the ten trading days ending on the sixth trading day prior to the date of redemption multiplied by the number of shares of common stock into which one share of Series G Preferred Stock would be convertible on such date if such shares of Series G Preferred Stock were converted on that date following receipt of the Stockholder Approvals relating to the Series G Preferred Stock, together with ( x ) an amount equal to any dividends that have been declared but not paid prior to the redemption date and (y) an amount equal to any dividends for periods after such issuance for which dividends were not declared and paid prior to the redemption date.

\section*{Mandatory Conversion}

The Series G Preferred Stock is mandatorily convertible on the fifth business day following the date on which (A) the Stockholder Approvals relating to the Series G Preferred Stock have been received and (B) with respect to a holder who is required to obtain any applicable regulatory approval, such holder has received such approval. The number of shares of common stock into which a share of Series G Preferred Stock will be convertible will be determined by dividing the liquidation preference by the then applicable conversion price. No fractional shares of common stock will be issued. Upon conversion, cash will be paid in lieu of fractional shares based on the closing price of the common stock determined as of the second trading day immediately preceding the date of the mandatory conversion.

The initial conversion price of the Series G Preferred Stock is \(\$ 5.00\) per share. The conversion price of the Series G Preferred Stock will be reduced by \(\$ 0.50\) on the last day of each six-month period following the date of issuance of the Series G Preferred Stock if the Stockholder Approvals relating to the Series G Preferred Stock have not been obtained by such date, up to a maximum reduction of \$2.00.

\section*{Anti-Dilution Adjustments}

The conversion price of the Series G Preferred Stock will be adjusted in the following circumstances:
(1) Stock Dividend Distributions. If we pay dividends or other distributions on the common stock in shares of common stock, then the conversion price in effect immediately prior to the ex-date for such dividend or distribution will be multiplied by the following fraction:
```

OS 0

```
nc

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Where,
\(\mathrm{OS}_{0}=\) the number of shares of common stock outstanding immediately prior to the ex-date for such dividend or distribution.
\(\mathrm{OS}_{1}=\) the sum of the number of shares of common stock outstanding immediately prior to the ex-date for such dividend or distribution plus the total number of shares of our common stock constituting such dividend.
For the purposes of this clause (1), the number of shares of common stock at the time outstanding shall not include shares acquired by us. If any dividend or distribution described in this clause (1) is declared but not so paid or made, the conversion price shall be readjusted, effective as of the date the board of directors publicly announces its decision not to make such dividend or distribution, to such conversion price that would be in effect if such dividend or distribution had not been declared.
(2) Subdivisions, Splits and Combination of the Common Stock. If we subdivide, split or combine the shares of common stock, then the conversion price in effect immediately prior to the effective date of such share subdivision, split or combination will be multiplied by the following fraction:
\(\mathrm{OS}_{0}\)
nc

Where,
\(\mathrm{OS}_{0}=\quad\) the number of shares of common stock outstanding immediately prior to the effective date of such share subdivision, split or combination.
\(\mathrm{OS}_{1}=\) the number of shares of common stock outstanding immediately after the opening of business on the effective date of such share subdivision, split or combination.
For the purposes of this clause (2), the number of shares of common stock at the time outstanding shall not include shares acquired by us. If any subdivision, split or combination described in this clause (2) is announced but the outstanding shares of common stock are not subdivided, split or combined, the conversion price shall be readjusted, effective as of the date the board of directors publicly announces its decision not to subdivide, split or combine the outstanding shares of common stock, to such conversion price that would be in effect if such subdivision, split or combination had not been announced.
(3) Issuance of Stock Purchase Rights. If we issue to all holders of the shares of our common stock rights or warrants (other than rights or warrants issued pursuant to a dividend reinvestment plan or share purchase plan or other similar plans) entitling them, for a period of up to 45 days from the date of issuance of such rights or warrants, to subscribe for or purchase the shares of our common stock at less than the current market price, as defined below, of the common stock on the date fixed for the determination of stockholders entitled to receive such rights or warrants, then the conversion price in effect immediately prior to the ex-date for such distribution will be multiplied by the following fraction:
\[
\begin{aligned}
& \mathrm{OS}_{0}+\mathrm{Y} \\
& \mathrm{nc}+\mathrm{y}
\end{aligned}
\]

Where,
\(\mathrm{OS}_{0}=\) the number of shares of common stock outstanding immediately prior to the ex-date for such distribution.
\(\mathrm{X}=\quad\) the total number of shares of common stock issuable pursuant to such rights or warrants.
\(\mathrm{Y}=\quad\) the number of shares of common stock equal to the aggregate price payable to exercise such rights or warrants divided by the current market price on the date fixed for the determination of stockholders to receive such rights or warrants.
For the purposes of this clause (3), the number of shares of common stock at the time outstanding shall not include shares acquired by us. We shall not issue any such rights or warrants in respect of shares of the common stock acquired by us. In the event that such rights or warrants described in this clause (3) are not so issued, the conversion price shall be readjusted, effective as of the date the board of directors publicly announces its decision

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not to issue such rights or warrants, to the conversion price that would then be in effect if such issuance had not been declared. To the extent that such rights or warrants are not exercised prior to their expiration or shares of common stock are otherwise not delivered pursuant to such rights or warrants upon the exercise of such rights or warrants, the conversion price shall be readjusted to such conversion price that would then be in effect had the adjustment made upon the issuance of such rights or warrants been made on the basis of the delivery of only the number of shares of common stock actually delivered. In determining the aggregate offering price payable for such shares of common stock, there shall be taken into account any consideration received for such rights or warrants and the value of such consideration (if other than cash, to be determined by the board of directors).
(4) Debt or Asset Distributions. If we distribute to all holders of shares of our common stock evidences of indebtedness, shares of capital stock, securities, cash or other assets (excluding any dividend or distribution referred to in clause (1) above, any rights or warrants referred to in clause (3) above, any dividend or distribution paid exclusively in cash, any consideration payable in connection with a tender or exchange offer made by us or any of our subsidiaries, and any dividend of shares of capital stock of any class or series, or similar equity interests, of or relating to a subsidiary or other business unit in the case of certain spin-off transactions as described below), then the conversion price in effect immediately prior to the ex-date for such distribution will be multiplied by the following fraction:


Where,
\(\mathrm{SP}_{0}=\quad\) the current market price per share of common stock on such date.
FMV \(=\) the fair market value of the portion of the distribution applicable to one share of common stock on such date as determined by our board of directors.
In a "spin-off," where we make a distribution to all holders of our shares of common stock consisting of capital stock of any class or series, or similar equity interests of, or relating to, a subsidiary or other business unit, the conversion price will be adjusted on the fifteenth trading day after the effective date of the distribution by multiplying such conversion price in effect immediately prior to such fifteenth trading day by the following fraction:
\[
\begin{gathered}
\mathrm{MP}_{0} \\
\boldsymbol{M D}+\boldsymbol{M D} \mathbf{D}
\end{gathered}
\]

Where,
\(\mathrm{MP}_{0}=\) the average of the closing prices of the common stock over the first ten trading days commencing on and including the fifth trading day following the effective date of such distribution.

MPs \(=\) the average of the closing prices of the capital stock or equity interests representing the portion of the distribution applicable to one share of common stock over the first ten trading days commencing on and including the fifth trading day following the effective date of such distribution, or, if not traded on a national or regional securities exchange or over-the-counter market, the fair market value of the capital stock or equity interests representing the portion of the distribution applicable to one share of our common stock on such date as determined by our board of directors.

In the event that such distribution described in this clause (4) is not so paid or made, the conversion price shall be readjusted, effective as of the date the board of directors publicly announces its decision not to pay or make such dividend or distribution, to the conversion price that would then be in effect if such dividend or distribution had not been declared.
(5) Cash Distributions. If we make a distribution consisting exclusively of cash to all holders of the common stock, excluding (a) any cash dividend on the common stock to the extent a corresponding cash dividend is paid on the Series G Preferred Stock, (b) any cash that is distributed in a reorganization event (as described above) or as part of a "spin-off" referred to in clause (4) above, (c) any dividend or distribution in connection with our liquidation, dissolution or winding-up, and (d) any consideration payable in connection

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with a tender or exchange offer made by us or any of our subsidiaries, then in each event, the conversion price in effect immediately prior to the ex-date for such distribution will be multiplied by the following fraction:
\[
\begin{gathered}
\mathrm{SP} \text { o }-\mathrm{DIV} \\
\mathrm{SP}_{0} \\
\hline
\end{gathered}
\]

Where,
\(\mathrm{SP}_{0}=\) the closing price per share of common stock on the trading day immediately preceding the ex-date.

DIV \(=\) the amount per share of common stock of the cash distribution, as determined pursuant to the introduction to this paragraph (5).
(6) Self Tender Offers and Exchange Offers. If we or any of our subsidiaries successfully complete a tender or exchange offer for our common stock where the cash and the value of any other consideration included in the payment per share of the common stock exceeds the closing price per share of the common stock on the trading day immediately succeeding the expiration of the tender or exchange offer, then the conversion price in effect at the close of business on such immediately succeeding trading day will be multiplied by the following fraction:
\[
\begin{gathered}
\mathrm{OS}_{0} \times \mathrm{SP}_{0} \\
\mathrm{AC}+\left(\mathrm{SP}_{0} \mathrm{x}\right. \\
\left.\mathrm{OS}_{1}\right) \\
\hline
\end{gathered}
\]

Where,
\(\mathrm{SP}_{0}=\) the closing price per share of common stock on the trading day immediately succeeding the expiration of the tender or exchange offer.
\(\mathrm{OS}_{0}=\) number of shares of common stock outstanding immediately prior to the expiration of the tender or exchange offer, including any shares validly tendered and not withdrawn.
\(\mathrm{OS}_{1}=\) the number of shares of common stock outstanding immediately after the expiration of the tender or exchange offer.
\(\mathrm{AC}=\quad\) the aggregate cash and fair market value of the other consideration payable in the tender or exchange offer, as determined by our board of directors.
In the event that we are, or one of our subsidiaries is, obligated to purchase shares of our common stock pursuant to any such tender offer or exchange offer, but we are, or such subsidiary is, permanently prevented by applicable law from effecting any such purchases, or all such purchases are rescinded, then the conversion price shall be readjusted to be such conversion price that would then be in effect if such tender offer or exchange offer had not been made.
(7) Rights Plans. To the extent that we have a rights plan in effect with respect to the common stock on any conversion date, upon conversion of any shares of the Series G Preferred Stock, you will receive, in addition to the shares of our common stock, the rights under the rights plan, unless, prior to such conversion date, the rights have separated from the shares of our common stock, in which case the conversion price will be adjusted at the time of separation as if we made a distribution to all holders of the common stock as described in clause (4) above, subject to readjustment in the event of the expiration, termination or redemption of such rights.

In addition, we may make such decreases in the conversion price as we deem advisable in order to avoid or diminish any income tax to holders of the common stock resulting from any dividend or distribution of the shares (or issuance of rights or warrants to acquire the shares) or from any event treated as such for income tax purposes or for any other reason.

All adjustments to the conversion price shall be calculated to the nearest 1 / 10 of a cent. No adjustment in the conversion price shall be required if such adjustment would be less than \(\$ 0.01\); provided, that any adjustments which by reason of this subparagraph are not required to be made shall be carried forward and taken into account in any subsequent adjustment; provided further that on the mandatory conversion date

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adjustments to the conversion price will be made with respect to any such adjustment carried forward and which has not been taken into account before such date.

No adjustment to the conversion price will be made if holders may participate in the transaction that would otherwise give rise to such adjustment as a result of holding the Series G Preferred Stock, without having to convert the Series G Preferred Stock, as if they held the full number of shares of common stock into which a share of the Series G Preferred Stock may then be converted.

The applicable conversion price will not be adjusted:
(a) upon the issuance of any shares of common stock pursuant to any present or future plan providing for the reinvestment of dividends or interest payable on the securities and the investment of additional optional amounts in common stock under any such plan;
(b) upon the issuance of any shares of common stock or rights or warrants to purchase those shares pursuant to any present or future employee, director or consultant benefit plan or program of or assumed by us or any of our subsidiaries;
(c) upon the issuance of any shares of common stock pursuant to any option, warrant, right or exercisable, exchangeable or convertible security outstanding as of the date the shares of Series G Preferred Stock were first issued;
(d) for a change in the par value or no par value of the common stock; or
(e) for accrued and unpaid dividends on the Series G Preferred Stock.

We will be required, as soon as practicable after the conversion price is adjusted, to provide or cause to be provided written notice of the adjustment to the holders of shares of Series G Preferred Stock. We will also be required to deliver a statement setting forth in reasonable detail the method by which the adjustment to the conversion price was determined and setting forth the revised conversion price.

The "current market price" on any date is the average of the daily closing price per share of the common stock or other securities on each of the five consecutive trading days preceding the earlier of the day before the date in question and the day before the "exdate" with respect to the issuance or distribution requiring such computation. The term "ex-date," when used with respect to any such issuance or distribution, means the first date on which the common stock or other securities trade without the right to receive such issuance or distribution.

\section*{Reorganization Events}

If the Company enters into a transaction constituting a consolidation or merger of the Company or similar transaction or any sale or other transfer of all or substantially all of the consolidated assets of the Company and its subsidiaries, taken as a whole (in each case pursuant to which its common stock will be converted into cash, securities or other property) or for certain reclassifications or exchanges of its common stock, then each share of Series G Preferred Stock will convert, effective on the day on which such share would automatically convert into common stock of the Company, into the securities, cash and other property receivable in the transaction by the holder of the greater of (1) the number of shares of common stock into which such share of Series G Preferred Stock would then be convertible, assuming receipt of any applicable regulatory approval and (2) the number of shares of common stock for which the fair market value of the securities, cash or other property receivable in the transaction in respect of such shares equals \(\$ 100,000\). The Company shall not enter into any agreement for a transaction described in this section unless such agreement provides for or does not interfere with or prevent (as applicable) conversion of the Series G Preferred Stock in a manner that is consistent with this section.

\section*{Voting Rights}

Except as set forth below, holders of the Series G Preferred Stock will not have any voting rights.

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Right to Elect Two Directors Upon Non-Payment of Dividends. If and when the dividends on the Series G Preferred Stock or any other class or series of our stock ranking on parity with the Series G Preferred Stock, or Parity Stock, have not been declared and paid (1) in the case of the Series G Preferred Stock and Parity Stock bearing non-cumulative dividends, in full for at least six quarterly dividend periods or their equivalent (whether or not consecutive), or (2) in the case of Parity Stock bearing cumulative dividends, in an aggregate amount equal to full dividends for at least six quarterly dividend periods or their equivalent (whether or not consecutive), the authorized number of directors then constituting our board of directors will be increased by two. Holders of Series G Preferred Stock, together with the holders of all other affected classes and series of Parity Stock, voting as a single class, will be entitled to elect the two additional members of our board of directors, or the Series G Preferred Stock Directors, at any annual or special meeting of stockholders at which directors are to be elected or any special meeting of the holders of Series G Preferred Stock and any Parity Stock for which dividends have not been paid, called as provided below, but only if the election of any Series G Preferred Stock Directors would not cause us to violate the corporate governance requirement of the New York Stock Exchange (or any other exchange on which our securities may be listed) that listed companies must have a majority of independent directors. In addition, our board of directors shall at no time have more than two Series G Preferred Stock Directors.

At any time after this voting power has vested as described above, our Secretary may, and upon the written request of holders of record of at least \(20 \%\) of the outstanding shares of Series G Preferred Stock and Parity Stock must, call a special meeting of the holders of Series G Preferred Stock and Parity Stock for the election of the Series G Preferred Stock Directors. Notice for a special meeting will be given in a similar manner to that provided in our by-laws for a special meeting of our stockholders, which we will provide upon request, or as required by law. If our Secretary is required to call a meeting but does not do so within 20 days after receipt of any such request, then any holder of shares of Series G Preferred Stock may (at our expense) call such meeting and for that purpose will have access to our stock books. The Series G Preferred Stock Directors elected at any such special meeting will hold office until the next annual meeting of our stockholders unless they have been previously terminated as described below. In case any vacancy occurs among the Series G Preferred Stock Directors, a successor will be elected by our board of directors to serve until the next annual meeting of the stockholders upon the nomination of the then remaining Series G Preferred Stock Director or if none remains in office, by the vote of the holders of record of a majority of the voting power of the outstanding shares of Series G Preferred Stock and all Parity Stock, voting as a single class. The Series G Preferred Stock Directors shall each be entitled to one vote per director on any matter.

Whenever full dividends have been paid on the Series G Preferred Stock and any non-cumulative Parity Stock for at least one year and all dividends on any cumulative Parity Stock have been paid in full, then the right of the holders of Series G Preferred Stock to elect the Series G Preferred Stock Directors will cease (but subject always to the same provisions for the vesting of these voting rights in the case of any similar non-payment of dividends in respect of future Dividend Periods), the terms of office of all Series \(G\) Preferred Stock Directors will immediately terminate and the number of directors constituting our board of directors will be reduced accordingly.

Unless we amend our Certificate of Incorporation to require different classes and series of preferred stock to vote in proportion to their respective liquidation preferences when voting together with the Series G Preferred Stock as a single class, so long as any shares of Series G Preferred Stock have been issued and are outstanding, we have agreed not to issue Parity Stock with a liquidation preference that is less than \(\$ 100,000\) per share. We have no obligation to propose such an amendment, and the holders of the Series G Preferred Stock would not be entitled to vote on any such amendment if we do propose it.

Other Voting Rights. So long as any shares of Series G Preferred Stock are outstanding, in addition to any other vote or consent of stockholders required by law or by our Certificate of Incorporation, the vote or consent of the holders of at least two-thirds of the outstanding shares of Series G Preferred Stock voting as a single class with all other classes and series of Parity Stock having similar voting rights then outstanding (other than Series D Preferred Stock, Series E Preferred Stock (if issued), and any excluded class, as defined below), given in person or by proxy, either in writing without a meeting or by vote at any meeting called for the purpose, shall be necessary for effecting or authorizing any amendment of our Certificate of Incorporation

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to authorize, or increase the authorized amount of, any shares of any class or series of capital stock ranking senior to the Series \(G\) Preferred Stock with respect to the payment of dividends or the distribution of assets on our liquidation.

For purposes of the foregoing, "excluded class" refers to any class or series of Company preferred stock with a liquidation preference that is less than \(\$ 100,000\) per share, unless our Certificate of Incorporation requires such class or series of preferred stock to vote in proportion to their respective liquidation preferences when voting together with the Series G Preferred Stock as a single class. We have no obligation to propose an amendment to our Certificate of Incorporation to require classes or series of preferred stock to vote in proportion to their respective liquidation preferences when voting together as a single class, and the holders of the Series G Preferred Stock would not be entitled to vote on such an amendment if we do propose it.

So long as any shares of Series G Preferred Stock are outstanding, the vote or consent of the holders of a majority of the outstanding shares of Series G Preferred Stock, voting as a single class with all other classes and series of Parity Stock, will be necessary for effecting or validating any of the following actions, whether or not such approval is required by Delaware law:
- any amendment, alteration or repeal of any provision of the Certificate of Incorporation (including the Certificate of Designations relating to the Series G Preferred Stock) or the Company's by-laws that would alter or change the voting powers, preferences or special rights of the Series G Preferred Stock so as to affect them adversely; and
- the consummation of a binding share exchange or reclassification involving the Series G Preferred Stock or a merger or consolidation of the Company with another entity, except that holders will have no right to vote under this provision or under any provision of Delaware law if the agreement for such transaction provides for or does not interfere with or prevent (as applicable) conversion of the Series G Preferred Stock into the securities, cash or other property described above under "- Fundamental Change."
Notwithstanding the foregoing, any increase in the amount of the Company's authorized preferred stock or any securities convertible into preferred stock or the creation and issuance, or an increase in the authorized or issued amount, of any series of preferred stock, other than the Series G Preferred Stock or the Company’s Series F Preferred Stock, or any securities convertible into preferred stock ranking equally with and/or junior to the Series G Preferred Stock with respect to the payment of dividends (whether such dividends are cumulative or non-cumulative) and/or the distribution of assets upon the Company's liquidation, dissolution or winding up will not, in and of itself, be deemed to adversely affect the voting powers, preferences or special rights of the Series \(G\) Preferred Stock and, notwithstanding any provision of Delaware law, holders of Series G Preferred Stock will have no right to vote solely by reason of such an increase, creation or issuance.

If an amendment, alteration, repeal, share exchange, reclassification, merger or consolidation described above would adversely affect one or more but not all series of preferred stock with like voting rights (including the Series G Preferred Stock for this purpose), then only the series affected and entitled to vote will vote as a class in lieu of all such series of preferred stock.

\section*{Form of Series G Preferred Stock}

The Series G Preferred Stock may only be transferred in physical certificate form. National City Bank acts as transfer agent for registering shares of Series G Preferred Stock in the names of holders and transferring Series G Preferred Stock.

\section*{Description of Certain Other Securities \\ Other Preferred Stock}

Shares of preferred stock may be issued from time to time in one or more series. Our board of directors is authorized, within the limitations and restrictions stated in Article Fourth of our Certificate of Incorporation, to fix by resolution the designation of each series of preferred stock and the powers, preferences and relative,

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participating, optional or other special rights, and qualifications, limitations or restrictions thereof, including, without limiting the generality of the foregoing, provisions concerning voting, redemption, dividends, dissolution or the distribution of assets, conversion or exchange, and such other subjects or matters as may be fixed by resolution or exchange, and such other subjects or matters as may be fixed by resolution of our board of directors under the General Corporation Law of the State of Delaware. In no event shall any holder of any series of preferred stock have more than one vote per whole share of preferred stock.

We have issued 70,272 shares of Series D non-voting convertible preferred stock ("Series D Preferred Stock"). Each share of Series D Preferred Stock is convertible at any time by the holder into 15.96 shares of our common stock. The conversion rate is subject to adjustment in the event we take certain actions such as paying a dividend in stock or splitting its common stock into a smaller number of shares. Dividends are paid on the Series D Preferred Stock when, as and if declared by our board of directors, out of any of our funds legally available for the payment of such dividends. The Series D Preferred Stock has a preference of \(\$ 100\) per share over our common stock in the event of liquidation or dissolution of the Company. In such event, the Series D Preferred Stock holders will be entitled to receive the liquidation value of their stock which is \(\$ 100\) per share, from funds lawfully available.

In January 2008, we designated 5,751 shares as no par, Series E perpetual preferred stock ("Series E Preferred Stock"), of which 5,001 of these shares are reserved for issuance pursuant to a stock purchase contract with National City Preferred Capital Trust I. The stock purchase date is expected to be December 10, 2012, but could occur earlier or later, under certain conditions. In January 2008, we also designated 1,725 shares as no par, Series F preferred stock ("Series F Preferred Stock"), of which 1,500 of these shares were issued. Both the Series E Preferred Stock and Series F Preferred Stock will rank senior to the common stock and on parity with the Series D Preferred Stock and the Series G Preferred Stock in the event of liquidation or dissolution of the Company. Both the Series E Preferred Stock and Series F Preferred Stock have a liquidation value of \(\$ 100,000\) per share. Both series are noncumulative with respect to dividends and will have limited voting rights except in the event of nonpayment of dividends and certain other events. Holders of both the Series E Preferred Stock and the Series F Preferred Stock will be entitled to receive dividends, when and as declared by our board of directors. Series E Preferred Stock shall be redeemable at our option, and subject to Federal Reserve approval, at any date after December 10, 2012. Series F Preferred Stock shall be redeemable at our option, subject to Federal Reserve approval, at any date after February 1, 2013. Subject to these conditions, both Series E Preferred Stock and Series F Preferred Stock may be redeemed for \(\$ 100,000\) per share plus any declared but unpaid dividends. We will be limited in our right to redeem both Series E Preferred Stock and Series F Preferred Stock prior to ten years after their initial issuance dates by a replacement capital covenant. Pursuant to this covenant, we must have received proceeds from the issuance of equity or hybrid securities that qualify as Tier I capital and may be required to obtain the approval of the Federal Reserve. The current beneficiaries of this limitation are the holders of our 6.875\% subordinated notes due 2019.

\section*{Description of the Warrants}

The following is a summary of the material terms and provisions of the Warrant issued to an affiliate of Corsair Capital LLC, such affiliate, referred to as "Corsair", a form of which was filed with the SEC as an exhibit to Form 8-K on April 23, 2008, and is incorporated by reference into this prospectus supplement. Stockholders are urged to read such form of warrant in its entirety; the Warrants issued to investors other than Corsair are substantially similar to the terms of such form of warrant. While National City believes this summary covers the material terms and provisions of the Warrant issued to Corsair, it may not contain all of the information that is important to you and is qualified in its entirety by reference to such form of warrant.

\section*{Exercise of Warrants}

The Warrant issued to Corsair (together with a third party transferee of Corsair) entitles it (and such third party transferee) to, upon exercise in the manner described below, acquire up to \(39,250,000\) shares of common stock in the aggregate. The Warrants issued to the other investors entitle them to, upon exercise in the manner described below, acquire up to 22,500,000 shares of common stock in the aggregate. The Warrants can only be

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exercised by the holders thereof to purchase shares of common stock after receipt of the Stockholder Approvals relating to the Warrants and upon the receipt of regulatory approvals to the extent applicable and, upon receipt of such approvals, can be exercised to purchase shares of common stock at any time, in whole or in part, after issuance until the fifth anniversary of the issuance of such Warrants.

\section*{Exercise Price of the Warrants}

The Warrants are exercisable for \(\$ 7.10\) per share of common stock. The exercise price of the Warrants will be reduced by \(\$ 0.50\) on the last day of each six-month period following the date of issuance of the Warrants if the Stockholder Approvals relating to the Warrants have not been obtained by such date, up to a maximum reduction of \$2.00.

\section*{Anti-Dilution and Other Provisions}

If prior to the third anniversary (or the second anniversary in certain circumstances) after the date of issuance of the Warrants, (i) we issue or sell, or agree to issue or sell, more than \(\$ 300\) million of equity or equity-linked securities, other than certain permitted issuances, for consideration per share less than the Applicable Price (as defined below), or (ii) there occurs any Fundamental Change (as defined below) relating to the Company in which the price of the underlying security is less than the Applicable Price, then the exercise price of the Warrants in effect immediately prior to each such issuance or sale will immediately be reduced to the price of the securities in such issuance, sale or Fundamental Change, as applicable. In that event, the number of shares of common stock issuable upon the exercise of the Warrants will be increased to the number obtained by dividing ( x ) the product of (1) the number of shares of common stock issuable upon the exercise of the Warrants before that adjustment and (2) the exercise price in effect immediately prior to the issuance, sale or Fundamental Change giving rise to this adjustment, by (y) the new exercise price determined in accordance with the immediately preceding sentence. Our obligation to deliver additional shares of common stock upon exercise of the Warrants in these circumstances is subject to a maximum aggregate issuance limitation. "Applicable Price" means the greater of (A) the greater of the market price per share of outstanding common stock on (i) the date on which we issue or sell any common stock and (ii) the first date of the announcement of such issuance, sale or Fundamental Change and (B) \(\$ 5.00\). The exercise price is also subject to customary anti-dilution adjustments.

\section*{Fundamental Change}

Upon the occurrence of a "Fundamental Change," which is defined in the form of warrant as certain events pertaining to a change of control or liquidation of the Company, the holder of a Warrant may cause us to purchase its Warrant, in whole or in part, at the higher of (1) the fair market value of the Warrant and (2) a valuation based on a computation of the option value of the Warrant using a Black-Scholes methodology. Payment by us to the holder of the Warrant of the purchase price will be due upon the occurrence of the Fundamental Change. At our election, all or any portion of the purchase price may be paid in cash or in our common stock valued at the market price of a share of our common stock as of (A) the last trading day prior to the date on which this payment occurs or (B) the first date of the announcement of a Fundamental Change (whichever is less), so long as the payment does not cause us to fail to comply with applicable NYSE requirements or other regulatory requirements. To the extent that a payment in our common stock would cause us to fail to comply with NYSE rules or the other regulatory requirements, once the maximum number of shares of our common stock that would not result in the contravention of such requirements has been delivered, the remainder of such purchase price may be paid in the form of cash or other equity securities having a fair market value equal to the value of the shares of our common stock that would have been issued to the holder of the Warrant absent the limitations described above.

\section*{Exchange for Preferred Stock}

At any time after September 30, 2008 but prior to the receipt of the Stockholder Approvals and any applicable regulatory approval, the holders of the Warrants may cause us to exchange the Warrants for a number of shares of Series G Preferred Stock equal to the quotient of (1) the value of the Warrants exchanged

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based on the higher of (A) the fair market value of the Warrants exchanged and (B) a computation of the option value of the Warrants using a Black-Scholes methodology divided by (2) the lower of (A) \$100,000 or (B) the fair market value of a share of the Series G Preferred Stock. The Warrant issued to Corsair contains a limitation on the maximum number of shares of Series G Preferred Stock such that upon exchange, assuming the conversion of such shares of Series G Preferred Stock into shares of Common Stock, Corsair would not have beneficial ownership of \(10 \%\) or more of the outstanding shares of a class of voting securities of the Company.

\section*{Transfer Restrictions}

The Warrants are subject to transfer restrictions as set forth in the applicable investment agreement, a form of which was filed with the SEC as an exhibit to Form 8-K on April 23, 2008 and subsequently amended by the First Amendment to the Investment Agreement, which was filed with the SEC as an exhibit to Form 8-K on May 8, 2008 (the "Investment Agreement"). Additionally, in the case of the Warrant issued to Corsair, prior to receipt of the Stockholder Approvals relating to the Warrants and any applicable regulatory approval, Corsair may transfer its Warrant only to us, in a widely distributed public offering, to a person acquiring at least a majority of our voting securities or to persons that Corsair reasonably believes would not own more than \(2 \%\) of our common stock or any class of our voting securities after such transfer.

\section*{Registration of the Warrants}

The Warrants have not been registered and bear a legend specifying that such securities may not be transferred, sold or otherwise disposed of unless a registration statement relating to such securities is in effect under applicable federal and state securities laws or pursuant to an available exemption from registration. Under the Investment Agreement and certain purchase agreements entered into with certain other investors who received Warrants in the equity investment transactions described above, we have agreed to file a registration statement covering such securities with the SEC no later than six months after the closing date of the issuance of such securities.

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\section*{DIRECT REGISTRATION SYSTEM}

We have a direct registration (book-entry) program with respect to record ownership of our common stock. Direct registration is a service that allows shares to be owned, reported and transferred electronically without having a physical stock certificate issued. Persons who acquire shares of the common stock upon an offering and sale by a selling stockholder by use of this prospectus supplement will not receive a physical stock certificate (unless certificates are specifically requested); rather, ownership of the shares acquired will be recorded in the names of such persons electronically on the books and records of National City Bank. Direct registration is intended to alleviate the problems relating to stolen, misplaced or lost stock certificates and to reduce the paperwork relating to the transfer of ownership of our stock. Under direct registration, the voting, dividend and other rights and benefits of holders of our common stock remain the same as with holders of certificates.

Prior to this registration, the shares of common stock which may be sold from time to time by the selling stockholders named in this prospectus supplement were "restricted securities" under the Securities Act. Upon completion of a resale by use of this prospectus supplement, the acquiring stockholders whose shares are registered in their own names will receive a statement confirming the appropriate number of shares of common stock through direct registration, rather than a physical stock certificate, unless such stockholder gives specific instructions to our transfer agent to issue such a certificate. For a stockholder who is acquiring common stock through a broker or other nominee that is a member of (or has a correspondent relationship with) The Depository Trust Company, that stockholder's shares of common stock will be credited to the stockholder's account by the broker or other nominee.

To utilize the services of a stockbroker to sell shares, a stockholder holding shares through direct registration must first add the appropriate stockbroker information to the direct registration account maintained by the transfer agent.

\section*{CERTAIN U.S. FEDERAL INCOME TAX CONSIDERATIONS}

The following is a summary of certain U.S. federal income tax and, for non-U.S. holders (as defined below), estate tax consequences of the purchase, ownership, conversion and disposition of the Series G Preferred Stock and our common stock received in respect thereof as of the date hereof. Except where noted, this summary deals only with the Series G Preferred Stock and our common stock held as capital assets. As used herein, the term "U.S. holder" means a beneficial owner of the Series G Preferred Stock or our common stock that is for U.S. federal income tax purposes:
- an individual citizen or resident of the United States;
- a corporation (or any other entity treated as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia;
- an estate the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust if it (1) is subject to the primary supervision of a court within the United States and one or more U.S. persons have the authority to control all substantial decisions of the trust or (2) has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

As used herein, the term "non-U.S. holder" means a beneficial owner of the Series G Preferred Stock or our common stock that is neither a U.S. holder nor a partnership (or other entity treated as a partnership for U.S. federal income tax purposes).

This summary is not a detailed description of the U.S. federal income tax consequences applicable to you if you are subject to special treatment under the U.S. federal income tax laws, including if you are:
- a dealer in securities or currencies;
- a financial institution;
- a regulated investment company;
- a real estate investment trust;
- an insurance company;
- a tax-exempt organization;
- a person holding the Series G Preferred Stock or our common stock as part of a hedging, integrated, conversion or constructive sale transaction or a straddle;
- a trader in securities that has elected the mark-to-market method of accounting for your securities;
- a person liable for alternative minimum tax;
- a partnership or other pass-through entity for U.S. federal income tax purposes;
- a person who is an investor in a pass-through entity;
- a U.S. holder whose "functional currency" is not the U.S. dollar;
- a "controlled foreign corporation";
- a "passive foreign investment company"; or
- a U.S. expatriate.

This summary is based upon the provisions of the Internal Revenue Code of 1986, as amended (the "Code"), and regulations, rulings and judicial decisions as of the date hereof. Those authorities may be changed, perhaps retroactively, so as to result in U.S. federal income and estate tax consequences different from those summarized below.

If a partnership holds the Series G Preferred Stock or our common stock, the tax treatment of a partner will generally depend upon the status of the partner and the activities of the partnership. If you are a partner

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of a partnership holding the Series G Preferred Stock or our common stock, you should consult your own tax advisors.
This summary does not contain a detailed description of all the U.S. federal income and estate tax consequences to you in light of your particular circumstances and does not address the effects of any state, local or non-U.S. tax laws. If you are considering the purchase, ownership or disposition of the Series G Preferred Stock, you should consult your own tax advisors concerning the U.S. federal income and estate tax consequences to you in light of your particular situation as well as any consequences arising under the laws of any other taxing jurisdiction.

\section*{U.S. Holders}

\section*{Dividends}

Distributions on the Series G Preferred Stock or our common stock will be dividends for U.S. federal income tax purposes to the extent paid out of our current or accumulated earnings and profits, as determined for U.S. federal income tax purposes, and will be taxable as ordinary income although possibly at reduced rates, as discussed below. Our accumulated earnings and profits and our current earnings and profits in future years will depend in significant part on our future profits or losses, which we cannot accurately predict. To the extent that the amount of any distribution paid on the Series G Preferred Stock or our common stock exceeds our current and accumulated earnings and profits attributable to that share of the Series G Preferred Stock or our common stock, the distribution will be treated first as a tax-free return of capital and will be applied against and will reduce the U.S. holder's adjusted tax basis (but not below zero) in that share of the Series G Preferred Stock or our common stock. This reduction in basis will increase any gain, or reduce any loss realized by the U.S. holder on the subsequent sale, redemption or other disposition of the Series G Preferred Stock or our common stock. The amount of any such distribution in excess of the U.S. holder's adjusted tax basis will be taxed as capital gain. For purposes of the remainder of the discussion under this heading, it is assumed that distributions paid on the Series \(G\) Preferred Stock will constitute dividends for U.S. federal income tax purposes.

If we make a distribution on the Series G Preferred Stock in the form of our Series G Preferred Stock, such distribution will generally be taxable for U.S. federal income tax purposes in the same manner as distributions described above to the extent we distribute property, including cash, to other holders of our stock or certain of our other securities. If such a distribution is taxable, a U.S. holder's tax basis in such Series G Preferred Stock received will equal the fair market value of such Series G Preferred Stock on the distribution date, and such U.S. holder's holding period for such Series G Preferred Stock received will begin on the day following the distribution date. If such a distribution is not taxable, a U.S. holder's tax basis in its Series G Preferred Stock prior to such distribution will be allocated between such Series G Preferred Stock and the Series G Preferred Stock received in the distribution, and such U.S. holder's holding period for such Series G Preferred Stock received will include such U.S. holder's holding period for the Series G Preferred Stock on which such distribution was made.

If a U.S. holder is a corporation, dividends that are received by it will generally be eligible for a \(70 \%\) dividends received deduction under the Code. However, the Code disallows this dividends received deduction in its entirety if the Series G Preferred Stock or our common stock with respect to which the dividend is paid is held by such U.S. holder for less than 46 days during the 91day period beginning on the date which is 45 days before the date on which the Series G Preferred Stock or our common stock becomes ex-dividend with respect to such dividend. A 91-day minimum holding period applies to any dividends on the Series G Preferred Stock that are attributable to periods in excess of 366 days.

Under current law, if a U.S. holder is an individual or other non-corporate holder, dividends received by such U.S. holder generally will be subject to a reduced maximum tax rate of \(15 \%\) for taxable years beginning before January 1, 2011. The rate reduction does not apply to dividends received to the extent that U.S. holders elect to treat the dividends as "investment income," for purposes of the rules relating to the limitation on the deductibility of investment-related interest, which may be offset by investment expense. Furthermore, the rate reduction will also not apply to dividends that are paid to such holders with respect to the Series \(G\) Preferred

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Stock or our common stock that is held by the holder for less than 61 days during the 121-day period beginning on the date which is 60 days before the date on which the Series G Preferred Stock or our common stock become ex-dividend with respect to such dividend. A 91-day minimum holding period applies to any dividends on the Series G Preferred Stock that are attributable to periods in excess of 366 days.

In general, for purposes of meeting the holding period requirements for both the dividends received deduction and the reduced maximum tax rate on dividends described above, U.S. holders may not count towards their holding period any period in which they (a) have the option to sell, are under a contractual obligation to sell, or have made (and not closed) a short sale of the Series G Preferred Stock or our common stock, as the case may be, or substantially identical stock or securities, (b) are the grantor of an option to buy the Series G Preferred Stock or our common stock, as the case may be, or substantially identical stock or securities or (c) otherwise have diminished their risk of loss on the Series G Preferred Stock or our common stock, as the case may be, by holding one or more other positions with respect to substantially similar or related property. The U.S. Treasury regulations provide that a taxpayer has diminished its risk of loss on stock by holding a position in substantially similar or related property if the taxpayer is the beneficiary of a guarantee, surety agreement, or similar arrangement that provides for payments that will substantially offset decreases in the fair market value of the stock. In addition, the Code disallows the dividends received deduction as well as the reduced maximum tax rate on dividends if the recipient of a dividend is obligated to make related payments with respect to positions in substantially similar or related property. This disallowance applies even if the minimum holding period has been met. U.S. holders are advised to consult their own tax advisors regarding the implications of these rules in light of their particular circumstances.
U.S. holders that are corporations should consider the effect of Section 246A of the Code, which reduces the dividends received deduction allowed with respect to "debt-financed portfolio stock." The Code also imposes a \(20 \%\) alternative minimum tax on corporations. In some circumstances, the portion of dividends subject to the dividends received deduction will serve to increase a corporation's minimum tax base for purposes of the determination of the alternative minimum tax. In addition, a corporate stockholder may be required to reduce its basis in stock with respect to certain "extraordinary dividends," as provided under Section 1059 of the Code. U.S. holders should consult their own tax advisors in determining the application of these rules in light of their particular circumstances.

\section*{Sale or Other Disposition}

A sale, exchange, or other disposition of the Series G Preferred Stock or our common stock will generally result in gain or loss equal to the difference between the amount realized upon the disposition (not including any amount attributable to declared and unpaid dividends, which will be taxable as described above to U.S. holders of record who have not previously included such dividends in income) and a U.S. holder's adjusted tax basis in the Series G Preferred Stock or our common stock, as the case may be. Such gain or loss will be capital gain or loss and will be long-term capital gain or loss if the U.S. holder's holding period for the Series G Preferred Stock or our common stock, as applicable, exceeds one year. Under current law, if a U.S. holder is an individual or other non-corporate holder, net long-term capital gain realized by such U.S. holder is subject to a reduced maximum tax rate of \(15 \%\). The deduction of capital losses is subject to limitations.

\section*{Conversion of the Series G Preferred Stock into Common Stock}

As a general rule, a U.S. holder will not recognize any gain or loss in respect of the receipt of common stock upon the conversion of the Series G Preferred Stock. The adjusted tax basis of common stock received on conversion will equal the adjusted tax basis of the Series G Preferred Stock converted (reduced by the portion of adjusted tax basis allocated to any fractional common stock exchanged for cash, as described below), and the holding period of such common stock received on conversion will generally include the period during which the converted Series G Preferred Stock was held prior to conversion.

Cash received in lieu of a fractional common share will generally be treated as a payment in a taxable exchange for such fractional common share, and capital gain or loss will be recognized on the receipt of cash

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in an amount equal to the difference between the amount of cash received and the amount of adjusted tax basis allocable to the fractional common share. Any cash received attributable to any declared and unpaid dividends on the Series G Preferred Stock will be treated as described above under "U.S. Holders - Dividends."

\section*{Adjustment of Conversion Rate}

The conversion rate of the Series G Preferred Stock is subject to adjustment under certain circumstances. U.S. Treasury regulations promulgated under Section 305 of the Code generally treat a U.S. holder of the Series G Preferred Stock as having received a constructive distribution includable in such U.S. holder's income in the manner as described above under "U.S. Holders Dividends," above, if and to the extent that certain adjustments in the conversion rate increase the proportionate interest of a U.S. holder in our assets or our earnings and profits. For example, any decrease in the conversion price described above under "Description of the Series G Preferred Stock - Mandatory Conversion" would result in an upward adjustment in the conversion rate and so will generally give rise to a deemed taxable dividend to the holders of the Series G Preferred Stock to the extent of our current and accumulated earnings and profits. Thus, under certain circumstances, U.S. holders may recognize income in the event of a constructive distribution even though they may not receive any cash or property. However, adjustments to the conversion price made pursuant to a bona fide reasonable adjustment formula which has the effect of preventing dilution in the interest of the U.S. holders of the Series G Preferred Stock will generally not be considered to result in a constructive dividend distribution.

\section*{Information Reporting and Backup Withholding}

In general, information reporting will apply to dividends in respect of the Series G Preferred Stock or our common stock and the proceeds from the sale, exchange or other disposition of the Series G Preferred Stock or our common stock that are paid to a U.S. holder within the United States (and in certain cases, outside the United States), unless a U.S. holder is an exempt recipient such as a corporation. A backup withholding tax may apply to such payments if a U.S. holder fails to provide a taxpayer identification number or certification of other exempt status or fails to report in full dividend and interest income.

Any amounts withheld under the backup withholding rules will be allowed as a refund or a credit against a U.S. holder's U.S. federal income tax liability provided the required information is furnished to the IRS.

\section*{Non-U.S. Holders}

\section*{Dividends}

Dividends (including distributions in the form of our Series G Preferred Stock or common stock taxable as dividends and any constructive distributions taxable as dividends) paid to a non-U.S. holder of the Series G Preferred Stock or our common stock generally will be subject to withholding of U.S. federal income tax at a \(30 \%\) rate or such lower rate as may be specified by an applicable income tax treaty. However, dividends that are effectively connected with the conduct of a trade or business by the nonU.S. holder within the United States (and, if required by an applicable income tax treaty, are attributable to a U.S. permanent establishment) are not subject to the withholding tax, provided certain certification and disclosure requirements are satisfied. Instead, such dividends are subject to U.S. federal income tax on a net income basis in the same manner as if the non-U.S. holder were a U.S. person as defined under the Code. Any such effectively connected dividends received by a foreign corporation may be subject to an additional "branch profits tax" at a \(30 \%\) rate or such lower rate as may be specified by an applicable income tax treaty.

A non-U.S. holder of the Series G Preferred Stock or our common stock who wishes to claim the benefit of an applicable treaty rate and avoid backup withholding, as discussed below, for dividends will be required (a) to complete Internal Revenue Service Form W-8BEN (or other applicable form) and certify under penalty of perjury that such holder is not a U.S. person as defined under the Code and is eligible for treaty benefits or (b) if the Series G Preferred Stock or our common stock is held through certain foreign intermediaries, to satisfy the relevant certification requirements of applicable U.S. Treasury regulations. Special certification and

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other requirements apply to certain non-U.S. holders that are pass-through entities rather than corporations or individuals.
A non-U.S. holder of the Series G Preferred Stock or our common stock eligible for a reduced rate of U.S. withholding tax pursuant to an income tax treaty may obtain a refund of any excess amounts withheld by filing an appropriate claim for refund with the Internal Revenue Service.

\section*{Sale or Other Disposition}

Any gain realized on the disposition of the Series G Preferred Stock or our common stock (including, in the case of conversion, the deemed exchange that gives rise to a payment of cash in lieu of a fractional common share) generally will not be subject to U.S. federal income tax unless:
- the gain is effectively connected with a trade or business of the non-U.S. holder in the United States (and, if required by an applicable income tax treaty, is attributable to a U.S. permanent establishment of the non-U.S. holder);
- the non-U.S. holder is an individual who is present in the United States for 183 days or more in the taxable year of that disposition, and certain other conditions are met; or
- we are or have been a "United States real property holding corporation" for U.S. federal income tax purposes.
An individual non-U.S. holder described in the first bullet point immediately above will be subject to tax on the net gain derived from the sale under regular graduated U.S. federal income tax rates. An individual non-U.S. holder described in the second bullet point immediately above will be subject to a flat \(30 \%\) tax on the gain derived from the sale, which may be offset by U.S. source capital losses, even though the individual is not considered a resident of the United States. If a non-U.S. holder that is a foreign corporation falls under the first bullet point immediately above, it will be subject to tax on its net gain in the same manner as if it were a U.S. person as defined under the Code and, in addition, may be subject to the branch profits tax equal to \(30 \%\) of its effectively connected earnings and profits or at such lower rate as may be specified by an applicable income tax treaty.

We believe we are not and do not anticipate becoming a "United States real property holding corporation" for U.S. federal income tax purposes.

\section*{Conversion into Common Stock}

Non-U.S. holders will generally not recognize any gain or loss in respect of the receipt of common stock upon the conversion of the Series G Preferred Stock, except with respect to any cash received in lieu of a fractional share that is taxable as described above under "Non-U.S. Holders - Sale or Other Disposition."

\section*{Adjustment of Conversion Rate}

As described above under "U.S. Holders - Adjustment of Conversion Rate," adjustments in the conversion rate (or failures to adjust the conversion rate) that increase the proportionate interest of a non-U.S. holder in our earning and profits could result in deemed distributions to the non-U.S. holder that are taxed as described under "Non-U.S. Holders - Dividends."

\section*{Federal Estate Tax}

The Series G Preferred Stock and common stock owned or treated as owned by an individual who is not a citizen or resident of the United States (as specially defined for U.S. federal estate tax purposes) at the time of death will be included in the individual's gross estate for U.S. federal estate tax purposes, unless an applicable estate tax or other treaty provides otherwise and, therefore, may be subject to U.S. federal estate tax.

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\section*{Information Reporting and Backup Withholding}

We must report annually to the Internal Revenue Service and to each non-U.S. holder the amount of dividends paid to such holder and the tax withheld with respect to such dividends, regardless of whether withholding was required. Copies of the information returns reporting such dividends and withholding may also be made available to the tax authorities in the country in which the nonU.S. holder resides under the provisions of an applicable income tax treaty.

A non-U.S. holder will be subject to backup withholding for dividends paid to such holder unless such holder certifies under penalty of perjury that it is a non-U.S. holder (and the payor does not have actual knowledge or reason to know that such holder is a U.S. person as defined under the Code), or such holder otherwise establishes an exemption.

Information reporting and, depending on the circumstances, backup withholding will apply to the proceeds of a sale of the Series G Preferred Stock or our common stock within the United States or conducted through certain U.S.-related financial intermediaries, unless the beneficial owner certifies under penalty of perjury that it is a non-U.S. holder (and the payor does not have actual knowledge or reason to know that the beneficial owner is a U.S. person as defined under the Code), or such owner otherwise establishes an exemption.

Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a non-U.S. holder’s U.S. federal income tax liability provided the required information is furnished to the Internal Revenue Service.

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\section*{CERTAIN ERISA CONSIDERATIONS}

The following is a summary of certain considerations associated with the purchase of the common stock or Series G Preferred Stock, as the case may be, by employee benefit plans subject to Title I of the U.S. Employee Retirement Income Security Act of 1974, as amended, which we refer to as ERISA; plans, individual retirement accounts and other arrangements subject to Section 4975 of the Code or provisions under any federal, state, local, non-U.S. or other laws or regulations that are similar to such provisions of ERISA or the Code, which we collectively refer to as Similar Laws; and entities whose underlying assets are considered to include "plan assets" of any such plan, account or arrangement (each of which we call a "Plan").

Each fiduciary of a Plan should consider the fiduciary standards of ERISA or any applicable Similar Laws in the context of the Plan's particular circumstances before authorizing an investment in the common stock or Series G Preferred Stock. Accordingly, among other factors, the fiduciary should consider whether the investment would satisfy the prudence and diversification requirements of ERISA or any applicable Similar Laws and would be consistent with the documents and instruments governing the Plan.

Section 406 of ERISA and Section 4975 of the Code prohibit Plans subject to such provisions, which we call ERISA Plans, from engaging in certain transactions involving "plan assets" with persons that are "parties in interest" under ERISA or "disqualified persons" under the Code with respect to such ERISA Plans. A violation of these "prohibited transaction" rules may result in an excise tax or other liabilities under ERISA and/or Section 4975 of the Code for those persons, unless exemptive relief is available under an applicable individual, class, statutory or administrative exemption. Employee benefit plans that are governmental plans (as defined in Section 3(32) of ERISA), certain church plans (as defined in Section 3(33) of ERISA) and foreign plans (as described in Section 4(b)(4) of ERISA) are not subject to the requirements of ERISA or Section 4975 of the Code, but may be subject to Similar Laws.

Prohibited transactions within the meaning of Section 406 of ERISA or Section 4975 of the Code could arise if the common stock or Series G Preferred Stock were acquired or held by an ERISA Plan with respect to which a selling stockholder, we or any of their or our affiliates are a party in interest or a disqualified person. For example, if we are a party in interest or disqualified person with respect to an investing ERISA Plan (either directly or by reason of our ownership of our subsidiaries), a prohibited transaction between the investing ERISA Plan and us may be deemed to occur, unless exemptive relief were available under an applicable exemption. In this regard, the United States Department of Labor has issued prohibited transaction class exemptions, or PTCEs, that may provide exemptive relief for direct or indirect prohibited transactions resulting from the purchase, holding or disposition of the common stock or Series G Preferred Stock. Those class exemptions include:
- PTCE 96-23 — for certain transactions determined by in-house asset managers;
- PTCE 95-60 - for certain transactions involving insurance company general accounts;
- PTCE 91-38 — for certain transactions involving bank collective investment funds;
- PTCE 90-1 — for certain transactions involving insurance company separate accounts; and
- PTCE 84-14 - for certain transactions determined by independent qualified professional asset managers.
In addition, Section 408(b)(17) of ERISA and Section 4075(d)(20) of the Internal Revenue Code provide a limited exemption for the purchase and sale of securities, provided that neither the issuer of the securities nor any of its affiliates have or exercise any discretionary authority or control or render any investment advice with respect to the assets of any ERISA Plan involved in the transaction and provided further that the ERISA Plan pays no more and receives no less than adequate consideration in connection with the transaction. No assurance can be made that all of the conditions of any such exemptions will be satisfied.

Because of the possibility that direct or indirect prohibited transactions or similar violations of applicable Similar Laws could occur as a result of the purchase or holding of the common stock or Series G Preferred Stock by a Plan, neither the common stock nor Series G Preferred Stock may be purchased or held by any

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Plan, or any person investing the assets of any Plan, unless its purchase and holding of any such securities will not constitute or result in a non-exempt prohibited transaction under ERISA or the Code or a similar violation of any applicable Similar Laws. Each purchaser and holder of the common stock or Series G Preferred Stock or any interest in the common stock or Series G Preferred Stock will be deemed to have represented by its purchase and holding of the common stock or Series G Preferred Stock that either:
- it is not a Plan and is not purchasing or holding the shares of such security or any interest in such security on behalf of or with the assets of any Plan; or
- its purchase and holding of any of the shares of common stock or Series G Preferred Stock or interest in any of the common stock or Series G Preferred Stock will not constitute or result in a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code or a similar violation of any applicable Similar Laws.
Due to the complexity of these rules and the penalties imposed upon persons involved in non-exempt prohibited transactions, it is important that any person considering the purchase or holding of the common stock or Series G Preferred Stock on behalf of or with the assets of any Plan consult with its counsel regarding the consequences under ERISA, the Code and any applicable Similar Laws, whether any exemption would be applicable, and whether all conditions of such exemption have been satisfied such that the purchase and holding of the common stock or Series G Preferred Stock by the Plan is entitled to full exemptive relief thereunder.

Nothing herein shall be construed as, and the sale of shares of common stock or Series G Preferred Stock to a Plan is in no respect, a representation by us or the selling stockholders that any investment in the common stock or Series G Preferred Stock would meet any or all of the relevant legal requirements with respect to investment by, or is appropriate for, Plans generally or any particular Plan.

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SELLING STOCKHOLDERS
The table below sets forth information with respect to the selling stockholders and the number of shares of our common stock and Series G Preferred Stock that may be resold pursuant to this prospectus supplement.

We have prepared the table based on information given to us by, or on behalf of, the selling stockholders on or about May 9, 2008. The selling stockholders may have sold, transferred or otherwise disposed of some or all of their shares of common stock since the date on which the selling stockholders provided this information.

The number of shares beneficially owned by each selling stockholder is determined according to the rules of the SEC, and the information is not necessarily indicative of ownership for any other purpose. Under these rules, beneficial ownership includes any shares as to which the individual or entity has sole or shared voting power or investment power. As a consequence, several persons may be deemed to be the "beneficial owners" of the same shares. The selling stockholders and their respective transferees, pledgees, donees or successors, may from time to time offer and sell pursuant to this prospectus supplement any or all of the shares of common stock or Series G Preferred Stock owned by such selling stockholder, but are under no obligation to offer or sell any of the shares.
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{Number of Shares of Common Stock Beneficially
\(\qquad\)} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby(1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After Completion of the Offering)(3) & Number & \% (After Completion of the Offering)(4) \\
\hline Abitibi-Consolidated Company of Canada Master Trust Fund (nominee: Desjardins Trust Inc./00907631/6)(5) & 11,745 & 111,745 & * & 5 & * \\
\hline Advanced Series Trust T. Rowe Price Asset Allocation Portfolio(6) & 45,600 & 52,100 & * & 2 & * \\
\hline AEGON/Transamerica Series - & & & & & \\
\hline T. Rowe Price Equity Income(6) & 139,900 & 233,600 & * & 9 & * \\
\hline American Airlines, Inc. Master Fixed Benefit Pension Plan Trust(7) & 143,700 & 1,443,700 & * & 65 & * \\
\hline American Bar Association Members Retirement Trust and American Bar Association Members Pooled Trust for Retirement Plans (nominee: Greatbreaker \& Сo.)(5) & 14,094 & 134,094 & * & 6 & * \\
\hline American Beacon Balanced Fund(7) & 87,400 & 807,400 & * & 36 & * \\
\hline American Beacon Large Cap Value Fund(7) & 312,700 & 3,072,700 & * & 138 & * \\
\hline \begin{tabular}{l}
American Beverage \\
Association(8)
\end{tabular} & 19,900 & 39,900 & * & 1 & * \\
\hline American Funds Insurance Series - Asset Allocation Fund(9) & 1,100,000 & 10,500,000 & * & 470 & * \\
\hline American Funds Insurance Series - Blue Chip Income and Growth Fund(10) & 190,900 & 1,385,000 & * & 62 & * \\
\hline American Funds Insurance Series - Global Growth and Income Fund(9) & 1,338,986 & 6,125,000 & * & 274 & * \\
\hline American Funds Insurance Series — Growth Fund(9) & 930,000 & 8,750,000 & * & 391 & * \\
\hline Anchorage Capital Master Offshore, Ltd. (11) & 1,580,000 & 15,000,000 & * & 671 & * \\
\hline Aristeia International Limited(12) & 1,721,614 & 16,401,614 & * & 734 & * \\
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\end{tabular}

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\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{\begin{tabular}{c} 
Number of \\
Shares of \\
Common Stock \\
Beneficially \\
Owned(2) \\
\hline
\end{tabular}} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby(1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After Completion of the Offering)(3) & Number & \% (After Completion of the Offering)(4) \\
\hline Aristeia Partners, L.P. (13) & 214,586 & 2,034,586 & * & 91 & * \\
\hline Aristeia Special Investments Masters, L.P. (12) & 163,800 & 1,563,800 & * & 70 & * \\
\hline Asahi Glass CPF(14) & 64,800 & 280,000 & * & 14 & * \\
\hline ATU/TriMet Joint Pension Trust(7) & 14,900 & 134,900 & * & 6 & * \\
\hline AustralianSuper Pty Ltd(14) & 97,048 & 560,000 & * & 28 & * \\
\hline AXA Premier VIP Small/Mid Cap Value Portfolio (nominee: Cudd \& Co.)(5) & 68,122 & 648,122 & * & 29 & * \\
\hline Bank of America Structured Research(6) & 49,100 & 52,800 & * & 2 & * \\
\hline Black Canyon Direct Investment Fund, L.P. (15) & 249,935 & 2,429,935 & * & 109 & * \\
\hline Brandes Global Mid Cap Portfolio(14) & 87,848 & 87,848 & * & 0 & * \\
\hline \begin{tabular}{l}
Brandes Investment Funds plc \\
Brandes Global Equities \\
Fund(14)
\end{tabular} & 435,640 & 4,060,000 & * & 203 & * \\
\hline Brandes U.S. Mid Cap Equity Portfolio(14) & 5,590 & 5,590 & * & 0 & * \\
\hline Canadian Medical Association Pension Plan(14) & 1,483,109 & 798,620 & * & 0 & * \\
\hline \begin{tabular}{l}
Canadian Pacific Railway \\
Company Pension Plan (nominee: Mac and Co.)(5)
\end{tabular} & 70,471 & 670,471 & * & 30 & * \\
\hline Canyon Balanced Equity Master Fund, Ltd. (15) & 1,709,647 & 9,000,000 & * & 403 & * \\
\hline Canyon Capital Arbitrage Master Fund, Ltd. (15) & 148,251 & 800,000 & * & 36 & * \\
\hline \begin{tabular}{l}
Canyon Special Opportunities \\
Master Fund (Cayman) \\
Ltd. (15)
\end{tabular} & 719,081 & 4,000,000 & * & 179 & * \\
\hline Canyon Value Realization Fund, L.P. (15) & 3,777,871 & 19,842,145 & * & 887 & * \\
\hline Canyon Value Realization MAC-18 Ltd. (15) & 411,129 & 2,180,000 & * & 98 & * \\
\hline Canyon VRF Trading Limited(15) & 40,000 & 400,000 & * & 18 & * \\
\hline CIF All Cap Equity Fund (nominee: Chains \& Co.)(5) & 54,028 & 514,028 & * & 23 & * \\
\hline Citi Canyon Ltd. (15) & 123,025 & 650,000 & * & 29 & * \\
\hline City of Austin Police Retirement System(14) & 468,703 & 408,494 & * & 0 & * \\
\hline Co-operative Superannuation Society Pension Plan(14) & 996,459 & 793,329 & * & 0 & * \\
\hline D.E. Shaw Oculus Portfolios, L.L.C. (16) & 3,670,000 & 34,990,000 & * & 1,566 & * \\
\hline D.E. Shaw Valence Portfolios, L.L.C. (16) & 3,902,100 & 35,010,000 & * & 1,567 & * \\
\hline Delta Institutional, LP(17) & 981,600 & 9,381,600 & * & 420 & * \\
\hline Delta Offshore Master, Ltd. (18) & 1,871,700 & 17,891,700 & * & 801 & * \\
\hline Delta Onshore, LP(17) & 109,300 & 1,029,300 & * & 46 & * \\
\hline Delta Pleiades, LP(17) & 177,400 & 1,697,400 & * & 76 & * \\
\hline
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\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{\begin{tabular}{c} 
Number of \\
Shares of \\
Common Stock \\
Beneficially \\
Owned(2) \\
\hline
\end{tabular}} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby(1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After
Completion of
the Offering)(3) & Number & \% (After Completion of the Offering)(4) \\
\hline Diversified Investment Advisors Value Fund(7) & 65,900 & 605,900 & * & 27 & * \\
\hline DMC (DR) Limited(7) & 17,900 & 37,900 & * & 1 & * \\
\hline Duluth Teachers' Retirement Fund (nominee: EMSEG \& Co.)(5) & 4,698 & 44,698 & * & 2 & * \\
\hline Electronic Data Systems(7) & 114,600 & 1,174,600 & * & 53 & * \\
\hline Elliott Associates, L.P. (19) & 800,000 & 7,600,000 & * & 340 & * \\
\hline Elliott International, L.P. (20) & 1,200,000 & 11,400,000 & * & 510 & * \\
\hline Employee's Pension Fund of Tokyo Pharmaceutical Industry(14) & 155,800 & 300,000 & * & 15 & * \\
\hline Exel plc Pension(14) & 1,134,805 & 898,447 & * & 0 & * \\
\hline Farallon Capital Institutional Partners II, L.P. (21)(22) & 66,200 & 1,265,500 & * & 15 & * \\
\hline Farallon Capital Institutional Partners III, L.P. (21)(22) & 81,400 & 439,300 & * & 20 & * \\
\hline Farallon Capital Institutional Partners, L.P. (21)(22) & 1,583,000 & 8,307,100 & * & 413 & * \\
\hline Farallon Capital Offshore Investors, Inc. (21)(23) & 1,228,000 & 6,990,000 & * & 313 & * \\
\hline Farallon Capital Offshore Investors II, L.P. (21)(22) & 1,304,300 & 7,213,600 & * & 323 & * \\
\hline Farallon Capital Partners, L.P. (21)(22) & 1,031,600 & 5,784,500 & * & 259 & * \\
\hline Fidelity Advisor Series VII Trust: Fidelity Advisor Financial Services Fund(24) & 17,900 & 157,900 & * & 7 & * \\
\hline Fidelity Central Investment Portfolios LLC: Fidelity Financials Central Fund(24) & 92,000 & 752,000 & * & 33 & * \\
\hline Fidelity Northstar Fund(25) & 499,900 & 8,279,900 & * & 389 & * \\
\hline Fidelity Puritan Trust: Fidelity Low-Priced Stock Fund(24) & 3,520,000 & 30,000,000 & * & 1,324 & * \\
\hline Fidelity Select Portfolios: Banking Portfolio(24) & 257,200 & 238,600 & * & 11 & * \\
\hline Fidelity Select Portfolios: Financial Services Portfolio(24) & 29,500 & 269,500 & * & 12 & * \\
\hline Fidelity Select Portfolios: Home Finance Portfolio(24) & 55,898 & 239,500 & * & 11 & * \\
\hline FIP USA Large Cap(14) & 53,864 & 32,244 & * & 0 & * \\
\hline France-Merrick Foundation(8) & 6,800 & 86,800 & * & 4 & * \\
\hline Frank B. Foster III(8) & 6,400 & 6,400 & * & 0 & * \\
\hline Fundamental Investors, Inc. (9) & 550,000 & 5,250,000 & * & 235 & * \\
\hline GA Fund L Equities World Mid Cap Value TP(14) & 184,681 & 184,681 & * & 0 & * \\
\hline Girl Scouts of the USA(7) & 17,900 & 37,900 & * & 1 & * \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{Number of
Shares of
Common Stock
Beneficially
Owned(2)} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby (1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After Completion of the Offering)(3) & Number & \% (After Completion of the Offering)(4) \\
\hline Girl Scouts of the USA & & & & & \\
\hline Retirement Plan(7) & 7,200 & 27,200 & * & 1 & * \\
\hline Gordel Holdings Limited(26) & 0 & 640,000 & * & 32 & * \\
\hline GPC LVII, LLC(26) & 0 & 1,100,000 & * & 55 & * \\
\hline Guggenheim Portfolio Company X, L.L.C. (27) & 58,015 & 558,015 & * & 25 & * \\
\hline Hallmark Cards, Incorporated Master Trust (nominee: Deeprock \& Co.)(5) & 4,698 & 44,698 & * & 2 & * \\
\hline Harris Corp Retirement Trust(6) & 93,100 & 155,700 & * & 6 & * \\
\hline Hartford Capital Appreciation HLS Fund (nominee: Playroom \& Co.)(5) & 138,592 & 1,318,592 & * & 59 & * \\
\hline Hartford MidCap Value HLS Fund (nominee: Palmbeach \& Co.)(5) & 164,432 & 1,564,432 & * & 70 & * \\
\hline Hartford Value Opportunities HLS Fund (nominee: Watchcourse \& Co.)(5) & 96,310 & 916,310 & * & 41 & * \\
\hline Health Services Retirement Plan(8) & 11,800 & 91,800 & * & 4 & * \\
\hline Hotchkis and Wiley Core Value Fund(7) & 856,400 & 8,296,400 & * & 372 & * \\
\hline Hotchkis and Wiley Mid-Cap Value Fund(7) & 1,836,700 & 17,856,700 & * & 801 & * \\
\hline Hyperion (EQ) Limited(7) & 16,300 & 56,300 & * & 2 & * \\
\hline IKANO International Funds Value Portfolio(14) & 145,989 & 900,000 & * & 45 & * \\
\hline Indiana Public Employees’ Retirement Fund(14) & 1,521,199 & 1,176,566 & * & 0 & * \\
\hline ING Investors Trust - ING T. Rowe Price Capital Appreciation Portfolio(6) & 323,700 & 1,423,700 & * & 55 & * \\
\hline \begin{tabular}{l}
ING Investors Trust - ING T. \\
Rowe Price Equity Income Portfolio(6)
\end{tabular} & 374,200 & 671,400 & * & 26 & * \\
\hline ING LargeCap Value Fund(14) & 0 & 300,000 & * & 15 & * \\
\hline Institutional Benchmarks Series (Master Feeder) Ltd. (15) & 202,536 & 1,040,000 & * & 46 & * \\
\hline ITT Industries INC-SRS(6) & 10,400 & 22,700 & * & 1 & * \\
\hline Jackson County, Missouri Revised Pension Plan(7) & 22,100 & 122,100 & * & 5 & * \\
\hline \begin{tabular}{l}
JNL Series Trust — JNL/ T. \\
Rowe Price Value Fund(6)
\end{tabular} & 61,100 & 261,100 & * & 10 & * \\
\hline John Hancock Funds II Equity Income Fund(6) & 261,800 & 442,900 & * & 17 & * \\
\hline John Hancock Funds II Spectrum Income Fund(6) & 48,100 & 78,200 & * & 3 & * \\
\hline John Hancock Trust - EquityIncome Trust(6) & 597,600 & 1,063,200 & * & 41 & * \\
\hline \[
\begin{aligned}
& \text { John Hancock Trust — Mid } \\
& \text { Value Trust(6) }
\end{aligned}
\] & 38,200 & 178,200 & * & 7 & * \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{Number of Shares of Common Stock Beneficially Owned(2)} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby(1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After Completion of
\(\qquad\) & Number & \% (After Completion of
\(\qquad\) \\
\hline John Hancock Trust Spectrum Income Trust(6) & 52,600 & 79,800 & * & 3 & * \\
\hline KDDI CPF(14) & 55,844 & 280,000 & * & 14 & * \\
\hline Kuwait Fund for Arab Economic Development(14) & 142,892 & 560,000 & * & 28 & * \\
\hline Kuwait Investment Authority(7) & 182,200 & 1,802,200 & * & 81 & * \\
\hline Lansdowne Global Financial Fund L.P. & 1,501,060 & 11,182,000 & * & 500 & * \\
\hline Lansdowne Global Financial Fund Limited & 8,478,940 & 63,818,000 & * & 2,857 & * \\
\hline Legg Mason American Leading Companies(8) & 104,620 & 1,004,620 & * & 45 & * \\
\hline Legg Mason Opportunities Trust(39) & 983,380 & 9,403,380 & * & 421 & * \\
\hline Legg Mason Partners Equity Trust - Legg Mason Partners All Cap Fund(8) & 402,400 & 4,002,400 & * & 180 & * \\
\hline Legg Mason Special Investment Trust(8) & 983,600 & 9,943,600 & * & 448 & * \\
\hline \begin{tabular}{l}
Lloyd's Register \\
Superannuation \\
Fund Association(14)
\end{tabular} & 268,183 & 1,160,000 & * & 58 & * \\
\hline Lumber Industry Pension Fund(7) & 17,400 & 97,400 & * & 4 & * \\
\hline MarketPLUS Mid Cap Value Portfolio (nominee: Cudd \& Co.)(5) & 89,263 & 849,263 & * & 38 & * \\
\hline Mason Capital, L.P. (27) & 258,210 & 2,478,210 & * & 111 & * \\
\hline Mason Capital, Ltd. (27) & 1,143,775 & 10,963,775 & * & 491 & * \\
\hline Maverick Fund II, Ltd. (28) & 2,932,074 & 13,892,850 & * & 622 & * \\
\hline Maverick Fund USA, Ltd. (28) & 741,090 & 3,887,540 & * & 174 & * \\
\hline Maverick Fund, L.D.C(28) & 1,990,110 & 10,363,660 & * & 464 & * \\
\hline Maverick Long Enhanced Fund, Ltd. (28) & 79,830 & 469,120 & * & 21 & * \\
\hline Maverick Long Fund, Ltd. (28) & 56,090 & 247,030 & * & 11 & * \\
\hline Maverick Neutral Fund, Ltd. (28) & 68,500 & 246,590 & * & 11 & * \\
\hline Maverick Neutral Levered Fund, Ltd. (28) & 71,850 & 557,820 & * & 25 & * \\
\hline Maxim Series Fund, Inc. Maxim T. Rowe Price Equity/Income Portfolio(6) & 256,600 & 463,500 & * & 18 & * \\
\hline McDermott Incorporated Master Trust (nominee: Bost \& Co.)(5) & 9,396 & 89,396 & * & 4 & * \\
\hline Meditor European Master Fund Limited(29) & 3,140,000 & 30,000,000 & * & 1,343 & * \\
\hline \begin{tabular}{l}
MidMichigan Medical \\
Center - Midland \\
Employees' Pension Plan(8)
\end{tabular} & 18,800 & 138,800 & * & 6 & * \\
\hline MidMichigan Medical Center - Midland Employees' Retirement Healthcare Plan(8) & 10,300 & 10,300 & * & 0 & * \\
\hline Mitsubishi Corporation Pension Fund(14) & 52,490 & 220,000 & * & 11 & * \\
\hline \begin{tabular}{l}
MML Series Investment Fund - MML Equity Income Fund(6) \\
Monsanto Company(7)
\end{tabular} & 112,300
9,100 & 182,800
149,100 & * & 7 & * \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{Number of Shares of Common Stock Beneficially Owned(2)} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby (1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After Completion of the Offering)(3) & Number & \% (After Completion of the Offering)(4) \\
\hline \begin{tabular}{l}
Montana Board of \\
Investments - SRS(6)
\end{tabular} & 20,000 & 25,200 & * & 1 & * \\
\hline National Girl Scout Council Retirement Plan(7) & 7,400 & 147,400 & * & 7 & * \\
\hline Nebraska Public Power District Employee Retirement Plan(7) & 4,600 & 84,600 & * & 4 & * \\
\hline New York State Common Retirement Fund(14) & 629,869 & 4,860,000 & * & 243 & * \\
\hline Norges Bank (Central Bank of Norway)(30) & 5,325,948 & 30,000,000 & * & 1,342 & * \\
\hline \begin{tabular}{l}
Norges Bank US Radnor \\
Concentrated Portfolio (nominee: Cudd \& Co.)(5)
\end{tabular} & 418,126 & 3,978,126 & * & 178 & * \\
\hline Nortel Networks Limited(14) & 178,480 & 1,000,000 & * & 50 & * \\
\hline North Carolina Department of State Treasurer(7) & 131,200 & 1,331,200 & * & 60 & * \\
\hline \begin{tabular}{l}
Northwestern Mutual \\
Series Fund, Inc. - T. Rowe \\
Price Equity Income \\
Portfolio(6)
\end{tabular} & 56,600 & 82,300 & * & 3 & * \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multicolumn{6}{|l|}{Northwestern Mutual} \\
\hline \multicolumn{6}{|l|}{Series Fund, Inc. - T. Rowe} \\
\hline Price Small-Cap Value & & & & & \\
\hline Portfolio(6) & 11,000 & 51,000 & * & 2 & * \\
\hline Nunavut Trust(14) & 879,302 & 810,249 & * & 0 & * \\
\hline NVIT Multi-Manager Large Cap Value Fund (nominee: Cudd \& Co.)(5) & 2,349 & 22,349 & * & 1 & * \\
\hline Old Lane Cayman Master Fund, L.P. (31) & 96,400 & 976,400 & * & 44 & * \\
\hline Old Lane HMA Master Fund, L.P. (31) & 29,400 & 289,400 & * & 13 & * \\
\hline Old Lane US Master Fund, L.P. (31) & 74,200 & 734,200 & * & 33 & * \\
\hline Oregon State University Foundation(7) & 11,200 & 111,200 & * & 5 & * \\
\hline \begin{tabular}{l}
Oregon-Washington Carpenters- \\
Employers Pension \\
Trust Fund(7)
\end{tabular} & 6,100 & 126,100 & * & 6 & * \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multicolumn{6}{|l|}{OZ Global Special Investments} \\
\hline Master Fund, LP(26) & 0 & 2,520,000 & * & 126 & * \\
\hline OZ Master Fund, Ltd. (26) & 0 & 35,740,000 & * & 1,787 & * \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline Penn Series Funds, Inc. Flexibly Managed Fund(6) & 130,000 & 570,000 & * & 22 & * \\
\hline Pensioenfonds Voor De & & & & & \\
\hline Grafische Bedrijven (PGB)(6) & 57,800 & 55,600 & * & 2 & * \\
\hline Permal York Limited(32) & 183,529 & 1,763,529 & * & 79 & * \\
\hline \begin{tabular}{l}
Principal Investors Fund, Inc - \\
Partners Largecap Blend \\
Fund(6)
\end{tabular} & 92,553 & 84,353 & * & 3 & * \\
\hline \begin{tabular}{l}
Principal Variable Contracts \\
Fund, Inc. -Large Cap Blend \\
Series(6)
\end{tabular} & 23,900 & 26,300 & * & 1 & * \\
\hline \begin{tabular}{l}
Prudential Retirement Mid Cap \\
Value Fund (nominee: \\
IFTCO)(5)
\end{tabular} & 129,196 & 1,229,196 & * & 55 & * \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{Number of Shares of Common Stock Beneficially
\(\qquad\)} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby(1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After Completion of the Offering)(3) & Number & \% (After Completion of the Offering)(4) \\
\hline Public Employees' Retirement System of Mississippi (nominee: Hare \& Co.)(5) & 84,565 & 804,565 & * & 36 & * \\
\hline Railways Pension Trustee Co
\[
\operatorname{Ltd}(14)
\] & 423,288 & 2,300,000 & * & 115 & * \\
\hline RBS Asset Management Equator INV Funds(6) & 13,000 & 23,400 & * & 1 & * \\
\hline RMB Unit Trusts Limited(14) & 88,000 & 280,000 & * & 14 & * \\
\hline Roseburg Forest Products Co. and Carpenters Industrial Council Pension Plan(7) & 19,600 & 79,600 & * & 3 & * \\
\hline S.A.C. Arbitrage Fund, LLC(33) & 209,916 & 2,009,916 & * & 90 & * \\
\hline S.A.C. Capital Associates, LLC(33) & 2,730,084 & 25,990,084 & * & 1,163 & * \\
\hline Samlyn Offshore, Ltd. (34) & 490,560 & 4,670,560 & * & 209 & * \\
\hline Samlyn Onshore Fund, L.P. (35) & 349,440 & 3,329,440 & * & 149 & * \\
\hline Saudi Arabian Monetary Agency(14) & 3,506,606 & 11,217,274 & * & 482 & * \\
\hline Saudi Arabian Monetary Agency - Global Portfolio II(14) & 984,875 & 5,860,000 & * & 293 & * \\
\hline Saudi Arabian Monetary Agency - Global Portfolio III(14) & 821,392 & 3,660,000 & * & 183 & * \\
\hline \[
\begin{aligned}
& \text { SBL Fund — Series O (Equity } \\
& \text { Income Series)(6) }
\end{aligned}
\] & 78,500 & 131,500 & * & 5 & * \\
\hline Selector Management Fund Selector Global Value(14) & 65,927 & 40,000 & * & 2 & * \\
\hline Skandia US Value Fund(7) & 42,600 & 422,600 & * & 19 & * \\
\hline SKL Investment Group, LLC(7) & 13,800 & 93,800 & * & 4 & * \\
\hline Sony Corporation CPF(14) & 59,624 & 260,000 & * & 13 & * \\
\hline Southern California UFCWU \& FE Joint Pension(6) & 23,500 & 26,100 & * & 1 & * \\
\hline Stark Criterion Master Fund Ltd. (36) & 31,400 & 311,400 & * & 14 & * \\
\hline Stark Global Opportunities Master Fund Ltd. (36) & 157,000 & 1,497,000 & * & 67 & * \\
\hline Stark Master Fund Ltd. (36) & 2,951,600 & 28,191,600 & * & 1,262 & * \\
\hline State of California — Mid Cap Value(6) & 56,800 & 256,800 & * & 10 & * \\
\hline State Retirement \& Pension System of Maryland(6) & 45,900 & 51,900 & * & 2 & * \\
\hline State Universities Retirement System of Illinois(6) & 21,700 & 25,300 & * & 1 & * \\
\hline \begin{tabular}{l}
Stichting \\
Bedrijfstakpensioenfonds voor het Schilders-, Afwerkings- en Glaszetefrijf(7)
\end{tabular} & 10,300 & 110,300 & * & 5 & * \\
\hline Sunamerica Seasons Series Trust - Large-Cap Value Portfolio(6) & 37,200 & 54,700 & * & 2 & * \\
\hline SUPERVALU Inc. Benefit Plan(7) & 107,100 & 927,100 & * & 41 & * \\
\hline T. Rowe Price Balanced Fund(6) & 72,000 & 182,400 & * & 7 & * \\
\hline
\end{tabular}

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\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Name of Selling Stockholders} & \multirow[b]{2}{*}{\begin{tabular}{c} 
Number of \\
Shares of \\
Common Stock \\
Beneficially \\
Owned(2) \\
\hline
\end{tabular}} & \multicolumn{2}{|l|}{Maximum Number of Shares of Common Stock which may be Resold Hereby (1)} & \multicolumn{2}{|l|}{Shares of Series G Preferred Stock Beneficially Owned and which may be Resold Hereby} \\
\hline & & Number & \% (After Completion of the Offering)(3) & Number & \% (After Completion of the Offering)(4) \\
\hline T. Rowe Price Capital Appreciation Fund(6) & 920,835 & 4,100,835 & * & 159 & * \\
\hline T. Rowe Price Capital Appreciation Trust(6) & 9,000 & 29,000 & * & 1 & * \\
\hline T. Rowe Price Capital Opportunity Fund(6) & 23,400 & 26,100 & * & 1 & * \\
\hline T. Rowe Price Equity Income Fund(6) & 6,118,325 & 10,608,325 & * & 412 & * \\
\hline T. Rowe Price Equity Income Portfolio(6) & 494,300 & 879,000 & * & 34 & * \\
\hline T. Rowe Price Equity Income Trust(6) & 84,400 & 133,400 & * & 5 & * \\
\hline T. Rowe Price Financial Services Fund, Inc(6) & 212,218 & 932,218 & * & 36 & * \\
\hline T. Rowe Price Institutional U.S. Structured Research Fund(6) & 11,000 & 23,100 & * & 1 & * \\
\hline T. Rowe Price Mid-Cap Value Fund, Inc(6) & 1,641,796 & 7,261,796 & * & 281 & * \\
\hline T. Rowe Price Personal Strategy Growth Fund(6) & 29,300 & 129,300 & * & 5 & * \\
\hline T. Rowe Price Personal Strategy Income Fund(6) & 10,000 & 50,000 & * & 2 & * \\
\hline T. Rowe Price PS Balanced Fund(6) & 27,200 & 107,200 & * & 4 & * \\
\hline T. Rowe Price PS Balanced Portfolio(6) & 3,400 & 23,400 & * & 1 & * \\
\hline T. Rowe Price Value Fund(6) & 735,873 & 3,275,873 & * & 127 & * \\
\hline TD Mutual Funds - TD U.S. Large-Cap Value Fund(6) & 135,790 & 234,500 & * & 9 & * \\
\hline Teachers' Retirement System of Oklahoma; Mid-Cap(7) & 220,200 & 2,080,200 & * & 93 & * \\
\hline The 1199SEIU Health Care Employees Pension Fund(7) & 257,100 & 46,600 & * & 0 & * \\
\hline The Canyon Value Realization Fund (Cayman), Ltd. (15) & 11,218,525 & 59,657,920 & * & 2,670 & * \\
\hline The Energy East Master Trust(7) & 42,100 & 382,100 & * & 17 & * \\
\hline The Growth Fund of America, Inc. (37) & 8,285,000 & 79,145,000 & * & 3,543 & * \\
\hline The Hartford Capital Appreciation II Fund (nominee: Barnaclewind \& Co.)(5) & 91,612 & 871,612 & * & 39 & * \\
\hline The Hartford MidCap Value Fund (nominee: Palmbeach \& Co.)(5) & 68,122 & 648,122 & * & 29 & * \\
\hline The Hartford Value Opportunities Fund (nominee: Watchpond \& Co.)(5) & 44,631 & 424,631 & * & 19 & * \\
\hline The Investment Company of America(10) & 2,505,000 & 23,845,000 & * & 1,067 & * \\
\hline The Lynde and Harry Bradley Foundation, Inc. (7) & 16,500 & 156,500 & * & 7 & * \\
\hline The Promotion \& Mutual Aid Corp for Private Schools of Japan(14) & 96,180 & 400,000 & * & 20 & * \\
\hline
\end{tabular}
\(\left.\begin{array}{lcccccc}\hline & & & & & \begin{array}{c}\text { Shares of Series G } \\ \text { Preferred Stock }\end{array} \\ \text { Bumber of } \\ \text { Shares of } \\ \text { which may be Resold }\end{array}\right\}\)

Wellington Trust Company, National Association Multiple
Collective Investment Funds
Trust, Mid Cap Value
Portfolio (nominee: Fidwell
\begin{tabular}{|c|c|c|c|c|c|}
\hline \& Co.)(5) & 21,141 & 201,141 & * & 9 & * \\
\hline WellPoint Cash Balance Pension Plan(7) & 55,200 & 535,200 & * & 24 & * \\
\hline Wells Fargo \& Company Master Pension Trust(6) & 9,700 & 22,500 & * & 1 & * \\
\hline Wilton R. Stephens, Jr. (7) & 4,600 & 104,600 & * & 5 & * \\
\hline York Capital Management, L.P. (32) & 825,882 & 7,885,882 & * & 353 & * \\
\hline York Enhanced Strategies Fund,
LLC(32) & 367,059 & 3,507,059 & * & 157 & * \\
\hline York Global Value Partners,
L.P. (32) & 494,118 & 4,714,118 & * & 211 & * \\
\hline York Investment Limited(32) & 2,202,353 & 21,022,353 & * & 941 & * \\
\hline York Select Unit Trust(32) & 931,765 & 8,891,765 & * & 398 & * \\
\hline York Select LP(32) & 755,294 & 7,215,294 & * & 323 & * \\
\hline
\end{tabular}

\footnotetext{
* Less than one percent
}

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(1) The "Maximum Number of Shares of Common Stock which may be Resold Hereby" column includes all common stock issuable upon conversion of such selling stockholder’s Series G Preferred Stock and the exercise of all of the Warrants issued to such selling stockholder, if any, in the equity investment transaction.
(2)

The "Number of Shares of Common Stock Beneficially Owned" column does not include any common stock issuable upon exercise of the warrants such selling stockholder received, if any, in the equity investment transaction, nor does it include common stock issuable upon conversion of Series G Preferred Stock; thus this amount may be less than the amount reflected for such selling stockholder in the "Maximum Number of Shares of Common Stock which may be Resold Hereby" column.
(3)

The percentage ownership of shares of common stock in the "\% (after completion of the offering)" column is calculated based on a share count which includes, in addition to outstanding shares, as of May 15, 2008 all shares of common stock issuable upon the conversion of the Series G Preferred Stock and the exercise of all of the warrants issued in the equity investment transaction.
(4)

The percentage ownership of Series G Preferred Stock in the "\% (after completion of the offering)" column is calculated based on 63,690 shares of our Series G Preferred Stock outstanding.
(5) Wellington Management Company, LLP ("Wellington") is an investment adviser registered under the Investment Advisers Act of 1940, as amended. Wellington, in such capacity, may be deemed to share beneficial ownership over the shares held by its client accounts.
(6)
T. Rowe Price Associates, Inc. ("TRPA") serves as investment adviser with power to direct investments and/or sole power to vote the securities owned by the selling stockholder named in the table, as well as securities owned by certain other individual and institutional investors. For purposes of reporting requirements of the Exchange Act, TRPA may be deemed to be the beneficial owner of all of the shares owned by each selling stockholder to which this footnote applies; however, TRPA expressly disclaims that it is, in fact, the beneficial owner of such securities. TRPA is the wholly owned subsidiary of T. Rowe Price Group, Inc., which is a publicly traded financial services holding company.
(7)

Hotchkis and Wiley Capital Management, LLC ("HWCM") serves as investment adviser with power to direct investments and/or sole power to vote the securities owned by the selling stockholder named in the table, as well as securities owned by certain other institutional investors. For purposes of reporting requirements of the Exchange Act, HWCM may be deemed to be the beneficial owner of all of the shares owned by each selling stockholder to which this footnote applies; however, HWCM expressly disclaims that it is, in fact, the beneficial owner of such securities.
(8) Legg Mason Capital Management, Inc. is the investment advisor of this selling stockholder and consequently has voting control and investment discretion over the shares held by this selling stockholder.

The selling stockholder is an investment company registered under the Investment Company Act of 1940. Capital Research and Management Company, or CRMC, an investment adviser registered under the Investment Advisers Act of 1940, is the investment adviser to this selling stockholder. CRMC provides investment advisory services to this selling stockholder through its division Capital World Investors, or CWI. In that capacity, CWI may be deemed to be the beneficial owner of shares held by this selling stockholder. CWI, however, disclaims such beneficial ownership.
(10)

The selling stockholder is an investment company registered under the Investment Company Act of 1940. Capital Research and Management Company, or CRMC, an investment adviser registered under the Investment Advisers Act of 1940, is the investment adviser to this selling stockholder. CRMC provides investment advisory services to this selling stockholder through its division Capital Research Global Investors, or CRGI. In that capacity, CRGI may be deemed to be the beneficial owner of shares held by this selling stockholder. CRGI, however, disclaims such beneficial ownership.
(11) Anchorage Advisors L.L.C. ("Advisors") is the investment advisor to the selling stockholder. In such capacity, Advisors exercises voting and investment power over the securities held for the account of the selling stockholder.
(12) Aristeia Capital LLC is the investment manager of the selling stockholder. Aristeia Capital LLC is jointly owned by Kevin Toner, Robert H. Lynch Jr., Anthony Frascella, and William R. Techar, who are the
natural persons that exercise voting power and investment control over the shares owned by the selling stockholder.
(13)

Aristeia Advisers LLC is the general partner of the selling stockholder. Aristeia Advisers LLC is jointly owned by Kevin Toner, Robert H. Lynch Jr., Anthony Frascella, and William R. Techar, who are the natural persons that exercise voting power and investment control over the shares owned by the selling stockholder.

Brandes Investment Partners, L.P. serves as investment adviser with power to direct investments and/or sole power to vote the shares owned by the selling stockholders named in the table, as well as shares owned by certain other individual and institutional investors. For purposes of reporting requirements of the Securities Exchange Act of 1934, Brandes Investment Partners, L.P. may be deemed to be the beneficial owner of all of the shares listed above; however, Brandes Investment Partners, L.P. expressly disclaims that it is, in fact, the beneficial owner of such securities.
(15)

Canyon Capital Advisors LLC serves as investment adviser with power to direct investments and/or sole power to vote the shares owned by the selling stockholders named in the table, as well as shares owned by certain other individual and institutional investors. For purposes of reporting requirements of the Securities Exchange Act of 1934, as amended, (the "Exchange Act"), Canyon Capital Advisors LLC may be deemed to be the beneficial owner of all of the shares listed above; however, Canyon Capital Advisors LLC expressly disclaims that it is, in fact, the beneficial owner of such securities.
(16) D. E. Shaw \& Co. L.P., as investment adviser, has voting and investment control over the securities owned by the selling stockholder named in the table. Julius Gaudio, Eric Wepsic, Maximilian Stone, Anne Dinning, and Lou Salkind, or their designees, exercise voting and investment control over the securities on D. E. Shaw \& Co. L.P.'s behalf.

Trafelet \& Company Advisors, LLC is the general partner to this selling stockholder. By reason of such relationship, Trafelet \& Company Advisors, LLC may be deemed to exercise dispositive power or investment control over the securities stated as beneficially owned by the selling stockholder. Remy W. Trafelet is the managing member of Trafelet \& Company Advisors, LLC. By reason of such relationship, Mr. Trafelet may be deemed to share dispositive power or investment control over the securities stated as beneficially owned by this selling stockholder.

Trafelet Capital Management, LP is the investment manager of this selling stockholder and consequently has investment discretion over securities held by this selling stockholder. Remy W. Trafelet is the managing member of Trafelet Capital Management, LP and therefore has ultimate investment discretion over securities held by this selling stockholder. Trafelet Capital Management, LP and Mr. Trafelet each disclaim beneficial ownership in the securities except to the extent of their pecuniary interest therein.
(19) Paul E. Singer, Elliott Capital Advisors, L.P., a Delaware limited partnership which is controlled by Mr. Singer, and Elliott Special GP, LLC, a Delaware limited liability company which is controlled by Mr. Singer, are the general partners of Elliott Associates, L.P.

Hambledon, Inc., a Cayman Islands corporation controlled by Paul E. Singer, is the sole general partner of Elliott International, L.P. In addition, Elliott International Capital Advisors Inc., the investment manager of Elliott International, L.P. which is controlled by Mr. Singer, has shared power with Elliott International, L.P. to vote and dispose of the shares owned by Elliott International, L.P.

As the general partner of the partnership (each such partnership being a "Farallon Partnership"), Farallon Partners, L.L.C. ("FPLLC"), may, for purposes of Rule 13d-3 under the Exchange Act, be deemed to beneficially own the shares beneficially owned by such Farallon Partnership. As managing members of FPLLC, each of William F. Duhamel, Richard B. Fried, Monica R. Landry, Douglas M. MacMahon, William F. Mellin, Stephen L. Millham, Jason E. Moment, Ashish H. Pant, Rajiv A. Patel, Derek C. Schrier, Andrew J.M. Spokes and Mark C. Wehrly and, as Senior Managing Member of FPLLC, Thomas F. Steyer (together, the "Farallon Managing Members") may, for purposes of Rule 13d-3 under the Exchange Act, be deemed to beneficially own the shares beneficially owned by such Farallon Partnership.

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(22) All of the entities and individuals identified in these footnotes 21 and 23 disclaim group attribution. FPLLC, FCMLLC and each of the Farallon Managing Members disclaim any beneficial ownership of the shares owned by the Farallon Partnerships and/or Managed Account, as appropriate. The address for each of the above-mentioned entities and persons is c/o Farallon Capital Management, L.L.C., One Maritime Plaza, Suite 2100, San Francisco, CA 94111.
(23)

As the manager of Farallon Capital Offshore Investors, Inc. (the "Managed Account"), Farallon Capital Management, L.L.C. ("FCMLLC") may, for purposes of Rule 13d-3 under the Exchange Act, be deemed to beneficially own the shares beneficially owned by the Managed Account. As managing members and, in the case of Mr. Steyer, as Senior Managing Member, of FCMLLC, each of the Farallon Managing Members may, for purposes of Rule 13d-3 under the Exchange Act, be deemed to beneficially own the shares beneficially owned by the Managed Account.
(24) The entity is a registered investment fund (the "Fund") advised by Fidelity Management \& Research Company ("FMR Co."), a registered investment adviser under the Investment Advisers Act of 1940, as amended. FMR Co., 82 Devonshire Street, Boston, Massachusetts 02109, is a wholly-owned subsidiary of FMR Corp. and an investment adviser registered under Section 203 of the Investment Advisers Act of 1940.

Edward C. Johnson 3d, FMR Corp., through its control of FMR Co., and the Fund each has sole power to dispose of the Securities owned by the Fund.

Neither FMR Corp. nor Edward C. Johnson 3d, Chairman of FMR Corp., has the sole power to vote or direct the voting of the shares owned directly by the Fund, which power resides with the Fund's Board of Trustees.

The Fund is an affiliate of a broker-dealer. The Fund purchased the Securities in the ordinary course of business and, at the time of the purchase of the securities to be resold, the Fund did not have any agreements or understandings, directly or indirectly, with any person to distribute the notes or conversion shares.

The Fund does not intend to sell, transfer, assign, pledge or hypothecate or otherwise enter into any hedging, short sale, derivative, put or call transaction that would result in the effective economic disposition of the securities through an affiliated broker-dealer.
(25) The entity is an Ontario Mutual Fund Trust. Its trustee and manager is Fidelity Investments Canada Limited ("FICL"). FICL is advised by FMR Co. FMR Co. shares investment power over the notes and the conversion shares held by the selling stockholder with Mr. Edward C. Johnson 3rd. These holdings are as of April 28, 2008.

Fidelity International Limited ("FIL"), Pembroke Hall, 42 Crow Lane, Hamilton, Bermuda, and various foreign-based subsidiaries provide investment advisory and management services to these nonU.S. investment companies. FIL, which is a qualified institution under section 240.13d-1(b)(1) pursuant to an SEC No-Action letter dated October 5, 2000, is the beneficial owner of the Common Stock shares listed above.

A partnership controlled predominantly by members of the family of Edward C. Johnson 3d, Chairman of FMR Corp. and FIL, or trusts for their benefit, owns shares of FIL voting stock with the right to cast approximately \(38 \%\) of the total votes which may be cast by all holders of FIL voting stock. FMR Corp. and FIL are separate and independent corporate entities, and their Boards of Directors are generally composed of different individuals.

FMR Corp. and FIL are of the view that they are not acting as a "group" for purposes of Section 13(d) under the Exchange Act and that they are not otherwise required to attribute to each other the "beneficial ownership" of securities "beneficially owned" by the other corporation within the meaning of Rule 13d-3 promulgated under the Exchange Act. Therefore, they are of the view that the shares held by the other corporation need not be aggregated for purposes of Section 13(d).

None of the selling stockholders listed above has, or within the past three years has had, any position, office or other material relationship with the Company or any of its predecessors or affiliates.

Because the selling stockholders may offer all or some portion of the above referenced securities pursuant to this prospectus supplement or otherwise, no estimate can be given as to the amount or percentage of such securities that will be held by the selling stockholders upon termination of any such sale. In addition, the selling stockholders identified above may have sold, transferred or otherwise disposed of all or a portion of such securities since April 28, 2008 in transactions exempt from the registration requirements of the Securities Act of 1933. The selling stockholders may sell all, part or none of the securities listed above.
(26) Daniel S. Och as CEO of Oz Management, LP, the investment manager to the selling stockholder, may be deemed to have voting/investment control of the registerable securities held by the selling stockholder. His address is 9 West 57th Street, 39th floor, New York, NY 10019.
(27) Mason Capital Management, LLC is the investment manager and has shared investment and voting power with respect to these shares and, consequently, may be deemed to be a beneficial owner of such shares.
(28)

Maverick Capital, Ltd. is an investment adviser registered under Section 203 of the Investment Advisers Act of 1940 and, as such, may be deemed to have beneficial ownership of the shares held by Maverick Fund, L.D.C., Maverick Fund USA, Ltd., Maverick Fund II, Ltd., Maverick Neutral Fund, Ltd., Maverick Neutral Levered Fund, Ltd., Maverick Long Fund, Ltd., Maverick Long Enhanced Fund, Ltd. and UVIMCO II, LLC through the investment discretion it exercises over these accounts. Maverick Capital Management, LLC is the general partner of Maverick Capital, Ltd. Lee S. Ainslie III is the manager of Maverick Capital Management, LLC who possesses sole investment discretion pursuant to Maverick Capital Management, LLC’s regulations. The address for the entities affiliated with Maverick Capital, Ltd. is 300 Crescent Court, 18th Floor, Dallas, TX 75201.
(29) Meditor Group Limited serves as investment manager with power to direct investments and shared power to vote the shares owned by the selling stockholders to which this footnote applies. For purposes of reporting requirements of the Exchange Act, Meditor Group Limited may be deemed to be the beneficial owner of all of the shares listed above; however, Meditor Group Limited expressly disclaims that it is, in fact, the beneficial owner of such securities.
(30)

Norges Bank owns a total of 5,325,948 shares of common stock, of which 196,191 shares are in Norges Bank’s Foreign Exchange Reserves and 5,129,787 shares are in the Government Pension Fund - Global (including the 3,160,000 shares of common stock being registered hereby).

Norges Bank also confirms that it owns 1,342 shares of Series G Preferred Stock in the Government Pension Fund - Global.

Norges Bank serves as the operational manager with power to direct investments and sole power to vote the shares held for the benefit of the State of Norway’s Government Pension Fund - Global. For purposes of reporting requirements of the Exchange Act, Norges Bank may be deemed to be the beneficial owner of all of the shares listed above; however, Norges Bank expressly disclaims that it is, in fact, the beneficial owner of securities held for the State of Norway Government Pension Fund Global.
(31) Old Lane, LP, the investment manager to the selling stockholder, may be deemed to have voting/investment control of the registerable securities held by the selling stockholder.
(32) Certain management and administrative duties of this investment fund have been delegated by the general partner or investment adviser of such investment fund, as applicable, to JGD Management Corp., a Delaware corporation ("JGD"). Accordingly, JGD may be deemed to have beneficial ownership over the shares reported as held by such investment fund. The sole shareholder of JGD is James G. Dinan.
(33)

Pursuant to investment management agreements, each of S.A.C. Capital Advisors, LLC, a Delaware limited liability company ("SAC Capital Advisors") and S.A.C. Capital Management, LLC, a Delaware limited liability company ("SAC Capital Management"), share all investment and voting power with respect to the securities held by S.A.C. Arbitrage Fund, LLC and S.A.C. Capital Associates, LLC. Mr. Steven A. Cohen controls both SAC Capital Advisors and SAC Capital Management and as such may be deemed to beneficially own the securities held by S.A.C. Arbitrage Fund, LLC and S.A.C. Capital Associates, LLC.


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Each of SAC Capital Advisors, SAC Capital Management and Mr. Cohen disclaim beneficial ownership of any of the securities owned by S.A.C. Arbitrage Fund, LLC and S.A.C. Capital Associates, LLC.

Samlyn Capital, LLC ("Samlyn Capital") is the Investment Manager to Samlyn Offshore Ltd. Robert Pohly is the managing member of Samlyn Capital, and as such has investment power and voting control over these securities. Samlyn Capital and Mr. Pohly each disclaims beneficial ownership of these securities except to the extent of their pecuniary interest. The address of the selling shareholder is c /o Goldman Sachs (Cayman) Trust, Limited, Gardenia Court, Suite 3307, 45 Market Street, Camana Bay, P O Box 896, KY1-1103, Cayman Islands.
(35)

Samlyn Capital, LLC ("Samlyn Capital") is the Investment Manager to, and Samlyn Partners, LLC ("Samlyn Partners") is the General Partner of, Samlyn Onshore Fund, LP. Robert Pohly is the managing member of Samlyn Capital and Samlyn Partners, and as such has investment power and voting control over these securities. Samlyn Capital, Samlyn Partners and Mr. Pohly each disclaims beneficial ownership of these securities except to the extent of their pecuniary interest. The address of the selling shareholder is 527 Madison Avenue, 17th Floor, New York, New York 10022.
(36) Michael A. Roth and Brian J. Stark have voting and investment control over securities owned by the selling stockholder, but Messrs. Roth and Stark disclaim beneficial ownership of such securities.
(37)

The selling stockholder is an investment company registered under the Investment Company Act of 1940. Capital Research and Management Company, or CRMC, an investment adviser registered under the Investment Advisers Act of 1940, is the investment adviser to this selling stockholder. CRMC provides investment advisory services to this selling stockholder through its divisions Capital Research Global Investors, or CRGI, and Capital World Investors, or CWI. In that capacity, CRGI and CWI may be deemed to be the beneficial owner of certain shares held by this selling stockholder. Both CRGI and CWI, however, disclaim such beneficial ownership.
(38)

TPG-Axon Capital Management, LP ("TPG-Axon Management") as investment manager to TPGAxon Partners, LP ("TPG-Axon Domestic") and TPG-Axon Partners (Offshore), Ltd.("TPG-Axon Offshore"), has the power to direct the disposition and voting of the shares held by TPG-Axon Domestic and TPG-Axon Offshore. TPG-Axon Partners GP, LP ("PartnersGP") is the general partner of TPG-Axon Domestic. TPG-Axon GP, LLC ("GPLLC") is the general partner of PartnersGP and TPG-Axon Management. Dinakar Singh LLC ("Singh LLC") is a Managing Member of GPLLC. Mr. Dinakar Singh, an individual, is the Managing Member of Singh LLC and in such capacity may be deemed to control Singh LLC, GPLLC and TPG-Axon Management, and therefore may be deemed the beneficial owner of the securities held by TPG-Axon Domestic and TPG-Axon Offshore. Each of Singh LLC, GPLLC, PartnersGP and Mr. Singh disclaim beneficial ownership of all of the shares.
(39) LMM, LCC is the investment adviser of this selling stockholder and consequently has voting control and investment discretion over the shares held by this selling stockholder.

\section*{PLAN OF DISTRIBUTION}

This prospectus supplement may be used for resales from time to time by the selling stockholders set forth under "Selling Stockholders."

Subject to the restrictions described in this prospectus supplement, the securities being resold under this prospectus supplement may be resold from time to time in any of the following ways:
- with respect to the common stock, on the New York Stock Exchange or such other national security exchange on which our common stock is listed, in transactions that may include special offerings and exchange distributions pursuant to and in accordance with the rules of such exchange;
- in the over-the-counter market;
- in transactions otherwise than on an exchange or in the over-the-counter market, or in a combination of any such transactions;
- through the writing of options;
- through ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- through block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- through purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- in privately negotiated transactions;
- in short sales;
- through transactions in which broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- through a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

In connection with resales of the securities or otherwise, the selling stockholders may enter into hedging transactions with brokerdealers, which may in turn engage in short sales of the securities and deliver securities to close out such short positions, or loan or pledge common stock to broker-dealers that in turn may sell such securities. Such transactions may be effected by the selling stockholders at market prices prevailing at the time of sale, at prices related to such prevailing market prices, at negotiated prices or at fixed prices. The selling stockholders may effect such transactions by selling the securities to or through broker-dealers and such broker-dealers may receive compensation in the form of discounts or commissions from the selling stockholders and may receive commissions from the purchasers of the securities for whom they may act as agent (which discounts or commissions from the selling stockholders or such purchasers will not exceed those customary in the type of transactions involved).

Any broker-dealers that participate with the selling stockholders in the distribution of the securities may be deemed to be "underwriters" within the meaning of the Securities Act, and any commissions or discounts received by such broker-dealers and any profit on the resale of the securities by such broker-dealers might be deemed to be underwriting discounts and commissions under such act.

We are required to pay all fees and expenses incident to the registration of the Shares. We have agreed to indemnify the selling stockholders against certain losses, claims, damages and liabilities.

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\section*{EXPERTS}

The consolidated financial statements of National City appearing in National City's Annual Report (Form 10-K) for the year ended December 31, 2007, and the effectiveness of National City’s internal control over financial reporting as of December 31, 2007 have been audited by Ernst \& Young LLP, independent registered public accounting firm, as set forth in their reports thereon, included therein, and incorporated herein by reference. Such consolidated financial statements and National City management's assessment of the effectiveness of internal control over financial reporting are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

\author{
Senior Debt Securities \\ Subordinated Debt Securities
}

Junior Subordinated Debt Securities
Preferred Stock
Depositary Shares
Common Stock
Purchase Contracts
Units
Warrants
Guarantees
NATIONAL CITY PREFERRED CAPITAL TRUST I
NATIONAL CITY PREFERRED CAPITAL TRUST II NATIONAL CITY PREFERRED CAPITAL TRUST III

\section*{Normal Securities \\ Stripped Securities \\ Capital Securities}

Fully and unconditionally guaranteed by National City Corporation as
described in its applicable prospectus supplement
The securities listed above may be offered and sold by us and/or the Trusts, and/or may be offered and sold from time to time, by one or more selling security holders to be identified in the future. We will provide the specific terms of these securities in supplements to this prospectus. You should read this prospectus and the applicable prospectus supplement carefully before you invest in the securities described in the applicable prospectus supplement. This prospectus may not be used to consummate sales of securities unless accompanied by a prospectus supplement and a pricing supplement, if any.

The common stock of National City Corporation is traded on the New York Stock Exchange under the symbol "NCC".
Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy of this prospectus. Any representation to the contrary is a criminal offense in the United States.

These securities are unsecured and are not deposits and are not insured by the Federal Deposit Insurance Corporation or any other governmental agency.

This prospectus is dated January 18, 2008.

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Where You Can Find More Information & 1 \\
\hline Use of Proceeds & 2 \\
\hline Validity of Securities & 2 \\
\hline Experts & 2
\end{tabular}

\section*{ABOUT THIS PROSPECTUS}

This prospectus is a part of a registration statement that we and the Trusts filed with the Securities and Exchange Commission ("SEC") using a "shelf" registration process. Under this shelf registration statement, we may sell, either separately or together, senior debt securities, subordinated debt securities, junior subordinated debt securities, preferred stock, depositary shares representing interests in preferred stock, common stock, purchase contracts, units and warrants, in one or more offerings. The Trusts may sell normal securities, stripped securities and capital securities representing undivided beneficial interests in the Trusts, which may be guaranteed by National City, to the public.

Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read this prospectus and the applicable prospectus supplement together with the additional information described under the heading "Where You Can Find More Information."

The registration statement that contains this prospectus, including the exhibits to the registration statement, contains additional information about us and the securities offered under this prospectus. That registration statement can be read at the SEC website or at the SEC office mentioned under the heading "Where You Can Find More Information."

Unless the context requires otherwise, references to (1) "National City Corporation", "National City", the "Company", "we", "our", "ours" and "us" are to National City Corporation and its subsidiaries, and (2) the "Trusts" are to National City Preferred Capital Trust I, National City Preferred Capital Trust II and National City Preferred Capital Trust III, each of which is a Delaware statutory trust.

\section*{WHERE YOU CAN FIND MORE INFORMATION}

We file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any document that we file at the SEC’s public reference room at 100 F Street, N.E., Washington, D.C 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room. Our SEC filings are also available to the public from the SEC's website at http://www.sec.gov. Our SEC filings are also available at the offices of the New York Stock Exchange. For further information on obtaining copies of our public filings at the New York Stock Exchange, you should call (212) 656-5060.

The SEC allows us to incorporate by reference the information we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the following documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), until we or any underwriters sell all of the securities (other than Current Reports or portions thereof furnished under Item 2.02 or Item 7.01 of Form 8-K):
- Annual Report on Form 10-K for the year ended December 31, 2006;
- Quarterly Report on Form 10-Q for the quarters ended March 31, 2007; June 30, 2007 and September 30, 2007;
- Current Reports on Form 8-K filed on January 3, 2007, January 8, 2007, January 23, 2007, January 25, 2007, February 6, 2007, March 2, 2007, March 23, 2007, April 24, 2007, May 1, 2007, May 25, 2007, July 25, 2007, August 16, 2007, August 30, 2007, September 4, 2007, September 6, 2007, October 26, 2007, November 21, 2007, December 7, 2007 and December 18, 2007; and
- The description of our common stock, which is registered under Section 12 of the Securities Exchange Act, in our Form 8-A filed with the SEC on October 3, 1988, including any subsequently filed amendments and reports updating such description.

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You may request a copy of these filings, at no cost, by writing or telephoning us at the following address:

> National City Corporation
> 1900 East Ninth Street
> Cleveland, Ohio 44114

Attn: Investor Relations Department
(800) 622-4204

The Trusts have no separate financial statements. The statements would not be material to holders of the normal, stripped or capital securities because the Trusts have no independent operations.

Unless otherwise indicated, currency amounts in this prospectus and in any applicable prospectus supplement are stated in U.S. dollars.

You should rely only on the information contained or incorporated by reference in this prospectus and the applicable prospectus supplement. We have not authorized anyone else to provide you with additional or different information. We may only use this prospectus to sell securities if it is accompanied by a prospectus supplement. We are only offering these securities in jurisdictions where the offer is permitted. You should not assume that the information in this prospectus or the applicable prospectus supplement or any document incorporated by reference is accurate as of any date other than the dates of the applicable documents.

\section*{USE OF PROCEEDS}

We intend to use the net proceeds from the sales of the securities as set forth in the applicable prospectus supplement.

\section*{VALIDITY OF SECURITIES}

Unless otherwise indicated in the applicable prospectus supplement, certain legal matters will be passed upon for us by the National City Law Department and by Jones Day, New York, New York, our counsel. Richards, Layton \& Finger, P.A., Wilmington, Delaware, special Delaware counsel for the Trusts, will pass on certain legal matters for the Trusts. The National City Law Department and Jones Day will rely on the opinion of Richards, Layton \& Finger, P.A., Wilmington, Delaware as to matters of Delaware law regarding the Trusts. Any underwriters will be represented by their own legal counsel.

\section*{EXPERTS}

The consolidated financial statements of National City appearing in National City's Annual Report (Form 10-K) for the year ended December 31, 2006, and National City management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2006, included therein, have been audited by Ernst \& Young LLP, independent registered public accounting firm, as set forth in their reports thereon, included therein, and incorporated herein by reference. Such consolidated financial statements and management's assessment are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

\section*{Table of Contents}

No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus supplement. You must not rely on any unauthorized information or representations. This prospectus supplement is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus supplement is current only as of its date.

\footnotetext{
Created by 10KWizard www.10KWizard.comSource: NATIONAL CITY CORP, 424B2, May 16, 2008
}

\section*{Fallon, Zachary}

From:
Sent:
To:
Subject:
Attachments:

Krawitz, Jacob D.
Thursday, November 20, 2008 4:36 PM
\#ENF-21(a) Working Group
21(a) Trading Charts
Instructions_Equity_Summary_21a_11202008.pdf; Equity_Summary_21a_11202008.xls

\section*{All:}

The economists from the Office of Economic Analysis have created the attached charts that plot aggregate trading for each of the 57 entities that were the subject of the \(21(\mathrm{a})\) order. If you have any questions, please contact Dr. Becker at 16654 or Stuart Jackson at 38938.

Thanks,
Jay


Instructions_Equity Equity_Summary_2
_Summary_21... la_11202008.x1...

\section*{Fallon, Zachary}
\begin{tabular}{ll} 
From: & Becker, Chyhe K. \\
Sent: & Thursday, October 23, 2008 3:30 PM \\
To: & Krawitz, Jacob D. \\
Cc: & Jackson, Stuart; OEA-Archives; Edwards, Amy K.; Caglio, Cecilia; Aromi, Daniel; McCormick, \\
Subject: & Tim \\
AW: September Charts with Shorts \\
Attachments: & summary_charts_sept_2008_addSHORTS.xls
\end{tabular}

Jay:
Here's a revised version of the intraday price chart for the 6 issuers that includes volume of short sales as well as total trading volume.

Chyhe K. Becker, PhD
Assistant Chief Economist-Litigation Support
Office of Economic Analysis
U.S. Securities and Exchange Commission

Direct: 202-551-6654

From: Jackson, Stuart
Sent: Friday, October 17, 2008 5:09 PM
To: Becker, Chyhe K.
Subject: FW: September Charts with Shorts
summary_charts_se pt_2008_addSH...

\section*{Stuart Jackson}

Financial Economist
Office of Economic Analysis
U.S. Securities and Exchange Commission

Boston Regional Office
33 Arch St., 23 \({ }^{\text {rd }}\) Floor
Boston, Ma. 02110
(617) 573-8938
\begin{tabular}{|r|l|}
\hline\(\#\) & Producer \\
\hline 1 & Amber Capital Investment Management \\
\hline & \\
\hline 2 & Assent \\
\hline 3 & Atlantic Investment Management \\
\hline 4 & Bass Trading \\
\hline 5 & Blue Ridge Capital \\
\hline 6 & BlueMountain Capital Management \\
\hline 7 & Brahman Capital Corp \\
\hline 8 & Bridger Management \\
\hline 9 & Bright Trading \\
\hline 10 & Canyon Capital Advisors \\
\hline 11 & Cedar Hill Capital Partners \\
\hline 12 & Citigroup Global Markets \\
\hline 13 & Cougar Trading LLC \\
\hline 14 & D.E. Shaw Group \\
\hline 15 & Deutsche Bank \\
\hline 16 & Diamondback Capital Management \\
\hline 17 & Farrallon Capital Management \\
\hline 18 & Fortress Investment Group \\
\hline 19 & GLG Partners \\
\hline 20 & Goldman Sachs \\
\hline 21 & Greenlight Capital \\
\hline 22 & Harbinger Capital Partners \\
\hline 23 & Hayman Capital Partners \\
\hline 24 & JPMorgan Chase \\
\hline 25 & Kingdom Capital Management \\
\hline 26 & Macquarie Capital \\
\hline 27 & Merrill Lynch \\
\hline 28 & Moore Capital Management \\
\hline 29 & Morgan Stanley \\
\hline 30 & Och-Ziff Financial \\
\hline 31 & Pacific Select \\
\hline 32 & Paulson \& Company \\
\hline 33 & Pequot Capital Management \\
\hline 34 & \\
\hline 34 & QVT Financial \\
\hline 35 & RBC \\
\hline 36 & Ram Partners LP \\
\hline 37 & Renaissance Technologies \\
\hline 38 & SAC Capital Advisors \\
\hline 39 & Schonfeld Securities \\
\hline 40 & Scottwood Capital Management \\
\hline 41 & Silverback Asset Management \\
\hline 42 & TCS Capital Management \\
\hline 43 & Wachovia \\
\hline 44 & Weintraub Capital Management \\
\hline 45 & Wellington Capital Management \\
\hline & \\
\hline
\end{tabular}

\section*{How To Use This Workbook}

OVERVIEW: Using this file you can get a summary chart of each producer's common stock transactions in the SQL server database of the 21a responses, and 6 charts describing the producers daily common stock trades in each of the 6 securities.

The 45 producers in this summary file have been assigned a number (1-45). Listed to the left.

\section*{Step 1. The data for each producer can be accessed by going to the 'choose_producer' tab and typing a producer number (1-45) in cell B2}


OUTPUT \#1: The chart on the choose_producer tab should update to show the total volume of transactions over the three weeks in September for the six issuers.

For example, Bridger Management sold short 1.4 million shares of AIG during the time period and bought the same amount to cover.

CAVEAT: Some producers did not distinquish cover buys from their other buys.
For example Producer \#2 Assent has only three transaction types (Shorts, Sells, and Buys).

OUTPUT \#2: The six issuer tabs should update to show the producer volume and prices by day.
For each type of transaction there is a volume bar that is read on the right scale and a symbol that shows the price for that transaction type. The price can be read on the left scale.

The green line shows the daily closing price.


In the example above you can see that the short sale was on September 16 th and the cover was the next day (17th).
The short sales was at \(\$ 4.28\) and the cover purchase was at \(\$ 2.56\).
NOTE: This summary file does not automatically update with the SQL server database so there will likely be a new version of the file created to capture additions to the SQL server database.

AIG Intraday Trading
September 2, 2008 -September 19, 2008


\section*{Goldman Sachs Intraday Trading \\ September 2, 2008 - September 19, 2008}


\section*{Lehman Brothers Intraday Trading}

September 2, 2008 - September 19, 2008


\section*{Merrill Lynch Intraday Trading September 2, 2008 -September 19, 2008}


\section*{Morgan Stanley Intraday Trading \\ September 2, 2008 -September 19, 2008}


\section*{Washington Mutual Intraday Trading}

September 2, 2008 -September 19, 2008

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline dayn hour & NAME_ & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{AIG_mean AIG_minp}} & AIG maxp & range & \multicolumn{2}{|l|}{IG_tradek AIG_trades} \\
\hline 2 & 4 COL1 & & & & & & \\
\hline 2 & 5 COL 1 & & & & & & \\
\hline 2 & 6 COL1 & & & & & & \\
\hline 2 & 7 COL1 & 21.80909 & 21.8 & 21.81 & 0.01 & 0 & 2200 \\
\hline 2 & 8 COL1 & 21.98375 & 21.78 & 22.15 & 0.37 & 0 & 39261 \\
\hline 2 & 9 COL 1 & 22.61889 & 22 & 22.88 & 0.88 & 1063350 & 4895719 \\
\hline 2 & 10 COL1 & 22.21553 & 21.94 & 22.79 & 0.85 & 352685 & 6793774 \\
\hline 2 & 11 COL1 & 22.29664 & 22.105 & 22.44 & 0.335 & 106500 & 3220390 \\
\hline 2 & 12 COL 1 & 22.24442 & 22.01 & 22.42 & 0.41 & 23300 & 2640048 \\
\hline 2 & 13 COL1 & 21.92754 & 21.62 & 22.1 & 0.48 & 0 & 3607504 \\
\hline 2 & 14 COL1 & 21.56617 & 21.38 & 21.77 & 0.39 & 38519 & 4560525 \\
\hline 2 & 15 COL1 & 21.7539 & 21.47 & 22.02 & 0.55 & 101754 & 5107284 \\
\hline 2 & 16 COL1 & 21.94433 & 21.515 & 22.5 & 0.985 & 1586977 & 23552 \\
\hline 2 & 17 COL1 & 21.99953 & 21.85 & 22.1 & 0.25 & 0 & 15000 \\
\hline 2 & 18 COL1 & 22.09532 & 21.85 & 22.2 & 0.35 & 0 & 3950 \\
\hline 2 & 19 COL1 & 22.15 & 22.15 & 22.15 & 0 & 0 & 200 \\
\hline 3 & 4 COL 1 & & & & & & \\
\hline 3 & 5 COL 1 & & & & & & \\
\hline 3 & 6 COL1 & 21.94 & 21.94 & 21.94 & 0 & 0 & 200 \\
\hline 3 & 7 COL1 & 21.74 & 21.74 & 21.74 & 0 & 0 & 200 \\
\hline 3 & 8 COL1 & 21.71974 & 21.7 & 21.8 & 0.1 & 0 & 3610 \\
\hline 3 & 9 COL 1 & 21.53164 & 21.3 & 21.96 & 0.66 & 258000 & 2453334 \\
\hline 3 & 10 COL1 & 21.93172 & 21.66 & 22.15 & 0.49 & 215000 & 3719409 \\
\hline 3 & 11 COL1 & 22.05652 & 21.82 & 22.38 & 0.56 & 211907 & 3395085 \\
\hline 3 & 12 COL 1 & 21.93503 & 21.81 & 22.07 & 0.26 & 64000 & 1867868 \\
\hline 3 & 13 COL1 & 22.29873 & 21.93 & 22.56 & 0.63 & 54263 & 3182268 \\
\hline 3 & 14 COL1 & 22.28399 & 22.04 & 22.45 & 0.41 & 16900 & 3385814 \\
\hline 3 & 15 COL1 & 22.50403 & 22.3792 & 22.6 & 0.2208 & 147600 & 7417405 \\
\hline 3 & 16 COL1 & 22.54775 & 21.815 & 22.62 & 0.805 & 992118 & 46029 \\
\hline 3 & 17 COL1 & 22.58606 & 22.5 & 22.72 & 0.22 & 0 & 5285 \\
\hline 3 & 18 COL1 & 22.58002 & 22.58 & 22.64 & 0.06 & 350000 & 200 \\
\hline 3 & 19 COL1 & 22.62 & 22.62 & 22.62 & 0 & 0 & 500 \\
\hline 4 & 4 COL1 & & & & & & \\
\hline 4 & 5 COL 1 & & & & & & \\
\hline 4 & 6 COL 1 & & & & & & \\
\hline 4 & 7 COL1 & 22.245 & 22.2 & 22.45 & 0.25 & 0 & 600 \\
\hline 4 & 8 COL 1 & 22.56928 & 22.25 & 22.58 & 0.33 & 58900 & 6012 \\
\hline 4 & 9 COL 1 & 21.8446 & 21.6 & 22.25 & 0.65 & 281303 & 4085565 \\
\hline 4 & 10 COL1 & 21.92306 & 21.65 & 22.29 & 0.64 & 270069 & 5951385 \\
\hline 4 & 11 COL1 & 21.67671 & 21.41 & 22 & 0.59 & 322120 & 4398285 \\
\hline & 12 COL 1 & 21.46222 & 21.3 & 21.58 & 0.28 & 158327 & 3239637 \\
\hline 4 & 13 COL1 & 21.33617 & 21.21 & 21.45 & 0.24 & 53300 & 2689953 \\
\hline 4 & 14 COL1 & 21.12126 & 20.93 & 21.92 & 0.99 & 388772 & 3628310 \\
\hline 4 & 15 COL1 & 21.33417 & 21.02 & 21.77 & 0.75 & 498054 & 12977503 \\
\hline 4 & 16 COL1 & 21.23202 & 21.13 & 21.92 & 0.79 & 2172445 & 42938 \\
\hline 4 & 17 COL1 & 21.22039 & 21.22 & 21.4 & 0.18 & 66677 & 200 \\
\hline 4 & 18 COL1 & 21.22284 & 21.22 & 21.42 & 0.2 & 325000 & 5100 \\
\hline 4 & 19 COL1 & 21.30083 & 21.3 & 21.31 & 0.01 & 0 & 1200 \\
\hline 5 & 4 COL1 & & & & & & \\
\hline 5 & 5 COL 1 & 21 & 21 & 21 & 0 & 0 & 200 \\
\hline 5 & 6 COL1 & 20.77 & 20.77 & 20.77 & 0 & 0 & 1000 \\
\hline
\end{tabular}
\begin{tabular}{rrrrrrrr}
5 & 7 COL1 & 20.51197 & 20.4 & 20.7 & 0.3 & 0 & 7818 \\
5 & 8 COL1 & 20.53761 & 20.2 & 21.22 & 1.02 & 0 & 64370 \\
5 & 9 COL1 & 20.79241 & 20.2 & 21.19 & 0.99 & 873396 & 4638447 \\
5 & 10 COL1 & 21.2514 & 20.9 & 21.7 & 0.8 & 1263276 & 7593086 \\
5 & 11 COL1 & 21.26059 & 21.07 & 21.62 & 0.55 & 1590366 & 5995846 \\
5 & 12 COL1 & 21.69522 & 21.2414 & 22.03 & 0.7886 & 743495 & 5026736 \\
5 & 13 COL1 & 22.04189 & 21.85 & 22.22 & 0.37 & 65700 & 3880176 \\
5 & 14 COL1 & 21.92393 & 21.75 & 22.15 & 0.4 & 395761 & 4832254 \\
5 & 15 COL1 & 22.14361 & 21.82 & 22.43 & 0.61 & 386547 & 7386719 \\
5 & 16 COL1 & 22.33189 & 21.6082 & 22.77 & 1.1618 & 1945204 & 75567 \\
5 & 17 COL1 & 22.72406 & 22.46 & 22.96 & 0.5 & 0 & 12780 \\
5 & 18 COL1 & 22.62163 & 22.55 & 22.8 & 0.25 & 0 & 12586 \\
5 & 19 COL1 & 22.67923 & 22.55 & 22.81 & 0.26 & 0 & 1950 \\
8 & 4 COL1 & 23 & 23 & 23 & 0 & 0 & 300 \\
8 & 5 COL1 & & & & & & \\
8 & 6 COL1 & 24.18363 & 23.88 & 24.39 & 0.51 & 0 & 8816 \\
8 & 7 COL1 & 24.5378 & 24.23 & 24.78 & 0.55 & 0 & 60642 \\
8 & 8 COL1 & 24.81983 & 24.5 & 25.2 & 0.7 & 0 & 295010 \\
8 & 9 COL1 & 23.68023 & 22.57 & 24.68 & 2.11 & 2146732 & 9413683 \\
8 & 10 COL1 & 22.83156 & 22 & 23.58 & 1.58 & 181700 & 9988830 \\
8 & 11 COL1 & 22.15888 & 21.5 & 22.58 & 1.08 & 405800 & 5962359 \\
8 & 12 COL1 & 22.10492 & 21.78 & 22.705 & 0.925 & 88600 & 3704505 \\
8 & \(13 ~ C O L 1\) & 22.25849 & 21.97 & 22.64 & 0.67 & 37800 & 2814619 \\
8 & 14 COL1 & 22.12466 & 21.96 & 22.27 & 0.31 & 748305 & 3779644 \\
8 & 15 COL1 & 22.43663 & 21.93 & 22.83 & 0.9 & 563191 & 11149734 \\
8 & \(16 ~ C O L 1\) & 22.75251 & 22.3303 & 22.9302 & 0.5999 & 4105617 & 51245 \\
8 & 17 COL1 & 22.6225 & 22.59 & 22.64 & 0.05 & 0 & 400 \\
8 & 18 COL1 & 22.73466 & 22.64 & 22.76 & 0.12 & 0 & 6550 \\
8 & 19 COL1 & 22.61143 & 22.6 & 22.68 & 0.08 & 0 & 700 \\
9 & 4 & COL1 & & & & & \\
9 & 5 COL1 & & & & & & \\
9 & 6 COL1 & & 22.6 & 22.6 & 22.6 & 0 & 0
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline 10 & 11 COL1 & 18.24242 & 17.62 & 18.9 & 1.28 & 1979729 & 13492706 \\
\hline 10 & 12 COL1 & 18.26148 & 18.07 & 18.6006 & 0.5306 & 901059 & 5222971 \\
\hline 10 & 13 COL1 & 18.21162 & 18.03 & 18.46 & 0.43 & 160078 & 4009985 \\
\hline 10 & 14 COL1 & 18.66982 & 18.23 & 18.91 & 0.68 & 696669 & 7522280 \\
\hline 10 & 15 COL1 & 17.87993 & 16.86 & 18.75 & 1.89 & 1969534 & 20153057 \\
\hline 10 & 16 COL1 & 17.64186 & 17.26 & 19.15 & 1.89 & 3372528 & 195663 \\
\hline 10 & 17 COL1 & 17.22873 & 17.15 & 17.5 & 0.35 & 25000 & 58513 \\
\hline 10 & 18 COL1 & 17.42651 & 17.22 & 17.5 & 0.28 & 0 & 5661 \\
\hline 10 & 19 COL1 & 17.35483 & 17.15 & 17.43 & 0.28 & 0 & 10644 \\
\hline 11 & 4 COL 1 & & & & & & \\
\hline 11 & 5 COL 1 & & & & & & \\
\hline 11 & 6 COL1 & & & & & & \\
\hline 11 & 7 COL1 & 16.99833 & 16.85 & 17.2 & 0.35 & 0 & 45704 \\
\hline 11 & 8 COL1 & 16.36129 & 15.88 & 17.04 & 1.16 & 0 & 495241 \\
\hline 11 & 9 COL 1 & 15.61564 & 15.16 & 16.05 & 0.89 & 5050814 & 16748237 \\
\hline 11 & 10 COL1 & 14.608 & 13.82 & 15.41 & 1.59 & 7424108 & 38505096 \\
\hline 11 & 11 COL1 & 15.0265 & 14.56 & 15.8 & 1.24 & 3798117 & 19054836 \\
\hline 11 & 12 COL1 & 15.28977 & 14.9761 & 15.65 & 0.6739 & 1797131 & 10914592 \\
\hline 11 & 13 COL1 & 15.39583 & 15.11 & 15.77 & 0.66 & 589712 & 8762751 \\
\hline 11 & 14 COL1 & 15.95345 & 15.49 & 16.35 & 0.86 & 582350 & 14773902 \\
\hline 11 & 15 COL1 & 16.42621 & 15.61 & 17.75 & 2.14 & 3111169 & 33647785 \\
\hline 11 & 16 COL1 & 17.25219 & 15.3982 & 17.84 & 2.4418 & 3466682 & 430061 \\
\hline 11 & 17 COL1 & 17.11476 & 16.5 & 17.55 & 1.05 & 20000 & 89779 \\
\hline 11 & 18 COL1 & 17.14096 & 16.55 & 17.55 & 1 & 0 & 52000 \\
\hline 11 & 19 COL1 & 17.11086 & 17.06 & 17.19 & 0.13 & 0 & 9575 \\
\hline 12 & 4 COL1 & 17.05 & 17.05 & 17.05 & 0 & 0 & 200 \\
\hline 12 & 5 COL 1 & & & & & & \\
\hline 12 & 6 COL1 & 17.2025 & 17.2 & 17.21 & 0.01 & 0 & 400 \\
\hline 12 & 7 COL1 & 16.775 & 16.69 & 17.2 & 0.51 & 0 & 1200 \\
\hline 12 & 8 COL1 & 15.4953 & 15.08 & 17.26 & 2.18 & 77047 & 1210070 \\
\hline 12 & 9 COL 1 & 14.3718 & 13.74 & 15.4 & 1.66 & 7058257 & 33765918 \\
\hline 12 & 10 COL1 & 14.12391 & 13.69 & 14.88 & 1.19 & 8500729 & 46379244 \\
\hline 12 & 11 COL1 & 13.82542 & 13.41 & 14.3 & 0.89 & 4824314 & 30653535 \\
\hline 12 & 12 COL1 & 13.06589 & 12.4 & 13.78 & 1.38 & 3184678 & 34542612 \\
\hline 12 & 13 COL1 & 12.83213 & 12.01 & 14 & 1.99 & 2508911 & 39888714 \\
\hline 12 & 14 COL1 & 13.03728 & 12.61 & 13.84 & 1.23 & 3562366 & 30750555 \\
\hline 12 & 15 COL1 & 12.44414 & 11.49 & 13.7 & 2.21 & 5523302 & 59363684 \\
\hline 12 & 16 COL1 & 12.13049 & 11.52 & 14.1127 & 2.5927 & 2527245 & 872555 \\
\hline 12 & 17 COL1 & 12.53576 & 11.06 & 13.9948 & 2.9348 & 3300845 & 1676523 \\
\hline 12 & 18 COL1 & 11.76875 & 11.66 & 11.93 & 0.27 & 0 & 299955 \\
\hline 12 & 19 COL1 & 11.83529 & 11.75 & 11.94 & 0.19 & 0 & 107127 \\
\hline 15 & 4 COL1 & 8.362308 & 6.48 & 9.3 & 2.82 & 0 & 2600 \\
\hline 15 & 5 COL 1 & 9.108155 & 8.5 & 9.5 & , & 0 & 20600 \\
\hline 15 & 6 COL 1 & 8.089296 & 7.25 & 9.55 & 2.3 & 0 & 233368 \\
\hline 15 & 7 COL 1 & 6.704739 & 5.9 & 7.4 & 1.5 & 487153 & 2681786 \\
\hline 15 & 8 COL1 & 7.001721 & 5.98 & 8.15 & 2.17 & 7834474 & 12123791 \\
\hline 15 & 9 COL 1 & 6.786874 & 5.82 & 7.75 & 1.93 & 9653295 & 56488978 \\
\hline 15 & 10 COL1 & 6.856409 & 6.2647 & 7.28 & 1.0153 & 10341253 & 67713845 \\
\hline 15 & 11 COL1 & 5.33882 & 3.5 & 6.95 & 3.45 & 19831203 & \(1.09 \mathrm{E}+08\) \\
\hline 15 & 12 COL 1 & 5.457421 & 3.91 & 6.74 & 2.83 & 18305329 & \(1.32 \mathrm{E}+08\) \\
\hline 15 & 13 COL1 & 6.493888 & 5.5 & 7.05 & 1.55 & 13781142 & 73376795 \\
\hline 15 & 14 COL1 & 5.600395 & 5 & 7.985 & 2.985 & 13572769 & 67881927 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline 15 & 15 COL1 & 5.513065 & 4.84 & 7.1 & 2.26 & 13577237 & \(1.02 \mathrm{E}+08\) \\
\hline 15 & 16 COL1 & 4.852225 & 4.58 & 5.95 & 1.37 & 7087834 & 2026193 \\
\hline 15 & 17 COL1 & 4.90995 & 4.76 & 5.75 & 0.99 & 207488 & 633177 \\
\hline 15 & 18 COL1 & 4.901654 & 4.84 & 5.03 & 0.19 & 0 & 377076 \\
\hline 15 & 19 COL1 & 5.71808 & 4.61 & 7.1 & 2.49 & 104581 & 1186014 \\
\hline 16 & 4 COL1 & 5.129759 & & 5.85 & 0.85 & 0 & 241980 \\
\hline 16 & 5 COL1 & 5.283327 & 5.03 & 5.55 & 0.52 & 17195 & 91276 \\
\hline 16 & 6 COL1 & 5.167154 & 4.92 & 5.59 & 0.67 & 36100 & 191490 \\
\hline 16 & 7 COL1 & 2.958453 & 2.54 & 4.97 & 2.43 & 2251815 & 5646964 \\
\hline 16 & 8 COL1 & 3.130666 & 2.65 & 5.25 & 2.6 & 11569735 & 11861131 \\
\hline 16 & 9 COL1 & 2.165989 & 1.25 & 3.09 & 1.84 & 59549212 & \(1.43 \mathrm{E}+08\) \\
\hline 16 & 10 COL1 & 3.029889 & 2.25 & 4.57 & 2.32 & 31343428 & \(1.55 \mathrm{E}+08\) \\
\hline 16 & 11 COL1 & 3.041006 & 2.16 & 4.21 & 2.05 & 28040069 & \(1.6 \mathrm{E}+08\) \\
\hline 16 & 12 COL 1 & 2.83667 & 1.6 & 4.3167 & 2.7167 & 10260748 & 84444453 \\
\hline 16 & 13 COL1 & 3.182629 & 2.7558 & 3.6 & 0.8442 & 8788575 & 70616783 \\
\hline 16 & 14 COL1 & 3.492136 & 2.53 & 5.24 & 2.71 & 24549993 & \(1.77 \mathrm{E}+08\) \\
\hline 16 & 15 COL1 & 4.136616 & 2.9 & 4.88 & 1.98 & 16914503 & \(1.64 \mathrm{E}+08\) \\
\hline 16 & 16 COL1 & 3.002335 & 1.44 & 4.12 & 2.68 & 14376407 & 10870584 \\
\hline 16 & 17 COL1 & 2.110688 & 1.75 & 2.54 & 0.79 & 1499616 & 13198863 \\
\hline 16 & 18 COL1 & 2.31259 & 1.81 & 5.4 & 3.59 & 2440729 & 7473440 \\
\hline 16 & 19 COL1 & 2.30834 & 1.7 & 3 & 1.3 & 1876413 & 13861544 \\
\hline 17 & 4 COL 1 & 3.8094 & 3.55 & 4 & 0.45 & 30000 & 173491 \\
\hline 17 & 5 COL1 & 3.688584 & 3.25 & 4 & 0.75 & 29400 & 252082 \\
\hline 17 & 6 COL1 & 3.171385 & 2.81 & 3.5 & 0.69 & 228700 & 469072 \\
\hline 17 & 7 COL1 & 2.719883 & 2.42 & 3.35 & 0.93 & 1352377 & 3644813 \\
\hline 17 & 8 COL1 & 2.334248 & 1.85 & 3.6598 & 1.8098 & 7781571 & 16462328 \\
\hline 17 & 9 COL1 & 2.425854 & 2.03 & 3.1 & 1.07 & 35304551 & \(1.02 \mathrm{E}+08\) \\
\hline 17 & 10 COL1 & 2.110732 & 1.99 & 2.34 & 0.35 & 28909359 & 95197162 \\
\hline 17 & 11 COL1 & 2.079089 & 2.02 & 2.25 & 0.23 & 12960569 & 46850849 \\
\hline 17 & 12 COL 1 & 2.182269 & 2 & 2.5 & 0.5 & 13397765 & 44824539 \\
\hline 17 & 13 COL1 & 2.364658 & 2.0201 & 2.54 & 0.5199 & 5913355 & 37307885 \\
\hline 17 & 14 COL1 & 2.246295 & 2.19 & 2.36 & 0.17 & 4836812 & 30280636 \\
\hline 17 & 15 COL 1 & 2.147482 & 2.03 & 2.29 & 0.26 & 10448082 & 37568053 \\
\hline 17 & 16 COL1 & 2.043429 & 2.03 & 2.1402 & 0.1102 & 4380145 & 687380 \\
\hline 17 & 17 COL1 & 2.096881 & 2.03 & 2.14 & 0.11 & 70300 & 239313 \\
\hline 17 & 18 COL1 & 2.038904 & 2.03 & 2.14 & 0.11 & 4743000 & 262379 \\
\hline 17 & 19 COL1 & 2.108587 & 2.03 & 2.13 & 0.1 & 0 & 170094 \\
\hline 18 & 4 COL 1 & 2.277967 & 2.2 & 2.49 & 0.29 & 0 & 12300 \\
\hline 18 & 5 COL1 & 2.339296 & 2.32 & 2.45 & 0.13 & 0 & 14200 \\
\hline 18 & 6 COL1 & 2.48538 & 2.38 & 2.6 & 0.22 & 0 & 18400 \\
\hline 18 & 7 COL1 & 2.435514 & 2.36 & 2.65 & 0.29 & 0 & 269578 \\
\hline 18 & 8 COL1 & 2.321427 & 2.26 & 2.48 & 0.22 & 180224 & 1298328 \\
\hline 18 & 9 COL1 & 2.408881 & 2.24 & 2.55 & 0.31 & 11188470 & 32487343 \\
\hline 18 & 10 COL1 & 2.359589 & 2.3 & 2.43 & 0.13 & 6223402 & 30262790 \\
\hline 18 & 11 COL1 & 2.223021 & 2.14 & 2.31 & 0.17 & 9432506 & 27089113 \\
\hline 18 & 12 COL 1 & 2.159037 & 2.1 & 2.34 & 0.24 & 3110137 & 16103663 \\
\hline 18 & 13 COL1 & 2.194902 & 2.13 & 2.25 & 0.12 & 3613015 & 18978974 \\
\hline 18 & 14 COL1 & 2.250279 & 2.18 & 2.32 & 0.14 & 3987161 & 14045417 \\
\hline 18 & 15 COL 1 & 2.450058 & 2.25 & 2.59 & 0.34 & 12501967 & 47656475 \\
\hline 18 & 16 COL1 & 2.654183 & 2.2114 & 2.69 & 0.4786 & 5692718 & 830688 \\
\hline 18 & 17 COL1 & 2.611919 & 2.55 & 2.65 & 0.1 & 20000 & 242458 \\
\hline 18 & 18 COL1 & 2.606844 & 2.57 & 2.65 & 0.08 & 10000 & 176044 \\
\hline
\end{tabular}
\begin{tabular}{rrrrrrrr}
18 & 19 COL1 & 2.697085 & 2.58 & 2.8 & 0.22 & 10000 & 451515 \\
19 & 4 COL1 & 2.947517 & 2.74 & 3.02 & 0.28 & 0 & 7450 \\
19 & 5 COL1 & 3.094477 & 3.05 & 3.15 & 0.1 & 0 & 22450 \\
19 & 6 COL1 & 3.116804 & 3 & 3.19 & 0.19 & 0 & 34100 \\
19 & 7 COL1 & 3.548278 & 3.03 & 3.78 & 0.75 & 155350 & 928453 \\
19 & 8 COL1 & 4.059129 & 3.0848 & 4.4 & 1.3152 & 2555777 & 7306255 \\
19 & 9 COL1 & 3.798831 & 3.1 & 4.33 & 1.23 & 24569906 & 34769081 \\
19 & 10 COL1 & 3.03746 & 2.5 & 3.6 & 1.1 & 24803111 & 50768456 \\
19 & 11 COL1 & 3.128514 & 3 & 3.89 & 0.89 & 10561274 & 29173768 \\
19 & 12 COL1 & 3.520794 & 3.1299 & 4 & 0.8701 & 14547363 & 58059885 \\
19 & \(13 ~ C O L 1\) & 3.822003 & 3.5 & 3.98 & 0.48 & 9078205 & 49900798 \\
19 & 14 COL1 & 4.029707 & 3.7 & 4.25 & 0.55 & 18613578 & 61439890 \\
19 & 15 COL1 & 4.239347 & 4.05 & 4.45 & 0.4 & 17612322 & 70439363 \\
19 & \(16 ~ C O L 1\) & 3.879275 & 3.41 & 4.24 & 0.83 & 14600868 & 1710399 \\
19 & 17 COL1 & 3.918986 & 3.85 & 4.3 & 0.45 & 209556 & 476253 \\
19 & 18 COL1 & 3.916006 & 3.87 & 4.1699 & 0.2999 & 10000 & 276043 \\
19 & \(19 ~ C O L 1\) & 3.996906 & 3.89 & 4.07 & 0.18 & 0 & 236842
\end{tabular}

AIG_spind،AIG_close GS_meank GS_minp GS_maxp GS_ranger GS_tradeb GS_trades GS_spinde

\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 21.08166 & & 159.9686 & 159.95 & 160.03 & 0.08 & 0 & 700 & 159.0621 \\
\hline 21.01008 & & 158.6732 & 157 & 160.75 & 3.75 & 0 & 23326 & 158.522 \\
\hline 21.02588 & 20.33 & 159.7739 & 157.1 & 162.19 & 5.09 & 64000 & 1173899 & 158.6412 \\
\hline 20.9535 & & 159.6293 & 158.68 & 161.02 & 2.34 & 0 & 1276305 & 158.0951 \\
\hline 20.92505 & & 159.2444 & 158.41 & 160.35 & 1.94 & 0 & 1065408 & 157.8805 \\
\hline 21.05813 & & 160.3692 & 159.24 & 161.7 & 2.46 & 0 & 889547 & 158.8845 \\
\hline 21.10668 & & 161.4181 & 160.5 & 162.28 & 1.78 & 0 & 597332 & 159.2509 \\
\hline 21.16117 & & 161.4949 & 160.32 & 162.56 & 2.24 & 0 & 669806 & 159.662 \\
\hline 21.21702 & & 162.342 & 160.55 & 163.71 & 3.16 & 13600 & 1449795 & 160.0834 \\
\hline 21.33005 & 22.34 & 163.3536 & 162.31 & 166.55 & 4.24 & 266764 & 23757 & 160.9362 \\
\hline 21.49579 & & 166.4232 & 165.8 & 167.03 & 1.23 & 0 & 11503 & 162.1867 \\
\hline 21.48654 & & 166.1312 & 165.8 & 166.36 & 0.56 & 0 & 5302 & 162.1169 \\
\hline 21.47159 & & 165.8238 & 165.5 & 166 & 0.5 & 0 & 8856 & 162.0041 \\
\hline 21.87426 & & & & & & & & 165.0423 \\
\hline 21.84018 & & 170.069 & 170 & 170.5 & 0.5 & 0 & 2900 & 164.7851 \\
\hline 21.86443 & & 172.0161 & 170.02 & 173.39 & 3.37 & 0 & 14720 & 164.9681 \\
\hline 21.82106 & & 172.1558 & 171.11 & 173 & 1.89 & 0 & 48543 & 164.6409 \\
\hline 21.86309 & & 171.5062 & 170.6 & 172.53 & 1.93 & 0 & 81796 & 164.958 \\
\hline 21.79846 & 24.47 & 170.6703 & 167.76 & 172.45 & 4.69 & 228200 & 3315003 & 164.4704 \\
\hline 21.66788 & & 167.4066 & 164.3 & 170 & 5.7 & 0 & 3166216 & 163.4852 \\
\hline 21.53328 & & 165.273 & 162.62 & 167.05 & 4.43 & 0 & 2158834 & 162.4695 \\
\hline 21.46174 & & 164.8329 & 162.51 & 167.3 & 4.79 & 77000 & 1418159 & 161.9298 \\
\hline 21.46176 & & 166.2115 & 164.59 & 167.47 & 2.88 & 0 & 833838 & 161.9299 \\
\hline 21.49135 & & 166.4256 & 164.87 & 167.1 & 2.23 & 0 & 884899 & 162.1532 \\
\hline 21.58686 & & 168.3288 & 166 & 169.75 & 3.75 & 16771 & 2214955 & 162.8738 \\
\hline 21.65585 & 22.76 & 169.6565 & 167.6732 & 170.85 & 3.1768 & 503656 & 17445 & 163.3943 \\
\hline 21.66545 & & 169.2476 & 169.05 & 169.49 & 0.44 & 0 & 4200 & 163.4668 \\
\hline 21.67211 & & 169.3009 & 169.03 & 169.73 & 0.7 & 0 & 530 & 163.517 \\
\hline 21.67662 & & & & & & & & 163.5511 \\
\hline 21.75092 & & & & & & & & 164.1117 \\
\hline 21.73387 & & & & & & & & 163.983 \\
\hline 21.76761 & & & & & & & & 164.2376 \\
\hline 21.7832 & & 169.7735 & 169.5 & 170.08 & 0.58 & 0 & 2300 & 164.3552 \\
\hline 21.74466 & & 168.2911 & 166.65 & 169.89 & 3.24 & 0 & 8094 & 164.0644 \\
\hline 21.6614 & 22.19 & 166.6703 & 165.33 & 168.38 & 3.05 & 93900 & 1584780 & 163.4362 \\
\hline 21.55249 & & 165.1199 & 162.61 & 168.063 & 5.453 & 20000 & 1966062 & 162.6145 \\
\hline 21.41703 & & 164.0847 & 162.66 & 167.44 & 4.78 & 55000 & 1786707 & 161.5925 \\
\hline 21.3918 & & 163.521 & 162.88 & 165.0367 & 2.1567 & 58500 & 842074 & 161.4021 \\
\hline 21.37355 & & 163.5218 & 162.12 & 165.34 & 3.22 & 0 & 1512117 & 161.2644 \\
\hline 21.22832 & & 162.1573 & 161.26 & 163.12 & 1.86 & 0 & 1402638 & 160.1687 \\
\hline 21.10455 & & 161.6732 & 160.5 & 162.58 & 2.08 & 0 & 2530734 & 159.2348 \\
\hline 21.04344 & 18.37 & 161.6723 & 160.56 & 164.57 & 4.01 & 545724 & 22706 & 158.7737 \\
\hline 21.05596 & & 167.4779 & 160.5 & 169.625 & 9.125 & 0 & 6850 & 158.8681 \\
\hline 21.01551 & & 161.185 & 161 & 161.5 & 0.5 & 0 & 400 & 158.563 \\
\hline 21.0397 & & 162.0589 & 161.8 & 162.74 & 0.94 & 0 & 1730 & 158.7455 \\
\hline 21.18696 & & & & & & & & 159.8566 \\
\hline 21.10627 & & & & & & & & 159.2478 \\
\hline 21.14333 & & & & & & & & 159.5274 \\
\hline 21.10109 & & 160.1395 & 159.27 & 161.3 & 2.03 & 0 & 4200 & 159.2087 \\
\hline 21.01333 & & 159.1491 & 157.1 & 161 & 3.9 & 0 & 81238 & 158.5465 \\
\hline 21.1117 & 19.17 & 158.6157 & 157.3 & 161.3 & 4 & 78900 & 2393885 & 159.2887 \\
\hline 21.06872 & & 158.1171 & 156.84 & 159.5 & 2.66 & 100000 & 2138184 & 158.9645 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 21.00394 & & 156.8448 & 155.9 & 157.89 & 1.99 & 0 & 2185631 & 158.4757 \\
\hline 21.09202 & & 156.6218 & 155.73 & 161.67 & 5.94 & 0 & 1117833 & 159.1402 \\
\hline 21.08903 & & 157.2048 & 156.49 & 157.91 & 1.42 & 0 & 812474 & 159.1177 \\
\hline 21.19517 & & 159.7604 & 157.8 & 160.95 & 3.15 & 0 & 1862096 & 159.9185 \\
\hline 21.18593 & & 158.7328 & 157.01 & 160.5 & 3.49 & 74000 & 1824984 & 159.8488 \\
\hline 21.1022 & 17.5 & 157.6102 & 157.2 & 159.5 & 2.3 & 250400 & 12164 & 159.217 \\
\hline 21.11885 & & 157.1024 & 156.51 & 157.59 & 1.08 & 0 & 3682 & 159.3427 \\
\hline 21.11969 & & 157.1548 & 156.7 & 157.59 & 0.89 & 0 & 1636 & 159.349 \\
\hline 21.09384 & & 156.8906 & 156.7 & 157.32 & 0.62 & 0 & 1020 & 159.154 \\
\hline 20.98348 & & & & & & & & 158.3213 \\
\hline 20.89288 & & & & & & & & 157.6377 \\
\hline 20.91692 & & & & & & & & 157.8191 \\
\hline 20.8907 & & 154.1789 & 153.31 & 155 & 1.69 & 0 & 9939 & 157.6213 \\
\hline 20.81313 & & 151.1996 & 149.5 & 153.75 & 4.25 & 20000 & 171537 & 157.036 \\
\hline 20.80712 & 15.7 & 152.3048 & 149.5 & 155.69 & 6.19 & 217700 & 3334846 & 156.9906 \\
\hline 20.89033 & & 151.668 & 149.87 & 153 & 3.13 & 172250 & 4127748 & 157.6185 \\
\hline 21.01493 & & 152.2722 & 150.5 & 154.75 & 4.25 & 275200 & 3168522 & 158.5586 \\
\hline 21.07537 & & 153.2537 & 151.87 & 154.12 & 2.25 & 0 & 1623022 & 159.0146 \\
\hline 21.01861 & & 152.2579 & 151 & 153.25 & 2.25 & 282200 & 1455519 & 158.5864 \\
\hline 21.18021 & & 155.0538 & 152.91 & 156.49 & 3.58 & 0 & 1842697 & 159.8057 \\
\hline 21.19028 & & 155.7916 & 153.25 & 159.42 & 6.17 & 63300 & 3624836 & 159.8816 \\
\hline 21.38219 & 17.55 & 156.8838 & 153.1514 & 159.5 & 6.3486 & 250752 & 79857 & 161.3296 \\
\hline 21.4 & & 156.1918 & 153.2 & 158.73 & 5.53 & 0 & 17107 & 161.4639 \\
\hline 21.41262 & & 154.6783 & 153 & 156 & 3 & 0 & 22055 & 161.5592 \\
\hline 21.39648 & & 155.7998 & 155.58 & 155.97 & 0.39 & 0 & 805 & 161.4374 \\
\hline 21.3996 & & & & & & & & 161.461 \\
\hline 21.4222 & & & & & & & & 161.6315 \\
\hline 21.36195 & & & & & & & & 161.1768 \\
\hline 21.35681 & & 155.8149 & 155.21 & 156 & 0.79 & 0 & 701 & 161.1381 \\
\hline 21.27872 & & 154.6798 & 154 & 156 & 2 & 0 & 20323 & 160.5489 \\
\hline 21.20186 & 15.15 & 154.1861 & 152.35 & 155.58 & 3.23 & 87400 & 1961193 & 159.969 \\
\hline 21.27072 & & 156.4112 & 153.48 & 158.69 & 5.21 & 0 & 2363989 & 160.4885 \\
\hline 21.39417 & & 159.3764 & 157.07 & 161.77 & 4.7 & 94500 & 2725322 & 161.42 \\
\hline 21.35141 & & 157.2734 & 155.81 & 158.35 & 2.54 & 53900 & 1475952 & 161.0974 \\
\hline 21.30001 & & 156.8985 & 154.75 & 158.75 & 4 & 0 & 2153781 & 160.7095 \\
\hline 21.35219 & & 157.6746 & 156 & 158.69 & 2.69 & 141100 & 1333713 & 161.1032 \\
\hline 21.40752 & & 155.8418 & 154.01 & 158.45 & 4.44 & 12500 & 2653182 & 161.5207 \\
\hline 21.50317 & 12.14 & 154.5737 & 152.633 & 156.817 & 4.184 & 521405 & 12674 & 162.2424 \\
\hline 21.466 & & 154.3647 & 154.21 & 155.49 & 1.28 & 0 & 11300 & 161.9619 \\
\hline 21.41854 & & 155.3814 & 154.6 & 155.5 & 0.9 & 0 & 5465 & 161.6038 \\
\hline 21.45703 & & 154.9863 & 154.86 & 155.01 & 0.15 & 0 & 950 & 161.8943 \\
\hline 20.8255 & & 142.61 & 142.61 & 142.61 & 0 & 0 & 100 & 157.1293 \\
\hline 20.80957 & & 140.5 & 140.5 & 140.5 & 0 & 0 & 100 & 157.0092 \\
\hline 20.73043 & & 141.1374 & 140 & 142.62 & 2.62 & 0 & 1900 & 156.412 \\
\hline 20.68404 & & 140.5313 & 139.47 & 142.9 & 3.43 & 0 & 88028 & 156.062 \\
\hline 20.76947 & & 141.6114 & 140 & 142.89 & 2.89 & 14900 & 294252 & 156.7066 \\
\hline 20.79859 & 7.12 & 147.147 & 140.74 & 151.4 & 10.66 & 126398 & 4089525 & 156.9263 \\
\hline 20.98763 & & 145.0849 & 142.41 & 150.3 & 7.89 & 82900 & 6055389 & 158.3526 \\
\hline 21.00408 & & 147.0849 & 144.02 & 148.85 & 4.83 & 76900 & 3552236 & 158.4767 \\
\hline 20.98082 & & 143.3915 & 141.52 & 146.13 & 4.61 & 119534 & 4249253 & 158.3013 \\
\hline 20.94274 & & 137.0771 & 132.07 & 145.0199 & 12.9499 & 136712 & 6799809 & 158.0139 \\
\hline 20.8783 & & 135.5036 & 131.8 & 144.39 & 12.59 & 439958 & 5553810 & 157.5277 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 20.65615 & & 134.4959 & 130.43 & 145.89 & 15.46 & 192352 & 9527718 & 155.8516 \\
\hline 20.59805 & 4.76 & 136.3055 & 134.65 & 140.35 & 5.7 & 833698 & 231546 & 155.4132 \\
\hline 20.49544 & & 135.93 & 132.21 & 146 & 13.79 & 15032 & 25912 & 154.639 \\
\hline 20.41603 & & 134.3998 & 134.02 & 135.2 & 1.18 & 0 & 8445 & 154.0398 \\
\hline 20.37704 & & 140.3202 & 134.01 & 145.88 & 11.87 & 0 & 17859 & 153.7457 \\
\hline 20.36441 & & 137.1188 & 136.79 & 138 & 1.21 & 0 & 1600 & 153.6504 \\
\hline 20.46671 & & 136.7775 & 136.3 & 137 & 0.7 & 0 & 3600 & 154.4223 \\
\hline 20.34803 & & 136.3593 & 135.75 & 137 & 1.25 & 0 & 7850 & 153.5268 \\
\hline 20.24766 & & 136.137 & 134.8 & 138.5 & 3.7 & 0 & 69801 & 152.7695 \\
\hline 20.16642 & & 126.5082 & 121.61 & 135.49 & 13.88 & 48035 & 1581840 & 152.1565 \\
\hline 20.07064 & 1.85 & 120.8227 & 113.01 & 125.5 & 12.49 & 555015 & 9113385 & 151.4339 \\
\hline 20.31653 & & 128.6923 & 121 & 132.99 & 11.99 & 435500 & 10424959 & 153.2891 \\
\hline 20.39523 & & 130.8544 & 123 & 135 & 12 & 208830 & 7177836 & 153.8829 \\
\hline 20.44751 & & 130.6243 & 128.25 & 132.06 & 3.81 & 22500 & 3424679 & 154.2774 \\
\hline 20.47066 & & 130.4969 & 129.26 & 132 & 2.74 & 69250 & 1900901 & 154.452 \\
\hline 20.4107 & & 129.8148 & 125.67 & 134.34 & 8.67 & 186670 & 6304694 & 153.9997 \\
\hline 20.69358 & & 132.5052 & 130.04 & 135.29 & 5.25 & 30900 & 5965625 & 156.134 \\
\hline 20.73715 & 3.75 & 133.1048 & 128.6392 & 136.5 & 7.8608 & 418146 & 161138 & 156.4627 \\
\hline 20.61595 & & 131.7934 & 130.9 & 132.75 & 1.85 & 0 & 22123 & 155.5482 \\
\hline 20.57123 & & 132.2974 & 128.53 & 133.01 & 4.48 & 85656 & 28449 & 155.2109 \\
\hline 20.86004 & & 136.219 & 131.5 & 138.44 & 6.94 & 0 & 59709 & 157.3899 \\
\hline 20.66944 & & & & & & & & 155.9519 \\
\hline 20.73275 & & & & & & & & 156.4295 \\
\hline 20.68344 & & 135 & 135 & 135 & 0 & 0 & 940 & 156.0575 \\
\hline 20.72007 & & 134.1714 & 132.07 & 137 & 4.93 & 0 & 22244 & 156.3339 \\
\hline 20.56834 & & 126.7959 & 124.5 & 135.01 & 10.51 & 0 & 345174 & 155.189 \\
\hline 20.40393 & 2.29 & 121.1215 & 117.48 & 124.81 & 7.33 & 864202 & 9191386 & 153.9485 \\
\hline 20.34978 & & 121.7732 & 117.37 & 126.6 & 9.23 & 414880 & 9424456 & 153.54 \\
\hline 20.1355 & & 107.9078 & 100 & 126 & 26 & 1100557 & 19714562 & 151.9233 \\
\hline 20.06953 & & 101.6651 & 97.78 & 106 & 8.22 & 1361597 & 18013669 & 151.4255 \\
\hline 20.0598 & & 100.5653 & 98.81 & 103 & 4.19 & 989764 & 12434394 & 151.3521 \\
\hline 20.17081 & & 107.273 & 100.27 & 115.03 & 14.76 & 484300 & 17759496 & 152.1897 \\
\hline 20.17274 & & 108.5414 & 103.23 & 114.3 & 11.07 & 136350 & 17216598 & 152.2042 \\
\hline 20.00283 & 2.05 & 113.1443 & 104.8376 & 117.0922 & 12.2546 & 1307978 & 890688 & 150.9223 \\
\hline 20.03445 & & 111.5945 & 105.53 & 112.33 & 6.8 & 10675 & 181264 & 151.1608 \\
\hline 19.94552 & & 109.7356 & 105.83 & 114.5 & 8.67 & 50395 & 102355 & 150.4898 \\
\hline 19.90862 & & 109.7016 & 109 & 110.91 & 1.91 & 0 & 23793 & 150.2114 \\
\hline 20.13389 & & 112.6383 & 111.45 & 113.99 & 2.54 & 0 & 600 & 151.9111 \\
\hline 20.11713 & & 114.95 & 114.95 & 114.95 & 0 & 0 & 500 & 151.7847 \\
\hline 20.13249 & & 117.1519 & 116 & 117.29 & 1.29 & 0 & 3600 & 151.9005 \\
\hline 20.14194 & & 117.3686 & 116 & 120.5 & 4.5 & 0 & 223136 & 151.9719 \\
\hline 20.05446 & & 107.9773 & 103.5 & 119.6 & 16.1 & 78200 & 1381956 & 151.3118 \\
\hline 20.08372 & 2.4 & 108.2316 & 103 & 112.91 & 9.91 & 624629 & 10223809 & 151.5326 \\
\hline 20.13505 & & 111.096 & 105.5 & 115.28 & 9.78 & 92000 & 11950874 & 151.9199 \\
\hline 19.86421 & & 101.8925 & 98.3 & 107.29 & 8.99 & 157700 & 13883503 & 149.8763 \\
\hline 19.68719 & & 95.61509 & 85.88 & 111.02 & 25.14 & 481528 & 14731859 & 148.5408 \\
\hline 19.84172 & & 99.37899 & 86.85 & 107.67 & 20.82 & 526714 & 19730278 & 149.7067 \\
\hline 19.89914 & & 101.2557 & 94.75 & 117.19 & 22.44 & 175721 & 12666543 & 150.1399 \\
\hline 20.5016 & & 110.8098 & 96.46 & 120 & 23.54 & 761816 & 24633128 & 154.6855 \\
\hline 20.47198 & 2.69 & 107.1007 & 94.7637 & 119.28 & 24.5163 & 1518878 & 313393 & 154.462 \\
\hline 20.50261 & & 108.84 & 107.5 & 115.1088 & 7.6088 & 30850 & 138965 & 154.6931 \\
\hline 20.67464 & & 109.5712 & 108 & 114.5 & 6.5 & 0 & 59926 & 155.9911 \\
\hline
\end{tabular}
\begin{tabular}{rrrrrrrr}
20.79863 & 115.5417 & 109 & 120 & 11 & 0 & 170809 & 156.9266 \\
20.98296 & & & & & & 158.3174 \\
21.08491 & 118.75 & 118.5 & 119 & 0.5 & 0 & 400 & 159.0866 \\
21.13075 & 122.3303 & 117.25 & 127 & 9.75 & 0 & 75791 & 159.4324 \\
21.18501 & 135.1333 & 124.99 & 140.01 & 15.02 & 97784 & 787666 & 159.8418 \\
21.36497 & 141.0275 & 132.49 & 145.4 & 12.91 & 218727 & 1864235 & 161.1997 \\
21.55978 & 4.18 & 136.6779 & 115.5 & 144.98 & 29.48 & 2713831 & 6861537 \\
21.14837 & 126.5219 & 120.6 & 130.65 & 10.05 & 808576 & 7287395 & 159.66954 \\
21.24962 & 129.9031 & 124.85 & 132.88 & 8.03 & 35300 & 5313115 & 160.3293 \\
21.43077 & 133.4969 & 131.19 & 139 & 7.81 & 55004 & 3876026 & 161.6961 \\
21.32441 & 131.3024 & 127.11 & 134 & 6.89 & 208674 & 2614247 & 160.8937 \\
21.25695 & 128.511 & 126.67 & 129.95 & 3.28 & 70313 & 2986971 & 160.3847 \\
21.21226 & 125.6012 & 121.54 & 128.32 & 6.78 & 192685 & 6368257 & 160.0475 \\
21.12848 & 3.85 & 129.4229 & 123 & 129.8 & 6.8 & 650384 & 113421 \\
21.16512 & 128.5159 & 126.5 & 129.8 & 3.3 & 13366 & 15312 & 159.4153 \\
21.2546 & 126.952 & 124.5899 & 127.2 & 2.6101 & 0 & 2292 & 160.3669 \\
21.23684 & 127.0197 & 126.22 & 127.28 & 1.06 & 0 & 5999 & 160.2329
\end{tabular}

GS_close LEH_mear LEH_minp LEH_maxpLEH_rangeLEH_trade LEH_trade: LEH_spind LEH_close
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & 16.48 & 16.48 & 16.48 & 0 & 0 & 300 & & \\
\hline & 16.84167 & 16.75 & 16.98 & 0.23 & 0 & 600 & & \\
\hline & 17.29846 & 16.93 & 17.48 & 0.55 & 0 & 59205 & & \\
\hline & 17.23096 & 17.02 & 17.38 & 0.36 & 37837 & 512019 & & \\
\hline \multirow[t]{7}{*}{167.5} & 16.9487 & 16.33 & 17.78 & 1.45 & 1066716 & 8498886 & 17.45 & 17.45 \\
\hline & 16.57395 & 16.36 & 16.8 & 0.44 & 932500 & 7899386 & 17.42823 & \\
\hline & 16.60346 & 16.5 & 16.73 & 0.23 & 588737 & 3717239 & 17.40159 & \\
\hline & 16.44691 & 16.25 & 16.63 & 0.38 & 168874 & 5153998 & 17.32961 & \\
\hline & 16.29268 & 15.9 & 16.64 & 0.74 & 218965 & 5993783 & 17.28566 & \\
\hline & 15.77996 & 15.55 & 16.07 & 0.52 & 616000 & 6605142 & 17.17348 & \\
\hline & 16.06829 & 15.62 & 16.3 & 0.68 & 306387 & 8492974 & 17.14668 & \\
\hline \multirow[t]{9}{*}{165.32} & 16.12628 & 15.98 & 16.3874 & 0.4074 & 512281 & 61537 & 17.17446 & 16.13 \\
\hline & 15.4334 & 15.04 & 16.1 & 1.06 & 0 & 133339 & 17.15631 & \\
\hline & 15.43525 & 15.25 & 15.55 & 0.3 & 0 & 83061 & 17.14953 & \\
\hline & 15.54097 & 15.44 & 15.6 & 0.16 & 0 & 36846 & 17.14917 & \\
\hline & & & & & & & 17.19621 & \\
\hline & & & & & & & 17.15532 & \\
\hline & 15.92407 & 15.7 & 16 & 0.3 & 0 & 2700 & 17.14366 & \\
\hline & 15.96997 & 15.7 & 16.08 & 0.38 & 0 & 37160 & 17.09376 & \\
\hline & 16.41468 & 15.84 & 16.88 & 1.04 & 0 & 507049 & 17.10616 & \\
\hline \multirow[t]{7}{*}{163.97} & 16.09919 & 15.65 & 16.55 & 0.9 & 492800 & 6234674 & 17.13584 & 16.26 \\
\hline & 16.32698 & 16.06 & 16.48 & 0.42 & 253400 & 5743793 & 17.16842 & \\
\hline & 16.23587 & 16 & 16.4504 & 0.4504 & 95349 & 4118201 & 17.09958 & \\
\hline & 16.0699 & 15.8999 & 16.27 & 0.3701 & 26100 & 2408504 & 17.04271 & \\
\hline & 16.25994 & 16.06 & 16.43 & 0.37 & 254500 & 3791537 & 17.07675 & \\
\hline & 16.17036 & 16 & 16.4 & 0.4 & 15000 & 3372244 & 17.0739 & \\
\hline & 16.61036 & 16.29 & 16.98 & 0.69 & 420055 & 11203093 & 17.09839 & \\
\hline \multirow[t]{9}{*}{167.61} & 17.2135 & 16.5702 & 17.96 & 1.3898 & 312573 & 466526 & 17.14109 & 16.94 \\
\hline & 17.35727 & 17.15 & 17.69 & 0.54 & 0 & 524036 & 17.15665 & \\
\hline & 17.14108 & 17.02 & 17.24 & 0.22 & 0 & 177051 & 17.15969 & \\
\hline & 17.08427 & 16.96 & 17.23 & 0.27 & 24828 & 166936 & 17.1616 & \\
\hline & & & & & & & 17.09164 & \\
\hline & & & & & & & 17.07556 & \\
\hline & & & & & & & 17.09317 & \\
\hline & 16.72024 & 16.5 & 16.82 & 0.32 & 0 & 4200 & 17.09526 & \\
\hline & 16.68655 & 16.5 & 16.77 & 0.27 & 0 & 122493 & 17.07677 & \\
\hline \multirow[t]{7}{*}{166.15} & 16.44472 & 16.22 & 16.75 & 0.53 & 194326 & 4110243 & 17.02703 & 16.73 \\
\hline & 16.11169 & 15.7 & 16.41 & 0.71 & 213977 & 6503491 & 16.9502 & \\
\hline & 15.92342 & 15.78 & 16.18 & 0.4 & 77026 & 3366576 & 16.83053 & \\
\hline & 15.79985 & 15.64 & 15.98 & 0.34 & 75500 & 2479472 & 16.82332 & \\
\hline & 15.57968 & 15.37 & 15.85 & 0.48 & 210643 & 3888378 & 16.74827 & \\
\hline & 15.24837 & 15.06 & 15.65 & 0.59 & 83300 & 5512837 & 16.69396 & \\
\hline & 15.44111 & 15.17 & 15.88 & 0.71 & 874171 & 10969869 & 16.71595 & \\
\hline \multirow[t]{7}{*}{160.9} & 15.19075 & 15.16 & 15.6756 & 0.5156 & 659900 & 44815 & 16.64425 & 15.17 \\
\hline & 15.19833 & 15.17 & 15.23 & 0.06 & 0 & 28608 & 16.62965 & \\
\hline & 15.17119 & 15.17 & 15.32 & 0.15 & 725000 & 11793 & 16.54566 & \\
\hline & 15.20028 & 15.17 & 15.3 & 0.13 & 0 & 26543 & 16.54789 & \\
\hline & & & & & & & 16.51924 & \\
\hline & & & & & & & 16.53801 & \\
\hline & & & & & & & 16.53982 & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & 15.30054 & 15.08 & 15.37 & 0.29 & 0 & 7400 & 16.57095 & \\
\hline & 14.90164 & 14.65 & 15.17 & 0.52 & 33100 & 156893 & 16.51468 & \\
\hline \multirow[t]{7}{*}{157.77} & 14.98203 & 14.59 & 15.33 & 0.74 & 447372 & 4281756 & 16.5271 & \multirow[t]{7}{*}{14.71} \\
\hline & 14.95381 & 14.8 & 15.18 & 0.38 & 400365 & 4735929 & 16.4702 & \\
\hline & 15.3617 & 14.8 & 15.84 & 1.04 & 303400 & 6458868 & 16.44784 & \\
\hline & 15.62073 & 15.38 & 15.8 & 0.42 & 113800 & 5220818 & 16.55245 & \\
\hline & 15.90632 & 15.65 & 16.07 & 0.42 & 107875 & 4720635 & 16.59061 & \\
\hline & 16.08265 & 15.89 & 16.25 & 0.36 & 209664 & 6062563 & 16.63344 & \\
\hline & 16.2103 & 15.95 & 16.47 & 0.52 & 508308 & 8632746 & 16.67734 & \\
\hline \multirow[t]{9}{*}{163.24} & 16.26545 & 16.2 & 16.75 & 0.55 & 550696 & 209116 & 16.76619 & \multirow[t]{9}{*}{16.2} \\
\hline & 16.64701 & 16.4 & 16.9 & 0.5 & 0 & 111147 & 16.89646 & \\
\hline & 16.57841 & 16.5 & 16.68 & 0.18 & 0 & 37875 & 16.88919 & \\
\hline & 16.60243 & 16.51 & 16.7 & 0.19 & 0 & 34446 & 16.87744 & \\
\hline & \multirow[t]{2}{*}{16.95} & \multirow[t]{2}{*}{16.95} & \multirow[t]{2}{*}{16.95} & \multirow[t]{2}{*}{0} & \multirow[t]{2}{*}{0} & \multirow[t]{2}{*}{200} & 17.19396 & \\
\hline & & & & & & & 17.16717 & \\
\hline & 18.09959 & 17.59 & 18.49 & 0.9 & 0 & 37350 & 17.18623 & \\
\hline & 17.70015 & 17.32 & 18 & 0.68 & 0 & 192461 & 17.15214 & \\
\hline & 17.403 & 17.2 & 17.6 & 0.4 & 0 & 653805 & 17.18518 & \\
\hline \multirow[t]{7}{*}{171} & 16.8686 & 16.04 & 17.73 & 1.69 & 2468570 & 11966442 & 17.13437 & \multirow[t]{7}{*}{17.62} \\
\hline & 15.19484 & 13.6 & 16.89 & 3.29 & 2509571 & 24898282 & 17.03174 & \\
\hline & 13.9754 & 13.03 & 14.61 & 1.58 & 1963413 & 20521452 & 16.92593 & \\
\hline & 13.66938 & 13.1 & 14.2 & 1.1 & 1375719 & 12111555 & 16.8697 & \\
\hline & 14.04391 & 13.36 & 14.49 & 1.13 & 540600 & 9304930 & 16.86972 & \\
\hline & 14.03306 & 13.68 & 14.29 & 0.61 & 524112 & 6829419 & 16.89297 & \\
\hline & 13.96893 & 13.51 & 14.24 & 0.73 & 728085 & 13457669 & 16.96805 & \\
\hline \multirow[t]{9}{*}{169.73} & 14.11714 & 13.9 & 14.6211 & 0.7211 & 1212860 & 92789 & 17.02228 & \multirow[t]{9}{*}{14.15} \\
\hline & 13.97115 & 13.91 & 14.06 & 0.15 & 0 & 37227 & 17.02982 & \\
\hline & 13.91917 & 13.9 & 13.95 & 0.05 & 0 & 11792 & 17.03506 & \\
\hline & \multirow[t]{4}{*}{13.93619} & \multirow[t]{4}{*}{13.9} & \multirow[t]{4}{*}{13.95} & \multirow[t]{4}{*}{0.05} & \multirow[t]{4}{*}{0} & \multirow[t]{4}{*}{17513} & 17.0386 & \\
\hline & & & & & & & 17.09701 & \\
\hline & & & & & & & 17.0836 & \\
\hline & & & & & & & 17.11013 & \\
\hline & 13.66654 & 13.45 & 13.95 & 0.5 & 0 & 18800 & 17.12238 & \\
\hline & 13.41631 & 13.18 & 13.63 & 0.45 & 99150 & 270931 & 17.09209 & \\
\hline \multirow[t]{7}{*}{167.3} & 12.54451 & 12.1 & 13.5 & 1.4 & 2728786 & 25181188 & 17.02664 & \multirow[t]{7}{*}{12.92} \\
\hline & 11.04311 & 8 & 12.8 & 4.8 & 5268192 & 54847676 & 16.94103 & \\
\hline & 9.83838 & 9 & 10.57 & 1.57 & 4224491 & 56905863 & 16.83456 & \\
\hline & 9.180296 & 8.75 & 12.635 & 3.885 & 7202606 & 34250915 & 16.81472 & \\
\hline & 9.879251 & 8.91 & 12.635 & 3.725 & 4309929 & 37208979 & 16.80038 & \\
\hline & 8.745335 & 8.25 & 12.635 & 4.385 & 7684542 & 57253266 & 16.68623 & \\
\hline & 7.981083 & 7.64 & 8.9 & 1.26 & 8047739 & 67639250 & 16.58893 & \\
\hline \multirow[t]{9}{*}{161.67} & 8.059083 & 7.79 & 9.5939 & 1.8039 & 2740152 & 1356715 & 16.5409 & \multirow[t]{9}{*}{7.79} \\
\hline & 7.643624 & 7.33 & 8.01 & 0.68 & 62850 & 1207898 & 16.55074 & \\
\hline & 8.105612 & 7.21 & 8.5808 & 1.3708 & 1451446 & 1568779 & 16.51895 & \\
\hline & 8.452205 & 8.07 & 8.77 & 0.7 & 69000 & 1859260 & 16.53796 & \\
\hline & 10.26381 & 9.45 & 10.4 & 0.95 & 0 & 216300 & 16.65371 & \\
\hline & 10.18885 & 9.76 & 10.4 & 0.64 & 18750 & 159869 & 16.59029 & \\
\hline & 9.802077 & 9.32 & 10 & 0.68 & 315550 & 241656 & 16.61942 & \\
\hline & 8.954144 & 7.15 & 10.25 & 3.1 & 1755195 & 6182407 & 16.58622 & \\
\hline & 8.080919 & 6.88 & 9.2 & 2.32 & 2293100 & 13539975 & 16.51723 & \\
\hline 159.9 & 8.313449 & 7.65 & 9.26 & 1.61 & 4994703 & 45345730 & 16.59456 & 9.15 \\
\hline & 8.011455 & 7. & 8. & 1.26 & 26 & 43135506 & 8 & \\
\hline
\end{tabular}
\(\left.\begin{array}{rrrrrrrr} & 7.766267 & 7.44 & 8.2 & 0.76 & 1864755 & 27002817 & 16.50986 \\ \\ 7.88556 & 7.55 & 8.1 & 0.55 & 718747 & 14414405 & 16.57909 & \\ 7.801498 & 7.65 & 7.98 & 0.33 & 592394 & 12486146 & 16.57674 & \\ 8.09354 & 7.74 & 8.38 & 0.64 & 1897137 & 24461595 & 16.66017 & \\ 7.564558 & 6.93 & 8.9 & 1.97 & 4654192 & 43727694 & 16.6529 & \\ 157.59 & 7.107385 & 6.81 & 9.02 & 2.21 & 1127091 & 1262594 & 16.58709\end{array}\right] .25\)
\begin{tabular}{rrrrrrrrr} 
& 0.198352 & 0.16 & 0.3 & 0.14 & 27277658 & 18465931 & 16.23648 & \\
135.5 & 0.184392 & 0.17 & 0.21 & 0.04 & 7268358 & 857359 & 16.19081 & 0.21 \\
& 0.18496 & 0.172 & 0.21 & 0.038 & 214296 & 265309 & 16.11015 & \\
& 0.187315 & 0.18 & 0.19 & 0.01 & 76461 & 264546 & 16.04773 & \\
& 0.267701 & 0.18 & 0.3 & 0.12 & 1167815 & 1787390 & 16.01709 & \\
& 0.29854 & 0.26 & 0.32 & 0.06 & 273000 & 37350 & 16.00716 & \\
& 0.295932 & 0.27 & 0.33 & 0.06 & 346300 & 56100 & 16.08757 & \\
& 0.293808 & 0.28 & 0.31 & 0.03 & 352500 & 48200 & 15.99429 & \\
& 0.263589 & 0.231 & 0.3 & 0.069 & 905368 & 601818 & 15.91539 & \\
& 0.250745 & 0.22 & 0.2898 & 0.0698 & 2646421 & 1877491 & 15.85153 & \\
116 & 0.213858 & 0.19 & 0.2598 & 0.0698 & 16766992 & 14901882 & 15.77625 & 0.2169 \\
& 0.234887 & 0.21 & 0.2549 & 0.0449 & 21760603 & 15886945 & 15.96952 & \\
& 0.222525 & 0.21 & 0.23 & 0.02 & 11339526 & 7579553 & 16.03138 & \\
& 0.218487 & 0.21 & 0.23 & 0.02 & 6058174 & 5493010 & 16.07248 & \\
& 0.221701 & 0.21 & 0.23 & 0.02 & 3221794 & 5484531 & 16.09067 & \\
& 0.207904 & 0.19 & 0.2305 & 0.0405 & 12621458 & 10938803 & 16.04355 & \\
& 0.190447 & 0.1816 & 0.2 & 0.0184 & 1687586 & 1343017 & 16.2659 & \\
133.01 & 0.205323 & 0.15 & 0.3 & 0.15 & 10000 & 66016 & 16.30014 & 0.3 \\
& & & & & & & 16.20488 & \\
& & & & & & & 16.16973 & \\
& 0.241944 & 0.2 & 0.26 & 0.06 & & 0 & 25200 & 16.24692
\end{tabular}

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108

MER_meal MER_minp MER_max| MER_rang MER_trad \(\epsilon\) MER_trad \(\epsilon\) MER_spinc MER_clos \(\operatorname{MS}\) Meank
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 28.3 & 28.3 & 28.3 & 0 & 0 & 200 & & & \\
\hline 29 & 29 & 29 & 0 & 0 & 200 & & & \\
\hline 29.02265 & 29 & 29.3 & 0.3 & 0 & 4900 & & & \\
\hline 29.02767 & 28.9 & 29.14 & 0.24 & 0 & 21160 & & & 41.90059 \\
\hline 29.06899 & 28.59 & 29.5 & 0.91 & 613520 & 4734066 & 29.11 & 29.11 & 42.39459 \\
\hline 28.37936 & 27.87 & 29.49 & 1.62 & 348509 & 7853296 & 29.07369 & & 42.02054 \\
\hline 28.0318 & 27.86 & 28.24 & 0.38 & 588420 & 4986017 & 29.02924 & & 42.07067 \\
\hline 27.62671 & 27.28 & 28.5734 & 1.2934 & 396900 & 4925045 & 28.90917 & & 41.72291 \\
\hline 27.61027 & 27.25 & 27.82 & 0.57 & 21000 & 3251892 & 28.83585 & & 41.27114 \\
\hline 27.23901 & 27.04 & 27.47 & 0.43 & 265500 & 4459253 & 28.6487 & & 40.83216 \\
\hline 27.36 & 27.07 & 27.82 & 0.75 & 181236 & 6604794 & 28.604 & & 41.03096 \\
\hline 27.75326 & 27.62 & 27.9358 & 0.3158 & 899936 & 43801 & 28.65035 & 27.75 & 41.45914 \\
\hline 28.11714 & 27.6 & 28.35 & 0.75 & 0 & 7700 & 28.62007 & & 40.83767 \\
\hline 27.74898 & 27.55 & 27.75 & 0.2 & 366695 & 2700 & 28.60875 & & 41.3001 \\
\hline 27.74 & 27.74 & 27.74 & 0 & 0 & 1800 & 28.60816 & & \\
\hline & & & & & & 28.68662 & & \\
\hline & & & & & & 28.61842 & & \\
\hline & & & & & & 28.59897 & & \\
\hline & & & & & & 28.51572 & & 40.66333 \\
\hline 27.74983 & 27.5 & 27.75 & 0.25 & 800000 & 1600 & 28.53641 & & 40.97917 \\
\hline 27.5308 & 27.2 & 27.95 & 0.75 & 362085 & 3255349 & 28.58592 & 27.4 & 41.18385 \\
\hline 27.74988 & 27.5 & 28.05 & 0.55 & 305500 & 4303784 & 28.64026 & & 41.59888 \\
\hline 27.75608 & 27.54 & 27.97 & 0.43 & 72484 & 3611984 & 28.52543 & & 41.64185 \\
\hline 27.71836 & 27.54 & 27.89 & 0.35 & 27800 & 2190098 & 28.43055 & & 41.49628 \\
\hline 27.92316 & 27.7 & 28.08 & 0.38 & 69900 & 2762712 & 28.48735 & & 41.71525 \\
\hline 28.06774 & 27.84 & 28.33 & 0.49 & 30000 & 3247354 & 28.4826 & & 41.56907 \\
\hline 28.29691 & 28.07 & 28.49 & 0.42 & 48649 & 5983808 & 28.52344 & & 42.02011 \\
\hline 28.33211 & 28.3 & 28.5 & 0.2 & 734782 & 24547 & 28.59468 & 28.33 & 42.16014 \\
\hline 28.48731 & 28.48 & 28.49 & 0.01 & 0 & 6700 & 28.62063 & & 42.22326 \\
\hline 28.485 & 28.48 & 28.49 & 0.01 & 0 & 1000 & 28.62571 & & \\
\hline & & & & & & 28.6289 & & \\
\hline & & & & & & 28.51219 & & \\
\hline & & & & & & 28.48536 & & \\
\hline & & & & & & 28.51474 & & \\
\hline & & & & & & 28.51823 & & \\
\hline 28.14034 & 27.77 & 28.33 & 0.56 & 0 & 8800 & 28.48737 & & 41.86 \\
\hline 27.83887 & 27.51 & 28.32 & 0.81 & 111800 & 3131920 & 28.4044 & 27.65 & 41.81916 \\
\hline 27.24964 & 26.7 & 27.85 & 1.15 & 236664 & 5611437 & 28.27624 & & 41.95958 \\
\hline 27.00542 & 26.75 & 27.22 & 0.47 & 124200 & 3000875 & 28.0766 & & 41.52474 \\
\hline 26.9259 & 26.75 & 27.2519 & 0.5019 & 20000 & 2034392 & 28.06457 & & 41.51692 \\
\hline 26.81744 & 26.74 & 26.91 & 0.17 & 228600 & 3352038 & 27.93938 & & 41.03767 \\
\hline 26.46579 & 26.19 & 27.25 & 1.06 & 21400 & 3330585 & 27.84878 & & 40.51232 \\
\hline 26.44961 & 26.11 & 27.25 & 1.14 & 135700 & 7518024 & 27.88545 & & 40.60894 \\
\hline 26.20971 & 26.1297 & 26.8742 & 0.7445 & 1672930 & 23140 & 27.76586 & 26.21 & 40.39671 \\
\hline 26.26532 & 26.15 & 27.25 & 1.1 & 10206 & 6065 & 27.7415 & & 40.33287 \\
\hline 26.268 & 26.21 & 26.3 & 0.09 & 0 & 500 & 27.60139 & & 40.22 \\
\hline 26.2075 & 26.2 & 26.21 & 0.01 & 0 & 400 & 27.60511 & & 40.26 \\
\hline 25.732 & 25.46 & 25.93 & 0.47 & 0 & 500 & 27.55731 & & \\
\hline 25.05556 & 25 & 25.32 & 0.32 & 0 & 900 & 27.58862 & & \\
\hline 24.65636 & 24.55 & 24.9 & 0.35 & 0 & 1100 & 27.59165 & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 24.59935 & 24.21 & 24.9 & 0.69 & 0 & 33850 & 27.64357 & & \\
\hline 24.76394 & 24.55 & 25 & 0.45 & 0 & 191715 & 27.54971 & \multirow{3}{*}{24.77} & 39.36745 \\
\hline 25.34206 & 24.66 & 26.02 & 1.36 & 586169 & 6458454 & 27.57043 & & 40.27362 \\
\hline 25.41251 & 25.09 & 25.82 & 0.73 & 249840 & 7884800 & 27.47551 & & 40.11595 \\
\hline 25.47161 & 25.1 & 25.94 & 0.84 & 242792 & 5164024 & 27.43821 & & 40.04675 \\
\hline 25.8561 & 25.5159 & 26.2 & 0.6841 & 67000 & 4801918 & 27.6127 & & 40.6505 \\
\hline 26.11945 & 25.78 & 26.32 & 0.54 & 20400 & 3812637 & 27.67638 & & 41.12974 \\
\hline 26.26243 & 26.06 & 26.54 & 0.48 & 20400 & 3475771 & 27.74782 & & 41.10555 \\
\hline 26.54485 & 26.16 & 26.85 & 0.69 & 118479 & 6014182 & 27.82106 & & 41.07771 \\
\hline 26.75051 & 26.73 & 27.47 & 0.74 & 1146216 & 132144 & 27.96927 & \multirow[t]{3}{*}{26.73} & 41.35936 \\
\hline 27.2611 & 27.06 & 27.5 & 0.44 & 0 & 47790 & 28.18659 & & 42.04916 \\
\hline 27.12609 & 27 & 27.25 & 0.25 & 0 & 24950 & 28.17447 & & \multirow[t]{3}{*}{42.25176} \\
\hline 27.2158 & 27.08 & 27.34 & 0.26 & 0 & 3430 & 28.15486 & & \\
\hline 27.67 & 27.6 & 27.74 & 0.14 & 0 & 200 & 28.68288 & & \\
\hline 28.41917 & 28.35 & 28.51 & 0.16 & 0 & 1200 & 28.63818 & & \\
\hline 29.1755 & 28.99 & 29.25 & 0.26 & 0 & 4000 & 28.66999 & & 44.76667 \\
\hline 28.45185 & 28.08 & 29.12 & 1.04 & 0 & 85488 & 28.61311 & & 44.63573 \\
\hline 28.5468 & 28.18 & 28.8 & 0.62 & 17100 & 173278 & 28.66822 & & 44.14822 \\
\hline 28.53839 & 28.03 & 28.95 & 0.92 & 1032274 & 8943054 & 28.58347 & \multirow[t]{7}{*}{28.5} & 43.88735 \\
\hline 27.73329 & 26.91 & 28.49 & 1.58 & 446145 & 10501264 & 28.41226 & & 43.18445 \\
\hline 26.85394 & 25.75 & 27.967 & 2.217 & 139814 & 7582449 & 28.23575 & & 42.30555 \\
\hline 26.67516 & 25.88 & 27.56 & 1.68 & 478000 & 6840240 & 28.14195 & & 42.43154 \\
\hline 27.39053 & 27 & 27.7 & 0.7 & 393500 & 5272916 & 28.14197 & & 42.6871 \\
\hline 27.18353 & 26.81 & 27.45 & 0.64 & 137700 & 4419185 & 28.18077 & & 42.45664 \\
\hline 27.35377 & 26.77 & 27.72 & 0.95 & 129600 & 8133638 & 28.30601 & & 42.96131 \\
\hline 27.58627 & 26.5 & 27.7 & 1.2 & 1970961 & 51651 & 28.39647 & \multirow[t]{8}{*}{27.59} & 43.27001 \\
\hline 27.20409 & 27.11 & 27.37 & 0.26 & 0 & 11563 & 28.40906 & & 43.01111 \\
\hline 27.58298 & 27.39 & 27.59 & 0.2 & 11000 & 400 & 28.41779 & & \multirow[t]{6}{*}{43.1} \\
\hline \multirow[t]{5}{*}{27.33843} & \multirow[t]{5}{*}{27.3} & \multirow[t]{5}{*}{27.39} & \multirow[t]{5}{*}{0.09} & \multirow[t]{5}{*}{0} & \multirow[t]{5}{*}{2485} & 28.42371 & & \\
\hline & & & & & & 28.52114 & & \\
\hline & & & & & & 28.49878 & & \\
\hline & & & & & & 28.54303 & & \\
\hline & & & & & & 28.56347 & & \\
\hline 27.11921 & 26.7 & 27.4 & 0.7 & 0 & 10459 & 28.51293 & & 43 \\
\hline 26.97054 & 26.4 & 27.49 & 1.09 & 295625 & 3407993 & 28.40375 & 26.88 & 42.64682 \\
\hline 26.25925 & 25.21 & 27.255 & 2.045 & 170226 & 7900514 & 28.26094 & & 42.61438 \\
\hline 25.98775 & 25 & 26.71 & 1.71 & 1069460 & 11795987 & 28.08333 & & 42.01641 \\
\hline 25.82289 & 25.55 & 26.25 & 0.7 & 246100 & 4791888 & 28.05024 & & 41.75252 \\
\hline 25.8764 & 25.52 & 26.26 & 0.74 & 41100 & 4157384 & 28.0263 & & 41.96964 \\
\hline 25.26268 & 24.95 & 25.7 & 0.75 & 70000 & 6749284 & 27.83588 & & 40.89534 \\
\hline 24.99852 & 24.67 & 25.38 & 0.71 & 573700 & 10656799 & 27.67357 & & 40.49924 \\
\hline 24.80564 & 24.76 & 25.7669 & 1.0069 & 2420305 & 64891 & 27.59345 & 24.76 & 40.46834 \\
\hline 24.76244 & 24.55 & 24.89 & 0.34 & 0 & 5460 & 27.60986 & & \\
\hline 24.91533 & 24.7 & 25.12 & 0.42 & 0 & 8202 & 27.55683 & & 40.49625 \\
\hline 25.32395 & 25.08 & 25.59 & 0.51 & 21000 & 6390 & 27.58854 & & 40.55 \\
\hline & & & & & & 27.78164 & & \\
\hline & & & & & & 27.67584 & & \\
\hline & & & & & & 27.72443 & & \\
\hline 24.41768 & 24 & 25.28 & 1.28 & 30000 & 170015 & 27.66905 & & 39.98667 \\
\hline 24.053 & 22.8 & 25.24 & 2.44 & 59610 & 1016138 & 27.55396 & & 39.88766 \\
\hline 24.18503 & 23.65 & 25.24 & 1.59 & 367490 & 7398743 & 27.68295 & 24.77 & 39.25068 \\
\hline 23.81923 & 23 & 24.49 & 1.49 & 220289 & 8147677 & 27.6266 & & 38.91431 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 23.00778 & 22.47 & 23.6756 & 1.2056 & 448160 & 11815830 & 27.54166 & & 38.48509 \\
\hline 23.21874 & 22.97 & 23.44 & 0.47 & 117100 & 5132735 & 27.65715 & & 38.85348 \\
\hline 23.16231 & 22.9 & 24.76 & 1.86 & 273003 & 4347996 & 27.65323 & & 38.9129 \\
\hline 23.8482 & 23.15 & 24.27 & 1.12 & 163700 & 8990986 & 27.7924 & & 39.86745 \\
\hline 23.57217 & 23.09 & 24.36 & 1.27 & 750263 & 11787334 & 27.78029 & & 39.44985 \\
\hline 23.32228 & 22.82 & 24.06 & 1.24 & 1317400 & 85940 & 27.67049 & 23.3 & 38.95305 \\
\hline 23.05932 & 22.85 & 23.3 & 0.45 & 0 & 14961 & 27.69233 & & 38.86502 \\
\hline 22.88384 & 22.8 & 23.3 & 0.5 & 0 & 27945 & 27.69343 & & 38.92 \\
\hline 23.05483 & 22.96 & 23.2 & 0.24 & 0 & 13642 & 27.65953 & & \\
\hline & & & & & & 27.51483 & & \\
\hline & & & & & & 27.39603 & & \\
\hline 22.52 & 22.52 & 22.52 & 0 & 0 & 300 & 27.42754 & & \\
\hline 21.9045 & 21.65 & 22.6 & 0.95 & 0 & 62200 & 27.39317 & & 38.86 \\
\hline 20.15293 & 19.76 & 22.01 & 2.25 & 932099 & 2178397 & 27.29145 & & 35.96893 \\
\hline 20.13762 & 18.81 & 21.15 & 2.34 & 2644754 & 23920733 & 27.28356 & 20.68 & 36.26926 \\
\hline 19.76636 & 18.97 & 20.62 & 1.65 & 2035411 & 30353912 & 27.39269 & & 36.61881 \\
\hline 20.21169 & 19.65 & 20.7 & 1.05 & 1954679 & 19863410 & 27.55606 & & 37.65501 \\
\hline 20.16195 & 19.6 & 20.7 & 1.1 & 1006656 & 11394500 & 27.63531 & & 37.71982 \\
\hline 19.9542 & 19.8 & 20.07 & 0.27 & 214409 & 8293402 & 27.56089 & & 37.49986 \\
\hline 20.21937 & 19.81 & 20.56 & 0.75 & 805908 & 12736185 & 27.77279 & & 38.51813 \\
\hline 19.20166 & 18.5 & 20.19 & 1.69 & 1950855 & 29020630 & 27.78599 & & 38.23823 \\
\hline 19.49051 & 19.3 & 19.91 & 0.61 & 1767087 & 585010 & 28.03764 & 19.43 & 38.56928 \\
\hline 19.48471 & 18.77 & 20.2 & 1.43 & 0 & 418750 & 28.06099 & & 38.84736 \\
\hline 19.27154 & 18.95 & 19.6 & 0.65 & 0 & 99073 & 28.07754 & & 38.79439 \\
\hline 19.32319 & 19.12 & 19.49 & 0.37 & 0 & 26447 & 28.05638 & & \\
\hline & & & & & & 28.06047 & & \\
\hline & & & & & & 28.0901 & & \\
\hline & & & & & & 28.01109 & & \\
\hline 19.47043 & 19.15 & 19.85 & 0.7 & 0 & 37500 & 28.00435 & & 38.71 \\
\hline 18.29504 & 17.76 & 19.35 & 1.59 & 0 & 522595 & 27.90197 & & 38.13745 \\
\hline 17.5048 & 16.98 & 18.3 & 1.32 & 1720173 & 23042249 & 27.80117 & 18.1 & 37.84898 \\
\hline 17.82076 & 16.9 & 19.11 & 2.21 & 2069760 & 45007403 & 27.89147 & & 38.49046 \\
\hline 18.58722 & 17.8 & 19.49 & 1.69 & 1813838 & 26086184 & 28.05335 & & 39.49608 \\
\hline 17.7151 & 17.07 & 18.11 & 1.04 & 1209763 & 18133695 & 27.99728 & & 38.85158 \\
\hline 17.29978 & 16.95 & 17.89 & 0.94 & 1787325 & 28749812 & 27.92988 & & 38.17314 \\
\hline 17.83397 & 17.47 & 18.22 & 0.75 & 2405908 & 21855486 & 27.9983 & & 38.50302 \\
\hline 17.16009 & 16.6 & 18 & 1.4 & 1915046 & 35488721 & 28.07085 & & 37.60436 \\
\hline 17.08748 & 16.83 & 17.6805 & 0.8505 & 1883385 & 289831 & 28.19627 & 17.05 & 37.24221 \\
\hline 16.93953 & 16.8 & 17.05 & 0.25 & 0 & 55613 & 28.14753 & & \\
\hline 17.06491 & 16.95 & 17.12 & 0.17 & 0 & 36589 & 28.0853 & & \\
\hline 17.11267 & 17.05 & 17.2 & 0.15 & 0 & 27753 & 28.13577 & & 37.7224 \\
\hline 24.91715 & 24.3 & 26.1 & 1.8 & 0 & 4170 & 27.30767 & & 33 \\
\hline 23.71251 & 23 & 24.8 & 1.8 & 0 & 8100 & 27.28679 & & \\
\hline 23.55688 & 22.9 & 24.25 & 1.35 & 141052 & 218878 & 27.18301 & & \\
\hline 23.14855 & 22.7 & 23.43 & 0.73 & 634518 & 1223166 & 27.12218 & & 34.03822 \\
\hline 22.53098 & 21.26 & 24.99 & 3.73 & 2840438 & 6017356 & 27.23421 & & 33.77316 \\
\hline 21.66469 & 20.1 & 22.68 & 2.58 & 8429675 & 33755328 & 27.27238 & 21.02 & 33.5975 \\
\hline 21.44347 & 20.81 & 22.4294 & 1.6194 & 3697571 & 34425887 & 27.52027 & & 33.98814 \\
\hline 21.29094 & 20.68 & 21.9893 & 1.3093 & 8680301 & 27885919 & 27.54184 & & 34.05409 \\
\hline 20.06052 & 19.45 & 20.9146 & 1.4646 & 3770485 & 29313002 & 27.51134 & & 33.83796 \\
\hline 19.50215 & 18.74 & 20.15 & 1.41 & 2922300 & 20006074 & 27.4614 & & 32.75806 \\
\hline 19.30018 & 18.9 & 19.91 & 1.01 & 2709335 & 22477986 & 27.37691 & & 31.96858 \\
\hline
\end{tabular}
18.62415
17.34052
17.35615
17.47654
17.30498
\begin{tabular}{rr}
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17.40344 & 16.95 \\
17.45406 & 15.43 \\
19.6763 & 17.09 \\
19.83485 & 17.9423 \\
20.16684 & 17.85 \\
20.71777 & 19.6053 \\
20.32271 & 19.5 \\
21.07436 & 20.3 \\
22.10543 & 19.7784 \\
21.49655 & 21.2 \\
21.73734 & 20.7 \\
22.25855 & 21.58
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20.92875
20.33017
20.44528
19.89561
19.61314
19.55224
19.89261
20.09909
19.40298
19.70211
19.74856
19.57418
17.26
19.45
19.9512
17.55
17.59
17.45
\begin{tabular}{rrr}
2.19 & 1793447 & 32845594 \\
2.8912 & 3600670 & 763445 \\
0.49 & 285261 & 102627 \\
0.25 & 0 & 84672 \\
0.25 & 0 & 59093 \\
& & \\
& & \\
0.4 & 0 & 34165 \\
0.7 & 130304 & 587992 \\
3.05 & 3059081 & 17587326 \\
4 & 2111740 & 27471906 \\
3.1177 & 636045 & 15006207 \\
3.2 & 250000 & 7837350 \\
1.3247 & 602694 & 9077744 \\
1.5667 & 715578 & 14217715 \\
1.78 & 1718367 & 19644765 \\
2.4416 & 2872280 & 473097 \\
0.8 & 0 & 88484 \\
1.48 & 711373 & 88876 \\
0.92 & 0 & 148914
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline 27.0856 & & 32.94612 \\
\hline 27.00943 & 17.06 & 32.27573 \\
\hline 26.87488 & & 32.16319 \\
\hline 26.77074 & & 32.05137 \\
\hline 26.71962 & & 31.88082 \\
\hline 26.70307 & & \\
\hline 26.83721 & & 32.19 \\
\hline 26.68159 & & \\
\hline 26.54998 & & 28.67497 \\
\hline 26.44345 & & 27.8081 \\
\hline 26.31786 & 16.6 & 25.87115 \\
\hline 26.64027 & & 28.5646 \\
\hline 26.74347 & & 27.18121 \\
\hline 26.81202 & & 26.67488 \\
\hline 26.84238 & & 27.81266 \\
\hline 26.76376 & & 26.37516 \\
\hline 27.13469 & & 27.90457 \\
\hline 27.19182 & 22.18 & 29.85988 \\
\hline 27.03289 & & 28.39624 \\
\hline 26.97426 & & 28.73456 \\
\hline 27.35296 & & 30.75578 \\
\hline 27.10304 & & \\
\hline 27.18605 & & 30.5 \\
\hline 27.12139 & & 31.01044 \\
\hline 27.16943 & & 28.85817 \\
\hline 26.97046 & & 25.06295 \\
\hline 26.75488 & 20.8 & 24.07894 \\
\hline 26.68388 & & 24.34972 \\
\hline 26.40291 & & 19.67448 \\
\hline 26.3164 & & 18.78903 \\
\hline 26.30364 & & 18.2946 \\
\hline 26.44921 & & 19.32221 \\
\hline 26.45173 & & 20.59172 \\
\hline 26.22894 & 19.36 & 20.64283 \\
\hline 26.27039 & & 21.35513 \\
\hline 26.15378 & & 20.54636 \\
\hline 26.1054 & & 21.0993 \\
\hline 26.40079 & & 21 \\
\hline 26.37882 & & 22.16667 \\
\hline 26.39895 & & 22.205 \\
\hline 26.41135 & & 22.82115 \\
\hline 26.29663 & & 20.13816 \\
\hline 26.335 & 20.15 & 20.5324 \\
\hline 26.40232 & & 20.69753 \\
\hline 26.04717 & & 17.93353 \\
\hline 25.81505 & & 15.98651 \\
\hline 26.01768 & & 15.75769 \\
\hline 26.09297 & & 17.23472 \\
\hline 26.88295 & & 21.98643 \\
\hline 26.84411 & 22.06 & 21.16503 \\
\hline 26.88428 & & 22.65896 \\
\hline 27.10985 & & 22.22249 \\
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\end{tabular}
\begin{tabular}{rrrrrrrr}
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& & & & & 27.64782 & 24.98878 \\
24.20605 & 24 & 24.44 & 0.44 & 0 & 9886 & 27.70793 & 26.2289 \\
25.79367 & 24.35 & 26.43 & 2.08 & 82200 & 638573 & 27.77908 & 29.82383 \\
27.29169 & 25.75 & 28.48 & 2.73 & 537270 & 1414412 & 28.01506 & 32.99477 \\
28.69484 & 25 & 32 & 7 & 11538965 & 14128658 & 28.2705 & 30.26 \\
27.19896 & 25.53 & 27.82 & 2.29 & 2080792 & 9781027 & 27.73104 & 30.20964 \\
27.61659 & 27.07 & 28 & 0.93 & 1231425 & 8206568 & 27.8638 & 27.13269 \\
28.03646 & 27.62 & 28.36 & 0.74 & 1528290 & 9752214 & 28.10134 & 27.9471 \\
28.46621 & 27.79 & 28.8 & 1.01 & 477128 & 5683203 & 27.96188 & 29.45659 \\
28.44528 & 28.0608 & 28.8 & 0.7392 & 641482 & 6026684 & 27.87342 & 29.03118 \\
28.58821 & 27.84 & 29 & 1.16 & 1939447 & 15553573 & 27.81482 & 27.84032 \\
29.43191 & 28.1406 & 29.5236 & 1.383 & 4890484 & 366767 & 27.70496 & 29.5 \\
29.21282 & 28.29 & 29.5 & 1.21 & 51977 & 70505 & 27.753 & 27.11949 \\
29.08367 & 28.2801 & 29.5 & 1.2199 & 0 & 18061 & 27.87034 & 27.95827 \\
28.70333 & 28.52 & 29 & 0.48 & 0 & 1200 & 27.84705 & 26.86812 \\
& & & & & & 26.83446
\end{tabular}

MS_minp MS_maxp MS_ranger MS_tradeb MS_trades MS_spinde MS_close WM_mean WM_minp
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & & & & & & & 4.25 & 4.25 \\
\hline & & & & & & & 4.235714 & 4.15 \\
\hline 41.39 & 42 & 0.61 & 0 & 3910 & & & 4.19277 & 4.1 \\
\hline 41.51 & 43.02 & 1.51 & 171078 & 2266173 & 41.96 & 41.96 & 4.31483 & 4.18 \\
\hline 41.54 & 42.41 & 0.87 & 0 & 2746049 & 41.90766 & & 4.179484 & 4.12 \\
\hline 41.94 & 42.23 & 0.29 & 0 & 1506735 & 41.84359 & & 4.183402 & 4.15 \\
\hline 41.44 & 42.04 & 0.6 & 291300 & 1864386 & 41.67051 & & 4.147773 & 4.11 \\
\hline 40.8 & 41.57 & 0.77 & 0 & 1737750 & 41.56483 & & 4.128231 & 4.09 \\
\hline 40.53 & 41.19 & 0.66 & 11300 & 2298595 & 41.29507 & & 4.078872 & 4.02 \\
\hline 40.6 & 41.34 & 0.74 & 0 & 3203739 & 41.23063 & & 4.107524 & 4.035 \\
\hline 40.715 & 42.06 & 1.345 & 693964 & 20383 & 41.29744 & 41.3 & 4.233011 & 4.14 \\
\hline 40.83 & 41.16 & 0.33 & 0 & 4300 & 41.2538 & & 4.192741 & 4.18 \\
\hline 41.3 & 41.34 & 0.04 & 134154 & 353 & 41.23749 & & 4.188526 & 4.16 \\
\hline & & & & & 41.23663 & & 4.170511 & 4.16 \\
\hline & & & & & 41.34973 & & & \\
\hline & & & & & 41.25142 & & & \\
\hline & & & & & 41.22338 & & & \\
\hline 40.5 & 40.9 & 0.4 & 0 & 1500 & 41.10339 & & & \\
\hline 40.95 & 41 & 0.05 & 0 & 2400 & 41.13321 & & 4.165324 & 4.13 \\
\hline 40.73 & 41.67 & 0.94 & 68900 & 1361569 & 41.20458 & 41.07 & 4.191584 & 4.07 \\
\hline 41.34 & 41.84 & 0.5 & 59000 & 1649415 & 41.28291 & & 4.290793 & 4.21 \\
\hline 41.39 & 41.99 & 0.6 & 0 & 1730176 & 41.11738 & & 4.297014 & 4.19 \\
\hline 41.28 & 41.7 & 0.42 & 171000 & 1186365 & 40.98063 & & 4.265949 & 4.21 \\
\hline 41.43 & 41.94 & 0.51 & 0 & 1214401 & 41.0625 & & 4.315254 & 4.26 \\
\hline 41.35 & 41.78 & 0.43 & 78984 & 1401862 & 41.05564 & & 4.324968 & 4.26 \\
\hline 41.59 & 42.28 & 0.69 & 0 & 2931754 & 41.11452 & & 4.368189 & 4.32 \\
\hline 41.547 & 42.23 & 0.683 & 486006 & 9734 & 41.2172 & 42.17 & 4.372781 & 4.244 \\
\hline 42.2 & 42.3 & 0.1 & 0 & 860 & 41.25461 & & 4.362691 & 4.34 \\
\hline & & & & & \[
41.26193
\] & & 4.360528 & 4.34 \\
\hline & & & & & 41.26652 & & 4.365732 & 4.35 \\
\hline & & & & & 41.0983 & & & \\
\hline & & & & & 41.05962 & & & \\
\hline & & & & & 41.10197 & & & \\
\hline & & & & & 41.10701 & & & \\
\hline 41.72 & 42 & 0.28 & 0 & 200 & 41.06253 & & 4.358899 & 4.32 \\
\hline 41.3 & 42.17 & 0.87 & 633087 & 1688896 & 40.94292 & 41.4 & 4.299043 & 4.24 \\
\hline 41.53 & 42.37 & 0.84 & 22200 & 2853180 & 40.7582 & & 4.227283 & 4.13 \\
\hline 41.32 & 41.7351 & 0.4151 & 219300 & 2178954 & 40.47043 & & 4.127054 & 4.1 \\
\hline 41.25 & 41.7423 & 0.4923 & 0 & 1088841 & 40.45309 & & 4.145503 & 4.11 \\
\hline 40.76 & 41.45 & 0.69 & 200000 & 1615325 & 40.27263 & & 4.103842 & 4.05 \\
\hline 39.95 & 41.21 & 1.26 & 0 & 2727158 & 40.14204 & & 4.038064 & 4 \\
\hline 40.1723 & 40.9 & 0.7277 & 74900 & 4636782 & 40.1949 & & 4.092999 & 4.03 \\
\hline 40.11 & 41.545 & 1.435 & 933404 & 36080 & 40.02251 & 40.34 & 4.041 & 4.02 \\
\hline 40.22 & 40.34 & 0.12 & 0 & 8279 & 39.9874 & & 4.040712 & 4.03 \\
\hline 40.22 & 40.22 & 0 & 0 & 200 & 39.78544 & & 4.027847 & 4.02 \\
\hline 40.22 & 40.34 & 0.12 & 0 & 300 & 39.7908 & & 4.026784 & 4.01 \\
\hline & & & & & 39.72191 & & 4 & 4 \\
\hline & & & & & 39.76704 & & & \\
\hline & & & & & & & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & & & & & 39.84624 & & & \\
\hline 39.25 & 40.34 & 1.09 & 0 & 2750 & 39.71095 & & 3.935785 & 3.9 \\
\hline 39.41 & 40.88 & 1.47 & 143800 & 1711579 & 39.74081 & 39.54 & 4.028393 & 3.9 \\
\hline 39.72 & 40.56 & 0.84 & 62400 & 2846844 & 39.60399 & & 4.053937 & 4.015 \\
\hline 39.57 & 40.77 & 1.2 & 180006 & 2395305 & 39.55023 & & 4.046311 & 3.98 \\
\hline 40.186 & 40.98 & 0.794 & 0 & 1751268 & 39.80175 & & 4.130674 & 4.05 \\
\hline 40.86 & 41.37 & 0.51 & 0 & 1316286 & 39.89353 & & 4.201036 & 4.15 \\
\hline 40.93 & 41.32 & 0.39 & 0 & 1973602 & 39.99652 & & 4.195753 & 4.15 \\
\hline 40.64 & 41.51 & 0.87 & 117000 & 3369357 & 40.10208 & & 4.212917 & 4.16 \\
\hline 40.75 & 41.8 & 1.05 & 858555 & 31204 & 40.31572 & 41.36 & 4.29571 & 4.25 \\
\hline 41.85 & 42.37 & 0.52 & 0 & 3197 & 40.62897 & & 4.41824 & 4.39 \\
\hline 42 & 42.35 & 0.35 & 0 & 2550 & 40.61149 & & 4.434872 & 4.4 \\
\hline & & & & & 40.58323 & & 4.463834 & 4.43 \\
\hline & & & & & 41.34433 & & 4.880488 & 4.5 \\
\hline & & & & & 41.2799 & & 5.043982 & 4.85 \\
\hline 44 & 44.92 & 0.92 & 0 & 1200 & 41.32575 & & 5.229632 & 5.1 \\
\hline 43.09 & 45 & 1.91 & 0 & 18301 & 41.24377 & & 5.042646 & 4.9 \\
\hline 43.8 & 44.66 & 0.86 & 0 & 67542 & 41.32321 & & 5.184551 & 4.89 \\
\hline 43.14 & 44.5 & 1.36 & 440902 & 4661625 & 41.20105 & 44.24 & 4.85135 & 4.57 \\
\hline 42.2 & 44.02 & 1.82 & 109550 & 5275562 & 40.95425 & & 4.124997 & 3.67 \\
\hline 41.65 & 42.77 & 1.12 & 13900 & 2882930 & 40.69983 & & 3.679328 & 3.51 \\
\hline 41.66 & 43.12 & 1.46 & 0 & 2692329 & 40.56463 & & 3.586661 & 3.5 \\
\hline 42.25 & 43.06 & 0.81 & 0 & 1927570 & 40.56466 & & 3.442966 & 3.25 \\
\hline 42.24 & 42.68 & 0.44 & 13400 & 2085203 & 40.62058 & & 3.689773 & 3.42 \\
\hline 42.13 & 43.38 & 1.25 & 92700 & 4815113 & 40.8011 & & 3.898732 & 3.66 \\
\hline 42.98 & 43.32 & 0.34 & 1328297 & 9343 & 40.9315 & 43.27 & 4.10961 & 3.9 \\
\hline 42.92 & 43.22 & 0.3 & 0 & 900 & 40.94965 & & 3.942599 & 3.92 \\
\hline 43.1 & 43.1 & 0 & 0 & 100 & 40.96223 & & 3.941624 & 3.91 \\
\hline & & & & & 40.97077 & & 3.944632 & 3.9 \\
\hline & & & & & 41.1112 & & & \\
\hline & & & & & 41.07896 & & & \\
\hline & & & & & 41.14275 & & & \\
\hline & & & & & 41.17221 & & 4.090898 & 4 \\
\hline 43 & 43 & 0 & 0 & 200 & 41.09937 & & 3.896445 & 3.78 \\
\hline 41.96 & 43.05 & 1.09 & 157500 & 2016847 & 40.942 & 42.61 & 3.685615 & 3.53 \\
\hline 41.59 & 43.2 & 1.61 & 40500 & 4883524 & 40.73614 & & 3.443172 & 3.25 \\
\hline 41.46 & 42.76 & 1.3 & 20000 & 4517147 & 40.48012 & & 3.369539 & 3.26 \\
\hline 41.51 & 42.3938 & 0.8838 & 0 & 2741501 & 40.43243 & & 3.358114 & 3.31 \\
\hline 41.41 & 42.39 & 0.98 & 32000 & 2786316 & 40.39793 & & 3.327077 & 3.26 \\
\hline 40.41 & 41.6181 & 1.2081 & 0 & 3345987 & 40.12344 & & 3.165701 & 3.1 \\
\hline 40.06 & 40.82 & 0.76 & 108675 & 5065738 & 39.88949 & & 3.25361 & 3.16 \\
\hline 39.8 & 43.375 & 3.575 & 1683789 & 19400 & 39.774 & 40.4 & 3.290309 & 3.2234 \\
\hline & & & & & 39.79765 & & 3.284128 & 3.12 \\
\hline 40.49 & 40.5 & 0.01 & 0 & 800 & 39.72121 & & 3.123724 & 3.1 \\
\hline 40.5 & 40.6 & 0.1 & 0 & 400 & 39.76692 & & 3.237487 & 3.15 \\
\hline & & & & & 40.04526 & & & \\
\hline & & & & & 39.89275 & & & \\
\hline & & & & & 39.96279 & & & \\
\hline 39.9 & 40.02 & 0.12 & 0 & 1200 & 39.88297 & & 3.152525 & 3.13 \\
\hline 39.6 & 40.23 & 0.63 & 0 & 96647 & 39.71708 & & 3.191687 & 3.06 \\
\hline 38.48 & 40.54 & 2.06 & 287293 & 3657787 & 39.90302 & 40.11 & 3.047605 & 2.96 \\
\hline 38.35 & 39.37 & 1.02 & 297500 & 3878317 & 39.82179 & & 2.721968 & 2.3 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 38.08 & 39.04 & 0.96 & 342900 & 3791667 & 39.69934 & & 2.464901 & 2.35 \\
\hline 38.32 & 39.15 & 0.83 & 242000 & 2031679 & 39.86582 & & 2.580397 & 2.5 \\
\hline 38.66 & 40.4 & 1.74 & 48960 & 1676745 & 39.86017 & & 2.586492 & 2.53 \\
\hline 38.98 & 40.33 & 1.35 & 175500 & 3005320 & 40.06078 & & 2.691344 & 2.5499 \\
\hline 38.85 & 40.34 & 1.49 & 71100 & 4244054 & 40.04331 & & 2.559908 & 2.32 \\
\hline 38.62 & 39.7 & 1.08 & 617300 & 21933 & 39.88505 & 38.92 & 2.33601 & 2.2 \\
\hline 38.66 & 38.92 & 0.26 & 0 & 4729 & 39.91652 & & 2.580207 & 2.22 \\
\hline \multirow[t]{5}{*}{38.92} & 38.92 & 0 & 0 & 2456 & 39.91812 & & 2.305166 & 2.27 \\
\hline & & & & & 39.86926 & & 2.325159 & 2.28 \\
\hline & & & & & 39.66067 & & & \\
\hline & & & & & 39.48943 & & & \\
\hline & & & & & 39.53486 & & & \\
\hline 38.86 & 38.86 & 0 & 0 & 100 & 39.48531 & & 2.129074 & 2.02 \\
\hline 35.5 & 37.75 & 2.25 & 18400 & 173502 & 39.33869 & & 2.004497 & 1.9 \\
\hline 35.63 & 37.2 & 1.57 & 892832 & 5835162 & 39.32732 & 35.92 & 1.863341 & 1.7 \\
\hline 35.67 & 37.62 & 1.95 & 500699 & 6512117 & 39.48461 & & 1.95506 & 1.82 \\
\hline 36.6052 & 38.24 & 1.6348 & 59100 & 4999380 & 39.7201 & & 2.060348 & 1.835 \\
\hline 36.21 & 38.21 & 2 & 10100 & 2362565 & 39.83434 & & 2.116883 & 2.06 \\
\hline 37.05 & 37.97 & 0.92 & 110000 & 2257880 & 39.72707 & & 2.05826 & 1.91 \\
\hline 37.9 & 38.96 & 1.06 & 436684 & 3399029 & 40.03251 & & 2.109811 & 2 \\
\hline 37.33 & 39.56 & 2.23 & 299900 & 6980941 & 40.05153 & & 2.390187 & 2.13 \\
\hline 37.22 & 39.1 & 1.88 & 1444292 & 31051 & 40.41427 & 38.71 & 2.770345 & 2.111 \\
\hline 38.71 & 39.09 & 0.38 & 0 & 16207 & 40.44792 & & 2.589521 & 2.32 \\
\hline \multirow[t]{5}{*}{38.55} & 39 & 0.45 & 0 & 4100 & 40.47179 & & 2.919223 & 2.5 \\
\hline & & & & & 40.44128 & & 3.065749 & 2.95 \\
\hline & & & & & 40.44718 & & & \\
\hline & & & & & 40.48989 & & 3.053125 & 2.91 \\
\hline & & & & & 40.376 & & 3.000523 & 2.9 \\
\hline 38.71 & 38.71 & 0 & 0 & 195 & 40.36629 & & 3.006534 & 2.7 \\
\hline 37.75 & 38.84 & 1.09 & 0 & 20101 & 40.2187 & & 2.731966 & 2.54 \\
\hline 37.05 & 38.71 & 1.66 & 716700 & 3566156 & 40.07342 & 37.98 & 2.696282 & 2.43 \\
\hline 37.65 & 39.54 & 1.89 & 144600 & 5567721 & 40.20357 & & 2.87578 & 2.67 \\
\hline 38.9347 & 39.9 & 0.9653 & 254183 & 3295317 & 40.43691 & & 2.87326 & 2.72 \\
\hline 38.32 & 39.43 & 1.11 & 220000 & 2029593 & 40.35609 & & 2.901674 & 2.77 \\
\hline 37.52 & 39.03 & 1.51 & 570924 & 4185255 & 40.25894 & & 3.018458 & 2.7 \\
\hline 38.03 & 38.9 & 0.87 & 11100 & 3338530 & 40.35756 & & 2.972926 & 2.68 \\
\hline 37.1 & 38.45 & 1.35 & 236162 & 6421968 & 40.46214 & & 2.735805 & 2.5 \\
\hline \multirow[t]{3}{*}{37.16} & 38.2672 & 1.1072 & 857069 & 36028 & 40.64292 & 37.23 & 2.878506 & 2.71 \\
\hline & & & & & 40.57267 & & 2.749363 & 2.71 \\
\hline & & & & & 40.48296 & & 2.780585 & 2.71 \\
\hline 37.41 & 37.9 & 0.49 & 0 & 1464 & 40.55572 & & 2.738692 & 2.7 \\
\hline \multirow[t]{3}{*}{33} & 33 & 0 & 0 & 200 & 39.36207 & & 2.298276 & 2.25 \\
\hline & & & & & 39.33197 & & 2.209434 & 2.1 \\
\hline & & & & & 39.18238 & & 2.098205 & 2.07 \\
\hline 33 & 34.75 & 1.75 & 0 & 43750 & 39.09471 & & 1.997834 & 1.76 \\
\hline 33.37 & 34.5 & 1.13 & 10550 & 267701 & 39.25618 & & 2.104936 & 1.94 \\
\hline 32.35 & 34.84 & 2.49 & 1242850 & 10417633 & 39.3112 & 33.3 & 2.32074 & 2.01 \\
\hline 33.27 & 35 & 1.73 & 275269 & 9137430 & 39.66851 & & 2.282319 & 2.11 \\
\hline 33.25 & 34.66 & 1.41 & 703000 & 6202742 & 39.69961 & & 2.198045 & 2.115 \\
\hline 33.24 & 34.4 & 1.16 & 407852 & 4903415 & 39.65565 & & 2.225116 & 2.12 \\
\hline 31.89 & 34.1 & 2.21 & 120950 & 6039377 & 39.58366 & & 2.296217 & 2.19 \\
\hline 30.73 & 33.14 & 2.41 & 137600 & 7900173 & 39.46187 & & 2.245024 & 2.15 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 31 & 34.7 & 3.7 & 611304 & 17058813 & 39.04198 & \multirow[b]{2}{*}{32.19} & 2.052501 & 1.99 \\
\hline 31.57 & 34 & 2.43 & 2074729 & 93211 & 38.93218 & & 2.013244 & 1.75 \\
\hline 31.65 & 32.19 & 0.54 & 42219 & 5160 & 38.73823 & & 1.762645 & 1.67 \\
\hline 31.8 & 32.2 & 0.4 & 0 & 2340 & 38.58813 & & 1.837471 & 1.8 \\
\hline 31.66 & 32.3 & 0.64 & 0 & 6608 & 38.51444 & & 1.809424 & 1.79 \\
\hline & & & & & 38.49058 & & 1.8 & 1.8 \\
\hline 32.19 & 32.19 & 0 & 0 & 500 & 38.68393 & & & \\
\hline & & & & & 38.45962 & & 1.845 & 1.79 \\
\hline 27.75 & 29.83 & 2.08 & 43500 & 167926 & 38.26991 & & 1.736384 & 1.65 \\
\hline 26.5 & 29.5 & 3 & 203160 & 1577888 & 38.11635 & & 1.791649 & 1.7 \\
\hline 23.21 & 28 & 4.79 & 2056184 & 16864954 & 37.93532 & 23.89 & 1.747701 & 1.5 \\
\hline 25.635 & 30.5 & 4.865 & 945317 & 21609176 & 38.40006 & & 2.328936 & 1.82 \\
\hline 24.54 & 30.24 & 5.7 & 608650 & 17633407 & 38.54882 & & 2.270491 & 1.57 \\
\hline 26.04 & 29 & 2.96 & 264318 & 6875676 & 38.64763 & & 2.232526 & 2.13 \\
\hline 27.1818 & 28.6 & 1.4182 & 419902 & 6186223 & 38.69139 & & 2.243559 & 2.2 \\
\hline 24.21 & 28.5 & 4.29 & 1260514 & 15594618 & 38.57806 & & 2.178697 & 2.01 \\
\hline 24.58 & 30.98 & 6.4 & 1077685 & 17974251 & 39.11274 & & 2.271724 & 2.17 \\
\hline 27.2878 & 32.75 & 5.4622 & 2517179 & 3273415 & 39.19507 & 28.7 & 2.289451 & 1.7107 \\
\hline 27.74 & 28.8 & 1.06 & 76867 & 498856 & 38.96599 & & 2.175556 & 2.12 \\
\hline 27.5 & 32.5 & 5 & 804813 & 153746 & 38.88148 & & 2.310668 & 2.15 \\
\hline 28.75 & 31.95 & 3.2 & 0 & 258457 & 39.42735 & & 2.450265 & 2.2 \\
\hline & & & & & 39.0671 & & 2.55 & 2.55 \\
\hline 30.5 & 30.5 & 0 & 0 & 100 & 39.18676 & & & \\
\hline 30.01 & 31.4 & 1.39 & 0 & 6325 & 39.09356 & & 2.47869 & 2.33 \\
\hline 28.2 & 31.51 & 3.31 & 0 & 105316 & 39.1628 & & 2.382866 & 2.26 \\
\hline 23.58 & 28.89 & 5.31 & 342633 & 3796463 & 38.87601 & & 2.357569 & 2.17 \\
\hline 22 & 25.51 & 3.51 & 5062142 & 29900636 & 38.56526 & 22.83 & 2.355906 & 2.19 \\
\hline 22.74 & 26.12 & 3.38 & 2068706 & 26525692 & 38.46292 & & 2.180005 & 2.07 \\
\hline 16.08 & 23.9697 & 7.8897 & 3904875 & 53402019 & 38.05792 & & 2.127801 & 2.07 \\
\hline 17.2 & 20.46 & 3.26 & 1926965 & 32722640 & 37.93322 & & 2.109465 & 2.05 \\
\hline 17.46 & 24.0699 & 6.6099 & 2639604 & 30881766 & 37.91483 & & 2.180601 & 2.05 \\
\hline 17.29 & 25 & 7.71 & 4520957 & 61296747 & 38.12466 & & 2.194377 & 2.1 \\
\hline 19.5 & 21.78 & 2.28 & 4504124 & 56672568 & 38.12829 & & 2.220795 & 2.05 \\
\hline 18.5036 & 23.34 & 4.8364 & 5176624 & 2264981 & 37.80715 & 21.75 & 2.077765 & 2 \\
\hline 19.945 & 22.5 & 2.555 & 659364 & 536047 & 37.86691 & & 2.20915 & 2.07 \\
\hline 19.97 & 21.5 & 1.53 & 0 & 353238 & 37.69882 & & 2.158589 & 2.07 \\
\hline 19.71 & 22.05 & 2.34 & 116875 & 483438 & 37.62909 & & 2.152674 & 2.01 \\
\hline 21 & 21 & 0 & 0 & 100 & 38.05487 & & & \\
\hline 22 & 22.5 & 0.5 & 0 & 300 & 38.02319 & & & \\
\hline 21.56 & 22.5 & 0.94 & 0 & 7400 & 38.05221 & & & \\
\hline 21.9 & 23.67 & 1.77 & 122500 & 1008277 & 38.07008 & & 2.303605 & 2.19 \\
\hline 18.85 & 23.35 & 4.5 & 2420879 & 4887328 & 37.90473 & & 2.245271 & 2.16 \\
\hline 18.8 & 22.21 & 3.41 & 6807858 & 31078288 & 37.96004 & 20.2 & 2.320704 & 2.15 \\
\hline 19.75 & 22.32 & 2.57 & 4358480 & 33413295 & 38.05707 & & 2.364924 & 2.29 \\
\hline 16.95 & 20.02 & 3.07 & 2273330 & 37482152 & 37.54514 & & 2.322118 & 2.27 \\
\hline 12 & 19.94 & 7.94 & 4144002 & 39454816 & 37.21057 & & 2.256222 & 2.19 \\
\hline 11.7 & 18 & 6.3 & 5862766 & 45969144 & 37.50263 & & 2.368659 & 2.2 \\
\hline 15.6 & 18.4 & 2.8 & 2278526 & 27475077 & 37.61117 & & 2.398454 & 2.3 \\
\hline 16.69 & 24.72 & 8.03 & 10626127 & 54638511 & 38.74987 & & 2.892773 & 2.36 \\
\hline 17.6349 & 23.3 & 5.6651 & 6357828 & 450880 & 38.69388 & 22.55 & 2.866762 & 2.52 \\
\hline 22 & 22.9814 & 0.9814 & 17500 & 123086 & 38.75179 & & 2.639569 & 2.58 \\
\hline 20.025 & 23.55 & 3.525 & 32992 & 122304 & 39.07692 & & 2.73133 & 2.66 \\
\hline
\end{tabular}
\begin{tabular}{rrrrrrrrr}
22.81 & 25.07 & 2.26 & 0 & 176151 & 39.31129 & & 2.939695 & 2.75 \\
24 & 25 & 1 & 0 & 1500 & 39.65968 & & 3.393559 & 3.24 \\
24.89 & 25.49 & 0.6 & 0 & 2050 & 39.85237 & & 3.457866 & 3.4 \\
24.75 & 30.49 & 5.74 & 0 & 62775 & 39.93901 & & 3.912824 & 3.64 \\
27.65 & 31.21 & 3.56 & 638737 & 1107749 & 40.04157 & & 4.068736 & 3.8 \\
29.5 & 35.3 & 5.8 & 1398268 & 3449005 & 40.38172 & & 4.344349 & 3.61 \\
26.24 & 34.09 & 7.85 & 8754236 & 14261017 & 40.74992 & 33.25 & 4.183042 & 3.61 \\
24.8 & 31 & 6.2 & 8228793 & 16431287 & 39.97232 & & 3.723279 & 3.36 \\
27.25 & 28.6 & 1.35 & 2087125 & 10357864 & 40.16369 & & 3.822455 & 3.7 \\
28.03 & 30.62 & 2.59 & 1393736 & 13519780 & 40.50609 & & 3.854977 & 3.78 \\
28.22 & 30.02 & 1.8 & 500629 & 6454455 & 40.30506 & & 3.823256 & 3.71 \\
26.75 & 28.64 & 1.89 & 1484653 & 7659141 & 40.17756 & & 3.818499 & 3.69 \\
25 & 31.94 & 6.94 & 1522630 & 16452990 & 40.09309 & & 3.778448 & 3.68 \\
25.5 & 28.8361 & 3.3361 & 2229108 & 261650 & 39.93473 & 27.21 & 4.191693 & 3.63 \\
26.5 & 28 & 1.5 & 2637639 & 78132 & 40.00399 & & 4.103363 & 3.94 \\
26.5 & 28.545 & 2.045 & 0 & 11260 & 40.17312 & & 4.062805 & 3.6901 \\
26.5 & 27.11 & 0.61 & 0 & 15555 & 40.13954 & & 4.066743 & 4.03
\end{tabular}

WM_maxp WM_range WM_tradelWM_tradesWM_spindiWM_close newlab verticle2 MER_shor 09/02/2008

\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{6}{|c|}{4.0454} & & 26650 \\
\hline 4.02 & 0.12 & 5/18/1927 & 169656 & 4.031664 & & & & 143090 \\
\hline 4.16 & 0.26 & 6/29/6703 & 6136708 & 4.034696 & 3.94 & & & 2992786 \\
\hline 4.1 & 0.085 & 2/11/5353 & 6817917 & 4.020806 & & & & 4066950 \\
\hline 4.15 & 0.17 & 2/26/6834 & 6194383 & 4.015348 & & & & 1997194 \\
\hline 4.2 & 0.15 & 4/28/6981 & 4940619 & 4.040884 & & & & 1731133 \\
\hline 4.24 & 0.09 & 7/18/4918 & 5139309 & 4.050201 & & & & 1592461 \\
\hline 4.22 & 0.07 & 11/8/3552 & 3676023 & 4.060657 & & & & 1515343 \\
\hline 4.29 & 0.13 & \#\#\#\#\#\#\#\# & 7431200 & 4.071375 & & & & 2359031 \\
\hline 4.43 & 0.18 & \#\#\#\#\#\#\#\# & 335956 & 4.093064 & 4.27 & & & 25000 \\
\hline 4.46 & 0.07 & 1/0/1900 & 300635 & 4.124867 & & & & 34837 \\
\hline 4.46 & 0.06 & 1/0/1900 & 117783 & 4.123092 & & & & 13070 \\
\hline 4.48 & 0.05 & 7/27/2045 & 181225 & 4.120223 & & & & 1130 \\
\hline 4.97 & 0.47 & 1/0/1900 & 2050 & 4.197494 & & 09/08/2008 & 0 & \\
\hline 5.18 & 0.33 & 1/0/1900 & 13393 & 4.190953 & & & & 600 \\
\hline 5.35 & 0.25 & 1/0/1900 & 26330 & 4.195608 & & & & 3500 \\
\hline 5.17 & 0.27 & 4/15/1998 & 539140 & 4.187285 & & & & 51580 \\
\hline 5.35 & 0.46 & \#\#\#\#\#\#\#\# & 2612134 & 4.19535 & & & & 88492 \\
\hline 5.18 & 0.61 & \#\#\#\#\#\#\#\# & 22875410 & 4.182948 & 5.1 & & & 3552251 \\
\hline 4.72 & 1.05 & \#\#\#\#\#\#\#\# & 40445412 & 4.157891 & & & & 3526878 \\
\hline 3.91 & 0.4 & \#\#\#\#\#\#\#\# & 29389027 & 4.132061 & & & & 2830867 \\
\hline 4.7 & 1.2 & \#\#\#\#\#\#\#\# & 19744570 & 4.118335 & & & & 2676937 \\
\hline 3.61 & 0.36 & \#\#\#\#\#\#\#\# & 22890733 & 4.118337 & & & & 2708415 \\
\hline 3.99 & 0.57 & \#\#\#\#\#\#\#\# & 25925909 & 4.124015 & & & & 1845345 \\
\hline 4.03 & 0.37 & \#\#\#\#\#\#\#\# & 27337078 & 4.142343 & & & & 3228591 \\
\hline 5.02 & 1.12 & 9/25/5911 & 198144 & 4.155581 & 4.12 & & & 1226 \\
\hline 3.97 & 0.05 & 1/0/1900 & 85784 & 4.157424 & & & & 500 \\
\hline 4 & 0.09 & 1/0/1900 & 188931 & 4.158701 & & & & 11000 \\
\hline \multirow[t]{4}{*}{3.98} & \multirow[t]{4}{*}{0.08} & \multirow[t]{4}{*}{1/0/1900} & \multirow[t]{4}{*}{44503} & 4.159568 & \multirow[t]{4}{*}{} & \multirow{6}{*}{09/09/2008} & & 155 \\
\hline & & & & 4.173825 & & & \multicolumn{2}{|l|}{\multirow[t]{4}{*}{0}} \\
\hline & & & & 4.170553 & & & & \\
\hline & & & & 4.177029 & & & & \\
\hline 4.1 & 0.1 & 1/0/1900 & 28950 & 4.180019 & & & & \\
\hline 4.02 & 0.24 & 4/24/1981 & 312904 & 4.172624 & & & & 6859 \\
\hline 3.9 & 0.37 & \#\#\#\#\#\#\#\# & 14728109 & 4.156647 & 3.85 & & & 1227846 \\
\hline 3.61 & 0.36 & \#\#\#\#\#\#\#\# & 34165995 & 4.135748 & & & & 2095936 \\
\hline 3.53 & 0.27 & \#\#\#\#\#\#\#\# & 22240172 & 4.109755 & & & & 4513532 \\
\hline 3.45 & 0.14 & \#\#\#\#\#\#\#\# & 12794136 & 4.104913 & & & & 1344894 \\
\hline 3.42 & 0.16 & \#\#\#\#\#\#\#\# & 15966055 & 4.10141 & & & & 1149535 \\
\hline 3.365 & 0.265 & \#\#\#\#\#\#\#\# & 26329564 & 4.073543 & & & & 2084619 \\
\hline 3.37 & 0.21 & \#\#\#\#\#\#\#\# & 26251056 & 4.049791 & & & & 3851535 \\
\hline 3.3551 & 0.1317 & \#\#\#\#\#\#\#\# & 284302 & 4.038066 & 3.3 & & & 826268 \\
\hline 3.59 & 0.47 & 6/12/4287 & 219444 & 4.040467 & & & & 3390 \\
\hline 3.18 & 0.08 & 9/14/1941 & 200514 & 4.032706 & & & & 2300 \\
\hline \multirow[t]{4}{*}{3.3} & \multirow[t]{4}{*}{0.15} & \multirow[t]{4}{*}{7/6/2009} & \multirow[t]{4}{*}{169546} & 4.037347 & \multirow[t]{4}{*}{} & \multirow{4}{*}{09/10/2008} & & 3740 \\
\hline & & & & 4.065606 & & & \multicolumn{2}{|r|}{\multirow{3}{*}{3740}} \\
\hline & & & & 4.050122 & & & & \\
\hline & & & & 4.057233 & & & & \\
\hline 3.25 & 0.12 & 1/0/1900 & 46500 & 4.049129 & & & & 149115 \\
\hline 3.34 & 0.28 & 10/7/1998 & 514003 & 4.032287 & & & & 642136 \\
\hline 3.36 & 0.4 & \#\#\#\#\#\#\#\# & 22831810 & 4.051164 & 3.3 & & & 2698875 \\
\hline 3.03 & 0.73 & \#\#\#\#\#\#\#\# & 39278731 & 4.042917 & & & & 2620532 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline 2.61 & 0.26 & \#\#\#\#\#\#\#\# & 28682416 & 4.030486 & & & 3489406 \\
\hline 2.68 & 0.18 & \#\#\#\#\#\#\#\# & 15441944 & 4.047388 & & & 1216411 \\
\hline 3.3 & 0.77 & 3/11/9810 & 11437612 & 4.046815 & & & 1589476 \\
\hline 2.77 & 0.2201 & \#\#\#\#\#\#\#\# & 18035929 & 4.067181 & & & 3440889 \\
\hline 2.84 & 0.52 & \#\#\#\#\#\#\#\# & 34341764 & 4.065408 & & & 5489671 \\
\hline 2.6686 & 0.4686 & 9/25/8320 & 925537 & 4.049341 & 2.32 & & 161514 \\
\hline 2.688 & 0.468 & \#\#\#\#\#\#\#\# & 248775 & 4.052536 & & & 4700 \\
\hline 2.34 & 0.07 & 2/18/1982 & 169886 & 4.052698 & & & 19637 \\
\hline 2.36 & 0.08 & 1/0/1900 & 135615 & 4.047737 & & & 350 \\
\hline & & & & 4.02656 & 09/11/2008 & 0 & \\
\hline & & & & 4.009174 & & & \\
\hline & & & & 4.013787 & & & 300 \\
\hline 2.37 & 0.35 & 1/0/1900 & 90700 & 4.008757 & & & 58300 \\
\hline 2.18 & 0.28 & 6/21/2460 & 1689091 & 3.993871 & & & 1625762 \\
\hline 2.01 & 0.31 & \#\#\#\#\#\#\#\# & 30404548 & 3.992717 & 1.86 & & 7530237 \\
\hline 2.1 & 0.28 & \#\#\#\#\#\#\#\# & 48109259 & 4.008686 & & & 8471087 \\
\hline 2.2 & 0.365 & \#\#\#\#\#\#\#\# & 33728389 & 4.032594 & & & 4442235 \\
\hline 2.19 & 0.13 & \#\#\#\#\#\#\#\# & 18651278 & 4.044192 & & & 3069455 \\
\hline 2.1 & 0.19 & \#\#\#\#\#\#\#\# & 12897292 & 4.033301 & & & 2486406 \\
\hline 2.24 & 0.24 & \#\#\#\#\#\#\#\# & 28263256 & 4.064311 & & & 3482701 \\
\hline 2.9 & 0.77 & \#\#\#\#\#\#\#\# & 67386346 & 4.066242 & & & 8136955 \\
\hline 2.88 & 0.769 & 1/14/6555 & 851002 & 4.103069 & 2.83 & & 119608 \\
\hline 2.8 & 0.48 & \#\#\#\#\#\#\#\# & 650454 & 4.106486 & & & 129371 \\
\hline 3.14 & 0.64 & \#\#\#\#\#\#\#\# & 2436211 & 4.108909 & & & 22752 \\
\hline 3.19 & 0.24 & 2/19/2515 & 883808 & 4.105811 & & & 12440 \\
\hline & & & & 4.10641 & 09/12/2008 & 0 & \\
\hline 3.07 & 0.16 & 1/0/1900 & 1600 & 4.110747 & & & \\
\hline 3.07 & 0.17 & 1/0/1900 & 15300 & 4.099184 & & & \\
\hline 3.12 & 0.42 & 6/2/2828 & 371295 & 4.098198 & & & 19450 \\
\hline 3.01 & 0.47 & 3/22/6540 & 1823002 & 4.083214 & & & 246052 \\
\hline 2.83 & 0.4 & \#\#\#\#\#\#\#\# & 23199331 & 4.068464 & 2.73 & & 5951585 \\
\hline 3.07 & 0.4 & \#\#\#\#\#\#\#\# & 41901995 & 4.081678 & & & 13082271 \\
\hline 3 & 0.28 & \#\#\#\#\#\#\#\# & 23816675 & 4.105368 & & & 10310768 \\
\hline 2.99 & 0.22 & \#\#\#\#\#\#\#\# & 13854703 & 4.097162 & & & 6053370 \\
\hline 3.29 & 0.59 & \#\#\#\#\#\#\#\# & 68819148 & 4.087299 & & & 11274765 \\
\hline 3.25 & 0.57 & \#\#\#\#\#\#\#\# & 35653737 & 4.097312 & & & 8918676 \\
\hline 2.97 & 0.47 & \#\#\#\#\#\#\#\# & 36279984 & 4.107929 & & & 14010508 \\
\hline 2.9354 & 0.2254 & \#\#\#\#\#\#\#\# & 328979 & 4.126283 & 2.73 & & 181659 \\
\hline 2.81 & 0.1 & 10000 & 174590 & 4.119151 & & & 6137 \\
\hline 2.84 & 0.13 & 0 & 161572 & 4.110043 & & & 4125 \\
\hline 2.84 & 0.14 & 10000 & 124609 & 4.11743 & & & 5256 \\
\hline 2.6 & 0.35 & 0 & 5800 & 3.996244 & 09/15/2008 & 0 & 100 \\
\hline 2.25 & 0.15 & 0 & 5300 & 3.993189 & & & 3699 \\
\hline 2.15 & 0.08 & 0 & 1950 & 3.978001 & & & 90002 \\
\hline 2.15 & 0.39 & 0 & 143478 & 3.9691 & & & 554390 \\
\hline 2.4 & 0.46 & 1136773 & 3160958 & 3.985494 & & & 2103474 \\
\hline 2.7 & 0.69 & 7432941 & 35860102 & 3.99108 & 2.16 & & 12214026 \\
\hline 2.45 & 0.34 & 6568429 & 36640505 & 4.027356 & & & 12552702 \\
\hline 2.33 & 0.215 & 7764658 & 22694854 & 4.030513 & & & 15140878 \\
\hline 2.38 & 0.26 & 4842369 & 18721944 & 4.02605 & & & 9816045 \\
\hline 2.48 & 0.29 & 5439130 & 19098074 & 4.018742 & & & 5995713 \\
\hline 2.45 & 0.3 & 6517547 & 21010087 & 4.006377 & & & 5092702 \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline 2.17 & 0.18 & 15724864 & 47826532 & 3.963747 & \multirow[b]{5}{*}{2} & & 8109941 \\
\hline 2.2 & 0.45 & 4460482 & 1373973 & 3.9526 & & & 443150 \\
\hline 2.01 & 0.34 & 262460 & 1075599 & 3.932909 & & & 3300 \\
\hline 1.95 & 0.15 & 0 & 231434 & 3.91767 & & & 1700 \\
\hline 1.85 & 0.06 & 10735 & 259194 & 3.910188 & & & 1365 \\
\hline \multirow[t]{2}{*}{1.8} & 0 & \multirow[t]{2}{*}{0} & \multirow[t]{2}{*}{2000} & 3.907766 & \multirow[t]{5}{*}{09/16/2008} & \multicolumn{2}{|l|}{\multirow[t]{3}{*}{0}} \\
\hline & & & & 3.927396 & & & \\
\hline 1.9 & 0.11 & 0 & 200 & 3.904623 & & & \\
\hline 1.83 & 0.18 & 0 & 52530 & 3.885362 & & & 20092 \\
\hline 1.88 & 0.18 & 56000 & 650747 & 3.869772 & & & 121117 \\
\hline 1.97 & 0.47 & 7365509 & 21315849 & 3.851394 & \multirow[t]{2}{*}{1.81} & & 4356334 \\
\hline 2.7 & 0.88 & 9283865 & 57481019 & 3.898577 & & & 7345383 \\
\hline 2.44 & 0.87 & 4140766 & 23166653 & 3.913679 & & & 5567779 \\
\hline 2.34 & 0.21 & 1302639 & 9106877 & 3.923711 & & & 2931831 \\
\hline 2.3 & 0.1 & 1101084 & 8185604 & 3.928153 & & & 3365316 \\
\hline 2.31 & 0.3 & 2564160 & 17495563 & 3.916648 & & & 4636929 \\
\hline 2.39 & 0.22 & 4652694 & 20278289 & 3.970931 & & & 4447098 \\
\hline 2.4 & 0.6893 & 1587048 & 534123 & 3.97929 & 2.32 & & 571467 \\
\hline 2.42 & 0.3 & 0 & 119963 & 3.956033 & & & 25500 \\
\hline 2.36 & 0.21 & 282174 & 102382 & 3.947452 & & & 61895 \\
\hline 2.66 & 0.46 & 38313 & 454071 & 4.002872 & & & 22715 \\
\hline 2.55 & 0 & 0 & 1500 & 3.966298 & 09/17/2008 & 0 & \\
\hline & & & & 3.978446 & & & \\
\hline 2.55 & 0.22 & 0 & 8400 & 3.968984 & & & \\
\hline 2.49 & 0.23 & 0 & 79732 & 3.976014 & & & 1000 \\
\hline 2.57 & 0.4 & 65901 & 745736 & 3.946897 & & & 146784 \\
\hline 2.47 & 0.28 & 3508466 & 12870630 & 3.915348 & 2.29 & & 3218959 \\
\hline 2.36 & 0.29 & 3005696 & 11957044 & 3.904958 & & & 5219034 \\
\hline 2.2481 & 0.1781 & 1124382 & 8866965 & 3.86384 & & & 6189552 \\
\hline 2.15 & 0.1 & 1296309 & 6507187 & 3.85118 & & & 5962406 \\
\hline 2.3 & 0.25 & 2816837 & 17010698 & 3.849313 & & & 3388531 \\
\hline 2.27 & 0.17 & 1693582 & 9626311 & 3.870616 & & & 3330314 \\
\hline 2.39 & 0.34 & 3621885 & 23882951 & 3.870984 & & & 5720403 \\
\hline 2.25 & 0.25 & 1994389 & 1418273 & 3.838381 & 2.01 & & 983590 \\
\hline 2.25 & 0.18 & 10000 & 465184 & 3.844448 & & & 2400 \\
\hline 2.23 & 0.16 & 45705 & 253929 & 3.827383 & & & 53805 \\
\hline 2.22 & 0.21 & 29990 & 166109 & 3.820303 & & & 400 \\
\hline & & & & 3.863531 & 09/18/2008 & 0 & \\
\hline & & & & 3.860315 & & & \\
\hline & & & & 3.863261 & & & 200 \\
\hline 2.4 & 0.21 & 0 & 95280 & 3.865075 & & & 5000 \\
\hline 2.39 & 0.23 & 135827 & 1036096 & 3.848288 & & & 27697 \\
\hline 2.49 & 0.34 & 4486817 & 16818206 & 3.853903 & 2.29 & & 2626001 \\
\hline 2.44 & 0.15 & 2758938 & 13991113 & 3.863754 & & & 3309660 \\
\hline 2.5 & 0.23 & 3899594 & 11443401 & 3.81178 & & & 4780431 \\
\hline 2.5 & 0.31 & 1721217 & 9634822 & 3.777813 & & & 5015217 \\
\hline 2.49 & 0.29 & 3848640 & 18196646 & 3.807465 & & & 5249252 \\
\hline 2.48 & 0.18 & 2864428 & 11529382 & 3.818484 & & & 5148956 \\
\hline 3.3 & 0.94 & 18308797 & 67210259 & 3.93409 & & & 5990087 \\
\hline 3.28 & 0.76 & 3028806 & 1687348 & 3.928406 & 2.99 & & 667704 \\
\hline 3.2 & 0.62 & 41600 & 701366 & 3.934285 & & & 155250 \\
\hline 2.83 & 0.17 & 64587 & 264924 & 3.967295 & & & 3000 \\
\hline
\end{tabular}
\begin{tabular}{rrrrrrr}
3.08 & 0.33 & 44355 & 878269 & 3.991089 & & 1100 \\
3.43 & 0.19 & 0 & 11800 & 4.02646 & \(09 / 19 / 2008\) & 0 \\
3.7 & 0.3 & 0 & 34450 & 4.046023 & & 800 \\
4.07 & 0.43 & 0 & 28301 & 4.054819 & & 74873 \\
4.3 & 0.5 & 317200 & 686140 & 4.065231 & & 1969003 \\
5.04 & 1.43 & 2313302 & 7103849 & 4.099765 & & 1150643 \\
4.9 & 1.29 & 19338473 & 31601239 & 4.137147 & 4.86 & 884515 \\
4.185 & 0.825 & 5065605 & 28247283 & 4.0582 & & 1529491 \\
3.95 & 0.25 & 3863370 & 22106740 & 4.07763 & & 810198 \\
3.91 & 0.13 & 3971639 & 14385693 & 4.112391 & & 2073020 \\
3.89 & 0.18 & 2176240 & 10372412 & 4.091982 & & 76433 \\
4.3 & 0.61 & 2368075 & 12485319 & 4.079037 & & \\
4.4 & 0.72 & 4393078 & 24984532 & 4.070462 & & 4.25
\end{tabular}

MER_shorl GS_shorta GS_shortp AIG_shorte AIG_shortp LEH_shorti LEH_short|MS_shorta MS_shortp
28.3

29
29.02652
29.05027
29.0274
28.39132
28.02868
27.61725
27.61727
27.23589
27.34385
27.8054
28.26536
27.60529
27.74
\(100 \quad 167.22\)
\(1800 \quad 166.435\)
\(\begin{array}{llll}1000 & 21.81 & 15370 & 17.28393\end{array}\)
\begin{tabular}{rr}
7838 & 166.9488 \\
432740 & 168.0181 \\
354908 & 165.9405
\end{tabular}
\(\begin{array}{rrrr}14528 & 21.94525 & 223512 & 17.23464 \\ 1638801 & 22.61444 & 2766662 & 16.94601\end{array}\)
\begin{tabular}{rr}
1460 & 41.97425 \\
726968 & 42.45301 \\
1023788 & 42.03109 \\
536063 & 42.06925 \\
560111 & 41.68695 \\
617110 & 41.24024 \\
983499 & 40.83316 \\
1088167 & 41.00997 \\
2700 & 41.30222 \\
4200 & 40.83 \\
353 & 41.34
\end{tabular}
\begin{tabular}{rrr} 
& 1700 & 163.7671 \\
27.66077 & 4350 & 163.6586 \\
27.53267 & 229245 & 162.9884 \\
27.74939 & 281888 & 163.7752 \\
27.75612 & 247204 & 164.9051 \\
27.72197 & 260856 & 164.1825 \\
27.91218 & 108894 & 164.7915 \\
28.0632 & 121932 & 164.748 \\
28.29085 & 632740 & 166.8115 \\
28.37061 & 1250 & 167.7376 \\
28.48 & &
\end{tabular}
\begin{tabular}{rrrr}
200 & 21.94 & 2700 & 15.92407 \\
200 & 21.74 & 25960 & 15.97898 \\
1385 & 21.72112 & 187047 & 16.41431 \\
1019109 & 21.49114 & 2413179 & 16.10399 \\
1814765 & 21.93639 & 2230313 & 16.32384 \\
1591376 & 22.0647 & 1714982 & 16.23584 \\
767795 & 21.92793 & 941654 & 16.07561 \\
1581432 & 22.30106 & 1200295 & 16.24722 \\
1418347 & 22.29783 & 1148171 & 16.17248 \\
3549839 & 22.50432 & 3541907 & 16.60967 \\
6558 & 22.26323 & 147588 & 17.1946 \\
& & 179224 & 17.33869 \\
350000 & 22.58 & 44587 & 17.14592 \\
& & 54043 & 17.04786
\end{tabular}
\begin{tabular}{rr}
1500 & 40.66333 \\
2300 & 40.97826 \\
547121 & 41.1646 \\
639061 & 41.58926 \\
526329 & 41.64287 \\
374054 & 41.47773 \\
416853 & 41.71949 \\
457307 & 41.56435 \\
795844 & 42.00048 \\
1338 & 42.18644 \\
100 & 42.3
\end{tabular}
\begin{tabular}{rrrrrrrrr} 
& 100 & 166.76 & & & & & & \\
& 100 & 166.22 & 100 & 22.45 & 700 & 16.68 & & \\
27.92111 & 2540 & 166.2804 & 1512 & 22.31733 & 49302 & 16.69261 & & \\
27.84503 & 170277 & 166.3782 & 1852423 & 21.82776 & 906446 & 16.44523 & 457828 & 41.90321 \\
27.29585 & 252435 & 165.1923 & 2540566 & 21.92591 & 2115287 & 16.14021 & 895423 & 41.98258 \\
27.01386 & 190438 & 162.9625 & 1559219 & 21.66471 & 1151781 & 15.92451 & 620973 & 41.53273 \\
26.92709 & 145674 & 163.0597 & 1273319 & 21.45819 & 820611 & 15.79554 & 361716 & 41.52608 \\
26.81416 & 197581 & 162.4974 & 1083495 & 21.33818 & 1289553 & 15.59038 & 630379 & 41.04996 \\
26.4721 & 355410 & 160.8733 & 1560138 & 21.1171 & 1821203 & 15.26132 & 1024006 & 40.50509 \\
26.45925 & 420442 & 161.4174 & 5633263 & 21.35607 & 3751308 & 15.46321 & 1571254 & 40.62056 \\
26.21002 & 15727 & 160.9147 & 185285 & 21.25254 & 46029 & 15.32741 & 38163 & 40.35647 \\
& & & & & 300 & 15.19333 & & \\
26.3 & 1370 & 160.6892 & 325318 & 21.22018 & 726750 & 15.17029 & & \\
& 300 & 160.5867 & & & 708 & 15.28 & 100 & 40.34 \\
25.0225 & & & & & & & & \\
24.65636 & & & 200 & 21 & & & & \\
& & & 1000 & 20.77 & & & &
\end{tabular}
\begin{tabular}{rrrrrrrrr}
24.5672 & 600 & 159.9633 & 5618 & 20.4953 & 1400 & 15.37 & & \\
24.77186 & 10256 & 158.8184 & 30935 & 20.58053 & 38964 & 14.85707 & 2060 & 39.32379 \\
25.40459 & 333795 & 160.2145 & 2037724 & 20.83771 & 1284347 & 15.00546 & 672468 & 40.26824 \\
25.4312 & 312709 & 159.6166 & 3324727 & 21.26061 & 1438660 & 14.9488 & 964548 & 40.13928 \\
25.47579 & 269142 & 159.122 & 1872142 & 21.26057 & 1947626 & 15.386 & 946788 & 40.03541 \\
25.86931 & 181383 & 160.4161 & 1861456 & 21.69886 & 1624415 & 15.6176 & 592925 & 40.67046 \\
26.11746 & 144869 & 161.4624 & 1375164 & 22.04933 & 1286096 & 15.90585 & 545008 & 41.12385 \\
26.26749 & 177016 & 161.3902 & 1662432 & 21.92201 & 1523025 & 16.08765 & 783183 & 41.09665 \\
26.53893 & 394800 & 162.3655 & 2949345 & 22.1349 & 2397642 & 16.18337 & 1451032 & 41.05455 \\
26.83618 & 10509 & 164.6739 & 88781 & 22.1206 & 88679 & 16.29441 & 7438 & 41.39751 \\
27.25476 & 4505 & 166.5598 & 2100 & 22.77524 & 15859 & 16.67867 & 500 & 42 \\
27.10015 & 800 & 166.1488 & 200 & 22.725 & 6300 & 16.55492 & 1150 & 42.28783 \\
27.24619 & 300 & 165.7267 & & & 4200 & 16.64095 & & \\
& & & & & & & & \\
28.445 & 100 & 170 & & & & & & \\
29.20057 & 5200 & 171.6683 & 800 & 24.14625 & 5800 & 18.06983 & 1000 & 44.92 \\
28.37359 & 29657 & 172.0923 & 21200 & 24.60106 & 66271 & 17.67819 & 11100 & 44.6967 \\
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\hline 25.86302 & 428430 & 163.3711 & 2449431 & 19.84745 & 13492860 & 9.870627 & 983178 & 41.98104 \\
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266465 & 156.5405 \\
272220 & 157.19 \\
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\end{tabular}
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\hline 54470 & 4.469908 & 1950 & 30246 & 8556 & 2300 & & 179925 \\
\hline 400 & 4.96 & 300 & 200 & & 200 & & 1650 \\
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\hline 8700 & 5.107586 & 8016 & 31550 & 9520 & 500 & 200 & 17630 \\
\hline 379175 & 5.035833 & 39442 & 126190 & 18886 & 33908 & 7201 & 195865 \\
\hline 1001448 & 5.162738 & 215135 & 418967 & 41690 & 101886 & 38089 & 2391871 \\
\hline 8402540 & 4.851533 & 8141423 & 10148481 & 2585652 & 6423077 & 3284385 & 22138881 \\
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\hline 10537870 & 3.681978 & 3622864 & 17136130 & 1431328 & 4891396 & 1904693 & 23931017 \\
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\hline 6711839 & 3.431949 & 2015242 & 7038367 & 527549 & 2958001 & 1191139 & 21792547 \\
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\hline 5518198 & 3.685582 & 4002560 & 20366434 & 1183179 & 2475772 & 1622080 & 12382638 \\
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\hline 5141358 & 2.218584 & \(1.08 \mathrm{E}+08\) & 61162667 & 3260652 & 23267442 & 3179093 & 18422955 \\
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7724380 & 2.25732 & \(1.47 \mathrm{E}+08\) & 15744878 & 4717714 & 10074473 & 13579233 & 19583039 \\
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\end{tabular}

From:
Sent:
To:
Cc:
Subject:
Edwards, Amy K.
Monday, September 29, 2008 3:17 PM
Crane, Victoria L.; McCormick, Tim
Tao, Josephine J.; Mayhew, Stewart
RE: Rules without Teeth
Attachments: NewThresholdStocks.htm

NewThresholdStock
s.htm ( 765 KB..

Tory,
Here is a spreadsheet with all the clearing member fails in these eight names since September 10th. I did just a quick eye-ball analysis of large fails in the interest of time. I did not estimate the fails as a \% of shares outstanding, given the time constraints.

There are a lot of fails in general with the majority of clearing members not showing up for more than a few days. There were also some large fails that could have contributed to the threshold status, but occurred in the few days before T+3 went into effect. I believe that these are subject to \(\mathrm{T}+13\), which has not come up yet, closeout at the earliest.

KEYPRG and RGAA are both likely to be on the threshold list solely because of later closeouts.

BACPRJ has one clearing member with large fails, 0573A (DB). The fail started before the effective date of T+3, but increased shortly afterward. I'm not sure if the increase occurred on time if the first settlement date for \(\mathrm{T}+3\) was after 9/18.

DSL had two clearing members that appear slow to close out: 0050A (MS) and 0161A (ML).
FIG had three slow clearing members: 0158A (Ridge), 0551A (ML), and 0642A (UBS).
USBPRL had one slow clearing member: 0771A (William Blair)
WHI had two clearing member with large fails prior to the \(\mathrm{T}+3\) rule and one large slow clearing member post-T+3: 0355A (CS)

WM had a whole bunch of clearing members with large fails prior to \(\mathrm{T}+3\) and three potential slow clearing members post T+3: 0234A (Penson), 0696A (Cantor), 2154 (??).

I can't say that anything on here is a definite violation of \(\mathrm{T}+3\). But even after all of the transition periods have passed, new stocks can still show up on the threshold list with no rule violations.

Amy
-----Original Message----
From: Crane, Victoria L.
Sent: Monday, September 29, 2008 1:17 PM
To: McCormick, Tim; Edwards, Amy K.
Cc: Tao, Josephine J.
Subject: FW: Rules without Teeth
Tim:

Pursuant to my voicemail, below is the email from the Chairman. He wants to know why the below securities weren't threshold on Sept. 17, but were threshold on Sept. 26 . We were wondering if you could pull the fails data, see who's failing in the securities, and also let us know if these are optionable securities.

Erik is meeting with the Chairman at \(3 p m\) today. So, any info by then would be fantastic.
Thanks!
-----Original Message----
From: Sirri, Erik R.
Sent: Saturday, September 27, 2008 11:46 AM
To: Brigagliano, James A.; Colby, Robert LD; Crane, Victoria L.; Tao, Josephine J.
Cc: Gallagher, Jr., Daniel M.
Subject: FW: Rules without Teeth

From the Chairman. It must be the case the market makers are failing here? But OMM is now gone, and we're at \(\mathrm{T}+3\). What is your guess as to the source and mechanism.
```

Erik R. Sirri
SEC, Div. of Trading and Markets
sirrie@sec.gov (202) 551-5500

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-----Original Message-----
From: Cox, Christopher
Sent: Saturday, September 27, 2008 11:37 AM
To: Sirri, Erik R.
Subject: Fw: Rules without Teeth
Erik--we should discuss this issue and possible remedies.Thanks, Chris

Sent from BlackBerry Wireless Handheld.
----- Original Message -----
From: Susanne Trimbath <Susanne@stpadvisors.com>
To: Cox, Christopher
Sent: Fri Sep 26 19:19:40 2008
Subject: Rules without Teeth
Chairman Cox:
The following companies, included in the SEC's Sept. 19 emergency order prohibiting "short selling any publicly traded securities of any Included Financial Firm" are on the NYSE SHO Threshold list for Sept 26 and NOT for Sept 17:

BAC (pr j), DSL, FIG, KEY (pr g), RGA(.a), USB (PR L), WHI and WM.
This has been my point all along. Why short sell when you can simply fail to deliver? You achieve the same purpose and save the time and cost of borrowing.

Please, enforce finality of settlement.
Sincerely,

\footnotetext{
Susanne Trimbath, Ph.D.
CEO and Chief Economist
STP Advisory Services, LLC
4089 S. 84th Street, \#145
Omaha, NE 68127
402-932-8888 ext. 300
}

2118 Wilshire Boulevard, \#596
Santa Monica, CA 90403
310-285-8153
Website: www.STPAdvisors.com
Research: http://papers.ssrn.com/Author=272819
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The SAS System
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From: & McCormick, Tim \\
Sent: & Friday, October 17, 2008 5:32 PM \\
To: & Overdahl, James \\
Cc: Mayhew, Stewart \\
Subject: & Edwards, Amy K.; M-yne \\
& RE: Impact of Short-Sale Ban Removal \\
Attachments: & Memo on Theshold List Manipulation.doc
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Jim,
I revised this based on Amy's comments.
Tim
From: McCormick, Tim
Sent: Thursday, October 16, 2008 11:41 AM
To: Overdahl, James; Edwards, Amy K.; Mayhew, Stewart
Subject: RE: Impact of Short-Sale Ban Removal
<< File: Memo on Theshold List Manipulation.doc >>
I'm attaching a preliminary memo that examines the allegations of Mark Mitchell. Briefly, I find no evidence in the specific examples he provides that support his claim of "threshold list manipulation". I should note that across the universe of stocks with fails and years of data we have, it is entirely possible that patterns consistent with threshold list manipulation could have happened. If you want me to do more and develop a program to output any patterns worth further investigation by OCIE/ENF, then I can do so. In the memo, I detail some preliminary ideas in detecting this type of manipulation across the universe of stocks but welcome any suggestions on that as well.

Tim

From: Overdahl, James
Sent: Friday, October 03, 2008 4:42 PM
To: Edwards, Amy K.; Mayhew, Stewart; McCormick, Tim
Subject: FW: Impact of Short-Sale Ban Removal
See below from The Chairman.

From: Cox, Christopher
Sent: Friday, October 03, 2008 4:38 PM
To: Overdahl, James
Subject: RE: Impact of Short-Sale Ban Removal
Jim, in addition to the macro effects across the market, we need to be concerned with the opportunities for manipulation of securities of one firm at a time. Can you tell me whether the manipulation of the threshold list that is referred to in the following article is in fact a possibility? Can we check the assertions about the data?

The Naked Short Selling That Toppled Wall Street
October 2nd, 2008
by Mark Mitchell
Editor's Note: I am a former employee of The Wall Street Journal editorial page. I think it is the finest editorial page in the
world. I enjoyed my time at the Journal. They let me live in Europe. I got to write mean things about socialists.
But with genuine respect, I say to my former colleagues -you are like the boy in the bubble. You live and breathe the "free markets" paradigm. This is healthy, but it is limiting. Get dirty with the data. Behold the slop in our clearing and settlement system. Consider how this slop is affecting our market, and tell me what is free or efficient about it.

Please, do it quickly.
The Wall Street Journal stated in a lead editorial last week that the SEC was "reasonable" to "clamp down" on naked short selling. Well, that was progress of sorts, though one wonders how it could have taken all these years.

And now that this activity has been implicated in the Humpty Dumptying of our financial system, one grows wistful for the golden age of journalism when editorialists (people working for famous newspapers, not just cyber weirdos) would express a little outrage, demand that heads roll - muster something better than "reasonable" to describe the limp "clamp down" of the SEC.

Alas, The Wall Street Journal is not angry about the scandal of naked short selling. To the contrary, it devotes most of its editorial to tut-tutting the SEC for taking the mild step of requiring hedge funds to disclose their short positions. This, the Journal laments, means the government wants to "slap a scarlet letter on short sellers."

Might the SEC like to see which hedge funds are employing the strategy of illegal naked short selling - offloading huge chunks of stock that they do not possess - phantom stock - in order to drive down prices? No, nothing to see there, says the Journal. Having thoroughly investigated the matter, the editorialist reports that there is "no evidence of widespread naked shorting of financial stocks in this panic." Indeed, the Journal assures us that there is no evidence that short sellers have engaged in any market manipulation whatsoever.

That is a mighty bold claim, because the data scream, "Investigate!"
Take the case of Washington Mutual, which met its demise on the same day that the Journal published its editorial. While the SEC has not yet released data covering the last couple weeks of turmoil, the data through June show that at one point that month "failures to deliver" of Washington Mutual's stock reached an astounding 9 million shares. From June 5 to June 19 there were, on any given day, at least 1 million WaMu shares that had "failed to deliver."

In other words, hedge funds and brokers sold as many as 9 million shares that they did not possess (which is why they "failed to deliver" them), and they kept the market saturated with at least 1 million phantom shares for more than two weeks. WaMu's stock price dropped by more than \(30 \%\) during this period. Similar attacks, with similar effects, occurred one after another in the months leading up to June.

That is very good evidence of a mismatch of supply and demand.
Aside from Washington Mutual, Bank of America, Fannie Mae, MBIA, Ambac, and close to 50 smaller financial firms - not to mention a couple hundred non-financial companies - have appeared on the SEC-mandated "threshold" list of companies whose stock has "failed to deliver" in excessive quantities.

That, too, is very good evidence of selling not matched with supply.
A number of the big banks never appeared on the SEC's "threshold" list. Perhaps that explains the Journal's claim that there is "no evidence" that naked short selling contributed to our financial crisis. If so, the Journal does not understand the methods that naked short sellers use to manipulate the markets. The Journal also does not understand how powerful financial elites manipulate the government (and the media).

Peter Chepucavage, the former SEC official who authored Regulation SHO (the rules that governed short sales from 2005 until the SEC temporarily banned short-selling of financial stock last week) has told us that the rules were watered down under fierce pressure from the hedge fund lobby.

One result is that Regulation SHO did not force short sellers to borrow real shares before they sold them. They were given three days to produce stock before it was declared a "failure to deliver." If they missed the three-day deadline, they were given another ten days, after which they were supposed to buy (not borrow) real shares and deliver them, or face penalties.

In practice, many hedge funds and brokers ignored the deadlines without repercussions. But even traders who met the deadlines were able to churn the markets. Since they were not required to possess real shares before they hit the sell button, they could offload a large block of phantom stock and let it dilute supply for three to 13 days. When the deadline
arrived, they might borrow real shares and deliver them, and then sell another block of phantom stock, which would hammer prices for another three to thirteen days.

Or, rather than borrow real shares, the hedge fund might buy stock (the price having been knocked down during 13 days of diluted supply) from a friendly broker. Often, the brokers did not have any stock to sell the hedge fund, but they pushed the sale button anyway. The hedge funds then used the broker's phantom stock to settle its initial sale of phantom stock, and when the broker's deadline came, he bought an equal quantity of phantom stock from another broker, and so on.

A lot of journalists have portrayed this naked short selling as "legal." In fact, it is grossly illegal assuming the goal is to manipulate markets. But the SEC until recently shied away from making that assumption. So long as the hedge funds met the delivery deadlines, they could distort and destroy at will.

Another result of the short-seller lobby's intervention is that a company does not appear on the SEC's "threshold" list unless there are failures to deliver of more than 10,000 of the company's shares (and at least \(0.5 \%\) of its total shares outstanding) for five consecutive days. So long as there are no failures on day six, there are no flashing red lights at the SEC. That is, threshold (excessive) levels of phantom shares can float around the system for a total of eight days (three days before they are registered as "failures to deliver," plus five more) without a company being designated a victim of naked short selling.

An eight-day blast (or even just a one day blast) of, say, a couple-hundred thousand phantom shares can knock down a stock's price very nicely. Blasts of a million-plus shares, which are common, can do even more damage.

If a company has weaknesses that can be blown out of proportion with help from the media, and if hedge funds blast the company with phantom stock, then pause, then blast again, then pause, then blast again - over and over - for a couple of months, then the company's share price can soon be in the single digits. - without ever having appeared on the SEC's threshold list.

Unsurprisingly, the data through June shows this blast-pause-blast pattern in the stocks of nearly ever major financial institution that has been wiped off the map, and quite a few that were in death spirals before the SEC temporarily banned short-selling. Very often, huge failures to deliver have occurred in stretches of precisely five days - just long enough to keep a stock off the threshold list.

The attack on Bear Stearns, for example, began on January 9, when hedge funds naked shorted more than 1.1 million shares. The shares "failed to deliver" at the end of Friday, January 11 (the three-day deadline). For the next four days, beginning Monday, January 14, there were massive failures to deliver, peaking at 1 million shares on January 17. That is, the attack lasted a total of eight days, with failures to deliver lasting precisely five days. On day six, there were few failures to deliver, so Bear did not appear on the threshold list.

Over the next few weeks, there were several more blasts - with failures to deliver ranging from 200,000 to 500,000 shares. Those were threshold levels, but the failures lasted less than five consecutive days, so no flashing red light at the SEC.

On February 28, 800,000 shares of Bear Stearns failed to deliver. For the next five business days, anywhere from 100,000 to 350,000 shares failed to deliver. On day six, there was a pause - few failures to deliver. So no threshold list no flashing red light at the SEC.

A week later, just before CNBC's David Faber reported the false information (given to him by a hedge fund "friend" whom he had "known for twenty years") that Goldman Sachs had cut off Bear's credit, somebody naked shorted more than a million shares of Bear's stock.. Over the course of the next couple of weeks, there was a sustained effort to drive the stock to zero, with massive failures to deliver every day - peaking at 13 million shares.

This attack lasted long enough to put Bear Stearns on the threshold list, but by then, it was too late. The bank's mangled remains had been swallowed by JP Morgan. Ultimately, at least 11 million shares of Bear Stearns were sold and never delivered.

Meanwhile, the naked short sellers began their attack on Lehman Brothers. On March 18, Lehman's stock had begun to increase sharply, so somebody unleashed more than 1.5 million phantom shares. Those failed to deliver on March 20. For the next three days, there were failures to deliver of between 400.000 and 800.000 shares - far exceeding the daily "threshold." That helped the share price to fall sharply, but on day five, there were no failures, so Lehman didn't appear on the threshold list of companies victimized by naked short selling.

On April 1, another round of naked short selling commenced, coinciding with a wave of false rumors about Lehman's liquidity. That continued until April 3, when SEC Chairman Christopher Cox, for the first time, told a Senate committee
hearing that naked short selling was a big problem. Using the words "phantom stock," he said many companies had been affected and vowed to crack down.

For a few weeks after that, there was not much new naked short selling.
Then, on May 21, short-seller David Einhorn gave his famous speech accusing Lehman's executives of cooking their books. Though Lehman, like most banks, was guilty of participating in the dodgy business of securitized debt, it was not cooking its books. It had, however, failed to mark some of its assets down to levels prescribed by Einhorn, who waved the CMBX index as the proper barometer of commercial mortgages.

The CMBX comes from a company called Markit Group, which is owned by four hedge funds, the names of which the Markit Group will not disclose. I don't know if the managers of those hedge funds are friends of David Einhorn, but the Wall Street Journal's Lingling Wei published a story in February noting that the CMBX "doesn't make sense." It grossly undervalues commercial property, implying default rates, for example, that are four-times higher than they are in reality.

Nonetheless, the media, including the Wall Street Journal, trumpeted Einhorn's analysis, which was distorted in many other ways - but that is a tale for a future blog.

For now, it is enough to know that coinciding with Einhorn's speech, somebody naked shorted more than 200,000 shares (the settlement date for that sale was May 27, three business days after the speech, owing to a holiday weekend). Thus began a five day stretch of failures to deliver (ranging from 120,000 to 450,000 shares). On day six, as usual, there were few failures to deliver, so Lehman did not appear on the threshold list.

After a pause of a few days, somebody circulated the falsehood that Lehman had gone to the Fed for a handout. Coinciding with that rumor, hedge funds naked shorted close to 1.5 million shares. Those shares failed to deliver three days later, on June 9. The next day, there were 650,000 failures. The day after that, 263,000 failures. On day four, there were 510,000 failures. On day five, there were 623,000 failures. Time for Lehman to appear on the threshold list. But, on day six, of course, the failures to deliver stopped. No list - no flashing red light at the SEC.

Throughout this time, Einhorn continued to appear on CNBC and in the major newspapers, doing his best to make Lehman's problems (which were real, but probably, at this stage, manageable) appear to be both catastrophic and criminal. From May 21, the day of Einhorn's speech, to June 15, the stock lost almost half its value.

For reasons that I cannot fathom, Lehman then opted for a strategy of appeasement. Rather than challenge Einhorn's assumptions, Lehman aimed to silence him and his media yahoos by doing what they asked. It "reduced its exposure" to mortgages, primarily by marking them down to levels dictated by Einhorn's bogus index - the CMBX. This is the main reason why it booked a 2.8 billion loss in the second quarter.

When Lehman announced its quarterly results, on June 16, there was another blast of naked short selling, with failures to deliver at threshold levels from June 19 to June 24. Exactly five days. Then the failures stopped. No threshold list. No flashing red light.

I look forward to the day (in a few months) when the SEC will release data covering July to September. But I can tell you right now what happened next.

On June 30, somebody floated the false rumor that Barclays was going to buy Lehman at 15 dollars a share (it was then trading at 20). Simultaneously, hedge funds no doubt naked shorted large blocks of shares. It's a safe bet that the data will show failures to deliver lasting precisely five days.

On July 10, somebody (SAC Capital?) circulated the false rumor that SAC Capital was pulling its money out of Lehman. Hours later, there was another false rumor - that PIMCO was pulling out its money. Quite certainly, these rumors were accompanied by naked short selling, with failures to deliver beginning three days later, and probably continuing at threshold levels for precisely five days. Lehman's stock lost almost \(50 \%\) of its value in the four weeks leading to July 15 ..

At this point, the SEC finally came to realize what was happening to Lehman. It realized that similar madness had destroyed Bear Stearns. It realized that AIG, Citigroup, Fannie Mae, Freddie Mac, Bank of America and fifty other financial companies were getting clobbered in exactly the same fashion.

Clearly, naked short selling posed a real threat to the stability of the financial system. So the SEC issued an emergency order forcing hedge funds to borrow real stock before they sold it. No more saying "Yeah, my cousin Louie has the stock in a drawer somewhere." No more naked short selling.

This order protected only 19 big financial institutions - which is as far as the SEC thought it could go and still retain
friendly relations with its short-selling paramours - but it was something. During the three weeks that the emergency order was enforced, Lehman's stock price increased by around 50 percent. The other companies that had been under attack enjoyed similar rebounds.

The short-sellers, of course, fumed. Some of those fumes wafted to The Wall Street Journal and other prestigious publications, which lambasted the SEC for issuing the emergency order. They published all manner of mumbo-jumbo about the emergency order wrecking "market efficiency" - though the only evidence of this was an utterly dubious report circulated by the short seller lobby (see here for the details), and it was hard to comprehend what could possibly have been "efficient" about a market getting smothered with false information and fake supply.

Of course, the SEC, captured by the short-sellers, and ever mindful of the media, decided to let its emergency order expire, and announced no new initiatives to stop naked short selling..

The day after the emergency order expired, Lehman's stock nosedived. So did a lot of other stocks that had enjoyed a temporary reprieve.

Mark my words, the data for August and September will show that soon after the order was lifted, rampant naked short selling began anew.

It will show a sustained attack on Fannie Mae and Freddie Mac, with failures to deliver exceeding one million shares, until the day the two companies were nationalized. It will show Lehman getting hammered (blast-pause-blast) until its stock was so low that there was no way it could raise capital. And it will show that in Lehman's final days, hedge funds sold unprecedented amounts of phantom stock, knowing that the stock would never, ever have to be delivered.

Two days after Lehman was vaporized, AIG watched its stock fall to as low as one dollar. The data through June shows that AIG was repeatedly blasted with phantom stock, often in stretches of eight days (three + five), with peak failures to deliver reaching 2 million shares. It's a safe bet that the data will show that these attacks continued, and grew in magnitude, until a price of one buck per share resulted in paralysis, and AIG had to be nationalized. But the company never appeared on the SEC's threshold list.

After AIG, the rumor was that Citigroup would go down next. The data through June shows that Citigroup was bombarded - blast, pause, blast - with massive amounts of phantom stock. Failures to deliver peaked at 8 million shares. No doubt, the blasts continued and grew in magnitude in the days leading up to September 16, when Citigroup's stock went into a death spiral.

On September 17, the SEC rushed out new rules governing naked short selling. The new rules seemed a lot like the old rules. Hedge funds would not have to actually possess stock before selling it. Instead, they would merely have to "locate" the stock. The SEC would have no way of knowing whether hedge funds had "located" stock, but if they lied and told their broker, "Yeah, I located the stock, I got it somewhere, push the sell button," then that would be "fraud." Presumably, the brokers, who depend on the hedge funds for most of their income, and are complicit in their naked short selling, would line up to inform the SEC that their clients were telling them lies.

Meanwhile, the hedge funds would still have three days to deliver stock, with no strong penalties for failing to do so, and no mechanism for determining whether a hedge fund had delivered real stock, as opposed to new phantom stock that it had received from a friendly broker. As for the "threshold" of five consecutive days before a company could get on the list that sets off the flashing red lights that the SEC ignores - that would remain the same.

When these rules were announced, the short-seller lobby cheered loudly. The media transcribed the lobby's cheerful press releases, and then the naked short sellers eliminated Merrill Lynch. After that, they turned on Goldman Sachs and Morgan Stanley, at which point both stocks went into death spirals and the companies' CEOs treated us to the spectacle of calling the SEC to complain that Morgan and Goldman (i.e., the companies that housed the brokerages that invented and profited the most from naked short selling) were now getting mauled by their own monstrous creations.

A week later, the Wall Street Journal stated in an editorial that there was "no evidence" of naked short selling or market manipulation during this financial crisis.
********

From: Overdahl, James

Sent: Friday, October 03, 2008 3:46 PM
To: Paredes, Troy A.; Casey, Kathleen; Walter, Elisse; Aguilar, Luis A. (Commissioner); Cox, Christopher
Cc: Bondi, Bradley J.; Broadbent, Christian L.; Daly, Justin D.; Ramarathnam, Smeeta S.; Uhlmann, Peter
Subject: Impact of Short-Sale Ban Removal
Below you will find information from a manager of a large hedge fund in response to my query about what impact he expects from the removal of the ban:
"We have a dataset which tracks short interest on a daily basis. It is from a UK firm which compiles the data from custodians, prime brokers, etc. The data is highly correlated with the actual level of short interest (cross-sectional and time-series correlations are above 0.90). According to this dataset, the level of short interest has dropped \(2 \%\) for the restricted financials during September 18 through September 29. We don't expect a big uptick in short interest once the ban is lifted, in part due to the fact that many of us did not take our shorts down despite the decline in stocks over this period. Indeed, once the ban is lifted, we will actually buy the stocks due to lower deltas. We conferred with another large hedge fund and they also held the same level of shorts post-ban."

\section*{OEA DRAFT - INTERNAL}

\section*{Office of Economic Analysis}

\section*{Draft Memorandum}

\author{
To: Jim Overdahl \\ From: Tim McCormick \\ Date: October 16, 2008 \\ Re: "Gaming" to Prevent Stocks from Appearing on the Threshold List
}

This memo summarizes OEA's analysis of potentially manipulative patterns in the closeout of fails in order to prevent a stock from appearing on the threshold list. In this memo, we specifically look at the 9 stocks that Mark Mitchell claimed experienced threshold list manipulation. We find no evidence supportive of his claims.

We know from prior work that many fails tend to be short-lived. In fact, about \(86.5 \%\) of fail positions are closed out within 4 days of occurring. The threshold list criteria of Regulation SHO attempts to identify securities with large fails that persist for longer than 4 days. Under Rule 203, stocks with large fails that persist for longer than 4 days are deemed to have a problem with fails that require increased regulation. Therefore, it is certainly possible that persons could be involved in a pattern of fails and close-outs in order to avoid the increased regulatory requirements of the threshold list. On the other hand, it may be difficult for one clearing firm to manipulate the threshold list because they may be closing out their fails at the same time that another clearing firm creates a new fail. So, the aggregate fails at the NSCC are not readily controllable by a single clearing firm, except perhaps when a single clearing firm has a large and dominant fail position at the NSCC. Further, since clearing firms tend to clear for multiple broker dealers it would be difficult for one broker dealer or one trader to control the aggregate fails at the NSCC for a security.

We note that the data we have on fails does not allow us to know intent. That is, a fails position that disappears after 4 straight days may simply be due to the normal course of business rather than any gaming strategy. In light of this constraint, the best approach we have is to attempt to detect a pattern of fails - above the threshold list criteria of \(0.5 \%\) of shares outstanding for 4 days, then below \(0.5 \%\) for a day or two, then above \(0.5 \%\) for 4 days, then below \(0.5 \%\) for a day or two and so on. The more repeats of the above-below-above-below pattern, the more confidence we have that the pattern of fails is not driven by normal close-out activity. Also, if someone was gaming the threshold list, they would want to take full advantage of the five consecutive day threshold criteria of \(0.5 \%\).

\section*{OEA DRAFT - INTERNAL}

Therefore, examining the data for patterns of fails that disappear after 4 consecutive settlement days is a simple way to detect gaming. \({ }^{1}\)

We note that a web page article by Mark Mitchell on October 2, 2008 suggests that the type of threshold list manipulation being discussed in this memorandum is widespread. \({ }^{2}\) He also suggests a number of stocks and time periods where this threshold list manipulation is occurring. Specifically, he mentions Bear Stearns, Lehman, Morgan Stanley, Goldman Sachs, AIG, Freddie Mac, Fannie Mae, Merrill Lynch and Citibank.

As a first cut, we examine aggregate fails in these stocks to see if there is any evidence to support Mark Mitchell’s claims of repeated threshold list manipulation in these stocks. In summary, there is no evidence of threshold list manipulation in the 9 specific stocks Mark Mitchell mentions in his article.

We plot fails as a percentage of shares outstanding in each of the 9 stocks in Figures 1 to 9 and visually look for any systematic patterns that would indicate threshold list manipulation. Specifically, we are looking for repeated patterns of 4 days about the \(0.5 \%\) of shares outstanding threshold, a day or two below \(0.5 \%\) of shares outstanding, and then back above \(0.5 \%\) of shares outstanding. After each figure, we provide a short discussion of the results.

\footnotetext{
\({ }^{1}\) If we had found any repeated patterns of fails consistent with threshold list manipulation, we could have further examined the dominance of particular clearing firms in establishing those patterns. However, since we found no suspicious patterns in the nine firms examined, further investigation is not warranted.
\({ }^{2}\) We should also note that Mark Mitchell's web site was founded by Patrick Byrne, CEO of Overstock.com. Among other things, the web site suggests that failing to deliver is a crime.
}

\section*{OEA DRAFT - INTERNAL}

\section*{Figure 1}


Figure 1 shows that the pattern of fails in Bear Stearns prior to their collapse is not consistent with any repeated pattern to prevent it from getting on the threshold list. In fact, there were no instances of 4 straight days of fails about \(0.5 \%\) and no systematic pattern emerges.

\section*{OEA DRAFT - INTERNAL}

Figure 2


Figure 2 shows that the pattern of fails in Lehman prior to September 15, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. In fact, there were no instances of any systematic pattern of manipulation above the threshold list criteria of \(0.5 \%\). Further, Lehman fails never reached the \(0.5 \%\) criteria until September 15, 2008 so there is no evidence consistent with Lehman stock being aggressively attacked by naked short sellers up until that date. \({ }^{3}\)

\footnotetext{
\({ }^{3}\) We note that fails did jump from September \(15^{\text {th }}\) onward and OEA highlighted those days for further investigation by Enforcement. However, the date after Sept \(15^{\text {th }}\) are largely irrelevant to our discussion about threshold list manipulation because Lehman fails were consistently above \(0.5 \%\) from that date onward (no evidence of manipulation to keep it off the threshold list).
}

\section*{OEA DRAFT - INTERNAL}

Figure 3


Figure 3 shows that the pattern of fails in Morgan Stanley from January 1 to September 30, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. In fact, there were no instances of any systematic pattern of manipulation above the threshold list criteria of \(0.5 \%\) and Morgan Stanley fails never reached the 0.5\% criteria during the entire period. Therefore, there is no evidence consistent with the stock being aggressively attacked by naked short sellers.

\section*{OEA DRAFT - INTERNAL}

Figure 4


Figure 4 shows that the pattern of fails in Goldman Sachs from January 1 to September 30, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. In fact, there were no instances of any systematic pattern of manipulation above the threshold list criteria of \(0.5 \%\) and Goldman Sachs fails never reached the \(0.5 \%\) criteria during the entire period. Therefore, there is no evidence consistent with the stock being aggressively attacked by naked short sellers.

\section*{OEA DRAFT - INTERNAL}

Figure 5


Figure 5 shows that the pattern of fails in Fannie Mae from January 1 to September 30, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. There were two instances where Fannie fails were above \(0.5 \%\) for two consecutive days but the short duration of these instances does not fit our gaming profile. Those instances correspond to trading after the announced government bailout.
Therefore, there is no evidence supportive of manipulation to prevent Fannie Mae from getting on the threshold list.

\section*{OEA DRAFT - INTERNAL}

Figure 6


Figure 6 shows that the pattern of fails in Freddie Mac from January 1 to September 30, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. There is not pattern of fails going repeatedly above and below the threshold list criteria of \(0.5 \%\). The government bailout was announced on September 7, 2008. Therefore, the first settlement date corresponding to trading after the announcement was September 11, 2008. From September 11, 2008 to September 29, 2008, Freddie Mac fails were above \(0.5 \%\) for 13 consecutive days and, as expected, it entered the threshold list on September 17, 2008. Therefore, there is no evidence supportive of manipulation to prevent Freddie Mac from getting on the threshold list.

\section*{OEA DRAFT - INTERNAL}

Figure 7


Figure 7 shows that the pattern of fails in American International Group from January 1 to September 30, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. In fact, there were no instances of any systematic pattern of manipulation above the threshold list criteria of \(0.5 \%\) and AIG fails never reached the \(0.5 \%\) criteria during the entire period. Therefore, there is no evidence consistent with the stock being aggressively attacked by naked short sellers.

\section*{OEA DRAFT - INTERNAL}

Figure 8


Figure 8 shows that the pattern of fails in Citigroup, Inc. from January 1 to September 30, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. In fact, there were no instances of any systematic pattern of manipulation above the threshold list criteria of \(0.5 \%\) and Citigroup fails never reached the \(0.5 \%\) criteria during the entire period. Therefore, there is no evidence consistent with the stock being aggressively attacked by naked short sellers.

\section*{OEA DRAFT - INTERNAL}

Figure 9


Figure 9 shows that the pattern of fails in Merrill Lynch \& Co., Inc. from January 1 to September 30, 2008 is not consistent with any repeated pattern to prevent it from getting on the threshold list. In fact, there were no instances of any systematic pattern of manipulation above the threshold list criteria of \(0.5 \%\) and Merrill Lynch fails never reached the \(0.5 \%\) criteria during the entire period. Therefore, there is no evidence consistent with the stock being aggressively attacked by naked short sellers.

\author{
M E M ORANDUM
}

TO: File
FROM: Office of Economic Analysis
DATE: August 21, 2006
SUBJECT: Fails to Deliver Pre- and Post-Regulation SHO
This memorandum provides summary data on fails to deliver through May 2006. It examines fails to deliver before and after the implementation of the Rule 203 of Regulation SHO. The data, as reported by NSCC, cover all stocks with aggregate fails to deliver of 10,000 shares or more.

Table 1 shows the average daily fails to deliver statistics pre- and post-Rule for all stocks with aggregate fails to deliver of 10,000 shares or more. All six measures show declines after Rule 203 was implemented. The period from April 1, 2004 to December 31, 2004 is defined as the pre-rule period. \({ }^{1}\) The period from January 1, 2005 to May 31, 2006 is defined as the post-rule period.
- The average daily aggregate fails to deliver declined by \(34.0 \%\) after the effective date of Regulation SHO.
- The average daily number of securities with aggregate fails of at least 10,000 shares declined by \(6.5 \%\) after the effective date of Regulation SHO.
- The average daily number of fails to deliver positions declined by \(15.3 \%\).
- The average age of a fail position declined by \(13.4 \%\) after the effective date of Regulation SHO.
- The average daily number of threshold securities declined by \(38.2 \%\) from the preto post-rule periods.
- The average daily fails of threshold securities declined by \(52.4 \%\).

Table 2 shows the summary statistics for the securities that were on the published threshold lists from January 10, 2005 to May 31, 2006. On an average day, there were about 312 securities on the threshold list. These threshold lists securities had an average of 1,346 fails positions representing 189 million shares.
- The average daily number of threshold securities declined by 29.8\% from January 2005 to May 2006.

Table 3 displays average daily threshold securities by market.

\footnotetext{
\({ }^{1}\) August 9, November 3 and November 4, 2004 were missing from the dataset. The previous day’s fails data was used to fill-in the missing data for these dates.
}
- For exchange-listed issues, the average daily number of threshold securities during May 2006 was about \(2.18 \%\) of all issues.
- For all issues traded in the U.S. (including OTCBB and Pink Sheets), the average daily number of threshold securities during May 2006 was about \(0.38 \%\) of all issues.

Table 4 shows additional summary statistics for securities on the published threshold lists from January 10, 2005 to May 31, 2006.
- Over this period, the average daily number of threshold list securities was about 312, representing about 189 million shares in fails in 1,347 fail positions.
- A total of 6,223 securities "graduated" from the threshold list since January 10, 2005, representing 4.5 billion shares in initial fails. \({ }^{2}\)
- The 6 securities that have "persisted" on the threshold list since January 10, 2005 have seen their fails drop by \(68.6 \%\).

We also estimate the amount of grandfathered fails relative to total fails for threshold list securities for the period from January 7, 2005 to December 31, 2005. Since the NSCC fails data do not allow us to definitively identify new fails or grandfathered fails and when they are closed out, we need to make a number of assumptions to estimate this number. We assume any increase in fails for a particular clearing firm on a given day represents a new fail created on that day. We estimate the percentage of grandfathered fails relative to total fails for each day during our period and then average those percentages.
- The average daily percentage of grandfathered fails to total fails for stocks on the threshold list is estimated to be about \(48 \%\).

We also estimate how many fails that existed prior to the implementation of the Regulation SHO continue to persist. We compare the fails on January 3, 2005 to fails on March 31, 2006 for all stocks with aggregate fails to deliver of 10,000 shares or more.
- \(99.2 \%\) of the fails that existed on January 3, 2005 are no longer outstanding as of March 31, 2006.

\footnotetext{
\({ }^{2}\) Initial fails are the number of fails on the first day a security is included on the threshold list.
}

Table 1

\section*{Summary Statistics on Fails to Deliver Pre- and Post-Rule}
\begin{tabular}{|l|r|r|r|r|}
\hline \multicolumn{1}{|c|}{ Measure } & Pre-Rule & Post-Rule & Change & \begin{tabular}{l} 
Percent \\
Change
\end{tabular} \\
\hline Number of Days & 189 & 353 & & \\
\hline Average Daily Aggregate Fails (millions) & 810.7 & 534.7 & -276.0 & \(-34.0 \%\) \\
\hline Average Daily Number of Securities & \(2,735.5\) & \(2,557.3\) & -178.2 & \(-6.5 \%\) \\
\hline Average Daily Number of Fail Positions & \(10,747.1\) & \(9,106.5\) & \(-1,640.6\) & \(-15.3 \%\) \\
\hline Average Age per Position (days) & 35.7 & 30.9 & -4.8 & \(-13.4 \%\) \\
\hline \begin{tabular}{l} 
Average Daily Number of Securities on \\
Threshold List
\end{tabular} & 298.2 & 184.4 & -113.8 & \(-38.2 \%\) \\
\hline \begin{tabular}{l} 
Average Daily Aggregate Fails for \\
Securities on Threshold List (millions)
\end{tabular} & 131.6 & 62.7 & -68.9 & \(-52.4 \%\) \\
\hline
\end{tabular}

\section*{Notes:}
1) Statistics are estimated using raw Continuous Net Settlement fails data from the NSCC that include securities with aggregate daily fails to deliver of 10,000 shares or more.
2) Threshold list figures include only NYSE, Amex and NASDAQ securities that meet the threshold list requirements. Since no threshold lists were published prior to January 10, 2005, the threshold list securities must be determined by applying the Rule to historical data. We apply the same procedure for determining the threshold list during the post-Rule period. Thus, we independently determine the threshold list and do not rely on the threshold lists determined by the exchanges during the post-Rule period. There is little difference in results if the published threshold lists are used.
4) The pre-Rule period is from April 1, 2004 to December 31, 2004. The post-Rule period is from January 1, 2005 to May 31, 2006.

Table 2
Average Daily Number of Securities on the Published Threshold Lists
January 2005 to May 2006
\begin{tabular}{|r|r|c|c|c|}
\hline & & & & \\
Year & & & & \\
\hline Month & Number of Days & Number of Securities & \begin{tabular}{c} 
Percent Change from \\
January 2005
\end{tabular} \\
\hline 2005 & 1 & 16 & 424.31 & \\
\hline 2005 & 2 & 19 & 385.26 & -9.2 \\
\hline 2005 & 3 & 22 & 359.36 & -15.31 \\
\hline 2005 & 4 & 21 & 317.57 & -25.16 \\
\hline 2005 & 5 & 21 & 296 & -30.24 \\
\hline 2005 & 6 & 22 & 287.68 & -32.2 \\
\hline 2005 & 7 & 20 & 298.8 & -29.58 \\
\hline 2005 & 8 & 23 & 307.48 & -27.53 \\
\hline 2005 & 9 & 21 & 289.95 & -31.67 \\
\hline 2005 & 10 & 20 & 275.05 & -35.18 \\
\hline 2005 & 11 & 20 & 270.7 & -36.2 \\
\hline 2005 & 12 & 21 & 281.67 & -33.62 \\
\hline 2006 & 1 & 20 & 274.35 & -35.34 \\
\hline 2006 & 2 & 19 & 324.2 & -23.6 \\
\hline 2006 & 3 & 23 & 324.61 & -23.5 \\
\hline 2006 & 4 & 19 & 308.8 & -27.22 \\
\hline 2006 & 5 & 22 & 297.7 & -29.84 \\
\hline
\end{tabular}

Notes:
1) The first threshold lists were calculated for the January 7,2005 settlement date. This threshold list became effective on January 10, 2005.
2) Statistics are calculated using data from the threshold lists published by NYSE, Amex, NASDAQ, and Archipelago.

Table 3
Average Daily Threshold Securities by Market
May 2006
\begin{tabular}{|l|r|r|r|}
\hline \multicolumn{1}{|c|}{ Market Class } & \begin{tabular}{c} 
Number of \\
Threshold \\
Issues
\end{tabular} & \begin{tabular}{c} 
Total Number \\
of Issues
\end{tabular} & \begin{tabular}{c} 
\% of Total \\
Issues
\end{tabular} \\
\hline NYSE & 51 & 3,598 & \(1.42 \%\) \\
\hline Amex & 52 & 1,376 & \(3.78 \%\) \\
\hline Archipelago & 1 & 194 & \(0.52 \%\) \\
\hline Nasdaq NM & 55 & 2,766 & \(1.99 \%\) \\
\hline Nasdaq SC & 27 & 585 & \(4.62 \%\) \\
\hline All Exchanges & 186 & 8,519 & \(2.18 \%\) \\
\hline & & & \\
\hline OTCBB & 74.6 & 3,287 & \(2.27 \%\) \\
\hline Exchanges + OTCBB & 260.6 & 11,806 & \(2.21 \%\) \\
\hline & & & \\
\hline Other OTC & 37.4 & 66,681 & \(0.06 \%\) \\
\hline Total & 298 & 78,487 & \(0.38 \%\) \\
\hline & & & \\
\hline OTCBB + Other OTC & 112 & 69,968 & \(0.16 \%\) \\
\hline
\end{tabular}

Notes:
1) Statistics are calculated using data from the threshold lists published by NYSE, Amex, Nasdaq, and Archipelago.
2) Dually listed securities are counted twice in the total number of issues for all exchanges \((8,519)\). However, the number of dually listed securities is small. For example, there are approximately 11 securities dually listed on NASDAQ and the NYSE.
3) The total number of issues for Other OTC \((66,681)\) includes securities not covered by the Rule. Regulation SHO's close-out requirement applies to any equity security of an issuer that is registered under Section 12 of the Exchange Act, or that is required to file reports pursuant to Section 15(d) of the Exchange Act. NASD Rule 3210, which became effective July 3, 2006, applies the Regulation SHO close-out requirements to these non-reporting OTC equity securities.

Table 4
Summary Statistics for Securities on the Published Threshold List
January 10, 2005 to May 31, 2006
\begin{tabular}{|l|r|}
\hline \multicolumn{1}{|c|}{ Measure } & \multicolumn{1}{c|}{ Value } \\
\hline Average Daily Number of Stocks & 311.6 \\
\hline Average Daily Aggregate Fails (millions) & 188.6 \\
\hline Average Daily Number of Positions & \(1,346.6\) \\
\hline Number of Graduates from Threshold List & 6,223 \\
\hline Total Initial Fails of Graduates from Threshold List (millions) & \(4,454.4\) \\
\hline Number of Persistent Threshold List Securities & 6 \\
\hline \begin{tabular}{l} 
Total Initial Fails of Persistent Threshold List Securities \\
(millions)
\end{tabular} & 15.3 \\
\hline \begin{tabular}{l} 
Total Current Fails of Persistent Threshold List Securities \\
(millions)
\end{tabular} & 4.8 \\
\hline Change in Fails for Persistent Threshold List Securities & \(-68.6 \%\) \\
\hline
\end{tabular}

Notes:
1) Statistics are estimated using two data sources: (1) raw CNS fails data from the NSCC that include securities with aggregate daily fails to deliver of 10,000 shares or more; and (2) the threshold lists published by NYSE, Amex, NASDAQ, and Archipelago.
2) A "graduate" is a security that dropped from the threshold list during this period.
3) A "persistent" threshold list security is any security symbol that was continuously on the list during the entire period.

\title{
Economic Analysis of the Short Sale Price Restrictions Under the Regulation SHO Pilot
}

\author{
Office of Economic Analysis \\ U.S. Securities and Exchange Commission
}

This Draft: September 14, 2006

This is a report of the staff of the Office of Economic Analysis. The Commission has expressed no view regarding the analysis, findings or conclusions herein.

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\title{
Economic Analysis of the Short Sale Price Restrictions under the Regulation SHO Pilot
}

\section*{A Study by the Staff of the Office of Economic Analysis \({ }^{1}\)}

\section*{I Introduction}

\section*{A. Background}

Short selling in exchange-listed stocks ("Listed Stocks") in the U.S. has been subject to a "tick test" since 1938. Rule 10a-1 under the Securities Exchange Act of 1934 allows short sales to occur only at an uptick or a zero uptick (also known as a "zero-plus tick") for Listed Stocks. That is, short sales in Listed Stocks may be effected above the last trade price or at the last trade price if the last trade price is higher than the most recent trade at a different price. \({ }^{2}\) Prior to August 1, 2006, Nasdaq was not operating as an exchange and, therefore, its stocks were not Listed for the purposes of Rule 10a-1. However, in 1994, the National Association of Securities Dealers ("NASD") introduced a "bid test" for Nasdaq National Market Stocks ("Nasdaq NM Stocks"), which applies to trading on Nasdaq and trading reported to the NASD. This rule, the former NASD Rule 3350, specifies that whenever the bid is a downtick from the previous bid, traders other than market makers may sell short only at prices one penny above the bid. \({ }^{3}\) Within this report, the tick test and bid test will be described more generally as "price restrictions."

\footnotetext{
\({ }^{1}\) For further information, questions, or comments, please contact Amy Edwards (edwardsa@sec.gov), Stewart Mayhew (mayhews@sec.gov), Tim McCormick (mccormickt@sec.gov), or Allan Zebedee.
\({ }^{2}\) Paragraph (a) of Rule 10a-1 governs short sales of any security registered on, or admitted to unlisted trading privileges on, a national securities exchange if such transactions are made pursuant to an effective transaction reporting plan as defined in Rule 600 of Regulation NMS. Unless a specific exemption applies, short sales are prohibited at a price that is either (1) below the last reported price of a transaction reported pursuant to an effective transaction reporting plan (known as a "minus tick"); or (2) at the last reported price if that price is lower than the last reported different price (known as a "zero-minus tick").
\({ }^{3}\) When Nasdaq began operating as a national securities exchange, NASD Rule 3350 was replaced by Nasdaq Rule 3350 for Nasdaq NM stocks traded on Nasdaq, and NASD Rule 5100 for Nasdaq NM stocks traded over-the-counter and reported to a NASD facility. In connection with Nasdaq commencing operations as a national securities exchange the Nasdaq National Market was renamed to the Nasdaq Global Market and Nasdaq NM stocks were renamed Nasdaq Global Market stocks. See NASD Rule 4200(a)(6) (providing that the Nasdaq Global Market is the successor to the Nasdaq National Market); see also Securities Exchange Act Release No. 54071 (June 29, 2006),
}

In July 2004, the Securities and Exchange Commission (the "Commission" or the "SEC"), adopted Regulation SHO, which contains Rule 202T, allowing the Commission to establish, by separate order, a pilot program to examine the efficacy of price restrictions. \({ }^{4}\) At the same time, the Commission issued an order ("Pilot Order") establishing a pilot program ("Pilot") exempting a third of the stocks in the Russell 3000 Index ("Russell 3000") from all price restrictions. \({ }^{5}\) The pilot stocks constitute a sample of Russell 3000 stocks that is stratified across average daily trading volume levels within each of three groups, corresponding to New York Stock Exchange ("NYSE,") Nasdaq, and American Stock Exchange ("AMEX") issues. \({ }^{6}\) The Pilot went into effect on May 2, 2005, and was scheduled to end on April 28, 2006, \({ }^{7}\) but has been extended to August 6, 2007 to allow the Commission to consider potential rulemaking after evaluating the results of the Pilot. \({ }^{8}\)

The Pilot was designed to enable the Commission and the broader community to evaluate whether the price restrictions have a substantive impact on market quality, and more generally to achieve a deeper understanding of how price restrictions affect the trading process. In its Pilot Order, the Commission provided further explanation for the Pilot: \({ }^{9}\)

The Pilot will enable us to obtain empirical data to help assess whether short sale regulation should be removed, in part or in whole, for actively-traded securities, or if retained, should be applied to additional securities. The Pilot will allow us to study trading behavior in the absence of a short sale price test on the stocks selected by comparing the trading behavior of the control group stocks to that of

\footnotetext{
71 FR 38922 (July 10, 2006) (File No. SR-NASD-2006-068). For purposes of this study, we refer to Nasdaq NM stocks as Nasdaq NM or Nasdaq Stocks and not Nasdaq Global Market stocks. Prior to Nasdaq commencing operations as an exchange, Nasdaq securities traded on exchanges on an unlisted trading privileges basis were not subject to any price restriction.
\({ }^{4}\) See the adopting release, SEC Release No. 34-50103, July 28, 2004.
\({ }^{5}\) See the first Pilot Order, SEC Release No. 34-50104, July 28, 2004.
\({ }^{6}\) Stocks were selected for this sample by sorting the 2004 Russell 3000 first by listing market and then by average daily dollar volume from June 2003 through May 2004, and then within each listing market, selecting every third company starting with the second.
\({ }^{7}\) SEC Release No. 34-50747, November 29, 2004.
\({ }^{8}\) SEC Release No. 34-53684, April 20, 2006.
\({ }^{9}\) SEC Release No. 34-50104, July 28, 2004.
}
the Pilot stocks through empirical analysis. We will examine, among other things, the impact of price tests on market quality (including volatility and liquidity), whether any price changes are caused by short selling, costs imposed by a price test, and the use of alternative means to establish short positions.

To the extent that price restrictions have discernable effects, these should appear as differences between the pilot stocks, which the Commission selected to be a representative subsample of the Russell 3000 index, and the rest of the Russell 3000, which serve as control stocks. The results observed from the Pilot will help inform any subsequent rulemaking that the Commission may consider at the conclusion of the Pilot.

\section*{B. Overview}

The goal of this study is to examine whether eliminating price restrictions has had any impact on market quality, broadly defined. We compute and compare various market statistics for pilot and control stocks both before and during the Pilot. The pilot stocks and control stocks are statistically similar prior to the Pilot. The analysis is conducted separately for both Listed Stocks and for Nasdaq NM Stocks to help distinguish the tick test from the bid test.

We designed this study to evaluate the various policy alternatives outlined in the first Pilot Order. \({ }^{10}\) For example, the results of the Pilot might suggest eliminating all price restrictions, extending a uniform test to all securities, or removing price restrictions for a subset of stocks. Any of these alternatives would potentially affect not only the stocks in the Russell 3000, but others that have a lower market capitalization and perhaps are less actively traded than those in the pilot study. Price restrictions may have different effects for larger and smaller market capitalization stocks, or for more actively traded and less actively traded stocks.

Accordingly, as part of our comparison of pilot and control stocks, we partition the sample into

\footnotetext{
\({ }^{10}\) See SEC Release No. 34-50104, July 28, 2004.
Prepared by the Office of Economic Analysis
}
groups based on market capitalization and turnover (trading volume divided by shares outstanding). The results for the smallest and least actively traded stocks within the Russell 3000 would be the most informative about the likely impact of price restrictions for those stocks that are not in the Russell 3000. Moreover, comparing large and small stocks (or high and low volume stocks) within the Russell 3000 should reveal whether any effects of the price restrictions are related to size or volume.

This study investigates various hypotheses relating to the potential effects of price restrictions. First, if price restrictions represent an economically meaningful constraint on short selling, they may induce some traders to avoid short selling or to reduce the size of their short positions. Thus, we test whether the level of short trading volume and short interest are significantly different for pilot and control stocks. \({ }^{11}\) Both for Listed Stocks and Nasdaq NM Stocks, we find that price restrictions reduce the volume of executed short sales relative to total volume, indicating that price restrictions indeed act as a constraint to short selling. However, in neither market do we find significant differences in short interest across pilot and control stocks.

To the extent that price restrictions are applied in some markets and not in others trading the same stocks, traders who find the restrictions binding might avoid the constraint by choosing a venue where the constraint is not applied. Specifically, because not all markets that trade Nasdaq NM Stocks apply the Nasdaq Bid Test, short sellers can route their orders to avoid the rule., Removing the rule eliminates the need to avoid it and therefore might affect where short sales in Nasdaq NM Stocks are executed. Our results indicate that Nasdaq's share of short selling volume is negatively impacted by price restrictions, suggesting that some short sellers are routing orders to avoid price restrictions.

\footnotetext{
\({ }^{11}\) Short interest is the total number of shares of a security that have been sold short and have not yet been repurchased.
}

Additionally, traders can avoid price restrictions by synthetically shorting in the option market rather than shorting the stock. \({ }^{12}\) To measure the extent to which price restrictions drive short sellers to the option market, we compare option market trading activity for pilot and control stocks. We find no evidence that short sale price restrictions in equities have an impact on option trading or open interest. \({ }^{13}\)

Regardless of whether price restrictions have any substantive impact on overall market liquidity or inhibit manipulation, they affect the ability of short sellers to demand liquidity by getting prompt execution of market orders. For purely mechanical reasons, we would expect price restrictions to affect the number of trades occurring on downticks vs upticks, and the percentage of time the market is in an upbid or downbid state. For Listed Stocks, we find that the application of the tick test results in significantly fewer than \(50 \%\) of transactions occurring on downticks or zero downticks, while trading is more balanced when the tick test does not apply. For Nasdaq NM Stocks, we find that the percentage of time the market is in a downbid state declines when the bid test is removed, suggesting that downbids occur more regularly when the bid test applies.

To the extent that price restrictions inhibit the free movement of stock prices, they might make markets less liquid. On the other hand, because short sellers can rarely execute against a bid quotation, price restrictions force short sellers to act more like liquidity suppliers than liquidity demanders. Therefore, removing them might decrease the perceived supply of liquidity. To test whether price restrictions have a more general impact on liquidity or volatility, we compare quoted and effective spreads, intraday volatility, and the daily price range across

\footnotetext{
\({ }^{12}\) A synthetic short position can be achieved by buying a put option and writing a corresponding call option in the same security. The term synthetic refers the fact that you can replicate the payoffs of an equity short sale without actually short selling the equity itself.
\({ }^{13}\) Open interest is the total number of options contracts that have not yet been closed or fulfilled by delivery.
}
pilot and control stocks. We find that quoted depths are augmented by price restrictions but realized liquidity is unaffected. Further, we find some evidence that price restrictions dampen short term within-day return volatility, but when measured on average, they seem to have no effect on daily return volatility.

Finance theory predicts that under certain conditions, constraints on short selling may cause securities to be misvalued by the market, particularly when investors have highly divergent opinions about the stock. \({ }^{14}\) A simple argument is that short sale constraints make it more costly for those investors who have a negative opinion of a stock to trade on their beliefs, and thus, their views may be reflected less in the stock price than those who have a positive view. Under more general assumptions, theoretic models predict that short sale constraints can cause stocks to be either overvalued or undervalued. \({ }^{15}\) To test whether price restrictions constitute an economically consequential short sale constraint that influences equilibrium stock prices, we investigate whether the prices of pilot stocks react in response to the removal of the rule. We find that for Listed Stocks, control stocks outperform pilot stocks on average by about 24 basis points on the first day of the Pilot, suggesting that the tick test may cause stocks to be slightly overvalued. For Nasdaq NM Stocks, no significant return differential was observed surrounding the initiation of the pilot. We also examine stock returns for a six-month period following the initiation of the pilot program, to ascertain whether the elimination of price restrictions has had any discernible effect on stock prices over a longer horizon. We find that pilot stocks and control stocks have similar returns over this horizon, but some tests show weak evidence consistent with the hypothesis that price restrictions facilitate over-pricing. In the absence of price restrictions, prices do not rise as much as with price restrictions, leading to a lower equilibrium price.

\footnotetext{
\({ }^{14}\) See, for example, Lintner (1969), Miller (1977), and Scheinkman and Xiong (2003).
\({ }^{15}\) See Gallmeyer and Hollifield (2006).
}

One view of price restrictions is that they help prevent "bear raids," or that they make it more difficult for would-be manipulators to drive prices down below their true values. On the other hand, price restrictions might also make it more difficult for short sellers to move prices back toward their true value in response to upward manipulations. Because price restrictions are inherently short-term constraints, any substantive impact on the susceptibility of securities to manipulation is most likely to be manifest at short horizons. For this reason, we focus our investigation on price patterns that might indicate manipulative behavior at a daily or intraday frequency. To explore these issues, we proceed along three avenues of investigation.

First, to the extent that price restrictions create an environment less conducive to price patterns that might indicate downward manipulation and more conducive to price patterns that might indicate upward manipulations, we might expect to observe more extreme negative returns, and fewer extreme positive returns, for pilot stocks than for control stocks. To investigate this, we use our control-sample methodology to test whether the skewness of the returns distribution of short-horizon returns differs across pilot and control stocks. \({ }^{16}\) Our results indicate no statistically significant impact of the pilot program on return skewness, measured at five-minute, thirty-minute, or one-day return intervals.

Second, we identify positive and negative price "spikes," or instances when extreme price moves are reversed shortly afterwards, and examine whether the frequency of positive and negative spikes differs across pilot and control stocks. We find that at a short (five-minute) horizon, pilot stocks tend to experience more price reversals than control stocks, but that this result is the same for negative and positive price reversals. At a thirty-minute horizon, we find no evidence that there are more price reversals for pilot stocks than control stocks.

\footnotetext{
\({ }^{16}\) Bris, Goetzmann, and Zhu (2004), in a study of the effects of short sale regulations around the world, find evidence suggesting that short selling constraints can affect the skewness of the returns distribution.
}

Third, we use a time-series regression methodology to measure the extent to which positive and negative price changes are likely to be subsequently reversed. If price rules play an important role in preventing short sellers from temporarily driving prices down below their fair value, we would expect to see a larger portion of negative returns subsequently reversed for the pilot stocks than the control stocks. For Listed Stocks, we find that a larger portion of both negative and positive returns are subsequently reversed for pilot stocks than control stocks at a short (five-minute) horizon. The symmetry of these results is consistent with the increase in volatility discussed above rather than any marked increase in the potential for downward price pressure. On the other hand, a marked increase in the potential for downward price pressure relative to upward price pressure should lead to an asymmetry in positive and negative return reversal results. We do not find this asymmetry. At a thirty-minute horizon, we find no statistically significant difference in the magnitude of return reversals for Listed pilot and control stocks. For Nasdaq NM Stocks, we find no statistically significant difference in the magnitude of return reversals for pilot and control stocks for either five-minute or thirty-minute intervals.

One important element of the Pilot is the ability to examine whether the tick test affects stocks of varying sizes and volume differently. For example, does the tick test affect larger stocks in the same manner as smaller stocks and would the tick test be more effective for large or small stocks? To examine these questions, we divide the stocks into size, measured as market capitalization, and volume, measured as trading volume divided by shares outstanding (turnover), groups and run each of our tests again for each group. For most of our tests, we find that the tick and bid tests affect stocks the same no matter how large or small or how active are the stocks. In particular, we find that the tick and bid tests result in a lower percentage of short sale volume for most size and activity levels. We also find that the tick and bid tests result in
lower bid and ask depth for most size and activity levels. Thus, the bid and tick tests do not affect liquidity in a way related to the size or activity level of a stock. Finally, the tick and bid tests do not affect returns at or following the start of the Pilot whether the stocks are large or small. On the other hand, the size and activity levels appear to matter for the effect of price restrictions on volatility and for routing decisions. The bid test affects routing decisions more in smaller stocks. Likewise, the bid and tick tests dampen permanent price volatility in small stocks while amplifying it in large stocks.

The remainder of this report is organized as follows. In section II, we recount the history of price restrictions, including Regulation SHO. Section III contains an overview of the academic literature relating to the tick test and the bid test. The data and construction of the samples are described in section IV. Section V explains the empirical methods used in the analyses. In section VI, we present our main analysis of the effect of removing price restrictions for pilot and control stocks over the first 6 months of the Pilot Period. More specifically, in section VI-A, we present our analyses of how eliminating price restrictions has affected the overall level of short volume and short interest, option market volume and open interest, and the frequency and duration of upticks or upbids within the day. In section VI-B, we present our analysis of how the removal of price restrictions has affected market quality, including measures of spreads and intraday volatility. In section VI-C, we report our results on whether lifting price restrictions has affected underlying stock prices or returns, the skewness of returns distributions, the incidence of positive and negative spikes, and the tendency of positive and negative shocks to subsequently reverse. In section VII, we investigate whether price restrictions affect all stocks similarly or whether certain types of stocks, such as small stocks, are more affected by the rules. Section VIII summarizes and concludes the report.

\section*{II History of Price Restrictions}

This section briefly summarizes the historical background of the price restriction rules. \({ }^{17}\) After the market crash of 1929 , a popular view emerged that short sellers exacerbated the crash. \({ }^{18}\) Public concerns about short selling became particularly acute in the aftermath of the international currency crisis of September 21-22, 1931, prompting Senator Arthur Capper of Kansas to introduce several bills aimed at restricting and taxing short selling. It was in this environment, on October 6, 1931, that the NYSE required that all sell orders must be marked long or short. \({ }^{19}\) According to Meeker (1932, p. 147), this effectively acted as a rule against shorting on a downtick, as such trades were viewed as violations of the Exchange's rule against "demoralizing" trades. \({ }^{20}\)

Shortly after its creation in 1934, the Commission recommended sixteen rules that all national securities exchanges should adopt. Among them was a recommendation for an explicit rule against shorting on a downtick:

No member shall use any facility of time exchange to effect on the exchange a short sale of any security in the unit of trading at a price below the last sale price of such security on the exchange. \({ }^{21}\)

Exceptions were specified for odd-lot trading and to allow regional exchanges to bring their prices in line with the primary exchange. Sixteen exchanges adopted this rule in 1935. \({ }^{22}\)

\footnotetext{
\({ }^{17}\) See also Meeker (1932), SEC, Report of the Special Study of the Securities Markets, reprinted in H.R. Doc. No. 95, 88th Cong., 1st Sess. (1963 "Special Study"), Macey, Mitchell, and Netter (1989), SEC Release No. 34-42037, October 20, 1999.
\({ }^{18}\) See Frederick (1932).
\({ }^{19}\) New York Stock Exchange, Notice Concerning Distinction Between Long and Short Account Selling Orders, October 5, 1931, reprinted in Appendix A of Meeker (1932).
\({ }^{20}\) Constitution of the New York Stock Exchange (August 11, 1927) Article XVII, Section 4.
\({ }^{21}\) SEC, First Annual Report of the Securities and Exchange Commission (1935), available from the Securities and Exchange Commission Historical Society.
\({ }^{22}\) SEC, Report of the Special Study of the Securities Markets, reprinted in H.R. Doc. No. 95, 88th Cong., 1st Sess. (1963), p. 251.
}

Following sharp price drops in the fall of 1937, the Commission performed a study of the transactions of 20 securities on the NYSE for the periods September 7-13 and October 18-23 of that year \({ }^{23}\) and found that short sales constituted a significant portion of the transactions in the declining market. The Commission adopted new short-selling rules, including a rule to formally define what is meant by a short sale and Rule 10a-1, the tick test. \({ }^{24}\) This version of the tick test prohibited short sales "at or below the price at which the last sale, regular way, was effected on such exchange." The rule was adopted on January 24, 1938 and went into effect February 8, 1938.

The tick test was amended March 10, 1939 to allow for short selling at a zero uptick, or in other words at the last trade price, "provided that the last sale price was higher than the last different price which preceded it. \({ }^{25}\) Certain exemption letters have been granted over the years, such as the exemption for diversified exchange traded funds. \({ }^{26}\) However, the basic structure of this rule has remained essentially unchanged since 1939.

The Commission's Special Study (1963) identified three objectives of the tick test, which have been consistently used by the Commission as a framework for discussing the effectiveness of the regulation. These objectives are that the rule should:
(1) Allow relatively unrestricted short sales in an advancing market;
(2) Prevent short selling at successively lower prices, thus eliminating short selling as a tool for driving the market down; and
(3) Prevent short sellers from accelerating a declining market by exhausting all remaining bids at one price level, causing successively lower prices to be established by long sellers.

\footnotetext{
\({ }^{23}\) SEC Release No. 1548, January 24, 1938, 3 FR 213 (January 26, 1938).
\({ }^{24}\) Rule 3b-3 under the Exchange Act sets forth the definition of "short sale" and identifies the specific instances for determining a long position. 17 CFR 240. 3b-3.
\({ }^{25}\) See the Fifth Annual Report of the Securities and Exchange Commission, Fiscal Year Ended June 30, 1939, United States Government Printing Office, Washington, available at http://www.sechistorical.org/collection/papers/1930/1939 SEC AR.pdf
\({ }^{26}\) See, e.g., Letter re: SPDRs (January 27, 1993); Letter re: MidCap SPDRs (April 21. 1995); Letter re: Select Sector SPDRs (December 14, 1998); Letter re: Units of the Nasdaq-100 Trust (March 3, 1999); Letter re: ETFs (August 17, 2001) (class letter).
}

In 1976, the Commission proposed three alternative temporary rules that would have suspended the tick test for some or all registered securities. \({ }^{27}\) In response to the proposal, several market participants, including the NYSE, opposed the proposal, and expressed concerns that abolishing the tick test might lead to increased volatility or decreased liquidity. The Commission withdrew the proposals in \(1980 .{ }^{28}\)

A House Report submitted by the Committee on Government Operations dated December 6, 1991 discusses several aspects of short selling, including the tick test. \({ }^{29}\) The report suggests that short selling has negative price effects that "can have important and lasting consequences" and asserts that the tick test is "effective in stabilizing the market for exchangelisted stocks for the benefit of issuers and investors," although no evidence is cited in support of this view. The report also recommends that the tick test should be extended to the Nasdaq market.

On September 6, 1994, the Commission approved NASD Rule 3350 (the "bid test") as a temporary rule. \({ }^{30}\) This created a bid test for trades executed by NASD members or their customers, but with exemptions for both equity and option market makers. Specifically, this rule prohibited short sales at or below (or less than one penny above) the best bid price whenever the prevailing inside bid price is lower than the previous inside bid. The bid test might appear less restrictive than the tick test, because it allows for unrestricted short selling at any price when the bid price is higher than the previous bid, and because of the market maker exemptions. Since its

\footnotetext{
\({ }^{27}\) See SEC Release No. 13091, December 21, 1976.
\({ }^{28}\) See SEC Release No. 34-42037, October 20, 1999.
\({ }^{29}\) Short-Selling Activity in the Stock Market: Market Effects and the Need for Regulation (Part 1) (House Report), H.R. Rep. No. 102-414 (1991), reprinted in CCH Federal Securities Law Reports Number 1483 Part II (1992).
\({ }^{30}\) See SEC Release No. 34-34277, July 6, 1994
}
initial approval, the bid test has been re-approved annually as a temporary rule. \({ }^{31}\) The bid test was in effect when Regulation SHO became effective in January 2005. When Nasdaq began operating as an exchange in August 2006, NASD Rule 3350 was replaced by Nasdaq Rule 3350 and NASD Rule 5100. \({ }^{32}\)

The Commission re-opened the discussion on Rule 10a-1 in a concept release dated October 20, 1999. \({ }^{33}\) In this release, the Commission requested comment on numerous issues surrounding the tick test, including:
- whether the tick test should be suspended when the daily stock return is above a threshold level;
- whether actively traded securities should be exempted from the tick test;
- whether the restrictions should apply only around certain market events such as at the open and close, around mergers and acquisitions, or at option expirations;
- whether hedging transactions be exempt from the tick test;
- whether the tick test should be revised in response to expanded after-hours trading or decimalization;
- whether the tick test should be extended to non-exchange-listed stocks; and,
- whether the tick test should be eliminated.

In October 2003, the Commission proposed a rule that would create a uniform bid test that would apply to both Listed and Nasdaq NM Stocks, with various exemptions. \({ }^{34}\) In addition, the Commission proposed a pilot program that would suspend the tick test for actively-traded securities for two years. \({ }^{35}\) As stated in the proposing release, " \([t]\) he temporary suspension would allow the Commission to study the effects of relatively unrestricted short selling on market volatility, price efficiency, and liquidity."36

\footnotetext{
\({ }_{32}^{31}\) Most recently, see SEC Release No. 34-53093, January 10, 2006.
\({ }^{32}\) Nasdaq NM stocks are currently trading under an exemption from Rule 10a-1 in order to maintain the status quo until the conclusion of the Pilot or any further rulemaking by the Commission.
\({ }^{33}\) See SEC Release No. 34-42037, October 20, 1999.
\({ }^{34}\) See SEC Release No. 34-48709, October 28, 2003.
\({ }^{35}\) See SEC Release No. 34-48709, October 28, 2003.
\({ }^{36}\) See SEC Release No. 34-48709, October 28, 2003.
}

With the adoption of Regulation SHO in July 2004, the Commission decided to defer consideration of the uniform bid test and the proposed exemptions (proposed Rule 201), in order to first observe the results of the pilot program. \({ }^{37}\) In connection with the establishment of a Pilot, the parameters governing a Pilot were expanded to include a broader spectrum of securities than envisioned in the proposing release, and the length of the Pilot was shortened to one year. As stated in the adopting release,
the purpose of the Pilot is to assist the Commission in considering alternatives, such as: (1) eliminating a Commission-mandated price test for an appropriate group of securities, which may be all securities; (2) adopting a uniform bid test, and any exceptions, with the possibility of extending a uniform bid test to securities for which there is currently no price test; or (3) leaving in place the current price restrictions.

The details of the program, including the list of securities included in the Pilot, were specified in the Commission's Pilot Order of July 28, 2004. \({ }^{38}\) The Pilot was originally scheduled to begin on January 3, 2005 and last for one year. However, because the industry needed more time to prepare their systems, the start date was postponed until May 2, 2005, and later, the terminal date of the Pilot was extended until August 6, 2007 to maintain the status quo for pilot stocks until the Commission evaluates the results of the study and considers potential rulemaking on price restrictions. \({ }^{39}\) The Pilot Order suspends Rule 10a-1 and the bid test for approximately a third of the Russell 3000 stocks. The methodology for selecting the pilot stocks is detailed in the Pilot Order, and is summarized in section IV, below.

\section*{III Previous Evidence}

The previous evidence on price restrictions gives us insight into how price restrictions work. In particular, it examines the effectiveness of the rules and the effect that the rules have on

\footnotetext{
\({ }^{37}\) SEC Release No. 34-50103, July 28, 2004.
\({ }^{38}\) SEC Release No. 34-50104, July 28, 2004.
\({ }^{39}\) SEC Release No. 34-53684, April 20, 2006.
}
market quality. We are unaware of a previous study that compares the tick test to the bid test.
Several concurrent studies also examine the effect of the Pilot on the tick and bid tests
(Alexander and Peterson (2006), Diether, Lee, and Werner (2006), and Wu (2006)). These studies are summarized on Appendix A.

\section*{A. Effectiveness of the Rule}
1. Shorting in a Declining Market

Several studies examine whether the rules appear to keep short sales from executing in declining markets. When Rule 10a-1 was adopted in 1938, it was motivated in part by a Commission study of short selling, based on two weeks of data in 1937. This study found that when a downtick rule applied, a substantial amount of short selling occurred during periods when the market was declining. \({ }^{40}\) Two subsequent studies produced by staff at the Commission found that the tick test allows short selling in declining markets. \({ }^{41}\) The Commission's 1963

Special Study concluded that Rule 10a-1 was not effective at achieving its objectives, stating that
[p]resent rules appear inadequate to relieve the added pressure that short selling may create during a severe decline in the general market or a declining price trend in a particular security. Despite the rules, a relatively large volume of short selling occurred in particular stocks, including "market leaders" and "trading favorites," during the period of decline preceding the market break of May 28, 1962, and at critical junctures on that day, and many additional opportunities existed when short selling could have occurred. \({ }^{42}\)

In a more recent study, Ferri, Christophe, and Angel (2004) examine short selling in a matched sample of Nasdaq National Market stocks, which were subject to the bid test, and Nasdaq SmallCap stocks, which were not, during a period of high volatility and rapidly declining

\footnotetext{
\({ }^{40}\) The NYSE had a downtick rule prior to the Commission's tick test. A downtick rule is a weaker form of the tick test because it allows trading at the most recent price even if that price was a downtick.
\({ }^{41}\) The Securities and Exchange Commission (1963), in the Special Study, examined the trading activity leading up to and during the market break of May 28, 1962. In a working paper by SEC staff, Marcotte and Martin (1977) study the tick test for the period from September 20 through October 15, 1976, during which time the Dow Jones Industrial Average fell by \(8.12 \%\). The results are summarized in Pollack (1986).
\({ }^{42} 88^{\text {th }}\) Congress, HR Doc No 88-95 ( \(1^{\text {st }}\) session, 1963), pp. 293-294.
}
stock prices (September 2000-August 2001). In their sample of 2,275 observations, they find no significant differences in the overall level of short selling, or the frequency of days with abnormally negative returns and abnormally high short selling.

Overall, the research above shows that short sales are executed in declining markets despite the application of the tick or bid tests. However, this does not mean that short sales are unaffected by the tick and bid tests. We discuss this further in the next section.
2. Short Sale Execution Quality

Another area of research examines whether these rules harm the execution quality of short sales by reducing the prices received by short sellers, by delaying the execution of short sales, or by reducing the fill rates.

Martin and Marquette (1977) conduct a simulation calibrated to the Dow 30 stocks, to estimate the degree to which the rule would have affected execution prices for market short sale orders submitted during this period of market decline. The simulation results indicate that even during this period of rapid price declines, randomly arriving short market orders would have executed at higher prices as a result of the uptick rule. Therefore, short sellers appear better off because of the tick test.

Albert, Smaby, and Robison (1997) examine the negative abnormal returns to stocks following large increases in reported short interest, as an estimate of the profitability of short selling. They find that short selling was more profitable for their Listed sample than their Nasdaq sample during a period (1987-1991) when only Listed Stocks were subject to a price restriction. Their findings imply that the uptick rule does not have a significant impact on the bottom line for short sellers.

While studying order data from the NYSE, Angel (1997) and Alexander and Peterson (1999) find that the tick test prevents short sales from demanding liquidity more than \(90 \%\) of the time. As expected, the degree to which the tick test is binding depends on whether the market is rising or falling. Likewise, McCormick and Reilly (1996) find that the Nasdaq bid test prevents short sellers from demanding liquidity roughly \(35 \%\) of the time. This proportion was found to be an increasing function of trading volume and, not surprisingly, a decreasing function of the day's stock return.

Both Angel (1997) and Alexander and Peterson (1999) conclude that Rule 10a-1 significantly impedes order execution quality for short sales, even in rising markets. For those cases where the stock price increased, short sellers can trade at the bid less than fifteen percent of the time. According to Alexander and Peterson (1999), the tick test appears to contradict the Commission's first stated objective for short selling regulation, to "allow relatively unrestricted short selling in an advancing market."

In addition, Alexander and Peterson (1999) also found that short sale orders have significantly lower execution rates and significantly longer times to execution than regular sales. Alexander and Peterson (2002) study how the tick test was affected by the reduction of the tick size from \(1 / 8\) to \(1 / 16\) in June 1997. As predicted, their evidence suggests that short sales were executed faster and at better prices after the reduction in tick size, confirming that the tick test is less binding when the tick size is smaller.

In summary, previous research shows that short sellers can receive better prices as a result of the tick test and that the tick test does not impede profit opportunities. However, the tick test and bid test restrict the ability of short sellers to demand liquidity even in rising markets.

This results in execution delays and lower fill rates. Tick size changes have lowered these costs, but short sellers are still precluded from demanding liquidity much of the time.
3. Manipulation

Many of the studies that examine the ability to short in a declining market do not address the question of whether short selling in a declining market increases the potential for manipulating a stock price below its fair value, or conversely, whether short selling helps prices adjust more quickly to their efficient values. Nor do the studies address the question of whether a tick test or bid test would have been effective at reducing the amount of short selling during declining markets. A few early studies of short selling in the 1930s concluded that there was no evidence that short sales had any material effect on the magnitude of price swings. \({ }^{43}\)

Ferri, Christophe, and Angel (2004) come a little closer to questioning whether the bid test inhibits trading that may be indicative of manipulation. On days when stock prices are declining, the degree of short selling is positively related to returns for Nasdaq SmallCap stocks, which are not subject to the bid test, but not for matching Nasdaq NM stocks, which are subject to the bid test. This result is the reverse of what one would expect to see if the bid test helps prevent short sellers from pushing down prices. The authors conclude that "a bid test is unnecessary for investor protection."

\section*{B. Effect on Market Quality}

Because the tick and bid tests appear to have some impact on the execution of short sales, even though short sales can still execute in declining markets, we might expect the tick and bid test to affect market quality. In a recent working paper, Jones (2003) re-examines the period surrounding the initiation of the tick test in the 1930s. He finds a significant reduction in bid ask

\footnotetext{
\({ }^{43}\) See Twentieth Century Fund (1935), Macaulay and Durand (1951).
}
spreads and positive abnormal stock returns surrounding the initiation of the downtick rule on October 6, 1931, with no significant changes in trading volume, volatility, or the price impact of trades. He also finds similar results surrounding the initiation of Rule 10a-1 1938. He concludes that
[b]ecause the uptick rule no longer constrains shorting as much as it once did, any liquidity effects are likely to be much more modest than the ones identified in the 1930's. However, it would not be surprising if repeal of the uptick rule were to lead to some reduction in individual stock liquidity, particularly in less liquid stocks. \({ }^{44}\)

In research sponsored by NASD, McCormick and Reilly (1996) find that the introduction of the bid test did not have a substantive impact on market quality, as measured by volatility and bid ask spreads. A more comprehensive follow-up study by McCormick and Zeigler (1997), which was also sponsored by the NASD, supports the original finding that the implementation of the bid test had little or no impact on market quality. They find that quoted and effective spreads were narrower in 1997 than in 1994, but they attribute the changes to a gradual improvement in market quality over time, and not to the implementation of the bid test. They find no significant change in quoted spreads as a result of the bid test. While they do find a statistically significant decline in effective spreads, this is a natural consequence of a rule that forces short sellers to act as liquidity suppliers rather than liquidity demanders. Because the improvement in effective spreads is coming at the cost of delayed executions, it does not necessarily signify an improvement in market quality.

Au-Yeung and Gannon (2003) estimate the joint dynamics of index and index futures returns in Hong Kong, surrounding the elimination of Hong Kong's uptick rule on March 25, 1996. Using a multivariate GARCH framework, they find evidence that Hong Kong's uptick

\footnotetext{
\({ }^{44}\) This study was funded by the New York Stock Exchange.
}
rule was impeding price discovery on the index relative to the futures contract, and that conditional volatility for the index declined with the elimination of the uptick rule.

Overall, this evidence seems to indicate that tick tests can lead to narrower bid ask spreads, but impedes price discovery, while the bid test should not have any discernable effect on market quality. The construction of the Pilot study improves upon the design of these previous studies and allows us to study these issues in a more controlled environment.

\section*{IV Construction of the Samples}

\section*{A. Selection of Pilot and Control Stocks}

The stocks in the pilot sample are those specified in the Pilot Order. \({ }^{45}\) Stocks were selected for this sample by sorting the 2004 Russell 3000 first by listing market and then by average daily dollar volume from June 2003 through May 2004, and then within each listing market, selecting every third company starting with the second. Because the selection process relied on average daily dollar volume, companies that had their initial public offering in May or June of 2004, just prior to the Russell reconstitution, were not included. The 32 stocks that are not listed on the NYSE, Amex, or Nasdaq NM were also excluded prior to sorting and selecting the pilot stocks.

While no companies have moved in and out of the Pilot, the pilot stocks might experience ticker symbol changes, listing changes, and mergers. We collected the necessary change information from NYSE, Amex, and Nasdaq, who keep track of and disseminate these changes. In the case of mergers between pilot and control stocks, the status of the resulting company is the same as the status of the company with the larger market capitalization of equity on the day prior to the first merger announcement. The pilot stocks that did not survive to the start of the Pilot on

\footnotetext{
\({ }^{45}\) SEC Release No. 34-50104, July 28, 2004.
Prepared by the Office of Economic Analysis
}

May 2, 2005 are not included in the analysis. Pilot stocks with listing changes during the Pilot are included in our analysis up until the date of the listing change even though they are still in the Pilot..

The stocks in the control sample come from the remainder of the 2004 Russell 3000 not included in the Pilot. We do not include the stocks with initial public offerings after May 2004 because these stocks were not eligible to be selected for the Pilot. Like the pilot sample, the control sample stocks can experience corporate events that make tracking them difficult. We keep track of ticker symbol changes, listing changes, and mergers using the daily symbol directories from the Nasdaq Trader web site and using Bloomberg. As with the pilot sample, we include only the control stocks that survive until May 2, 2005 and include stocks that are subsequently delisted up until the delisting date.

Table 1 reports the sample sizes and breaks down the sample in various dimensions. As the table indicates, our sample contains 504 listed pilot stocks and 973 listed control stocks that are subject to Rule 10a-1 and 439 Nasdaq pilot stocks and 917 Nasdaq control stocks that are subject to NASD Rule 3350. Table 1 also indicates that roughly \(70 \%\) of Listed Stocks and \(63 \%\) of Nasdaq NM Stocks have listed options. Because listing affects the short sale rules applied to trading, we report results for each of these sub-samples but not for the full sample. If an issuer switches its listing from Nasdaq to Amex or NYSE or vice versa after May 2, we keep that stock in the sample up until the day of the listing change. If an issuer changed its listing prior to May 2, it will be grouped according to its new listing and we include pre-period data only from that same listing. \({ }^{46}\) Listings changes between Amex and NYSE do not affect our sample because the change does not affect the short sale rule applied.

\footnotetext{
\({ }^{46}\) We exclude one stock that changed its listing on the first day of the pilot, Renasant Corporation RNST, formerly Peoples Holding Company, PHC.
}

Similarly, we keep stocks in our sample up until their last listed day even if they are acquired or otherwise move to markets that do not apply the same rule (i.e., move to the Nasdaq Capital Market, OTCBB, or the Pink Sheets) after May 2, 2005. We keep these stocks to avoid a survivorship bias, which is a bias associated with finding higher average returns than actually exist. We believe an analysis of the pilot would be particularly sensitive to survivorship bias and we therefore, make every effort to reduce it. Further, if an issuer moves its listing from Nasdaq to an exchange or from an exchange to Nasdaq, we keep the stock in the sample up until the list/delist date. We do this so that our analysis does not confuse the effects of the tick test with those of the bid test. Because we retain stocks in our sample until the stocks delist, our sample size on our last sample day (October 31, 2005) is smaller than our sample size on the first pilot day (May 2, 2005). In fact, we have about 88 fewer stocks in our sample on October 31 than we do on May 2. Despite the drop in sample size, the pilot stocks comprise about \(1 / 3\) of the sample stocks for both Listed and Nasdaq NM Stocks on October 31 as well as May 2.

\section*{B. Data and Sample Statistics}

We examine these pilot and control stocks over a 210 day period in 2005. We examine the 82 day period from January 29 to April 29 as the Pre-Pilot Period during which the pilot and control stocks are subject to the same rules. The Pre-Pilot Period allows us to test whether the pilot and control stocks appear similar when they are subject to the same rule and it gives us a reference point to examine how the sample stocks change when the price restriction rules are removed. In the results section, this period is compared to the 128 day period from May 2, the first day of the pilot, to October 31, 2005.

Before comparing the Pre-Pilot Period to the Pilot Period, we first examine whether the pilot and control samples appear comparable over the Pre-Pilot Period. Table 2 gives this comparison separately for Listed and Nasdaq NM Stocks. The statistics are daily levels averaged over the Pre-Pilot Period. We use trade and quote data obtained from the Securities Industry Automation Corporation (SIAC) to estimate stock volume, price, spread, depth, and intraday returns, data from the Center for Research in Securities Prices (CRSP) to estimate market capitalization and daily returns, data from the Option Price Reporting Authority (OPRA) to estimate option volume and open interest, and the SRO Pilot data to estimate short selling levels. \({ }^{47}\) Short interest, reported monthly, comes from the NYSE, Amex, and Nasdaq. Most of the measures in Table 2 are qualitatively similar for pilot and control stocks, according to a statistical \(t\)-test run at the \(95 \%\) and \(99 \%\) confidence levels (also stated as \(5 \%\) and \(1 \%\) significance levels). This evidence suggests that the two groups are a good match and supports the validity of further comparison of pilot and control stocks.

The statistics of Table 2 are divided into groups. The first group of statistics measures general stock characteristics such as volume, price, market capitalization, and short interest. The first three rows of Table 2 show that the pilot stocks have similar average volume to the control stocks whether volume is measured by the number of trades per day, the average daily share volume, or turnover. The average volume-weighted average price (VWAP) and average market capitalization diverge slightly. For both Listed and Nasdaq NM Stocks, the VWAP is higher for pilot stocks but the market capitalization is lower. Neither difference is statistically significant.

\footnotetext{
\({ }^{47}\) The SRO Pilot data refers to the short selling records available from each of nine markets: American Stock Exchange, Archapelago Exchange (now a part of NYSE Group), Boston Stock Exchange, Chicago Stock Exchange, NASD, NASDAQ Stock Market (now NASDAQ Stock Exchange), New York Stock Exchange (now a part of NYSE Group), National Stock Exchange, and the Philadelphia Stock Exchange. This analysis aggregates the short selling data without regard to whether there exists a SIAC report for the short sale transaction.
}

The next group of statistics measures the level and nature of short selling. These statistics measure short interest, the short selling volume and location, and option volume and open interest. In Listed Stocks, short selling comprises about 24\% of share volume and 27\% of trades. The level jumps to \(36 \%\) of share volume and \(37 \%\) of trades in Nasdaq NM Stocks. Still, the level of short selling in pilot stocks is similar to that of control stocks prior to the start of the pilot. Because the bid test does not apply to all markets, we examine the share of short sales executed on Nasdaq to measure whether investors appear to be routing short sales away from Nasdaq. While we estimate this statistic for Listed Stocks as well, we focus on the Nasdaq NM Stocks for results. Rows ten to fifteen of Table 2 show that prior to the pilot, the pilot and control stocks have similar average option volume and open interest, statistically indistinguishable from each other.

The next set of statistics measures mechanical aspects of trading and quoting, in particular, the percentage of trades occurring on a downtick or zero downtick and the percentage of the day during which the last change in the bid was downward. These measures were selected because they both determine when a short sale can be executed and are influenced by the application of the price restrictions. Prior to the pilot, about \(46 \%\) of trades in Listed Stocks occur on downticks or zero downticks, while slightly over \(50 \%\) of trades in Nasdaq NM Stocks do. These percentages are similar for the pilot and control stocks. Likewise, the percentage of the day during which the most recent change in the bid was downward is similar for pilot and control stocks. For Listed Stocks, the most recent change in the bid was downward for about \(39 \%\) of the day. This is indicative of the nature of a limit order book market to have short-lived liquidity imbalances followed by long periods of liquidity building. In other words, a large order quickly executes, removing several price levels in the limit order book, followed by a slow replenishing
of the limit order book. In the Nasdaq market, which operates more like a dealer market than the listed market, stocks spend more time in a downbid situation, about \(47 \%\) of the time.

Liquidity is the next important group of statistics. We measure displayed liquidity using quoted and effective spreads measured in absolute terms and also relative to prices, and using aggregated quoted ask and bid depth at the National Best Bid and Offer (NBBO). We measure realized liquidity using the NBBO for both Listed and Nasdaq NM Stocks. Like the earlier measures, the liquidity measures show that the pilot and control stocks are statistically similar for all measures. While the magnitude of some of the measures, particularly the quoted ask depth and quoted bid depth, appears higher for control stocks than for pilot stocks, the measures are actually statistically similar.

The final group of statistics gives the distribution of returns and prices over various periods. Table 2 gives average returns, average absolute returns, the skewness of the returns, and the variance of the returns over 5 minute, 30 minute, and 1 day periods. It also shows the daily price range and three variance ratios. The variance ratios measure the transitory volatility by comparing the variance of returns measured over short and long horizons. Overall, the pilot and control samples are statistically similar in the means, skewness, and transitory and total volatility. It is interesting to note that the returns for all samples and all horizons are positively skewed. This positive skewness has been documented in previous work and is correlated with short selling restrictions.

\section*{V Methods}

\section*{A. Comparing Pilot and Control Stocks}

We derive the results in this report using several empirical approaches. The first approach compares the pilot sample to the control sample both before and after the start of the pilot. The approach allows us to apply a standard \(t\)-test to the difference of the differences. As long as the pilot and control samples are generally well constructed, this approach will control for changes in market conditions that are unrelated to the pilot. However, this approach may not fully control for differences within the samples. Further, it is cumbersome when examining the differential effect of the pilot on sub-samples. Therefore, we will also employ a regression approach.

The regression approach includes multiple test variables at the same time and also controls for unforeseen differences between the pilot and control samples. Because the number of stocks changes over the sample period, we employ daily cross-sectional regressions for each sample day after the start of the pilot and then we average the coefficients. We employ variations on the following regression:
\[
\begin{equation*}
{\text { Market } \text { Quality }_{i}=\alpha+\beta_{1} \operatorname{Pilot}_{i}+\beta_{2} \text { Pre Pilot Market Quality }}_{i} \tag{1}
\end{equation*}
\]
where Market Quality is one of several dependent variables (e.g., effective spread) measured for each stock on one trading day, Pilot is equal to one for pilot stocks and zero for other stocks, and Pre-Pilot Market Quality is the average daily level of the dependent variable measured over the Pre-Pilot Period. If the dependent variable is generally larger for pilot stocks than control stocks, then \(\beta_{1}\) will greater than zero. If this relation is persistent across time, then the average \(\beta_{l}\) will be greater than zero. The Pre-Pilot Market Quality variable helps ensure that the coefficients on the
indicator variables measure the effect of removing price restrictions. It also helps to control for any unforeseen differences between the pilot and control stocks.

We run all tests separately for stocks listed on an exchange and stocks listed on Nasdaq NM because the rule applied to trading of Nasdaq NM Stocks is different than the rule applied to the trading of stocks listed on exchanges. \({ }^{48}\) This allows us to satisfy one purpose of the Pilot, which is to clearly distinguish the effect of each type of rule.

\section*{B. Behavior of Stock Prices Surrounding the Pilot Initiation}

In order to evaluate whether the tick test or the bid test affects the level of stock prices, we examine average daily returns and average cumulative returns for pilot and control stocks over a 21-day period surrounding the beginning of the pilot. If pilot stocks are over-valued because of the price restrictions these returns should be significantly negative for pilot stocks relative to the control stocks on or around the first day of the pilot. Cumulative returns are normalized to zero on April 29, the trading day prior to the start of the pilot.

We believe it likely that any valuation effects of the pilot that are not already impounded into the price before the start of the pilot would most likely be observed immediately upon the initiation of the pilot, and reflected in the returns on the first day. However, we also consider the possibility that the effects of the pilot might be manifest over a longer time period. Therefore, we also examine returns over a six month time horizon. To avoid a survivor bias, we compound returns to the six month horizon if a stock falls out of the sample prior to October 31, 2005. In addition, to control for the systematic risk of a stock, we estimate an alpha for each stock. We estimate these alphas in-sample using the market model:

\footnotetext{
\({ }^{48}\) It is worth noting that neither the bid test nor tick test applies to the trading of Nasdaq NM stocks on exchanges.
}
\[
R_{t}=\alpha+\beta R_{k}
\]
where \(R_{t}\) is the return on the stock in day \(t\), and \(R_{M t}\) is the equally-weighted market index return from CRSP for that day. We also estimate the tendency of the alphas to be significantly positive or negative. Pilot stocks might be more likely to have negative alphas than control stocks if either price restrictions corrected over-pricing over long horizons or if price restrictions prevent constant short selling pressure from pushing prices below their equilibrium level. Pilot stocks might be less likely to have positive alphas if price restrictions facilitate over-pricing.

\section*{C. Measuring Large Price Reversals}

As part of our analysis of whether price restrictions inhibit price patterns that may be indicative of short-term price manipulation, we wish to examine the frequency of large shortterm price movements that are immediately reversed. Although such price reversals, or "spikes," are bound to occur with some frequency due to the natural variation of prices, they may also be a sign of price manipulation. If the price patterns indicative of manipulation are more prevalent on the short side than on the long side, we would expect to see more negative price spikes than positive ones. And if price restrictions are effective at reducing the potential for price manipulation, we might expect to see significantly more price spikes for pilot stocks than control stocks.

To investigate this, we define the following measures of short-term price reversals:
\[
\begin{aligned}
& \text { Negative: } \min \left(-R_{t-1}, R_{t}^{L}\right) / \sigma_{i} \\
& \text { Positive: } \min \left(-R_{t}^{L}, R_{t-1}\right) / \sigma_{i}
\end{aligned}
\]

In these formulas, \(\sigma_{i}\) represents the holding period (non-annualized) standard deviation of returns on stock \(i\), measured using data in the Pre-Pilot Period, \(\mathrm{R}_{\mathrm{t}}\) is the simple one-period return
on stock \(i\) at time \(t\), and \(\mathrm{R}_{\mathrm{t}}{ }^{\mathrm{L}}\) is the one-period return measured as a percentage of the lagged stock price:
\[
R_{t}=\frac{P_{t}-P_{t-1}}{P_{t-1}} \quad R_{t}^{L}=\frac{P_{t}-P_{t-1}}{P_{t-2}}
\]
where \(P_{t}\) represents the price of stock \(i\) at time \(t\). We estimate these metrics using 5-minute and 30 -minute horizons. The return as a percentage of the lagged price is used in the measure so that the adjacent returns will be compared on the same basis. \({ }^{49}\)

We normalize the reversal measure by the standard deviation of returns on the same stock, computed using the same return interval over which the reversals are measured, in order to ensure that the measure will capture reversals that are large in magnitude compared to the typical movement on the stock. The standard deviation is computed using only pre-pilot returns data, so that the measure will not be affected by any changes in volatility that may be related to the pilot.

By definition, a "negative reversal" only occurs in periods when there is a negative return followed by a positive return-otherwise, the negative reversal measure is equal to zero. If a stock experienced a negative return of 3 standard deviations that was fully reversed in the next period, our negative reversal measure would be 3 . If a return is only partially reversed, only the portion that is reversed is counted in the measure.

We do not test whether this measure changes across Pre-Pilot and Pilot Periods because the Pre-Pilot Period is already used to normalize the measure. Rather, we focus on differences between the control and pilot samples during the Pilot Period. In order to test whether the frequency of extreme reversals differs across the two samples, we use a nonparametric bootstrapping methodology that does not require any assumptions about the probability

\footnotetext{
\({ }^{49}\) For example, if a stock price increases from 40 to 50 and then returns back to 40 , this corresponds to a \(25 \%\) return followed by a \(-20 \%\) return. In our measure, we would compute the negative return as a percentage of the original price, which would make it a \(-25 \%\) return.
}
distribution of returns or return reversals. Essentially, this method estimates the likelihood of observing a particular number of reversals under the null hypothesis that the distribution of reversals in the pilot sample is the same as the distribution in the control sample. This is implemented as follows. For a given "threshold" level of the reversals measure, we count the number of reversals in the pilot sample that exceed that threshold. We then select from the control sample (with replacement) a random sample of reversals equal in size to the pilot sample. Within this randomized sample, we count the number of reversals exceeding the threshold, and observe whether the number is higher or lower than the number observed in the pilot sample. We repeat the process 1,000 times and observe the frequency with which the number of reversals in the randomized control sample equals or exceeds the number in the pilot sample. We report the significance based on a two-tailed test-for example, the number of reversals in the pilot sample would be deemed significant at the five percent level if the a number that high occurs \(2.5 \%\) of the time or less in randomized control samples.

\section*{D. Autoregression Methodology for Measuring Reversals}

As an alternative approach to measuring the impact of the pilot on price reversals, we employ a new methodology. Similar in spirit to autoregression, this methodology involves measuring the extent to which positive and negative price movements reverse in subsequent periods. Specifically, we use intraday returns to estimate a model of the form:
\[
R_{t}=\sum_{n=1}^{5} \alpha_{n} R_{t-n}^{-}+\sum_{n=1}^{5} \beta_{n} R_{t-n}^{+}
\]

In this equation, \(R_{t}\) represents the stock return in period \(t\), and the regressors are the positive and negative components of lagged returns:
\[
R_{t}^{-}=\min \left(0, R_{t}\right) \quad R_{t}^{+}=\max \left(0, R_{t}\right)
\]

The estimated \(\alpha\) and \(\beta\) coefficients measure the extent to which positive and negative returns tend to reverse or continue in subsequent periods. In a world where stock prices follow a random walk, the true coefficients would be equal to zero. Unlike an ordinary autoregression, this specification permits the degree of momentum or reversals to differ for positive and negative shocks. In either case, positive coefficients would indicate that returns exhibit short-term momentum, while a negative coefficient would indicate short-term reversals. For example, if the coefficients \(\alpha_{1}\) and \(\alpha_{2}\) were estimated to be -0.05 and -0.01 , this would mean that a negative return of one percent would, on average, be followed by a positive return of five basis points in the next period, and a positive return of one basis point in the period after that. If the coefficients \(\beta_{1}\) and \(\beta_{2}\) were estimated to be -0.04 and -0.02 , this would indicate that a positive return of one percent would on average be followed by negative returns of four and then two basis points in the next two periods. We are interested in comparing these coefficients for pilot and control stocks. If price restrictions help prevent short-term negative stock price manipulations, we would expect to see the \(\alpha\) coefficients higher for pilot stocks than for control stocks.

\section*{E. Small and Low-Volume Stocks}

One policy alternative outlined in the first Pilot Order was to extend a uniform test to all securities, including securities with a lower market capitalization or less actively traded than those included in the Pilot. While our analysis cannot directly investigate the effects of price restrictions for stocks beyond the range covered by the pilot sample, it can provide relevant evidence by investigating whether the impact of the Pilot has been substantially different for the smaller stocks than for the larger stocks in the Pilot, or whether the impact has differed for
actively traded and less actively traded issues. To examine these questions, we run a series of regression-based tests of the following form:
\[
\text { Market Quality }_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \text { Decile }_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11} \text { Pre Market Quality }{ }_{i}
\]
where "Market Quality" represents a characteristic of interest such as spreads, depth, or volatility. The "Decile" variables are indicator variables corresponding to each of the nine lowest deciles, for two different decile partitions. The first partition ranks stocks by market capitalization on April 28, 2005. The second partition ranks stocks by annualized turnover in the Pre-Pilot Period as measured by its average daily share volume divided by its shares outstanding as of April 28, 2005 and multiplied by 250 . In each case, the decile indicators take on a value of one if the stock falls within the designated decile, and zero otherwise. These partitions allow us to test whether the price restrictions have a larger impact on certain categories of stocks. In particular, we examine each \(\beta_{10}+\beta_{\mathrm{k}}\) to measure whether the pilot has a significant effect on stocks in decile \(k\).

\section*{VI Results and Analysis}

\section*{A. The Nature of Short Selling}
1. Short Selling Activity

Price restrictions may impose costs on short sellers in the form of lower fill rates and delays on execution. If these costs are economically significant, then we would expect the removal of the price restrictions to result in increased short selling. We would expect short selling to increase more for pilot stocks than control stocks if the price restrictions are costly, or be the same for the pilot and control stocks if price restrictions are not costly.

Table 3 shows how removing the price restrictions affects the level of short selling, based on three different measures, including (i) the number of shares sold short on a given day divided by the total share volume, (ii) the number of trades involving short sales, and (iii) short interest. Panel A shows the Pre-Pilot Period to Pilot Period comparison while Panel B reports the average coefficients from regression analysis. In the Listed market, short volume increases significantly from \(24.4 \%\) to \(26.3 \%\) of total volume in the pilot sample, while the change is not statistically significant for the control sample. A comparison of these two changes reveals that short selling volume increases by about \(2 \%\) of total volume as a result of removing the tick test, suggesting that the tick test imposes economic costs on short sellers. The same conclusion can be drawn from the statistics on short selling as a percentage of trades.

Similarly, both volume and trade measures for Nasdaq NM Stocks suggest that the application of the bid test reduces short selling. The regression analysis in Panel B confirms these conclusions and also shows that the effect of the tick test is stronger than the effect of the bid test.

Although our results indicate that price restrictions appear to constrain the volume and frequency of short sales, these effects are not reflected in short interest. As indicated in Table 3, both pilot and control stocks exhibited significant increases in short interest around the time of the Pilot Period. However, none of the tests indicate any significant difference between pilot and control stocks. Both the univariate results in Panel A and the regression-based results in Panel B lead to the same conclusion: price restrictions appear to have no effect on short interest for Listed Stocks or for Nasdaq NM Stocks. The same result is observed whether short interest is measured in percentage of shares outstanding or in "days to cover."

The fact that we document statistically significant increases in short selling volume but not in short interest can be interpreted in various ways. One interpretation is that the increase in short volume is due primarily to increased short selling by parties that close out their short positions within the day-or, more generally, that the increase in short volume was accompanied by a decrease in the average horizon over which short positions are held. We should also note that the absence of a statistically significant result does not imply that no change occurred. Given that we observe short interest only monthly, it is possible that our statistical test did not have sufficient power to detect a change in short interest.

Because short sales in Nasdaq NM Stocks executed outside of the Nasdaq market are not subject to the bid test, short sellers can avoid the bid test by sending orders to markets other than Nasdaq. The removal of the bid test might result in an increase in short sales on Nasdaq in Nasdaq NM Stocks because the order routing decision might no longer be affected by the application of the bid test. The Nasdaq market share statistics in Panel A of Table 3 show that Nasdaq's market share in short sales increased \(3.9 \%\) in pilot stocks and by \(1.3 \%\) in non-pilot stocks. The difference of \(2.6 \%\) is statistically significant, which is consistent with the nonuniform application of the bid test altering order routing decisions.

\section*{2. Option Activity}

If price restrictions drive short sellers to trade options in lieu of stocks, then their removal should decrease option activity. Table 4 summarizes the changes in option trading for pilot and control stocks between the Pre-Pilot Period and Pilot Period. There are a total of 628 pilot and 1,263 control stocks that had listed options included in the analysis. Put and call option trading volume is aggregated over all classes and markets for each underlying stock on a daily basis.

Then, the put and call option trading volume is averaged across days for each stock for period before the pilot and for the period of the pilot. The change in put option trading volume is calculated as the average daily put (call) volume during the pilot minus the average daily put (call) volume before the pilot. Finally, the change is averaged across stocks to yield the results reported in Table 4. Averaging across stocks allows us to maintain the independence of the observations and perform a t-test comparing the mean of the pilot stocks to the mean of the control stocks. The results for open interest and signed option volume use the same methodology.

If the price restriction drives would-be stock short sellers to trade options to implement their investment strategies, then the lifting of the price restrictions on the pilot stocks would lead to a significant decline in option trading for pilot stocks relative to the control stocks. As indicated in table 4, between the Pre-Pilot Period and Pilot Period, we do observe a slight increase in average trading volume for calls and puts on Listed Stocks, a decrease in average trading volume of calls and puts on Nasdaq NM Stocks, and an increase the average open interest of all categories. Based on the paired \(t\) test, however, we find no statistically significant changes at the \(5 \%\) confidence level. We also observe that open interest increased less on average for control stocks than for pilot stocks, but again, based on the two-sample \(t\) test, we find no statistically significant differences between the changes in the pilot and control samples.

As an additional measure, we examine signed option volume. This is computed by subtracting the change in the put volume from the change in the call volume. A positive signed option volume suggests either an increase in long side buyer speculation or a decrease in short side seller speculation. A negative signed option volume suggests either a decrease in long side buyer speculation or an increase in short side seller speculation. For example, if the change in
the call volume is -10 and the change in the put volume is -5 , then the signed option volume equals -5 . On the other hand, if the change in the call volume is -5 and the change in the put volume is -10 , then the signed option volume is 5 . Again, we find no significant difference between pilot and control stocks.

Since short sellers may use short-term options in lieu of equity short sales, Table 4, Panel B shows the results for short-term options only. \({ }^{50}\) The results are quantitatively similar to the results in Table 4, Panel A. Thus, the conclusions drawn from Table 4, Panel A hold for shortterm options.

Overall, the options market results provide no statistical evidence supporting the hypothesis that the tick test drives would-be short sellers away from the equity markets and to the options markets to trade. \({ }^{51}\) Option trading volume of pilot Nasdaq NM Stocks show a decline in option volume relative to control stocks of \(15 \%\), but this difference is not statistically significant.

\section*{3. Mechanical Effects}

Price restrictions have the mechanical effect of forcing short sellers to be liquidity suppliers instead of liquidity demanders because short sales can rarely be executed against the bid price. Therefore, we expect the removal of price restrictions to be associated with changes in quoting and trading purely because of the mechanics of the rules. In particular, Table 2 shows that about \(46 \%\) of trades occur on downticks when the tick test applies. We expect that the removal of the tick test will lead to more balanced trading around \(50 \%\) downticks because short

\footnotetext{
\({ }^{50}\) Long and short-term options are identified using the Options Clearing Corporation directory as of October 31, 2005.
\({ }^{51}\) A regression model that controlled for changes in volatility in the pre- and post-periods provided results that were consistent with those in Table 4.
}
sales can now execute on downticks. This effect should be more obvious in Listed Stocks than Nasdaq NM Stocks where the trades occur on downticks half the time even with the bid test.

A second potential mechanical effect is the percentage of time during the day when the most recent bid change was downward. Table 2 shows that this figure is around \(39 \%\) when the tick test applies and \(47 \%\) when the bid test applies. Removing either price restriction could increase the percentage of the day with down bids because short sales can more easily hit the bid to force more downbids. Conversely, if the different price restrictions can explain some of the divergence in these figures, we expect the percentage of downbids in Listed Stocks and Nasdaq NM Stocks to converge.

Table 5 shows how the tick and bid tests affect trading and quoting mechanics. The downtick rows in Panel A show that the percentage of trades on downticks increases from 46\% to almost \(50 \%\) in pilot Listed Stocks. Conversely, the percentage of trades on downticks in control Listed Stocks goes down. On net, the percentage of trades on downticks is fairly balanced when the tick test does not apply and is skewed toward upticks when the tick test does apply. Nasdaq NM Stocks appear to have much more balanced trading even with the bid test so that removing the bid test results smaller increase in the number of downticks. Panel B confirms the result that the tick test has a much larger effect on trading mechanics than the bid test.

The downbid rows in Table 5 measure the percentage of the trading day during which the most recent bid change was downward. Pilot Listed Stocks experience a small increase in the prevalence of downbids but this increase is roughly similar to an increase experienced by control Listed Stocks. The results show a decline in the prevalence of downbids for pilot Nasdaq NM Stocks, suggesting that short selling under the bid test might shorten the duration of upbids, reflecting the restriction that short sales can only hit upbids.

\section*{B. Market Quality}
1. Liquidity Measures

Because price restrictions alter how orders transact with each other, they have the potential to alter traditional measures of liquidity. In particular, the price restrictions will often keep a short sale from executing against the bid quote. Therefore, we expect the depth at the bid quote to be lower without price restrictions. If a short sale can not execute against the bid, it often adds depth to the ask quote, and hence, the depth of the ask might be lower without price restrictions. Alternatively, a restricted short sale might set a lower ask price and an unrestricted short sale might exhaust the depth at the bid resulting in a lower bid price. Either way, short sale price restrictions can result in a narrower quoted bid-ask spread.

While quoted spreads and depths measure the displayed supply of liquidity, the effective spread measures liquidity actually available to investors. Therefore, an examination of effective spreads is necessary to understand the effect of price restrictions on liquidity. Because price restrictions can affect the displayed liquidity, we might also expect them to affect the actual liquidity as well.

Table 6 shows results on the effect of price restrictions on liquidity. For the pilot sample, the ask depth decreases for Listed Stocks but increases for Nasdaq NM Stocks. The control sample experiences an increase in depth at the ask. Comparing the changes reveals that the ask depth of the pilot stocks decreased relative to the ask depth for the control stocks in both Listed and Nasdaq NM Stocks. This change is significant for Listed Stocks in both the univariate and regression-based tests, but is significant for Nasdaq NM Stocks only in the regression-based tests
in Panel B. Panel B also shows that the ask depth is augmented about three round lots more when a tick test applies than when a bid test applies.

The bid depth results in Table 6 are slightly different than the ask depth results. The bid depth increases for all sub-samples, but the difference between the pilot and control samples is not significant in Panel A, while Panel B suggests that the bid depth of the pilot stocks does not increase as much as the bid depth of the control stocks. This effect is larger for Nasdaq NM Stocks than for Listed Stocks, therefore, the bid test seems to augment the bid depth more than the tick test does by about one round lot.

We examine two measures of quoted spread. The first, known as the "absolute spread," is simply the difference between the ask price and the bid price, measured in pennies. The second, called the "relative spread," is the absolute spread divided by the bid-ask midpoint, thus measuring the displayed cost to trade as a percentage of the stock's value. Panel A shows that the quoted spreads did not change much when the pilot started for either the pilot stocks or the control stocks. Only the relative quoted spread in control stocks saw an increase but that increase was not statistically different from the change in relative spreads experienced by the pilot stocks. The conclusions from Panel B give a more mixed picture. Quoted spreads decline about 0.3 cents more for pilot stocks, a result that is the same for Listed Stocks and Nasdaq NM Stocks. This result suggests that the tick and bid tests appear to reduce liquidity. However, the results on relative quoted spreads yield the opposite conclusion. While these results are statistically significant, the point estimates are fairly small. The quoted spreads decline by less than half a penny and the relative quoted spread increases by less than a basis point. Taken together, these results suggest that the tick and bid tests have a slight effect on quoted spreads, if any.

In addition to quoted spreads we also examine effective spreads, estimated for each trade by computing the absolute value of the difference between execution price and the current bidask quote midpoint. As we did for the quoted spread, we estimate both absolute and relative effective spreads. The effective spread results in Panel A of Table 6 look quite similar to the quoted spread results. Only one of the changes is statistically significant, a decline in the effective spread of pilot Nasdaq NM Stocks. This result alone would suggest that the application of the bid test decreases liquidity. However, this conclusion is weakened by the lack of statistical significance in the other sub-samples and the lack of a difference between the pilot and control stocks. The Panel B results suggest that the tick test has no impact on effective spreads, but the results on the bid test are mixed. The bid test appears to decrease effective spreads and increase relative effective spreads. Like the results on quoted spreads, the magnitudes of these changes are small.

Overall, the Regulation SHO Pilot shows us that the price restrictions appear to augment depth at both the ask price and the bid price, but price restrictions have little if any effect on realized liquidity. These results are fairly consistent whether the price restriction is structured as a tick test or as a bid test, although the tick test augments the ask depth more and the bid test augments the bid depth more.

\section*{2. Return Volatility}

The next set of tests examine whether removing the price restrictions alters return volatility.

Table 7 displays test results for several volatility measures and several return horizons to capture different aspects of volatility.

The daily price range measures the degree to which prices fluctuate within a day by comparing the high price to the low price in a day. The daily price range declines from the PrePilot Period to the Pilot Period for each subsample. This decline is statistically significant for both Listed and Nasdaq control samples and for the Nasdaq pilot sample, but not for the Listed pilot sample. Panel A suggests that the decline was statistically similar for pilot and control stocks, while the Panel B regression suggests that the daily price range increased for pilot stocks relative to control stocks for both the Listed and Nasdaq samples. Taken together, the daily price range results are mixed on whether the tick and bid tests dampen volatility.

To explore intraday volatility further, we examine our next two volatility measures, absolute returns and return variance, over three time horizons, 5 minutes, 30 minutes, and one day. \({ }^{52}\) These measures would increase for pilot stocks over the shorter horizons if the tick and bid tests dampen transitory volatility. The measures would increase for the pilot stocks over the longer horizons if the tick and bid tests dampen permanent volatility. Economically, transitory volatility captures the efficiency of the trading mechanism while permanent volatility captures the effects on equilibrium prices. We separately analyze absolute returns and return variance because each measures volatility slightly differently. Return variance has a tendency to put more weight on larger price movements than absolute returns.

The average absolute returns are lower during the Pilot Period for the control sample across all three return horizons. The univariate results in Panel A show that the pilot stocks experienced a statistically similar decline in the absolute returns as the control stocks for the 30 minute and daily horizons. At the five-minute horizon, however, the pilot sample experienced an increase in absolute returns relative to the control stocks for both Listed and Nasdaq NM Stocks.

\footnotetext{
\({ }^{52}\) The 5 and 30 minute absolute returns and variances are estimated without including the first half hour of the trading day, after hours trading, or pre-open trading.
}

The regression results in Panel B confirm this finding and shows that the effect is larger for Listed Stocks. Panel B also confirms the results for the daily horizon but indicates that absolute returns increased over the 30 -minute horizon for pilot stocks relative to control stocks. While the 30-minute results are mixed, the absolute return results suggest that the tick and bid tests have no effect on the magnitude of daily returns while they seem to dampen the magnitude of five minute returns. Further, the tick test seems to dampen short-term returns more than the bid test.

The return variance results in Panels A and B are quite a bit weaker. Panel A shows that the changes to return variances experienced by pilot stocks are statistically similar to the changes in return variances experienced by control stocks for both Listed Stocks and Nasdaq NM Stocks, and this result holds for all three return horizons. Panel B confirms this result for the 30 minute and daily return horizons but finds that pilot Listed Stocks seem to experience an increase in return volatility over the 5 minute horizon relative to control Listed Stocks. In summary, the bid test seems to have no effect on return variance over any time horizon while the tick test might dampen return variance over the five minute horizon.

Because the results above suggest that price restrictions may dampen transitory volatility, we next focus on variance ratios that are specifically designed to capture transitory volatility by comparing the short horizon volatility to longer horizon volatility. If no transitory volatility exists, variance ratios are designed to equal one. We examine three different variance ratios. We compare five minute variance to thirty minute variance, five minute variance to daily variance, and thirty minute variance to daily variance. Panels A and B show that the variance ratio of five to thirty minute returns increased for pilot Listed Stocks relative to control Listed Stocks. Further, Panel B shows that the change for Listed Stocks differs significantly from that of Nasdaq NM Stocks. However, none of the other variance ratios changed significantly.

Because the variance ratios relative to the daily level did not show any changes, the results on transitory volatility are somewhat weak. However, the result for Listed Stocks over the five minute horizon to thirty minute horizon still helps solidify the conclusion that the tick test dampens transitory volatility over the five-minute horizon but seems to have no effect on permanent volatility.

\section*{C. Effect on Stock Prices}

As outlined in section III above, numerous theoretical models suggest that short selling constraints can affect equilibrium stock prices. Some of these models predict that stocks are likely to be more overpriced when short selling constraints are more binding, and when investors disagree more about the stock's true value.

Our evidence above suggests that price restrictions do constrain short selling somewhat. Thus, we are interested in testing the hypothesis suggested by these theories, that removing price restrictions will lessen overpricing. This hypothesis is not likely to hold unless the price restrictions are significant relative to other short selling constraints and our sample stocks are overpriced prior to the start of the pilot. Therefore, rejecting the hypothesis might mean that price restrictions are minor relative to other short selling constraints or that our sample stocks were not overpriced.

Table 8 reports average daily returns and average cumulative returns for pilot and control stocks in the period surrounding the beginning of the pilot. If pilot stocks are over-valued because of the price restrictions, these returns should be significantly negative for pilot stocks relative to the control stocks. Cumulative returns are normalized to zero on April 29, the trading day prior to the start of the pilot. As indicated in Panel A of Table 8, we observe for Listed

Stocks a statistically significant difference between the average returns of control and pilot stocks on May 2, the first day of the pilot. The average control stock experienced a return that exceeded the average pilot stock by about twenty-four basis points. However, we do not observe significant differences in returns on other days after the start of the pilot, nor are the cumulative returns statistically distinguishable at horizons beyond the first day. For Nasdaq NM Stocks, we observe no differences in daily or cumulative returns at or after the start of the pilot that are statistically significant at the five percent confidence level. \({ }^{53}\) Because the Listed difference does not persist and because of a lack of a difference in Nasdaq NM Stocks, neither the tick nor the bid test appear to cause stocks to be over-valued.

Figure 1 displays the returns for the pilot and control samples over the first six months of the pilot. The figure gives the raw returns as well as the market adjusted returns. Returns in general appear to be positive over this period but are close to zero when subtracting the market return. Further, the pilot sample appears to under-perform the control sample, especially for Listed Stocks. Table 9 confirms that the six month returns of the pilot stocks appears lower than that of the control stocks. However, this result is not statistically significant. Therefore, the six month returns for the pilot sample are statistically similar to the six month returns for the control sample.

Table 9 also shows that the average alphas are negative but very close to zero. This means that when controlling for risk, the returns of the sample stock are about the same as the returns of the market portfolio. Further, the univariate results of Panel A and the regression results of Panel B show that the alphas of the pilot sample are statistically similar to the alphas of

\footnotetext{
\({ }^{53}\) On the Nasdaq NM side, we do observe a statistically significant difference on a single day several days prior to the start of the pilot (April 26). In Table 8, we tested for statistical significance on 21 separate days in two different markets, for a total of 42 different hypothesis tests. Under the hypothesis that the pilot has no effect, we would expect random errors to cause roughly two out of the 42 tests to show false positive significance at the five percent level.
}
the control sample. Therefore, the pilot stocks did not underperform the control stocks. This suggests that the removal of the price restrictions will not result in either a long horizon correction of over-pricing nor is it likely to lead to prices being driven below their equilibrium value.

Table 9 also shows the tendency of the alphas to be significantly positive or significantly negative. An alpha is deemed to be negative if the estimate is significantly negative at the \(5 \%\) level in a two-tailed test. Similarly, an alpha is considered to be positive if the estimate is significantly positive at the \(5 \%\) level in a two-tailed test. If the alphas are completely random, we would expect to find \(2.5 \%\) of them positive and \(2.5 \%\) of them negative. Table 9 shows that the frequency of positive alphas is less than \(2.5 \%\) while the frequency of negative alphas is slightly higher. \({ }^{54}\) The frequency of negative alphas is statistically similar for pilot stocks and control stocks, providing further evidence against prices being driven below their equilibrium level. Among Listed Stocks, the control stocks appear to be more likely to have positive alphas, potentially because price restrictions facilitate over-pricing. This finding however, is weakened by the observation that fewer than \(2.5 \%\) of control stocks have significantly positive alphas.

\section*{D. Market Manipulation}

Because the type of analysis conducted in this study cannot directly prove whether market participants are engaging in manipulative practices, it is inherently difficult to measure whether the Pilot has had any impact on the degree to which markets are susceptible to manipulation. Our approach is to identify certain data patterns that we would expect to be more

\footnotetext{
\({ }^{54}\) We also estimated the alphas using the value-weighted index. About \(2.5 \%\) or fewer alphas were significantly positive and about \(2.5 \%\) or fewer were significantly negative.
}
prevalent in a world where prices are manipulated, and investigate to see if these price patterns are more common for pilot stocks than control stocks. Such a pattern does not necessarily mean that manipulation has occurred, but indicates that we might have cause for further analysis.

As argued above in section I-B, if price restrictions inhibit manipulation by short sellers and/or facilitate upward manipulation, we might expect to see more large, sudden price declines and more price increases in pilot stocks than control stocks. If so, this should be reflected in the form of decreased skewness in the short-term returns distribution.

Table 10 reports results of statistical tests based on 5-minute, 30-minute, and 1-day returns. For each returns horizon, we follow the same approach as before and test for changes in skewness between the Pre-Pilot Period and Pilot Period, separately for pilot and control stocks, and for Listed and Nadaq stocks, and then test whether the difference of differences is significantly different from zero.

As the table indicates, we find no significant changes between the Pre-Pilot Period and Pilot Period, with the single exception that there appears to have been a marginally significant decline in the skewness of Listed pilot stocks at the 30-minute return interval. However, neither in this nor any other case do we find any statistically significant differences between pilot and control stocks. Thus, we find no evidence that the pilot program has had any impact on returns skewness. The results reported in Table 10 are based on the skewness of returns computed using trade prices. \({ }^{55}\)

Our second approach to testing whether eliminating price restrictions may lead to an increase in price patterns indicative of market manipulation involving short sales is to examine the relative frequency of large negative and positive price reversals, as explained in section V-C,

\footnotetext{
\({ }^{55}\) We also performed the test using returns computed using quote midpoints (results not reported) and again found no significant differences between pilot and control stocks. Using this alternative measure, the point estimates indicate an even smaller difference than indicated in Table 9.
}
above. Our results are presented in Table 11. Panel A reports results for return reversals occurring over subsequent 5-minute intervals, and Panel B reports results based on 30-minute intervals.

In this table, the line corresponding to "Reversal Size \(>2\) " reports the number of times (per 100,000 observations) that a stock price move of 2 standard deviations or more was reversed in the subsequent period. So, for example, the number 338.4 in the first column of Panel A indicates that for Listed, pilot stocks, the frequency of negative five-minute reversals greater than two standard deviations in magnitude is approximately 0.003384 , or 338.4 out of 100,000 . In this table, statistical significance is ascertained using a nonparametric bootstrapping procedure outlined in section V-C. This test, which is applied only to the pilot sample, indicates whether the observed frequency of reversals would constitute a rare event under the null hypothesis that the distribution of reversals is the same for control and pilot stocks. Results are reported for thresholds ranging from two to nine standard deviations.

Our results in Panel A indicate that the pilot stocks tend to experience significantly more 5-minute return reversals than the control stocks, at least for thresholds in the range of two to four standard deviations. This same result is observed for Listed Stocks and Nasdaq NM Stocks. If price restrictions deter price patterns consistent with downward manipulations but not upward manipulations, we might expect to see more negative price reversals in the pilot sample than the control sample, but no difference in positive reversals. In our sample, however, the effect of the pilot appears to be equally as strong, if not stronger, for positive reversals than for negative reversals.

The results based on the 30-minute horizon, reported in Panel B, tell a different story. At the 30-minute horizon, there is no longer any statistical evidence that pilot stocks have a higher
frequency of reversals than control stocks. \({ }^{56}\) If anything, the result is in the opposite directionfor Listed Stocks at the higher threshold levels, there appears to be some evidence that there are significantly fewer positive reversals for pilot stocks than control stocks.

As explained in Section V-D, above, our third approach to investigating whether removing price restrictions increases the prevalence of price patterns consistent with market manipulation is to use an autoregression model to estimate the extent to which positive and negative returns tend to be reversed in subsequent periods. The results of this analysis are presented in Table 12.

Panel A shows how five minute returns are correlated with the returns of each of five previous five-minute periods. A positive number reflects returns in the same direction. A negative number reflects return reversals. Most of the coefficients in Table 12 are negative, reflecting a tendency for five-minute price changes to be reversed over subsequent periods. While many of the autocorrelations changed from the Pre-Pilot to Pilot Period, we focus on how the pilot sample compares to the control sample. Over one lag, removing price restrictions makes returns in Listed Stocks more negatively autocorrelated. This is true whether the previous returns were positive or negative. The effect continues for two lags (ten minutes), but only following positive returns. Price restrictions have no effect on five-minute return autocorrelation in Nasdaq NM Stocks.

\footnotetext{
\({ }^{56}\) Panel B of Table 11 reports results for 32 different hypothesis tests (eight different thresholds, positive and negative reversals, Listed and Nadaq samples). Of these 32 tests, only one indicates statistical significance at the five percent level (negative reversals for Listed Stocks at the 3-standard deviation threshold). Even under the null hypothesis of no true effect, we would expect any individual test to show a "false positive" at the \(5 \%\) significance level approximately \(5 \%\) of the time. Thus, one significant test statistic out of 32 tests does not constitute a meaningful rejection of the null hypothesis.
}

Panel B shows the results for thirty minute returns. Measured relative to control stocks, the pilot stocks experience no statistically significant increase in return correlation for any of the thirty minute intervals examined.

In summary, returns in Listed Stocks are negatively serially correlated following both positive and negative returns over short horizons and removing price restrictions increases this negative correlation. The symmetry of these results is consistent with the volatility results above. We find no statistically significant impact for Nasdaq NM Stocks.

\section*{E. Small and Low-Volume Stocks}

The analysis presented heretofore analyzes Listed Stocks and Nasdaq NM Stocks separately, but beyond this does not make any effort to ascertain whether the pilot may have a disproportionate or qualitatively different effect on smaller or less liquid stocks. In order to address these questions, we partition the sample into deciles according to market capitalization and turnover. As described above in section V-E, we partition the sample into deciles before separating them across markets, to ensure that Listed Stocks and Nasdaq NM Stocks in the same decile are comparable. The sample sizes resulting from these decile partitions are reported in Table 13. As the table indicates, the Listed Stocks are more concentrated in the higher deciles of market capitalization, while the opposite is true for Nasdaq NM Stocks. However, both Listed and Nasdaq NM Stocks have representation across all deciles of the two measures.

Tables 14 through 26 present our results analyzing how many of the results presented earlier vary as a function of size and liquidity. As explained in section V-E, above, these tables are based on a regression analysis where each model includes a pilot indicator and a pilot indicator interacted with indicator variables for deciles one through nine. In this model, the
marginal effect of the pilot is captured through two channels, first through the pilot indicator variable, and secondly through the interacted indicator variable. To facilitate interpretation, the tables report the sum of the coefficients on the pilot dummy and the interacted terms. This way, the entries in the table show directly how the pilot sample differs from the control sample within each decile.

Table 14 shows how the tick and bid tests affect short selling volume for stocks in each size and turnover decile. Removing the rules increases short selling volume in almost every size and volume decile. Further, the tick test appears to hinder short selling slightly more in small stocks than in large stocks. The bid test, on the other hand, appears to hinder short selling slightly more in large stocks than in small stocks. The affect of the tick and bid tests appear unrelated to turnover level. According to the Nasdaq market share results in Table 15, the removal of the bid test on Nasdaq seems to increase Nasdaq's market share more for small stocks than for large stocks. Overall, the tick and bid tests do seem to have differing affects on short selling for stocks of varying sizes.

In results not reported in tables, only the tick test has a differential effect on the balance of trading in stocks of differing sizes while all other mechanical effects are similar across size and activity levels. The tick test has a bigger effect on the symmetry of trading in smaller stocks but a constant effect on the symmetry of stocks of varying activity levels.

Tables 16 and 17 show whether the augmentation of the bid and ask depth is similar for large and small stocks. These patterns are qualitatively similar in both tables. The tick test augments depth across almost all size and activity levels without clearly augmenting large or small stocks more. The bid test's influence on depth, however, varies widely across size and
activity levels without a discernable pattern. Therefore, the depth augmentation from the tick and bid tests appears unrelated to the size or activity level of the stocks.

As stated above, the increase in the depth at the inside quote affects the displayed supply of liquidity but might not influence realized liquidity, as measured by effective spreads. Table 18 shows that the tick test has no effect on effective spreads for almost all size and activity levels. The bid test, however, seems to result in lower effective spreads for large or more active stocks and potentially higher spreads for small or less active stocks. When significant, however, the magnitudes are still only a few basis points.

The results above show that transitory volatility is dampened by the tick test with much weaker evidence on the bid test. Table 19 shows that the tick test primarily dampens the volatility of small stocks but seems to amplify the volatility of large stocks. The bid test shows a similar pattern but to a lesser degree. The results across turnover levels are not as striking. The tick test seems to dampen volatility for most activity levels and the bid test shows similar yet substantially weaker evidence.

Table 20 summarizes the evidence on how the tick and bid tests affect longer-term variance. While the tick test does not affect the daily return variance in stocks as a whole, it does seem to dampen daily return variance in small stocks and increase daily return variance in large stocks. The bid test shows a similar pattern but the effect is only significant for a few of the smaller size levels. The tick and bid tests have no effect on daily return variance for any activity level.

The results above show little evidence that the tick or bid tests affect price levels.
However, there is a 24 basis point return difference between pilot and control Listed Stocks on the first day of the Pilot. Table 21 summarizes whether this return difference varies by size or
activity level. The evidence shows that for most size and activity levels, the pilot and control stocks experienced a statistically similar return on the first day of the Pilot. The Listed pilot stocks had a lower return than the control stocks in the largest size group while the Nasdaq NM pilot stocks had a lower return than the control stocks in the highest turnover group. Hence, the prior results seem to be driven by the large Listed Stocks.

Table 22 compares the pilot stock six-month alphas to the control stock six-month alphas for the various size and activity groups. Like the May 2 results, the pilot alphas are statistically similar to the control alphas in every size and activity level. Therefore, the tick and bid tests do not promote or hinder pricing efficiency for any size or activity level.

Recall from Table 11 that negative and positive five-minute price reversals are more prevalent in the pilot sample than the control sample, especially for Listed Stocks. Repeating our analysis across deciles, we find the difference between pilot and control Listed Stocks is significantly more pronounced for stocks with the lowest market capitalization (results not presented). These findings are consistent with our other results indicating that smaller stocks tend to be more volatile when the tick test is removed. However, for the smallest Listed Stocks, we observe a greater number of positive than negative price spikes, suggesting that removing the tick test does not make smaller stocks unduly susceptible to negative price pressure.

\section*{VII Summary and Conclusions}

The pilot program established by Regulation SHO exempted approximately one third of the Russell 3000 stocks from the "tick test" (Rule 10a-1) for Listed Stocks and the "bid test" (former NASD Rule 3350) for Nasdaq NM Stocks traded on Nasdaq or traded OTC and reported to an NASD facility. The pilot was designed to facilitate comparison between the pilot stocks
and control stocks, thus creating an unprecedented opportunity to observe in a controlled
environment the effects of removing the price restrictions.
This study has compared pilot and control stocks along numerous dimensions, in an effort to capture a broad range of possible effects. Our main empirical results are as follows:
- The pilot is associated with increased short selling volume in Listed and Nasdaq NM Stocks, but appears to have no impact on the level of short interest in either market. The increase in short selling is slightly higher for small Listed Stocks than for large Listed Stocks.
- The pilot is associated with an increase in Nasdaq's share of trading volume in Nasdaq NM Stocks, suggesting that market participants are routing trades to other venues in order to avoid the bid test. The market share increases more for smaller stocks. For the largest Nasdaq NM Stocks, such as those included in the Nasdaq 100, there is no significant difference in market share.
- We find no evidence that the pilot has had any impact on the level of trading activity in the options market, as we would have expected to see if market participants are using option markets to avoid the tick test or the bid test.
- For Listed Stocks, less than \(46 \%\) of all trades are executed on down bids when the tick test applies, while the number is close to \(50 \%\) for pilot stocks, suggesting that Rule 10a-1 constrains the execution price in four to five percent of trades. For Nasdaq NM Stocks, Rule 3350 does not explicitly prevent trading on downticks, but our results show that it effectively constrains trading on downticks for about one half of one percent of trades.
- The pilot is associated with a decrease in quote depth, especially on the ask side for Listed Stocks-our evidence confirms that Rule 10a-1 forces some short sellers who would otherwise be liquidity demanders to act as liquidity suppliers. The decrease in depth appears unassociated with size or turnover.
- Other than the effect on market depth, the pilot has had no clear effect on market liquidity - most of our tests indicate that liquidity was not significantly impacted by the pilot, but some tests indicate small increases or decreases in liquidity, depending on the measure.
- The pilot is associated with an increase in some measures of intraday volatility. These increases appear to be confined to the smaller stocks as larger stocks experienced a decline in volatility during the pilot.
- On average across all types of stocks, the pilot does not appear to have any significant effect on daily volatility-however, our results indicate the pilot is associated with
lower volatility for stocks with higher market capitalization, and higher volatility for stocks with lower market capitalization.
- Based on the price reaction to the initiation of the pilot, we find limited evidence that the tick test distorts stock prices-on the day the pilot went into effect, Listed Stocks in the pilot sample underperformed Listed Stocks in the control sample by approximately 24 basis points. However, the pilot and control stocks had similar returns over the first six months of the pilot.
- We find no evidence of "bear raids" associated with the pilot. More specifically, we test for evidence of bear raids in three ways:

0 We test whether the pilot has affected the relative frequency of large negative vs. large positive stock returns, as reflected in the skewness of the returns distribution. There is no difference in skewness between control and pilot stocks
0 A bear raid may be associated with a large negative return that is very quickly reversed, or a "negative price spike." Although we do find a higher incidence of negative price spikes in the pilot sample at some horizons, the same thing is observed for positive price spikes.
o We also measure directly the tendency for price movements to be reversed in subsequent periods. Again, we find that the pilot is associated with a slightly greater tendency for price changes to be reversed, but this effect is observed equally for positive and negative returns.

In summary, having examined the impact of the Regulation SHO Pilot on a wide array of market characteristics, we conclude that price restrictions constitute an economically relevant constraint on short selling. Our evidence suggests that removing price restrictions for the pilot stocks has had an effect on the mechanics of short selling, order routing decisions, displayed depth, and intraday volatility, but on balance has not had a deleterious impact on market quality or liquidity. In various dimensions, our evidence confirms that the tick test of Rule 10a-1 acts as a more binding constraint than the bid test of former NASD Rule 3350. On most dimensions, the effects of the pilot do not appear to be systematically related to market capitalization or trading volume, suggesting that our results give a reasonable picture of what we might expect to see if price restrictions were removed for all stocks, including smaller stocks and stocks less actively
traded than those in the Russell 3000. However, some results, particularly those involving volatility, suggest that the effect of the tick test and the bid test may be systematically related to market capitalization.

We conclude with a few caveats. While the Pilot study was designed to facilitate a natural experiment in a controlled environment, the results might not be entirely representative of removing the rule permanently for all stocks. It is possible that traders might behave differently if a rule were permanently and completely removed than if it is only temporarily or incompletely removed. Moreover, it is possible that traders with manipulative intentions might be on good behavior if they believe that heightened scrutiny during the Pilot increases their chances of getting caught.

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\section*{Tables}

Table 1: Sample characteristics
This table shows the number of sample stocks categorized by whether they are in the Pilot, their listing status, and whether they have tradable options on them. The Pilot stocks are those designated in the first Pilot Order that are trading on Amex, Nasdaq NM, or NYSE as of May 2, 2005. The Control stocks are the ones that were eligible to be selected for the Pilot but were not. The Control stocks are limited to those trading on Amex, Nasdaq NM, and NYSE as of May 2, 2005. Listed Stocks are stocks listed on NYSE or Amex. This table shows the sample sizes as of October 31, 2005 as well. To avoid survivor biases, we retain stocks in the sample even if they stocks cease trading on Amex, Nasdaq NM, or NYSE before the end of our sample period on October 31, 2005. This table shows the sample sizes as of October 31, 2005 as well. Stocks are considered optionable if they have traded options at some point in the four months prior to the start of the Pilot. Short-term options are options with experations within one year.,
\begin{tabular}{lrrrr}
\hline \multicolumn{1}{c}{ Variable } & \multicolumn{2}{c}{ Listed Stocks } & \multicolumn{2}{c}{ Nasdaq Stocks } \\
& Pilot & \multicolumn{1}{c}{ Control } & Pilot & Control \\
\hline \# Stocks (first day of the Pilot) & 504 & 973 & 439 & 917 \\
\hline \# Stocks (last day of the Sample Period) & 496 & 949 & 423 & 877 \\
\hline \# Optionable Stocks (all options) & 350 & 690 & 278 & 573 \\
\# Optionable Stocks (short-term options) & \((69.44 \%)\) & \((70.77 \%)\) & \((63.33 \%)\) & \((62.28 \%)\) \\
& 350 & 688 & 277 & 567 \\
& \((69.44 \%)\) & \((70.56 \%)\) & \((63.10 \%)\) & \((61.63 \%)\) \\
\hline
\end{tabular}

\section*{Table 2: Comparison of Pilot and Control Stocks Before Initiation of Pilot}

This table compares the Pilot and Control stocks in several statistics over the four month period prior to the start of the Pilot on May 2, 2005. The statistical difference between the samples is tested using a two-sample t-test. * and ** indicates that the Pilot stocks are statistically different from the Control stocks at the \(5 \%\) and \(1 \%\) levels in a twotailed test.
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{\begin{tabular}{l}
Variable \\
Market Characteristics
\end{tabular}} & \multicolumn{2}{|l|}{Listed Stocks} & \multicolumn{2}{|l|}{Nasdaq Stocks} \\
\hline & Pilot & Control & Pilot & Control \\
\hline Trades / day & 1,539.30 & 1,514.40 & 2,690.6 & 2,713.8 \\
\hline Daily Share Volume & 1,134.70 & 1,135.30 & 1,075.20 & 1,122.70 \\
\hline Turnover & 1.77 & 1.85 & 2.56 & 2.49 \\
\hline VWAP & 38.43 & 36.04 & 23.01 & 22.20 \\
\hline Market Capitalization & 7,013.30 & 7,376.10 & 1,631.50 & 1,963.20 \\
\hline Short Interest (\% of Shares Outstanding) & 3.62 & 3.75 & 5.23 & 5.00 \\
\hline Short Interest (Days to Cover) & 6.14 & 6.28 & 6.64 & 6.49 \\
\hline \multicolumn{5}{|l|}{The Nature of Short Selling} \\
\hline Short Selling Volume (\% of Volume) & 24.41 & 24.27 & 36.08 & 35.57 \\
\hline Short Selling Trades (\% of Trades) & 27.37 & 27.15 & 37.74 & 37.21 \\
\hline Nasdaq Market Share of Short Sales & 10.74 & 10.42 & 47.45 & 47.91 \\
\hline Put Volume & 838.56 & 935.66 & 726.08 & 664.03 \\
\hline Call Volume & 1,306.91 & 1,322.83 & 1,194.10 & 1,103.75 \\
\hline Put + Call Volume & 2,145.47 & 2,258.49 & 1,920.18 & 1,767.78 \\
\hline Put Open Interest & 28,325.87 & 33,315.65 & 16,933.98 & 18,536.20 \\
\hline Call Open Interest & 32,878.21 & 34,761.23 & 27,741.65 & 27,776.23 \\
\hline Put + Call Open Interest & 61,204.08 & 68,076.88 & 44,675.63 & 46,312.43 \\
\hline \multicolumn{5}{|l|}{Mechanical Issues} \\
\hline \% trades on a downtick or zero downtick & 45.87 & 45.84 & 50.61 & 50.60 \\
\hline Time-weighted downbids & 38.82 & 38.74 & 47.06 & 47.44 \\
\hline \multicolumn{5}{|l|}{Liquidity} \\
\hline Quoted Spread ( \(\phi\) ) & 6.82 & 5.64 & 5.44 & 5.59 \\
\hline \% Quoted Spread & 0.19 & 0.18 & 0.27 & 0.28 \\
\hline Effective Spread ( \(\phi\) ) & 4.92 & 4.48 & 5.22 & 5.29 \\
\hline \% Effective Spread & 0.16 & 0.15 & 0.27 & 0.29 \\
\hline Ask Depth & 15.04 & 18.81 & 21.23 & 26.91 \\
\hline Bid Depth & 12.16 & 15.96 & 21.41 & 27.41 \\
\hline \multicolumn{5}{|l|}{Return Distributions} \\
\hline Daily Price Range (100*(log high - log low)) & 2.45 & 2.43 & 3.64 & 3.76 \\
\hline 5 Minute Returns (\%) & -0.001 & -0.002* & -0.003 & -0.003 \\
\hline Average Absolute Returns & 0.114 & 0.112 & 0.147 & 0.144 \\
\hline Skewness of Returns & 0.084 & 0.238 & 0.282 & 0.193 \\
\hline Standard Deviation of Returns & 0.191 & 0.198 & 0.258 & 0.270 \\
\hline 30 Minute Returns (\%) & -0.008 & -0.010* & -0.019 & -0.020 \\
\hline Average Absolute Returns & 0.286 & 0.282 & 0.389 & 0.397 \\
\hline Skewness of Returns & 0.128 & 0.134 & 0.204 & 0.129 \\
\hline Standard Deviation of Returns & 0.449 & 0.445 & 0.615 & 0.634 \\
\hline Daily Returns (\%) & -0.063 & -0.084 & -0.172 & -0.195 \\
\hline Average Absolute Returns & 1.340 & 1.330 & 1.804 & 1.853 \\
\hline Skewness of Returns & 0.061 & 0.174 & 0.264 & 0.160 \\
\hline Standard Deviation of Returns & 2.106 & 1.997 & 2.724 & 2.821 \\
\hline \multicolumn{5}{|l|}{Variance Ratios} \\
\hline \(6 \times \operatorname{Var}(5 \mathrm{~min}) / \operatorname{Var}(30 \mathrm{~min})\) & 1.13 & 1.12 & 1.24 & 1.26* \\
\hline \(288 \times \operatorname{Var}(5 \mathrm{~min}) / \operatorname{Var}(\) daily \()\) & 3.12 & 3.02 & 4.09 & 4.17 \\
\hline \(48 \times \operatorname{Var}(30 \mathrm{~min}) / \operatorname{Var}(\) daily \()\) & 2.71 & 2.64 & 3.24 & 3.25 \\
\hline
\end{tabular}

\section*{Table 3: Changes in Short Selling Activity}

This table summarizes how short selling changes when the tick and bid tests are removed. The four months prior to the Pilot start date (May 2, 2005) are called the "Pre-Pilot" and the six months following the start date are called the "Pilot". The table shows the average change in short selling for Pilot and Control stocks and estimates whether the Pilot stocks changed more than the Control stocks. Short Volume is the number of shares in short sale transactions divided by total share volume. Short Trades is the number of short sale transactions divided by total transactions. Short Interest is the monthly short interest times 100 divided by the shares outstanding. Days to Cover is the monthly short interest divided by the average daily share volume during the corresponding month. Nasdaq market share is Nasdaq's share of the volume of short selling. Paired \(t\)-tests determine whether the changes are significant. Tests of the difference between the changes are two-sample t-tests. \({ }^{* *}\), * indicates statistical significance at the 1 and \(5 \%\) level in a two-tailed test. We test whether the Difference in the Change for Listed Stocks is statistically different from that of Nasdaq NM Stocks using a regression framework. During the Pilot Period, we run daily crosssectional regressions of each variable on an indicator for Pilot Securities and the variable's pre-Pilot level (equation 1). We run the regression separately for Listed and Nasdaq NM Stocks and test whether the coefficients on the Pilot indicator are similar. \({ }^{\mathrm{a}, \mathrm{b}}\) indicates that the average coefficient for Nasdaq NM Stocks is statistically different from the average coefficient for Listed Stocks at the \(1 \%\) and \(5 \%\) level in a two-tailed test.

\section*{Panel A: Univariate Changes}
\begin{tabular}{llrrr|rrr|r}
\hline & & \multicolumn{4}{c}{ Pilot Sample } & \multicolumn{4}{c}{ Control Sample } & Pilot \(\Delta\) minus \\
\cline { 3 - 8 } Variable & Market & Pre-Pilot & Pilot & \multicolumn{1}{c}{\(\Delta\)} & Pre-Pllot & Pilot & \(\Delta\) & Control \(\Delta\) \\
\hline Short Volume & Listed & 24.41 & 26.32 & \(1.91^{* *}\) & 24.27 & 24.16 & -0.11 & \(2.02^{* *}\) \\
Short Volume & Nasdaq & 36.08 & 37.76 & \(1.68^{* *}\) & 35.55 & 35.75 & 0.20 & \(1.48^{* *}\) \\
\hline Short Trades & Listed & 27.37 & 33.67 & \(6.30^{* *}\) & 27.15 & 26.79 & \(-0.36^{*}\) & \(6.66^{* *}\) \\
Short Trades & Nasdaq & 37.74 & 39.98 & \(2.24^{* *}\) & 37.20 & 37.57 & \(0.37^{*}\) & \(1.87^{* *}\) \\
\hline Short Interest & Listed & 3.62 & 4.01 & \(0.39^{* *}\) & 3.75 & 4.25 & \(0.49^{* *}\) & -0.10 \\
Short Interest & Nasdaq & 5.23 & 5.94 & \(0.71^{* *}\) & 5.00 & 5.60 & \(0.60^{* *}\) & 0.11 \\
\hline Days to Cover & Listed & 6.14 & 6.87 & \(0.73^{* *}\) & 6.28 & 7.03 & \(0.75^{* *}\) & -0.02 \\
Days to Cover & Nasdaq & 6.64 & 7.91 & \(1.27^{* *}\) & 6.49 & 8.07 & \(1.58^{* *}\) & -0.31 \\
\hline Nasdaq Market Share & Listed & 10.74 & 10.28 & \(-0.46^{*}\) & 10.42 & 11.17 & \(0.75^{* *}\) & \(-1.21^{* *}\) \\
Nasdaq Market Share & Nasdaq & 47.45 & 51.34 & \(3.88^{* *}\) & 47.86 & 49.20 & \(1.34^{* *}\) & \(2.55^{* *}\) \\
\hline
\end{tabular}

\section*{Panel B: Average Regression Coefficients}
\begin{tabular}{llrrr}
\multicolumn{4}{c}{ Market Quality \(_{i}=\alpha+\beta_{1}\) Pilot \(_{i}+\beta_{2}\) Pre Pilot Market Quality \(_{i}\)} \\
\hline Variable & Market & \multicolumn{1}{c}{ Pilot } & PrePilotControl & R-squared \\
\hline Short Volume & Listed & \(2.05^{* *}\) & \(0.61^{* *}\) & 0.09 \\
Short Volume & Nasdaq & \(1.67^{* *}\) & \(0.67^{* *}\) & 0.08 \\
\hline Short Trades & Listed & \(6.75^{* *}\) & \(0.63^{* *}\) & 0.16 \\
Short Trades & Nasdaq & \(2.08^{* *}\) & \(0.67^{* *}\) & 0.10 \\
\hline Short Interest & Listed & -0.11 & \(0.89^{* *}\) & 0.83 \\
Short Interest & Nasdaq & \(0.14^{\text {a }}\) & \(0.91^{* *}\) & 0.79 \\
\hline Days to Cover & Listed & -0.05 & \(0.74^{* *}\) & 0.49 \\
Days to Cover & Nasdaq & \(-0.31^{\text {b }}\) & \(0.97^{* *}\) & 0.62 \\
\hline Nasdaq Market Share & Listed & \(-1.18^{* *}\) & \(0.77^{* *}\) & 0.15 \\
Nasdaq Market Share & Nasdaq & \(2.34^{* *}\) & \(0.69^{* *}\) & 0.11 \\
\hline
\end{tabular}

\section*{Table 4: Changes in Option Trading}

This table summarizes how option trading and open interest changes when the tick and bid tests are removed. The four months prior to the Pilot start date (May 2, 2005) are called the "Pre-Pilot" and the six months following the start date are called the "Pilot". The table shows the average change in option trading and open interest for Pilot and Control stocks and estimates whether the Pilot stocks changed more than the Control stocks. Panel A reports statistics on all options. Panel B reports statistics on short-term options. The data includes securities that had put and call option volume in both the Pre-Pilot and Pilot periods. There were a total of 690 Control stocks and 350 Pilot stocks included in the Listed sample and 573 Control stocks and 278 Pilot stocks in the Nasdaq sample. Open interest and volume are adjusted for stock splits. New option listings after May 1, 2005 were excluded from the analysis. The data source for the options data is the Options Price Reporting Authority (OPRA). Short-term options are identified using the Options Clearing Corporation directory. Paired t-tests determine whether the changes are significant. Tests of the difference between the changes are two-sample \(t\)-tests. \({ }^{* *}\), * indicates statistical significance at the 1 and \(5 \%\) level in a two-tailed test. We also test whether the difference in the change for Listed Stocks is statistically different from that of Nasdaq NM Stocks using two sample t-tests. \({ }^{\text {a, } b}\) indicates that the difference for Nasdaq NM Stocks is statistically different from the difference for Listed Stocks at the \(1 \%\) and \(5 \%\) level in a two-tailed test.

Panel A: All Options
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Variable} & \multirow[b]{2}{*}{Market} & \multicolumn{3}{|c|}{Pilot Sample} & \multicolumn{3}{|c|}{Control Sample} & \multirow[t]{2}{*}{Pilot \(\Delta\) minus Control \(\Delta\)} \\
\hline & & Pre-Pilot & Pilot & \(\Delta\) & Pre-Pilot & Pilot & \(\Delta\) & \\
\hline Put Volume & Listed & 838.56 & 851.73 & 13.17 & 935.66 & 916.72 & -18.94 & 32.11 \\
\hline Put Volume & Nasdaq & 726.08 & 530.68 & -195.40 & 664.03 & 589.89 & -74.15 & -121.25 \\
\hline Call volume & Listed & 1,306.91 & 1,386.73 & 79.82 & 1,322.83 & 1,348.89 & 26.06 & 53.75 \\
\hline Call Volume & Nasdaq & 1,194.10 & 925.01 & -269.09 & 1,103.75 & 996.88 & -106.87 & -162.22 \\
\hline Put + Call Vol & Listed & 2,145.47 & 2,238.46 & 92.98 & 2,258.49 & 2,265.61 & 7.13 & 85.86 \\
\hline Put + Call Vol & Nasdaq & 1,920.18 & 1,455.69 & -464.49 & 1,767.78 & 1,586.77 & -181.02 & -283.47 \\
\hline Put Ol & Listed & 28,325.87 & 32,150.11 & 3,824.24 & 33,315.65 & 40,602.82 & 7,287.17 & -3,462.93 \\
\hline Put Ol & Nasdaq & 16,933.98 & 17,646.25 & 712.27 & 18,536.20 & 20,475.08 & 1,938.88 & -1,226.61 \\
\hline Call OI & Listed & 32,878.21 & 38,919.53 & 6,041.32 & 34,761.23 & 43,566.95 & 8,805.72 & -2,764.40 \\
\hline Call OI & Nasdaq & 27,741.65 & 28,724.87 & 983.22 & 27,776.23 & 30,522.55 & 2,746.32 & -1,763.10 \\
\hline Put + Call Ol & Listed & 61,204.08 & 71,069.64 & 9,865.57 & 68,076.88 & 84,169.77 & 16,092.89 & -6,227.32 \\
\hline Put + Call Ol & Nasdaq & 44,675.63 & 46,371.12 & 1,695.49 & 46,312.43 & 50,997.63 & 4,685.21 & -2,989.72 \\
\hline Signed Volume & Listed & 468.35 & 535.00 & 66.65 & 387.17 & 432.17 & 45.00 & 21.65 \\
\hline Signed Volume & Nasdaq & 468.02 & 394.33 & -73.69 & 439.72 & 406.99 & -32.72 & -40.97 \\
\hline
\end{tabular}

Panel B: Short-term Options
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Variable} & \multirow[b]{2}{*}{Market} & \multicolumn{3}{|c|}{Pilot Sample} & \multicolumn{3}{|c|}{Control Sample} & \multirow[t]{2}{*}{Pilot \(\Delta\) minus Control \(\Delta\)} \\
\hline & & Pre-Pilot & Pilot & \(\Delta\) & Pre-Pilot & Pilot & \(\Delta\) & \\
\hline Put Volume & Listed & 700.03 & 767.71 & 67.68 & 716.48 & 768.70 & 52.22 & 15.46 \\
\hline Put Volume & Nasdaq & 654.98 & 489.10 & -165.88 & 588.95 & 537.18 & -51.78 & -114.10 \\
\hline Call Volume & Listed & 1,115.26 & 1,282.91 & 167.65 & 1,102.02 & 1,216.46 & 114.44 & 53.21 \\
\hline Call Volume & Nasdaq & 1,080.07 & 860.41 & -219.66 & 982.65 & 913.85 & -68.79 & -150.87 \\
\hline Put + Call Vol & Listed & 1,815.29 & 2,050.62 & 235.33 & 1,818.50 & 1,985.16 & 166.65 & 68.68 \\
\hline Put + Call Vol & Nasdaq & 1,735.05 & 1,349.51 & -385.54 & 1,571.60 & 1,451.03 & -120.57 & -264.97 \\
\hline Put Ol & Listed & 15,320.64 & 23,979.47 & 8,658.82 & 16,378.07 & 27,621.72 & 11,243.65 & -2,584.83 \\
\hline Put Ol & Nasdaq & 11,269.07 & 14,017.99 & 2,748.92 & 11,421.44 & 16,088.30 & 4,666.85 & -1,917.93 \\
\hline Call OI & Listed & 20,778.67 & 30,380.74 & 9,602.08 & 19,994.13 & 31,654.27 & 11,660.15 & -2,058.07 \\
\hline Call OI & Nasdaq & 18,788.25 & 22,951.64 & 4,163.39 & 18,070.89 & 23,567.80 & 5,496.91 & -1,333.52 \\
\hline Put + Call Ol & Listed & 36,099.31 & 54,360.21 & 18,260.90 & 36,372.20 & 59,275.99 & 22,903.80 & -4,642.90 \\
\hline Put + Call Ol & Nasdaq & 30,057.32 & 36,969.63 & 6,912.31 & 29,492.33 & 39,656.10 & 10,163.76 & -3,251.45 \\
\hline Signed Volume & Listed & 415.23 & 515.20 & 99.97 & 385.54 & 447.76 & 62.22 & 37.75 \\
\hline Signed Volume & Nasdaq & 425.09 & 371.31 & -53.79 & 393.69 & 376.68 & -17.01 & -36.78 \\
\hline
\end{tabular}

\section*{Table 5: Changes in Trading and Quoting Mechanics}

This table summarizes how trading and quoting mechanics change when the tick and bid tests are removed. The four months prior to the Pilot start date (May 2, 2005) are called the "Pre-Pilot" period and the six months following the start date are called the "Pilot" Period. The table shows the average change in the number of down ticks and the percent of time on a down bid for pilot and control stocks and estimates whether the pilot stocks changed more than the control stocks. Paired t-tests determine whether the changes are significant. Tests of the difference between the changes are two-sample \(t\)-tests. \({ }^{* *}\), * indicates statistical significance at the 1 and \(5 \%\) level in a two-tailed test. We test whether the difference in the change for Listed Stocks is statistically different from that of Nasdaq NM Stocks using a regression framework. During the Pilot Period, we run daily cross-sectional regressions of each variable on an indicator for Pilot Securities and the variable's pre-Pilot level (equation 1). We run the regression separately for Listed and Nasdaq NM Stocks and test whether the coefficients on the Pilot indicator are similar. \({ }^{\text {a,b }}\) indicates that the average coefficient for Nasdaq NM Stocks is statistically different from the average coefficient for Listed Stocks at the \(1 \%\) and \(5 \%\) level in a two-tailed test.

\section*{Panel A: Univariate Changes}
\begin{tabular}{llrlrrrr|c}
\hline & & \multicolumn{3}{c}{ Pilot Sample } & \multicolumn{3}{c}{ Control Sample } & \multicolumn{2}{c}{ Pilot \(\Delta\) minus } \\
\cline { 3 - 7 } Variable & Market & Pre-Pilot & Pilot & \multicolumn{1}{c}{\(\Delta\)} & Pre-Pilot & Pilot & \(\Delta\) & Control \(\Delta\) \\
\hline Downticks & Listed & 45.87 & 49.65 & \(3.78^{* *}\) & 45.84 & 45.01 & \(-0.83^{* *}\) & \(4.61^{* *}\) \\
Downticks & Nasdaq & 50.61 & 50.10 & \(-0.52^{* *}\) & 50.60 & 49.60 & \(-1.01^{* *}\) & \(0.49^{* *}\) \\
\hline Downbids & Listed & 38.82 & 39.76 & \(0.94^{* *}\) & 38.74 & 39.50 & \(0.76^{* *}\) & 0.18 \\
Downbids & Nasdaq & 47.06 & 45.64 & \(-1.42^{* *}\) & 47.44 & 48.02 & \(0.58^{* *}\) & \(-2.00^{* *}\) \\
\hline
\end{tabular}

\section*{Panel B: Average Regression Coefficients}
\[
\text { Market Quality }_{i}=\alpha+\beta_{1} \text { Pilot }_{i}+\beta_{2} \text { Pre Pilot Market Quality }{ }_{i}
\]
\begin{tabular}{llccc}
\hline Variable & Market & Pilot & PrePilotControl & R-squared \\
\hline Downticks & Listed & \(4.64^{* *}\) & \(0.46^{* *}\) & 0.15 \\
Downticks & Nasdaq & \(0.49^{* * a}\) & \(0.47^{* *}\) & 0.02 \\
\hline Downbids & Listed & \(0.24^{* *}\) & \(0.87^{* *}\) & 0.27 \\
Downbids & Nasdaq & \(-2.06^{* *}\) a & \(0.84^{* *}\) & 0.23 \\
\hline
\end{tabular}

\section*{Table 6: Liquidity Measures}

This table summarizes how liquidity changes when the tick and bid tests are removed. The four months prior to the Pilot start date (May 2, 2005) are called the "Pre-period" and the six months following the start date are called the "Pilot Period". The table shows the average change in various liquidity measures for Pilot and Control stocks and estimates whether the Pilot stocks changed more than the Control stocks. Paired t-tests determine whether the changes are significant. Tests of the difference between the changes are two-sample t -tests. **, * indicates statistical significance at the 1 and \(5 \%\) level in a two-tailed test. We test whether the Difference in the Change for Listed Stocks is statistically different from that of Nasdaq NM Stocks using a regression framework. During the Pilot Period, we run daily cross-sectional regressions of each variable on an indicator for Pilot Securities and the variable's pre-Pilot level (equation 1). We run the regression separately for Listed and Nasdaq NM Stocks and test whether the coefficients on the Pilot indicator are similar. \({ }^{\text {a, } b}\) indicates that the average coefficient for Nasdaq NM Stocks is statistically different from the average coefficient for Listed Stocks at the \(1 \%\) and \(5 \%\) level in a two-tailed test.

\section*{Panel A: Univariate Changes}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Variable} & \multirow[b]{2}{*}{Market} & \multicolumn{3}{|c|}{Pilot Sample} & \multicolumn{3}{|c|}{Control Sample} & \multirow[t]{2}{*}{Pilot \(\Delta\) minus Control \(\Delta\)} \\
\hline & & Pre-Pilot & Pilot & \(\Delta\) & Pre-Pilot & Pilot & \(\Delta\) & \\
\hline Ask Depth & Listed & 15.04 & 12.24 & -2.80** & 18.81 & 22.02 & 3.21** & -6.00** \\
\hline Ask Depth & Nasdaq & 21.23 & 26.63 & 5.40* & 26.90 & 34.36 & 7.46** & -2.05 \\
\hline Bid Depth & Listed & 12.16 & 12.89 & 0.73 & 15.96 & 18.71 & 2.76** & -2.03 \\
\hline Bid Depth & Nasdaq & 21.41 & 28.44 & 7.04** & 27.77 & 37.45 & 9.68** & -2.65 \\
\hline Quoted Spread ( \(\phi\) ) & Listed & 6.82 & 7.25 & 0.43 & 5.64 & 6.02 & 0.37 & 0.06 \\
\hline Quoted Spread ( \(\phi\) ) & Nasdaq & 5.44 & 5.38 & -0.06 & 5.59 & 5.93 & 0.34 & -0.40 \\
\hline \% Quoted Spread & Listed & 18.82 & 19.74 & 0.92 & 18.10 & 18.18 & 0.08 & 0.80 \\
\hline \% Quoted Spread & Nasdaq & 26.61 & 27.90 & 1.29 & 28.40 & 29.62 & 1.22** & 0.07 \\
\hline Effective Spread ( \(\phi\) ) & Listed & 4.92 & 5.22 & 0.29 & 4.48 & 4.67 & 0.19 & 0.11 \\
\hline Effective Spread ( \(\phi\) ) & Nasdaq & 5.22 & 4.92 & \(-0.31^{* *}\) & 5.29 & 5.27 & -0.02 & -0.29 \\
\hline \% Effective Spread & Listed & 16.28 & 17.56 & 1.29 & 14.83 & 15.63 & 0.80 & 0.50 \\
\hline \% Effective Spread & Nasdaq & 26.91 & 26.98 & 0.07 & 28.84 & 28.47 & -0.37 & 0.40 \\
\hline
\end{tabular}

\section*{Panel B: Average Regression Coefficients}
\[
\text { Market Quality }_{i}=\alpha+\beta_{1} \text { Pilot }_{i}+\beta_{2} \text { Pre Pilot Market Quality }{ }_{i}
\]
\begin{tabular}{llccc}
\hline Variable & Market & Pilot & PrePilotControl & R-squared \\
\hline Ask Depth & Listed & \(-5.26^{* *}\) & \(1.18^{* *}\) & 0.82 \\
Ask Depth & Nasdaq & \(-2.01^{* *} \mathrm{a}\) & \(1.11^{* *}\) & 0.79 \\
\hline Bid Depth & Listed & \(-1.42^{* *}\) & \(1.16^{* *}\) & 0.82 \\
Bid Depth & Nasdaq & \(-2.47^{* *} \mathrm{~b}\) & \(1.13^{* *}\) & 0.75 \\
\hline Quoted Spread \((\phi)\) & Listed & \(-0.36^{*}\) & \(1.35^{* *}\) & 0.74 \\
Quoted Spread \((\phi)\) & Nasdaq & \(-0.31^{* *}\) & \(1.37^{* *}\) & 0.75 \\
\hline \% Quoted Spread & Listed & \(0.86^{*}\) & \(1.13^{* *}\) & 0.62 \\
\% Quoted Spread & Nasdaq & \(0.28^{* *}\) & \(1.11^{* *}\) & 0.68 \\
\hline Effective Spread \((\phi)\) & Listed & -0.12 & \(1.51^{* *}\) & 0.80 \\
Effective Spread \((\phi)\) & Nasdaq & \(-0.25^{* *}\) & \(1.31^{* *}\) & 0.63 \\
\hline \% Effective Spread & Listed & 0.26 & \(1.24^{* *}\) & 0.43 \\
\% Effective Spread & Nasdaq & \(0.62^{* *}\) & \(1.12^{* *}\) & 0.50 \\
\hline
\end{tabular}

\section*{Table 7: Volatility}

This table summarizes how volatility changes when the tick and bid tests are removed. The four months prior to the Pilot start date (May 2, 2005) are called the "Pre-Pilot" period and the six months following the start date are called the "Pilot" period. The table shows the average change in various volatility measures for pilot and control stocks and estimates whether the pilot stocks changed more than the control stocks. Daily Price Range is \(100^{*}(\log\) high \(\log\) low). Absolute return and standard deviation are reported in percentage points. While standard deviation is reported, tests were run on variances to avoid Jensen's inequality. Paired t-tests determine whether the changes are significant. Tests of the difference between the changes are two-sample t-tests. \({ }^{* *}\), * indicates statistical significance at the 1 and \(5 \%\) level in a two-tailed test. We test whether the difference in the change for Listed Stocks is statistically different from that of Nasdaq NM Stocks using a regression framework. During the Pilot Period, we run daily cross-sectional regressions of each variable on an indicator for pilot securities and the variable's Pre-Pilot level (equation 1). We run the regression separately for Listed and Nasdaq NM Stocks and test whether the coefficients on the pilot indicator are similar. \({ }^{a, b}\) indicates that the average coefficient for Nasdaq NM Stocks is statistically different from the average coefficient for Listed Stocks at the \(1 \%\) and \(5 \%\) level in a two-tailed test.

\section*{Panel A: Univariate Changes}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Variable} & \multirow[b]{2}{*}{Market} & \multicolumn{3}{|c|}{Pilot Sample} & \multicolumn{3}{|c|}{Control Sample} & \multirow[t]{2}{*}{Pilot \(\Delta\) minus Control \(\Delta\)} \\
\hline & & PrePilot & Pilot & \(\Delta\) & PrePilot & Pilot & \(\Delta\) & \\
\hline Daily Price Range & Listed & 2.45 & 2.42 & -0.03 & 2.43 & 2.36 & -0.07** & 0.04 \\
\hline Daily Price Range & Nasdaq & 3.64 & 3.36 & -0.28** & 3.76 & 3.41 & -0.35** & 0.07 \\
\hline Absolute Return - 5m & Listed & 0.11 & 0.12 & 0.00 & 0.11 & 0.11 & -0.01** & 0.01** \\
\hline Absolute Return - 5m & Nasdaq & 0.14 & 0.13 & -0.01** & 0.15 & 0.13 & -0.02** & 0.01** \\
\hline Absolute Return - 30m & Listed & 0.29 & 0.28 & -0.01* & 0.28 & 0.27 & -0.01** & 0.00 \\
\hline Absolute Return - 30m & Nasdaq & 0.39 & 0.36 & -0.03** & 0.40 & 0.36 & -0.04** & 0.01 \\
\hline Absolute Return - day & Listed & 1.34 & 1.29 & -0.05** & 1.33 & 1.30 & -0.04** & -0.01 \\
\hline Absolute Return - day & Nasdaq & 1.80 & 1.69 & -0.11** & 1.85 & 1.71 & -0.14** & 0.03 \\
\hline Return Standard Deviation - 5m & Listed & 0.19 & 0.20 & 0.00 & 0.20 & 0.19 & -0.01 & 0.01 \\
\hline Return Standard Deviation - 5m & Nasdaq & 0.26 & 0.25 & -0.01 & 0.27 & 0.26 & -0.01** & 0.02 \\
\hline Return Standard Deviation - 30m & Listed & 0.45 & 0.44 & -0.01 & 0.44 & 0.43 & -0.01* & -0.00 \\
\hline Return Standard Deviation - 30m & Nasdaq & 0.61 & 0.58 & -0.03** & 0.63 & 0.59 & -0.04** & 0.01 \\
\hline Return Standard Deviation - day & Listed & 2.11 & 1.97 & -0.14 & 2.00 & 2.03 & 0.03 & -0.01 \\
\hline Return Standard Deviation - day & Nasdaq & 2.72 & 2.75 & 0.03 & 2.82 & 2.72 & -0.10 & -0.13 \\
\hline Variance Ratio 5/30 & Listed & 1.12 & 1.23 & 0.11** & 1.11 & 1.15 & 0.04** & 0.07** \\
\hline Variance Ratio 5/30 & Nasdaq & 1.23 & 1.30 & 0.06** & 1.26 & 1.29 & 0.03** & 0.03* \\
\hline Variance Ratio 5/day & Listed & 3.09 & 3.30 & 0.21** & 2.98 & 3.08 & 0.10 & 0.11 \\
\hline Variance Ratio 5/day & Nasdaq & 4.08 & 4.09 & 0.01 & 4.15 & 4.62 & 0.47 & -0.45 \\
\hline Variance Ratio 30/day & Listed & 2.71 & 2.62 & -0.08 & 2.64 & 2.57 & -0.07 & 0.01 \\
\hline Variance Ratio 30/day & Nasdaq & 3.24 & 3.02 & -0.22* & 3.25 & 3.28 & 0.03 & -0.25 \\
\hline
\end{tabular}

\section*{Panel B: Average Regression Coefficients}
\({\text { Market } \text { Quality }_{i}=\alpha+\beta_{1} \text { Pilot }_{i}+\beta_{2} \text { Pre Pilot Market Quality }}_{i}\)
\begin{tabular}{|c|c|c|c|c|}
\hline Variable & Market & Pilot & PrePilotControl & R-squared \\
\hline Daily Price Range(bps) & Listed & 3.68** & 0.86** & 0.27 \\
\hline Daily Price Range(bps) & Nasdaq & 2.92* & 0.79** & 0.21 \\
\hline Absolute Return - 5m(bps) & Listed & 0.68** & 0.84** & 0.37 \\
\hline Absolute Return - 5m(bps) & Nasdaq & \(0.34^{* *}\) & 0.73** & 0.21 \\
\hline Absolute Return - 30m(bps) & Listed & 0.33** & 0.83** & 0.16 \\
\hline Absolute Return - 30m(bps) & Nasdaq & 0.20 & 0.82** & 0.18 \\
\hline Absolute Return - day(bps) & Listed & -0.91 & 0.80** & 0.09 \\
\hline Absolute Return - day(bps) & Nasdaq & 0.47 & 0.71** & 0.06 \\
\hline Return Variance - \(5 \mathrm{~m}\left(\times 10^{6}\right)\) & Listed & 0.49** & 0.29** & 0.10 \\
\hline Return Variance - 5m \(\times 10^{6}\) ) & Nasdaq & 0.22 & 0.84** & 0.17 \\
\hline Return Variance - 30 m ( \(\times 10^{5}\) ) & Listed & -0.66* & 0.89** & 0.01 \\
\hline Return Variance - 30 m ( \(\times 10^{5}\) ) & Nasdaq & -0.34* & 1.03** & 0.07 \\
\hline Return Variance - day ( \(\times 10^{4}\) ) & Listed & -0.33 & 0.21** & 0.12 \\
\hline Return Variance - day (x10 \({ }^{4}\) ) & Nasdaq & 0.38 & 0.44** & 0.12 \\
\hline Variance Ratio 5/30 & Listed & 0.08** & 0.68** & 0.44 \\
\hline Variance Ratio 5/30 & Nasdaq & \(0.01^{\text {a }}\) & 0.54** & 0.21 \\
\hline Variance Ratio 5/day & Listed & 0.12 & 1.03** & 0.42 \\
\hline Variance Ratio 5/day & Nasdaq & -0.82 & 0.03 & 0.00 \\
\hline Variance Ratio 30/day & Listed & 0.02 & 0.49** & 0.16 \\
\hline Variance Ratio 30/day & Nasdaq & -0.26 & 0.17 & 0.00 \\
\hline
\end{tabular}

\section*{Table 8: Returns around the May 2, 2005 Start of the Pilot}

This table shows the returns surrounding the May 2 initiation of the pilot. The raw returns are equally-weighted averages of the returns for each stocks, as collected from CRSP. The Cumulative Returns are set to be zero on the day prior to the start of the pilot. The Cumulative returns represent the compounded returns on an investment made at the April 29 closing price. * indicates that the control stock returns are statistically different from the pilot stock returns at the \(5 \%\) significance level in a two-tailed test. None of the returns are statistically different at the \(1 \%\) level.

\section*{Panel A: Listed Sample Stocks}
\begin{tabular}{lrrrr}
\hline & \multicolumn{2}{c}{ Daily Returns } & \multicolumn{2}{c}{\begin{tabular}{c} 
Cumulative \\
Date
\end{tabular}} \\
Dilot & \multicolumn{1}{c}{\begin{tabular}{l} 
Cilot \\
Control
\end{tabular}} \\
\hline April 18 & 0.005 & 0.007 & 0.007 & 0.015 \\
April 19 & 0.012 & 0.011 & 0.019 & 0.025 \\
April 20 & -0.015 & -0.015 & 0.003 & 0.009 \\
April 21 & 0.019 & 0.018 & 0.021 & 0.026 \\
April 22 & -0.009 & -0.011 & 0.011 & 0.015 \\
April 25 & 0.010 & 0.011 & 0.021 & 0.026 \\
April 26 & -0.010 & -0.012 & 0.010 & 0.013 \\
April 27 & 0.000 & -0.001 & 0.009 & 0.011 \\
April 28 & -0.016 & -0.016 & -0.007 & -0.006 \\
April 29 & 0.008 & 0.006 & 0.000 & 0.000 \\
\hline May 2 & 0.007 & \(0.009^{*}\) & 0.007 & \(0.009^{*}\) \\
May 3 & -0.001 & -0.001 & 0.005 & 0.008 \\
May 4 & 0.015 & 0.016 & 0.020 & 0.024 \\
May 5 & 0.000 & 0.001 & 0.020 & 0.025 \\
May 6 & 0.002 & 0.001 & 0.022 & 0.026 \\
May 9 & 0.010 & 0.008 & 0.032 & 0.034 \\
May 10 & -0.012 & -0.010 & 0.020 & 0.024 \\
May 11 & 0.001 & 0.002 & 0.021 & 0.026 \\
May 12 & -0.015 & -0.014 & 0.006 & 0.011 \\
May 13 & -0.010 & -0.010 & -0.003 & 0.001 \\
May 16 & 0.013 & 0.014 & 0.010 & 0.015 \\
\hline
\end{tabular}

\section*{Panel B: Nasdaq Sample Stocks}
\begin{tabular}{lrrrr}
\hline & \multicolumn{2}{c}{ Daily Returns } & \multicolumn{2}{c}{\begin{tabular}{c} 
Cumulative \\
Date \\
Daturns \\
Control
\end{tabular}} \\
\hline April 18 & \multicolumn{1}{c}{\begin{tabular}{l} 
Pilot
\end{tabular}} & 0.006 & 0.007 & 0.019 \\
April 19 & 0.016 & \(0.018^{\star}\) & 0.035 & 0.017 \\
April 20 & -0.018 & -0.018 & 0.015 & 0.016 \\
April 21 & 0.025 & 0.026 & 0.039 & 0.041 \\
April 22 & -0.018 & -0.019 & 0.019 & 0.020 \\
April 25 & 0.009 & 0.010 & 0.027 & 0.030 \\
April 26 & -0.012 & \(-0.016^{*}\) & 0.014 & 0.013 \\
April 27 & 0.001 & 0.001 & 0.014 & 0.012 \\
April 28 & -0.021 & -0.019 & -0.009 & -0.008 \\
April 29 & 0.009 & 0.009 & 0.000 & 0.000 \\
\hline May 2 & 0.008 & 0.009 & 0.008 & 0.009 \\
May 3 & 0.001 & 0.001 & 0.008 & 0.010 \\
May 4 & 0.019 & 0.020 & 0.027 & 0.030 \\
May 5 & 0.000 & 0.001 & 0.027 & 0.031 \\
May 6 & 0.001 & 0.000 & 0.028 & 0.031 \\
May 9 & 0.012 & 0.012 & 0.040 & 0.043 \\
May 10 & -0.012 & -0.013 & 0.028 & 0.030 \\
May 11 & 0.001 & -0.001 & 0.029 & 0.029 \\
May 12 & -0.008 & -0.009 & 0.020 & 0.020 \\
May 13 & -0.004 & -0.005 & 0.016 & 0.015 \\
May 16 & 0.015 & 0.016 & 0.032 & 0.031 \\
\hline
\end{tabular}

Table 9: Six Month Returns
The table summarizes tests of whether the six month returns of the pilot stocks differ from the six month returns of the control stocks. The raw returns are compounded cumulative returns from CRSP. If a stock is not in the sample for the entire six months, its return from its last day is compounded to six months. The market adjusted returns is simply the raw return minus the CRSP equally-weighted index. The alpha is estimated in-sample by regressing the raw return for a stock on the equally-weighted CRSP index return. A stock's alpha is considered "negative" if it is statistically below zero at the \(5 \%\) level in a two-tailed test. Likewise, a stock's alpha is considered "positive" if it is statistically above zero at the \(5 \%\) level in a two-tailed test. \(* *\) indicates that the control stock returns are statistically different from the pilot stock returns at the \(5 \%\) significance level in a two-tailed test.

\section*{Panel A: Univariate Differences}
\begin{tabular}{llccc}
\hline \multicolumn{1}{c}{ Variable } & Market & Pilot & Control & Difference \\
\hline Raw Return & Listed & \(9.18 \%\) & \(11.56 \%\) & \(-2.38 \%\) \\
Raw Return & Nasdaq & \(14.21 \%\) & \(16.30 \%\) & \(-2.09 \%\) \\
\hline Market Adjusted Return & Listed & \(-2.10 \%\) & \(-0.00 \%\) & \(-2.07 \%\) \\
Market Adjusted Return & Nasdaq & \(2.26 \%\) & \(4.01 \%\) & \(-1.74 \%\) \\
\hline Alpha & Listed & \(-0.05 \%\) & \(-0.04 \%\) & \(-0.01 \%\) \\
Alpha & Nasdaq & \(-0.04 \%\) & \(-0.02 \%\) & \(-0.01 \%\) \\
\hline Negative Alpha & Listed & \(5.56 \%\) & \(4.93 \%\) & \(0.60 \%\) \\
Negative Alpha & Nasdaq & \(2.73 \%\) & \(1.53 \%\) & \(1.20 \%\) \\
\hline Positive Alpha & Listed & \(0.00 \%\) & \(0.92 \%\) & \(-0.92 \%{ }^{* *}\) \\
Positive Alpha & Nasdaq & \(0.91 \%\) & \(1.20 \%\) & \(-0.29 \%\) \\
\hline
\end{tabular}

\section*{Panel B: Regression Tests}
\begin{tabular}{llcc}
\multicolumn{4}{c}{ Market Model Alpha \(=\alpha+\beta\) Pilot } \\
\hline Variable & Market & Pilot & R-squared \\
\hline Alpha & Listed & -0.0001 & 0.009 \\
Alpha & Nasdaq & -0.0001 & 0.005 \\
\hline
\end{tabular}

\section*{Table 10: Skewness}

This table summarizes how skewness changes when the tick and bid tests are removed. The four months prior to the pilot start date (May 2, 2005) are called the "Pre-Pilot" period and the six months following the start date are called the "Pilot" period. The table shows the average levels and changes in various skewness measures for pilot and control stocks and estimates whether the pilot stocks changed more than the control stocks. Sample skewness is computed for each stock in the pilot and contol sample in the Pre-Pilot and Pilot period, for five-minute, thirtyminute, and one day return intervals. Paired t-tests determine whether the changes are significant. Tests of the difference between the changes are two-sample t-tests. **, * indicates statistical significance at the \(1 \%\) and \(5 \%\) level in a two-tailed test.
\begin{tabular}{llrrr|rrr|c}
\hline & & \multicolumn{4}{c}{ Pilot Sample } & \multicolumn{4}{c}{ Control Sample } & Pilot \(\Delta\) minus \\
\cline { 3 - 8 } Variable & Market & Pre-Pilot & Pilot & \multicolumn{1}{l}{\(\Delta\)} & Pre-Pilot & Pilot & \(\Delta\) & Control \(\Delta\) \\
\hline Skewness-5m & Listed & 0.08 & -0.05 & -0.13 & 0.24 & 0.01 & -0.23 & 0.10 \\
Skewness-5m & Nasdaq & 0.28 & 0.51 & 0.23 & 0.19 & 0.39 & 0.20 & 0.03 \\
\hline Skewness-30m & Listed & 0.13 & -0.02 & -0.15 & 0.13 & 0.11 & -0.02 & -0.12 \\
Skewness-30m & Nasdaq & 0.20 & 0.32 & 0.11 & 0.13 & 0.23 & 0.10 & 0.01 \\
\hline Skewness-day & Listed & 0.06 & 0.15 & 0.09 & 0.17 & 0.21 & 0.04 & 0.06 \\
Skewness-day & Nasdaq & 0.26 & 0.35 & 0.09 & 0.16 & 0.29 & 0.13 & 0.05 \\
\hline
\end{tabular}

\section*{Table 11: Extreme Price Reversals}

This table summarizes how the frequency of large negative and positive short-horizon price reversals differs across pilot and control stocks. The numbers in the table represent the number of reversals per 100,000 stock/intervals. A negative (positive) reversal is defined as a negative (positive) return immediately followed by a positive (negative) return. The "size" of the reversal is defined as the minimum absolute value of the two adjacent returns, normalized by the pre-pilot standard deviation of the stock's holding-period return, where the second return is computed as a percentage of the lagged price, and the holding period is five minutes or thirty minutes. The frequency of reversals is computed based on a six-month period following the pilot start date (May 2, 2005). The pre-pilot standard deviation used to normalize the returns is computed over a four-month period prior to the start date. Nonparametric statistical tests based on a bootstrapping procedure determine whether the number of reversals observed in the pilot sample would be statistically rare in the control sample. \({ }^{* *}\), * indicates statistical significance at the \(1 \%\) and \(5 \%\) level in a two-tailed test.

\section*{Panel A: Five-Minute Return Reversals}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{3}{*}{\[
\begin{gathered}
\text { Reversal } \\
\text { Size }
\end{gathered}
\]} & \multicolumn{4}{|c|}{Listed Stocks} & \multicolumn{4}{|c|}{Nasdaq Stocks} \\
\hline & \multicolumn{2}{|l|}{Negative Reversals} & \multicolumn{2}{|l|}{Positive Reversals} & \multicolumn{2}{|l|}{Negative Reversals} & \multicolumn{2}{|l|}{Positive Reversals} \\
\hline & Pilot & Control & Pilot & Control & Pilot & Control & Pilot & Control \\
\hline >2 & 338.4** & 281.3 & 339.1** & 281.1 & 273.4** & 257.4 & 284.1** & 267.8 \\
\hline > 3 & 76.7** & 65.1 & 75.4** & 63.5 & 71.9** & 62.8 & 72.7** & 67.0 \\
\hline > 4 & 25.0** & 20.4 & 24.4** & 19.3 & 25.1** & 22.4 & 27.6** & 24.6 \\
\hline \(>5\) & 10.0** & 8.8 & 11.3** & 8.4 & 10.5 & 9.1 & 13.2** & 11.2 \\
\hline > 6 & 4.9 & 4.6 & 5.8** & 4.8 & 5.3 & 4.2 & 6.9* & 5.9 \\
\hline > 7 & 2.8 & 2.8 & 3.4 & 3.1 & 3.0 & 2.2 & 3.6 & 3.6 \\
\hline > 8 & 1.7 & 1.8 & 2.0 & 2.2 & 1.9 & 1.2 & 2.2 & 2.2 \\
\hline > 9 & 1.1 & 1.3 & 1.2(**) & 1.7 & 1.2 & 0.6 & 1.6 & 1.4 \\
\hline
\end{tabular}

\section*{Panel B: Thirty-Minute Return Reversals}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{3}{*}{Reversal
Size} & \multicolumn{4}{|c|}{Listed Stocks} & \multicolumn{4}{|c|}{Nasdaq Stocks} \\
\hline & \multicolumn{2}{|l|}{Negative Reversals} & \multicolumn{2}{|l|}{Positive Reversals} & \multicolumn{2}{|l|}{Negative Reversals} & \multicolumn{2}{|l|}{Positive Reversals} \\
\hline & Pilot & Control & Pilot & Control & Pilot & Control & Pilot & Control \\
\hline >2 & 251.4 & 240.8 & 240.5 & 231.4 & 215.3 & 218.7 & 224.3 & 221.5 \\
\hline > 3 & 53.2* & 47.1 & 44.3 & 45.9 & 38.3 & 41.0 & 41.6 & 45.5 \\
\hline > 4 & 9.2 & 11.0 & 12.6 & 12.0 & 12.1 & 10.3 & 12.1 & 13.4 \\
\hline > 5 & 3.3 & 4.3 & 4.2 & 5.4 & 4.8 & 4.1 & 5.3 & 4.6 \\
\hline > 6 & 1.0 & 1.6 & 1.3(*) & 2.3 & 1.5 & 2.2 & 3.2 & 2.2 \\
\hline > 7 & 0.4 & 0.8 & 0.6(*) & 1.3 & 0.3 & 0.9 & 1.3 & 1.3 \\
\hline > 8 & 0.1 & 0.4 & 0.1 (**) & 0.7 & 0.2 & 0.5 & 0.7 & 0.8 \\
\hline > 9 & 0.0(*) & 0.2 & 0.1 & 0.4 & 0.0(*) & 0.3 & 0.5 & 0.7 \\
\hline
\end{tabular}

\section*{Table 12: Semi-Autoregression Results}

This table reports average regression coefficients of returns on lagged positive and negative component returns, for pilot and control stocks before and after the start of the pilot. The four months prior to the Pilot start date (May 2, 2005) are called the "Pre-Pilot" period and the six months following the start date are called the "Pilot" period. The coefficients reported in the table are the mean coefficients across all stocks in the subsample, estimated over the designated period, of the autoregressive model:
\[
R_{t}=\sum_{n=1}^{5} \alpha_{n} R_{t-n}^{-}+\sum_{n=1}^{5} \beta_{n} R_{t-n}^{+}
\]
where \(R_{t}\) represents the stock return in period \(t\), and
\[
R_{t}^{-}=\min \left(0, R_{t}\right) \quad R_{t}^{+}=\max \left(0, R_{t}\right)
\]

Paired t-tests determine whether the changes are significant. Tests of the difference between the changes are twosample t-tests. \({ }^{* *}, *\) indicates statistical significance at the 1 and \(5 \%\) level in a two-tailed test.

Panel A: Five-minute Returns
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Lag/Sign} & \multirow[b]{2}{*}{Market} & \multicolumn{3}{|c|}{Pilot Sample} & \multicolumn{3}{|c|}{Control Sample} & \multirow[t]{2}{*}{Pilot \(\Delta\) minus Control \(\Delta\)} \\
\hline & & Pre-Pilot & Pilot & \(\Delta\) & Pre-Pllot & Pilot & \(\Delta\) & \\
\hline 1 / Negative & Listed & -0.048 & -0.071 & -0.022** & -0.048 & -0.049 & -0.001 & -0.021** \\
\hline 2 / Negative & Listed & -0.019 & -0.007 & 0.012** & -0.015 & -0.002 & \(0.013^{* *}\) & -0.001 \\
\hline 3 / Negative & Listed & -0.004 & -0.005 & -0.001 & -0.005 & -0.003 & 0.002 & -0.003 \\
\hline 4 / Negative & Listed & -0.001 & -0.010 & -0.008** & -0.001 & -0.004 & -0.003 & -0.005* \\
\hline 5 / Negative & Listed & -0.005 & -0.004 & 0.000 & -0.003 & 0.000 & 0.003 & -0.003 \\
\hline 1 / Positive & Listed & -0.033 & -0.056 & -0.022** & -0.034 & -0.031 & 0.003 & -0.026** \\
\hline 2 / Positive & Listed & -0.005 & -0.013 & -0.008** & -0.004 & -0.004 & 0.000 & -0.008** \\
\hline 3 / Positive & Listed & -0.003 & 0.003 & 0.006** & -0.002 & 0.007 & 0.009** & -0.003 \\
\hline 4 / Positive & Listed & -0.003 & -0.004 & -0.001 & -0.001 & -0.002 & -0.001 & 0.000 \\
\hline 5 / Positive & Listed & -0.004 & -0.005 & -0.001 & -0.002 & -0.002 & 0.000 & -0.001 \\
\hline 1 / Negative & Nasdaq & -0.027 & -0.046 & -0.019** & -0.030 & -0.042 & -0.012** & -0.007 \\
\hline 2 / Negative & Nasdaq & -0.014 & -0.007 & 0.007 & -0.014 & -0.006 & 0.009** & -0.002 \\
\hline 3 / Negative & Nasdaq & -0.004 & -0.006 & -0.002 & -0.007 & -0.006 & 0.001 & -0.003 \\
\hline 4 / Negative & Nasdaq & 0.000 & -0.004 & -0.004 & 0.001 & -0.003 & -0.004** & 0.000 \\
\hline 5 / Negative & Nasdaq & -0.002 & -0.002 & 0.000 & -0.004 & -0.002 & 0.002 & -0.003 \\
\hline 1 / Positive & Nasdaq & -0.032 & -0.030 & 0.002 & -0.034 & -0.024 & 0.009** & -0.007 \\
\hline 2 / Positive & Nasdaq & -0.011 & -0.012 & 0.000 & -0.011 & -0.008 & 0.004 & -0.004 \\
\hline 3 / Positive & Nasdaq & -0.004 & 0.002 & 0.006* & -0.004 & 0.004 & 0.008** & -0.002 \\
\hline 4 / Positive & Nasdaq & -0.002 & -0.003 & -0.001 & -0.004 & -0.001 & 0.004** & -0.005 \\
\hline 5 / Positive & Nasdaq & -0.008 & -0.001 & 0.006** & -0.006 & 0.000 & 0.007** & -0.001 \\
\hline
\end{tabular}

\section*{Panel B: Thirty-minute Returns}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Lag/Sign} & \multirow[b]{2}{*}{Market} & \multicolumn{3}{|c|}{Pilot Sample} & \multicolumn{3}{|c|}{Control Sample} & \multirow[t]{2}{*}{Pilot \(\Delta\) minus Control \(\Delta\)} \\
\hline & & Pre-Pilot & Pilot & \(\Delta\) & Pre-PIlot & Pilot & \(\Delta\) & \\
\hline 1 / Negative & Listed & -0.030 & -0.021 & 0.009 & -0.020 & -0.008 & 0.012** & -0.003 \\
\hline 2 / Negative & Listed & -0.004 & -0.008 & -0.004 & -0.008 & -0.010 & -0.002 & -0.002 \\
\hline 3 / Negative & Listed & -0.003 & 0.018 & 0.021** & -0.002 & 0.017 & 0.019** & 0.001 \\
\hline 4 / Negative & Listed & -0.001 & -0.029 & -0.029** & -0.001 & -0.024 & -0.023** & -0.006 \\
\hline 5 / Negative & Listed & -0.010 & -0.005 & 0.006 & -0.010 & 0.000 & 0.010** & -0.004 \\
\hline 1 / Positive & Listed & 0.002 & -0.022 & -0.024** & 0.007 & -0.008 & -0.015** & -0.009 \\
\hline 2 / Positive & Listed & 0.013 & 0.000 & -0.013** & 0.011 & 0.003 & -0.008** & -0.006 \\
\hline 3 / Positive & Listed & 0.008 & 0.006 & -0.002 & 0.012 & 0.012 & 0.000 & -0.002 \\
\hline 4 / Positive & Listed & -0.008 & 0.009 & \(0.018^{* *}\) & -0.005 & 0.004 & 0.009** & 0.009* \\
\hline 5 / Positive & Listed & -0.008 & 0.002 & 0.010** & -0.002 & -0.001 & 0.001 & 0.008 \\
\hline 1 / Negative & Nasdaq & -0.026 & -0.019 & 0.007 & -0.022 & -0.018 & 0.003 & 0.004 \\
\hline 2 / Negative & Nasdaq & -0.009 & -0.015 & -0.006 & -0.010 & -0.010 & 0.001 & -0.007 \\
\hline 3 / Negative & Nasdaq & 0.001 & 0.009 & 0.008 & -0.001 & 0.008 & 0.009** & -0.001 \\
\hline 4 / Negative & Nasdaq & -0.010 & -0.025 & -0.015** & -0.014 & -0.021 & -0.007* & -0.008 \\
\hline 5 / Negative & Nasdaq & -0.016 & 0.000 & \(0.016^{* *}\) & -0.014 & -0.002 & 0.012** & 0.004 \\
\hline 1 / Positive & Nasdaq & -0.017 & -0.001 & \(0.016^{* *}\) & -0.020 & -0.005 & 0.015** & 0.001 \\
\hline 2 / Positive & Nasdaq & 0.006 & -0.007 & -0.014** & 0.006 & -0.004 & -0.010** & -0.004 \\
\hline 3 / Positive & Nasdaq & 0.003 & 0.004 & 0.001 & -0.002 & 0.006 & 0.008** & -0.007 \\
\hline 4 / Positive & Nasdaq & -0.017 & 0.004 & 0.021** & -0.010 & 0.004 & \(0.014^{* *}\) & 0.007 \\
\hline 5 / Positive & Nasdaq & -0.002 & -0.005 & -0.003 & -0.006 & -0.002 & 0.005 & -0.007 \\
\hline
\end{tabular}

\section*{Table 13: Sample Deciles}

This table shows the number of stocks in each market capitalization, turnover, and short selling decile. The deciles are set so that each decile contains the same number of stocks for the full sample. This table reports the subsample sizes separately for pilot and control stocks and for Listed and Nasdaq NM Stocks. It also gives the proportion of stocks in that decile and market that are pilot or control stocks.
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{3}{*}{} & \multicolumn{4}{|c|}{Listed} & \multicolumn{4}{|c|}{Nasdaq} \\
\hline & \multicolumn{2}{|r|}{Pilot} & \multicolumn{2}{|r|}{Control} & \multicolumn{2}{|r|}{Pilot} & \multicolumn{2}{|r|}{Control} \\
\hline & Count & Proportion & Count & Proportion & Count & Proportion & Count & Proportion \\
\hline Decile & \multicolumn{8}{|c|}{Market Capitalization} \\
\hline Lowest & 22 & 33.9 & 43 & 66.1 & 62 & 28.4 & 156 & 71.6 \\
\hline 2 & 19 & 31.1 & 42 & 66.9 & 61 & 27.6 & 160 & 72.4 \\
\hline 3 & 28 & 33.3 & 56 & 66.7 & 69 & 34.5 & 131 & 65.5 \\
\hline 4 & 35 & 33.0 & 71 & 67.0 & 63 & 35.6 & 114 & 64.4 \\
\hline 5 & 41 & 32.8 & 84 & 67.2 & 63 & 39.9 & 95 & 60.1 \\
\hline 6 & 59 & 34.9 & 110 & 65.1 & 34 & 29.6 & 81 & 70.4 \\
\hline 7 & 65 & 35.1 & 120 & 64.9 & 34 & 34.7 & 64 & 65.3 \\
\hline 8 & 75 & 35.2 & 138 & 64.8 & 27 & 38.0 & 44 & 62.0 \\
\hline 9 & 70 & 31.4 & 153 & 68.6 & 16 & 26.7 & 44 & 73.3 \\
\hline Highest & 90 & 36.7 & 155 & 63.3 & 10 & 26.3 & 28 & 73.7 \\
\hline Decile & & & & Turn & ver & & & \\
\hline Lowest & 36 & 35.3 & 66 & 64.7 & 49 & 27.2 & 131 & 72.8 \\
\hline 2 & 54 & 32.0 & 115 & 68.0 & 47 & 41.2 & 67 & 58.8 \\
\hline 3 & 61 & 32.4 & 127 & 67.6 & 36 & 37.5 & 60 & 62.5 \\
\hline 4 & 71 & 37.6 & 118 & 62.4 & 23 & 24.5 & 71 & 75.5 \\
\hline 5 & 62 & 33.5 & 123 & 66.5 & 33 & 33.7 & 65 & 66.3 \\
\hline 6 & 53 & 32.5 & 110 & 67.5 & 39 & 32.2 & 82 & 67.8 \\
\hline 7 & 71 & 44.7 & 88 & 55.4 & 42 & 33.9 & 82 & 66.1 \\
\hline 8 & 39 & 31.0 & 87 & 69.0 & 59 & 37.3 & 99 & 62.7 \\
\hline 9 & 36 & 30.0 & 84 & 70.0 & 46 & 28.2 & 117 & 71.8 \\
\hline Highest & 21 & 28.0 & 54 & 72.0 & 65 & 31.3 & 143 & 68.8 \\
\hline
\end{tabular}

\section*{Table 14: Changes in Short Selling Activity Across Market Cap and Turnover Deciles}

This table shows the marginal effect of the pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\text { Short Selling Volume }{ }_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \text { Decile }_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11} \text { Pre Short Selling Volume }{ }_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\). The dependent variable is the number of shares sold short on a day divided by the total volume on that day. The regressions are estimated on each day during the Pilot Period. The statistical significance of the coefficients is determined by the distribution of the coefficients. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. \({ }^{* *, *}\) indicates that the effect is statistically different from zero at the 1 and \(5 \%\) level in a two-tailed test.
\begin{tabular}{ccccc}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{2}{c}{ Listed } & Nasdaq & Listed \\
\hline Decile & -0.26 & \(-1.55^{* *}\) & \(2.84^{* *}\) & \\
Lowest & \(4.83^{* *}\) & \(1.68^{* *}\) & \(2.84^{* *}\) & \(1.44^{* *}\) \\
2 & \(1.92^{* *}\) & \(1.64^{* *}\) & \(1.45^{* *}\) & \(1.17^{* *}\) \\
3 & \(4.38^{* *}\) & \(1.80^{* *}\) & \(2.39^{* *}\) & \(1.91^{* *}\) \\
4 & \(3.23^{* *}\) & \(3.23^{* *}\) & \(1.12^{* *}\) & \(2.09^{* *}\) \\
5 & \(3.87^{* *}\) & \(2.46^{* *}\) & \(2.57^{* *}\) & \(1.53^{* *}\) \\
6 & \(3.36^{* *}\) & \(3.90^{* *}\) & \(2.03^{* *}\) & \(2.12^{* *}\) \\
7 & \(0.89^{* *}\) & \(1.03^{* *}\) & \(1.00^{* *}\) & \(2.08^{* *}\) \\
8 & \(1.27^{* *}\) & \(2.47^{* *}\) & \(1.61^{* *}\) & \(1.17^{* *}\) \\
9 & 0.05 & \(1.28^{* *}\) & \(3.50^{* *}\) & \(1.93^{* *}\) \\
\hline Highest & \(0.59^{* *}\) & \(0.64^{* *}\) & \(0.60^{* *}\) & \(0.67^{* *}\) \\
\hline PrePilotControl & 0.10 & 0.09 & 0.10 & 0.09 \\
\hline Average R & & & & \\
\hline
\end{tabular}

\section*{Table 15: Changes in Nasdaq Market Share Across Market Cap and Turnover Deciles}

This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\text { Nasdaq Market Share }_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \text { Decile }_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11} \text { Pre Nasdaq Market Share }{ }_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\). The dependent variable is the Nasdaq share of short selling volume on a day. The regressions are estimated on each day during the Pilot Period. The statistical significance of the coefficients is determined by the distribution of the coefficients. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. ** indicates that the effect is statistically different from zero at the \(1 \%\) level in a two-tailed test.
\begin{tabular}{ccccc}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & Listed & Nasdaq & Listed & Nasdaq \\
\hline Decile & & & & \\
Lowest & \(3.41^{* *}\) & \(3.56^{* *}\) & \(-2.04^{* *}\) & \(1.78^{* *}\) \\
2 & \(-3.82^{* *}\) & \(2.57^{* *}\) & \(-1.76^{* *}\) & \(3.41^{* *}\) \\
3 & \(-1.90^{* *}\) & \(3.01^{* *}\) & \(-0.61^{* *}\) & \(2.22^{* *}\) \\
4 & \(-1.16^{* *}\) & \(2.37^{* *}\) & \(-1.06^{* *}\) & \(2.98^{* *}\) \\
5 & \(-1.56^{* *}\) & \(1.80^{* *}\) & \(-0.82^{* *}\) & \(3.16^{* *}\) \\
6 & \(-1.87^{* *}\) & \(1.87^{* *}\) & \(-0.72^{* *}\) & \(3.08^{* *}\) \\
7 & \(-1.73^{* *}\) & \(1.71^{* *}\) & \(-1.56^{* *}\) & \(2.18^{* *}\) \\
8 & \(-1.95^{* *}\) & \(2.04^{* *}\) & \(-1.41^{* *}\) & \(1.75^{* *}\) \\
9 & \(-1.21^{* *}\) & 0.05 & \(-0.77^{* *}\) & \(1.74^{\star *}\) \\
Highest & 0.22 & 0.54 & \(-1.46^{* *}\) & \(2.04^{* *}\) \\
\hline PrePilotControl & \(0.75^{* *}\) & \(0.68^{* *}\) & \(0.77^{* *}\) & \(0.69^{* *}\) \\
\hline Average \(\mathrm{R}^{2}\) & 0.16 & 0.11 & 0.16 & 0.12 \\
\hline
\end{tabular}

\section*{Table 16: Changes in Ask Depth Across Market Cap and Turnover Deciles}

This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\text { Ask Depth }_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \text { Decile }_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11} \text { Pre Ask Depth }{ }_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\). The dependent variable is the ask depth. The regressions are estimated on each day during the Pilot Period. The statistical significance of the coefficients is determined by the distribution of the coefficients. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. \({ }^{* *}\),* indicates that the effect is statistically different from zero at the 1 and \(5 \%\) level in a two-tailed test.
\begin{tabular}{crrrr}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{2}{c}{ Listed } & Nasdaq & Listed
\end{tabular} Nasdaq

\section*{Table 17: Changes in Bid Depth Across Market Cap and Turnover Deciles}

This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\text { Bid Depth }_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \text { Decile }_{k i}+\beta_{10} \text { Pilot }_{i}+\beta_{11} \text { Pre Bid Depth }{ }_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\). The dependent variable is the bid depth. The regressions are estimated on each day during the Pilot Period. The statistical significance of the coefficients is determined by the distribution of the coefficients. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. \({ }^{* *}\),* indicates that the effect is statistically different from zero at the 1 and \(5 \%\) level in a two-tailed test.
\begin{tabular}{crrrr}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{2}{c}{ Listed } & Nasdaq & \multicolumn{1}{c}{ Listed }
\end{tabular} Nasdaq

\section*{Table 18: Changes in Effective Spread Across Market Cap and Turnover Deciles}

This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\text { Relative Effective Spread }{ }_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \operatorname{Decile}_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11} \text { Pre Relative Effective Spread }_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\). The dependent variable is the relative effective spread. The regressions are estimated on each day during the Pilot Period. The statistical significance of the coefficients is determined by the distribution of the coefficients. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. \({ }^{* *}\),* indicates that the effect is statistically different from zero at the 1 and \(5 \%\) level in a two-tailed test.
\begin{tabular}{crrrr}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{2}{c}{ Listed } & Nasdaq & Listed
\end{tabular} Nasdaq

\section*{Table 19: Changes in Five-Minute Return Variances across Market Cap and Turnover Deciles}

This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:

Variance \((5 \text { minute returns })_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \operatorname{Decile}_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11}\) Pre Variance \((5 \text { minute returns })_{i}\)
Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\) multiplied by \(10^{6}\). The dependent variable is the five-minute return variance. The regressions are estimated on each day during the Pilot Period. The statistical significance of the coefficients is determined by the distribution of the coefficients. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. \({ }^{* *}\),* indicates that the effect is statistically different from zero at the 1 and \(5 \%\) level in a two-tailed test.
\begin{tabular}{crrrr}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{2}{c}{ Listed } & Nasdaq & \multicolumn{1}{c}{ Listed }
\end{tabular} Nasdaq

\section*{Table 20: Changes in Daily Return Variance across Market Cap and Turnover Deciles}

This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\text { Variance }(\text { Daily Return })_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \operatorname{Decile}_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11} \text { Pre Variance (Daily Return) }{ }_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\) multiplied by \(10^{4}\). The dependent variable is the daily return variance. The regressions are estimated on each day during the Pilot Period. The statistical significance of the coefficients is determined by the distribution of the coefficients. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. \({ }^{* *}, *\) indicates that the effect is statistically different from zero at the 1 and \(5 \%\) level in a two-tailed test.
\begin{tabular}{crrrr}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{1}{c}{ Listed } & Nasdaq & \multicolumn{1}{c}{ Listed } & Nasdaq \\
\hline Decile & & & & \\
Lowest & \(7.529^{* *}\) & \(3.240^{*}\) & 0.720 & -0.655 \\
2 & 0.751 & 0.070 & -1.093 & -1.303 \\
3 & 0.992 & 0.709 & -1.081 & 0.146 \\
4 & 0.332 & \(2.713^{*}\) & -0.971 & 1.711 \\
5 & 0.061 & -1.503 & -0.556 & 0.632 \\
6 & -0.260 & 0.798 & 0.154 & 2.653 \\
7 & -0.146 & -1.623 & -0.052 & -0.452 \\
8 & \(-1.452^{*}\) & -1.965 & 0.449 & 2.513 \\
9 & \(-1.243^{*}\) & -3.131 & 0.366 & -0.173 \\
Highest & \(-1.775^{* *}\) & -3.596 & 0.137 & -0.391 \\
\hline PrePilotControl & \(0.179^{* *}\) & \(0.419^{* *}\) & \(0.206^{* *}\) & \(0.433^{* *}\) \\
\hline Average R & 0.161 & 0.129 & 0.126 & 0.122 \\
\hline
\end{tabular}

\section*{Table 21: May 2 Market Adjusted Returns Across Market Cap and Turnover Deciles}

This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\mathrm{R}_{M a y 2 i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \operatorname{Decile}_{k i}+\beta_{10} \operatorname{Pilot}_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\). The dependent variable is the return from the close of trading on April 29, 2005 to the close of trading on May 2, 2005. We divide the stocks into deciles by market cap on May 2,2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. * indicates that the effect is statistically different from zero at the \(5 \%\) level in a two-tailed test. None of the numbers presented below are significant at the \(1 \%\) level.
\begin{tabular}{ccccc}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{1}{l}{ Listed } & Nasdaq & \multicolumn{1}{l}{ Listed } & Nasdaq \\
\hline Decile & & & & \\
Lowest & \(-0.16 \%\) & \(-0.45 \%\) & \(-0.35 \%\) & \(0.48 \%^{*}\) \\
2 & \(-0.35 \%\) & \(0.00 \%\) & \(-0.17 \%\) & \(-0.06 \%\) \\
3 & \(-0.20 \%\) & \(-0.29 \%\) & \(-0.43 \%\) & \(0.28 \%\) \\
4 & \(0.08 \%\) & \(-0.50 \%\) & \(-0.42 \%\) & \(0.57 \%\) \\
5 & \(-0.18 \%\) & \(0.72 \%\) & \(-0.27 \%\) & \(-0.97 \%\) \\
6 & \(0.02 \%\) & \(-0.24 \%\) & \(0.06 \%\) & \(-0.06 \%\) \\
7 & \(-0.01 \%\) & \(-0.55 \%\) & \(-0.31 \%\) & \(-0.27 \%\) \\
8 & \(-0.38 \%\) & \(-0.19 \%\) & \(0.08 \%\) & \(0.14 \%\) \\
9 & \(-0.41 \%\) & \(-0.54 \%\) & \(-0.17 \%\) & \(-0.59 \%\) \\
Highest & \(-0.47 \%^{*}\) & \(0.05 \%\) & \(-0.16 \%\) & \(-0.81 \%^{*}\) \\
\hline Average \(\mathrm{R}^{2}\) & 0.006 & 0.006 & 0.006 & 0.008 \\
\hline
\end{tabular}

Table 22: Six Month Market Model In-Sample Alphas Across Market Cap and Turnover Deciles

This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\operatorname{Alpha}_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \operatorname{Decile}_{k i}+\beta_{10} \operatorname{Pilot}_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\). The dependent variable is in-sample alpha estimated for each stock based on the market model. The market model alpha was estimated over the six month period from May 2, 2005 to October 31, 2005 by regressing the daily stock returns on the daily market return, which is represented by the CRSP equally-weighted index returns. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. None of the numbers presented below are significant at the \(5 \%\) or \(1 \%\) level.
\begin{tabular}{ccccr}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{2}{l}{ Listed } & Nasdaq & \multicolumn{1}{l}{ Listed }
\end{tabular} Nasdaq

Figure 1: Six Month Cumulative Returns During Pilot
Panel A: Listed Stocks


Panel B: Nasdaq NM Stocks


\section*{Appendix A: Concurrent Regulation SHO Pilot Studies}

We have identified three concurrent studies that also examine the effect of removing the tick test and/or the bid test during the Regulation SHO Pilot. See the attached chart for a simplified comparison of the studies. Much of the analysis is similar to the analysis reported in this report, but the construction of the samples differs in important ways. Each approach has its merits. The main difference between the construction of the samples for this report and the sample construction in the concurrent papers is the incorporation of stocks that might be outliers. This report includes these stocks because they might be the ones most affected by the Pilot. The other studies exclude these stocks in order to improve matching between the pilot and control stocks or to remove the influence of confounding events. Despite the different decisions, many of the results of this report are supported by the results of the concurrent studies.
\begin{tabular}{|c|c|c|c|c|}
\hline Study & Diether, Lee, and Werner (2006) & Alexander and Peterson (2006) & Wu (2006) & SEC \\
\hline \multicolumn{5}{|l|}{Construction} \\
\hline Sample Period & 2/1/05 to 7/31/05 minus 4 weeks around May 2 10 weeks before 10 weeks after & \[
\begin{aligned}
& 4 / 1 / 05 \text { to } 5 / 31 / 05 \\
& 1 \text { month before } \\
& 1 \text { month after }
\end{aligned}
\] & \begin{tabular}{l}
1/3/05-8/31/05 \\
4 months before \\
4 months after
\end{tabular} & \begin{tabular}{l}
1/1/05 to 10/31/05 \\
4 months before \\
6 months after
\end{tabular} \\
\hline Sample Stocks & \begin{tabular}{l}
2004 Russell 3000 minus \\
- Amex and NASDAQ Small Cap stocks \\
- Stocks with ticker changes or changes in listing venue during sample period \\
- Stocks not in 2005 Russell \\
- Stocks with prices \(>\$ 100\) \\
- Stocks with spreads > \$1 \\
- Stocks delisted before 7/31 \\
NYSE: 448 pilot, 904 control \\
Nasdaq: 376 pilot, 757 control
\end{tabular} & \begin{tabular}{l}
Original Pilot and Control minus \\
- Amex stocks \\
- Stocks delisted before 5/31 \\
One-to-one matches based on: \\
- Listing market \\
- Option status \\
- 2 digit SIC code \\
- Price, market capitalization, book-to-market, trading volume, and past returns \\
Keep best \(50 \%\) of matches \\
NYSE: 224 pairs \\
Nasdaq: 183 pairs
\end{tabular} & \begin{tabular}{l}
NYSE stock in 2004 Russell 3000 minus \\
- Stocks not in 2005 Russell \\
- Stocks with prices \(>\$ 900\) One-to-one matches based on: \\
- Market cap \\
- Price \\
- Volume \\
Exclude if no good control match \\
NYSE: 332 pairs
\end{tabular} & \begin{tabular}{l}
2004 Russell 3000 minus \\
- IPOs after May 1, 2004 \\
- Stocks delisted before \(5 / 2\) \\
Includes stocks delisted before 10/31 \\
Listed: 504 pilot, 973 control \\
Nasdaq: 439 pilot, 917 control
\end{tabular} \\
\hline \multicolumn{5}{|l|}{Findings} \\
\hline Short Selling & \begin{tabular}{l}
Higher relative short sale volume. \\
NYSE: higher number of short sale trades \\
No impact on the number of NASDAQ short sale trades.
\end{tabular} & \begin{tabular}{l}
No significant impact on short sale volume for either NYSE or NASDAQ. \\
NYSE: Pilot stocks had a higher number of short sales trades and a lower average short sale trade size. \\
NASDAQ: No impact on number of short sales trades or average short sale trade size.
\end{tabular} & \begin{tabular}{l}
Examines only short selling on the NYSE \\
Relative short selling increases for pilot stocks. Significant for small stocks but not large stocks.
\end{tabular} & \begin{tabular}{l}
Higher short sale volume and a higher number of short sale trades. No impact on short interest or days to cover. No impact on option trading volume or open interest. Trading is more balanced for pilot stocks. \\
The increase in short selling is bigger for small stocks.
\end{tabular} \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|}
\hline Study & Diether, Lee, and Werner (2006) & Alexander and Peterson (2006) & Wu (2006) & SEC \\
\hline Liquidity & No impact on NASDAQ stocks. NYSE: Larger quoted, effective, and realized spreads, smaller quoted ask depth, higher relative bid depth, smaller buy imbalances. & NYSE: larger spreads, smaller quoted ask depth, smaller quoted bid depth, higher price impact NASDAQ: larger spreads No effect on effective spreads & \begin{tabular}{l}
Relative effective and quoted spreads increase with pilot by \(<1 \mathrm{bps}\). This is statistically significant only for small stocks. \\
Smaller buy imbalances across all market cap groups. Offer depth declines for most size groups.
\end{tabular} & \begin{tabular}{l}
Listed: smaller quoted ask depth in univariate and regression. \\
Regression shows decrease in both bid and ask. Some tests show small increases or decreases in realized liquidity.
\end{tabular} \\
\hline Volatility & \begin{tabular}{l}
No increase in the majority of the 26 different volatility measures for Pilot Stocks. NYSE: higher short term volatility (15/5 variance ratio), daily return volatility, trade to trade return volatility, offer to offer quote volatility, five-minute bid and offer volatility, daily upside and down-side semivariance. \\
The authors examine semivariance, trade returns, bid quote returns, and ask quote returns for various time lengths: trade to trade, quote to quote, five-minute, fifteen-minute, and daily. They also examine the 15/5 minute variance ratio.
\end{tabular} & No impact. The authors examine six volatility measures: 5 minute return volatility, semi-variance, daily relative price range, FamaFranch three-factor model idiosyncratic risk, CAPM idiosyncratic risk, and implied volatility. & Variance ratios did not change with pilot. Daily price range and intraday price standard deviation do not change. & Some evidence of an increase in intraday volatility. This appears to be driven by smaller stocks as larger stocks saw a decline in intraday volatility during the pilot. While average daily volatility does not change, smaller stocks experienced lower volatility during the pilot as larger stocks experienced an increase. \\
\hline
\end{tabular}
\begin{tabular}{|l|l|l|l|l|}
\hline Study & \begin{tabular}{l} 
Diether, Lee, and Werner \\
(2006)
\end{tabular} & \multicolumn{1}{c|}{ Alexander and Peterson (2006) } & \multicolumn{1}{c|}{ Wu (2006) } \\
\hline Efficiency & & \begin{tabular}{l} 
No impact except for the following \\
measures for NYSE stocks: \\
higher autocorrelation of five- \\
minute returns, greater likelihood \\
of a lower price for the second \\
trade after a short sale, and \\
greater likelihood of a higher \\
trade price for the first trade after \\
a short sale. The authors \\
examine the autocorrelation of \\
five- and thirty-minute returns, \\
upside minus downside r- \\
squared, and price runs.
\end{tabular} & \begin{tabular}{l} 
Hasbrouck pricing errors \\
show no significant change \\
with pilot. \\
Intraday return \\
autocorrelations (30 and 60 \\
minute) did not change with \\
pilot.
\end{tabular} & \begin{tabular}{l} 
Higher five-minute return \\
reversals. \\
Higher five-minute semi- \\
autoregression. \\
No impact on thirty-minute \\
return reversals, thirty-minute \\
semi-autocorrelation, or on \\
skewness in five-minute, thirty- \\
minute, and daily returns.
\end{tabular} \\
\hline Returns & & \begin{tabular}{l} 
No significant impact on returns \\
surrounding the announcement \\
date of the Pilot stocks, on the \\
initiation day of the Pilot, or during \\
the first month of the Pilot.
\end{tabular} & \begin{tabular}{l} 
Listed pilot stocks had a 24 \\
bps lower return than control \\
stocks on the initiation day of \\
the Pilot but had statistically \\
similar cumulative return during \\
the 6 months after the Pilot.
\end{tabular} \\
\hline Conclusion & \begin{tabular}{l} 
While the suspension of the \\
NYSE tick test is found to be \\
associated with larger spreads \\
and higher short-term volatility, \\
this evidence is consistent with \\
the distorting effects of the tick \\
test on short sellers (i.e., forcing \\
them to be liquidity suppliers) \\
rather than any benefit to \\
investor welfare.
\end{tabular} & \begin{tabular}{l} 
Concerns about the removal of \\
the price tests leading to a \\
degradation of market quality are \\
unfounded. Price tests do not \\
further the stated objectives of \\
short sale regulation.
\end{tabular} & \begin{tabular}{l} 
Tick test reduces short selling \\
and narrows the spread \\
primarily for small stocks. \\
Tick test does not seriously \\
constrain short sellers from \\
trading on their information.
\end{tabular} & \begin{tabular}{l} 
Most evidence shows that the \\
pilot had a minor effect. The \\
most intriguing results are in \\
volatility. Some evidence that \\
the tick test has a bigger effect \\
in small stocks.
\end{tabular} \\
\hline
\end{tabular}

\section*{OEA MEMORANDUM}

TO: File
FROM: Office of Economic Analysis

DATE: November 4, 2009

\section*{SUBJECT: Impact of Recent SHO Rule Changes on Fails to Deliver}

This memorandum examines fails to deliver before and after the elimination of the options market maker (OMM) exception in Rule 203 of Regulation SHO and the implementation of interim final temporary Rule 204T and permanent Rule 204 (T+3 Close-out Rule). This memo includes three additional months of data and updates results from earlier memos dated March 20, 2009, November 26, 2008, and April 16, 2009. The findings here are consistent with those in the earlier memos.

Due to the contemporaneous implementation of the elimination of the options market maker exception and Rule 204T, they are analyzed together. \({ }^{1}\) Since the rule changes significantly shortened the window to close-out most fail to deliver positions and expanded the close-out provisions to all equity securities, we would expect to see a decline in average daily fails due to compliance with the new rules, all else equal. However, it is also possible that certain behavioral changes or other factors could mitigate or exacerbate any effect. For example, faster "cycling" of fails (more rapid fail-closeout-fail-closeout) could lead to full compliance with the new rules but no change in average daily fails.

In summary, the results indicate that fails to deliver decreased significantly after the elimination of the OMM exception and the implementation of the T+3 Close-out Rule. Fails declined by \(63.4 \%\) across all securities and \(80.5 \%\) for threshold stocks. In addition, there is some evidence that optionable stocks experienced larger declines than nonoptionable stocks. There has been a large downward trend in fails since July 2008.

\section*{Background}

The Commission approved a final rule to eliminate the options market maker exception from the close-out requirement of Rule 203(b)(3) in Regulation SHO. This rule change became effective at 12:01 a.m. ET on Thursday, Sept. 18, 2008. The Commission made

\footnotetext{
\({ }^{1}\) We also note that Emergency Order (Release No. 34-58592) temporarily prohibited any person from effecting a short sale in the publicly traded securities of certain financial firms during the period from September 19 to October 8, 2008.
}

This is a memo of the staff of the Office of Economic Analysis. The Commission has expressed no view regarding the analysis, findings or conclusions herein.
permanent the relevant provisions of Rule 204T, as Rule 204, in July 2009. \({ }^{2}\) As a result, any new fails by options market makers after the effective date are subject to the same close-out requirements as other market participants under Rule 204. Interim final temporary Rule 204T provided for a 35-settlement day phase-in period to close-out previously established fail to deliver positions by option market makers. In other words, since the effective date of the SEC Emergency Order (Release No. 34-58572) was September 18, 2008, the phase-in period ended prior to the start of trading on November 7, 2008. Any change in a fail position that is closed-out via a standard settlement trade on November 7, 2008 appeared November 13, 2008.

The Commission also adopted in September 2008, on an interim final basis, a new rule requiring that short sellers and their broker-dealers deliver securities by the close of business on the settlement date (three days after the sale transaction date, or \(\mathrm{T}+3\) ) and imposing penalties for failure to do so. As noted above, this interim final rule was made permanent effective July 31, 2009 with some limited modifications. Rule 204 establishes that fail to deliver positions related to short sales must be closed out prior to the beginning of normal trading hours on the next settlement day following the settlement date of the newly-created fail (usually \(\mathrm{T}+4\) ). Fail to deliver positions related to bona fide market making or long sales have an additional two settlement days to close-out fail to deliver positions (usually T+6). Fail to deliver positions related to sales pursuant to Rule 144 have 36 settlement days to close out (usually \(\mathrm{T}+39\) ). One major distinction between Rule 204 and Rule 203 is that Rule 204 covers all equity securities whereas Rule 203 covers only threshold list securities. Since the close-out provisions of Rule 204 differ depending on the type of trade that led to the fail and the date of the fail, Appendix A provides a summary table that lists important introduction dates for each category.

Since some previously-established fails in threshold list securities may have had up to 14 days to close-out, a large part of the effect of the new close-out requirements may not have shown up in the NSCC settlement data until October 10, 2008 (17 settlement days after the day prior to the effective date). Also, since some previously-established OMM fails had up to 36 days to close-out, the full effect of the new close-out requirements in optionable securities may not have shown up in the NSCC settlement data until November 13, 2008 ( 39 settlement days after the effective date). Also, pre-existing fails in non-threshold stocks were not required to be closed-out within any time period unless the security entered the threshold list. Since we do not want our analysis confounded by the grandfather exception elimination, we use the period from January 1, 2008 to September 22, 2008 ( 183 days) as the pre-Rule period. \({ }^{3}\) The period from September 23, 2008 to September 30, 2009 (256 days) is defined as the post-Rule period.

\footnotetext{
\({ }^{2}\) See Exchange Act Release No. 60388 (July 29, 2009, 74 FR 38266 (July 31, 2009); http://www.sec.gov/rules/final/2009/34-60388fr.pdf and http://www.sec.gov/rules/final/2009/34-60388.pdf.
\({ }^{3}\) We note that the pre-period includes the period of the July Emergency Order that temporarily required pre-borrowing for the securities of publicly traded securities of 19 substantial financial firms prior to short sales (Release No. 34-58166). The July Emergency Order led to a significant reduction in fails in these securities. The length of the pre-period window and the small number of securities affected by the July
}

This is a memo of the staff of the Office of Economic Analysis. The Commission has expressed no view regarding the analysis, findings or conclusions herein.

\section*{All Securities (Table 1):}

Table 1 shows the average daily fail to deliver measures pre- and post-Rule 204 and OMM exception elimination for all securities. The evidence shows significant declines in all fails to deliver measures. For example:
- The average daily fails to deliver shares decreased by 63.4\%.
- The average daily dollar value of fails to deliver decreased by \(77.5 \%\).
- The average daily number of fails to deliver positions decreased by \(60.3 \%\).

\section*{Threshold List Securities (Table 2):}

Table 2 shows the summary fail to deliver measures for threshold list securities. The evidence shows significant declines in all fails to deliver measures. For example:
- The average daily number of threshold list securities decreased by \(82.1 \%\).
- The average daily fails to deliver shares in threshold securities decreased by 80.5\%.
- The average daily dollar value of fails to deliver in threshold securities decreased by \(92.5 \%\).
- The average daily number of fails to deliver positions in threshold securities decreased by 89.7\%.

\section*{Threshold List Securities with Listed Options (Table 3):}

Table 3 shows the summary fail to deliver measures for threshold list securities with listed options. The evidence shows significant declines in all fails to deliver measures. For example:
- The average daily number of optionable threshold list securities decreased by 88.8\%.
- The average daily fails to deliver shares in optionable threshold securities decreased by \(90.9 \%\).
- The average daily dollar value of fails to deliver in optionable threshold securities decreased by \(93.5 \%\).
- The average daily number of fails to deliver positions in optionable threshold securities decreased by \(92.6 \%\).

\section*{Threshold List Securities without Listed Options (Table 4):}

Table 4 shows the summary fail to deliver measures for threshold list securities without listed options. The evidence shows significant declines in all fails to deliver measures. For example:
- The average daily number of non-optionable threshold list securities decreased by 76.2\%.
- The average daily fails to deliver shares in non-optionable threshold securities decreased by 75.9\%.

Emergency Order largely mitigate any confounding influence from this inclusion. Further, any bias would be in the direction of finding a smaller impact from the September 2008 rule changes.

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- The average daily dollar value of fails to deliver in non-optionable threshold securities decreased by \(83.3 \%\).
- The average daily number of fails to deliver positions in non-optionable threshold securities decreased by \(84.4 \%\).

Any difference in the change in fails between stocks with listed options (Table 3) and threshold stocks without listed options (Table 4) may indicate the impact of the elimination of the option market making exception. The comparison indicates that stocks with listed options saw larger percentage decreases than stocks without options. Depending on the measure, the declines are \(7.8 \%\) to \(21.3 \%\) larger for stocks with listed options.

\section*{Daily Fails to Deliver in All Securities (Figure 1):}

Figure 1 shows the daily aggregate fails in all securities from April 1, 2004 to September 30, 2009. There has been a decline of \(88.5 \%\) from the 2008 high of 2.21 billion shares on July 16, 2008 to 0.25 billion shares on June 30, 2009. There was a large spike to 2.33 billion shares on June 19, 2009 and 2.36 billion shares on June 22, 2009 that was the result of a two-day, 2 billion share fail to deliver in one stock, eWorld Companies Inc. (EWRC). It is important to note that we do not attempt to adjust fails to deliver for increases in trading volume over time. Assuming everything else constant, as the magnitude of trading (settlements) increases one would expect that the magnitude of fails to deliver would also increase. From April 1, 2004 to December 31, 2004 (Pre-Rule 203), the average daily fails were 810 million shares. From January 1, 2009 to September 30, 2009, the average daily fails were 402 million shares, a decrease of \(50.4 \%\). During the same period, the average monthly dollar value of trading increased 117.7\% from \(\$ 2.3\) trillion to \(\$ 5.0\) trillion. \({ }^{4}\) Therefore, fails have decreased despite greater trading activity.

\section*{Average Daily Number of Threshold List Securities (Figure 2):}

Figure 2 shows the average daily number of threshold list securities for each month from January 2005 to September 2009. The average in September 2009 was 59.6 securities per day, a decline of 88.2\% from its high in July 2008.

\section*{Daily Number of Threshold List Securities (Figure 3):}

Figure 3 shows the daily number of threshold list securities from January 7, 2005 to September 30, 2009. There has been a decline of \(90.3 \%\) from the high of 632 on July 14, 2008 to 61 on September 30, 2009.

\section*{Daily Fails to Deliver in Threshold List Securities (Figure 4):}

Figure 4 shows the daily aggregate fails in threshold list securities from January 7, 2005 to September 30, 2009. There has been a decline of \(97.4 \%\) from the high of 1.36 billion shares on July 16, 2008 to 0.04 billion shares on September 30, 2009.

\footnotetext{
\({ }^{4}\) The numbers are based on an aggregation of monthly Form R31 reports filed by SROs and exchanges.
}

This is a memo of the staff of the Office of Economic Analysis. The Commission has expressed no view regarding the analysis, findings or conclusions herein.

\section*{Daily Fails to Deliver in All Securities (Figure 5):}

Figure 5 shows the daily aggregate fails in all securities from June 2, 2008 to September 30, 2009. There was a large spike to 2.33 billion shares on June 19, 2009 and 2.36 billion shares on June 22, 2009 that was the result of a two-day, 2 billion share fail to deliver in one stock, eWorld Companies Inc. (EWRC). The chart denotes the effective date of the T+3 Close-out Rule.

\section*{Daily Number of Threshold List Securities (Figure 6):}

Figure 6 shows the daily number of threshold list securities from June 2, 2008 to September 30, 2009.

\section*{Daily Fails to Deliver in Threshold List Securities (Figure 7):}

Figure 7 shows the daily aggregate fails in threshold list securities from June 2, 2008 to September 30, 2009.

\section*{ETPs as a Proportion of All Threshold List Securities (Figure 8):}

Figure 8 shows the daily number of threshold list securities and Exchange Traded Products (ETPs) as a proportion of all threshold list securities from January 2, 2008 to September 30, 2009. Post-Rule, ETPs have become a more significant portion of threshold list securities and on some days accounted for more than \(50 \%\) of all threshold list securities.

Table 1
Summary Statistics on Fails to Deliver
All Securities
Pre- and Post-Rule
\begin{tabular}{|c|c|c|c|c|}
\hline Measure & Pre & Post & Change & \begin{tabular}{l}
Percent \\
Change
\end{tabular} \\
\hline Number of Days & 183 & 256 & & \\
\hline Average Daily Dollar Value of Aggregate Fails (\$millions) & 7,775 & 1,749 & -6,025 & -77.5\% \\
\hline Average Daily Aggregate Fails (millions) & 1,103 & 404 & -699 & -63.4\% \\
\hline Average Daily Number of Securities \({ }^{5}\) & 10,227 & 6,819 & -3,408 & -33.3\% \\
\hline Average Daily Number of Fail Positions \({ }^{6}\) & 28,912 & 11,487 & -17,424 & -60.3\% \\
\hline \multicolumn{5}{|l|}{New Fails \({ }^{7}\) :} \\
\hline Average Daily Dollar Value of New Fails (\$millions) & 2,953 & 1,117 & -1,836 & -62.2\% \\
\hline Average Daily New Fail Shares (millions) & 286 & 164 & -122 & -42.8\% \\
\hline Average Daily New Fail Positions \({ }^{8}\) & 13,275 & 7,106 & -6,169 & -46.5\% \\
\hline
\end{tabular}

Bolded changes are significant at the 5\% level using the Wilcoxon-Mann-Whitney test (nonparametric). Source: NSCC.

\footnotetext{
\({ }^{5}\) Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of securities is grossed-up by a factor of 2.97 to account for the missing data.
\({ }^{6}\) Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of positions is grossed-up by a factor of 2.21 to account for the missing data.
\({ }^{7}\) New fails are estimated each day by summing any positive change in the fails to deliver from the previous day for each security-clearing firm combination.
\({ }^{8}\) Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of new positions is grossed-up by a factor of 1.76 to account for the missing data.
}

Table 2

\section*{Summary Statistics on Fails to Deliver \\ Threshold List Securities \\ Pre- and Post-Rule}
\begin{tabular}{|c|c|c|c|c|}
\hline Measure & Pre & Post & Change & Percent \\
\hline Number of Days & 183 & 256 & & \\
\hline Average Daily Dollar Value of Aggregate Fails (\$millions) & 4,124 & 311 & -3,812 & -92.5\% \\
\hline Average Daily Aggregate Fails (millions) & 497 & 97 & -400 & -80.5\% \\
\hline Average Daily Number of Securities & 480 & 86 & -394 & -82.1\% \\
\hline Average Daily Number of Fail Positions & 2,361 & 242 & -2,119 & -89.7\% \\
\hline \multicolumn{5}{|l|}{New Fails \({ }^{9}\) :} \\
\hline Average Daily Dollar Value of New Fails (\$millions) & 866 & 106 & -760 & -87.8\% \\
\hline Average Daily New Fail Shares (millions) & 74 & 19 & -55 & -74.9\% \\
\hline Average Daily New Fail Positions & 1,306 & 139 & -1,167 & -89.3\% \\
\hline \multicolumn{5}{|l|}{Fails Aged more than 17 Days:} \\
\hline - Average Daily Dollar Value of Aggregate Fails (\$millions) & 1,844 & 87 & -1,757 & -95.3\% \\
\hline - Average Daily Aggregate Fails (millions) & 147 & 18 & -129 & -87.8\% \\
\hline - Average Daily Number of Securities & 201 & 19 & -182 & -90.7\% \\
\hline - Average Daily Number of Fail Positions & 299 & 21 & -278 & -92.9\% \\
\hline
\end{tabular}

Bolded changes are significant at the 5\% level using the Wilcoxon-Mann-Whitney test (nonparametric). Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

\footnotetext{
\({ }^{9}\) New fails are estimated each day by summing any positive change in the fails to deliver from the previous day for each security-clearing firm combination.
}

Table 3
Summary Statistics on Fails to Deliver Threshold List Securities with Listed Options Pre- and Post-Rule Amendment
\begin{tabular}{lrrrr} 
Measure & Pre & Post & Change & \begin{tabular}{l} 
Percent \\
Change
\end{tabular} \\
Number of Days & 183 & 256 & & \\
Average Daily Dollar Value of Aggregate Fails (\$millions) & 3,697 & 240 & \(\mathbf{- 3 , 4 5 7}\) & \(-93.5 \%\) \\
Average Daily Aggregate Fails (millions) & 154 & 14 & \(\mathbf{- 1 4 0}\) & \(\mathbf{- 9 0 . 9 \%}\) \\
Average Daily Number of Securities & 224 & 25 & \(\mathbf{- 1 9 9}\) & \(\mathbf{- 8 8 . 8 \%}\) \\
Average Daily Number of Fail Positions & 1,526 & 112 & \(\mathbf{- 1 , 4 1 4}\) & \(\mathbf{- 9 2 . 6 \%}\) \\
New Fails \({ }^{\mathbf{1 0}}\) : & & & & \\
Average Daily Dollar Value of New Fails (\$millions) & 783 & 80 & \(\mathbf{- 7 0 3}\) & \(-\mathbf{- 8 9 . 8 \%}\) \\
Average Daily New Fail Shares (millions) & 27 & 4 & \(\mathbf{- 2 3}\) & \(\mathbf{- 8 5 . 4 \%}\) \\
Average Daily New Fail Positions & 894 & 69 & \(\mathbf{- 8 2 5}\) & \(\mathbf{- 9 2 . 3 \%}\) \\
Fails Aged more than 17 Days: & & & & \\
- Average Daily Dollar Value of Aggregate Fails (\$millions) & 1,746 & 74 & \(\mathbf{- 1 , 6 7 2}\) & \(\mathbf{- 9 5 . 8 \%}\) \\
- Average Daily Aggregate Fails (millions) & 77 & 4 & \(\mathbf{- 7 2}\) & \(\mathbf{- 9 4 . 2 \%}\) \\
- Average Daily Number of Securities & 134 & 8 & \(\mathbf{- 1 2 5}\) & \(\mathbf{- 9 3 . 7 \%}\) \\
- Average Daily Number of Fail Positions & 215 & 9 & \(\mathbf{- 2 0 6}\) & \(\mathbf{- 9 5 . 7 \%}\)
\end{tabular}

Bolded changes are significant at the \(5 \%\) level using the Wilcoxon-Mann-Whitney test (nonparametric).
Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

\footnotetext{
\({ }^{10}\) New fails are estimated each day by summing any positive change in the fails to deliver from the previous day for each security-clearing firm combination.
}

Table 4
Summary Statistics on Fails to Deliver Threshold List Securities without Listed Options

Pre- and Post-Rule Amendment
\begin{tabular}{lrrrr} 
Measure & Pre & Post & Change & \begin{tabular}{l} 
Percent \\
Change
\end{tabular} \\
Number of Days & 183 & 256 & & \\
Average Daily Dollar Value of Aggregate Fails (\$millions) & 427 & 71 & \(\mathbf{- 3 5 6}\) & \(\mathbf{- 8 3 . 3 \%}\) \\
Average Daily Aggregate Fails (millions) & 343 & 83 & \(\mathbf{- 2 6 0}\) & \(\mathbf{- 7 5 . 9 \%}\) \\
Average Daily Number of Securities & 256 & 61 & \(\mathbf{- 1 9 5}\) & \(\mathbf{- 7 6 . 2 \%}\) \\
Average Daily Number of Fail Positions & 834 & 130 & \(\mathbf{- 7 0 5}\) & \(-84.4 \%\) \\
New Fails \({ }^{11}\) : & & & & \\
Average Daily Dollar Value of New Fails (\$millions) & 83 & 26 & \(\mathbf{- 5 7}\) & \(\mathbf{- 6 8 . 5 \%}\) \\
Average Daily New Fail Shares (millions) & 47 & 15 & \(\mathbf{- 3 3}\) & \(\mathbf{- 6 9 . 0 \%}\) \\
Average Daily New Fail Positions & 413 & 71 & \(\mathbf{- 3 4 2}\) & \(\mathbf{- 8 2 . 8 \%}\) \\
Fails Aged more than 17 Days: & & & & \\
- Average Daily Dollar Value of Aggregate Fails (\$millions) & 98 & 13 & \(\mathbf{- 8 6}\) & \(\mathbf{- 8 7 . 0 \%}\) \\
- Average Daily Aggregate Fails (millions) & 70 & 14 & \(\mathbf{- 5 6}\) & \(\mathbf{- 8 0 . 7 \%}\) \\
- Average Daily Number of Securities & 68 & 10 & \(\mathbf{- 5 7}\) & \(\mathbf{- 8 4 . 7 \%}\) \\
- Average Daily Number of Fail Positions & 85 & 12 & \(\mathbf{- 7 3}\) & \(\mathbf{- 8 6 . 0 \%}\)
\end{tabular}

Bolded changes are significant at the \(5 \%\) level using the Wilcoxon-Mann-Whitney test (nonparametric).
Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

\footnotetext{
\({ }^{11}\) New fails are estimated each day by summing any positive change in the fails to deliver from the previous day for each security-clearing firm combination.
}

Figure 1


Figure 2


Figure 3


Figure 4


Figure 5


Figure 6


Figure 7


Figure 8
Number of Threshold Securities and ETPs as a Proportion of Threshold Securities by Day

——Total Threshold Securities ——ETP proportion

Produced by OEA

\section*{Appendix A}

\section*{Fail to Deliver Close-out Requirements of Rule 204 Important Dates to Measure Impact}
\begin{tabular}{|l|l|l|l|l|}
\hline Fail Category & \begin{tabular}{l} 
Settlement Days to \\
Close-out Fail: \\
Threshold Stocks
\end{tabular} & \begin{tabular}{l} 
Settlement Days to \\
Close-out Fail: \\
Other Stocks
\end{tabular} & \begin{tabular}{l} 
Last Trade Date to \\
Close-out
\end{tabular} & \begin{tabular}{l} 
Settlement Date \\
Associated with Last \\
Close-out Date
\end{tabular} \\
\hline Pre-existing on September 17, 2008 & & & & \\
\hline Not Option Market Maker & 14 (or less) & None & October 7, 2008 & October 10, 2008 \\
\hline Option Market Maker (OMM) & 36 & None & November 7, 2008 & November 13, 2008 \\
\hline New fails on September 18, 2008 & & & & \\
\hline OMM, MM, and long sales & 3 & 3 & September 23, 2008 & September 26, 2008 \\
\hline Short sales (generally non-MM) & 1 & 1 & September 18, 2008 & September 23, 2008 \\
\hline Rule 144 sales* & 36 & 36 & November 10, 2008 & November 14, 2008 \\
\hline
\end{tabular}

Note that the close-out aging begins on September 17, 2008 for pre-existing fails whereas it begins on September 18, 2008 for new fails.
* The longer time window did not initially apply to certain ESOP sales and certain sales associated with shelf offerings. However, the longer time window is applicable for these sales effective October 17, 2008.

\title{
Economic Analysis of the Short Sale Price Restrictions Under the Regulation SHO Pilot
}

\author{
Office of Economic Analysis \\ U.S. Securities and Exchange Commission
}

February 06, 2007

This is a report of the staff of the Office of Economic Analysis. The Commission has expressed no view regarding the analysis, findings or conclusions herein.

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\title{
Economic Analysis of the Short Sale Price Restrictions under the Regulation SHO Pilot
}

\section*{A Study by the Staff of the Office of Economic Analysis \({ }^{1}\)}

\section*{I Introduction}

\section*{A. Background}

Short selling in exchange-listed stocks ("Listed Stocks") in the U.S. has been subject to a "tick test" since 1938. Rule 10a-1 under the Securities Exchange Act of 1934 allows short sales to occur only at an uptick or a zero uptick (also known as a "zero-plus tick") for Listed Stocks. That is, short sales in Listed Stocks may be effected above the last trade price or at the last trade price if the last trade price is higher than the most recent trade at a different price. \({ }^{2}\) Prior to August 1, 2006, Nasdaq was not operating as an exchange and, therefore, its stocks were not Listed for the purposes of Rule 10a-1. However, in 1994, the National Association of Securities Dealers ("NASD") introduced a "bid test" for Nasdaq National Market Stocks ("Nasdaq NM Stocks"), which applies to trading on Nasdaq and trading reported to the NASD. This rule, the former NASD Rule 3350, specifies that whenever the bid is a downtick from the previous bid, traders other than market makers may sell short only at prices one penny above the bid. \({ }^{3}\) Within this report, the tick test and bid test will be described more generally as "price restrictions."

\footnotetext{
\({ }^{1}\) For further information please contact Amy Edwards (edwardsa@sec.gov), Stewart Mayhew (mayhews@sec.gov), Tim McCormick (mccormickt@sec.gov), or Allan Zebedee.
\({ }^{2}\) Paragraph (a) of Rule 10a-1 governs short sales of any security registered on, or admitted to unlisted trading privileges on, a national securities exchange if such transactions are made pursuant to an effective transaction reporting plan as defined in Rule 600 of Regulation NMS. Unless a specific exemption applies, short sales are prohibited at a price that is either (1) below the last reported price of a transaction reported pursuant to an effective transaction reporting plan (known as a "minus tick"); or (2) at the last reported price if that price is lower than the last reported different price (known as a "zero-minus tick").
\({ }^{3}\) When Nasdaq began operating as a national securities exchange, NASD Rule 3350 was replaced by Nasdaq Rule 3350 for Nasdaq NM stocks traded on Nasdaq, and NASD Rule 5100 for Nasdaq NM stocks traded over-the-counter and reported to a NASD facility. In connection with Nasdaq commencing operations as a national securities exchange the Nasdaq National Market was renamed to the Nasdaq Global Market and Nasdaq NM stocks were renamed Nasdaq Global Market stocks. See NASD Rule 4200(a)(6) (providing that the Nasdaq Global Market is the successor to the Nasdaq National Market); see also Securities Exchange Act Release No. 54071 (June 29, 2006),
}

In July 2004, the Securities and Exchange Commission (the "Commission" or the "SEC"), adopted Regulation SHO, which contains Rule 202T, allowing the Commission to establish, by separate order, a pilot program to examine the efficacy of price restrictions. \({ }^{4}\) At the same time, the Commission issued an order ("Pilot Order") establishing a pilot program ("Pilot") exempting a third of the stocks in the Russell 3000 Index ("Russell 3000") from all price restrictions. \({ }^{5}\) The pilot stocks constitute a sample of Russell 3000 stocks that is stratified across average daily trading volume levels within each of three groups, corresponding to New York Stock Exchange ("NYSE,") Nasdaq, and American Stock Exchange ("AMEX") issues. \({ }^{6}\) The Pilot went into effect on May 2, 2005, and was scheduled to end on April 28, 2006, \({ }^{7}\) but has been extended to August 6, 2007 to allow the Commission to consider potential rulemaking after evaluating the results of the Pilot. \({ }^{8}\)

The Pilot was designed to enable the Commission and the broader community to evaluate whether the price restrictions have a substantive impact on market quality, and more generally to achieve a deeper understanding of how price restrictions affect the trading process. In its Pilot Order, the Commission provided further explanation for the Pilot: \({ }^{9}\)

The Pilot will enable us to obtain empirical data to help assess whether short sale regulation should be removed, in part or in whole, for actively-traded securities, or if retained, should be applied to additional securities. The Pilot will allow us to study trading behavior in the absence of a short sale price test on the stocks selected by comparing the trading behavior of the control group stocks to that of

\footnotetext{
71 FR 38922 (July 10, 2006) (File No. SR-NASD-2006-068). For purposes of this study, we refer to Nasdaq NM stocks as Nasdaq NM or Nasdaq Stocks and not Nasdaq Global Market stocks. Prior to Nasdaq commencing operations as an exchange, Nasdaq securities traded on exchanges on an unlisted trading privileges basis were not subject to any price restriction.
\({ }^{4}\) See the adopting release, SEC Release No. 34-50103, July 28, 2004.
\({ }^{5}\) See the first Pilot Order, SEC Release No. 34-50104, July 28, 2004.
\({ }^{6}\) Stocks were selected for this sample by sorting the 2004 Russell 3000 first by listing market and then by average daily dollar volume from June 2003 through May 2004, and then within each listing market, selecting every third company starting with the second.
\({ }^{7}\) SEC Release No. 34-50747, November 29, 2004.
\({ }^{8}\) SEC Release No. 34-53684, April 20, 2006.
\({ }^{9}\) SEC Release No. 34-50104, July 28, 2004.
}
the Pilot stocks through empirical analysis. We will examine, among other things, the impact of price tests on market quality (including volatility and liquidity), whether any price changes are caused by short selling, costs imposed by a price test, and the use of alternative means to establish short positions.

To the extent that price restrictions have discernable effects, these should appear as differences between the pilot stocks, which the Commission selected to be a representative subsample of the Russell 3000 index, and the rest of the Russell 3000, which serve as control stocks. The results observed from the Pilot will help inform any subsequent rulemaking that the Commission may consider at the conclusion of the Pilot.

\section*{B. Overview}

The goal of this study is to examine whether eliminating price restrictions has had any impact on market quality, broadly defined. We compute and compare various market statistics for pilot and control stocks both before and during the Pilot. The pilot stocks and control stocks are statistically similar prior to the Pilot. The analysis is conducted separately for both Listed Stocks and for Nasdaq NM Stocks to help distinguish the tick test from the bid test.

We designed this study to evaluate the various policy alternatives outlined in the first Pilot Order. \({ }^{10}\) For example, the results of the Pilot might suggest eliminating all price restrictions, extending a uniform test to all securities, or removing price restrictions for a subset of stocks. Any of these alternatives would potentially affect not only the stocks in the Russell 3000, but others that have a lower market capitalization and perhaps are less actively traded than those in the pilot study. Price restrictions may have different effects for larger and smaller market capitalization stocks, or for more actively traded and less actively traded stocks. Accordingly, as part of our comparison of pilot and control stocks, we partition the sample into

\footnotetext{
\({ }^{10}\) See SEC Release No. 34-50104, July 28, 2004.
}
groups based on market capitalization and turnover (trading volume divided by shares outstanding). The results for the smallest and least actively traded stocks within the Russell 3000 would be the most informative about the likely impact of price restrictions for those stocks that are not in the Russell 3000. Moreover, comparing large and small stocks (or high and low volume stocks) within the Russell 3000 should reveal whether any effects of the price restrictions are related to size or volume.

This study investigates various hypotheses relating to the potential effects of price restrictions. First, if price restrictions represent an economically meaningful constraint on short selling, they may induce some traders to avoid short selling or to reduce the size of their short positions. Thus, we test whether the level of short trading volume and short interest are significantly different for pilot and control stocks. \({ }^{11}\) Both for Listed Stocks and Nasdaq NM Stocks, we find that price restrictions reduce the volume of executed short sales relative to total volume, indicating that price restrictions indeed act as a constraint to short selling. However, in neither market do we find significant differences in short interest across pilot and control stocks.

To the extent that price restrictions are applied in some markets and not in others trading the same stocks, traders who find the restrictions binding might avoid the constraint by choosing a venue where the constraint is not applied. Specifically, because not all markets that trade Nasdaq NM Stocks apply the Nasdaq Bid Test, short sellers can route their orders to avoid the rule. Removing the rule eliminates the need to avoid it and therefore might affect where short sales in Nasdaq NM Stocks are executed. Our results indicate that Nasdaq's share of short selling volume is negatively impacted by price restrictions, suggesting that some short sellers are routing orders to avoid price restrictions.

\footnotetext{
\({ }^{11}\) Short interest is the total number of shares of a security that have been sold short and have not yet been repurchased.
}

Additionally, traders can avoid price restrictions by synthetically shorting in the option market rather than shorting the stock. \({ }^{12}\) To measure the extent to which price restrictions drive short sellers to the option market, we compare option market trading activity for pilot and control stocks. We find no evidence that short sale price restrictions in equities have an impact on option trading or open interest. \({ }^{13}\)

Regardless of whether price restrictions have any substantive impact on overall market liquidity or inhibit manipulation, they affect the ability of short sellers to demand liquidity by getting prompt execution of market orders. For purely mechanical reasons, we would expect price restrictions to affect the number of trades occurring on downticks vs upticks, and the percentage of time the market is in an upbid or downbid state. For Listed Stocks, we find that the application of the tick test results in significantly fewer than \(50 \%\) of transactions occurring on downticks or zero downticks, while trading is more balanced when the tick test does not apply. For Nasdaq NM Stocks, we find that the percentage of time the market is in a downbid state declines when the bid test is removed, suggesting that downbids occur more regularly when the bid test applies.

To the extent that price restrictions inhibit the free movement of stock prices, they might make markets less liquid. On the other hand, because short sellers can rarely execute against a bid quotation, price restrictions force short sellers to act more like liquidity suppliers than liquidity demanders. Therefore, removing them might decrease the perceived supply of liquidity. To test whether price restrictions have a more general impact on liquidity or volatility, we compare quoted and effective spreads, intraday volatility, and the daily price range across

\footnotetext{
\({ }^{12}\) A synthetic short position can be achieved by buying a put option and writing a corresponding call option in the same security. The term synthetic refers the fact that you can replicate the payoffs of an equity short sale without actually short selling the equity itself.
\({ }^{13}\) Open interest is the total number of options contracts that have not yet been closed or fulfilled by delivery.
}
pilot and control stocks. We find that quoted depths are augmented by price restrictions but realized liquidity is unaffected. Further, we find some evidence that price restrictions dampen short term within-day return volatility, but when measured on average, they seem to have no effect on daily return volatility.

Finance theory predicts that under certain conditions, constraints on short selling may cause securities to be misvalued by the market, particularly when investors have highly divergent opinions about the stock. \({ }^{14}\) A simple argument is that short sale constraints make it more costly for those investors who have a negative opinion of a stock to trade on their beliefs, and thus, their views may be reflected less in the stock price than those who have a positive view. Under more general assumptions, theoretic models predict that short sale constraints can cause stocks to be either overvalued or undervalued. \({ }^{15}\) To test whether price restrictions constitute an economically consequential short sale constraint that influences equilibrium stock prices, we investigate whether the prices of pilot stocks react in response to the removal of the rule. We find that for Listed Stocks, control stocks outperform pilot stocks on average by about 24 basis points on the first day of the Pilot, suggesting that the tick test may cause stocks to be slightly overvalued. For Nasdaq NM Stocks, no significant return differential was observed surrounding the initiation of the pilot. We also examine stock returns for a six-month period following the initiation of the pilot program, to ascertain whether the elimination of price restrictions has had any discernible effect on stock prices over a longer horizon. We find that pilot stocks and control stocks have similar returns over this horizon, but some tests show weak evidence consistent with the hypothesis that price restrictions facilitate over-pricing. In the absence of price restrictions, prices do not rise as much as with price restrictions, leading to a lower equilibrium price.

\footnotetext{
\({ }^{14}\) See, for example, Lintner (1969), Miller (1977), and Scheinkman and Xiong (2003).
\({ }^{15}\) See Gallmeyer and Hollifield (2006).
}

One view of price restrictions is that they help prevent "bear raids," or that they make it more difficult for would-be manipulators to drive prices down below their true values. On the other hand, price restrictions might also make it more difficult for short sellers to move prices back toward their true value in response to upward manipulations. Because price restrictions are inherently short-term constraints, any substantive impact on the susceptibility of securities to manipulation is most likely to be manifest at short horizons. For this reason, we focus our investigation on price patterns that might indicate manipulative behavior at a daily or intraday frequency. To explore these issues, we proceed along three avenues of investigation.

First, to the extent that price restrictions create an environment less conducive to price patterns that might indicate downward manipulation and more conducive to price patterns that might indicate upward manipulations, we might expect to observe more extreme negative returns, and fewer extreme positive returns, for pilot stocks than for control stocks. To investigate this, we use our control-sample methodology to test whether the skewness of the returns distribution of short-horizon returns differs across pilot and control stocks. \({ }^{16}\) Our results indicate no statistically significant impact of the pilot program on return skewness, measured at five-minute, thirty-minute, or one-day return intervals.

Second, we identify positive and negative price "spikes," or instances when extreme price moves are reversed shortly afterwards, and examine whether the frequency of positive and negative spikes differs across pilot and control stocks. We find that at a short (five-minute) horizon, pilot stocks tend to experience more price reversals than control stocks, but that this result is the same for negative and positive price reversals. At a thirty-minute horizon, we find no evidence that there are more price reversals for pilot stocks than control stocks.

\footnotetext{
\({ }^{16}\) Bris, Goetzmann, and Zhu (2004), in a study of the effects of short sale regulations around the world, find evidence suggesting that short selling constraints can affect the skewness of the returns distribution.
}

Third, we use a time-series regression methodology to measure the extent to which positive and negative price changes are likely to be subsequently reversed. If price rules play an important role in preventing short sellers from temporarily driving prices down below their fair value, we would expect to see a larger portion of negative returns subsequently reversed for the pilot stocks than the control stocks. For Listed Stocks, we find that a larger portion of both negative and positive returns are subsequently reversed for pilot stocks than control stocks at a short (five-minute) horizon. The symmetry of these results is consistent with the increase in volatility discussed above rather than any marked increase in the potential for downward price pressure. On the other hand, a marked increase in the potential for downward price pressure relative to upward price pressure should lead to an asymmetry in positive and negative return reversal results. We do not find this asymmetry. At a thirty-minute horizon, we find no statistically significant difference in the magnitude of return reversals for Listed pilot and control stocks. For Nasdaq NM Stocks, we find no statistically significant difference in the magnitude of return reversals for pilot and control stocks for either five-minute or thirty-minute intervals.

One important element of the Pilot is the ability to examine whether the tick test affects stocks of varying sizes and volume differently. For example, does the tick test affect larger stocks in the same manner as smaller stocks and would the tick test be more effective for large or small stocks? To examine these questions, we divide the stocks into size, measured as market capitalization, and volume, measured as trading volume divided by shares outstanding (turnover), groups and run each of our tests again for each group. For most of our tests, we find that the tick and bid tests affect stocks the same no matter how large or small or how active are the stocks. In particular, we find that the tick and bid tests result in a lower percentage of short sale volume for most size and activity levels. We also find that the tick and bid tests result in
lower bid and ask depth for most size and activity levels. Thus, the bid and tick tests do not affect liquidity in a way related to the size or activity level of a stock. Finally, the tick and bid tests do not affect returns at or following the start of the Pilot whether the stocks are large or small. On the other hand, the size and activity levels appear to matter for the effect of price restrictions on volatility and for routing decisions. The bid test affects routing decisions more in smaller stocks. Likewise, the bid and tick tests dampen permanent price volatility in small stocks while amplifying it in large stocks.

The remainder of this report is organized as follows. In section II, we recount the history of price restrictions, including Regulation SHO. Section III contains an overview of the academic literature relating to the tick test and the bid test. The data and construction of the samples are described in section IV. Section V explains the empirical methods used in the analyses. In section VI, we present our main analysis of the effect of removing price restrictions for pilot and control stocks over the first 6 months of the Pilot Period. More specifically, in section VI-A, we present our analyses of how eliminating price restrictions has affected the overall level of short volume and short interest, option market volume and open interest, and the frequency and duration of upticks or upbids within the day. In section VI-B, we present our analysis of how the removal of price restrictions has affected market quality, including measures of spreads and intraday volatility. In section VI-C, we report our results on whether lifting price restrictions has affected underlying stock prices or returns, the skewness of returns distributions, the incidence of positive and negative spikes, and the tendency of positive and negative shocks to subsequently reverse. In section VII, we investigate whether price restrictions affect all stocks similarly or whether certain types of stocks, such as small stocks, are more affected by the rules. Section VIII summarizes and concludes the report.

\section*{II History of Price Restrictions}

This section briefly summarizes the historical background of the price restriction rules. \({ }^{17}\)
After the market crash of 1929, a popular view emerged that short sellers exacerbated the crash. \({ }^{18}\) Public concerns about short selling became particularly acute in the aftermath of the international currency crisis of September 21-22, 1931, prompting Senator Arthur Capper of Kansas to introduce several bills aimed at restricting and taxing short selling. It was in this environment, on October 6, 1931, that the NYSE required that all sell orders must be marked long or short. \({ }^{19}\) According to Meeker (1932, p. 147), this effectively acted as a rule against shorting on a downtick, as such trades were viewed as violations of the Exchange's rule against "demoralizing" trades. \({ }^{20}\)

Shortly after its creation in 1934, the Commission recommended sixteen rules that all national securities exchanges should adopt. Among them was a recommendation for an explicit rule against shorting on a downtick:

No member shall use any facility of time exchange to effect on the exchange a short sale of any security in the unit of trading at a price below the last sale price of such security on the exchange. \({ }^{21}\)

Exceptions were specified for odd-lot trading and to allow regional exchanges to bring their prices in line with the primary exchange. Sixteen exchanges adopted this rule in \(1935 .{ }^{22}\)

\footnotetext{
\({ }^{17}\) See also Meeker (1932), SEC, Report of the Special Study of the Securities Markets, reprinted in H.R. Doc. No. 95, 88th Cong., 1st Sess. (1963 "Special Study"), Macey, Mitchell, and Netter (1989), SEC Release No. 34-42037, October 20, 1999.
\({ }^{18}\) See Frederick (1932).
\({ }^{19}\) New York Stock Exchange, Notice Concerning Distinction Between Long and Short Account Selling Orders, October 5, 1931, reprinted in Appendix A of Meeker (1932).
\({ }^{20}\) Constitution of the New York Stock Exchange (August 11, 1927) Article XVII, Section 4.
\({ }^{21}\) SEC, First Annual Report of the Securities and Exchange Commission (1935), available from the Securities and Exchange Commission Historical Society.
\({ }^{22}\) SEC, Report of the Special Study of the Securities Markets, reprinted in H.R. Doc. No. 95, 88th Cong., 1st Sess. (1963), p. 251.
}

Following sharp price drops in the fall of 1937, the Commission performed a study of the transactions of 20 securities on the NYSE for the periods September 7-13 and October 18-23 of that year \({ }^{23}\) and found that short sales constituted a significant portion of the transactions in the declining market. The Commission adopted new short-selling rules, including a rule to formally define what is meant by a short sale and Rule 10a-1, the tick test. \({ }^{24}\) This version of the tick test prohibited short sales "at or below the price at which the last sale, regular way, was effected on such exchange." The rule was adopted on January 24, 1938 and went into effect February 8, 1938.

The tick test was amended March 10, 1939 to allow for short selling at a zero uptick, or in other words at the last trade price, "provided that the last sale price was higher than the last different price which preceded it. \({ }^{25}\) Certain exemption letters have been granted over the years, such as the exemption for diversified exchange traded funds. \({ }^{26}\) However, the basic structure of this rule has remained essentially unchanged since 1939.

The Commission's Special Study (1963) identified three objectives of the tick test, which have been consistently used by the Commission as a framework for discussing the effectiveness of the regulation. These objectives are that the rule should:
(1) Allow relatively unrestricted short sales in an advancing market;
(2) Prevent short selling at successively lower prices, thus eliminating short selling as a tool for driving the market down; and
(3) Prevent short sellers from accelerating a declining market by exhausting all remaining bids at one price level, causing successively lower prices to be established by long sellers.

\footnotetext{
\({ }^{23}\) SEC Release No. 1548, January 24, 1938, 3 FR 213 (January 26, 1938).
\({ }^{24}\) Rule 3b-3 under the Exchange Act sets forth the definition of "short sale" and identifies the specific instances for determining a long position. 17 CFR 240. 3b-3.
\({ }^{25}\) See the Fifth Annual Report of the Securities and Exchange Commission, Fiscal Year Ended June 30, 1939, United States Government Printing Office, Washington, available at http://www.sechistorical.org/collection/papers/1930/1939 SEC_AR.pdf
\({ }^{26}\) See, e.g., Letter re: SPDRs (January 27, 1993); Letter re: MidCap SPDRs (April 21. 1995); Letter re: Select Sector SPDRs (December 14, 1998); Letter re: Units of the Nasdaq-100 Trust (March 3, 1999); Letter re: ETFs (August 17, 2001) (class letter).
}

In 1976, the Commission proposed three alternative temporary rules that would have suspended the tick test for some or all registered securities. \({ }^{27}\) In response to the proposal, several market participants, including the NYSE, opposed the proposal, and expressed concerns that abolishing the tick test might lead to increased volatility or decreased liquidity. The Commission withdrew the proposals in \(1980 .{ }^{28}\)

A House Report submitted by the Committee on Government Operations dated December 6, 1991 discusses several aspects of short selling, including the tick test. \({ }^{29}\) The report suggests that short selling has negative price effects that "can have important and lasting consequences" and asserts that the tick test is "effective in stabilizing the market for exchangelisted stocks for the benefit of issuers and investors," although no evidence is cited in support of this view. The report also recommends that the tick test should be extended to the Nasdaq market.

On September 6, 1994, the Commission approved NASD Rule 3350 (the "bid test") as a temporary rule. \({ }^{30}\) This created a bid test for trades executed by NASD members or their customers, but with exemptions for both equity and option market makers. Specifically, this rule prohibited short sales at or below (or less than one penny above) the best bid price whenever the prevailing inside bid price is lower than the previous inside bid. The bid test might appear less restrictive than the tick test, because it allows for unrestricted short selling at any price when the bid price is higher than the previous bid, and because of the market maker exemptions. Since its

\footnotetext{
\({ }^{27}\) See SEC Release No. 13091, December 21, 1976.
\({ }^{28}\) See SEC Release No. 34-42037, October 20, 1999.
\({ }^{29}\) Short-Selling Activity in the Stock Market: Market Effects and the Need for Regulation (Part 1) (House Report), H.R. Rep. No. 102-414 (1991), reprinted in CCH Federal Securities Law Reports Number 1483 Part II (1992).
\({ }^{30}\) See SEC Release No. 34-34277, July 6, 1994.
}
initial approval, the bid test has been re-approved annually as a temporary rule. \({ }^{31}\) The bid test was in effect when Regulation SHO became effective in January 2005. When Nasdaq began operating as an exchange in August 2006, NASD Rule 3350 was replaced by Nasdaq Rule 3350 and NASD Rule 5100. \({ }^{32}\)

The Commission re-opened the discussion on Rule 10a-1 in a concept release dated October 20, 1999. \({ }^{33}\) In this release, the Commission requested comment on numerous issues surrounding the tick test, including:
- whether the tick test should be suspended when the daily stock return is above a threshold level;
- whether actively traded securities should be exempted from the tick test;
- whether the restrictions should apply only around certain market events such as at the open and close, around mergers and acquisitions, or at option expirations;
- whether hedging transactions be exempt from the tick test;
- whether the tick test should be revised in response to expanded after-hours trading or decimalization;
- whether the tick test should be extended to non-exchange-listed stocks; and,
- whether the tick test should be eliminated.

In October 2003, the Commission proposed a rule that would create a uniform bid test that would apply to both Listed and Nasdaq NM Stocks, with various exemptions. \({ }^{34}\) In addition, the Commission proposed a pilot program that would suspend the tick test for actively-traded securities for two years. \({ }^{35}\) As stated in the proposing release, "[ \(t\) ]he temporary suspension would allow the Commission to study the effects of relatively unrestricted short selling on market volatility, price efficiency, and liquidity."36

\footnotetext{
\({ }^{31}\) Most recently, see SEC Release No. 34-53093, January 10, 2006.
\({ }^{32}\) Nasdaq NM stocks are currently trading under an exemption from Rule 10a-1 in order to maintain the status quo until the conclusion of the Pilot or any further rulemaking by the Commission.
\({ }^{33}\) See SEC Release No. 34-42037, October 20, 1999.
\({ }^{34}\) See SEC Release No. 34-48709, October 28, 2003.
\({ }^{35}\) See SEC Release No. 34-48709, October 28, 2003.
\({ }^{36}\) See SEC Release No. 34-48709, October 28, 2003.
}

With the adoption of Regulation SHO in July 2004, the Commission decided to defer consideration of the uniform bid test and the proposed exemptions (proposed Rule 201), in order to first observe the results of the pilot program. \({ }^{37}\) In connection with the establishment of a Pilot, the parameters governing a Pilot were expanded to include a broader spectrum of securities than envisioned in the proposing release, and the length of the Pilot was shortened to one year. As stated in the adopting release,
the purpose of the Pilot is to assist the Commission in considering alternatives, such as: (1) eliminating a Commission-mandated price test for an appropriate group of securities, which may be all securities; (2) adopting a uniform bid test, and any exceptions, with the possibility of extending a uniform bid test to securities for which there is currently no price test; or (3) leaving in place the current price restrictions.

The details of the program, including the list of securities included in the Pilot, were specified in the Commission's Pilot Order of July 28, 2004. \({ }^{38}\) The Pilot was originally scheduled to begin on January 3, 2005 and last for one year. However, because the industry needed more time to prepare their systems, the start date was postponed until May 2, 2005, and later, the terminal date of the Pilot was extended until August 6, 2007 to maintain the status quo for pilot stocks until the Commission evaluates the results of the study and considers potential rulemaking on price restrictions. \({ }^{39}\) The Pilot Order suspends Rule 10a-1 and the bid test for approximately a third of the Russell 3000 stocks. The methodology for selecting the pilot stocks is detailed in the Pilot Order, and is summarized in section IV, below.

\section*{III Previous Evidence}

The previous evidence on price restrictions gives us insight into how price restrictions work. In particular, it examines the effectiveness of the rules and the effect that the rules have on

\footnotetext{
\({ }^{37}\) SEC Release No. 34-50103, July 28, 2004.
\({ }^{38}\) SEC Release No. 34-50104, July 28, 2004.
\({ }^{39}\) SEC Release No. 34-53684, April 20, 2006.
}
market quality. We are unaware of a previous study that compares the tick test to the bid test.
Several concurrent studies also examine the effect of the Pilot on the tick and bid tests
(Alexander and Peterson (2006), Bai (2006), Diether, Lee, and Werner (2006), and Wu (2006)).
These studies are summarized on Appendix A.

\section*{A. Effectiveness of the Rule}

\section*{1. Shorting in a Declining Market}

Several studies examine whether the rules appear to keep short sales from executing in declining markets. When Rule 10a-1 was adopted in 1938, it was motivated in part by a Commission study of short selling, based on two weeks of data in 1937. This study found that when a downtick rule applied, a substantial amount of short selling occurred during periods when the market was declining. \({ }^{40}\) Two subsequent studies produced by staff at the Commission found that the tick test allows short selling in declining markets. \({ }^{41}\) The Commission's 1963

Special Study concluded that Rule 10a-1 was not effective at achieving its objectives, stating that
[ p ]resent rules appear inadequate to relieve the added pressure that short selling may create during a severe decline in the general market or a declining price trend in a particular security. Despite the rules, a relatively large volume of short selling occurred in particular stocks, including "market leaders" and "trading favorites," during the period of decline preceding the market break of May 28, 1962, and at critical junctures on that day, and many additional opportunities existed when short selling could have occurred. \({ }^{42}\)

In a more recent study, Ferri, Christophe, and Angel (2004) examine short selling in a matched sample of Nasdaq National Market stocks, which were subject to the bid test, and Nasdaq SmallCap stocks, which were not, during a period of high volatility and rapidly declining

\footnotetext{
\({ }^{40}\) The NYSE had a downtick rule prior to the Commission's tick test. A downtick rule is a weaker form of the tick test because it allows trading at the most recent price even if that price was a downtick.
\({ }^{41}\) The Securities and Exchange Commission (1963), in the Special Study, examined the trading activity leading up to and during the market break of May 28, 1962. In a working paper by SEC staff, Marcotte and Martin (1977) study the tick test for the period from September 20 through October 15, 1976, during which time the Dow Jones Industrial Average fell by \(8.12 \%\). The results are summarized in Pollack (1986).
\({ }^{42} 88^{\text {th }}\) Congress, HR Doc No 88-95 ( \(1^{\text {st }}\) session, 1963), pp. 293-294.
}
stock prices (September 2000-August 2001). In their sample of 2,275 observations, they find no significant differences in the overall level of short selling, or the frequency of days with abnormally negative returns and abnormally high short selling.

Overall, the research above shows that short sales are executed in declining markets despite the application of the tick or bid tests. However, this does not mean that short sales are unaffected by the tick and bid tests. We discuss this further in the next section.
2. Short Sale Execution Quality

Another area of research examines whether these rules harm the execution quality of short sales by reducing the prices received by short sellers, by delaying the execution of short sales, or by reducing the fill rates.

Martin and Marquette (1977) conduct a simulation calibrated to the Dow 30 stocks, to estimate the degree to which the rule would have affected execution prices for market short sale orders submitted during a period of market decline. The simulation results indicate that even during a period of rapid price declines, randomly arriving short market orders would have executed at higher prices as a result of the uptick rule. Therefore, short sellers appear better off because of the tick test.

Albert, Smaby, and Robison (1997) examine the negative abnormal returns to stocks following large increases in reported short interest, as an estimate of the profitability of short selling. They find that short selling was more profitable for their Listed sample than their Nasdaq sample during a period (1987-1991) when only Listed Stocks were subject to a price restriction. Their findings imply that the uptick rule does not have a significant negative impact on the bottom line for short sellers.

While studying order data from the NYSE, Angel (1997) and Alexander and Peterson (1999) find that the tick test prevents short sales from demanding liquidity more than \(90 \%\) of the time. As expected, the degree to which the tick test is binding depends on whether the market is rising or falling. Likewise, McCormick and Reilly (1996) find that the Nasdaq bid test prevents short sellers from demanding liquidity roughly \(35 \%\) of the time. This proportion was found to be an increasing function of trading volume and, not surprisingly, a decreasing function of the day's stock return.

Both Angel (1997) and Alexander and Peterson (1999) conclude that Rule 10a-1 significantly impedes order execution quality for short sales, even in rising markets. For those cases where the stock price increased, short sellers can trade at the bid less than fifteen percent of the time. According to Alexander and Peterson (1999), the tick test appears to contradict the Commission's first stated objective for short selling regulation, to "allow relatively unrestricted short selling in an advancing market."

In addition, Alexander and Peterson (1999) also found that short sale orders have significantly lower execution rates and significantly longer times to execution than regular sales. Alexander and Peterson (2002) study how the tick test was affected by the reduction of the tick size from \(1 / 8\) to \(1 / 16\) in June 1997. As predicted, their evidence suggests that short sales were executed faster and at better prices after the reduction in tick size, confirming that the tick test is less binding when the tick size is smaller.

In summary, previous research shows that short sellers can receive better prices as a result of the tick test and that the tick test does not impede profit opportunities. However, the tick test and bid test restrict the ability of short sellers to demand liquidity even in rising markets.

This results in execution delays and lower fill rates. Tick size changes have lowered these costs, but short sellers are still precluded from demanding liquidity much of the time.

\section*{3. Manipulation}

Many of the studies that examine the ability to short in a declining market do not address the question of whether short selling in a declining market increases the potential for manipulating a stock price below its fair value, or conversely, whether short selling helps prices adjust more quickly to their efficient values. Nor do the studies address the question of whether a tick test or bid test would have been effective at reducing the amount of short selling during declining markets. A few early studies of short selling in the 1930s concluded that there was no evidence that short sales had any material effect on the magnitude of price swings. \({ }^{43}\)

Ferri, Christophe, and Angel (2004) come a little closer to questioning whether the bid test inhibits trading that may be indicative of manipulation. On days when stock prices are declining, the degree of short selling is positively related to returns for Nasdaq SmallCap stocks, which are not subject to the bid test, but not for matching Nasdaq NM stocks, which are subject to the bid test. This result is the reverse of what one would expect to see if the bid test helps prevent short sellers from pushing down prices. The authors conclude that "a bid test is unnecessary for investor protection."

\section*{B. Effect on Market Quality}

Because the tick and bid tests appear to have some impact on the execution of short sales, even though short sales can still execute in declining markets, we might expect the tick and bid test to affect market quality. In a recent working paper, Jones (2003) re-examines the period surrounding the initiation of the tick test in the 1930s. He finds a significant reduction in bid ask

\footnotetext{
\({ }^{43}\) See Twentieth Century Fund (1935), Macaulay and Durand (1951).
}
spreads and positive abnormal stock returns surrounding the initiation of the downtick rule on October 6, 1931, with no significant changes in trading volume, volatility, or the price impact of trades. He also finds similar results surrounding the initiation of Rule 10a-1 1938. He concludes that
[b]ecause the uptick rule no longer constrains shorting as much as it once did, any liquidity effects are likely to be much more modest than the ones identified in the 1930's. However, it would not be surprising if repeal of the uptick rule were to lead to some reduction in individual stock liquidity, particularly in less liquid stocks. \({ }^{44}\)

In research sponsored by NASD, McCormick and Reilly (1996) find that the introduction of the bid test did not have a substantive impact on market quality, as measured by volatility and bid ask spreads. A more comprehensive follow-up study by McCormick and Zeigler (1997), which was also sponsored by the NASD, supports the original finding that the implementation of the bid test had little or no impact on market quality. They find that quoted and effective spreads were narrower in 1997 than in 1994, but they attribute the changes to a gradual improvement in market quality over time, and not to the implementation of the bid test. They find no significant change in quoted spreads as a result of the bid test. While they do find a statistically significant decline in effective spreads, this is a natural consequence of a rule that forces short sellers to act as liquidity suppliers rather than liquidity demanders. Because the improvement in effective spreads is coming at the cost of delayed executions, it does not necessarily signify an improvement in market quality.

Au-Yeung and Gannon (2003) estimate the joint dynamics of index and index futures returns in Hong Kong, surrounding the elimination of Hong Kong's uptick rule on March 25, 1996. Using a multivariate GARCH framework, they find evidence that Hong Kong's uptick

\footnotetext{
\({ }^{44}\) This study was funded by the New York Stock Exchange.
}
rule was impeding price discovery on the index relative to the futures contract, and that conditional volatility for the index declined with the elimination of the uptick rule.

Overall, this evidence seems to indicate that tick tests can lead to narrower bid ask spreads, but impedes price discovery, while the bid test should not have any discernable effect on market quality. The construction of the Pilot study improves upon the design of these previous studies and allows us to study these issues in a more controlled environment.

\section*{IV Construction of the Samples}

\section*{A. Selection of Pilot and Control Stocks}

The stocks in the pilot sample are those specified in the Pilot Order. \({ }^{45}\) Stocks were selected for this sample by sorting the 2004 Russell 3000 first by listing market and then by average daily dollar volume from June 2003 through May 2004, and then within each listing market, selecting every third company starting with the second. Because the selection process relied on average daily dollar volume, companies that had their initial public offering in May or June of 2004, just prior to the Russell reconstitution, were not included. The 32 stocks that are not listed on the NYSE, Amex, or Nasdaq NM were also excluded prior to sorting and selecting the pilot stocks.

While no companies have moved in and out of the Pilot, the pilot stocks might experience ticker symbol changes, listing changes, and mergers. We collected the necessary change information from NYSE, Amex, and Nasdaq, who keep track of and disseminate these changes. In the case of mergers between pilot and control stocks, the status of the resulting company is the same as the status of the company with the larger market capitalization of equity on the day prior to the first merger announcement. The pilot stocks that did not survive to the start of the Pilot on

\footnotetext{
\({ }^{45}\) SEC Release No. 34-50104, July 28, 2004.
}

May 2, 2005 are not included in the analysis. Pilot stocks with listing changes during the Pilot are included in our analysis up until the date of the listing change.

The stocks in the control sample come from the remainder of the 2004 Russell 3000 not included in the Pilot. We do not include the stocks with initial public offerings after May 2004 because these stocks were not eligible to be selected for the Pilot. Like the pilot sample, the control sample stocks can experience corporate events that make tracking them difficult. We keep track of ticker symbol changes, listing changes, and mergers using the daily symbol directories from the Nasdaq Trader web site and using Bloomberg. As with the pilot sample, we include only the control stocks that survive until May 2, 2005 and include stocks that are subsequently delisted up until the delisting date.

Table 1 reports the sample sizes and breaks down the sample in various dimensions. As the table indicates, our sample contains 504 listed pilot stocks and 973 listed control stocks that are subject to Rule 10a-1 and 439 Nasdaq pilot stocks and 917 Nasdaq control stocks that are subject to NASD Rule 3350. Table 1 also indicates that roughly \(70 \%\) of Listed Stocks and \(63 \%\) of Nasdaq NM Stocks have listed options. Because listing affects the short sale rules applied to trading, we report results for sub-samples by listing market but not for the full sample. If an issuer switches its listing from Nasdaq to Amex or NYSE or vice versa after May 2, we keep that stock in the sample up until the day of the listing change. If an issuer changed its listing prior to May 2, it will be grouped according to its new listing and we include pre-period data only from that same listing. \({ }^{46}\) Listings changes between Amex and NYSE do not affect our sample because the change does not affect the short sale rule applied.

\footnotetext{
\({ }^{46}\) We exclude one stock that changed its listing on the first day of the pilot, Renasant Corporation RNST, formerly Peoples Holding Company, PHC.
}

Similarly, we keep stocks in our sample up until their last listed day even if they are acquired or otherwise move to markets that do not apply the same rule (i.e., move to the Nasdaq Capital Market, OTCBB, or the Pink Sheets) after May 2, 2005. We keep these stocks to avoid a survivorship bias, which is a bias associated with finding higher average returns than actually exist. We believe an analysis of the pilot would be particularly sensitive to survivorship bias and we therefore, make every effort to reduce it. Further, if an issuer moves its listing from Nasdaq to an exchange or from an exchange to Nasdaq, we keep the stock in the sample up until the list/delist date. We do this so that our analysis does not confuse the effects of the tick test with those of the bid test. Because we retain stocks in our sample until the stocks delist, our sample size on our last sample day (October 31, 2005) is smaller than our sample size on the first pilot day (May 2, 2005). In fact, we have about 88 fewer stocks in our sample on October 31 than we do on May 2. Despite the drop in sample size, the pilot stocks comprise about \(1 / 3\) of the sample stocks for both Listed and Nasdaq NM Stocks on October 31 as well as May 2.

\section*{B. Data and Sample Statistics}

We examine these pilot and control stocks over a 210 day period in 2005. We examine the 82 day period from January 29 to April 29 as the Pre-Pilot Period during which the pilot and control stocks are subject to the same rules. The Pre-Pilot Period allows us to test whether the pilot and control stocks appear similar when they are subject to the same rule and it gives us a reference point to examine how the sample stocks change when the price restriction rules are removed. In the results section, this period is compared to the 128 day period from May 2, the first day of the pilot, to October 31, 2005.

Before comparing the Pre-Pilot Period to the Pilot Period, we first examine whether the pilot and control samples appear comparable over the Pre-Pilot Period. Table 2 gives this comparison separately for Listed and Nasdaq NM Stocks. The statistics are daily levels averaged over the Pre-Pilot Period. We use trade and quote data obtained from the Securities Industry Automation Corporation (SIAC) to estimate stock volume, price, spread, depth, and intraday returns, data from the Center for Research in Securities Prices (CRSP) to estimate market capitalization and daily returns, data from the Option Price Reporting Authority (OPRA) to estimate option volume and open interest, and the SRO Pilot data to estimate short selling levels. \({ }^{47}\) Short interest, reported monthly, comes from the NYSE, Amex, and Nasdaq. Most of the measures in Table 2 are qualitatively similar for pilot and control stocks, according to a statistical \(t\)-test run at the \(95 \%\) and \(99 \%\) confidence levels (also stated as \(5 \%\) and \(1 \%\) significance levels). This evidence suggests that the two groups are a good match and supports the validity of further comparison of pilot and control stocks.

The statistics of Table 2 are divided into groups. The first group of statistics measures general stock characteristics such as volume, price, market capitalization, and short interest. The first three rows of Table 2 show that the pilot stocks have similar average volume to the control stocks whether volume is measured by the number of trades per day, the average daily share volume, or turnover. The average volume-weighted average price (VWAP) and average market capitalization diverge slightly. For both Listed and Nasdaq NM Stocks, the VWAP is higher for pilot stocks but the market capitalization is lower. Neither difference is statistically significant.

\footnotetext{
\({ }^{47}\) The SRO Pilot data refers to the short selling records available from each of nine markets: American Stock Exchange, Archapelago Exchange (now a part of NYSE Group), Boston Stock Exchange, Chicago Stock Exchange, NASD, NASDAQ Stock Market (now NASDAQ Stock Exchange), New York Stock Exchange (now a part of NYSE Group), National Stock Exchange, and the Philadelphia Stock Exchange. This analysis aggregates the short selling data without regard to whether there exists a SIAC report for the short sale transaction.
}

The next group of statistics measures the level and nature of short selling. These statistics measure short interest, the short selling volume and location, and option volume and open interest. In Listed Stocks, short selling comprises about \(24 \%\) of share volume and \(27 \%\) of trades. The level jumps to \(36 \%\) of share volume and \(37 \%\) of trades in Nasdaq NM Stocks. Still, the level of short selling in pilot stocks is similar to that of control stocks prior to the start of the pilot. Because the bid test does not apply to all markets, we examine the share of short sales executed on Nasdaq to measure whether investors appear to be routing short sales away from Nasdaq. While we estimate this statistic for Listed Stocks as well, we focus on the Nasdaq NM Stocks for results. Rows ten to fifteen of Table 2 show that prior to the pilot, the pilot and control stocks have similar average option volume and open interest, statistically indistinguishable from each other.

The next set of statistics measures mechanical aspects of trading and quoting, in particular, the percentage of trades occurring on a downtick or zero downtick and the percentage of the day during which the last change in the bid was downward. These measures were selected because they both determine when a short sale can be executed and are influenced by the application of the price restrictions. Prior to the pilot, about \(46 \%\) of trades in Listed Stocks occur on downticks or zero downticks, while slightly over \(50 \%\) of trades in Nasdaq NM Stocks do. These percentages are similar for the pilot and control stocks. Likewise, the percentage of the day during which the most recent change in the bid was downward is similar for pilot and control stocks. For Listed Stocks, the most recent change in the bid was downward for about \(39 \%\) of the day. This is indicative of the nature of a limit order book market to have short-lived liquidity imbalances followed by long periods of liquidity building. In other words, a large order quickly executes, removing several price levels in the limit order book, followed by a slow replenishing
of the limit order book. In the Nasdaq market, which operates more like a dealer market than the listed market, stocks spend more time in a downbid situation, about \(47 \%\) of the time.

Liquidity is the next important group of statistics. We measure displayed liquidity using quoted and effective spreads measured in absolute terms and also relative to prices, and using aggregated quoted ask and bid depth at the National Best Bid and Offer (NBBO). We measure realized liquidity using the NBBO for both Listed and Nasdaq NM Stocks. Like the earlier measures, the liquidity measures show that the pilot and control stocks are statistically similar for all measures. While the magnitude of some of the measures, particularly the quoted ask depth and quoted bid depth, appears higher for control stocks than for pilot stocks, the measures are actually statistically similar.

The final group of statistics gives the distribution of returns and prices over various periods. Table 2 gives average returns, average absolute returns, the skewness of the returns, and the variance of the returns over 5 minute, 30 minute, and 1 day periods. It also shows the daily price range and three variance ratios. The variance ratios measure the transitory volatility by comparing the variance of returns measured over short and long horizons. Overall, the pilot and control samples are statistically similar in the means, skewness, and transitory and total volatility. It is interesting to note that the returns for all samples and all horizons are positively skewed. This positive skewness has been documented in previous work, which associates the result with short selling restrictions.

\section*{V Methods}

\section*{A. Comparing Pilot and Control Stocks}

We derive the results in this report using several empirical approaches. The first approach compares the pilot sample to the control sample both before and after the start of the pilot. The approach allows us to apply a standard t-test to the difference of the differences. As long as the pilot and control samples are generally well constructed, this approach will control for changes in market conditions that are unrelated to the pilot. However, this approach may not fully control for differences within the samples. Further, it is cumbersome when examining the differential effect of the pilot on sub-samples. Therefore, we will also employ a regression approach.

The regression approach includes multiple test variables at the same time and also controls for unforeseen differences between the pilot and control samples. Because the number of stocks changes over the sample period, we employ daily cross-sectional regressions for each sample day after the start of the pilot and then we average the coefficients. We employ variations on the following regression:
\[
\begin{equation*}
\text { Market Quality }_{i}=\alpha+\beta_{1} \operatorname{Pilot}_{i}+\beta_{2} \text { Pre Pilot Market Quality }{ }_{i} \tag{1}
\end{equation*}
\]
where Market Quality is one of several dependent variables (e.g., effective spread) measured for each stock on one trading day, Pilot is equal to one for pilot stocks and zero for other stocks, and Pre-Pilot Market Quality is the average daily level of the dependent variable measured over the Pre-Pilot Period. If the dependent variable is generally larger for pilot stocks than control stocks, then \(\beta_{1}\) will greater than zero. If this relation is persistent across time, then the average \(\beta_{I}\) will be greater than zero. The Pre-Pilot Market Quality variable helps ensure that the coefficients on the
indicator variables measure the effect of removing price restrictions. It also helps to control for any unforeseen differences between the pilot and control stocks.

We run all tests separately for stocks listed on an exchange and stocks listed on Nasdaq NM because the rule applied to trading of Nasdaq NM Stocks is different than the rule applied to the trading of stocks listed on exchanges. \({ }^{48}\) This allows us to satisfy one purpose of the Pilot, which is to clearly distinguish the effect of each type of rule.

\section*{B. Behavior of Stock Prices Surrounding the Pilot Initiation}

In order to evaluate whether the tick test or the bid test affects the level of stock prices, we examine average daily returns and average cumulative returns for pilot and control stocks over a 21-day period surrounding the beginning of the pilot. If pilot stocks are over-valued because of the price restrictions these returns should be significantly negative for pilot stocks relative to the control stocks on or around the first day of the pilot. Cumulative returns are normalized to zero on April 29, the trading day prior to the start of the pilot.

We believe it likely that any valuation effects of the pilot that are not already impounded into the price before the start of the pilot would most likely be observed immediately upon the initiation of the pilot, and reflected in the returns on the first day. However, we also consider the possibility that the effects of the pilot might be manifest over a longer time period. Therefore, we also examine returns over a six month time horizon. To avoid a survivor bias, we compound returns to the six month horizon if a stock falls out of the sample prior to October 31, 2005. In addition, to control for the systematic risk of a stock, we estimate an alpha for each stock. We estimate these alphas in-sample using the market model:

\footnotetext{
\({ }^{48}\) It is worth noting that neither the bid test nor tick test applies to the trading of Nasdaq NM stocks on exchanges.
}
\[
R_{t}=\alpha+\beta R_{M t}
\]
where \(R_{t}\) is the return on the stock in day \(t\), and \(R_{M t}\) is the equally-weighted market index return from CRSP for that day. We also estimate the tendency of the alphas to be significantly positive or negative. Pilot stocks might be more likely to have negative alphas than control stocks if either price restrictions corrected over-pricing over long horizons or if price restrictions prevent constant short selling pressure from pushing prices below their equilibrium level. Pilot stocks might be less likely to have positive alphas if price restrictions facilitate over-pricing.

\section*{C. Measuring Large Price Reversals}

As part of our analysis of whether price restrictions inhibit price patterns that may be indicative of short-term price manipulation, we wish to examine the frequency of large shortterm price movements that are immediately reversed. Although such price reversals, or "spikes," are bound to occur with some frequency due to the natural variation of prices, they may also be a sign of price manipulation. If the price patterns indicative of manipulation are more prevalent on the short side than on the long side, we would expect to see more negative price spikes than positive ones. And if price restrictions are effective at reducing the potential for price manipulation, we might expect to see significantly more price spikes for pilot stocks than control stocks.

To investigate this, we define the following measures of short-term price reversals:
\[
\begin{aligned}
& \text { Negative: } \min \left(-R_{t-1}, R_{t}^{L}\right) / \sigma_{i} \\
& \text { Positive: } \min \left(-R_{t}^{L}, R_{t-1}\right) / \sigma_{i}
\end{aligned}
\]

In these formulas, \(\sigma_{\mathrm{i}}\) represents the holding period (non-annualized) standard deviation of returns on stock \(i\), measured using data in the Pre-Pilot Period, \(\mathrm{R}_{\mathrm{t}}\) is the simple one-period return
on stock \(i\) at time \(t\), and \(\mathrm{R}_{\mathrm{t}}{ }^{\mathrm{L}}\) is the one-period return measured as a percentage of the lagged stock price:
\[
R_{t}=\frac{P_{t}-P_{t-1}}{P_{t-1}} \quad R_{t}^{L}=\frac{P_{t}-P_{t-1}}{P_{t-2}}
\]
where \(P_{t}\) represents the price of stock \(i\) at time \(t\). We estimate these metrics using 5-minute and 30 -minute horizons. The return as a percentage of the lagged price is used in the measure so that the adjacent returns will be compared on the same basis. \({ }^{49}\)

We normalize the reversal measure by the standard deviation of returns on the same stock, computed using the same return interval over which the reversals are measured, in order to ensure that the measure will capture reversals that are large in magnitude compared to the typical movement on the stock. The standard deviation is computed using only pre-pilot returns data, so that the measure will not be affected by any changes in volatility that may be related to the pilot.

By definition, a "negative reversal" only occurs in periods when there is a negative return followed by a positive return-otherwise, the negative reversal measure is equal to zero. If a stock experienced a negative return of 3 standard deviations that was fully reversed in the next period, our negative reversal measure would be 3 . If a return is only partially reversed, only the portion that is reversed is counted in the measure.

We do not test whether this measure changes across Pre-Pilot and Pilot Periods because the Pre-Pilot Period is already used to normalize the measure. Rather, we focus on differences between the control and pilot samples during the Pilot Period. In order to test whether the frequency of extreme reversals differs across the two samples, we use a nonparametric bootstrapping methodology that does not require any assumptions about the probability

\footnotetext{
\({ }^{49}\) For example, if a stock price increases from 40 to 50 and then returns back to 40 , this corresponds to a \(25 \%\) return followed by a \(-20 \%\) return. In our measure, we would compute the negative return as a percentage of the original price, which would make it a \(-25 \%\) return.
}
distribution of returns or return reversals. Essentially, this method estimates the likelihood of observing a particular number of reversals under the null hypothesis that the distribution of reversals in the pilot sample is the same as the distribution in the control sample. This is implemented as follows. For a given "threshold" level of the reversals measure, we count the number of reversals in the pilot sample that exceed that threshold. We then select from the control sample (with replacement) a random sample of reversals equal in size to the pilot sample. Within this randomized sample, we count the number of reversals exceeding the threshold, and observe whether the number is higher or lower than the number observed in the pilot sample. We repeat the process 1,000 times and observe the frequency with which the number of reversals in the randomized control sample equals or exceeds the number in the pilot sample. We report the significance based on a two-tailed test-for example, the number of reversals in the pilot sample would be deemed significant at the five percent level if a number that high occurs \(2.5 \%\) of the time or less in randomized control samples.

\section*{D. Autoregression Methodology for Measuring Reversals}

As an alternative approach to measuring the impact of the pilot on price reversals, we employ a new methodology. Similar in spirit to autoregression, this methodology involves measuring the extent to which positive and negative price movements reverse in subsequent periods. Specifically, we use intraday returns to estimate a model of the form:
\[
R_{t}=\sum_{n=1}^{5} \alpha_{n} R_{t-n}^{-}+\sum_{n=1}^{5} \beta_{n} R_{t-n}^{+}
\]

In this equation, \(R_{t}\) represents the stock return in period \(t\), and the regressors are the positive and negative components of lagged returns:
\[
R_{t}^{-}=\min \left(0, R_{t}\right) \quad R_{t}^{+}=\max \left(0, R_{t}\right)
\]

The estimated \(\alpha\) and \(\beta\) coefficients measure the extent to which positive and negative returns tend to reverse or continue in subsequent periods. In a world where stock prices follow a random walk, the true coefficients would be equal to zero. Unlike an ordinary autoregression, this specification permits the degree of momentum or reversals to differ for positive and negative shocks. In either case, positive coefficients would indicate that returns exhibit short-term momentum, while a negative coefficient would indicate short-term reversals. For example, if the coefficients \(\alpha_{1}\) and \(\alpha_{2}\) were estimated to be -0.05 and -0.01 , this would mean that a negative return of one percent would, on average, be followed by a positive return of five basis points in the next period, and a positive return of one basis point in the period after that. If the coefficients \(\beta_{1}\) and \(\beta_{2}\) were estimated to be -0.04 and -0.02 , this would indicate that a positive return of one percent would on average be followed by negative returns of four and then two basis points in the next two periods. We are interested in comparing these coefficients for pilot and control stocks. If price restrictions help prevent short-term negative stock price manipulations, we would expect to see the \(\alpha\) coefficients higher for pilot stocks than for control stocks.

\section*{E. Small and Low-Volume Stocks}

One policy alternative outlined in the first Pilot Order was to extend a uniform test to all securities, including securities with a lower market capitalization or less actively traded than those included in the Pilot. While our analysis cannot directly investigate the effects of price restrictions for stocks beyond the range covered by the pilot sample, it can provide relevant evidence by investigating whether the impact of the Pilot has been substantially different for the smaller stocks than for the larger stocks in the Pilot, or whether the impact has differed for
actively traded and less actively traded issues. To examine these questions, we run a series of regression-based tests of the following form:
\[
\text { Market Quality }_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \text { Decile }_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11} \text { Pre Market Quality }{ }_{i}
\]
where "Market Quality" represents a characteristic of interest such as spreads, depth, or volatility. The "Decile" variables are indicator variables corresponding to each of the nine lowest deciles, for two different decile partitions. The first partition ranks stocks by market capitalization on April 28, 2005. The second partition ranks stocks by annualized turnover in the Pre-Pilot Period as measured by its average daily share volume divided by its shares outstanding as of April 28, 2005 and multiplied by 250 . In each case, the decile indicators take on a value of one if the stock falls within the designated decile, and zero otherwise. These partitions allow us to test whether the price restrictions have a larger impact on certain categories of stocks. In particular, we examine each \(\beta_{10}+\beta_{\mathrm{k}}\) to measure whether the pilot has a significant effect on stocks in decile \(k\).

\section*{VI Results and Analysis}

\section*{A. The Nature of Short Selling}
1. Short Selling Activity

Price restrictions may impose costs on short sellers in the form of lower fill rates and delays on execution. If these costs are economically significant, then we would expect the removal of the price restrictions to result in increased short selling. We would expect short selling to increase more for pilot stocks than control stocks if the price restrictions are costly, or be the same for the pilot and control stocks if price restrictions are not costly.

Table 3 shows how removing the price restrictions affects the level of short selling, based on three different measures, including (i) the number of shares sold short on a given day divided by the total share volume, (ii) the number of trades involving short sales, and (iii) short interest. \({ }^{50}\) Panel A shows the Pre-Pilot Period to Pilot Period comparison while Panel B reports the average coefficients from regression analysis. In the Listed market, short volume increases significantly from \(24.4 \%\) to \(26.3 \%\) of total volume in the pilot sample, while the change is not statistically significant for the control sample. A comparison of these two changes reveals that short selling volume increases by about \(2 \%\) of total volume as a result of removing the tick test, suggesting that the tick test imposes economic costs on short sellers. The same conclusion can be drawn from the statistics on short selling as a percentage of trades.

Similarly, both volume and trade measures for Nasdaq NM Stocks suggest that the application of the bid test reduces short selling. The regression analysis in Panel B confirms these conclusions and also shows that the effect of the tick test is stronger than the effect of the bid test.

Although our results indicate that price restrictions appear to constrain the volume and frequency of short sales, these effects are not reflected in short interest. As indicated in Table 3, both pilot and control stocks exhibited significant increases in short interest around the time of the Pilot Period. However, none of the tests indicate any significant difference between pilot and control stocks. Both the univariate results in Panel A and the regression-based results in Panel B lead to the same conclusion: price restrictions appear to have no effect on short interest for Listed

\footnotetext{
\({ }^{50}\) Though not reported, OEA found that pilot stocks were less likely to qualify for the Regulation SHO threshold list than control stocks. This result rejects the conjecture that removing price tests leads to more settlement failures. In order to maintain a focus on the price tests, analysis of the Regulation SHO threshold list is not included in this report.
}

Stocks or for Nasdaq NM Stocks. The same result is observed whether short interest is measured in percentage of shares outstanding or in "days to cover."

The fact that we document statistically significant increases in short selling volume but not in short interest can be interpreted in various ways. One interpretation is that the increase in short volume is due primarily to increased short selling by parties that close out their short positions within the day-or, more generally, that the increase in short volume was accompanied by a decrease in the average horizon over which short positions are held. We should also note that the absence of a statistically significant result does not imply that no change occurred. Given that we observe short interest only monthly, it is possible that our statistical test did not have sufficient power to detect a change in short interest.

Because short sales in Nasdaq NM Stocks executed outside of the Nasdaq market are not subject to the bid test, short sellers can avoid the bid test by sending orders to markets other than Nasdaq. The removal of the bid test might result in an increase in short sales on Nasdaq in Nasdaq NM Stocks because the order routing decision might no longer be affected by the application of the bid test. The Nasdaq market share statistics in Panel A of Table 3 show that Nasdaq's market share in short sales increased \(3.9 \%\) in pilot stocks and by \(1.3 \%\) in non-pilot stocks. The difference of \(2.6 \%\) is statistically significant, which is consistent with the nonuniform application of the bid test altering order routing decisions.

\section*{2. Option Activity}

If price restrictions drive short sellers to trade options in lieu of stocks, then their removal should decrease option activity. Table 4 summarizes the changes in option trading for pilot and control stocks between the Pre-Pilot Period and Pilot Period. There are a total of 628 pilot and

1,263 control stocks that had listed options included in the analysis. Put and call option trading volume is aggregated over all classes and markets for each underlying stock on a daily basis. Then, the put and call option trading volume is averaged across days for each stock for period before the pilot and for the period of the pilot. The change in put option trading volume is calculated as the average daily put (call) volume during the pilot minus the average daily put (call) volume before the pilot. Finally, the change is averaged across stocks to yield the results reported in Table 4. Averaging across stocks allows us to maintain the independence of the observations and perform a t-test comparing the mean of the pilot stocks to the mean of the control stocks. The results for open interest and signed option volume use the same methodology.

If the price restriction drives would-be stock short sellers to trade options to implement their investment strategies, then the lifting of the price restrictions on the pilot stocks would lead to a significant decline in option trading for pilot stocks relative to the control stocks. As indicated in table 4, between the Pre-Pilot Period and Pilot Period, we do observe a slight increase in average trading volume for calls and puts on Listed Stocks, a decrease in average trading volume of calls and puts on Nasdaq NM Stocks, and an increase the average open interest of all categories. Based on the paired \(t\) test, however, we find no statistically significant changes at the \(5 \%\) confidence level. We also observe that open interest increased less on average for control stocks than for pilot stocks, but again, based on the two-sample \(t\) test, we find no statistically significant differences between the changes in the pilot and control samples.

As an additional measure, we examine signed option volume. This is computed by subtracting the change in the put volume from the change in the call volume. A positive signed option volume suggests either an increase in long side buyer speculation or a decrease in short
side seller speculation. A negative signed option volume suggests either a decrease in long side buyer speculation or an increase in short side seller speculation. For example, if the change in the call volume is -10 and the change in the put volume is -5 , then the signed option volume equals -5 . On the other hand, if the change in the call volume is -5 and the change in the put volume is -10 , then the signed option volume is 5 . Again, we find no significant difference between pilot and control stocks.

Since short sellers may use short-term options in lieu of equity short sales, Table 4, Panel B shows the results for short-term options only. \({ }^{51}\) The results are quantitatively similar to the results in Table 4, Panel A. Thus, the conclusions drawn from Table 4, Panel A hold for shortterm options.

Overall, the options market results provide no statistical evidence supporting the hypothesis that the tick test drives would-be short sellers away from the equity markets and to the options markets to trade. \({ }^{52}\) Option trading volume of pilot Nasdaq NM Stocks show a decline in option volume relative to control stocks of \(15 \%\), but this difference is not statistically significant.

\section*{3. Mechanical Effects}

Price restrictions have the mechanical effect of forcing short sellers to be liquidity suppliers instead of liquidity demanders because short sales can rarely be executed against the bid price. Therefore, we expect the removal of price restrictions to be associated with changes in quoting and trading purely because of the mechanics of the rules. In particular, Table 2 shows

\footnotetext{
\({ }^{51}\) Long and short-term options are identified using the Options Clearing Corporation directory as of October 31, 2005.
\({ }^{52}\) A regression model that controlled for changes in volatility in the pre- and post-periods provided results that were consistent with those in Table 4.
}
that about \(46 \%\) of trades occur on downticks when the tick test applies. We expect that the removal of the tick test will lead to more balanced trading around \(50 \%\) downticks because short sales can now execute on downticks. This effect should be more obvious in Listed Stocks than Nasdaq NM Stocks where the trades occur on downticks half the time even with the bid test.

A second potential mechanical effect is the percentage of time during the day when the most recent bid change was downward. Table 2 shows that this figure is around \(39 \%\) when the tick test applies and \(47 \%\) when the bid test applies. Removing either price restriction could increase the percentage of the day with down bids because short sales can more easily hit the bid to force more downbids. Conversely, if the different price restrictions can explain some of the divergence in these figures, we expect the percentage of downbids in Listed Stocks and Nasdaq NM Stocks to converge.

Table 5 shows how the tick and bid tests affect trading and quoting mechanics. The downtick rows in Panel A show that the percentage of trades on downticks increases from 46\% to almost \(50 \%\) in pilot Listed Stocks. Conversely, the percentage of trades on downticks in control Listed Stocks goes down. On net, the percentage of trades on downticks is fairly balanced when the tick test does not apply and is skewed toward upticks when the tick test does apply. Nasdaq NM Stocks appear to have much more balanced trading even with the bid test so that removing the bid test results smaller increase in the number of downticks. Panel B confirms the result that the tick test has a much larger effect on trading mechanics than the bid test.

The downbid rows in Table 5 measure the percentage of the trading day during which the most recent bid change was downward. Pilot Listed Stocks experience a small increase in the prevalence of downbids but this increase is roughly similar to an increase experienced by control Listed Stocks. The results show a decline in the prevalence of downbids for pilot Nasdaq NM

Stocks, suggesting that short selling under the bid test might shorten the duration of upbids, reflecting the restriction that short sales can only hit upbids.

\section*{B. Market Quality}

\section*{1. Liquidity Measures}

Because price restrictions alter how orders transact with each other, they have the potential to alter traditional measures of liquidity. In particular, the price restrictions will often keep a short sale from executing against the bid quote. Therefore, we expect the depth at the bid quote to be lower without price restrictions. If a short sale can not execute against the bid, it often adds depth to the ask quote, and hence, the depth of the ask might be lower without price restrictions. Alternatively, a restricted short sale might set a lower ask price and an unrestricted short sale might exhaust the depth at the bid resulting in a lower bid price. Either way, short sale price restrictions can result in a narrower quoted bid-ask spread.

While quoted spreads and depths measure the displayed supply of liquidity, the effective spread measures liquidity actually available to investors. Therefore, an examination of effective spreads is necessary to understand the effect of price restrictions on liquidity. Because price restrictions can affect the displayed liquidity, we might also expect them to affect the actual liquidity as well.

Table 6 shows results on the effect of price restrictions on liquidity. For the pilot sample, the ask depth decreases for Listed Stocks but increases for Nasdaq NM Stocks. The control sample experiences an increase in depth at the ask. Comparing the changes reveals that the ask depth of the pilot stocks decreased relative to the ask depth for the control stocks in both Listed and Nasdaq NM Stocks. This change is significant for Listed Stocks in both the univariate and
regression-based tests, but is significant for Nasdaq NM Stocks only in the regression-based tests in Panel B. Panel B also shows that the ask depth is augmented about three round lots more when a tick test applies than when a bid test applies.

The bid depth results in Table 6 are slightly different than the ask depth results. The bid depth increases for all sub-samples, but the difference between the pilot and control samples is not significant in Panel A, while Panel B suggests that the bid depth of the pilot stocks does not increase as much as the bid depth of the control stocks. This effect is larger for Nasdaq NM Stocks than for Listed Stocks, therefore, the bid test seems to augment the bid depth more than the tick test does by about one round lot.

We examine two measures of quoted spread. The first, known as the "absolute spread," is simply the difference between the ask price and the bid price, measured in pennies. The second, called the "relative spread," is the absolute spread divided by the bid-ask midpoint, thus measuring the displayed cost to trade as a percentage of the stock's value. Panel A shows that the quoted spreads did not change much when the pilot started for either the pilot stocks or the control stocks. Only the relative quoted spread in control stocks saw an increase but that increase was not statistically different from the change in relative spreads experienced by the pilot stocks. The conclusions from Panel B give a more mixed picture. Quoted spreads decline about 0.3 cents more for pilot stocks, a result that is the same for Listed Stocks and Nasdaq NM Stocks. This result suggests that the tick and bid tests appear to reduce liquidity. However, the results on relative quoted spreads yield the opposite conclusion. While these results are statistically significant, the point estimates are fairly small. The quoted spreads decline by less than half a penny and the relative quoted spread increases by less than a basis point. Taken
together, these results suggest that the tick and bid tests have a slight effect on quoted spreads, if any.

In addition to quoted spreads we also examine effective spreads, estimated for each trade by computing the absolute value of the difference between execution price and the current bidask quote midpoint. As we did for the quoted spread, we estimate both absolute and relative effective spreads. The effective spread results in Panel A of Table 6 look quite similar to the quoted spread results. Only one of the changes is statistically significant, a decline in the effective spread of pilot Nasdaq NM Stocks. This result alone would suggest that the application of the bid test decreases liquidity. However, this conclusion is weakened by the lack of statistical significance in the other sub-samples and the lack of a difference between the pilot and control stocks. The Panel B results suggest that the tick test has no impact on effective spreads, but the results on the bid test are mixed. The bid test appears to decrease effective spreads and increase relative effective spreads. Like the results on quoted spreads, the magnitudes of these changes are small.

Overall, the Regulation SHO Pilot shows us that the price restrictions appear to augment depth at both the ask price and the bid price, but price restrictions have little if any effect on realized liquidity. These results are fairly consistent whether the price restriction is structured as a tick test or as a bid test, although the tick test augments the ask depth more and the bid test augments the bid depth more.

\section*{2. Return Volatility}

The next set of tests examine whether removing the price restrictions alters return volatility. Table 7 displays test results for several volatility measures and several return horizons
to capture different aspects of volatility. The daily price range measures the degree to which prices fluctuate within a day by comparing the high price to the low price in a day. The daily price range declines from the Pre-Pilot Period to the Pilot Period for each subsample. This decline is statistically significant for both Listed and Nasdaq control samples and for the Nasdaq pilot sample, but not for the Listed pilot sample. Panel A suggests that the decline was statistically similar for pilot and control stocks, while the Panel B regression suggests that the daily price range increased for pilot stocks relative to control stocks for both the Listed and Nasdaq samples. Taken together, the daily price range results are mixed on whether the tick and bid tests dampen volatility.

To explore intraday volatility further, we examine our next two volatility measures, absolute returns and return variance, over three time horizons, 5 minutes, 30 minutes, and one day. \({ }^{53}\) These measures would increase for pilot stocks over the shorter horizons if the tick and bid tests dampen transitory volatility. The measures would increase for the pilot stocks over the longer horizons if the tick and bid tests dampen permanent volatility. Economically, transitory volatility captures the efficiency of the trading mechanism while permanent volatility captures the effects on equilibrium prices. We separately analyze absolute returns and return variance because each measures volatility slightly differently. Return variance has a tendency to put more weight on larger price movements than absolute returns.

The average absolute returns are lower during the Pilot Period for the control sample across all three return horizons. The univariate results in Panel A show that the pilot stocks experienced a statistically similar decline in the absolute returns as the control stocks for the 30 minute and daily horizons. At the five-minute horizon, however, the pilot sample experienced an

\footnotetext{
\({ }^{53}\) The 5 and 30 minute absolute returns and variances are estimated without including the first half hour of the trading day, after hours trading, or pre-open trading.
}
increase in absolute returns relative to the control stocks for both Listed and Nasdaq NM Stocks. The regression results in Panel B confirm this finding and show that the effect is larger for Listed Stocks. Panel B also confirms the results for the daily horizon but indicates that absolute returns increased over the 30 -minute horizon for pilot stocks relative to control stocks. While the 30minute results are mixed, the absolute return results suggest that the tick and bid tests have no effect on the magnitude of daily returns while they seem to dampen the magnitude of five minute returns. Further, the tick test seems to dampen short-term returns more than the bid test.

The return variance results in Panels A and B are quite a bit weaker. Panel A shows that the changes to return variances experienced by pilot stocks are statistically similar to the changes in return variances experienced by control stocks for both Listed Stocks and Nasdaq NM Stocks, and this result holds for all three return horizons. Panel B confirms this result for the 30 minute and daily return horizons but finds that pilot Listed Stocks seem to experience an increase in return volatility over the 5 minute horizon relative to control Listed Stocks. In summary, the bid test seems to have no effect on return variance over any time horizon while the tick test might dampen return variance over the five minute horizon.

Because the results above suggest that price restrictions may dampen transitory volatility, we next focus on variance ratios that are specifically designed to capture transitory volatility by comparing the short horizon volatility to longer horizon volatility. If no transitory volatility exists, variance ratios are designed to equal one. We examine three different variance ratios. We compare five minute variance to thirty minute variance, five minute variance to daily variance, and thirty minute variance to daily variance. Panels A and B show that the variance ratio of five to thirty minute returns increased for pilot Listed Stocks relative to control Listed Stocks. Further, Panel B shows that the change for Listed Stocks differs significantly from that
of Nasdaq NM Stocks. However, none of the other variance ratios changed significantly. Because the variance ratios relative to the daily level did not show any changes, the results on transitory volatility are somewhat weak. However, the result for Listed Stocks over the five minute horizon to thirty minute horizon still helps solidify the conclusion that the tick test dampens transitory volatility over the five-minute horizon but seems to have no effect on permanent volatility.

\section*{C. Effect on Stock Prices}

As outlined in section III above, numerous theoretical models suggest that short selling constraints can affect equilibrium stock prices. Some of these models predict that stocks are likely to be more overpriced when short selling constraints are more binding, and when investors disagree more about the stock's true value.

Our evidence above suggests that price restrictions do constrain short selling somewhat. Thus, we are interested in testing the hypothesis suggested by these theories, that removing price restrictions will lessen overpricing. This hypothesis is not likely to hold unless the price restrictions are significant relative to other short selling constraints and our sample stocks are overpriced prior to the start of the pilot. Therefore, rejecting the hypothesis might mean that price restrictions are minor relative to other short selling constraints or that our sample stocks were not overpriced.

Table 8 reports average daily returns and average cumulative returns for pilot and control stocks in the period surrounding the beginning of the pilot. If pilot stocks are over-valued because of the price restrictions, these returns should be significantly negative for pilot stocks relative to the control stocks. Cumulative returns are normalized to zero on April 29, the trading
day prior to the start of the pilot. As indicated in Panel A of Table 8, we observe for Listed Stocks a statistically significant difference between the average returns of control and pilot stocks on May 2, the first day of the pilot. The average control stock experienced a return that exceeded the average pilot stock by about twenty-four basis points. However, we do not observe significant differences in returns on other days after the start of the pilot, nor are the cumulative returns statistically distinguishable at horizons beyond the first day. For Nasdaq NM Stocks, we observe no differences in daily or cumulative returns at or after the start of the pilot that are statistically significant at the five percent confidence level. \({ }^{54}\) Because the Listed difference does not persist and because of a lack of a difference in Nasdaq NM Stocks, neither the tick nor the bid test appear to cause stocks to be over-valued.

Figure 1 displays the returns for the pilot and control samples over the first six months of the pilot. The figure gives the raw returns as well as the market adjusted returns. Returns in general appear to be positive over this period but are close to zero when subtracting the market return. Further, the pilot sample appears to under-perform the control sample, especially for Listed Stocks. Table 9 confirms that the six month returns of the pilot stocks appears lower than that of the control stocks. However, this result is not statistically significant. Therefore, the six month returns for the pilot sample are statistically similar to the six month returns for the control sample.

Table 9 also shows that the average alphas are negative but very close to zero. This means that when controlling for risk, the returns of the sample stock are about the same as the returns of the market portfolio. Further, the univariate results of Panel A and the regression

\footnotetext{
\({ }^{54}\) On the Nasdaq NM side, we do observe a statistically significant difference on a single day several days prior to the start of the pilot (April 26). In Table 8, we tested for statistical significance on 21 separate days in two different markets, for a total of 42 different hypothesis tests. Under the hypothesis that the pilot has no effect, we would expect random errors to cause roughly two out of the 42 tests to show false positive significance at the five percent level.
}
results of Panel B show that the alphas of the pilot sample are statistically similar to the alphas of the control sample. Therefore, the pilot stocks did not underperform the control stocks. This suggests that the removal of the price restrictions will not result in either a long horizon correction of over-pricing nor is it likely to lead to prices being driven below their equilibrium value.

Table 9 also shows the tendency of the alphas to be significantly positive or significantly negative. An alpha is deemed to be negative if the estimate is significantly negative at the \(5 \%\) level in a two-tailed test. Similarly, an alpha is considered to be positive if the estimate is significantly positive at the \(5 \%\) level in a two-tailed test. If the alphas are completely random, we would expect to find \(2.5 \%\) of them positive and \(2.5 \%\) of them negative. Table 9 shows that the frequency of positive alphas is less than \(2.5 \%\) while the frequency of negative alphas is slightly higher. \({ }^{55}\) The frequency of negative alphas is statistically similar for pilot stocks and control stocks, providing further evidence against prices being driven below their equilibrium level. Among Listed Stocks, the control stocks appear to be more likely to have positive alphas, potentially because price restrictions facilitate over-pricing. This finding however, is weakened by the observation that fewer than \(2.5 \%\) of control stocks have significantly positive alphas.

\section*{D. Market Manipulation}

The type of analysis conducted in this study cannot directly prove whether market participants are engaging in manipulative practices, because it is inherently difficult to measure whether the Pilot has had any impact on the degree to which markets are susceptible to

\footnotetext{
\({ }^{55}\) We also estimated the alphas using the value-weighted index. About \(2.5 \%\) or fewer alphas were significantly positive and about \(2.5 \%\) or fewer were significantly negative.
}
manipulation. Our approach is to identify certain data patterns that we would expect to be more prevalent in a world where prices are manipulated, and investigate to see if these price patterns are more common for pilot stocks than control stocks. Such a pattern does not necessarily mean that manipulation has occurred, but indicates that we might have cause for further analysis.

As argued above in section I-B, if price restrictions inhibit manipulation by short sellers and/or facilitate upward manipulation, we might expect to see more large, sudden price declines in pilot stocks than control stocks. Further, we might expect fewer large, sudden price increases in pilot stocks than control stocks. Either effect should be reflected in the form of decreased skewness in the short-term returns distribution.

Table 10 reports results of statistical tests based on 5-minute, 30-minute, and 1-day returns. For each returns horizon, we follow the same approach as before and test for changes in skewness between the Pre-Pilot Period and Pilot Period, separately for pilot and control stocks, and for Listed and Nadaq stocks, and then test whether the difference of differences is significantly different from zero.

As the table indicates, we find no significant changes between the Pre-Pilot Period and Pilot Period, with the single exception that there appears to have been a marginally significant increase in the skewness of Nasdaq NM control stocks at the 30-minute return interval. However, neither in this nor any other case do we find any statistically significant differences between pilot and control stocks. Thus, we find no evidence that the pilot program has had any impact on returns skewness. The 5-minute and 30 -minute results reported in Table 10 are based on the skewness of returns computed using quote midpoints. \({ }^{56}\)

\footnotetext{
\({ }^{56}\) We also performed the test using returns computed using trades (results not reported) and again found no significant differences between pilot and control stocks.
}

Our second approach to testing whether eliminating price restrictions may lead to an increase in price patterns indicative of market manipulation involving short sales is to examine the relative frequency of large negative and positive price reversals, as explained in section V-C, above. Our results are presented in Table 11. Panel A reports results for return reversals occurring over subsequent 5-minute intervals, and Panel B reports results based on 30-minute intervals.

In this table, the line corresponding to "Reversal Size \(>2\) " reports the number of times (per 100,000 observations) that a stock price move of 2 standard deviations or more was reversed in the subsequent period. So, for example, the number 338.4 in the first column of Panel A indicates that for Listed, pilot stocks, the frequency of negative five-minute reversals greater than two standard deviations in magnitude is approximately 0.003384 , or 338.4 out of 100,000 . In this table, statistical significance is ascertained using a nonparametric bootstrapping procedure outlined in section V-C. This test indicates whether the observed frequency of reversals would constitute a rare event under the null hypothesis that the distribution of reversals is the same for control and pilot stocks. Results are reported for thresholds ranging from two to nine standard deviations.

Our results in Panel A indicate that the pilot stocks tend to experience significantly more 5-minute return reversals than the control stocks, at least for thresholds in the range of two to four standard deviations. This same result is observed for Listed Stocks and Nasdaq NM Stocks. If price restrictions deter price patterns consistent with downward manipulations but not upward manipulations, we might expect to see more negative price reversals in the pilot sample than the control sample, but no difference in positive reversals. In our sample, however, the effect of the
pilot appears to be equally as strong, if not stronger, for positive reversals than for negative reversals.

The results based on the 30 -minute horizon, reported in Panel B, tell a different story. At the 30 -minute horizon, there is no longer any statistical evidence that pilot stocks have a higher frequency of reversals than control stocks. \({ }^{57}\)

As explained in Section V-D, above, our third approach to investigating whether removing price restrictions increases the prevalence of price patterns consistent with market manipulation is to use an autoregression model to estimate the extent to which positive and negative returns tend to be reversed in subsequent periods. The results of this analysis are presented in Table 12.

Panel A shows how five minute returns are correlated with the returns of each of five previous five-minute periods. A positive number reflects returns in the same direction. A negative number reflects return reversals. Most of the coefficients in Table 12 are negative, reflecting a tendency for five-minute price changes to be reversed over subsequent periods. While many of the autocorrelations changed from the Pre-Pilot to Pilot Period, we focus on how the pilot sample compares to the control sample. Over one lag, removing price restrictions makes returns in Listed Stocks more negatively autocorrelated. This is true whether the previous returns were positive or negative. The effect continues for two lags (ten minutes), but only following positive returns. Price restrictions have no effect on five-minute return autocorrelation in Nasdaq NM Stocks.

\footnotetext{
\({ }^{57}\) Panel B of Table 11 reports results for 32 different hypothesis tests (eight different thresholds, positive and negative reversals, Listed and Nadaq samples). Of these 32 tests, only one indicates statistical significance at the five percent level (negative reversals for Listed Stocks at the 3-standard deviation threshold). Even under the null hypothesis of no true effect, we would expect any individual test to show a "false positive" at the \(5 \%\) significance level approximately \(5 \%\) of the time. Thus, one significant test statistic out of 32 tests does not constitute a meaningful rejection of the null hypothesis.
}

Panel B shows the results for thirty minute returns. Measured relative to control stocks, the pilot stocks experience no statistically significant increase in return correlation for any of the thirty minute intervals examined.

In summary, returns in Listed Stocks are negatively serially correlated following both positive and negative returns over short horizons and removing price restrictions increases this negative correlation. The symmetry of these results is consistent with the volatility results above. We find no statistically significant impact for Nasdaq NM Stocks.

\section*{E. Small and Low-Volume Stocks}

The analysis presented heretofore analyzes Listed Stocks and Nasdaq NM Stocks separately, but beyond this does not make any effort to ascertain whether the pilot may have a disproportionate or qualitatively different effect on smaller or less liquid stocks. In order to address these questions, we partition the sample into deciles according to market capitalization and turnover. As described above in section V-E, we partition the sample into deciles before separating them across markets, to ensure that Listed Stocks and Nasdaq NM Stocks in the same decile are comparable. The sample sizes resulting from these decile partitions are reported in Table 13. As the table indicates, the Listed Stocks are more concentrated in the higher deciles of market capitalization, while the opposite is true for Nasdaq NM Stocks. However, both Listed and Nasdaq NM Stocks have representation across all deciles of the two measures.

Tables 14 through 26 present our results analyzing how many of the results presented earlier vary as a function of size and liquidity. As explained in section V-E, above, these tables are based on a regression analysis where each model includes a pilot indicator and a pilot indicator interacted with indicator variables for deciles one through nine. In this model, the
marginal effect of the pilot is captured through two channels, first through the pilot indicator variable, and secondly through the interacted indicator variable. To facilitate interpretation, the tables report the sum of the coefficients on the pilot dummy and the interacted terms. This way, the entries in the table show directly how the pilot sample differs from the control sample within each decile.

Table 14 shows how the tick and bid tests affect short selling volume for stocks in each size and turnover decile. Removing the rules increases short selling volume in almost every size and volume decile. Further, the tick test appears to hinder short selling slightly more in small stocks than in large stocks. The bid test, on the other hand, appears to hinder short selling slightly more in large stocks than in small stocks. The affect of the tick and bid tests appear unrelated to turnover level. According to the Nasdaq market share results in Table 15, the removal of the bid test on Nasdaq seems to increase Nasdaq's market share more for small stocks than for large stocks. Overall, the tick and bid tests do seem to have differing affects on short selling for stocks of varying sizes.

In results not reported in tables, only the tick test has a differential effect on the balance of trading in stocks of differing sizes while all other mechanical effects are similar across size and activity levels. The tick test has a bigger effect on the symmetry of trading in smaller stocks but a constant effect on the symmetry of trading in stocks of varying activity levels.

Tables 16 and 17 show whether the augmentation of the bid and ask depth is similar for large and small stocks. These patterns are qualitatively similar in both tables. The tick test augments depth across almost all size and activity levels without clearly augmenting large or small stocks more. The bid test's influence on depth, however, varies widely across size and
activity levels without a discernable pattern. Therefore, the depth augmentation from the tick and bid tests appears unrelated to the size or activity level of the stocks.

As stated above, the increase in the depth at the inside quote affects the displayed supply of liquidity but might not influence realized liquidity, as measured by effective spreads. Table 18 shows that the tick test has no effect on effective spreads for almost all size and activity levels. The bid test, however, seems to result in lower effective spreads for large or more active stocks and potentially higher spreads for small or less active stocks. When significant, however, the magnitudes are still only a few basis points.

The results above show that transitory volatility is dampened by the tick test with much weaker evidence on the bid test. Table 19 shows that the tick test primarily dampens the volatility of small stocks but seems to amplify the volatility of large stocks. The bid test shows a similar pattern but to a lesser degree. The results across turnover levels are not as striking. The tick test seems to dampen volatility for most activity levels and the bid test shows similar yet substantially weaker evidence.

Table 20 summarizes the evidence on how the tick and bid tests affect longer-term variance. While the tick test does not affect the daily return variance in stocks as a whole, it does seem to dampen daily return variance in small stocks and increase daily return variance in large stocks. The bid test shows a similar pattern but the effect is only significant for a few of the smaller size levels. The tick and bid tests have no effect on daily return variance for any activity level.

The results above show little evidence that the tick or bid tests affect price levels. However, there is a 24 basis point return difference between pilot and control Listed Stocks on the first day of the Pilot. Table 21 summarizes whether this return difference varies by size or
activity level. The evidence shows that for most size and activity levels, the pilot and control stocks experienced a statistically similar return on the first day of the Pilot. The Listed pilot stocks had a lower return than the control stocks in the largest size group while the Nasdaq NM pilot stocks had a lower return than the control stocks in the highest turnover group. Hence, the prior results seem to be driven by the large Listed Stocks.

Table 22 compares the pilot stock six-month alphas to the control stock six-month alphas for the various size and activity groups. Like the May 2 results, the pilot alphas are statistically similar to the control alphas in every size and activity level. Therefore, the tick and bid tests do not promote or hinder pricing efficiency for any size or activity level.

Recall from Table 11 that negative and positive five-minute price reversals are more prevalent in the pilot sample than the control sample, especially for Listed Stocks. Repeating our analysis across deciles, we find the difference between pilot and control Listed Stocks is significantly more pronounced for stocks with the lowest market capitalization (results not presented). These findings are consistent with our other results indicating that smaller stocks tend to be more volatile when the tick test is removed. However, for the smallest Listed Stocks, we observe a greater number of positive than negative price spikes, suggesting that removing the tick test does not make smaller stocks unduly susceptible to negative price pressure.

\section*{VII Summary and Conclusions}

The pilot program established by Regulation SHO exempted approximately one third of the Russell 3000 stocks from the "tick test" (Rule 10a-1) for Listed Stocks and the "bid test" (former NASD Rule 3350) for Nasdaq NM Stocks traded on Nasdaq or traded OTC and reported to an NASD facility. The pilot was designed to facilitate comparison between the pilot stocks
and control stocks, thus creating an unprecedented opportunity to observe in a controlled
environment the effects of removing the price restrictions.
This study has compared pilot and control stocks along numerous dimensions, in an effort
to capture a broad range of possible effects. Our main empirical results are as follows:
- The pilot is associated with increased short selling volume in Listed and Nasdaq NM Stocks, but appears to have no impact on the level of short interest in either market. The increase in short selling is slightly higher for small Listed Stocks than for large Listed Stocks.
- The pilot is associated with an increase in Nasdaq's share of trading volume in Nasdaq NM Stocks, suggesting that market participants are routing trades to other venues in order to avoid the bid test. The market share increases more for smaller stocks. For the largest Nasdaq NM Stocks, such as those included in the Nasdaq 100, there is no significant difference in market share.
- We find no evidence that the pilot has had any impact on the level of trading activity in the options market, as we would have expected to see if market participants are using option markets to avoid the tick test or the bid test.
- For Listed Stocks, less than \(46 \%\) of all trades are executed on down bids when the tick test applies, while the number is close to \(50 \%\) for pilot stocks, suggesting that Rule 10a-1 constrains the execution price in four to five percent of trades. For Nasdaq NM Stocks, Rule 3350 does not explicitly prevent trading on downticks, but our results show that it effectively constrains trading on downticks for about one half of one percent of trades.
- The pilot is associated with a decrease in quote depth, especially on the ask side for Listed Stocks-our evidence confirms that Rule 10a-1 forces some short sellers who would otherwise be liquidity demanders to act as liquidity suppliers. The decrease in depth appears unassociated with size or turnover.
- Other than the effect on market depth, the pilot has had no clear effect on market liquidity - most of our tests indicate that liquidity was not significantly impacted by the pilot, but some tests indicate small increases or decreases in liquidity, depending on the measure.
- The pilot is associated with an increase in some measures of intraday volatility. These increases appear to be confined to the smaller stocks as larger stocks experienced a decline in volatility during the pilot.
- On average across all types of stocks, the pilot does not appear to have any significant effect on daily volatility-however, our results indicate the pilot is associated with
lower volatility for stocks with higher market capitalization, and higher volatility for stocks with lower market capitalization.
- Based on the price reaction to the initiation of the pilot, we find limited evidence that the tick test distorts stock prices-on the day the pilot went into effect, Listed Stocks in the pilot sample underperformed Listed Stocks in the control sample by approximately 24 basis points. However, the pilot and control stocks had similar returns over the first six months of the pilot.
- We find no evidence of "bear raids" associated with the pilot. More specifically, we test for evidence of bear raids in three ways:
o We test whether the pilot has affected the relative frequency of large negative vs. large positive stock returns, as reflected in the skewness of the returns distribution. There is no difference in skewness between control and pilot stocks
0 A bear raid may be associated with a large negative return that is very quickly reversed, or a "negative price spike." Although we do find a higher incidence of negative price spikes in the pilot sample at some horizons, the same thing is observed for positive price spikes.
o We also measure directly the tendency for price movements to be reversed in subsequent periods. Again, we find that the pilot is associated with a slightly greater tendency for price changes to be reversed, but this effect is observed equally for positive and negative returns.

In summary, having examined the impact of the Regulation SHO Pilot on a wide array of market characteristics, we conclude that price restrictions constitute an economically relevant constraint on short selling. Our evidence suggests that removing price restrictions for the pilot stocks has had an effect on the mechanics of short selling, order routing decisions, displayed depth, and intraday volatility, but on balance has not had a deleterious impact on market quality or liquidity. In various dimensions, our evidence confirms that the tick test of Rule 10a-1 acts as a more binding constraint than the bid test of former NASD Rule 3350. On most dimensions, the effects of the pilot do not appear to be systematically related to market capitalization or trading volume, suggesting that our results give a reasonable picture of what we might expect to see if price restrictions were removed for all stocks, including smaller stocks and stocks less actively
traded than those in the Russell 3000. However, some results, particularly those involving volatility, suggest that the effect of the tick test and the bid test may be systematically related to market capitalization.

We conclude with a few caveats. While the Pilot study was designed to facilitate a natural experiment in a controlled environment, the results might not be entirely representative of removing the rule permanently for all stocks. It is possible that traders might behave differently if a rule were permanently and completely removed than if it is only temporarily or incompletely removed. Moreover, it is possible that traders with manipulative intentions might be on good behavior if they believe that heightened scrutiny during the Pilot increases their chances of getting caught.

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\section*{Tables}

Table 1: Sample characteristics
This table shows the number of sample stocks categorized by whether they are in the Pilot, their listing status, and whether they have tradable options on them. The Pilot stocks are those designated in the first Pilot Order that are trading on Amex, Nasdaq NM, or NYSE as of May 2, 2005. The Control stocks are the ones that were eligible to be selected for the Pilot but were not. The Control stocks are limited to those trading on Amex, Nasdaq NM, and NYSE as of May 2, 2005. Listed Stocks are stocks listed on NYSE or Amex. This table shows the sample sizes as of October 31, 2005 as well. To avoid survivor biases, we retain stocks in the sample even if they stocks cease trading on Amex, Nasdaq NM, or NYSE before the end of our sample period on October 31, 2005. This table shows the sample sizes as of October 31, 2005 as well. Stocks are considered optionable if they have traded options at some point in the four months prior to the start of the Pilot. Short-term options are options with experations within one year.,
\begin{tabular}{lrrrr}
\hline \multicolumn{1}{c}{ Variable } & \multicolumn{2}{c}{ Listed Stocks } & \multicolumn{2}{c}{ Nasdaq Stocks } \\
& Pilot & Control & Pilot & Control \\
\hline \# Stocks (first day of the Pilot) & 504 & 973 & 439 & 917 \\
\hline \# Stocks (last day of the Sample Period) & 496 & 949 & 423 & 877 \\
\hline \# Optionable Stocks (all options) & 350 & 690 & 278 & 573 \\
& \((69.44 \%)\) & \((70.77 \%)\) & \((63.33 \%)\) & \((62.28 \%)\) \\
\# Optionable Stocks (short-term options) & 350 & 688 & 277 & 567 \\
& \((69.44 \%)\) & \((70.56 \%)\) & \((63.10 \%)\) & \((61.63 \%)\) \\
\hline
\end{tabular}

\section*{Table 2: Comparison of Pilot and Control Stocks Before Initiation of Pilot}

This table compares the Pilot and Control stocks in several statistics over the four month period prior to the start of the Pilot on May 2, 2005. The statistical difference between the samples is tested using a two-sample t-test. * and ** indicates that the Pilot stocks are statistically different from the Control stocks at the \(5 \%\) and \(1 \%\) levels in a twotailed test.
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{\begin{tabular}{l}
Variable \\
Market Characteristics
\end{tabular}} & \multicolumn{2}{|l|}{Listed Stocks} & \multicolumn{2}{|l|}{Nasdaq Stocks} \\
\hline & Pilot & Control & Pilot & Control \\
\hline Trades / day & 1,539.30 & 1,514.40 & 2,690.6 & 2,713.8 \\
\hline Daily Share Volume & 1,134.70 & 1,135.30 & 1,075.20 & 1,122.70 \\
\hline Turnover & 1.77 & 1.85 & 2.56 & 2.49 \\
\hline VWAP & 38.43 & 36.04 & 23.01 & 22.20 \\
\hline Market Capitalization & 7,013.30 & 7,376.10 & 1,631.50 & 1,963.20 \\
\hline Short Interest (\% of Shares Outstanding) & 3.62 & 3.75 & 5.23 & 5.00 \\
\hline Short Interest (Days to Cover) & 6.14 & 6.28 & 6.64 & 6.49 \\
\hline \multicolumn{5}{|l|}{The Nature of Short Selling} \\
\hline Short Selling Volume (\% of Volume) & 24.41 & 24.27 & 36.08 & 35.57 \\
\hline Short Selling Trades (\% of Trades) & 27.37 & 27.15 & 37.74 & 37.21 \\
\hline Nasdaq Market Share of Short Sales & 10.74 & 10.42 & 47.45 & 47.91 \\
\hline Put Volume & 838.56 & 935.66 & 726.08 & 664.03 \\
\hline Call Volume & 1,306.91 & 1,322.83 & 1,194.10 & 1,103.75 \\
\hline Put + Call Volume & 2,145.47 & 2,258.49 & 1,920.18 & 1,767.78 \\
\hline Put Open Interest & 28,325.87 & 33,315.65 & 16,933.98 & 18,536.20 \\
\hline Call Open Interest & 32,878.21 & 34,761.23 & 27,741.65 & 27,776.23 \\
\hline Put + Call Open Interest & 61,204.08 & 68,076.88 & 44,675.63 & 46,312.43 \\
\hline \multicolumn{5}{|l|}{Mechanical Issues} \\
\hline \% trades on a downtick or zero downtick & 45.87 & 45.84 & 50.61 & 50.60 \\
\hline Time-weighted downbids & 38.82 & 38.74 & 47.06 & 47.44 \\
\hline \multicolumn{5}{|l|}{Liquidity} \\
\hline Quoted Spread ( \(\phi\) ) & 6.82 & 5.64 & 5.44 & 5.59 \\
\hline \% Quoted Spread & 0.19 & 0.18 & 0.27 & 0.28 \\
\hline Effective Spread ( \(\phi\) ) & 4.92 & 4.48 & 5.22 & 5.29 \\
\hline \% Effective Spread & 0.16 & 0.15 & 0.27 & 0.29 \\
\hline Ask Depth & 15.04 & 18.81 & 21.23 & 26.91 \\
\hline Bid Depth & 12.16 & 15.96 & 21.41 & 27.41 \\
\hline \multicolumn{5}{|l|}{Return Distributions} \\
\hline Daily Price Range (100*(log high - log low)) & 2.45 & 2.43 & 3.64 & 3.76 \\
\hline 5 Minute Returns (\%) & -0.001 & -0.002* & -0.003 & -0.003 \\
\hline Average Absolute Returns & 0.114 & 0.112 & 0.147 & 0.144 \\
\hline Skewness of Returns & 0.081 & 0.247 & 0.292 & 0.218 \\
\hline Standard Deviation of Returns & 0.191 & 0.198 & 0.258 & 0.270 \\
\hline 30 Minute Returns (\%) & -0.008 & -0.010* & -0.019 & -0.020 \\
\hline Average Absolute Returns & 0.286 & 0.282 & 0.389 & 0.397 \\
\hline Skewness of Returns & 0.128 & 0.134 & 0.204 & 0.129 \\
\hline Standard Deviation of Returns & 0.449 & 0.445 & 0.615 & 0.634 \\
\hline Daily Returns (\%) & -0.063 & -0.084 & -0.172 & -0.195 \\
\hline Average Absolute Returns & 1.340 & 1.330 & 1.804 & 1.853 \\
\hline Skewness of Returns & 0.061 & 0.174 & 0.264 & 0.161 \\
\hline Standard Deviation of Returns & 2.106 & 1.997 & 2.724 & 2.821 \\
\hline \multicolumn{5}{|l|}{Variance Ratios} \\
\hline \(6 \times \operatorname{Var}(5 \mathrm{~min}) / \operatorname{Var}(30 \mathrm{~min})\) & 1.13 & 1.12 & 1.24 & 1.26* \\
\hline \(288 \times \operatorname{Var}(5 \mathrm{~min}) / \operatorname{Var}\) (daily) & 3.12 & 3.02 & 4.09 & 4.17 \\
\hline \(48 \times \operatorname{Var}(30 \mathrm{~min}) / \operatorname{Var}(\) daily \()\) & 2.71 & 2.64 & 3.24 & 3.25 \\
\hline
\end{tabular}

\section*{Table 3: Changes in Short Selling Activity}

This table summarizes how short selling changes when the tick and bid tests are removed. The four months prior to the Pilot start date (May 2, 2005) are called the "Pre-Pilot" and the six months following the start date are called the "Pilot". The table shows the average change in short selling for Pilot and Control stocks and estimates whether the Pilot stocks changed more than the Control stocks. Short Volume is the number of shares in short sale transactions divided by total share volume. Short Trades is the number of short sale transactions divided by total transactions. Short Interest is the monthly short interest times 100 divided by the shares outstanding. Days to Cover is the monthly short interest divided by the average daily share volume during the corresponding month. Nasdaq market share is Nasdaq's share of the volume of short selling. Paired t-tests determine whether the changes are significant. Tests of the difference between the changes are two-sample t-tests. \({ }^{* *}\), indicates statistical significance at the 1 and \(5 \%\) level in a two-tailed test. We test whether the Difference in the Change for Listed Stocks is statistically different from that of Nasdaq NM Stocks using a regression framework. During the Pilot Period, we run daily crosssectional regressions of each variable on an indicator for Pilot Securities and the variable's pre-Pilot level (equation 1). We run the regression separately for Listed and Nasdaq NM Stocks and test whether the coefficients on the Pilot indicator are similar. \({ }^{\mathrm{a}, \mathrm{b}}\) indicates that the average coefficient for Nasdaq NM Stocks is statistically different from the average coefficient for Listed Stocks at the \(1 \%\) and \(5 \%\) level in a two-tailed test.

\section*{Panel A: Univariate Changes}
\begin{tabular}{llrrr|rrr|r}
\hline & & \multicolumn{4}{c}{ Pilot Sample } & \multicolumn{4}{c}{ Control Sample } & Pilot \(\Delta\) minus \\
\cline { 3 - 8 } Variable & Market & Pre-Pilot & Pilot & \multicolumn{1}{c}{\(\Delta\)} & Pre-Pllot & Pilot & \(\Delta\) & Control \(\Delta\) \\
\hline Short Volume & Listed & 24.41 & 26.32 & \(1.91^{* *}\) & 24.27 & 24.16 & -0.11 & \(2.02^{* *}\) \\
Short Volume & Nasdaq & 36.08 & 37.76 & \(1.68^{* *}\) & 35.55 & 35.75 & 0.20 & \(1.48^{* *}\) \\
\hline Short Trades & Listed & 27.37 & 33.67 & \(6.30^{* *}\) & 27.15 & 26.79 & \(-0.36^{*}\) & \(6.66^{* *}\) \\
Short Trades & Nasdaq & 37.74 & 39.98 & \(2.24^{* *}\) & 37.20 & 37.57 & \(0.37^{*}\) & \(1.87^{* *}\) \\
\hline Short Interest & Listed & 3.62 & 4.01 & \(0.39^{* *}\) & 3.75 & 4.25 & \(0.49^{* *}\) & -0.10 \\
Short Interest & Nasdaq & 5.23 & 5.94 & \(0.71^{* *}\) & 5.00 & 5.60 & \(0.60^{* *}\) & 0.11 \\
\hline Days to Cover & Listed & 6.14 & 6.87 & \(0.73^{* *}\) & 6.28 & 7.03 & \(0.75^{* *}\) & -0.02 \\
Days to Cover & Nasdaq & 6.64 & 7.91 & \(1.27^{* *}\) & 6.49 & 8.07 & \(1.58^{* *}\) & -0.31 \\
\hline Nasdaq Market Share & Listed & 10.74 & 10.28 & \(-0.46^{*}\) & 10.42 & 11.17 & \(0.75^{* *}\) & \(-1.21^{* *}\) \\
Nasdaq Market Share & Nasdaq & 47.45 & 51.34 & \(3.88^{* *}\) & 47.86 & 49.20 & \(1.34^{* *}\) & \(2.55^{* *}\) \\
\hline
\end{tabular}

\section*{Panel B: Average Regression Coefficients}
\begin{tabular}{llrrr}
\multicolumn{4}{c}{ Market Quality \(_{i}=\alpha+\beta_{1}\) Pilot \(_{i}+\beta_{2}\) Pre Pilot Market Quality } \\
\hline Variable & Market & \multicolumn{1}{c}{ Pilot } & PrePilotControl & R-squared \\
\hline Short Volume & Listed & \(2.05^{* *}\) & \(0.61^{* *}\) & 0.09 \\
Short Volume & Nasdaq & \(1.67^{* *}\) & \(0.67^{* *}\) & 0.08 \\
\hline Short Trades & Listed & \(6.75^{* *}\) & \(0.63^{* *}\) & 0.16 \\
Short Trades & Nasdaq & \(2.08^{* *}\) & \(0.67^{* *}\) & 0.10 \\
\hline Short Interest & Listed & -0.11 & \(0.89^{* *}\) & 0.83 \\
Short Interest & Nasdaq & \(0.14^{\text {a }}\) & \(0.91^{* *}\) & 0.79 \\
\hline Days to Cover & Listed & -0.05 & \(0.74^{* *}\) & 0.49 \\
Days to Cover & Nasdaq & \(-0.31^{\text {b }}\) & \(0.97^{* *}\) & 0.62 \\
\hline Nasdaq Market Share & Listed & \(-1.18^{* *}\) & \(0.77^{* *}\) & 0.15 \\
Nasdaq Market Share & Nasdaq & \(2.34^{* *}\) & \(0.69^{* *}\) & 0.11 \\
\hline
\end{tabular}

\section*{Table 4: Changes in Option Trading}

This table summarizes how option trading and open interest changes when the tick and bid tests are removed. The four months prior to the Pilot start date (May 2, 2005) are called the "Pre-Pilot" and the six months following the start date are called the "Pilot". The table shows the average change in option trading and open interest for Pilot and Control stocks and estimates whether the Pilot stocks changed more than the Control stocks. Panel A reports statistics on all options. Panel B reports statistics on short-term options. The data includes securities that had put and call option volume in both the Pre-Pilot and Pilot periods. There were a total of 690 Control stocks and 350 Pilot stocks included in the Listed sample and 573 Control stocks and 278 Pilot stocks in the Nasdaq sample. Open interest and volume are adjusted for stock splits. New option listings after May 1, 2005 were excluded from the analysis. The data source for the options data is the Options Price Reporting Authority (OPRA). Short-term options are identified using the Options Clearing Corporation directory. Paired t-tests determine whether the changes are significant. Tests of the difference between the changes are two-sample t-tests. \({ }^{* *}\), * indicates statistical significance at the 1 and \(5 \%\) level in a two-tailed test. We also test whether the difference in the change for Listed Stocks is statistically different from that of Nasdaq NM Stocks using two sample \(t\)-tests. \({ }^{\text {a, } b}\) indicates that the difference for Nasdaq NM Stocks is statistically different from the difference for Listed Stocks at the \(1 \%\) and \(5 \%\) level in a two-tailed test.

Panel A: All Options
\begin{tabular}{llrrr|rrrr|r}
\hline & & \multicolumn{4}{c}{ Pilot Sample } & \multicolumn{4}{c}{ Control Sample } \\
\cline { 3 - 8 } Variable & Market & Pre-Pilot & \multicolumn{1}{c}{ Pilot } & \multicolumn{1}{c}{\(\Delta\)} & \multicolumn{1}{c}{ Pre-Pilot } & Pilot & \(\Delta\) & Control \(\Delta\) \\
\hline Put Volume & Listed & 838.56 & 851.73 & 13.17 & 935.66 & 916.72 & -18.94 & 32.11 \\
Put Volume & Nasdaq & 726.08 & 530.68 & -195.40 & 664.03 & 589.89 & -74.15 & -121.25 \\
\hline Call volume & Listed & \(1,306.91\) & \(1,386.73\) & 79.82 & \(1,322.83\) & \(1,348.89\) & 26.06 & 53.75 \\
Call Volume & Nasdaq & \(1,194.10\) & 925.01 & -269.09 & \(1,103.75\) & 996.88 & -106.87 & -162.22 \\
\hline Put + Call Vol & Listed & \(2,145.47\) & \(2,238.46\) & 92.98 & \(2,258.49\) & \(2,265.61\) & 7.13 & 85.86 \\
Put + Call Vol & Nasdaq & \(1,920.18\) & \(1,455.69\) & -464.49 & \(1,767.78\) & \(1,586.77\) & -181.02 & -283.47 \\
\hline Put OI & Listed & \(28,325.87\) & \(32,150.11\) & \(3,824.24\) & \(33,315.65\) & \(40,602.82\) & \(7,287.17\) & \(-3,462.93\) \\
Put OI & Nasdaq & \(16,933.98\) & \(17,646.25\) & 712.27 & \(18,536.20\) & \(20,475.08\) & \(1,938.88\) & \(-1,226.61\) \\
\hline Call OI & Listed & \(32,878.21\) & \(38,919.53\) & \(6,041.32\) & \(34,761.23\) & \(43,566.95\) & \(8,805.72\) & \(-2,764.40\) \\
Call OI & Nasdaq & \(27,741.65\) & \(28,724.87\) & 983.22 & \(27,776.23\) & \(30,522.55\) & \(2,746.32\) & \(-1,763.10\) \\
\hline Put + Call OI & Listed & \(61,204.08\) & \(71,069.64\) & \(9,865.57\) & \(68,076.88\) & \(84,169.77\) & \(16,092.89\) & \(-6,227.32\) \\
Put + Call OI & Nasdaq & \(44,675.63\) & \(46,371.12\) & \(1,695.49\) & \(46,312.43\) & \(50,997.63\) & \(4,685.21\) & \(-2,989.72\) \\
\hline Signed Volume & Listed & 468.35 & 535.00 & 66.65 & 387.17 & 432.17 & 45.00 & 21.65 \\
Signed Volume & Nasdaq & 468.02 & 394.33 & -73.69 & 439.72 & 406.99 & -32.72 & -40.97 \\
\hline
\end{tabular}

Panel B: Short-term Options
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Variable} & \multirow[b]{2}{*}{Market} & \multicolumn{3}{|c|}{Pilot Sample} & \multicolumn{3}{|c|}{Control Sample} & \multirow[t]{2}{*}{Pilot \(\Delta\) minus Control \(\Delta\)} \\
\hline & & Pre-Pilot & Pilot & \(\Delta\) & Pre-Pilot & Pilot & \(\Delta\) & \\
\hline Put Volume & Listed & 700.03 & 767.71 & 67.68 & 716.48 & 768.70 & 52.22 & 15.46 \\
\hline Put Volume & Nasdaq & 654.98 & 489.10 & -165.88 & 588.95 & 537.18 & -51.78 & -114.10 \\
\hline Call Volume & Listed & 1,115.26 & 1,282.91 & 167.65 & 1,102.02 & 1,216.46 & 114.44 & 53.21 \\
\hline Call Volume & Nasdaq & 1,080.07 & 860.41 & -219.66 & 982.65 & 913.85 & -68.79 & -150.87 \\
\hline Put + Call Vol & Listed & 1,815.29 & 2,050.62 & 235.33 & 1,818.50 & 1,985.16 & 166.65 & 68.68 \\
\hline Put + Call Vol & Nasdaq & 1,735.05 & 1,349.51 & -385.54 & 1,571.60 & 1,451.03 & -120.57 & -264.97 \\
\hline Put Ol & Listed & 15,320.64 & 23,979.47 & 8,658.82 & 16,378.07 & 27,621.72 & 11,243.65 & -2,584.83 \\
\hline Put Ol & Nasdaq & 11,269.07 & 14,017.99 & 2,748.92 & 11,421.44 & 16,088.30 & 4,666.85 & -1,917.93 \\
\hline Call OI & Listed & 20,778.67 & 30,380.74 & 9,602.08 & 19,994.13 & 31,654.27 & 11,660.15 & -2,058.07 \\
\hline Call OI & Nasdaq & 18,788.25 & 22,951.64 & 4,163.39 & 18,070.89 & 23,567.80 & 5,496.91 & -1,333.52 \\
\hline Put + Call Ol & Listed & 36,099.31 & 54,360.21 & 18,260.90 & 36,372.20 & 59,275.99 & 22,903.80 & -4,642.90 \\
\hline Put + Call Ol & Nasdaq & 30,057.32 & 36,969.63 & 6,912.31 & 29,492.33 & 39,656.10 & 10,163.76 & -3,251.45 \\
\hline Signed Volume & Listed & 415.23 & 515.20 & 99.97 & 385.54 & 447.76 & 62.22 & 37.75 \\
\hline Signed Volume & Nasdaq & 425.09 & 371.31 & -53.79 & 393.69 & 376.68 & -17.01 & -36.78 \\
\hline
\end{tabular}

\section*{Table 5: Changes in Trading and Quoting Mechanics}

This table summarizes how trading and quoting mechanics change when the tick and bid tests are removed. The four months prior to the Pilot start date (May 2, 2005) are called the "Pre-Pilot" period and the six months following the start date are called the "Pilot" Period. The table shows the average change in the number of down ticks and the percent of time on a down bid for pilot and control stocks and estimates whether the pilot stocks changed more than the control stocks. Paired t-tests determine whether the changes are significant. Tests of the difference between the changes are two-sample t-tests. \({ }^{* *}\), * indicates statistical significance at the 1 and \(5 \%\) level in a two-tailed test. We test whether the difference in the change for Listed Stocks is statistically different from that of Nasdaq NM Stocks using a regression framework. During the Pilot Period, we run daily cross-sectional regressions of each variable on an indicator for Pilot Securities and the variable's pre-Pilot level (equation 1). We run the regression separately for Listed and Nasdaq NM Stocks and test whether the coefficients on the Pilot indicator are similar. \({ }^{\text {a, } b}\) indicates that the average coefficient for Nasdaq NM Stocks is statistically different from the average coefficient for Listed Stocks at the \(1 \%\) and \(5 \%\) level in a two-tailed test.

\section*{Panel A: Univariate Changes}
\begin{tabular}{llrlr|rrr|c}
\hline & & \multicolumn{3}{c}{ Pilot Sample } & \multicolumn{3}{c}{ Control Sample } & Pilot \(\Delta\) minus \\
\cline { 3 - 8 } Variable & Market & Pre-Pilot & Pilot & \(\Delta\) & Pre-Pilot & Pilot & \(\Delta\) & Control \(\Delta\) \\
\hline Downticks & Listed & 45.87 & 49.65 & \(3.78^{* *}\) & 45.84 & 45.01 & \(-0.83^{* *}\) & \(4.61^{* *}\) \\
Downticks & Nasdaq & 50.61 & 50.10 & \(-0.52^{* *}\) & 50.60 & 49.60 & \(-1.01^{* *}\) & \(0.49^{* *}\) \\
\hline Downbids & Listed & 38.82 & 39.76 & \(0.94^{* *}\) & 38.74 & 39.50 & \(0.76^{* *}\) & 0.18 \\
Downbids & Nasdaq & 47.06 & 45.64 & \(-1.42^{* *}\) & 47.44 & 48.02 & \(0.58^{* *}\) & \(-2.00^{* *}\) \\
\hline
\end{tabular}

\section*{Panel B: Average Regression Coefficients}
\begin{tabular}{llccc}
\multicolumn{5}{l}{ Market Quality \(_{i}=\alpha+\beta_{1}\) Pilot \(_{i}+\beta_{2}\) Pre Pilot Market Quality \(_{i}\)} \\
\hline Variable & Market & Pilot & PrePilotControl & R-squared \\
\hline Downticks & Listed & \(4.64^{* *}\) & \(0.46^{* *}\) & 0.15 \\
Downticks & Nasdaq & \(0.49^{* *}\) a & \(0.47^{* *}\) & 0.02 \\
\hline Downbids & Listed & \(0.24^{* *}\) & \(0.87^{* *}\) & 0.27 \\
Downbids & Nasdaq & \(-2.06^{* * a}\) & \(0.84^{* *}\) & 0.23 \\
\hline
\end{tabular}

\section*{Table 6: Liquidity Measures}

This table summarizes how liquidity changes when the tick and bid tests are removed. The four months prior to the Pilot start date (May 2, 2005) are called the "Pre-period" and the six months following the start date are called the "Pilot Period". The table shows the average change in various liquidity measures for Pilot and Control stocks and estimates whether the Pilot stocks changed more than the Control stocks. Paired t-tests determine whether the changes are significant. Tests of the difference between the changes are two-sample t-tests. \({ }^{* *}\), * indicates statistical significance at the 1 and \(5 \%\) level in a two-tailed test. We test whether the Difference in the Change for Listed Stocks is statistically different from that of Nasdaq NM Stocks using a regression framework. During the Pilot Period, we run daily cross-sectional regressions of each variable on an indicator for Pilot Securities and the variable's pre-Pilot level (equation 1). We run the regression separately for Listed and Nasdaq NM Stocks and test whether the coefficients on the Pilot indicator are similar. \({ }^{\text {a, } b}\) indicates that the average coefficient for Nasdaq NM Stocks is statistically different from the average coefficient for Listed Stocks at the \(1 \%\) and \(5 \%\) level in a two-tailed test.

\section*{Panel A: Univariate Changes}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Variable} & \multirow[b]{2}{*}{Market} & \multicolumn{3}{|c|}{Pilot Sample} & \multicolumn{3}{|c|}{Control Sample} & \multirow[t]{2}{*}{Pilot \(\Delta\) minus Control \(\Delta\)} \\
\hline & & Pre-Pilot & Pilot & \(\Delta\) & Pre-Pilot & Pilot & \(\Delta\) & \\
\hline Ask Depth & Listed & 15.04 & 12.24 & -2.80** & 18.81 & 22.02 & 3.21** & -6.00** \\
\hline Ask Depth & Nasdaq & 21.23 & 26.63 & 5.40* & 26.90 & 34.36 & 7.46** & -2.05 \\
\hline Bid Depth & Listed & 12.16 & 12.89 & 0.73 & 15.96 & 18.71 & 2.76** & -2.03 \\
\hline Bid Depth & Nasdaq & 21.41 & 28.44 & 7.04** & 27.77 & 37.45 & 9.68** & -2.65 \\
\hline Quoted Spread ( \(\phi\) ) & Listed & 6.82 & 7.25 & 0.43 & 5.64 & 6.02 & 0.37 & 0.06 \\
\hline Quoted Spread ( \(\phi\) ) & Nasdaq & 5.44 & 5.38 & -0.06 & 5.59 & 5.93 & 0.34 & -0.40 \\
\hline \% Quoted Spread & Listed & 18.82 & 19.74 & 0.92 & 18.10 & 18.18 & 0.08 & 0.80 \\
\hline \% Quoted Spread & Nasdaq & 26.61 & 27.90 & 1.29 & 28.40 & 29.62 & 1.22** & 0.07 \\
\hline Effective Spread ( \(\phi\) ) & Listed & 4.92 & 5.22 & 0.29 & 4.48 & 4.67 & 0.19 & 0.11 \\
\hline Effective Spread ( \(\phi\) ) & Nasdaq & 5.22 & 4.92 & -0.31** & 5.29 & 5.27 & -0.02 & -0.29 \\
\hline \% Effective Spread & Listed & 16.28 & 17.56 & 1.29 & 14.83 & 15.63 & 0.80 & 0.50 \\
\hline \% Effective Spread & Nasdaq & 26.91 & 26.98 & 0.07 & 28.84 & 28.47 & -0.37 & 0.40 \\
\hline
\end{tabular}

\section*{Panel B: Average Regression Coefficients}

\begin{tabular}{llccc}
\hline Variable & Market & Pilot & PrePilotControl & R-squared \\
\hline Ask Depth & Listed & \(-5.26^{* *}\) & \(1.18^{* *}\) & 0.82 \\
Ask Depth & Nasdaq & \(-2.01^{* *}\) & \(1.11^{* *}\) & 0.79 \\
\hline Bid Depth & Listed & \(-1.42^{* *}\) & \(1.16^{* *}\) & 0.82 \\
Bid Depth & Nasdaq & \(-2.47^{* *}\) & \(1.13^{* *}\) & 0.75 \\
\hline Quoted Spread \((\phi)\) & Listed & \(-0.36^{*}\) & \(1.35^{* *}\) & 0.74 \\
Quoted Spread ( () & Nasdaq & \(-0.31^{* *}\) & \(1.37^{* *}\) & 0.75 \\
\hline \% Quoted Spread & Listed & \(0.86^{*}\) & \(1.13^{* *}\) & 0.62 \\
\% Quoted Spread & Nasdaq & \(0.28^{* *}\) & \(1.11^{* *}\) & 0.68 \\
\hline Effective Spread ( () & Listed & -0.12 & \(1.51^{* *}\) & 0.80 \\
Effective Spread \((\phi)\) & Nasdaq & \(-0.25^{* *}\) & \(1.31^{* *}\) & 0.63 \\
\hline \% Effective Spread & Listed & 0.26 & \(1.24^{* *}\) & 0.43 \\
\% Effective Spread & Nasdaq & \(0.62^{* *}\) & \(1.12^{* *}\) & 0.50 \\
\hline
\end{tabular}

\section*{Table 7: Volatility}

This table summarizes how volatility changes when the tick and bid tests are removed. The four months prior to the Pilot start date (May 2, 2005) are called the "Pre-Pilot" period and the six months following the start date are called the "Pilot" period. The table shows the average change in various volatility measures for pilot and control stocks and estimates whether the pilot stocks changed more than the control stocks. Daily Price Range is \(100^{*}(\log\) high log low). Absolute return and standard deviation are reported in percentage points. While standard deviation is reported, tests were run on variances to avoid Jensen's inequality. Paired t-tests determine whether the changes are significant. Tests of the difference between the changes are two-sample t-tests. **, * indicates statistical significance at the 1 and \(5 \%\) level in a two-tailed test. We test whether the difference in the change for Listed Stocks is statistically different from that of Nasdaq NM Stocks using a regression framework. During the Pilot Period, we run daily cross-sectional regressions of each variable on an indicator for pilot securities and the variable's Pre-Pilot level (equation 1). We run the regression separately for Listed and Nasdaq NM Stocks and test whether the coefficients on the pilot indicator are similar. \({ }^{\text {a,b }}\) indicates that the average coefficient for Nasdaq NM Stocks is statistically different from the average coefficient for Listed Stocks at the \(1 \%\) and \(5 \%\) level in a two-tailed test.

\section*{Panel A: Univariate Changes}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Variable} & \multirow[b]{2}{*}{Market} & \multicolumn{3}{|c|}{Pilot Sample} & \multicolumn{3}{|c|}{Control Sample} & \multirow[t]{2}{*}{Pilot \(\Delta\) minus Control \(\Delta\)} \\
\hline & & PrePilot & Pilot & \(\Delta\) & PrePilot & Pilot & \(\Delta\) & \\
\hline Daily Price Range & Listed & 2.45 & 2.42 & -0.03 & 2.43 & 2.36 & -0.07** & 0.04 \\
\hline Daily Price Range & Nasdaq & 3.64 & 3.36 & -0.28** & 3.76 & 3.41 & -0.35** & 0.07 \\
\hline Absolute Return - 5m & Listed & 0.11 & 0.12 & 0.00 & 0.11 & 0.11 & -0.01** & 0.01** \\
\hline Absolute Return - 5m & Nasdaq & 0.14 & 0.13 & -0.01** & 0.15 & 0.13 & -0.02** & 0.01** \\
\hline Absolute Return - 30 m & Listed & 0.29 & 0.28 & -0.01* & 0.28 & 0.27 & -0.01** & 0.00 \\
\hline Absolute Return - 30m & Nasdaq & 0.39 & 0.36 & -0.03** & 0.40 & 0.36 & -0.04** & 0.01 \\
\hline Absolute Return - day & Listed & 1.34 & 1.29 & -0.05** & 1.33 & 1.30 & -0.04** & -0.01 \\
\hline Absolute Return - day & Nasdaq & 1.80 & 1.69 & -0.11** & 1.85 & 1.71 & -0.14** & 0.03 \\
\hline Return Standard Deviation - 5m & Listed & 0.19 & 0.20 & 0.00 & 0.20 & 0.19 & -0.01 & 0.01 \\
\hline Return Standard Deviation - 5m & Nasdaq & 0.26 & 0.25 & -0.01 & 0.27 & 0.26 & -0.01** & 0.02 \\
\hline Return Standard Deviation - 30m & Listed & 0.45 & 0.44 & -0.01 & 0.44 & 0.43 & -0.01* & -0.00 \\
\hline Return Standard Deviation - 30m & Nasdaq & 0.61 & 0.58 & -0.03** & 0.63 & 0.59 & -0.04** & 0.01 \\
\hline Return Standard Deviation - day & Listed & 2.11 & 1.97 & -0.14 & 2.00 & 2.03 & 0.03 & -0.01 \\
\hline Return Standard Deviation - day & Nasdaq & 2.72 & 2.75 & 0.03 & 2.82 & 2.72 & -0.10 & -0.13 \\
\hline Variance Ratio 5/30 & Listed & 1.12 & 1.23 & 0.11** & 1.11 & 1.15 & 0.04** & 0.07** \\
\hline Variance Ratio 5/30 & Nasdaq & 1.23 & 1.30 & 0.06** & 1.26 & 1.29 & 0.03** & 0.03* \\
\hline Variance Ratio 5/day & Listed & 3.09 & 3.30 & 0.21** & 2.98 & 3.08 & 0.10 & 0.11 \\
\hline Variance Ratio 5/day & Nasdaq & 4.08 & 4.09 & 0.01 & 4.15 & 4.62 & 0.47 & -0.45 \\
\hline Variance Ratio 30/day & Listed & 2.71 & 2.62 & -0.08 & 2.64 & 2.57 & -0.07 & 0.01 \\
\hline Variance Ratio 30/day & Nasdaq & 3.24 & 3.02 & -0.22* & 3.25 & 3.28 & 0.03 & -0.25 \\
\hline
\end{tabular}

\section*{Panel B: Average Regression Coefficients}
\[
\text { Market Quality }_{i}=\alpha+\beta_{1} \operatorname{Pilot}_{i}+\beta_{2} \text { Pre Pilot Market Quality }{ }_{i}
\]
\begin{tabular}{|c|c|c|c|c|}
\hline Variable & Market & Pilot & PrePilotControl & R-squared \\
\hline Daily Price Range(bps) & Listed & 3.68** & 0.86** & 0.27 \\
\hline Daily Price Range(bps) & Nasdaq & 2.92* & 0.79** & 0.21 \\
\hline Absolute Return - 5m(bps) & Listed & 0.68** & 0.84** & 0.37 \\
\hline Absolute Return - 5m(bps) & Nasdaq & \(0.34^{* *}{ }^{\text {a }}\) & 0.73** & 0.21 \\
\hline Absolute Return - 30m(bps) & Listed & 0.33** & 0.83** & 0.16 \\
\hline Absolute Return - 30m(bps) & Nasdaq & 0.20 & 0.82** & 0.18 \\
\hline Absolute Return - day(bps) & Listed & -0.91 & 0.80** & 0.09 \\
\hline Absolute Return - day(bps) & Nasdaq & 0.47 & 0.71** & 0.06 \\
\hline Return Variance - 5m (x10 \({ }^{6}\) ) & Listed & 0.49** & 0.29** & 0.10 \\
\hline Return Variance - \(5 \mathrm{~m}\left(\times 10^{6}\right)\) & Nasdaq & 0.22 & \(0.84{ }^{* *}\) & 0.17 \\
\hline Return Variance - 30 m ( \(\times 10^{5}\) ) & Listed & -0.66* & 0.89** & 0.01 \\
\hline Return Variance - \(30 \mathrm{~m}\left(\times 10^{5}\right)\) & Nasdaq & -0.34* & 1.03** & 0.07 \\
\hline Return Variance - day ( \(\times 10^{4}\) ) & Listed & -0.33 & 0.21** & 0.12 \\
\hline Return Variance - day (x10 \({ }^{4}\) ) & Nasdaq & 0.38 & 0.44** & 0.12 \\
\hline Variance Ratio 5/30 & Listed & 0.08** & 0.68** & 0.44 \\
\hline Variance Ratio 5/30 & Nasdaq & \(0.01^{\text {a }}\) & 0.54 ** & 0.21 \\
\hline Variance Ratio 5/day & Listed & 0.12 & 1.03** & 0.42 \\
\hline Variance Ratio 5/day & Nasdaq & -0.82 & 0.03 & 0.00 \\
\hline Variance Ratio 30/day & Listed & 0.02 & 0.49** & 0.16 \\
\hline Variance Ratio 30/day & Nasdaq & -0.26 & 0.17 & 0.00 \\
\hline
\end{tabular}

Table 8: Returns around the May 2, 2005 Start of the Pilot
This table shows the returns surrounding the May 2 initiation of the pilot. The raw returns are equally-weighted averages of the returns for each stocks, as collected from CRSP. The Cumulative Returns are set to be zero on the day prior to the start of the pilot. The Cumulative returns represent the compounded returns on an investment made at the April 29 closing price. * indicates that the control stock returns are statistically different from the pilot stock returns at the \(5 \%\) significance level in a two-tailed test. None of the returns are statistically different at the \(1 \%\) level.

\section*{Panel A: Listed Sample Stocks}
\begin{tabular}{lrrrr}
\hline & \multicolumn{2}{c}{ Daily Returns } & \multicolumn{2}{c}{ Cumulative Returns } \\
Date & \multicolumn{1}{c}{ Pilot } & \multicolumn{1}{c}{ Control } & \multicolumn{1}{c}{ Pilot } & \multicolumn{1}{c}{ Control } \\
\hline April 18 & 0.005 & 0.007 & 0.007 & 0.015 \\
April 19 & 0.012 & 0.011 & 0.019 & 0.025 \\
April 20 & -0.015 & -0.015 & 0.003 & 0.009 \\
April 21 & 0.019 & 0.018 & 0.021 & 0.026 \\
April 22 & -0.009 & -0.011 & 0.011 & 0.015 \\
April 25 & 0.010 & 0.011 & 0.021 & 0.026 \\
April 26 & -0.010 & -0.012 & 0.010 & 0.013 \\
April 27 & 0.000 & -0.001 & 0.009 & 0.011 \\
April 28 & -0.016 & -0.016 & -0.007 & -0.006 \\
April 29 & 0.008 & 0.006 & 0.000 & 0.000 \\
\hline May 2 & 0.007 & \(0.009^{*}\) & 0.007 & \(0.009^{*}\) \\
May 3 & -0.001 & -0.001 & 0.005 & 0.008 \\
May 4 & 0.015 & 0.016 & 0.020 & 0.024 \\
May 5 & 0.000 & 0.001 & 0.020 & 0.025 \\
May 6 & 0.002 & 0.001 & 0.022 & 0.026 \\
May 9 & 0.010 & 0.008 & 0.032 & 0.034 \\
May 10 & -0.012 & -0.010 & 0.020 & 0.024 \\
May 11 & 0.001 & 0.002 & 0.021 & 0.026 \\
May 12 & -0.015 & -0.014 & 0.006 & 0.011 \\
May 13 & -0.010 & -0.010 & -0.003 & 0.001 \\
May 16 & 0.013 & 0.014 & 0.010 & 0.015 \\
\hline
\end{tabular}

Panel B: Nasdaq Sample Stocks
\begin{tabular}{lrrrr}
\hline & \multicolumn{2}{c}{ Daily Returns } & \multicolumn{2}{c}{ Cumulative Returns } \\
Date & \multicolumn{1}{c}{ Pilot } & \multicolumn{1}{c}{ Control } & \multicolumn{1}{c}{ Pilot } & \multicolumn{1}{c}{ Control } \\
\hline April 18 & 0.006 & 0.007 & 0.019 & 0.017 \\
April 19 & 0.016 & \(0.018^{*}\) & 0.035 & 0.035 \\
April 20 & -0.018 & -0.018 & 0.015 & 0.016 \\
April 21 & 0.025 & 0.026 & 0.039 & 0.041 \\
April 22 & -0.018 & -0.019 & 0.019 & 0.020 \\
April 25 & 0.009 & 0.010 & 0.027 & 0.030 \\
April 26 & -0.012 & \(-0.016^{*}\) & 0.014 & 0.013 \\
April 27 & 0.001 & 0.001 & 0.014 & 0.012 \\
April 28 & -0.021 & -0.019 & -0.009 & -0.008 \\
April 29 & 0.009 & 0.009 & 0.000 & 0.000 \\
\hline May 2 & 0.008 & 0.009 & 0.008 & 0.009 \\
May 3 & 0.001 & 0.001 & 0.008 & 0.010 \\
May 4 & 0.019 & 0.020 & 0.027 & 0.030 \\
May 5 & 0.000 & 0.001 & 0.027 & 0.031 \\
May 6 & 0.001 & 0.000 & 0.028 & 0.031 \\
May 9 & 0.012 & 0.012 & 0.040 & 0.043 \\
May 10 & -0.012 & -0.013 & 0.028 & 0.030 \\
May 11 & 0.001 & -0.001 & 0.029 & 0.029 \\
May 12 & -0.008 & -0.009 & 0.020 & 0.020 \\
May 13 & -0.004 & -0.005 & 0.016 & 0.015 \\
May 16 & 0.015 & 0.016 & 0.032 & 0.031 \\
\hline
\end{tabular}

\section*{Table 9: Six Month Returns}

The table summarizes tests of whether the six month returns of the pilot stocks differ from the six month returns of the control stocks. The raw returns are compounded cumulative returns from CRSP. If a stock is not in the sample for the entire six months, its return from its last day is compounded to six months. The market adjusted returns is simply the raw return minus the CRSP equally-weighted index. The alpha is estimated in-sample by regressing the raw return for a stock on the equally-weighted CRSP index return. A stock's alpha is considered "negative" if it is statistically below zero at the \(5 \%\) level in a two-tailed test. Likewise, a stock's alpha is considered "positive" if it is statistically above zero at the \(5 \%\) level in a two-tailed test. \({ }^{* *}\) indicates that the control stock returns are statistically different from the pilot stock returns at the \(5 \%\) significance level in a two-tailed test.

\section*{Panel A: Univariate Differences}
\begin{tabular}{llccc}
\hline \multicolumn{1}{c}{ Variable } & Market & Pilot & Control & Difference \\
\hline Raw Return & Listed & \(9.18 \%\) & \(11.56 \%\) & \(-2.38 \%\) \\
Raw Return & Nasdaq & \(14.21 \%\) & \(16.30 \%\) & \(-2.09 \%\) \\
\hline Market Adjusted Return & Listed & \(-2.10 \%\) & \(-0.00 \%\) & \(-2.07 \%\) \\
Market Adjusted Return & Nasdaq & \(2.26 \%\) & \(4.01 \%\) & \(-1.74 \%\) \\
\hline Alpha & Listed & \(-0.05 \%\) & \(-0.04 \%\) & \(-0.01 \%\) \\
Alpha & Nasdaq & \(-0.04 \%\) & \(-0.02 \%\) & \(-0.01 \%\) \\
\hline Negative Alpha & Listed & \(5.56 \%\) & \(4.93 \%\) & \(0.60 \%\) \\
Negative Alpha & Nasdaq & \(2.73 \%\) & \(1.53 \%\) & \(1.20 \%\) \\
\hline Positive Alpha & Listed & \(0.00 \%\) & \(0.92 \%\) & \(-0.92 \%{ }^{* *}\) \\
Positive Alpha & Nasdaq & \(0.91 \%\) & \(1.20 \%\) & \(-0.29 \%\) \\
\hline
\end{tabular}

\section*{Panel B: Regression Tests}
\begin{tabular}{llcc}
\multicolumn{4}{c}{ Market Model Alpha \(=\alpha+\beta\) Pilot } \\
\hline Variable & Market & Pilot & R-squared \\
\hline Alpha & Listed & -0.0001 & 0.009 \\
Alpha & Nasdaq & -0.0001 & 0.005 \\
\hline
\end{tabular}

\section*{Table 10: Skewness}

This table summarizes how skewness changes when the tick and bid tests are removed. The four months prior to the pilot start date (May 2, 2005) are called the "Pre-Pilot" period and the six months following the start date are called the "Pilot" period. The table shows the average levels and changes in various skewness measures for pilot and control stocks and estimates whether the pilot stocks changed more than the control stocks. Sample skewness is computed for each stock in the pilot and contol sample in the Pre-Pilot and Pilot period, for five-minute, thirtyminute, and one day return intervals. Paired t-tests determine whether the changes are significant. Tests of the difference between the changes are two-sample t-tests. \({ }^{* *}\), * indicates statistical significance at the \(1 \%\) and \(5 \%\) level in a two-tailed test.
\begin{tabular}{llrrrrrrr}
\hline & & \multicolumn{4}{c}{ Pilot Sample } & \multicolumn{3}{c}{ Control Sample } \\
\multicolumn{2}{c}{ Pilot \(\Delta\) minus } \\
\cline { 3 - 8 } Variable & Market & Pre-Pilot & Pilot & \(\Delta\) & Pre-Pilot & Pilot & \(\Delta\) & Control \(\Delta\) \\
\hline Skewness-5m & Listed & 0.08 & 0.16 & 0.08 & 0.25 & 0.13 & -0.12 & 0.20 \\
Skewness-5m & Nasdaq & 0.29 & 0.43 & 0.14 & 0.22 & 0.36 & 0.14 & 0.00 \\
\hline Skewness-30m & Listed & 0.13 & 0.09 & -0.04 & 0.13 & 0.13 & 0.00 & -0.04 \\
Skewness-30m & Nasdaq & 0.20 & 0.32 & 0.12 & 0.13 & 0.23 & \(0.10^{*}\) & 0.02 \\
\hline Skewness—day & Listed & 0.06 & 0.15 & 0.09 & 0.17 & 0.21 & 0.03 & 0.06 \\
Skewness-day & Nasdaq & 0.26 & 0.35 & 0.09 & 0.16 & 0.29 & 0.13 & 0.05 \\
\hline
\end{tabular}

\section*{Table 11: Extreme Price Reversals}

This table summarizes how the frequency of large negative and positive short-horizon price reversals differs across pilot and control stocks. The numbers in the table represent the number of reversals per 100,000 stock/intervals. A negative (positive) reversal is defined as a negative (positive) return immediately followed by a positive (negative) return. The "size" of the reversal is defined as the minimum absolute value of the two adjacent returns, normalized by the pre-pilot standard deviation of the stock's holding-period return, where the second return is computed as a percentage of the lagged price, and the holding period is five minutes or thirty minutes. The frequency of reversals is computed based on a six-month period following the pilot start date (May 2, 2005). The pre-pilot standard deviation used to normalize the returns is computed over a four-month period prior to the start date. Nonparametric statistical tests based on a bootstrapping procedure determine whether the number of reversals observed in the pilot sample would be statistically rare in the control sample. \({ }^{* *}\), * indicates statistical significance at the \(1 \%\) and \(5 \%\) level in a two-tailed test.

\section*{Panel A: Five-Minute Return Reversals}
\begin{tabular}{ccccccccc}
\hline & \multicolumn{5}{c}{ Listed Stocks } & \multicolumn{3}{c}{ Nasdaq Stocks } \\
\cline { 2 - 8 } & Negative Reversals & \multicolumn{2}{c}{ Positive Reversals } & \multicolumn{2}{c}{ Negative Reversals } & Positive Reversals \\
\cline { 2 - 8 } Reversal & & & & & & & \\
Size & Pilot & Control & Pilot & Control & Pilot & Control & Pilot & Control \\
\hline\(>2\) & \(338.4^{* *}\) & 281.3 & \(339.1^{* *}\) & 281.1 & \(273.4^{* *}\) & 257.4 & \(284.1^{* *}\) & 267.8 \\
\(>3\) & \(76.7^{* *}\) & 65.1 & \(75.4^{* *}\) & 63.5 & \(71.9^{* *}\) & 62.8 & \(72.7^{* *}\) & 67.0 \\
\(>4\) & \(25.0^{* *}\) & 20.4 & \(24.4^{* *}\) & 19.3 & \(25.1^{* *}\) & 22.4 & \(2.6^{* *}\) & 24.6 \\
\(>5\) & \(10.0^{* *}\) & 8.8 & \(11.3^{* *}\) & 8.4 & 10.5 & 9.1 & \(1.2^{* *}\) & 11.2 \\
\(>6\) & 4.9 & 4.6 & \(5.8^{* *}\) & 4.8 & 5.3 & 4.2 & \(6.9^{*}\) & 5.9 \\
\(>7\) & 2.8 & 2.8 & 3.4 & 3.1 & 3.0 & 2.2 & 3.6 & 3.6 \\
\(>8\) & 1.7 & 1.8 & 2.0 & 2.2 & 1.9 & 1.2 & 2.2 & 2.2 \\
\(>9\) & 1.1 & 1.3 & \(1.2^{*}\) & 1.7 & 1.2 & 0.6 & 1.6 & 1.4 \\
& & & & & & & & \\
\hline
\end{tabular}

\section*{Panel B: Thirty-Minute Return Reversals}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{3}{*}{Reversal
Size} & \multicolumn{4}{|c|}{Listed Stocks} & \multicolumn{4}{|c|}{Nasdaq Stocks} \\
\hline & \multicolumn{2}{|l|}{Negative Reversals} & \multicolumn{2}{|l|}{Positive Reversals} & \multicolumn{2}{|l|}{Negative Reversals} & \multicolumn{2}{|l|}{Positive Reversals} \\
\hline & Pilot & Control & Pilot & Control & Pilot & Control & Pilot & Control \\
\hline >2 & 251.4 & 240.8 & 240.5 & 231.4 & 215.3 & 218.7 & 224.3 & 221.5 \\
\hline > 3 & 53.2* & 47.1 & 44.3 & 45.9 & 38.3 & 41.0 & 41.6 & 45.5 \\
\hline > 4 & 9.2 & 11.0 & 12.6 & 12.0 & 12.1 & 10.3 & 12.1 & 13.4 \\
\hline > 5 & 3.3 & 4.3 & 4.2 & 5.4 & 4.8 & 4.1 & 5.3 & 4.6 \\
\hline > 6 & 1.0 & 1.6 & 1.3 & 2.3 & 1.5 & 2.2 & 3.2 & 2.2 \\
\hline > 7 & 0.4 & 0.8 & 0.6 & 1.3 & 0.3 & 0.9 & 1.3 & 1.3 \\
\hline > 8 & 0.1 & 0.4 & 0.1 & 0.7 & 0.2 & 0.5 & 0.7 & 0.8 \\
\hline > 9 & 0.0 & 0.2 & 0.1 & 0.4 & 0.0 & 0.3 & 0.5 & 0.7 \\
\hline
\end{tabular}

\section*{Table 12: Semi-Autoregression Results}

This table reports average regression coefficients of returns on lagged positive and negative component returns, for pilot and control stocks before and after the start of the pilot. The four months prior to the Pilot start date (May 2, 2005) are called the "Pre-Pilot" period and the six months following the start date are called the "Pilot" period. The coefficients reported in the table are the mean coefficients across all stocks in the subsample, estimated over the designated period, of the autoregressive model:
\[
R_{t}=\sum_{n=1}^{5} \alpha_{n} R_{t-n}^{-}+\sum_{n=1}^{5} \beta_{n} R_{t-n}^{+}
\]
where \(R_{t}\) represents the stock return in period \(t\), and
\[
R_{t}^{-}=\min \left(0, R_{t}\right) \quad R_{t}^{+}=\max \left(0, R_{t}\right)
\]

Paired t-tests determine whether the changes are significant. Tests of the difference between the changes are twosample t-tests. \({ }^{* *}\), * indicates statistical significance at the 1 and \(5 \%\) level in a two-tailed test.

Panel A: Five-minute Returns
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Lag/Sign} & \multirow[b]{2}{*}{Market} & \multicolumn{3}{|c|}{Pilot Sample} & \multicolumn{3}{|c|}{Control Sample} & \multirow[t]{2}{*}{Pilot \(\Delta\) minus Control \(\Delta\)} \\
\hline & & Pre-Pilot & Pilot & \(\Delta\) & Pre-Pllot & Pilot & \(\Delta\) & \\
\hline 1 / Negative & Listed & -0.048 & -0.071 & -0.022** & -0.048 & -0.049 & -0.001 & -0.021** \\
\hline 2 / Negative & Listed & -0.019 & -0.007 & \(0.012^{* *}\) & -0.015 & -0.002 & 0.013** & -0.001 \\
\hline 3 / Negative & Listed & -0.004 & -0.005 & -0.001 & -0.005 & -0.003 & 0.002 & -0.003 \\
\hline 4 / Negative & Listed & -0.001 & -0.010 & -0.008** & -0.001 & -0.004 & -0.003 & -0.005* \\
\hline 5 / Negative & Listed & -0.005 & -0.004 & 0.000 & -0.003 & 0.000 & 0.003 & -0.003 \\
\hline 1 / Positive & Listed & -0.033 & -0.056 & -0.022** & -0.034 & -0.031 & 0.003 & -0.026** \\
\hline 2 / Positive & Listed & -0.005 & -0.013 & -0.008** & -0.004 & -0.004 & 0.000 & -0.008** \\
\hline 3 / Positive & Listed & -0.003 & 0.003 & \(0.006^{* *}\) & -0.002 & 0.007 & 0.009** & -0.003 \\
\hline 4 / Positive & Listed & -0.003 & -0.004 & -0.001 & -0.001 & -0.002 & -0.001 & 0.000 \\
\hline 5 / Positive & Listed & -0.004 & -0.005 & -0.001 & -0.002 & -0.002 & 0.000 & -0.001 \\
\hline 1 / Negative & Nasdaq & -0.027 & -0.046 & -0.019** & -0.030 & -0.042 & -0.012** & -0.007 \\
\hline 2 / Negative & Nasdaq & -0.014 & -0.007 & 0.007 & -0.014 & -0.006 & 0.009** & -0.002 \\
\hline 3 / Negative & Nasdaq & -0.004 & -0.006 & -0.002 & -0.007 & -0.006 & 0.001 & -0.003 \\
\hline 4 / Negative & Nasdaq & 0.000 & -0.004 & -0.004 & 0.001 & -0.003 & -0.004** & 0.000 \\
\hline 5 / Negative & Nasdaq & -0.002 & -0.002 & 0.000 & -0.004 & -0.002 & 0.002 & -0.003 \\
\hline 1 / Positive & Nasdaq & -0.032 & -0.030 & 0.002 & -0.034 & -0.024 & 0.009** & -0.007 \\
\hline 2 / Positive & Nasdaq & -0.011 & -0.012 & 0.000 & -0.011 & -0.008 & 0.004 & -0.004 \\
\hline 3 / Positive & Nasdaq & -0.004 & 0.002 & 0.006* & -0.004 & 0.004 & 0.008** & -0.002 \\
\hline 4 / Positive & Nasdaq & -0.002 & -0.003 & -0.001 & -0.004 & -0.001 & 0.004** & -0.005 \\
\hline 5 / Positive & Nasdaq & -0.008 & -0.001 & 0.006** & -0.006 & 0.000 & 0.007** & -0.001 \\
\hline
\end{tabular}

\section*{Panel B: Thirty-minute Returns}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{2}{*}{Lag/Sign} & \multirow[b]{2}{*}{Market} & \multicolumn{3}{|c|}{Pilot Sample} & \multicolumn{3}{|c|}{Control Sample} & \multirow[t]{2}{*}{Pilot \(\Delta\) minus Control \(\Delta\)} \\
\hline & & Pre-Pilot & Pilot & \(\Delta\) & Pre-Pllot & Pilot & \(\Delta\) & \\
\hline 1 / Negative & Listed & -0.030 & -0.021 & 0.009 & -0.020 & -0.008 & 0.012** & -0.003 \\
\hline 2 / Negative & Listed & -0.004 & -0.008 & -0.004 & -0.008 & -0.010 & -0.002 & -0.002 \\
\hline 3 / Negative & Listed & -0.003 & 0.018 & 0.021** & -0.002 & 0.017 & 0.019** & 0.001 \\
\hline 4 / Negative & Listed & -0.001 & -0.029 & -0.029** & -0.001 & -0.024 & -0.023** & -0.006 \\
\hline 5 / Negative & Listed & -0.010 & -0.005 & 0.006 & -0.010 & 0.000 & 0.010** & -0.004 \\
\hline 1 / Positive & Listed & 0.002 & -0.022 & -0.024** & 0.007 & -0.008 & -0.015** & -0.009 \\
\hline 2 / Positive & Listed & 0.013 & 0.000 & -0.013** & 0.011 & 0.003 & -0.008** & -0.006 \\
\hline 3 / Positive & Listed & 0.008 & 0.006 & -0.002 & 0.012 & 0.012 & 0.000 & -0.002 \\
\hline 4 / Positive & Listed & -0.008 & 0.009 & 0.018** & -0.005 & 0.004 & 0.009** & 0.009* \\
\hline 5 / Positive & Listed & -0.008 & 0.002 & 0.010** & -0.002 & -0.001 & 0.001 & 0.008 \\
\hline 1/ Negative & Nasdaq & -0.026 & -0.019 & 0.007 & -0.022 & -0.018 & 0.003 & 0.004 \\
\hline 2 / Negative & Nasdaq & -0.009 & -0.015 & -0.006 & -0.010 & -0.010 & 0.001 & -0.007 \\
\hline 3 / Negative & Nasdaq & 0.001 & 0.009 & 0.008 & -0.001 & 0.008 & 0.009** & -0.001 \\
\hline 4 / Negative & Nasdaq & -0.010 & -0.025 & -0.015** & -0.014 & -0.021 & -0.007* & -0.008 \\
\hline 5 / Negative & Nasdaq & -0.016 & 0.000 & 0.016** & -0.014 & -0.002 & \(0.012^{* *}\) & 0.004 \\
\hline 1 / Positive & Nasdaq & -0.017 & -0.001 & 0.016** & -0.020 & -0.005 & 0.015** & 0.001 \\
\hline 2 / Positive & Nasdaq & 0.006 & -0.007 & -0.014** & 0.006 & -0.004 & -0.010** & -0.004 \\
\hline 3 / Positive & Nasdaq & 0.003 & 0.004 & 0.001 & -0.002 & 0.006 & 0.008** & -0.007 \\
\hline 4 / Positive & Nasdaq & -0.017 & 0.004 & 0.021** & -0.010 & 0.004 & 0.014** & 0.007 \\
\hline 5 / Positive & Nasdaq & -0.002 & -0.005 & -0.003 & -0.006 & -0.002 & 0.005 & -0.007 \\
\hline
\end{tabular}

\section*{Table 13: Sample Deciles}

This table shows the number of stocks in each market capitalization, turnover, and short selling decile. The deciles are set so that each decile contains the same number of stocks for the full sample. This table reports the subsample sizes separately for pilot and control stocks and for Listed and Nasdaq NM Stocks. It also gives the proportion of stocks in that decile and market that are pilot or control stocks.
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{3}{*}{} & \multicolumn{4}{|c|}{Listed} & \multicolumn{4}{|c|}{Nasdaq} \\
\hline & \multicolumn{2}{|r|}{Pilot} & \multicolumn{2}{|r|}{Control} & \multicolumn{2}{|r|}{Pilot} & \multicolumn{2}{|r|}{Control} \\
\hline & Count & Proportion & Count & Proportion & Count & Proportion & Count & Proportion \\
\hline Decile & \multicolumn{8}{|c|}{Market Capitalization} \\
\hline Lowest & 22 & 33.9 & 43 & 66.1 & 62 & 28.4 & 156 & 71.6 \\
\hline 2 & 19 & 31.1 & 42 & 66.9 & 61 & 27.6 & 160 & 72.4 \\
\hline 3 & 28 & 33.3 & 56 & 66.7 & 69 & 34.5 & 131 & 65.5 \\
\hline 4 & 35 & 33.0 & 71 & 67.0 & 63 & 35.6 & 114 & 64.4 \\
\hline 5 & 41 & 32.8 & 84 & 67.2 & 63 & 39.9 & 95 & 60.1 \\
\hline 6 & 59 & 34.9 & 110 & 65.1 & 34 & 29.6 & 81 & 70.4 \\
\hline 7 & 65 & 35.1 & 120 & 64.9 & 34 & 34.7 & 64 & 65.3 \\
\hline 8 & 75 & 35.2 & 138 & 64.8 & 27 & 38.0 & 44 & 62.0 \\
\hline 9 & 70 & 31.4 & 153 & 68.6 & 16 & 26.7 & 44 & 73.3 \\
\hline Highest & 90 & 36.7 & 155 & 63.3 & 10 & 26.3 & 28 & 73.7 \\
\hline Decile & \multicolumn{8}{|c|}{Turnover} \\
\hline Lowest & 36 & 35.3 & 66 & 64.7 & 49 & 27.2 & 131 & 72.8 \\
\hline 2 & 54 & 32.0 & 115 & 68.0 & 47 & 41.2 & 67 & 58.8 \\
\hline 3 & 61 & 32.4 & 127 & 67.6 & 36 & 37.5 & 60 & 62.5 \\
\hline 4 & 71 & 37.6 & 118 & 62.4 & 23 & 24.5 & 71 & 75.5 \\
\hline 5 & 62 & 33.5 & 123 & 66.5 & 33 & 33.7 & 65 & 66.3 \\
\hline 6 & 53 & 32.5 & 110 & 67.5 & 39 & 32.2 & 82 & 67.8 \\
\hline 7 & 71 & 44.7 & 88 & 55.4 & 42 & 33.9 & 82 & 66.1 \\
\hline 8 & 39 & 31.0 & 87 & 69.0 & 59 & 37.3 & 99 & 62.7 \\
\hline 9 & 36 & 30.0 & 84 & 70.0 & 46 & 28.2 & 117 & 71.8 \\
\hline Highest & 21 & 28.0 & 54 & 72.0 & 65 & 31.3 & 143 & 68.8 \\
\hline
\end{tabular}

\section*{Table 14: Changes in Short Selling Activity Across Market Cap and Turnover Deciles}

This table shows the marginal effect of the pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\text { Short Selling Volume }_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \operatorname{Decile}_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11} \text { Pre Short Selling Volume }{ }_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\). The dependent variable is the number of shares sold short on a day divided by the total volume on that day. The regressions are estimated on each day during the Pilot Period. The statistical significance of the coefficients is determined by the distribution of the coefficients. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. \({ }^{* *}, *\) indicates that the effect is statistically different from zero at the 1 and \(5 \%\) level in a two-tailed test.
\begin{tabular}{ccccc}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & Listed & Nasdaq & Listed & Nasdaq \\
\hline Decile & & & & \\
Lowest & -0.26 & \(-1.55^{* *}\) & \(2.84^{* *}\) & \(1.44^{* *}\) \\
2 & \(4.83^{* *}\) & \(1.68^{* *}\) & \(2.84^{* *}\) & \(1.17^{* *}\) \\
3 & \(1.92^{* *}\) & \(1.64^{* *}\) & \(1.45^{* *}\) & \(1.21^{* *}\) \\
4 & \(4.38^{* *}\) & \(1.80^{* *}\) & \(2.39^{* *}\) & \(1.91^{* *}\) \\
5 & \(3.23^{* *}\) & \(3.23^{* *}\) & \(1.12^{* *}\) & \(2.09^{* *}\) \\
6 & \(3.87^{* *}\) & \(2.46^{* *}\) & \(2.57^{* *}\) & \(1.53^{* *}\) \\
7 & \(3.36^{* *}\) & \(3.90^{* *}\) & \(2.03^{* *}\) & \(2.12^{* *}\) \\
8 & \(0.89^{* *}\) & \(1.03^{\star *}\) & \(1.00^{* *}\) & \(2.08^{\star *}\) \\
9 & \(1.27^{* *}\) & \(2.47^{* *}\) & \(1.61^{* *}\) & \(1.17^{* *}\) \\
Highest & 0.05 & \(1.28^{* *}\) & \(3.50^{* *}\) & \(1.93^{* *}\) \\
\hline PrePilotControl & \(0.59^{* *}\) & \(0.64^{* *}\) & \(0.60^{* *}\) & \(0.67^{* *}\) \\
\hline Average R \({ }^{2}\) & 0.10 & 0.09 & 0.10 & 0.09 \\
\hline
\end{tabular}

\section*{Table 15: Changes in Nasdaq Market Share Across Market Cap and Turnover Deciles}

This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\text { Nasdaq Market Share }_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \text { Decile }_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11} \text { Pre Nasdaq Market Share }{ }_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\). The dependent variable is the Nasdaq share of short selling volume on a day. The regressions are estimated on each day during the Pilot Period. The statistical significance of the coefficients is determined by the distribution of the coefficients. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks.
** indicates that the effect is statistically different from zero at the \(1 \%\) level in a two-tailed test.
\begin{tabular}{ccccc}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{2}{c}{ Listed } & Nasdaq & Listed
\end{tabular} Nasdaq

Table 16: Changes in Ask Depth Across Market Cap and Turnover Deciles
This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\text { Ask Depth }_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \text { Decile }_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11} \text { Pre Ask Depth }{ }_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\). The dependent variable is the ask depth. The regressions are estimated on each day during the Pilot Period. The statistical significance of the coefficients is determined by the distribution of the coefficients. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. \({ }^{* *}\),* indicates that the effect is statistically different from zero at the 1 and \(5 \%\) level in a two-tailed test.
\begin{tabular}{ccccc}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{2}{c}{ Listed } & Nasdaq & \multicolumn{2}{c}{ Listed } & Nasdaq \\
\hline Decile & & & & \\
Lowest & 0.55 & 0.80 & \(-3.92^{* *}\) & \(-4.22^{* *}\) \\
2 & \(-3.07^{* *}\) & \(-3.57^{* *}\) & \(-9.75^{* *}\) & \(-4.23^{* *}\) \\
3 & \(-3.58^{* *}\) & \(-4.18^{* *}\) & \(-3.55^{* *}\) & \(-4.50^{* *}\) \\
4 & \(-4.30^{* *}\) & \(-3.74^{* *}\) & \(-3.96^{* *}\) & \(-5.01^{* *}\) \\
5 & \(-4.25^{* *}\) & \(-4.31^{* *}\) & \(-4.66^{* *}\) & \(-3.28^{* *}\) \\
6 & \(-10.57^{* *}\) & \(20.44^{* *}\) & \(-3.75^{* *}\) & \(-4.06^{* *}\) \\
7 & \(-4.01^{* *}\) & \(-3.04^{* *}\) & \(-6.60^{* *}\) & \(-7.22^{* *}\) \\
8 & \(-3.48^{* *}\) & \(-7.55^{* *}\) & \(-2.83^{* *}\) & \(-12.46^{* *}\) \\
9 & \(-4.53^{* *}\) & \(24.45^{* *}\) & \(-6.39^{* *}\) & \(-6.77^{* *}\) \\
Highest & \(-7.95^{* *}\) & \(-65.30^{* *}\) & \(-8.98^{* *}\) & \(21.76^{*}\) \\
\hline PrePilotControl & \(1.18^{* *}\) & \(1.12^{* *}\) & \(1.18^{* *}\) & \(1.11^{* *}\) \\
\hline Average R \({ }^{2}\) & 0.82 & 0.80 & 0.82 & 0.80 \\
\hline
\end{tabular}

Table 17: Changes in Bid Depth Across Market Cap and Turnover Deciles
This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
{\operatorname{Bid} \text { Depth }_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \text { Decile }_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11} \text { Pre Bid Depth }}_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\). The dependent variable is the bid depth. The regressions are estimated on each day during the Pilot Period. The statistical significance of the coefficients is determined by the distribution of the coefficients. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. \({ }^{* *}\),* indicates that the effect is statistically different from zero at the 1 and \(5 \%\) level in a two-tailed test.
\begin{tabular}{ccrrr}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{2}{c}{ Listed } & Nasdaq & \multicolumn{1}{c}{ Listed }
\end{tabular} Nasdaq

\section*{Table 18: Changes in Effective Spread Across Market Cap and Turnover Deciles}

This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\text { Relative Effective Spread }{ }_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \operatorname{Decile}_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11} \text { Pre Relative Effective Spread }_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\). The dependent variable is the relative effective spread. The regressions are estimated on each day during the Pilot Period. The statistical significance of the coefficients is determined by the distribution of the coefficients. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. \({ }^{* *}\),* indicates that the effect is statistically different from zero at the 1 and \(5 \%\) level in a two-tailed test.
\begin{tabular}{lrrrr}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{2}{c}{ Listed } & Nasdaq & \multicolumn{1}{c}{ Listed } \\
\hline Decile & & & & \\
Lowest & 14.01 & \(2.48^{* *}\) & 4.94 & 0.46 \\
2 & 2.33 & \(-1.83^{* *}\) & -0.37 & \(-3.32^{* *}\) \\
3 & -2.30 & 0.29 & -0.91 & \(2.08^{*}\) \\
4 & 0.24 & -0.16 & 0.80 & 0.98 \\
5 & -1.40 & 0.32 & -0.34 & -0.24 \\
6 & \(-2.57^{*}\) & \(0.80^{* *}\) & 0.20 & 0.28 \\
7 & 0.24 & \(1.72^{* *}\) & -1.74 & \(1.03^{* *}\) \\
8 & -0.32 & \(1.89^{* *}\) & \(4.72^{*}\) & 0.30 \\
9 & 0.53 & \(2.04^{\star *}\) & -0.72 & \(0.79^{* *}\) \\
Highest & 0.52 & \(2.92^{* *}\) & \(-2.04^{*}\) & \(3.30^{* *}\) \\
\hline PrePilotControl & \(1.20^{* *}\) & \(1.12^{* *}\) & \(1.22^{* *}\) & \(1.13^{* *}\) \\
\hline Average \(\mathrm{R}^{2}\) & 0.44 & 0.49 & 0.43 & 0.50 \\
\hline
\end{tabular}

\section*{Table 19: Changes in Five-Minute Return Variances across Market Cap and Turnover Deciles}

This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\text { Variance }(5 \text { minute returns })_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \operatorname{Decile}_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11} \text { Pre Variance(5 minute returns) }{ }_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\) multiplied by \(10^{6}\). The dependent variable is the five-minute return variance. The regressions are estimated on each day during the Pilot Period. The statistical significance of the coefficients is determined by the distribution of the coefficients. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. \({ }^{* *}\),* indicates that the effect is statistically different from zero at the 1 and \(5 \%\) level in a two-tailed test.
\begin{tabular}{cccrr}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{1}{c}{ Listed } & Nasdaq & \multicolumn{1}{c}{ Listed } & Nasdaq \\
\hline Decile & & & & \\
Lowest & \(11.123^{* *}\) & \(1.571^{* *}\) & \(2.130^{* *}\) & 0.114 \\
2 & \(2.693^{* *}\) & -0.393 & -0.074 & -0.350 \\
3 & \(1.840^{* *}\) & -0.001 & 1.182 & 0.385 \\
4 & \(0.968^{* *}\) & 0.964 & \(0.158^{* *}\) & \(0.968^{*}\) \\
5 & \(0.652^{* *}\) & -0.080 & \(-0.253^{* *}\) & 0.277 \\
6 & 1.322 & \(-0.460^{*}\) & \(0.229^{* *}\) & 0.095 \\
7 & \(-0.263^{* *}\) & 0.052 & \(0.151^{* *}\) & \(0.415^{*}\) \\
8 & \(-0.932^{* *}\) & -0.133 & \(1.484^{* *}\) & 1.076 \\
9 & \(-0.789^{* *}\) & \(-0.661^{* *}\) & \(0.427^{* *}\) & -0.232 \\
Highest & \(-1.162^{* *}\) & \(-0.802^{* *}\) & \(0.535^{* *}\) & -0.182 \\
\hline PrePilotControl & \(0.253^{* *}\) & \(0.822^{* *}\) & \(0.283^{* *}\) & \(0.834^{* *}\) \\
\hline Average R \({ }^{2}\) & 0.156 & 0.173 & 0.111 & 0.173 \\
\hline
\end{tabular}

\section*{Table 20: Changes in Daily Return Variance across Market Cap and Turnover Deciles}

This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\text { Variance }(\text { Daily Return })_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \text { Decile }_{k i}+\beta_{10} \operatorname{Pilot}_{i}+\beta_{11} \text { Pre Variance }(\text { Daily Return })_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\) multiplied by \(10^{4}\). The dependent variable is the daily return variance. The regressions are estimated on each day during the Pilot Period. The statistical significance of the coefficients is determined by the distribution of the coefficients. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. **,* indicates that the effect is statistically different from zero at the 1 and \(5 \%\) level in a two-tailed test.
\begin{tabular}{crrrr}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{1}{c}{ Listed } & Nasdaq & \multicolumn{1}{c}{ Listed } & \multicolumn{1}{c}{ Nasdaq } \\
\hline Decile & & & & \\
Lowest & \(7.529^{* *}\) & \(3.240^{*}\) & 0.720 & -0.655 \\
2 & 0.751 & 0.070 & -1.093 & -1.303 \\
3 & 0.992 & 0.709 & -1.081 & 0.146 \\
4 & 0.332 & \(2.713^{*}\) & -0.971 & 1.711 \\
5 & 0.061 & -1.503 & -0.556 & 0.632 \\
6 & -0.260 & 0.798 & 0.154 & 2.653 \\
7 & -0.146 & -1.623 & -0.052 & -0.452 \\
8 & \(-1.452^{*}\) & -1.965 & 0.449 & 2.513 \\
9 & \(-1.243^{*}\) & -3.131 & 0.366 & -0.173 \\
Highest & \(-1.775^{* *}\) & -3.596 & 0.137 & -0.391 \\
\hline PrePilotControl & \(0.179^{* *}\) & \(0.419^{* *}\) & \(0.206^{* *}\) & \(0.433^{* *}\) \\
\hline Average R \({ }^{2}\) & 0.161 & 0.129 & 0.126 & 0.122 \\
\hline
\end{tabular}

\section*{Table 21: May 2 Market Adjusted Returns Across Market Cap and Turnover Deciles}

This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\mathrm{R}_{\text {May } 2 i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \text { Decile }_{k i}+\beta_{10} \operatorname{Pilot}_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\). The dependent variable is the return from the close of trading on April 29, 2005 to the close of trading on May 2, 2005. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. * indicates that the effect is statistically different from zero at the \(5 \%\) level in a two-tailed test. None of the numbers presented below are significant at the \(1 \%\) level.
\begin{tabular}{ccccr}
\hline & \multicolumn{2}{c}{ Market Capitalization } & \multicolumn{2}{c}{ Turnover } \\
\cline { 2 - 5 } & \multicolumn{2}{l}{ Listed } & Nasdaq & \multicolumn{1}{l}{ Listed } \\
\hline Decile & & & & \\
Lowest & \(-0.16 \%\) & \(-0.45 \%\) & \(-0.35 \%\) & \(0.48 \%^{*}\) \\
2 & \(-0.35 \%\) & \(0.00 \%\) & \(-0.17 \%\) & \(-0.06 \%\) \\
3 & \(-0.20 \%\) & \(-0.29 \%\) & \(-0.43 \%\) & \(0.28 \%\) \\
4 & \(0.08 \%\) & \(-0.50 \%\) & \(-0.42 \%\) & \(0.57 \%\) \\
5 & \(-0.18 \%\) & \(0.72 \%\) & \(-0.27 \%\) & \(-0.97 \%\) \\
6 & \(0.02 \%\) & \(-0.24 \%\) & \(0.06 \%\) & \(-0.06 \%\) \\
7 & \(-0.01 \%\) & \(-0.55 \%\) & \(-0.31 \%\) & \(-0.27 \%\) \\
8 & \(-0.38 \%\) & \(-0.19 \%\) & \(0.08 \%\) & \(0.14 \%\) \\
9 & \(-0.41 \%\) & \(-0.54 \%\) & \(-0.17 \%\) & \(-0.59 \%\) \\
Highest & \(-0.47 \%^{*}\) & \(0.05 \%\) & \(-0.16 \%\) & \(-0.81 \%{ }^{*}\) \\
\hline Average \(\mathrm{R}^{2}\) & 0.006 & 0.006 & 0.006 & 0.008 \\
\hline
\end{tabular}

\section*{Table 22: Six Month Market Model In-Sample Alphas Across Market Cap and Turnover Deciles}

This table shows the marginal effect of the Pilot derived from the coefficients from the following daily crosssectional regressions:
\[
\mathrm{Alpha}_{i}=\alpha+\sum_{k=1}^{9} \beta_{k} \operatorname{Pilot}_{i} \times \operatorname{Decile}_{k i}+\beta_{10} \operatorname{Pilot}_{i}
\]

Reported is the average sum of \(\beta_{10}+\beta_{\mathrm{k}}\). The dependent variable is in-sample alpha estimated for each stock based on the market model. The market model alpha was estimated over the six month period from May 2, 2005 to October 31, 2005 by regressing the daily stock returns on the daily market return, which is represented by the CRSP equally-weighted index returns. We divide the stocks into deciles by market cap on May 2, 2005 and by the pre-Pilot turnover where decile 1 contains the smallest stocks and lowest turnover stocks. None of the numbers presented below are significant at the \(5 \%\) or \(1 \%\) level.
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{} & \multicolumn{2}{|l|}{Market Capitalization} & \multicolumn{2}{|c|}{Turnover} \\
\hline & Listed & Nasdaq & Listed & Nasdaq \\
\hline \multicolumn{5}{|l|}{Decile} \\
\hline Lowest & -0.06\% & 0.08\% & -0.03\% & -0.03\% \\
\hline 2 & -0.10\% & -0.02\% & -0.03\% & 0.02\% \\
\hline 3 & -0.05\% & -0.05\% & 0.00\% & 0.00\% \\
\hline 4 & -0.02\% & -0.08\% & -0.03\% & 0.05\% \\
\hline 5 & -0.03\% & 0.02\% & 0.01\% & -0.02\% \\
\hline 6 & 0.01\% & -0.01\% & -0.01\% & 0.04\% \\
\hline 7 & -0.03\% & 0.00\% & -0.02\% & -0.02\% \\
\hline 8 & 0.02\% & -0.02\% & -0.01\% & -0.06\% \\
\hline 9 & -0.01\% & 0.01\% & -0.02\% & -0.02\% \\
\hline Highest & 0.02\% & 0.00\% & 0.05\% & -0.02\% \\
\hline Average \(\mathrm{R}^{2}\) & 0.011 & 0.012 & 0.005 & 0.006 \\
\hline
\end{tabular}

Figure 1: Six Month Cumulative Returns During Pilot


Panel B: Nasdaq NM Stocks


\section*{Appendix A: Concurrent Regulation SHO Pilot Studies}

We have identified four concurrent studies that also examine the effect of removing the tick test and/or the bid test during the Regulation SHO Pilot. Much of the analysis is similar to the analysis reported in this report, but the construction of the samples and the focus of the test design differs in important ways. Each approach has its merits. See the attached Table A. 1 for a simplified comparison of the approaches.

One main difference between the construction of the samples for this report and the sample construction in the concurrent papers is the incorporation of stocks that might be outliers. This report includes these stocks because they might be the ones most affected by the Pilot. The other studies exclude these stocks in order to improve matching between the pilot and control stocks or to remove the influence of confounding events.

Three academic studies (Alexander and Peterson (2006), Deither, Lee, and Werner (2006), and Wu (2006)) plus the OEA study incorporated a Pre-Pilot period into the study. The design of the Bai (2006) study does not require comparison to a Pre-Pilot period. All studies compared Pilot stocks to Control stocks, but two conducted one-on-one matches (Alexander and Peterson (2006) and Wu (2006)).

Despite the different decisions, many of the results of this report are supported by the results of the concurrent studies. A summary of the results of the three studies most comparable to this report can be found in Table A.2. Bai (2006) is not included because the focus differs from this report. The general results, however, are in line with the results of the academic studies and this report. Specifically, Bai (2006) finds no effect of the pilot on stock price reactions to negative earnings shocks.

Table A.1: Comparison of Sample Construction and Research Focus
\begin{tabular}{|c|c|c|c|c|c|}
\hline Study & Alexander and Peterson (2006) & Bai (2006) & Diether, Lee, and Werner (2006) & Wu (2006) & SEC \\
\hline Sample Period & \[
\begin{aligned}
& 4 / 1 / 05 \text { to } 5 / 31 / 05 \\
& 1 \text { month before } \\
& 1 \text { month during }
\end{aligned}
\] & 5/2/05 to 11/30/05 7 months during & 2/1/05 to 7/31/05 minus 4 weeks around May 2 10 weeks before 10 weeks during & \begin{tabular}{l}
1/3/05-8/31/05 \\
4 months before \\
4 months during
\end{tabular} & \begin{tabular}{l}
1/1/05 to 10/31/05 \\
4 months before \\
6 months during
\end{tabular} \\
\hline Starting Stocks & Original Pilot and Control & Original Pilot and Control & 2004 Russell 3000 & NYSE stocks in 2004 Russell 3000 & Original Pilot and Control \\
\hline Excluded Stocks & Amex stocks Stocks delisted before 5/31 & \begin{tabular}{l}
Stocks delisted before 11/30/05 \\
Commercial Banks REITS Earnings announcements with EPS \(\geq\) forecast. Announcement time uncertain or during trading hours. Outliers and stocks with missing information.
\end{tabular} & \begin{tabular}{l}
Amex and NASDAQ \\
Small Cap stocks \\
Stocks with ticker changes or changes in listing venue during sample period \\
Stocks not in 2005 \\
Russell \\
Stocks w/ prices > \$100 \\
Stocks w/ spreads > \$1 \\
Stocks delisted before 7/31
\end{tabular} & Stocks not in 2005 Russell Stocks with prices > \(\$ 900\) & \begin{tabular}{l}
Stocks delisted before 5/2 \\
Includes stocks delisted before 10/31
\end{tabular} \\
\hline One-on-One Matching & Yes (Keep best 50\% of matches) & No & No & Yes (Exclude if no good control match) & No \\
\hline Final Sample & NYSE: 224 pairs Nasdaq: 183 pairs & \begin{tabular}{l}
945 negative earnings announcements. \\
311 Pilot, 634 Contorl
\end{tabular} & \begin{tabular}{l}
NYSE: 448 pilot, 904 control \\
Nasdaq: 376 pilot, 757 control
\end{tabular} & NYSE: 332 pairs & \begin{tabular}{l}
Listed: 504 pilot, 973 control \\
Nasdaq: 439 pilot, 917 control
\end{tabular} \\
\hline Focus of Study & Effect of pilot on short selling, liquidity, volatility, market efficiency, and price impact. & Effect of pilot around Negative Earnings Announcements & Effect of increases in short selling on market quality. Plus, effect of pilot on short selling, liquidity, volatility. & Price discovery of short selling. Plus, effect of pilot on short selling, liquidity, volatility, and efficiency of large/small stocks. & Effect of pilot on short selling, liquidity, volatility, market efficiency, and extreme price changes. Plus, differences across large/small and liquid/illiquid stocks \\
\hline
\end{tabular}

Table A.2: Comparison of Results
\begin{tabular}{|c|c|c|c|c|}
\hline Study & Alexander and Peterson (2006) & Diether, Lee, and Werner (2006) & Wu (2006) & SEC \\
\hline Short Selling & \begin{tabular}{l}
No significant impact on short sale volume for either NYSE or NASDAQ. \\
NYSE: Pilot stocks had a higher number of short sales trades and a lower average short sale trade size. \\
NASDAQ: No impact on number of short sales trades or average short sale trade size.
\end{tabular} & \begin{tabular}{l}
Higher relative short sale volume. \\
NYSE: higher number of short sale trades No impact on the number of NASDAQ short sale trades.
\end{tabular} & \begin{tabular}{l}
Examines only short selling on the NYSE \\
Relative short selling increases for pilot stocks. Significant for small stocks but not large stocks.
\end{tabular} & \begin{tabular}{l}
Higher short sale volume and a higher number of short sale trades. No impact on short interest or days to cover. No impact on option trading volume or open interest. Trading is more balanced for pilot stocks. \\
The increase in short selling is bigger for small stocks.
\end{tabular} \\
\hline Liquidity & NYSE: larger spreads, smaller quoted ask depth, smaller quoted bid depth, higher price impact NASDAQ: larger spreads No effect on effective spreads & \begin{tabular}{l}
No impact on NASDAQ stocks. \\
NYSE: Larger quoted, effective, and realized spreads, smaller quoted ask depth, higher relative bid depth, smaller buy imbalances.
\end{tabular} & \begin{tabular}{l}
Relative effective and quoted spreads increase with pilot by \(<1 \mathrm{bps}\). This is statistically significant only for small stocks. \\
Smaller buy imbalances across all market cap groups. Offer depth declines for most size groups.
\end{tabular} & \begin{tabular}{l}
Listed: smaller quoted ask depth in univariate and regression. \\
Regression shows decrease in both bid and ask. Some tests show small increases or decreases in realized liquidity.
\end{tabular} \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|}
\hline Study & Alexander and Peterson (2006) & Diether, Lee, and Werner (2006) & Wu (2006) & SEC \\
\hline Volatility & No impact. The authors examine six volatility measures: 5 minute return volatility, semi-variance, daily relative price range, FamaFrench three-factor model idiosyncratic risk, CAPM idiosyncratic risk, and implied volatility. & \begin{tabular}{l}
No increase in the majority of the 26 different volatility measures for Pilot Stocks. NYSE: higher short term volatility ( \(15 / 5\) variance ratio), daily return volatility, trade to trade return volatility, offer to offer quote volatility, fiveminute bid and offer volatility, daily up-side and down-side semi-variance. \\
The authors examine semivariance, trade returns, bid quote returns, and ask quote returns for various time lengths: trade to trade, quote to quote, five-minute, fifteenminute, and daily. They also examine the \(15 / 5\) minute variance ratio.
\end{tabular} & Variance ratios did not change with pilot. Daily price range and intraday price standard deviation do not change. & Some evidence of an increase in intraday volatility. This appears to be driven by smaller stocks as larger stocks saw a decline in intraday volatility during the pilot. While average daily volatility does not change, smaller stocks experienced lower volatility during the pilot as larger stocks experienced an increase. \\
\hline Efficiency & No impact except for the following measures for NYSE stocks: higher autocorrelation of fiveminute returns, greater likelihood of a lower price for the second trade after a short sale, and greater likelihood of a higher trade price for the first trade after a short sale. The authors examine the autocorrelation of five- and thirty-minute returns, upside minus downside \(r\) squared, and price runs. & & Hasbrouck pricing errors show no significant change with pilot. Intraday return autocorrelations (30 and 60 minute) did not change with pilot. & \begin{tabular}{l}
Higher five-minute return reversals. \\
Higher five-minute semiautoregression. \\
No impact on thirty-minute return reversals, thirty-minute semi-autocorrelation, or on skewness in five-minute, thirtyminute, and daily returns.
\end{tabular} \\
\hline
\end{tabular}
\begin{tabular}{|l|l|l|l|l|}
\hline Study & Alexander and Peterson (2006) & \multicolumn{1}{c|}{\begin{tabular}{c} 
Diether, Lee, and Werner \\
(2006)
\end{tabular}} & \multicolumn{1}{c|}{ Wu (2006) } & \begin{tabular}{l} 
SEC \\
Returns \\
bps lower return than control \\
stocks on the initiation day of \\
the Pilot but had statistically \\
similar cumulative return during \\
the 6 months after the Pilot.
\end{tabular} \\
\hline Conclusion & \begin{tabular}{l} 
No significant impact on returns \\
surrounding the announcement \\
date of the Pilot stocks, on the \\
initiation day of the Pilot, or during \\
the first month of the Pilot.
\end{tabular} & \begin{tabular}{l} 
Concerns about the removal of \\
the price tests leading to a \\
degradation of market quality are \\
unfounded. Price tests do not \\
further the stated objectives of \\
short sale regulation.
\end{tabular} & \begin{tabular}{l} 
While the suspension of the \\
NYSE tick test is found to be \\
associated with larger \\
spreads and higher short- \\
term volatility, this evidence is \\
consistent with the distorting \\
effects of the tick test on short \\
sellers (i.e., forcing them to \\
be liquidity suppliers) rather \\
than any benefit to investor \\
welfare.
\end{tabular} & \begin{tabular}{l} 
Tick test reduces short selling \\
and narrows the spread \\
primarily for small stocks. \\
Tick test does not seriously \\
constrain short sellers from \\
trading on their information.
\end{tabular} \\
\begin{tabular}{l} 
Milot had a minor effect. The \\
pilon \\
most intriguing results are in \\
volatility. Some evidence that \\
the tick test has a bigger effect \\
in small stocks.
\end{tabular} \\
\hline
\end{tabular}

\title{
OEA MEMORANDUM
}

TO: File
FROM: Office of Economic Analysis
DATE: June 9, 2008
SUBJECT: Impact of Recent SHO Amendment on Fails to Deliver
This memorandum examines fails to deliver before and after the elimination of the grandfather exception in Rule 203 of Regulation SHO. The SEC recently adopted an amendment to Rule 203 that eliminates the grandfather provision from Regulation SHO and amends Rule 203 to now require all fails to deliver to be closed out within either 13 consecutive settlement days or, in the case of a previously-grandfathered fail to deliver position in a security that is a threshold security on the effective date of the amendment, 35 consecutive settlement days from the effective date of the amendment. \({ }^{1}\) The effective date of these changes is October 15, 2007.

In summary, the results indicate that fails to deliver in non-optionable securities declined significantly after the elimination of the grandfather exception while fails to deliver in optionable securities increased significantly. Thus, the net impact of the amendment across all threshold securities was mixed. One explanation of these results is that the investors who previously failed to deliver in the equity market have now moved to the options market to establish a synthetic position. Since the option market makers still enjoy an exception to the close-out rule and tend to hedge their positions in the equity markets, the fails may now be coming from the option market makers instead of the equity investors themselves. Changes in fails to deliver may also be influenced by factors other than Regulation SHO such as changes in market conditions, changes in overall trading volume, and changes in the mix of securities being traded. For example, the mix of securities with fails to deliver tilted toward higher priced stocks after the amendment which caused the dollar value of fails to increase. \({ }^{2}\)

The data, as reported by NSCC, covers all stocks with aggregate fails to deliver of 10,000 shares or more. Since some previously-grandfathered fails will have a grace period of up to 35 days, the full effect of the close-out requirements may not show up in the NSCC settlement data until December 10, 2007 ( 38 settlement days after the effective date). We began receiving closing price in our NSCC data feed on April 9, 2007 so we use that date as the starting point for our sample. The period from April 9, 2007 to October 14, 2007

\footnotetext{
\({ }^{1}\) The close-out process must be initiated no later than the beginning of trading on the trading day following the 13th consecutive settlement day with a net short settlement obligation. In other words, a close-out that is initiated on day 14 will impact fails on day 17.
\({ }^{2}\) For example, \(37.2 \%\) of threshold stocks had prices below \(\$ 5\) during the pre-amendment period compared to \(33.7 \%\) during the post-amendment period.
}
(131 days) is defined as the pre-amendment period. The period from December 10, 2007 to March 31, 2008 (76 days) is defined as the post-amendment period. Since the maximum close-out cycle is 17 settlement days, the post-amendment period includes about \(41 / 2\) close-out cycles. Given that the maximum close-out cycle is 17 settlement days, we examine if there has been a change in fails that are aged more than 17 days as well as other aggregate measures of fails to deliver.

\section*{Threshold List Securities with Listed Options:}

Table 1 shows the summary measures for threshold list securities with listed options. Overall, the Rule amendments did not lead to any reduction in fails to deliver for securities with listed options. Instead, the evidence supports a significant increase in fails to deliver in these securities. 11 out of 12 measures show increases after the amendment. We note that the close-out exception for option market makers still exists so this may be one explanation for lack of evidence supporting a decline in fails to deliver. Since the option market making exception may be obscuring the potential impact of the amendment, we investigate securities without listed options in next section.

Statistically significant changes are:
- The average daily number of optionable threshold list securities increased by 25.0\%.
- The average daily fails to deliver shares in optionable threshold securities increased by 22.0\%.
- The average daily dollar value of fails to deliver in optionable threshold securities increased by 17.7\%.
- The average daily new fails to deliver shares in optionable threshold securities increased by \(29.7 \%{ }^{3}{ }^{3}\)
- The average daily dollar value of new fails to deliver in optionable threshold securities increased by \(1.1 \%\).
- The average daily number of fails to deliver positions in optionable threshold securities increased by 46.3\%.
- The average daily number of new fails to deliver positions in optionable threshold securities increased by \(45.3 \%\).
- For fails aged more than 17 days in threshold securities, the average daily fails to deliver shares increased by \(16.3 \%{ }^{4}\)
- For fails aged more than 17 days in optionable threshold securities, the average daily dollar value of fails to deliver increased by \(73.4 \%\).
- For fails aged more than 17 days in optionable threshold securities, the average daily number of fails to deliver positions increased by \(30.7 \%\).

\footnotetext{
\({ }^{3}\) New fails are defined as a positive change in the fails per security-clearing firm from the previous day. A position is assumed to zero if it did not exist the previous day.
\({ }^{4}\) The fact that persistent fails in threshold securities do not go to zero does not necessarily indicate any rule violations. We note that the existence of the close-out exception for option market makers could lead to persistent fails. In addition, a clearing firm could have a fail position aged longer than 17 days in a threshold security but have enough close-outs within that time frame to comply with the Regulation SHO close-out requirement.
}
- The average daily number of optionable threshold list securities with fails aged more than 17 days increased by \(40.9 \%\).

\section*{Threshold List Securities without Listed Options:}

Table 2 shows the summary measures for threshold list securities without listed options. Overall, the evidence is mixed but provides some evidence that supports the hypothesis that the Rule amendment led to a reduction in persistent fails to deliver for threshold list securities without listed options. 3 out of 4 measures of persistent fails show significant declines after the amendments.

Statistically significant changes are:
- The average daily number of non-optionable threshold list securities decreased by 3.5\%.
- The average daily dollar value of fails to deliver in non-optionable threshold securities increased by \(18.5 \%\).
- The average daily dollar value of new fails to deliver in non-optionable threshold securities increased by \(66.2 \%\).
- The average daily number of new fails to deliver positions in non-optionable threshold securities increased by \(7.4 \%\).
- For fails aged more than 17 days in non-optionable threshold securities, the average daily dollar value of fails to deliver decreased by 34.5\%.
- For fails aged more than 17 days in non-optionable threshold securities, the average daily number of fails to deliver positions decreased by 38.8\%.
- The average daily number of non-optionable threshold list securities with fails aged more than 17 days decreased by \(32.6 \%\).

Table 1

\section*{Summary Statistics on Fails to Deliver Threshold List Securities with Listed Options Pre- and Post-Rule Amendment \({ }^{5}\)}
\begin{tabular}{|c|c|c|c|c|}
\hline Measure & Pre & Post & Change & \begin{tabular}{l}
Percent \\
Change
\end{tabular} \\
\hline Number of Days & 131 & 76 & & \\
\hline Average Daily Dollar Value of Aggregate Fails (\$millions) & 2,853 & 3,360 & +506 & +17.7\% \\
\hline Average Daily Aggregate Fails (millions) & 109 & 133 & +24 & +22.0\% \\
\hline Average Daily Number of Securities & 152 & 190 & +38 & +25.0\% \\
\hline Average Daily Number of Fail Positions & 993 & 1,452 & +460 & +46.3\% \\
\hline \multicolumn{5}{|l|}{New Fails:} \\
\hline Average Daily Dollar Value of New Fails (\$millions) & 853 & 862 & +9 & +1.1\% \\
\hline Average Daily New Fail Shares (millions) & 22 & 28 & +6 & +29.7\% \\
\hline Average Daily New Fail Positions & 571 & 830 & +259 & +45.3\% \\
\hline Average Daily Traded Dollar Volume (\$millions) \({ }^{6}\) & 149,508 & 161,121 & +11,613 & +7.8\% \\
\hline New Fails as a \% of Traded Dollar Volume & 0.57\% & 0.54\% & -0.03\% & -6.2\% \\
\hline \multicolumn{5}{|l|}{Fails Aged more than 17 Days:} \\
\hline - Average Daily Dollar Value of Aggregate Fails (\$millions) & 671 & 1,164 & +493 & +73.4\% \\
\hline - Average Daily Aggregate Fails (millions) & 44 & 51 & +7 & +16.3\% \\
\hline - Average Daily Number of Securities & 63 & 89 & +26 & +40.9\% \\
\hline - Average Daily Number of Fail Positions & 121 & 158 & +37 & +30.7\% \\
\hline
\end{tabular}

Bolded changes are significant at the 5\% level using the Wilcoxon-Mann-Whitney test (nonparametric). Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

\footnotetext{
\({ }^{5}\) Includes securities with aggregate daily fails to deliver of 10,000 shares or more.
\({ }^{6}\) The average daily dollar volume is composed of NYSE Group volume in NYSE-listed securities, consolidated volume in Nasdaq-listed securities, OTCBB, and Amex volume in Amex-listed securities.
}

Table 2

\section*{Summary Statistics on Fails to Deliver Threshold List Securities without Listed Options Pre- and Post-Rule Amendment \({ }^{7}\)}
\begin{tabular}{|c|c|c|c|c|}
\hline Measure & Pre & Post & Change & Percent \\
\hline & & & & Change \\
\hline Number of Days & 131 & 76 & & \\
\hline Average Daily Dollar Value of Aggregate Fails (\$millions) & 286 & 338 & +53 & +18.5\% \\
\hline Average Daily Aggregate Fails (millions) & 297 & 304 & +7 & +2.5\% \\
\hline Average Daily Number of Securities & 170 & 164 & -6 & -3.5\% \\
\hline Average Daily Number of Fail Positions & 729 & 714 & -15 & -2.0\% \\
\hline New Fails: & & & & \\
\hline Average Daily Dollar Value of New Fails (\$millions) & 45 & 75 & +30 & +66.2\% \\
\hline Average Daily New Fail Shares (millions) & 38 & 43 & +5 & +12.0\% \\
\hline Average Daily New Fail Positions & 318 & 342 & +23 & +7.4\% \\
\hline Average Daily Traded Dollar Volume (\$millions) \({ }^{8}\) & 149,508 & 161,121 & +11,613 & +7.8\% \\
\hline New Fails as a \% of Traded Dollar Volume & 0.03\% & 0.05\% & +0.02\% & +54.7\% \\
\hline Fails Aged more than 17 Days: & & & & \\
\hline - Average Daily Dollar Value of Aggregate Fails (\$millions) & 64 & 42 & -22 & -34.5\% \\
\hline - Average Daily Aggregate Fails (millions) & 83 & 89 & +5 & +6.2\% \\
\hline - Average Daily Number of Securities & 71 & 48 & -23 & -32.6\% \\
\hline - Average Daily Number of Fail Positions & 104 & 63 & -40 & -38.8\% \\
\hline
\end{tabular}

Bolded changes are significant at the \(5 \%\) level using the Wilcoxon-Mann-Whitney test (nonparametric). Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

\footnotetext{
\({ }^{7}\) Includes securities with aggregate daily fails to deliver of 10,000 shares or more.
\({ }^{8}\) The average daily dollar volume is composed of NYSE Group volume in NYSE-listed securities, consolidated volume in Nasdaq-listed securities, OTCBB, and Amex volume in Amex-listed securities.
}

\section*{OEA MEMORANDUM}

TO: File
FROM: Office of Economic Analysis

DATE: March 20, 2009

\section*{SUBJECT: Impact of Recent SHO Rule Changes on Fails to Deliver}

This memorandum examines fails to deliver before and after the elimination of the options market maker (OMM) exception in Rule 203 of Regulation SHO and the implementation of interim final temporary Rule 204T (T+3 Close-out Rule). This memo includes two additional months of data and updates results from an earlier memo dated November 26, 2008. The findings here are consistent with those in the earlier memo. In general, the current memo shows much larger declines in fails measures than the earlier memo.

Due to the contemporaneous implementation of these two rules, they are analyzed together. \({ }^{1}\) Since the rule changes significantly shortened the window to close-out most fail to deliver positions and expanded the close-out provisions to all equity securities, we would expect to see a decline in average daily fails due to compliance with the new rules, all else equal. However, it is also possible that certain behavioral changes or other factors could mitigate or exacerbate any effect. For example, faster "cycling" of fails (more rapid fail-closeout-fail-closeout) could lead to full compliance with the new rules but no change in average daily fails.

In summary, the results indicate that fails to deliver decreased significantly after the elimination of the OMM exception and the implementation of the T+3 Close-out Rule. Fails declined by \(47.2 \%\) across all securities and \(63.0 \%\) for threshold stocks. In addition, there is some evidence that optionable stocks experienced larger declines than nonoptionable stocks. There has been a large downward trend in fails since July 2008.

\section*{Background}

The Commission approved a final rule to eliminate the options market maker exception from the close-out requirement of Rule 203(b)(3) in Regulation SHO. This rule change also becomes effective at 12:01 a.m. ET on Thursday, Sept. 18, 2008. As a result, any new fails by options market makers after the effective date are subject to the same closeout requirements as other market participants under Rule 204T. The rule change also

\footnotetext{
\({ }^{1}\) We also note that Emergency Order (Release No. 34-58592) temporarily prohibited any person from effecting a short sale in the publicly traded securities of certain financial firms during the period from September 19 to October 8, 2008.
}

This is a memo of the staff of the Office of Economic Analysis. The Commission has expressed no view regarding the analysis, findings or conclusions herein.
provides for a 35-settlement day phase-in period to close-out previously established fail to deliver positions by option market makers. In other words, since the effective date of the SEC Emergency Order (Release No. 34-58572) was September 18, 2008, the phase-in period ends prior to the start of trading on November 7, 2008. Any change in a fail position that is closed-out via a standard settlement trade on November 7, 2008 will appear on November 13, 2008.

The Commission also adopted, on an interim final basis, a new rule requiring that short sellers and their broker-dealers deliver securities by the close of business on the settlement date (three days after the sale transaction date, or \(\mathrm{T}+3\) ) and imposing penalties for failure to do so. Rule 204T establishes that fail to deliver positions related to short sales must be closed out prior to the beginning of normal trading hours on the next settlement day following the settlement date of the newly-created fail (usually T+4). Fail to deliver positions related to bona fide market making or long sales have an 2 additional settlement days to close-out fail to deliver positions (usually T+6). Fail to deliver positions related to sales pursuant to Rule 144 have 36 settlement days to close out (usually \(\mathrm{T}+39\) ). One major distinction between Rule 204T and Rule 203 is that Rule 204 T covers all equity securities whereas Rule 203 covers only threshold list securities. Since the close-out provisions of Rule 204T differ depending on the type of trade that led to the fail and the date the fail, Appendix A provides a summary table that lists important introduction dates for each category.

Since some previously-established fails in threshold list securities may have up to 14 days to close-out, a large part of the effect of the new close-out requirements may not show up in the NSCC settlement data until October 10, 2008 ( 17 settlement days after the day prior to the effective date). Also, since some previously-established OMM fails have up to 36 days to close-out, the full effect of the new close-out requirements in optionable securities may not show up in the NSCC settlement data until November 13, 2008 (39 settlement days after the effective date). Also, pre-existing fails in non-threshold stocks are not required to be closed-out within any time period unless the security enters the threshold list. Since we do not want our analysis confounded by the grandfather exception elimination, we use the period from January 1, 2008 to September 22, 2008 (183 days) as the pre-Rule period. \({ }^{2}\) The period from September 23, 2008 to December 31, 2008 (68 days) is defined as the post-Rule period.

\footnotetext{
\({ }^{2}\) We note that the pre-period includes the period of the July Emergency Order that temporarily required pre-borrowing for the securities of publicly traded securities of 19 substantial financial firms prior to short sales (Release No. 34-58166). The July Emergency Order led to a significant reduction in fails in these securities. The length of the pre-period window and the small number of securities affected by the July Emergency Order largely mitigate any confounding influence from this inclusion. Further, any bias would be in the direction of finding a smaller impact from the September 2008 rule changes.
}

This is a memo of the staff of the Office of Economic Analysis. The Commission has expressed no view regarding the analysis, findings or conclusions herein.

\section*{All Securities (Table 1):}

Table 1 shows the average daily fail to deliver measures pre- and post-Rule 204 T and OMM exception elimination for all securities. The evidence shows significant declines in all fails to deliver measures. For example:
- The average daily fails to deliver shares decreased by 47.2\%.
- The average daily dollar value of fails to deliver decreased by \(64.8 \%\).
- The average daily number of fails to deliver positions decreased by \(54.3 \%\).

\section*{Threshold List Securities (Table 2):}

Table 2 shows the summary fail to deliver measures for threshold list securities. The evidence shows significant declines in all fails to deliver measures. For example:
- The average daily number of threshold list securities decreased by 69.2\%.
- The average daily fails to deliver shares in threshold securities decreased by 63.0\%.
- The average daily dollar value of fails to deliver in threshold securities decreased by \(81.2 \%\).
- The average daily number of fails to deliver positions in threshold securities decreased by 78.9\%.

\section*{Threshold List Securities with Listed Options (Table 3):}

Table 3 shows the summary fail to deliver measures for threshold list securities with listed options. The evidence shows significant declines in all fails to deliver measures. For example:
- The average daily number of optionable threshold list securities decreased by 72.3\%.
- The average daily fails to deliver shares in optionable threshold securities decreased by 77.2\%.
- The average daily dollar value of fails to deliver in optionable threshold securities decreased by \(82.4 \%\).
- The average daily number of fails to deliver positions in optionable threshold securities decreased by \(80.5 \%\).

\section*{Threshold List Securities without Listed Options (Table 4):}

Table 4 shows the summary fail to deliver measures for threshold list securities without listed options. The evidence shows significant declines in all fails to deliver measures.
For example:
- The average daily number of non-optionable threshold list securities decreased by 66.4\%.
- The average daily fails to deliver shares in non-optionable threshold securities decreased by 56.6\%.
- The average daily dollar value of fails to deliver in non-optionable threshold securities decreased by \(71.3 \%\).

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- The average daily number of fails to deliver positions in non-optionable threshold securities decreased by 75.8\%.

Any difference in the change in fails between stocks with listed options (Table 3) and threshold stock without listed options (Table 4) may indicate the impact of the elimination of the option market making exception. The comparison indicates that stocks with listed options saw larger percentage decreases than stocks without options. Depending on the measure, the declines are \(2.7 \%\) to \(28.8 \%\) larger for stocks with listed options.

\section*{Daily Fails to Deliver in All Securities (Figure 1):}

Figure 1 shows the daily aggregate fails in all securities from April 1, 2004 to December 31, 2008. There has been a decline of \(85.7 \%\) from the 2008 high of 2.21 billion shares on July 16, 2008 to 0.32 billion shares on December 31, 2008. It is important to note that we do not attempt to adjust fails to deliver for increases in trading volume over time. Assuming everything else constant, as the magnitude of trading (settlements) increases one would expect that the magnitude of fails to deliver would also increase. From April 1, 2004 to December 31, 2004 (Pre-Rule 203), the average daily fails were 810 million shares. From January 1, 2008 to December 31, 2008, the average daily fails were 962 million shares, an increase of about \(18.8 \%\). During the same periods, the average monthly dollar value of trading increased \(203.8 \%\) from \(\$ 2.3\) trillion to \(\$ 7.0\) trillion. \({ }^{3}\) Therefore, fails have increased since 2004 at a much slower rate than trading volume.

\section*{Average Daily Number of Threshold List Securities (Figure 2):}

Figure 2 shows the average daily number of threshold list securities for each month from January 2005 to December 2008. The average in December 2008 was 83.9 securities per day, a decline of 83.3\% from its high in July 2008.

\section*{Daily Number of Threshold List Securities (Figure 3):}

Figure 3 shows the daily number of threshold list securities from January 7, 2005 to December 31, 2008. There has been a decline of \(80.2 \%\) from the high of 622 on July 17, 2008 to 123 on December 31, 2008.

\section*{Daily Fails to Deliver in Threshold List Securities (Figure 4):}

Figure 4 shows the daily aggregate fails in threshold list securities from January 7, 2005 to December 31, 2008. There has been a decline of \(91.7 \%\) from the high of 1.36 billion shares on July 16, 2008 to 0.11 billion shares on December 31, 2008.

\section*{Daily Fails to Deliver in All Securities (Figure 5):}

Figure 5 shows the daily aggregate fails in all securities from June 2, 2008 to December 31, 2008. The chart denotes the settlement period where the temporary emergency order

\footnotetext{
\({ }^{3}\) The numbers are based on an aggregation of monthly Form R31 reports filed by SROs and exchanges. At the time of this analysis, Form R31 reports were not available for December 2008.
}

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requiring pre-borrowing for short sales was in effect for 19 substantial financial firms. The chart also denotes the settlement period where the temporary emergency order banning short sales in about 800 securities was effective. Lastly, the chart denotes the first settlement date where the effect of Rule 204T would appear.

\section*{Daily Number of Threshold List Securities (Figure 6):}

Figure 6 shows the daily number of threshold list securities from June 2, 2008 to December 31, 2008.

\section*{Daily Fails to Deliver in Threshold List Securities (Figure 7):}

Figure 7 shows the daily aggregate fails in threshold list securities from June 2, 2008 to December 31, 2008.

\section*{Table 1}

Summary Statistics on Fails to Deliver All Securities

\section*{Pre- and Post-Rule}
\begin{tabular}{lrrrr} 
Measure & Pre & Post & Change & \begin{tabular}{l} 
Percent \\
Change
\end{tabular} \\
Number of Days & 183 & 68 & & \\
Average Daily Dollar Value of Aggregate Fails (\$millions) & 7,775 & 2,733 & \(\mathbf{- 5 , 0 4 1}\) & \(-64.8 \%\) \\
Average Daily Aggregate Fails (millions) & 1,103 & 582 & \(\mathbf{- 5 2 0}\) & \(\mathbf{- 4 7 . 2 \%}\) \\
Average Daily Number of Securities \\
Average Daily Number of Fail Positions \({ }^{5}\) & 10,227 & 7,541 & \(\mathbf{- 2 , 6 8 6}\) & \(\mathbf{- 2 6 . 3 \%}\) \\
New Fails: & 28,912 & 13,208 & \(\mathbf{- 1 5 , 7 0 4}\) & \(\mathbf{- 5 4 . 3 \%}\) \\
Average Daily Dollar Value of New Fails (\$millions) & & & & \\
Average Daily New Fail Shares (millions) & 2,953 & 1,437 & \(\mathbf{- 1 , 5 1 6}\) & \(\mathbf{- 5 1 . 3 \%}\) \\
Average Daily New Fail Positions \(^{6}\) & 286 & 194 & \(\mathbf{- 9 2}\) & \(\mathbf{- 3 2 . 3 \%}\) \\
\end{tabular}

Bolded changes are significant at the 5\% level using the Wilcoxon-Mann-Whitney test (nonparametric). Source: NSCC.

\footnotetext{
\({ }^{4}\) Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of securities is grossed-up by a factor of 3.05 to account for the missing data.
\({ }^{5}\) Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of positions is grossed-up by a factor of 2.21 to account for the missing data.
\({ }^{6}\) Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of new positions is grossed-up by a factor of 1.81 to account for the missing data.
}

Table 2

\section*{Summary Statistics on Fails to Deliver \\ Threshold List Securities \\ Pre- and Post-Rule}
\begin{tabular}{lrrrr} 
Measure & Pre & Post & Change & \begin{tabular}{l} 
Percent \\
Change
\end{tabular} \\
Number of Days & 183 & 68 & & \\
Average Daily Dollar Value of Aggregate Fails (\$millions) & 4,124 & 774 & \(\mathbf{- 3 , 3 5 0}\) & \(-81.2 \%\) \\
Average Daily Aggregate Fails (millions) & 497 & 184 & \(\mathbf{- 3 1 3}\) & \(-63.0 \%\) \\
Average Daily Number of Securities & 480 & 148 & \(\mathbf{- 3 3 2}\) & \(-69.2 \%\) \\
Average Daily Number of Fail Positions & 2,361 & 499 & \(\mathbf{- 1 , 8 6 2}\) & \(-78.9 \%\) \\
New Fails: & & & & \\
Average Daily Dollar Value of New Fails (\$millions) & 866 & 195 & \(\mathbf{- 6 7 1}\) & \(-\mathbf{- 7 7 . 5 \%}\) \\
Average Daily New Fail Shares (millions) & 74 & 35 & \(\mathbf{- 3 9}\) & \(-52.5 \%\) \\
Average Daily New Fail Positions & 1,306 & 267 & \(\mathbf{- 1 , 0 4 0}\) & \(-\mathbf{- 7 9 . 6 \%}\) \\
Fails Aged more than 17 Days: & & & & \\
- Average Daily Dollar Value of Aggregate Fails (\$millions) & 1,844 & 300 & \(\mathbf{- 1 , 5 4 4}\) & \(-83.7 \%\) \\
- Average Daily Aggregate Fails (millions) & 147 & 34 & \(\mathbf{- 1 1 3}\) & \(-\mathbf{- 7 6 . 8 \%}\) \\
- Average Daily Number of Securities & 201 & 53 & \(\mathbf{- 1 4 9}\) & \(-73.9 \%\) \\
- Average Daily Number of Fail Positions & 299 & 58 & \(\mathbf{- 2 4 1}\) & \(-80.5 \%\)
\end{tabular}

Bolded changes are significant at the \(5 \%\) level using the Wilcoxon-Mann-Whitney test (nonparametric). Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

Table 3

\section*{Summary Statistics on Fails to Deliver Threshold List Securities with Listed Options Pre- and Post-Rule Amendment}
\begin{tabular}{|c|c|c|c|c|}
\hline Measure & Pre & Post & Change & \begin{tabular}{l}
Percent \\
Change
\end{tabular} \\
\hline Number of Days & 183 & 68 & & \\
\hline Average Daily Dollar Value of Aggregate Fails (\$millions) & 3,697 & 651 & -3,046 & -82.4\% \\
\hline Average Daily Aggregate Fails (millions) & 154 & 35 & -119 & -77.2\% \\
\hline Average Daily Number of Securities & 224 & 62 & -162 & -72.3\% \\
\hline Average Daily Number of Fail Positions & 1,526 & 297 & -1,229 & -80.5\% \\
\hline \multicolumn{5}{|l|}{New Fails:} \\
\hline Average Daily Dollar Value of New Fails (\$millions) & 783 & 162 & -621 & -79.3\% \\
\hline Average Daily New Fail Shares (millions) & 27 & 8 & -19 & -70.9\% \\
\hline Average Daily New Fail Positions & 894 & 169 & -725 & -81.1\% \\
\hline \multicolumn{5}{|l|}{Fails Aged more than 17 Days:} \\
\hline - Average Daily Dollar Value of Aggregate Fails (\$millions) & 1,746 & 336 & -1,409 & -80.7\% \\
\hline - Average Daily Aggregate Fails (millions) & 77 & 19 & -58 & -75.4\% \\
\hline - Average Daily Number of Securities & 134 & 38 & -95 & -71.3\% \\
\hline - Average Daily Number of Fail Positions & 215 & 42 & -172 & -80.3\% \\
\hline
\end{tabular}

Bolded changes are significant at the \(5 \%\) level using the Wilcoxon-Mann-Whitney test (nonparametric). Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

Table 4
Summary Statistics on Fails to Deliver Threshold List Securities without Listed Options Pre- and Post-Rule Amendment
\begin{tabular}{lrrrr} 
Measure & Pre & Post & Change & \begin{tabular}{c} 
Percent \\
Change
\end{tabular} \\
Number of Days & 183 & 68 & & \\
Average Daily Dollar Value of Aggregate Fails (\$millions) & 427 & 123 & \(\mathbf{- 3 0 4}\) & \(\mathbf{- 7 1 . 3 \%}\) \\
Average Daily Aggregate Fails (millions) & 343 & 149 & \(\mathbf{- 1 9 4}\) & \(\mathbf{- 5 6 . 6 \%}\) \\
Average Daily Number of Securities & 256 & 86 & \(\mathbf{- 1 7 0}\) & \(-66.4 \%\) \\
Average Daily Number of Fail Positions & 834 & 202 & \(\mathbf{- 6 3 2}\) & \(\mathbf{- 7 5 . 8 \%}\) \\
New Fails: & & & & \\
Average Daily Dollar Value of New Fails (\$millions) & 83 & 33 & \(\mathbf{- 5 1}\) & \(-60.7 \%\) \\
Average Daily New Fail Shares (millions) & 47 & 27 & \(\mathbf{- 2 0}\) & \(\mathbf{- 4 2 . 1 \%}\) \\
Average Daily New Fail Positions & 413 & 98 & \(\mathbf{- 3 1 5}\) & \(\mathbf{- 7 6 . 2 \%}\) \\
Fails Aged more than 17 Days: & & & & \\
- Average Daily Dollar Value of Aggregate Fails (\$millions) & 98 & 33 & \(\mathbf{- 6 6}\) & \(-66.7 \%\) \\
- Average Daily Aggregate Fails (millions) & 70 & 19 & \(\mathbf{- 5 1}\) & \(\mathbf{- 7 2 . 7 \%}\) \\
- Average Daily Number of Securities & 68 & 22 & \(\mathbf{- 4 5}\) & \(\mathbf{- 6 7 . 2 \%}\) \\
- Average Daily Number of Fail Positions & 85 & 25 & \(\mathbf{- 6 0}\) & \(\mathbf{- 7 0 . 9 \%}\)
\end{tabular}

Bolded changes are significant at the \(5 \%\) level using the Wilcoxon-Mann-Whitney test (nonparametric). Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

Figure 1


Figure 2

\section*{Average Daily Number of Threshold List Securities January 2005 to December 2008}


Figure 3


Figure 4


Figure 5


Figure 6


Figure 7


\section*{Appendix A}

Fail to Deliver Close-out Requirements of Rule 204T Important Dates to Measure Impact
\begin{tabular}{|l|l|l|l|l|}
\hline Fail Category & \begin{tabular}{l} 
Settlement Days to \\
Close-out Fail: \\
Threshold Stocks
\end{tabular} & \begin{tabular}{l} 
Settlement Days to \\
Close-out Fail: \\
Other Stocks
\end{tabular} & \begin{tabular}{l} 
Last Trade Date to \\
Close-out
\end{tabular} & \begin{tabular}{l} 
Settlement Date \\
Associated with Last \\
Close-out Date
\end{tabular} \\
\hline Pre-existing on September 17, 2008 & & & & \\
\hline Not Option Market Maker & 14 (or less) & None & October 7, 2008 & October 10, 2008 \\
\hline Option Market Maker (OMM) & 36 & None & November 7, 2008 & November 13, 2008 \\
\hline New fails on September 18, 2008 & & & & \\
\hline OMM, MM, and long sales & 3 & 3 & September 23, 2008 & September 26, 2008 \\
\hline Short sales (generally non-MM) & 1 & 1 & September 18, 2008 & September 23, 2008 \\
\hline Rule 144 sales* & 36 & 36 & November 10, 2008 & November 14, 2008 \\
\hline
\end{tabular}

Note that the close-out aging begins on September 17, 2008 for pre-existing fails whereas it begins on September 18, 2008 for new fails.
* The longer time window did not initially apply to certain ESOP sales and certain sales associated with shelf offerings. However, the longer time window is applicable for these sales effective October 17, 2008.

\section*{OEA MEMORANDUM}

TO: File
FROM: Office of Economic Analysis

DATE: April 16, 2009

\section*{SUBJECT: Impact of Recent SHO Rule Changes on Fails to Deliver}

This memorandum examines fails to deliver before and after the elimination of the options market maker (OMM) exception in Rule 203 of Regulation SHO and the implementation of interim final temporary Rule 204T (T+3 Close-out Rule). This memo includes three additional months of data and updates results from earlier memos dated March 20, 2009 and November 26, 2008. The findings here are consistent with those in the earlier memos. In general, the current memo shows much larger declines in fails measures than the earlier memos.

Due to the contemporaneous implementation of these two rules, they are analyzed together. \({ }^{1}\) Since the rule changes significantly shortened the window to close-out most fail to deliver positions and expanded the close-out provisions to all equity securities, we would expect to see a decline in average daily fails due to compliance with the new rules, all else equal. However, it is also possible that certain behavioral changes or other factors could mitigate or exacerbate any effect. For example, faster "cycling" of fails (more rapid fail-closeout-fail-closeout) could lead to full compliance with the new rules but no change in average daily fails.

In summary, the results indicate that fails to deliver decreased significantly after the elimination of the OMM exception and the implementation of the T+3 Close-out Rule. Fails declined by \(56.6 \%\) across all securities and \(73.5 \%\) for threshold stocks. In addition, there is some evidence that optionable stocks experienced larger declines than nonoptionable stocks. There has been a large downward trend in fails since July 2008.

\section*{Background}

The Commission approved a final rule to eliminate the options market maker exception from the close-out requirement of Rule 203(b)(3) in Regulation SHO. This rule change became effective at 12:01 a.m. ET on Thursday, Sept. 18, 2008. As a result, any new fails by options market makers after the effective date are subject to the same close-out requirements as other market participants under Rule 204T. The rule change also

\footnotetext{
\({ }^{1}\) We also note that Emergency Order (Release No. 34-58592) temporarily prohibited any person from effecting a short sale in the publicly traded securities of certain financial firms during the period from September 19 to October 8, 2008.
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provides for a 35-settlement day phase-in period to close-out previously established fail to deliver positions by option market makers. In other words, since the effective date of the SEC Emergency Order (Release No. 34-58572) was September 18, 2008, the phase-in period ended prior to the start of trading on November 7, 2008. Any change in a fail position that is closed-out via a standard settlement trade on November 7, 2008 appeared November 13, 2008.

The Commission also adopted, on an interim final basis, a new rule requiring that short sellers and their broker-dealers deliver securities by the close of business on the settlement date (three days after the sale transaction date, or \(\mathrm{T}+3\) ) and imposing penalties for failure to do so. Rule 204T establishes that fail to deliver positions related to short sales must be closed out prior to the beginning of normal trading hours on the next settlement day following the settlement date of the newly-created fail (usually T+4). Fail to deliver positions related to bona fide market making or long sales have an additional two settlement days to close-out fail to deliver positions (usually T+6). Fail to deliver positions related to sales pursuant to Rule 144 have 36 settlement days to close out (usually T+39). One major distinction between Rule 204T and Rule 203 is that Rule 204T covers all equity securities whereas Rule 203 covers only threshold list securities. Since the close-out provisions of Rule 204T differ depending on the type of trade that led to the fail and the date the fail, Appendix A provides a summary table that lists important introduction dates for each category.

Since some previously-established fails in threshold list securities may have had up to 14 days to close-out, a large part of the effect of the new close-out requirements may not show up in the NSCC settlement data until October 10, 2008 ( 17 settlement days after the day prior to the effective date). Also, since some previously-established OMM fails have up to 36 days to close-out, the full effect of the new close-out requirements in optionable securities may not show up in the NSCC settlement data until November 13, 2008 (39 settlement days after the effective date). Also, pre-existing fails in non-threshold stocks are not required to be closed-out within any time period unless the security enters the threshold list. Since we do not want our analysis confounded by the grandfather exception elimination, we use the period from January 1, 2008 to September 22, 2008 (183 days) as the pre-Rule period. \({ }^{2}\) The period from September 23, 2008 to March 31, 2009 (129 days) is defined as the post-Rule period.

\footnotetext{
\({ }^{2}\) We note that the pre-period includes the period of the July Emergency Order that temporarily required pre-borrowing for the securities of publicly traded securities of 19 substantial financial firms prior to short sales (Release No. 34-58166). The July Emergency Order led to a significant reduction in fails in these securities. The length of the pre-period window and the small number of securities affected by the July Emergency Order largely mitigate any confounding influence from this inclusion. Further, any bias would be in the direction of finding a smaller impact from the September 2008 rule changes.
}

This is a memo of the staff of the Office of Economic Analysis. The Commission has expressed no view regarding the analysis, findings or conclusions herein.

\section*{All Securities (Table 1):}

Table 1 shows the average daily fail to deliver measures pre- and post-Rule 204 T and OMM exception elimination for all securities. The evidence shows significant declines in all fails to deliver measures. For example:
- The average daily fails to deliver shares decreased by 56.6\%.
- The average daily dollar value of fails to deliver decreased by \(74.8 \%\).
- The average daily number of fails to deliver positions decreased by \(58.5 \%\).

\section*{Threshold List Securities (Table 2):}

Table 2 shows the summary fail to deliver measures for threshold list securities. The evidence shows significant declines in all fails to deliver measures. For example:
- The average daily number of threshold list securities decreased by 77.5\%.
- The average daily fails to deliver shares in threshold securities decreased by 73.5\%.
- The average daily dollar value of fails to deliver in threshold securities decreased by \(89.0 \%\).
- The average daily number of fails to deliver positions in threshold securities decreased by \(86.3 \%\).

\section*{Threshold List Securities with Listed Options (Table 3):}

Table 3 shows the summary fail to deliver measures for threshold list securities with listed options. The evidence shows significant declines in all fails to deliver measures. For example:
- The average daily number of optionable threshold list securities decreased by 82.1\%.
- The average daily fails to deliver shares in optionable threshold securities decreased by \(86.9 \%\).
- The average daily dollar value of fails to deliver in optionable threshold securities decreased by \(89.8 \%\).
- The average daily number of fails to deliver positions in optionable threshold securities decreased by \(88.2 \%\).

\section*{Threshold List Securities without Listed Options (Table 4):}

Table 4 shows the summary fail to deliver measures for threshold list securities without listed options. The evidence shows significant declines in all fails to deliver measures.
For example:
- The average daily number of non-optionable threshold list securities decreased by 73.4\%.
- The average daily fails to deliver shares in non-optionable threshold securities decreased by 67.4\%.
- The average daily dollar value of fails to deliver in non-optionable threshold securities decreased by \(82.4 \%\).

This is a memo of the staff of the Office of Economic Analysis. The Commission has expressed no view regarding the analysis, findings or conclusions herein.
- The average daily number of fails to deliver positions in non-optionable threshold securities decreased by \(82.9 \%\).

Any difference in the change in fails between stocks with listed options (Table 3) and threshold stock without listed options (Table 4) may indicate the impact of the elimination of the option market making exception. The comparison indicates that stocks with listed options saw larger percentage decreases than stocks without options. Depending on the measure, the declines are \(5.3 \%\) to \(25.7 \%\) larger for stocks with listed options.

\section*{Daily Fails to Deliver in All Securities (Figure 1):}

Figure 1 shows the daily aggregate fails in all securities from April 1, 2004 to March 31, 2009. There has been a decline of \(80.6 \%\) from the 2008 high of 2.21 billion shares on July 16, 2008 to 0.43 billion shares on March 31, 2009. It is important to note that we do not attempt to adjust fails to deliver for increases in trading volume over time. Assuming everything else constant, as the magnitude of trading (settlements) increases one would expect that the magnitude of fails to deliver would also increase. From April 1, 2004 to December 31, 2004 (Pre-Rule 203), the average daily fails were 810 million shares. From January 1, 2009 to March 31, 2009, the average daily fails were 363 million shares, a decrease of \(55.2 \%\). During the same periods, the average monthly dollar value of trading increased \(130.4 \%\) from \(\$ 2.3\) trillion to \(\$ 5.3\) trillion. \({ }^{3}\) Therefore, fails have decreased despite greater trading activity.

\section*{Average Daily Number of Threshold List Securities (Figure 2):}

Figure 2 shows the average daily number of threshold list securities for each month from January 2005 to March 2009. The average in March 2009 was 63.2 securities per day, a decline of 87.4\% from its high in July 2008.

\section*{Daily Number of Threshold List Securities (Figure 3):}

Figure 3 shows the daily number of threshold list securities from January 7, 2005 to March 31, 2009. There has been a decline of \(88.3 \%\) from the high of 632 on July 14, 2008 to 74 on March 31, 2009.

Daily Fails to Deliver in Threshold List Securities (Figure 4):
Figure 4 shows the daily aggregate fails in threshold list securities from January 7, 2005 to March 31, 2009. There has been a decline of \(83.0 \%\) from the high of 1.36 billion shares on July 16, 2008 to 0.23 billion shares on March 31, 2009.

\footnotetext{
\({ }^{3}\) The numbers are based on an aggregation of monthly Form R31 reports filed by SROs and exchanges.
}

\section*{Daily Fails to Deliver in All Securities (Figure 5):}

Figure 5 shows the daily aggregate fails in all securities from June 2, 2008 to March 31, 2009. The chart denotes the settlement period where the temporary emergency order requiring pre-borrowing for short sales was in effect for 19 substantial financial firms. The chart also denotes the settlement period where the temporary emergency order banning short sales in about 800 securities was effective. Lastly, the chart denotes the effective date of Rule 204T.

\section*{Daily Number of Threshold List Securities (Figure 6):}

Figure 6 shows the daily number of threshold list securities from June 2, 2008 to March 31, 2009.

\section*{Daily Fails to Deliver in Threshold List Securities (Figure 7):}

Figure 7 shows the daily aggregate fails in threshold list securities from June 2, 2008 to March 31, 2009.

\section*{ETPs as a Proportion of All Threshold List Securities (Figure 8):}

Figure 8 shows the daily number of threshold list securities and Exchange Traded Products (ETPs) as a proportion of all threshold list securities from January 2, 2008 to March 31, 2009. Post-Rule, ETPs have become a more significant portion of threshold list securities and on some days accounted for more than \(50 \%\) of all threshold list securities.

This is a memo of the staff of the Office of Economic Analysis. The Commission has expressed no view regarding the analysis, findings or conclusions herein.

Table 1
Summary Statistics on Fails to Deliver
All Securities
Pre- and Post-Rule
\begin{tabular}{|c|c|c|c|c|}
\hline Measure & Pre & Post & Change & \begin{tabular}{l}
Percent \\
Change
\end{tabular} \\
\hline Number of Days & 183 & 129 & & \\
\hline Average Daily Dollar Value of Aggregate Fails (\$millions) & 7,775 & 1,959 & -5,815 & -74.8\% \\
\hline Average Daily Aggregate Fails (millions) & 1,103 & 478 & -624 & -56.6\% \\
\hline Average Daily Number of Securities \({ }^{4}\) & 10,227 & 7,097 & -3,130 & -30.6\% \\
\hline Average Daily Number of Fail Positions \({ }^{5}\) & 28,912 & 12,006 & -16,906 & -58.5\% \\
\hline \multicolumn{5}{|l|}{New Fails \({ }^{6}\) :} \\
\hline Average Daily Dollar Value of New Fails (\$millions) & 2,953 & 1,149 & -1,803 & -61.1\% \\
\hline Average Daily New Fail Shares (millions) & 286 & 177 & -109 & -38.1\% \\
\hline Average Daily New Fail Positions \({ }^{7}\) & 13,275 & 7,117 & -6,158 & -46.4\% \\
\hline
\end{tabular}

Bolded changes are significant at the 5\% level using the Wilcoxon-Mann-Whitney test (nonparametric). Source: NSCC.

\footnotetext{
\({ }^{4}\) Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of securities is grossed-up by a factor of 2.97 to account for the missing data.
\({ }^{5}\) Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of positions is grossed-up by a factor of 2.21 to account for the missing data.
\({ }^{6}\) New fails are estimated each day by summing any positive change in the fails to deliver from the previous day for each security-clearing firm combination.
\({ }^{7}\) Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of new positions is grossed-up by a factor of 1.76 to account for the missing data.
}

Table 2

\section*{Summary Statistics on Fails to Deliver \\ Threshold List Securities \\ Pre- and Post-Rule}
\begin{tabular}{lrrrr} 
Measure & Pre & Post & Change & \begin{tabular}{l} 
Percent \\
Change
\end{tabular} \\
Number of Days & 183 & 129 & & \\
Average Daily Dollar Value of Aggregate Fails (\$millions) & 4,124 & 452 & \(\mathbf{- 3 , 6 7 2}\) & \(-89.0 \%\) \\
Average Daily Aggregate Fails (millions) & 497 & 132 & \(\mathbf{- 3 6 5}\) & \(-\mathbf{- 7 3 . 5 \%}\) \\
Average Daily Number of Securities & 480 & 108 & \(-\mathbf{- 3 7 2}\) & \(-77.5 \%\) \\
Average Daily Number of Fail Positions & 2,361 & 324 & \(\mathbf{- 2 , 0 3 7}\) & \(-86.3 \%\) \\
New Fails \({ }^{\mathbf{8}}\) : & & & & \\
Average Daily Dollar Value of New Fails (\$millions) & 866 & 127 & \(\mathbf{- 7 3 9}\) & \(-85.3 \%\) \\
Average Daily New Fail Shares (millions) & 74 & 25 & \(\mathbf{- 4 8}\) & \(-65.5 \%\) \\
Average Daily New Fail Positions & 1,306 & 178 & \(\mathbf{- 1 , 1 2 9}\) & \(-86.4 \%\) \\
Fails Aged more than 17 Days: & & & & \\
- Average Daily Dollar Value of Aggregate Fails (\$millions) & 1,844 & 159 & \(\mathbf{- 1 , 6 8 5}\) & \(-91.4 \%\) \\
- Average Daily Aggregate Fails (millions) & 147 & 24 & \(\mathbf{- 1 2 3}\) & \(-83.7 \%\) \\
- Average Daily Number of Securities & 201 & 30 & \(\mathbf{- 1 7 1}\) & \(-84.9 \%\) \\
- Average Daily Number of Fail Positions & 299 & 34 & \(\mathbf{- 2 6 6}\) & \(-88.8 \%\)
\end{tabular}

Bolded changes are significant at the 5\% level using the Wilcoxon-Mann-Whitney test (nonparametric).
Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

\footnotetext{
\({ }^{8}\) New fails are estimated each day by summing any positive change in the fails to deliver from the previous day for each security-clearing firm combination.
}

Table 3

\section*{Summary Statistics on Fails to Deliver Threshold List Securities with Listed Options \\ Pre- and Post-Rule Amendment}
\begin{tabular}{|c|c|c|c|c|}
\hline Measure & Pre & Post & Change & \begin{tabular}{l}
Percent \\
Change
\end{tabular} \\
\hline Number of Days & 183 & 129 & & \\
\hline Average Daily Dollar Value of Aggregate Fails (\$millions) & 3,697 & 377 & -3,320 & -89.8\% \\
\hline Average Daily Aggregate Fails (millions) & 154 & 20 & -134 & -86.9\% \\
\hline Average Daily Number of Securities & 224 & 40 & -184 & -82.1\% \\
\hline Average Daily Number of Fail Positions & 1,526 & 181 & -1,345 & -88.2\% \\
\hline \multicolumn{5}{|l|}{New Fails \({ }^{9}\) :} \\
\hline Average Daily Dollar Value of New Fails (\$millions) & 783 & 106 & -677 & -86.5\% \\
\hline Average Daily New Fail Shares (millions) & 27 & 5 & -22 & -82.0\% \\
\hline Average Daily New Fail Positions & 894 & 106 & -787 & -88.1\% \\
\hline \multicolumn{5}{|l|}{Fails Aged more than 17 Days:} \\
\hline - Average Daily Dollar Value of Aggregate Fails (\$millions) & 1,746 & 141 & -1,605 & -91.9\% \\
\hline - Average Daily Aggregate Fails (millions) & 77 & 8 & -69 & -89.7\% \\
\hline - Average Daily Number of Securities & 134 & 16 & -117 & -87.9\% \\
\hline - Average Daily Number of Fail Positions & 215 & 18 & -197 & -91.7\% \\
\hline
\end{tabular}

Bolded changes are significant at the \(5 \%\) level using the Wilcoxon-Mann-Whitney test (nonparametric).
Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

\footnotetext{
\({ }^{9}\) New fails are estimated each day by summing any positive change in the fails to deliver from the previous day for each security-clearing firm combination.
}

Table 4
Summary Statistics on Fails to Deliver Threshold List Securities without Listed Options

Pre- and Post-Rule Amendment
\begin{tabular}{lrrrr} 
Measure & Pre & Post & Change & \begin{tabular}{l} 
Percent \\
Change
\end{tabular} \\
Number of Days & 183 & 129 & & \\
Average Daily Dollar Value of Aggregate Fails (\$millions) & 427 & 75 & \(\mathbf{- 3 5 2}\) & \(-82.4 \%\) \\
Average Daily Aggregate Fails (millions) & 343 & 112 & \(\mathbf{- 2 3 1}\) & \(\mathbf{- 6 7 . 4 \%}\) \\
Average Daily Number of Securities & 256 & 68 & \(\mathbf{- 1 8 8}\) & \(\mathbf{- 7 3 . 4 \%}\) \\
Average Daily Number of Fail Positions & 834 & 143 & \(\mathbf{- 6 9 1}\) & \(\mathbf{- 8 2 . 9 \%}\) \\
New Fails \({ }^{\mathbf{1 0}}\) : & & & & \\
Average Daily Dollar Value of New Fails (\$millions) & 83 & 21 & \(\mathbf{- 6 2}\) & \(\mathbf{- 7 4 . 4 \%}\) \\
Average Daily New Fail Shares (millions) & 47 & 21 & \(\mathbf{- 2 7}\) & \(\mathbf{- 5 6 . 3 \%}\) \\
Average Daily New Fail Positions & 413 & 71 & \(\mathbf{- 3 4 1}\) & \(\mathbf{- 8 2 . 7 \%}\) \\
Fails Aged more than 17 Days: & & & & \\
- Average Daily Dollar Value of Aggregate Fails (\$millions) & 98 & 18 & \(\mathbf{- 8 1}\) & \(\mathbf{- 8 2 . 1 \%}\) \\
- Average Daily Aggregate Fails (millions) & 70 & 16 & \(\mathbf{- 5 4}\) & \(\mathbf{- 7 7 . 1 \%}\) \\
- Average Daily Number of Securities & 68 & 14 & \(\mathbf{- 5 3}\) & \(\mathbf{- 7 8 . 9 \%}\) \\
- Average Daily Number of Fail Positions & 85 & 16 & \(\mathbf{- 6 9}\) & \(\mathbf{- 8 1 . 5 \%}\)
\end{tabular}

Bolded changes are significant at the 5\% level using the Wilcoxon-Mann-Whitney test (nonparametric).
Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

\footnotetext{
\({ }^{10}\) New fails are estimated each day by summing any positive change in the fails to deliver from the previous day for each security-clearing firm combination.
}

Figure 1


Produced by OEA

Figure 2


Figure 3


Figure 4


Figure 5


Figure 6


Figure 7


Figure 8
Number of Threshold Securities and ETPs as a Proportion of Threshold Securities by Day


Produced by OEA

\section*{Appendix A}

Fail to Deliver Close-out Requirements of Rule 204T
Important Dates to Measure Impact
\begin{tabular}{|l|l|l|l|l|}
\hline Fail Category & \begin{tabular}{l} 
Settlement Days to \\
Close-out Fail: \\
Threshold Stocks
\end{tabular} & \begin{tabular}{l} 
Settlement Days to \\
Close-out Fail: \\
Other Stocks
\end{tabular} & \begin{tabular}{l} 
Last Trade Date to \\
Close-out
\end{tabular} & \begin{tabular}{l} 
Settlement Date \\
Associated with Last \\
Close-out Date
\end{tabular} \\
\hline Pre-existing on September 17, 2008 & & & & \\
\hline Not Option Market Maker & 14 (or less) & None & October 7, 2008 & October 10, 2008 \\
\hline Option Market Maker (OMM) & 36 & None & November 7, 2008 & November 13, 2008 \\
\hline New fails on September 18, 2008 & & & & \\
\hline OMM, MM, and long sales & 3 & 3 & September 23, 2008 & September 26, 2008 \\
\hline Short sales (generally non-MM) & 1 & 1 & September 18, 2008 & September 23, 2008 \\
\hline Rule 144 sales* & 36 & 36 & November 10, 2008 & November 14, 2008 \\
\hline
\end{tabular}

Note that the close-out aging begins on September 17, 2008 for pre-existing fails whereas it begins on September 18, 2008 for new fails.
* The longer time window did not initially apply to certain ESOP sales and certain sales associated with shelf offerings. However, the longer time window is applicable for these sales effective October 17, 2008.

\section*{OEA MEMORANDUM}

TO: File
FROM: Office of Economic Analysis
DATE: November 26, 2008

\section*{SUBJECT: Impact of Recent SHO Rule Changes on Fails to Deliver}

This memorandum examines fails to deliver before and after the elimination of the options market maker (OMM) exception in Rule 203 of Regulation SHO and the implementation of interim final temporary Rule 204T (T+3 Close-out Rule). Due to the contemporaneous implementation of these two rules, they are analyzed together. \({ }^{1}\) Since the rule changes significantly shortened the window to close-out most fail to deliver positions and expanded the close-out provisions to all equity securities, we would expect to see a decline in average daily fails due to compliance with the new rules, all else equal. However, it is also possible that certain behavioral changes or other factors could mitigate or exacerbate any effect. For example, faster "cycling" of fails (more rapid fail-closeout-fail-closeout) could lead to full compliance with the new rules but no change in average daily fails.

In summary, the results indicate that fails to deliver decreased significantly after the elimination of the OMM exception and the implementation of the T+3 Close-out Rule. Fails declined by \(37.6 \%\) across all securities and \(52.8 \%\) for threshold stocks. In addition, there is some evidence that optionable stocks experienced larger declines in persistent fails positions. Specifically, fail positions aged 17 days or more declined \(62.9 \%\) in optionable stocks compared to \(41.4 \%\) for non-optionable stocks.

\section*{Background}

The Commission approved a final rule to eliminate the options market maker exception from the close-out requirement of Rule 203(b)(3) in Regulation SHO. This rule change also becomes effective at 12:01 a.m. ET on Thursday, Sept. 18, 2008. As a result, any new fails by options market makers after the effective date are subject to the same closeout requirements as other market participants under Rule 204T. The rule change also provides for a 35-settlement day phase-in period to close-out previously established fail to deliver positions by option market makers. In other words, since the effective date of the SEC Emergency Order (Release No. 34-58572) was September 18, 2008, the phase-in

\footnotetext{
\({ }^{1}\) We also note that Emergency Order (Release No. 34-58592) temporarily prohibited any person from effecting a short sale in the publicly traded securities of certain financial firms during the period from September 19 to October 8, 2008.
}

This is a memo of the staff of the Office of Economic Analysis. The Commission has expressed no view regarding the analysis, findings or conclusions herein.
period ends prior to the start of trading on November 7, 2008. Any change in a fail position that is closed-out via a standard settlement trade on November 7, 2008 will appear on November 13, 2008.

The Commission also adopted, on an interim final basis, a new rule requiring that short sellers and their broker-dealers deliver securities by the close of business on the settlement date (three days after the sale transaction date, or \(\mathrm{T}+3\) ) and imposing penalties for failure to do so. Rule 204T establishes that fail to deliver positions related to short sales must be closed out prior to the beginning of normal trading hours on the next settlement day following the settlement date of the newly-created fail (usually T+4). Fail to deliver positions related to bona fide market making or long sales have an 2 additional settlement days to close-out fail to deliver positions (usually T+6). Fail to deliver positions related to sales pursuant to Rule 144 have 36 settlement days to close out (usually T+39). One major distinction between Rule 204T and Rule 203 is that Rule 204T covers all equity securities whereas Rule 203 covers only threshold list securities. Since the close-out provisions of Rule 204T differ depending on the type of trade that led to the fail and the date the fail, Appendix A provides a summary table that lists important introduction dates for each category.

Since some previously-established fails in threshold list securities may have up to 14 days to close-out, a large part of the effect of the new close-out requirements may not show up in the NSCC settlement data until October 10, 2008 ( 17 settlement days after the day prior to the effective date). Also, since some previously-established OMM fails have up to 36 days to close-out, the full effect of the new close-out requirements in optionable securities may not show up in the NSCC settlement data until November 13, 2008 (39 settlement days after the effective date). Also, pre-existing fails in non-threshold stocks are not required to be closed-out within any time period unless the security enters the threshold list. Since we do not want our analysis confounded by the grandfather exception elimination, we use the period from January 1, 2008 to September 22, 2008 (183 days) as the pre-Rule period. \({ }^{2}\) The period from September 23, 2008 to October 31, 2008 (28 days) is defined as the post-Rule period.

\section*{All Securities (Table 1):}

Table 1 shows the average daily fail to deliver measures pre- and post-Rule 204T and OMM exception elimination for all securities. Overall, the evidence shows significant declines in all fails to deliver measures. For example:
- The average daily fails to deliver shares decreased by \(37.6 \%\).
- The average daily dollar value of fails to deliver decreased by 39.7\%.

\footnotetext{
\({ }^{2}\) We note that the pre-period includes the period of the July Emergency Order that temporarily required pre-borrowing for the securities of publicly traded securities of 19 substantial financial firms prior to short sales (Release No. 34-58166). The July Emergency Order led to a significant reduction in fails in these securities. The length of the pre-period window and the small number of securities affected by the July Emergency Order largely mitigate any confounding influence from this inclusion. Further, any bias would be in the direction of finding a smaller impact from the September 2008 rule changes.
}

This is a memo of the staff of the Office of Economic Analysis. The Commission has expressed no view regarding the analysis, findings or conclusions herein.
- The average daily number of fails to deliver positions decreased by \(48.2 \%\).

\section*{Threshold List Securities (Table 2):}

Table 2 shows the summary fail to deliver measures for threshold list securities. Overall, the evidence shows significant declines in all fails to deliver measures. For example:
- The average daily number of threshold list securities decreased by \(48.5 \%\).
- The average daily fails to deliver shares in threshold securities decreased by 52.8\%.
- The average daily dollar value of fails to deliver in threshold securities decreased by \(58.2 \%\).
- The average daily number of fails to deliver positions in threshold securities decreased by 59.5\%.

\section*{Threshold List Securities with Listed Options (Table 3):}

Table 3 shows the summary fail to deliver measures for threshold list securities with listed options. Overall, the evidence shows significant declines in all fails to deliver measures. For example:
- The average daily number of optionable threshold list securities decreased by 43.3\%.
- The average daily fails to deliver shares in optionable threshold securities decreased by 50.1\%.
- The average daily dollar value of fails to deliver in optionable threshold securities decreased by \(60.1 \%\).
- The average daily number of fails to deliver positions in optionable threshold securities decreased by 58.5\%.

\section*{Threshold List Securities without Listed Options (Table 4):}

Table 4 shows the summary fail to deliver measures for threshold list securities without listed options. Overall, the evidence shows significant declines in all fails to deliver measures. For example:
- The average daily number of non-optionable threshold list securities decreased by 53.1\%.
- The average daily fails to deliver shares in non-optionable threshold securities decreased by \(54.0 \%\).
- The average daily dollar value of fails to deliver in non-optionable threshold securities decreased by 41.6\%.
- The average daily number of fails to deliver positions in non-optionable threshold securities decreased by 61.3\%.

Any difference in the change in fails between stocks with listed options (Table 3) and threshold stock without listed options (Table 4) may indicate the impact of the elimination of the option market making exception. The comparison yields mixed results, perhaps due to the 35-day period for closing out pre-existing option market maker

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fails to deliver. The examination of fails aged 17 days or more shows that persistent fail positions in optionable stocks declined \(62.9 \%\) compared to \(41.4 \%\) for non-optionable stocks. Further, 3 out of 4 measures indicate that threshold stocks with listed options saw larger declines in fails than threshold stocks without listed options.

\section*{Daily Fails to Deliver in All Securities (Figure 1):}

Figure 1 shows the daily aggregate fails in all securities from April 1, 2004 to October 31, 2008. There has been a decline of \(78.2 \%\) from the 2008 high of 2.21 billion shares on July 16, 2008 to 0.48 billion shares on October 31, 2008. It is important to note that we do not attempt to adjust fails to deliver for increases in trading volume over time. Assuming everything else constant, as the magnitude of trading (settlements) increases one would expect that the magnitude of fails to deliver would also increase. From April 1, 2004 to December 31, 2004 (Pre-Rule 203), the average daily fails were 810 million shares. From January 1, 2008 to October 31, 2008, the average daily fails were 1,048 million shares, an increase of about \(29.4 \%\). During the same periods, the average monthly dollar value of trading increased \(209.3 \%\) from \(\$ 2.3\) trillion to \(\$ 7.1\) trillion. \({ }^{3}\) Therefore, fails have increased since 2004 at a much slower rate than trading volume.

\section*{Average Daily Number of Threshold List Securities (Figure 2):}

Figure 2 shows the average daily number of threshold list securities for each month from January 2005 to October 2008. The average in October 2008 was 195.4 securities per day, the lowest monthly observation since threshold list began and a decline of \(66.4 \%\) from its high in July 2008.

\section*{Daily Number of Threshold List Securities (Figure 3):}

Figure 3 shows the daily number of threshold list securities from January 7, 2005 to October 31, 2008. There has been a decline of \(89.1 \%\) from the high of 622 on July 17, 2008 to 68 on October 31, 2008.

\section*{Daily Fails to Deliver in Threshold List Securities (Figure 4):}

Figure 4 shows the daily aggregate fails in threshold list securities from January 7, 2005 to October 31, 2008. There has been a decline of \(86.3 \%\) from the high of 1.36 billion shares on July 16, 2008 to 0.19 billion shares on October 31, 2008.

\section*{Daily Fails to Deliver in All Securities (Figure 5):}

Figure 5 shows the daily aggregate fails in all securities from June 2, 2008 to October 31, 2008. The chart denotes the settlement period where the temporary emergency order requiring pre-borrowing for short sales was in effect for 19 substantial financial firms. The chart also denotes the settlement period where the temporary emergency order banning short sales in about 800 securities was effective. Lastly, the chart denotes the first settlement date where the effect of Rule 204T would appear.

\footnotetext{
\({ }^{3}\) The numbers are based on an aggregation of monthly Form R31 reports filed by SROs and exchanges.
}

This is a memo of the staff of the Office of Economic Analysis. The Commission has expressed no view regarding the analysis, findings or conclusions herein.

\section*{Daily Number of Threshold List Securities (Figure 6):}

Figure 6 shows the daily number of threshold list securities from June 2, 2008 to October 31, 2008.

Daily Fails to Deliver in Threshold List Securities (Figure 7):
Figure 7 shows the daily aggregate fails in threshold list securities from June 2, 2008 to October 31, 2008.

\section*{Table 1}

Summary Statistics on Fails to Deliver All Securities

\section*{Pre- and Post-Rule}
\begin{tabular}{|c|c|c|c|c|}
\hline Measure & Pre & Post & Change & \begin{tabular}{l}
Percent \\
Change
\end{tabular} \\
\hline Number of Days & 183 & 28 & & \\
\hline Average Daily Dollar Value of Aggregate Fails (\$millions) & 7,775 & 4,692 & -3,083 & -39.7\% \\
\hline Average Daily Aggregate Fails (millions) & 1,023 & 669 & -414 & -37.6\% \\
\hline Average Daily Number of Securities \({ }^{4}\) & 10,227 & 8,104 & -2,124 & -20.8\% \\
\hline Average Daily Number of Fail Positions \({ }^{5}\) & 28,912 & 14,969 & -13,943 & -48.2\% \\
\hline \multicolumn{5}{|l|}{New Fails:} \\
\hline Average Daily Dollar Value of New Fails (\$millions) & 2,953 & 2,138 & -815 & -27.6\% \\
\hline Average Daily New Fail Shares (millions) & 286 & 208 & -78 & -27.2\% \\
\hline Average Daily New Fail Positions \({ }^{6}\) & 13,275 & 8,154 & -5,121 & -38.6\% \\
\hline
\end{tabular}

Bolded changes are significant at the 5\% level using the Wilcoxon-Mann-Whitney test (nonparametric). Source: NSCC.

\footnotetext{
\({ }^{4}\) Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of securities is grossed-up by a factor of 3.05 to account for the missing data.
\({ }^{5}\) Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of positions is grossed-up by a factor of 2.21 to account for the missing data.
\({ }^{6}\) Since the NSCC fails data includes only securities with fails to deliver of 10,000 shares or more prior to September 16, 2008, the pre-period number of new positions is grossed-up by a factor of 1.81 to account for the missing data.
}

Table 2

\section*{Summary Statistics on Fails to Deliver \\ Threshold List Securities \\ Pre- and Post-Rule}
\begin{tabular}{lrrrr} 
Measure & Pre & Post & Change & \begin{tabular}{l} 
Percent \\
Change
\end{tabular} \\
Number of Days & 183 & 28 & & \\
Average Daily Dollar Value of Aggregate Fails (\$millions) & 4,124 & 1,723 & \(\mathbf{- 2 , 4 0 1}\) & \(-58.2 \%\) \\
Average Daily Aggregate Fails (millions) & 497 & 235 & \(\mathbf{- 2 6 2}\) & \(\mathbf{- 5 2 . 8 \%}\) \\
Average Daily Number of Securities & 480 & 247 & \(\mathbf{- 2 3 3}\) & \(-\mathbf{- 4 8 . 5 \%}\) \\
Average Daily Number of Fail Positions & 2,361 & 956 & \(\mathbf{- 1 , 4 0 5}\) & \(-59.5 \%\) \\
New Fails: & & & & \\
Average Daily Dollar Value of New Fails (\$millions) & 866 & 406 & \(\mathbf{- 4 6 0}\) & \(-53.1 \%\) \\
Average Daily New Fail Shares (millions) & 74 & 43 & \(\mathbf{- 3 1}\) & \(\mathbf{- 4 2 . 4 \%}\) \\
Average Daily New Fail Positions & 1,306 & 501 & \(\mathbf{- 8 0 5}\) & \(-61.7 \%\) \\
Fails Aged more than 17 Days: & & & & \\
- Average Daily Dollar Value of Aggregate Fails (\$millions) & 1,844 & 723 & \(\mathbf{- 1 , 1 2 1}\) & \(\mathbf{- 6 0 . 8 \%}\) \\
- Average Daily Aggregate Fails (millions) & 147 & 67 & \(\mathbf{- 8 0}\) & \(-54.2 \%\) \\
- Average Daily Number of Securities & 201 & 116 & \(\mathbf{- 8 5}\) & \(\mathbf{- 4 2 . 3 \%}\) \\
- Average Daily Number of Fail Positions & 299 & 129 & \(\mathbf{- 1 7 0}\) & \(\mathbf{- 5 6 . 8 \%}\)
\end{tabular}

Bolded changes are significant at the 5\% level using the Wilcoxon-Mann-Whitney test (nonparametric). Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

Table 3

\section*{Summary Statistics on Fails to Deliver Threshold List Securities with Listed Options Pre- and Post-Rule Amendment}
\begin{tabular}{|c|c|c|c|c|}
\hline Measure & Pre & Post & Change & \begin{tabular}{l}
Percent \\
Change
\end{tabular} \\
\hline Number of Days & 183 & 28 & & \\
\hline Average Daily Dollar Value of Aggregate Fails (\$millions) & 3,697 & 1,474 & -2,223 & -60.1\% \\
\hline Average Daily Aggregate Fails (millions) & 154 & 77 & -77 & -50.1\% \\
\hline Average Daily Number of Securities & 224 & 127 & -97 & -43.3\% \\
\hline Average Daily Number of Fail Positions & 1,526 & 633 & -893 & -58.5\% \\
\hline \multicolumn{5}{|l|}{New Fails:} \\
\hline Average Daily Dollar Value of New Fails (\$millions) & 783 & 348 & -435 & -55.6\% \\
\hline Average Daily New Fail Shares (millions) & 27 & 16 & -11 & -39.5\% \\
\hline Average Daily New Fail Positions & 894 & 351 & -543 & -60.8\% \\
\hline \multicolumn{5}{|l|}{Fails Aged more than 17 Days:} \\
\hline - Average Daily Dollar Value of Aggregate Fails (\$millions) & 1,746 & 646 & -1,100 & -63.0\% \\
\hline - Average Daily Aggregate Fails (millions) & 77 & 36 & -41 & -53.4\% \\
\hline - Average Daily Number of Securities & 134 & 72 & -62 & -46.2\% \\
\hline - Average Daily Number of Fail Positions & 215 & 80 & -135 & -62.9\% \\
\hline
\end{tabular}

Bolded changes are significant at the 5\% level using the Wilcoxon-Mann-Whitney test (nonparametric). Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

Table 4
Summary Statistics on Fails to Deliver Threshold List Securities without Listed Options Pre- and Post-Rule Amendment
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Measure} & \multirow[t]{2}{*}{Pre} & \multirow[t]{2}{*}{Post} & \multirow[t]{2}{*}{Change} & Percent \\
\hline & & & & Change \\
\hline Number of Days & 183 & 28 & & \\
\hline Average Daily Dollar Value of Aggregate Fails (\$millions) & 427 & 249 & -178 & -41.6\% \\
\hline Average Daily Aggregate Fails (millions) & 343 & 158 & -185 & -54.0\% \\
\hline Average Daily Number of Securities & 256 & 120 & -136 & -53.1\% \\
\hline Average Daily Number of Fail Positions & 834 & 323 & -511 & -61.3\% \\
\hline \multicolumn{5}{|l|}{New Fails:} \\
\hline Average Daily Dollar Value of New Fails (\$millions) & 83 & 58 & -25 & -29.9\% \\
\hline Average Daily New Fail Shares (millions) & 47 & 26 & -21 & -44.1\% \\
\hline Average Daily New Fail Positions & 413 & 150 & -263 & -63.6\% \\
\hline \multicolumn{5}{|l|}{Fails Aged more than 17 Days:} \\
\hline - Average Daily Dollar Value of Aggregate Fails (\$millions) & 98 & 77 & -21 & -21.8\% \\
\hline - Average Daily Aggregate Fails (millions) & 70 & 31 & -39 & -55.0\% \\
\hline - Average Daily Number of Securities & 68 & 44 & -24 & -34.7\% \\
\hline - Average Daily Number of Fail Positions & 85 & 50 & -35 & -41.4\% \\
\hline
\end{tabular}

Bolded changes are significant at the \(5 \%\) level using the Wilcoxon-Mann-Whitney test (nonparametric). Sources: NSCC, NYSE, Nasdaq, OTCBB, and Amex web sites.

Figure 1


Figure 2


Figure 3


Figure 4

\section*{Fails to Deliver (billions) \\ Threshold Securities \\ January 7, 2005 to October 31, 2008}


Figure 5


Figure 6


Figure 7


\section*{Appendix A}

Fail to Deliver Close-out Requirements of Rule 204T
Important Dates to Measure Impact
\begin{tabular}{|l|l|l|l|l|}
\hline Fail Category & \begin{tabular}{l} 
Settlement Days to \\
Close-out Fail: \\
Threshold Stocks
\end{tabular} & \begin{tabular}{l} 
Settlement Days to \\
Close-out Fail: \\
Other Stocks
\end{tabular} & \begin{tabular}{l} 
Last Trade Date to \\
Close-out
\end{tabular} & \begin{tabular}{l} 
Settlement Date \\
Associated with Last \\
Close-out Date
\end{tabular} \\
\hline Pre-existing on September 17, 2008 & & & & \\
\hline Not Option Market Maker & 14 (or less) & None & October 7, 2008 & October 10, 2008 \\
\hline Option Market Maker (OMM) & 36 & None & November 7, 2008 & November 13, 2008 \\
\hline New fails on September 18, 2008 & & & & \\
\hline OMM, MM, and long sales & 3 & 3 & September 23, 2008 & September 26, 2008 \\
\hline Short sales (generally non-MM) & 1 & 1 & September 18, 2008 & September 23, 2008 \\
\hline Rule 144 sales* & 36 & 36 & November 10, 2008 & November 14, 2008 \\
\hline
\end{tabular}

Note that the close-out aging begins on September 17, 2008 for pre-existing fails whereas it begins on September 18, 2008 for new fails.
* The longer time window did not initially apply to certain ESOP sales and certain sales associated with shelf offerings. However, the longer time window is applicable for these sales effective October 17, 2008.

\title{
Short Selling in Initial Public Offerings
}

\author{
By \\ Amy K. Edwards \\ and \\ Kathleen Weiss Hanley* \\ Office of Economic Analysis \\ U.S. Securities and Exchange Commission \\ 100 F Street NE \\ Washington, DC 20549 \\ Forthcoming Journal of Financial Economics
}

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}

\title{
Short Selling in Initial Public Offerings
}

\begin{abstract}
Short sale constraints in the immediate aftermarket of IPOs are often used to explain short-term pricing anomalies that are subsequently reversed in the long-term. Using newly available data, this paper documents that short selling is an integral part of the immediate aftermarket trading of IPOs. Short selling is higher in firms with greater first day returns and revisions in offer price. We find no evidence that perceived restrictions on borrowing shares are circumvented by "naked" short selling. Failures to deliver are unrelated to short sales and are much larger than short sales in many cases. Instead, we show that failures to deliver are most likely related to price support. The level of short selling marginally predicts abnormal returns over the first three months of trading but the average short seller does not earn abnormal profits. An examination of potential market maker short sales indicates that our findings on the relation of short selling to initial returns and failures to deliver are not driven by market maker short selling activity. We conclude that short selling in IPOs is not as constrained as suggested by the literature implying that other factors may be responsible for high levels of underpricing.
\end{abstract}

\section*{Short Selling in Initial Public Offerings}

\section*{1. Introduction}

One of the longstanding puzzles in finance has been the pricing of initial public offerings. One explanation for underpricing in IPOs and their subsequent long-run performance was originally proposed by Miller (1977). He argues that restrictions on short selling immediately following an IPO contribute to pricing inefficiencies in the short-term, which are subsequently reversed in the long-term as these constraints are relaxed. In addition, the literature on the limits to arbitrage often uses underpricing in IPOs as example of the impact on short sale constraints on pricing. \({ }^{1}\)

The premise that short selling is difficult immediately after an IPO is based upon the perceived high cost of borrowing shares (Ljungqvist, Nanda and Singh (2006)), limits on underwriters lending shares during the first month of trading (Houge, Loughran, Suchanek, and Yan (2001)), the lock-up of insider shares which restrict supply (Ofek and Richardson (2000)), and difficulties in locating shares prior to the closing of the offer. By examining short selling in the context of IPOs, we are able to assess the speed with which short selling is available even in the shares of stocks that have no previous trading history. We test whether these potential constraints restrict short selling in the immediate aftermarket of IPOs by examining newly available data on actual short selling transactions.

Contrary to popular belief, we find that short selling is an integral part of the aftermarket trading of IPOs. Despite possible constraints on both the ability and cost of borrowing shares for delivery, we show that short selling occurs simultaneously with the open of trading and without a

\footnotetext{
\({ }^{1}\) See for example, Scheinkman and Xiong, (2003), Duffie, Garleanu and Pedersen (2002) and Mitchell, Pulvino and Stafford (2002).
}
delay, as previously thought. Short selling occurs on the offer day in \(99.5 \%\) of the IPOs in our sample and the majority of first day short sales occur at the open of trading. The average level of short sales on the offer day exceeds 7\% of the shares offered and subsequently declines over the first month of trading. By the fifth trading day, the ratio of short selling to volume is only slightly lower than that documented by Diether, Lee, and Werner (2007a) for a large crosssection of stocks. We interpret this finding as an indication that the level of short selling in IPOs approaches an "equilibrium" level quickly. \({ }^{2}\)

Miller (1977) suggests that investor divergence of opinion combined with the inability to short sell the security leads to higher initial returns than would otherwise occur. For example, the models of Derrien (2006) and Ljungqvist, Nanda and Singh (2006) predict that underwriters and issuing firms take advantage of investor sentiment or irrational exuberance by pricing issues above their intrinsic value. In this case, investor sentiment combined with short selling constraints leads to greater underpricing and an aftermarket trading price that exceeds the "true" value of the security.

Our results indicate that the magnitude of short selling on the first trading day is positively and significantly related to variables that proxy for divergence of opinion: the change in offer price, the first day return from the offer price to the open and initial trading volume. These findings are consistent with Diether, Lee and Werner (2007a) who find that short sellers are contrarians who "increase their trading following positive returns." However, our results do not support the role of short sale constraints in divergence of opinion models of IPO pricing as short

\footnotetext{
\({ }^{2}\) While short selling is slightly below that documented by Diether, Lee, and Werner (2007a) by the fifth trading day, the level of short selling as a percentage of volume on the first trading day is lower than that reported for a typical stock. The difference in short selling on the first trading day in an IPO, as compared to seasoned stocks, may be due to the fact that the volume on the first trading day is extremely large.
}
selling and first day returns are positively related. Thus, short sellers do not appear to correct observed underpricing. \({ }^{3}\)

We further examine the supposed difficulties in locating or borrowing shares by testing the hypothesis that short sellers are engaging in "naked" short selling activities. According to the SEC web site, "a "naked" short sale is a short sale where the seller does not borrow or arrange to borrow the securities in time to make delivery to the buyer within the standard three-day settlement period [and, as] a result, the short seller fails to deliver securities to the buyer when settlement is due (known as a "failure to deliver" or "fail to deliver")." \({ }^{4}\) Failures to deliver, in practice, are often used as a measure for the presence of "naked" short selling. \({ }^{5}\) Using a unique database, we examine whether short sales immediately following the IPO are positively correlated with failures to deliver. Such a test allows us to reconcile whether the observed level of short selling can be explained by an avoidance of significant constraints. To our knowledge, we are the first paper to examine the relationship between short selling transactions and failures to deliver in any context.

Like short selling, we find that failures to deliver are prevalent early in the aftermarket trading of IPOs. Approximately \(61 \%\) of the IPOs in our sample have failures to deliver of at least 10,000 shares on the first standard settlement day. \({ }^{6}\) In fact, almost \(1 / 3\) of IPOs have enough fails to deliver over the first five standard settlement days to qualify for the Regulation SHO

\footnotetext{
\({ }^{3}\) It could obviously be the case that the level of first day return in these offers might have been higher if fewer short sales were able to be executed.
\({ }^{4}\) http://www.sec.gov/spotlight/keyregshoissues.htm
\({ }^{5}\) The Commission has stated that fails to deliver can be indicative of abusive or manipulative naked short selling and can deprive shareholders of the benefits of ownership, such as voting and lending, See page 8 of the release proposing to amend Regulation SHO (SEC Release No. 34-54154, July 14, 2006).
\({ }^{6}\) The first settlement date refers to three days after the issue starts trading in the stock market. This is also the first day that a failure to deliver can occur.
}
threshold list on the first possible date and almost \(40 \%\) appear on the list within the first month of trading. \({ }^{7}\)

Contrary to the hypothesis that failures to deliver in IPOs are due to "naked" short selling, we find no relationship between the level of short selling and subsequent level of fails to deliver. Thus, there is no evidence that short sellers systematically engage in "naked" short selling in IPOs, and therefore no indication that too few shares are available to be borrowed in time for settlement.

We do show, however, that failures to deliver are more likely to occur in IPOs that are likely to be price supported. This suggests that failures to deliver in price supported IPOs may arise from the mechanics of the offering process. Underwriters generally allocate more shares in an IPO than are offered (e.g., Hanley, Lee and Seguin (1996) and Aggarwal (2000)). If the first day return is positive, the underwriter covers this overallocation by exercising the overallotment option. \({ }^{8}\). In the case of IPOs needing price support, the underwriter will purchase shares in the open market to cover the overallocation. \({ }^{9}\) These overallocated shares could result in fails to deliver if investors sell them before the underwriter can purchase the shares in the open market. Therefore, underwriter price support activities could result in failures to deliver in the short-term

\footnotetext{
\({ }^{7}\) When a stock has a fail to deliver level of at least 10,000 shares and \(0.5 \%\) of the shares outstanding for five consecutive settlement days, the trading venue listing the stock is required to place it on a list known as the Regulation SHO threshold list.
\({ }^{8}\) Underwriters typically have an option to purchase additional shares from the issuer following the IPO. This option is called the overallotment option or the "green shoe" option.
\({ }^{9}\) The creation of an uncovered short position by underwriters in connection with an offering is a permissible activity that facilitates an offering and is different from the delivery obligations relating to "uncovered short selling" of securities that is discussed in the Regulation SHO adopting release (SEC Release No. 34-50103, July 28, 2004 and 69 FR 48008, August 6, 2004). These are two distinctly different activities. Underwriters cover the overallocation either through the exercise of the overallotment option or through open market purchases (also known as "syndicate short covering"). Syndicate short covering, which is defined in Regulation M as "the placing of any bid or the effecting of any purchase on behalf of the sole distributor or the underwriting syndicate or group to reduce a short position created in connection with the offering," is regulated by Rule 104 of Regulation M, which governs certain aftermarket activities in connection with an offering. The Commission has proposed amendments to Rule 104 of Regulation M (see SEC Release No.33-8511, December 9, 2004).
}
and provide an indication that failures to deliver may occur for reasons other than naked short selling.

We also examine the impact of borrowing costs on the level of short selling and find that loan fees on the first settlement day, \(\mathrm{T}+3\), are increasing in the level of short selling on the initial trading day, \(\mathrm{T}+0\). This finding calls into question the interpretation of prior studies that the higher cost of borrowing for IPOs, relative to other stocks, is an impediment to short selling.

We test whether short selling is related to subsequent returns over the first trading day and the first three months after the IPO. We find no relation in the near term but short selling on the offer day shows a weak negative relation to the cumulative return over the first three months of trading. However, even before considering lending fees, short selling profits are insignificantly related to short selling and greater than zero in only \(34 \%\) of the IPOs with rebate rate data. Thus, the profitability of short selling, on average, over this three month horizon, is called into question.

We also examine whether potential market maker activity contributes to the findings above. Market makers are exempt from the locate requirement in Reg SHO and certain short sale execution rules and tend to be active participants in the early aftermarket (Krigman, Shaw and Womack (1999), Ellis, Michaely and O’Hara (2000) and Ellis (2006)). Thus, our results may be driven not by short selling, in general, but market making, in particular. Using short sales marked as "exempt" that are executed on Nasdaq in Nasdaq IPOs as a proxy for potential market making activity, we find no evidence that the activity of market makers is responsible for our findings.

Finally, our results also contribute to the recent literature on short selling in IPOs and how quickly short selling markets begin to function in securities with no previous trading history.

Both Geczy, Musto and Reed (2002) and D’Avolio (2002) find that shares of most IPOs are available for borrowing as soon as the first settlement day. We add to their findings by presenting evidence on the magnitude and timing of short selling. We interpret our results as an indication that short selling in IPOs, at least in the time period considered here, is not as constrained as the literature has suggested. Further, the timing and magnitude of short selling in the aftermarket indicates that the short sales are an integral part of the IPO process. Overall, our results imply that factors such as the lack of short sale trading profits, rather than the type of short sale constraints frequently mentioned in the literature, may be responsible for the observed high level of initial returns in IPOs. \({ }^{10}\)

The paper is organized as follows: A brief literature review is presented in Section 2, Section 3 describes the data and summary statistics, Section 4 examines the determinants of short selling, Section 5 investigates potential "naked" short selling, and Section 6 investigates the cost of borrowing shares and subsequent price movements. Section 7 presents examines the impact of potential market maker short selling. Section 8 provides a summary of the results and the conclusions.

\section*{2. Impact of Short Sale Constraints on IPO Pricing}

Although a lack of short selling due to binding constraints early in the trading of IPOs is a commonly held belief, a number of theoretical papers have formally modeled the role of such short selling constraints. These papers suggest that divergence of opinion by investors, coupled with short sale constraints, is a potential explanation of for the well-documented underpricing

\footnotetext{
\({ }^{10}\) We note that our tests are unable to determine whether all demand for short selling is fully satisfied. However, many of the papers referenced above assume that short selling is impossible during the first few trading days and our results indicate that this claim is untrue.
}
and subsequent overvaluation of IPOs (Miller (1977), Derrien (2005), and Ljungqvist, Nanda, and Singh (2006)). \({ }^{11}\) Miller (1977) argues that if underwriters price issues according to their own assessments of the "true" value of the security, then the offer price "will be below the appraisals of the most optimistic investors who actually constitute the market for the security." Derrien (2005) and Ljungqvist, Nanda and Singh (2006) extend this argument with a theoretical framework and rely on restrictions prohibiting short sales in the secondary market for IPOs. By disallowing short sales, investor optimism drives the market price of IPOs far above the true value resulting in overvaluation in the secondary market

Several papers find evidence consistent with the argument that divergence of opinion or investor optimism is related to IPO pricing. Houge, Loughran, Suchanek and Yan (2001) present evidence that measures of divergence of opinion have predictive power in explaining the poor long-run returns documented by Ritter (1991) and they contend that regulatory rules place constraints on short sales. When examining carve-out IPOs, Lamont and Thaler (2003) find evidence of mispricing between the value of the 3Com and Palm and they argue that "the demand for certain shares by irrational investors is too large relative to the ability of the market to supply these shares via short sales, creating a price that is too high." They argue that "the short sale market works sluggishly." However, they find there is substantial short interest in carve-outs in the first month after the IPO. Mitchell, Pulvino, and Stafford (2002) provide additional evidence that carve-outs are overpriced due to short sale constraints, but introduce the risk of upward price movements as a significant impediment to the profitability of short sales. Finally, Ofek and Richardson (2003) contend that short sale constraints after the IPO are

\footnotetext{
\({ }^{11}\) In this paper we will assume that divergence of opinion, investor sentiment and over-optimism generally refer to the same general phenomenon.
}
responsible for the Internet bubble. They argue that only upon lockup expiration did sufficient shares become available for shorting.

More recently a number of papers question the assumption of short sale constraints in IPOs. Dorn (2007), Ausseness, Pichler, and Stomper (2003) and Cornelli, Goldreich and Ljungqvist (2006) examine pre-IPO markets that allow short selling and still find evidence that investor divergence of opinion is correlated with underpricing in the trading of IPOs. \({ }^{12}\)

Direct evidence on the costs of short selling is presented by D'Avolio (2002) and Geczy, Musto and Reed (2002). In particular, the Geczy, Musto, and Reed (2002) results indicate that although IPOs are initially more expensive to short in the first month of trading, the overall cost of shorting is fairly small at around \(3 \%\) at issuance and this value declines to approximately \(1.5 \%\) per year. They also conclude, contrary to Ofek and Richardson (2003), that the cost of short selling around lock-ups does not appear to be an impediment. Their evidence is the first to suggest that short selling may be available earlier in the IPO process than previously thought.

The literature remains inconclusive on the presence or impact of short selling on the pricing of IPOs because the measures of short selling immediately after the IPO must be inferred by other means such as proxies for divergence of opinion, price support and rebate rates. Further, data on short interest is often not available close to the IPO offer date and such data cannot shed light on how quickly short sellers enter the market. Thus, it is only recently that we are able to ascertain whether short sale constraints are a plausible explanation for underpricing and comment on theories regarding the pricing of IPOs that rely on short selling constraints.

\footnotetext{
\({ }^{12}\) Grey market trading involves some sort of short position (usually by an institution) that is sold to investors (usually retail). Short sales are covered by allocations in the IPO.
}

\section*{3. Data and Summary Statistics}

\section*{a. IPO Sample}

The sample of IPOs and their offering characteristics is from Securities Data Corp. (SDC) from January 1, 2005 through December 31, 2006. The sample period, beginning January 2005, is chosen because it begins after the implementation of Regulation SHO and is associated with the public release of the Regulation SHO Pilot data which contains short selling transaction information. In order for an IPO to be included in the final sample, we require that the IPO have prices on CRSP, preliminary offer prices in SDC and no prior trading history. \({ }^{13}\) After excluding closed-end funds, the final number of IPOs in the sample is \(388 .{ }^{14}\)

Table 1, Panel A presents initial statistics on the IPO sample. On average, the mean offer amount is \(\$ 188\) million. The sample has a negative change in offer price of \(-4.18 \%\) indicating a relatively conservative IPO market. The change in offer price is defined as the percent difference between the offer price and the mid-point of the original preliminary offer price filing range noted in SDC (Hanley (1993)). Approximately 39\% of IPOs have offer prices above the midpoint of the preliminary offer price range and \(48 \%\) have offer prices below the midpoint.

Panel B of Table 1 presents summary statistics on the first day return and trading volume. Like Aggarwal and Conroy (2000), most of the first day return occurs at the open. The mean first day return is \(9.07 \%\) and the time period covered by this study is characterized by somewhat lower levels of average first day returns than other studies on short sale constraints which focus

\footnotetext{
\({ }^{13}\) CRSP®, Center for Research in Security Prices. Graduate School of Business, The University of Chicago. Used with permission. All rights reserved. crsp.chicago.edu
\({ }^{14}\) We did remove one IPO with an excessively high level of both short selling and failures to deliver, because it appears to be an outlier. This IPO had twice the level of short selling and fails to deliver as the next highest IPO. The inclusion of this one outlier affects the results.
}
on periods during the tech bubble. Trading volume on the offer date is over \(50 \%\) of the shares offered (similar to that found in Ellis, Michaely, and O’Hara (2000) and Corwin, Harris, and Lipson (2004)) which is much greater than the average trading volume on a given day for an individual stock.

\section*{b. Short Selling}

To examine whether short selling is present in the immediate aftermarket of trading in IPOs, we collect information on transactions involving short sales for the first month of trading from the Regulation SHO pilot data. The data is compiled from the following exchanges and SROs: Amex, Arca Exchange, Boston Stock Exchange, Chicago Stock Exchange, NASD, Nasdaq, National Stock Exchange, NYSE and Philadelphia Stock Exchange. The data includes ticker, time and date of trade, quantity and price but does not include trader identity. Individual short sale transactions are then aggregated into daily short sales for each IPO. \({ }^{15}\)

All but two IPOs in our sample have short sales on the offer day. As shown in Table 1, Panel C, short sales comprise \(12 \%\) of the trading volume and over \(7 \%\) of the shares offered. \({ }^{16}\) Figure 1 presents the distribution across IPOs of short selling on the offer day as a percent of the shares offered. While the majority of IPOs have short selling between 0 and \(10 \%\) of shares offered, a quarter of the IPOs in the sample have short selling in excess of \(10 \%\) with a maximum of over

\footnotetext{
\({ }^{15}\) The short selling data used in this paper does not include any overallocation or overallotment of shares by the underwriter (or syndicate members) in connection with an offering. Only market short sale transactions are included in the data.
\({ }^{16}\) There is no adjustment to volume between NYSE and Nasdaq IPOs.
}
\(34 \%\). These findings clearly indicate that short selling is both non-trivial and an integral part of the IPO price process on the first trading day. \({ }^{17}\)

Figure 2 shows the time distribution of short sales on the offer day by trading market. Thirty six percent of the IPOs in the sample trade on the NYSE or Amex while \(64 \%\) trade on the Nasdaq. Because IPO trading does not always open at 9:30, as noted by Aggarwal and Conroy (2000), we measure the volume in fifteen minute increments from the time that trading actually opens and through the first four hours.

In all markets, the largest amount of short selling occurs close to the open. On average, 42\% of short sale volume in NYSE/Amex IPOs occurs in the first fifteen minutes of actual trading and this percentage is the maximum for the day. Likewise, almost \(40 \%\) of Nasdaq short sale volume occurs in the first fifteen minutes. This pattern is similar to the intraday pattern for all trading volume, with the Nasdaq trading volume in the first fifteen minutes accounting for almost \(50 \%\) of daily volume and NYSE/Amex volume accounting for 43\%. Our findings on volume are consistent with Krigman, Shaw and Womack (1999) who document that over \(50 \%\) of the first trading day volume in IPOs occurs in the first hour of trading. Overall, these results suggest that short selling is an integral part of the price formation process at the opening of trade despite the supposed impediments to short selling.

Figure 3 presents short selling as a percent of shares offered, trading volume and daily returns over the first month of trading. As can be seen in the graph, the initial trading day has the highest proportion of return, volume, and short sales. Short selling occurs over the first month of

\footnotetext{
\({ }^{17}\) Note that some of this short selling may be investors who are allocated IPO shares that are "shorting against the box" to circumvent restrictions on flipping such as penalty bids. However, this strategy is indistinguishable from other short sales in its execution. Although the investor may be long the shares of the IPO because of their allocation, she must still borrow the shares for delivery and thus, faces the same constraint on availability and cost of borrowing shares as any other short seller. If the investor were to use allocated shares for delivery on \(\mathrm{T}+3\), this would constitute a long sale.
}
trading although the levels are quite small in relation to the first few trading days. The volume of trading and daily returns exhibit similar time-series properties with a rapid decline after the IPO and a leveling off for the remainder of the first trading month.

Figure 4 presents the time-series pattern of short selling as a percent of volume over the first month of trading, by exchange. Recent studies that also use the Regulation SHO pilot data such as Diether, Lee, and Werner (2007a), find that short sales constitute approximately \(24 \%\) of the daily trading volume in NYSE-listed stocks and 31\% of volume in Nasdaq-listed stocks. As shown in Figure 4, the level of short selling quickly levels off by the fifth or sixth trading day. \({ }^{18}\) Although the magnitude of short sales as a percent of volume remains lower for NYSE IPOs (15\%) and Nasdaq IPOs (25\%), than that documented by Diether, Lee and Werner (2007a), it appears from Figure 4 that short selling as a percent of volume begins to approach average levels very quickly.

\section*{4. Determinants of Short Selling}

The findings of the previous section indicate that short selling is prevalent early in the trading process. Thus, it appears as if perceived short sale constraints may not be as binding as previously thought. To better understand the implications of this for theories of IPO pricing, this section examines the types of IPOs that are likely to be attractive to short sellers. Miller (1977) argues that "the prices of new issues... are set not by the appraisal of the typical investor, but by the small minority who think highly enough of the investment merits of the new issue to include it in their portfolio. The divergence of opinion about a new issue [is] greatest when the stock is

\footnotetext{
\({ }^{18}\) While Diether, Lee and Werner (2007a) find a much higher level of short sales relative to volume than the average short sale on the first trading day reported in our study, the amount of trading volume on the offer day for IPOs is substantially larger than the average daily trading volume for an individual stock making an exact comparison difficult.
}
issued." Those with pessimistic appraisals will prefer to short the stock. Therefore, it is an open question as to whether short sale constraints affect the ability to short sell in offers with greater divergence of opinion, as proxied by greater changes in the offer price and higher first day returns. \({ }^{19}\)

Table 2 presents univariate statistics on the level of short selling by classifying the sample of IPOs into quartiles based upon the first day return. IPOs in the two lowest quartiles have low first day returns. We suggest that IPOs in the highest two quartiles, those with significantly positive first day returns, are more likely to be associated with offers that have a higher potential for divergence of opinion. \({ }^{20}\)

Consistent with the divergence of opinion hypothesis, the greatest amount of short selling as a percent of shares offered is in IPOs in the highest two quartiles. IPOs in the highest two quartiles have significantly greater average short selling relative to shares offered both on the offer day and over the first month of trading as compared to the lowest two quartiles. (Indeed, there are no significant differences in the level of short selling between the two lowest quartiles.) This table indicates a dichotomy in the amount of short selling with the level of short selling increasing in positive first day returns but relatively constant in low or negative first day returns.

We further analyze the determinants of short selling using a regression analysis with short selling on the offer day as a percent of shares offered as the dependent variable. Independent variables that proxy for divergence of opinion include the first day return at the open measured from the offer price to the opening price (First Day Return from Offer Price to Open), the change

\footnotetext{
\({ }^{19}\) Note that this hypothesis is based on one component of the Miller (1977) theory and we do not directly test theories of investor sentiment or divergence of opinion. These theories are used only as examples of the perceptions regarding the role of short selling and thus, our results can only speak to the role of binding short sale constraints but not on the role of investor sentiment in IPO pricing.
\({ }^{20}\) We consider only ex ante measures of divergence of opinion or uncertainty. For an examination of ex post measures, see Falconieri, Murphy and Weaver (2009).
}
in offer price as measured as the percentage difference of the offer price from the midpoint of the preliminary offer price range (Change in Offer Price), and the first day trading volume as a percent of shares offered (Volume \({ }_{T+\alpha} /\) Shares Offered). \({ }^{21}\)

Prior research in IPOs has found that trading volume and first day return are related and significantly correlated (see Aggarwal (2002) and Krigman, Shaw and Womack (1999)).

Although not presented, we also find a high degree of correlation between short selling as a percent of shares offered, trading volume as a percent of shares offered and first day return. The change in offer price is not as highly correlated with the other variables but is still significantly so. Therefore, caution must be used when including all of these variables in a regression analysis as they may capture the same economic effect. In order to limit the effect of multi-collinearity, each of these variables is included individually in the regressions.

Price support may also be related to the amount of short selling as it is only economically viable for underwriters to engage in such activities if they can constrain both short and long sales. \({ }^{22}\) Under this scenario, if underwriters are successful in limiting the amount of selling that occurs immediately in the aftermarket, short selling should be negatively related to price support. Alternatively, in the absence of constraints, it is possible that price supported IPOs may attract short sellers because, as Ellis (2006) suggests "demand for shorting is likely to be higher in stabilized IPOs as well as IPOs with high first day returns, as investors are more likely to believe these prices are inflated." Thus, the predicted relation between price support and short selling is ambiguous.

In order to determine if price support may affect the level of short selling, we define an IPO to be price supported (Price Supported IPO) using a dummy variable equal to 1 if: a) the first

\footnotetext{
\({ }^{21}\) Our results are robust to removing short sales at the open from the total number of short sales..
\({ }^{22}\) See Hanley, Lee and Seguin (1996) for a discussion on the economics of price stabilization.
}
day return is equal to zero or b) the IPO is in the bottom quartile of the percent of the overallotment option exercised (as collected from Bloomberg) or c) in the top quartile for the percent of trades, using TAQ, executed at the offer price on the first trading day. We use a combination of the three measures because a number of IPOs may have price support even if the first day return is not zero. \({ }^{23}\) Aggarwal (2000), Ellis, Michaely, and O’Hara (2000), and Lewellen (2006) find that underwriters exercise less of the overallotment option when they engage in price support activities in the market. In addition, we expect that IPOs that have no change in price on the offer day or more trades at the offer price, regardless of the first day return, are more likely to have underwriter price support.

We also include two variables that control for less onerous short sale constraints. First, the percentage float (Float) has been used in previous literature as a measure of borrowing constraints (Ofek and Richardson (2003) and Cook, Kieschnick, and VanNess (2006)). As the percentage float decreases, the amount of lendable shares may decline and increase the cost of borrowing. Thus, the smaller is the public float, as measured by the ratio of shares offered to shares outstanding from CRSP, the greater are the supposed short sale constraints. The percentage float is the ratio of shares offered to shares outstanding from CRSP and averages \(47 \%\) in our sample.

Second, regulatory constraints such as the Uptick Rule and Nasdaq Bid Test Rule (Ability to Execute \(_{T+0}\) ) could also affect the level of short selling by restricting the ability to trade on the offer day. \({ }^{24}\) For the Nasdaq Bid Test, we measure the percentage of the trading day when the

\footnotetext{
\({ }^{23}\) While each of these measures are correlated, they are not perfect substitutes. Our results are robust to using alternate definitions such as IPOs who did not fully exercise the overallotment option.
\({ }^{24}\) See "Economic analysis of the short sale price restrictions under the Regulation SHO Pilot," by the Office of Economic Analysis for more information. The pilot report is available at http://www.sec.gov/news/studies/2007/regshopilot020607.pdf.
}
rule allows short sales to execute against the bid price. For the Uptick Rule, we add the percentage of trades on upticks during periods when the rule does not allow short sales to execute against the bid price.

The rationale for treating execution constraints in this manner is as follows: If a short sale can execute against the bid price, then it can be executed without delay and this occurs much more often for the Bid Test than for the Uptick Rule. Note, however, that a short sale can still execute even if it cannot execute against the bid. Instead, the short sale must wait for a buy order willing to pay a price at which the short sale can execute. For the Uptick Rule, this is any price greater than the previous one. Therefore, the adjustment in the calculation for the Uptick Rule helps capture the ease of short selling.

Finally, we include a dummy variable equal to one for IPOs listed on the Nasdaq (Nasdaq) to control for differences in market structure. Indeed, several recent studies note a difference between the level of short selling in the NYSE- or Amex-listed IPOs and in Nasdaq-listed IPOs (Alexander and Peterson (2006), Diether, Lee, and Werner (2007a), Diether, Lee, and Werner (2007b), and the Pilot Report by the Office of Economic Analysis of the U.S. Securities and Exchange Commission) that may be due to market structure, regulation, or selection bias. \({ }^{25}\)

The results of the various regression models in Table 3 show that short selling is related to proxies for divergence of opinion. Both the first day return at the open and the change in offer price are positively and significantly related to short sales indicating that short selling is more

\footnotetext{
\({ }^{25}\) While the sample IPOs are listed on NYSE, Amex, and Nasdaq, they trade on many different exchanges and trading platforms. The dummy variable refers to the listing exchange, which matters for market structure during the sample period.
}
prevalent in IPOs that are expected to experience significant price increases rather than price declines. \({ }^{26}\)

Trading volume as a percent of shares offered is also positively and significantly related to the short sales as a percent of shares offered. If volume is measuring the degree of the divergence of opinion, this result provides additional support for that hypothesis. However, greater trading volume could also signal that it is easier for short sellers to locate shares for lending. Note that the greater the amount of short selling, the higher may be the trading volume. However, adjusting volume for the level of short selling or using raw volume and raw short sales has no effect on the regression results.

Short sales are either unrelated to or significantly lower in price supported IPOs. \({ }^{27}\) Although our findings are consistent with underwriters constraining short sales, possibly through the supply of lendable shares in order to provide price support, the literature has also provided mixed results on the potential profitability of shorting price supported IPOs (e.g. Aggarwal (2000), and Lewellen (2006)). Thus, we cannot determine whether short sellers are either unable (because of potential underwriter constraints on supply) or unwilling (due to profitability) to short price supported IPOs.

The coefficients on the variables that capture other potential constraints on short selling, i.e. the percentage float and the ability to execute short sales, are also generally insignificant. The

\footnotetext{
\({ }^{26}\) This result is robust to a number of alternative specifications. Including other IPO characteristics in the regression such as issuer age, venture capital backing, proceeds, and secondary shares does not alter the results and none of the coefficients on these variables are significant. Winsorizing the data to the \(99^{\text {th }}\) and \(95^{\text {th }}\) percentile or taking logs of (1+variable) does not affect the results. Including change in offer price, first day return and volume in the same regression results in only volume being significant.
\({ }^{27}\) We also examined whether short selling in price supported IPOs increases toward the typical end of the price support period (around 10 days after the IPO date). In order to do so, we examine the level of short selling over the first month of trading by whether or not the IPO was price supported (not shown). On each day, the level of short selling in price supported IPOs is lower than in other IPOs and this difference is statistically significant for all but a few days. At no time during the first 27 trading days did we observe an increase in the level of short selling of price supported IPOs.
}
negative and occasionally significant coefficient on percentage float is counter to the use of this variable as a measure of short sale constraints. The result on the ability to execute short sales suggests that price test restrictions are not a significant deterrent to short selling.

Consistent with recent literature (Alexander and Peterson (2006), Diether, Lee, and Werner (2007a), and Diether, Lee, and Werner (2007b)), the coefficient on the Nasdaq dummy is highly significant and positive. This finding indicates that IPOs on non-specialist markets have higher short selling than IPOs on specialist markets. It is not clear, however, whether this is related to the structure and regulation of the market or the types of companies that choose to go public on the NYSE/Amex or Nasdaq (Corwin and Harris (2001)).

Collectively, our findings suggest that IPOs that are more underpriced have greater short selling than other IPOs. Although Miller (1977) and others argue that informed investors may be precluded from taking advantage of divergence of opinion because of short sale constraints, our results indicate that at least some investors are able to engage in short selling.

\section*{5. Are Short Sellers in IPOs Engaged In Naked Short Selling?}

The observed high level of short selling, coupled with the presumed difficulty in borrowing shares and the potentially high cost of lending (Ljungqvist, Nanda and Singh (2006)), begs the question of whether short sellers avoid those constraints by engaging in naked short selling. According to the SEC web site, "a "naked" short sale is a short sale where the seller does not borrow or arrange to borrow the securities in time to make delivery to the buyer within the standard three-day settlement period [and, as] a result, the short seller fails to deliver securities to
the buyer when settlement is due (known as a "failure to deliver" or "fail to deliver")."28 Thus,
failures to deliver are often used as a measure for "naked" short selling. \({ }^{29}\)
In this section, we attempt to distinguish whether short sellers are avoiding borrowing constraints by analyzing whether IPOs with large short selling have subsequent failures to deliver. To our knowledge, ours is the first analysis of the relationship between short selling and failures to deliver in any context. \({ }^{30}\) Failures to deliver are examined both on the daily aggregate level and by whether the IPO has persistent delivery failures. We use data on failures to deliver sent to the SEC from the National Securities Clearing Corporation’s (NSCC) Continuous Net Settlement (CNS). The NSCC reports the level of failures to deliver to the SEC and several

\footnotetext{
\({ }^{28}\) Regulation SHO or Reg SHO, for short, was adopted in 2004 and provides regulations, among others, that govern locating shares prior to a short sale as well as the delivery of shares. Under Rule 203 of Regulation SHO, the broker facilitating a short sale must "locate" the stock prior to the trade. "Locate" refers to the requirement under Regulation SHO that a broker-dealer have reasonable grounds to believe that the security can be borrowed for delivery on the \(\mathrm{T}+3\) settlement date. Note that the locate requirement is not the same as actually borrowing the security. The broker may locate these shares in its own inventory, from a prime broker, or large institutional investors through a custodial bank. The broker-dealer can rely on "easy to borrow" lists for a locate if they satisfy the "reasonable grounds" standards of Regulation SHO Rule 203. Brokers may satisfy the reasonable grounds requirement if they rely on easy to borrow lists so long as those lists are less than 24 hours old, and the securities on the list are readily available such that it would be unlikely that a failure to deliver would occur. These standards are described in Section V.A. of release number 34-50103. See http://www.sec.gov/spotlight/keyregshoissues.htm for more information.
\({ }^{29}\) See, for example, Angel (2006) and plus press articles such as "Games Short Sellers Play," by Bob Drummond, Bloomberg Markets, September 2006, and "Failed Trades" by Liz Moyer, Forbes, August 18, 2006. The media has referred to the Regulation SHO threshold list as the "naked short selling" list.
\({ }^{30}\) There is no empirical evidence that failures to deliver affect prices despite the potential for buying pressure when the failures are closed-out under Regulation SHO and concerns about the impact naked short selling (see e.g., Boulton and Braga-Alves (2009), Fotak, Raman, and Yadav (2009), and Gjerde (2009)). In addition to potential naked short selling, failures to deliver may also occur on long sales and possibly around other corporate actions such as follow-on offers and proxy voting. However, these events are not likely to occur within three months after the IPO and thus, will most likely have little impact on our findings. Further, any potential counterparty risk from failures to deliver are managed by a central clearing agency such that the incremental risk and economic consequence from failures to deliver should be minimal. As of this writing, the Commission has imposed temporary rules that require delivery of "securities by settlement date, or if the participants have not delivered shares by settlement date, immediately purchase or borrow securities to close out the fail to deliver position by no later than the beginning of regular trading hours on the settlement day following the day the participant incurred the fail to deliver position" ( http://www.sec.gov/rules/final/2008/34-58773.pdf). For further discussion on some of the economics and mechanics of failures to deliver see Evans, Geczy, Musto, and Reed (2006) and Boni (2006).
}

SROs daily for stocks that have aggregate failures of at least 10,000 shares. The data contains the balance of fails to deliver as of a given day. \({ }^{31}\)

\section*{a. Level of Failures to Deliver}

Figure 5 presents daily fails to deliver as a percent of the shares offered in addition to daily short selling. Fails to deliver are shown on the graph three days earlier ( \(\mathrm{N}-3\) ) than short sales to account for the standard settlement process. Note that fails to deliver, unlike short sales, represent a balance outstanding rather than new transactions. Consistent with the pattern of short sales, the initial settlement day has the highest proportion of fails to deliver with a decline over time. While some fails to deliver are resolved after the first settlement date, many appear to persist beyond the first few days.

Table 4 presents statistics on aggregate fails to deliver in excess of 10,000 shares on the first settlement day \((T+3)\). If an IPO is not in the data on the first settlement day, the number of fails to deliver is set to zero although technically the IPO may not be in the data because the level of fails is less than 10,000 shares. The average fails to deliver, relative to shares offered, is \(4.23 \%\) which is lower than the average level of short sales documented in Table 1. Compared to short sales, fails to deliver, on average, are over 10 times greater. This average, however, may be misleading because of skewness in the ratio due to some IPOs with small short sales but large fails. However, it is interesting to note that some IPOs have fails on T+3 that far exceed their short selling. (The two IPOs without short sales are not included.) We find that the median fails to deliver to short sales on the first trading day is approximately \(30 \%\).

\footnotetext{
\({ }^{31}\) Note that the CNS data is a net failure to deliver. Therefore, the balance is not related to any individual transaction but to the net position of the clearing member. Our data is not as comprehensive as the data studied by Boni (2006) as it does not also include failures to receive, but our data does contain a much longer time series. Some data on aggregated failures to deliver are available at http://www.sec.gov/foia/docs/failsdata.htm.
}

In Table 4, we further split the sample of IPOs with failures to deliver between those that have fails on the first settlement day (Panel B) and those that have fails anytime between T+4 and T+24 (Panel C). The vast majority of IPOs in our sample have fails to deliver sometime during the first 21 trading days. Two hundred and thirty-seven IPOs ( \(61 \%\) of the sample) have fails to deliver on \(T+3\), 134 IPOs have fails to deliver between \(T+4\) and \(T+24\), and 17 IPOs either have no fails to deliver or fails to deliver below 10,000 during the entire first month of trading. The percentage of IPOs in our sample that have a failure to deliver in excess of 10,000 shares at any time during the first month of trading (96\%) is larger than that documented by Fotak, Raman and Yadav (2009) who find that \(91 \%\) of NYSE and \(71 \%\) of Nasdaq stocks have at least one failure to deliver in excess of 10,000 shares over their six-month sample period.

There is a difference between the two samples with IPOs with fails to deliver on the first settlement day having a slightly lower mean first day return and a higher average fails to deliver as a percent of either the shares offered or short sales. When fails to deliver do not occur on \(\mathrm{T}+3\), most IPOs have fails not long after \(\mathrm{T}+3\) as the sample has a median first fail date of \(\mathrm{T}+5\).

\section*{b. Determinants of Failures to Deliver}

In this section, we further examine the relation between short selling and both transitory and persistent fails to deliver. We define an IPO as having persistent fails to deliver if the IPO is on the Regulation SHO threshold list on the first possible date ( \(\mathrm{T}+7\) ).

When a stock has a fail to deliver level of at least 10,000 shares and \(0.5 \%\) of the shares outstanding for five consecutive settlement days, the trading venue listing the stock is required to
place it on a list known as the Regulation SHO threshold list. \({ }^{32}\) The earliest an IPO can be on the list is eight days after the issue date ( \(\mathrm{T}+7\) ) in order to allow three days for the first settlement and five days of high fails to deliver. Threshold list information is collected from daily Regulation SHO lists on the NYSE, Amex, and Nasdaq.

In Panel A, of Table 5, we regress the level of fails to deliver on \(T+3\) on short sales on the offer day using a tobit specification to accommodate the large number of IPOs with zero fails to deliver. We include the same independent variables as in the previous short selling regressions. We hypothesize that if short selling, at the time of the IPO, is due to the failure to locate the shares or naked short selling, regressing failures to deliver on the same variables as in the short selling regressions in Table 3 should result in similar relationships.

Our results indicate that the factors that influence short selling are not related to fails to deliver as the coefficient on the level of shorts sales is insignificant in each regression. This finding suggests that fails to deliver on the first settlement date ( \(\mathrm{T}+3\) ) are not related to short sales on the offer date \((\mathrm{T}+0)\). Further, the coefficients on the first day return, change in offer price, and volume are also insignificant. \({ }^{33}\)

In Panel B of Table 5, we test whether persistent or long-lived fails to deliver are related to the level of short selling by conducting a probit analysis using a dummy variable for whether the

\footnotetext{
\({ }^{32}\) Once a stock is placed on the threshold list, Regulation SHO includes additional delivery requirements. For more information on Regulation SHO and the requirements described in this section, see the rules (17 CFR 242.203) and adopting release for Regulation SHO (SEC Release No. 34-50103, July 28, 2004).
\({ }^{33}\) An alternative explanation for fails to deliver in IPOs is the possibility that some investors, for whom brokers are unable to locate shares or who would otherwise be unable to short sell because of regulatory restrictions, cause their brokers to mark the short trades as long. There is evidence that such marking of long sales as short have occurred in follow-on equity offers. (See "SEC and NYSE settle enforcement actions against Goldman Sachs unit for its role in customers' illegal trading scheme" Release 2007-41). However, absent actual evidence of such conduct, our data cannot confirm this explanation. It is a violation of Regulation SHO Rules 200 and 203 (17 CFR 242.200 and 242.203) for a broker to mark a short sale as a long sale, or to lend securities for delivery on a long sale or fail to deliver on a long sale unless the broker had been reasonably informed by the seller that it owns the securities and could deliver them in time for settlement.
}

IPO is on the threshold list on T+7. There are 113 IPOs (almost \(30 \%\) of the sample) on the threshold list on the first possible date ( \(\mathrm{T}+7\) ) which indicates that many IPOs have persistent fails to deliver. This seems particularly high when considering that only about \(2 \%\) of NYSE, Amex, and Nasdaq stocks qualified for the threshold list per day in May 2006. \({ }^{34}\) An additional 42 IPOs are on the threshold list sometime during the first 30 trading days. Although not shown, when an IPO is on the threshold list on day \(\mathrm{T}+7\), it remains on the threshold list for a median of 12 settlement days. In general, the results in Panel B are consistent with the results in Panel A in which we find no evidence that the first trading day level of short sales is related to persistent failures to deliver. \({ }^{35}\)

The most striking result of Panels A and B is that price supported IPOs are significantly more likely to have high levels of fails to deliver and to be on the threshold list. We explore how this may occur in the next section. Overall, these findings suggest that fails to deliver in IPOs are not due to short selling, in general, or naked short selling, in particular.

\section*{c. Could Failures to Deliver Be Due to Underwriter Price Support?}

The results in Table 5 indicate that IPOs that may have underwriter price support are more likely to have failures to deliver. In this section, we give a possible explanation of how the mechanics of underwriter price support may result in failures to deliver.

Underwriters typically oversell the number of shares in the IPO (Aggarwal (2000) and Jenkinson and Jones (2007)) and must cover this overallocation either with the exercise of the overallotment option or by purchases in the open market. Generally, the underwriter will cover its shares in the open market when the market trading price is near or less than the offer price in

\footnotetext{
\({ }^{34}\) See "Fails to Deliver Pre- and Post-Regulation SHO,": http://www.sec.gov/spotlight/failstodeliver082106.pdf.
\({ }^{35}\) Using cumulative short sales over the first 5 days of trading does not alter the results.
}
order to provide price support. Aggarwal (2000) finds that underwriter purchases in the open market, in order to cover its overallocation, occur for 10 to 15 days after the IPO. In addition, she finds that underwriters may oversell the issue by more than the \(15 \%\) overallotment option which would necessitate the purchase of shares in the open market. Therefore, any shares that are overallocated in the offer but not covered either through the immediate exercise of the overallotment option or underwriter market purchases on \(\mathrm{T}+0\) cannot settle on \(\mathrm{T}+3 .{ }^{36}\) (For the purposes of this discussion, we will term the shares oversold and allocated by the underwriter but not yet delivered as "uncovered" until the underwriter transfers shares to the investor either through the exercise of the overallotment option or by buying in the open market.)

There may be investors, however, who are unaware that they were allocated uncovered shares and who may wish to sell. The sale of these uncovered shares will then result in a fail to deliver until such time as the underwriter either purchases the shares in the open market or exercises the overallotment option and subsequently transfers the shares to the investor (technically, the broker's clearing member).

Table 5 also documents that an IPO has higher fails to deliver on day \(T+3\) if it is traded on the NYSE or Amex. This finding may also be related to price support in that underwriters on a specialist market may find it more difficult to provide price support through open market purchases. Ellis, Michaely, and O'Hara (2000) documents that the lead underwriter is always a market maker for Nasdaq listed IPOs. In contrast, for NYSE/Amex IPOs, it is unlikely that the specialist and the underwriter will be affiliated (Corwin, Harris and Lipson (2004)). The underwriters' ability to act as market makers improves their ability to directly cover their

\footnotetext{
\({ }^{36} \mathrm{~T}+3\) is almost always the closing day for the IPO and we find that if the overallotment option is to be exercised, it is often exercised upon closing of the IPO. Our data cannot directly measure the number of overallocated shares that do not settle.
}
overallocated position. In the case of a specialist market, frictions may exist which preclude underwriters directly purchasing shares in the open market to cover the overallocation which may result in more fails to deliver in specialist markets.

\section*{6. The Cost of Borrowing and Return Predictability}

In this section, we further analyze the nature of short selling constraints by examining whether borrowing costs, which we measure as direct stock loan fees, are a detriment to short selling. For example, Ljungqvist, Nanda and Singh (2006) suggest that short selling is constrained by the high cost of borrowing by interpreting the findings of Geczy, Musto, and Reed (2002) as an indication "that borrowing IPO stock in the early after-market is extremely (italics added) expensive in general, the more so, the higher was the initial day return." In addition, we test whether short selling is related to subsequent price movements over the first three months of trading.

We obtain information on stock loan fees, over the first month of trading, from a dataset of rebate rates provided by an anonymous data source. A total of 259 out of 388 IPOs (67\%) have rebate rate data available. Note that we are unable to determine whether a missing value in the data may be due to the absence of rebate rates for all security lenders or only for our source, in particular.

We first conduct a probit analysis to determine whether a bias may exist in the type of stocks covered by our data. As shown in Panel A of Table 6, the differences between the IPOs that are covered by our data source and those that are not appear to be related to the level of short selling and the trading market. We are more likely to observe rebate rates for IPOs that have high short selling and are traded on the NYSE or Amex.

Panel B of Table 6 presents the determinants of the cost of borrowing. For the IPOs for which data is available, the daily loan fee is calculated as the annualized federal funds rate minus the rebate rate. We then calculate the weighted average loan fee over the first month of trading ( \(\mathrm{T}+3\) to \(\mathrm{T}+24\) ) using the number of shares in our vendor's data. The average level of the loan fee in our sample is just slightly lower than Geczy, Musto and Reed (2002) most likely due to the weighted averaging of the loan fees over the first trading month. The fact that our rebate rates are within the range documented in Geczy, Musto and Reed (2002) is surprising given that our sample exhibits much lower first day returns than their sample, which is within the bubble period.

If the expected cost of borrowing deters short sellers from entering the market on \(\mathrm{T}+0\), then the relationship between the level of short selling on the offer day and loan fees should be negative. On the contrary, we find that higher loan fees are related to higher, not lower, levels of short selling and our results provide additional insight into the Geczy, Musto, and Reed (2002) finding that loan fees are greatest for IPOs with high first day returns. We show that the high level of short selling on the first trading day is a good predictor of the level of loan fees and interpret these results as an indication that loan fees appear not to be an impediment to short selling in IPOs but are likely determined, in part, by the level of short selling.

Although Geczy, Musto and Reed (2002) document a significant relation between loan fees and IPOs that have zero or negative returns, we find only weak evidence that potential price support is related to the loan fee. For the sample of IPOs studied here, the lack of consistent relation between loan fees and price support is consistent with the insignificant relation between price support and short selling. Interestingly, we find a significant relation between failures to deliver and loan fees even though the level of failures to deliver and short selling are unrelated.

To further examine the cost of borrowing and subsequent returns, Table 7 presents univariate statistics for IPOs without rebate rates in our data, for the full sample of IPOs with rebate rates and by quartiles of the subsequent three month return (adjusted for the return on the Nasdaq index). There is a U-shaped relation between subsequent returns and the cost of borrowing. Both the lowest and highest quartiles of three month adjusted returns have the highest loan fees and they are statistically different from Quartiles 2 and 3 but not different from each other.

Short sales on the offer day are highest (and significantly different from the first and third quartiles) in the quartile with the lowest three month return while cumulative short sales are fairly constant over the quartiles. This provides evidence that short sales on the first trading day appear may be informed as IPOs with the lowest subsequent returns have slightly more short selling. Failures to deliver are also relatively constant in the level of the three month Nasdaqadjusted return. However, we find that failures to deliver are not indicative of future returns and short sales after the first day are not correlated with their contemporaneous return.

We define the potential profits of short sales as the buy-and-hold Nasdaq Composite index adjusted return over the first three months of trading excluding the first day return plus the loan fee (measured over the first month of trading and multiplied by three). \({ }^{37}\) A comparison of monthly loan fees and subsequent price movements over the first and third months indicates that loan fees are relatively small in comparison to returns. Even taking the cost of borrowing into account, there is little difference between the three month adjusted return and the three month profit indicating that loan fees appear not to be a significant factor. More importantly is the near split between positive and negative returns over the first three months of trading.

\footnotetext{
\({ }^{37}\) We do not have rebates rates over the entire three month period so for the current tests we use the weighted average loan fee only over the first month of trading and multiply the monthly loan rate by 3 as an estimate of the three month loan rate. Since the cost of borrowing is likely to be highest in the first month of trading, we believe this is a conservative estimate of the cost of borrowing.
}

In focusing on the potential short selling profits, the results indicate that those who sold short the IPOs in the lowest two quartiles profited from the short selling. However, the average potential short selling profits are negative even before adjusting for lending fees, revealing several interesting implications. First, short sellers are not so informed that they can profit without risk. Once lending fees are considered, only \(34 \%\) of the IPOs with rebate rate data have profits greater than zero (not shown). Second, as in Mitchell, Pulvino, and Stafford (2002), the risk of upward price movements may be a bigger deterrent to additional short selling in IPOs than other short selling constraints.

Table 8 provides further evidence on the return predictability of short selling over the first month and the first three months of trading. Prior studies on short selling, for example, Diether, Lee and Werner (2007a) and Boehmer, Jones, and Zhang (2008), find that the level of short sales is negatively related to subsequent returns. As our dependent variable, we calculate buy-andhold returns adjusted for the Nasdaq Composite Index over three different time periods: the offer day intraday return from the open to the close, the one month return from the close of the offer day to the end of the first month and the return over the first three months of trading. We adjust standard errors for clustering by month of the IPO.

In Panel A, we find no evidence that the level of short selling is related to the intraday return on the offer day. Although short sellers are attracted to IPOs that open at a high return, the level of short selling is not related to changes in the price after trading begins. The only independent variable that is related to intraday returns is the price support dummy variable, which is negative as expected.

Panels B, C and D examine the effect of the level of short sales over a longer time horizon. The level of short selling, whether on the offer day or cumulatively over the first month of trading, has no relation to returns over a one month or three month time period. \({ }^{38}\)

Finally, in Panel D, we examine whether short selling is profitable only for the sample of IPOs that have rebate rate data. After the cost of borrowing is taken into account and controlling for only IPOs that have lending activity in our data, the level of short selling, on the first trading day is still unrelated to subsequent returns. \({ }^{39}\) Thus, we conclude that short sellers are unlikely candidates to substantially mitigate any overvaluation.

\section*{7. Potential Effects of Market Maker Activity}

A natural question arises as to whether the results, thus far, are due to market making activity rather than the short selling of others. A number of papers have shown the importance of market making activity in the aftermarket trading of IPOs, particularly on the Nasdaq (Krigman, Shaw and Womack (1999), Ellis, Michaely and O’Hara (2000) and Ellis (2006)). Further, market makers are expected to short when prices are rising and can do so even when other short sellers are constrained as they are exempt from the locate requirement in Reg SHO and some execution rules on short sales. Although the short selling transaction data does not indicate the identity of the trader or whether or not the short sale was done by a market maker, the data does contain an indicator if the short sale is "exempt".

\footnotetext{
\({ }^{38}\) The three month return and profitability are significantly and negatively related to the level of short selling on the first trading day if clustering is not used.
\({ }^{39}\) A preliminary test of whether a long/short portfolio of shorting IPOs with high short selling and going long IPOs with low short selling using quintiles in each offer month generates zero three month abnormal returns (Diether, Lee and Werner (2007a)). Given the small sample size and short time series this test is admittedly crude but is consistent with the low level of profitability documented by our other tests.
}

During our sample period, Regulation SHO required a broker to mark an order as "short sale exempt" if it is not subject to a short selling price restriction such as the Uptick Rule or the Bid Test. The rules on which short sales are "exempt" depend on both the exchange listing the stock and the location of the trade. For trades on Nasdaq in Nasdaq stocks, some (although not all) of these exempt short sales are likely to be market-maker short sales and thus, the indicator provides a proxy (albeit a noisy one) to test whether market makers may be responsible for the preceding results. \({ }^{40}\) Approximately \(40 \%\) of all first day short sales executed on Nasdaq in Nasdaq IPOs are marked as exempt. For Nasdaq IPOs, exempt short sales are \(3.25 \%\) of shares offered compared to \(5 \%\) for the remaining short sales.

Table 9 presents the impact of potential market maker activity on the level of short selling (Panel A), failures to deliver (Panel B) and subsequent returns (Panels C and D) for Nasdaq IPOs only. Shorts sales that are non-exempt in Nasdaq IPOs and all short sales in Nasdaq IPOs in all markets are defined as "all other short sales." \({ }^{41}\)

In Panel A, both the level of potential market maker short sales and all other short sales are increasing in the first day return from the offer price to the opening price. Although not shown, the positive relation on the level of potential market maker short sales and all other short sales is similar if the first day return independent variable is replaced by either the change in the offer price or volume.

\footnotetext{
\({ }^{40}\) For example, market makers trading Nasdaq stocks on Nasdaq were never subject to the Bid Test, thus "exempt," but other market centers that trade Nasdaq stocks did not apply the Bid Test at all and so the exempt/non-exempt indicator cannot proxy for market maker short sales in this trading. Thus, we restrict our definition of market maker short sales to only short sales marked exempt that are executed on Nasdaq and compare this to all other short sales in Nasdaq stocks in any market. It is possible that some market making short selling in Nasdaq IPOs on non-Nasdaq markets are included in our definition of "all other short sales" but because of data limitations are unable to provide any additional information. Market makers trading NYSE stocks anywhere were subject to the Uptick Rule, except in narrow circumstances and are therefore, not exempt (and not included in the analysis).
\({ }^{41}\) Similar results are obtained if short sales in NYSE IPOs are included in the "all other short sales" category.
}

In Panel B, failures to deliver are unaffected by either potential market making activity or other short sales. This confirms our finding that failures to deliver in IPOs are not due to "naked" short sales, even those of market makers.

Finally, in Panel C, the exclusion of potential market maker short selling on the first trading day results in weak positive statistical significance on the relation between short selling and future short-term returns. Although not shown, there is still no relation between either market maker short selling or other short selling and the three month profitability. Overall, the results of Table 9 indicate that our findings are not attributable to market making activity but to short selling by others.

\section*{8. Summary and Conclusions}

Using short sale transactions data recently made publicly available, we explore the nature of short selling in initial public offerings. Many academic papers rely on the assumption that short selling is constrained early in the IPO process and that such constraints contribute to the high level of underpricing of some IPOs. In contrast, we find that short selling is prevalent on the initial trading day and many short sales occur close to the open.

Tests of whether short selling is related to divergence of opinion (Miller (1977), Derrien (2006), Cornelli, Goldreich and Ljungqvist (2006) and Ljungqvist, Nanda and Singh (2006)) indicate that short selling is increasing in the level of the first day return. While our results are consistent with the hypothesis that short sellers are attracted to IPOs with more divergence of opinion and hence, higher first day returns, they are inconsistent with the notion that short selling constraints are the reason for high underpricing.

The perceived inability of short sellers to borrow securities for settlement is one of the primary reasons cited by others for constraints on short selling in IPOs. We test whether short sellers are avoiding regulatory constraints on locating and borrowing shares for shorting (i.e. engaging in "naked" short selling) by examining whether IPOs with greater short selling are also more likely to have failures to deliver. While we document that most IPOs have failures to deliver on the first settlement date and approximately \(30 \%\) of IPOs in the sample qualify for the Regulation SHO threshold list on the first possible date, our findings do not indicate that the level of short selling on the offer date is related to fails to deliver or to the qualification for the threshold list. In fact, the factors that are correlated with increased short selling are uncorrelated with fails to deliver.

Instead, we argue that fails to deliver are potentially related to underwriter price support activities and present evidence that the level of failures to deliver are related to a variable indicating a high probability of underwriter price support. Thus, we conclude that the observed short selling is not due to an avoidance of short selling constraints and therefore, short selling constraints might not be as onerous as presumed.

Prior literature has documented a significant role of market makers in the aftermarket trading of IPOs. Using the "exempt" indicator on the short sale transaction as a proxy for potential market making activity, we test whether our results may be due to the presence of market makers and find no evidence that market makers are the primary driver of our findings.

Finally, we present evidence that the magnitude of short selling (after removing market maker activity) on the offer day has a weakly negative statistical relation to subsequent price movements. Once loan fees are considered, however, there is no relation between short selling and profitability. While it appears that a small fraction of short sellers make substantial profits,
the average short sale loses almost 4\% in the first three months of trading. Therefore, short sellers are unlikely to significantly mitigate the magnitude of the underpricing.

Our results may have implications for the argument that the loosening of short sale constraints due to the expiration of lock-ups lead to an increase in the supply of shares resulting in the collapse of internet stocks. (e.g., Ofek and Richardson (2003)). Even though the period studied here does not include the tech bubble because of data availability, our findings on rebate rates are surprisingly similar to those documented by Geczy, Musto, and Reed (2002) during the bubble period. Thus, our findings complement Schultz (2008) regarding the impact of lock-up expirations on short sale constraints during the tech bubble as we document that short selling is prevalent early in IPO aftermarkets long before such lock-ups expire.

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\section*{Table 1}

\section*{Summary Statistics on IPOs}

The sample includes 388 IPOs issued between January 1, 2005 and December 31, 2006 excluding closed-end funds. Short sales are from Regulation SHO Pilot data and compiled from the following exchanges and SROs: Amex, Arcaex, Boston, Chicago, NASD, Nasdaq, National, NYSE and Phlx. Offer amounts, offer prices and shares offered are from SDC and exclude the exercise of the overallotment option. Change in offer price is the percent difference between the final offer price and the midpoint of the preliminary offer price range in the prospectus. Opening and closing prices for the calculation of first day returns are from CRSP. Volume is the daily number of shares traded from CRSP.
\begin{tabular}{|c|c|c|}
\hline \multicolumn{3}{|c|}{Panel A: Offering Statistics} \\
\hline Variable & Mean & Median \\
\hline Offer Price & \$14.82 & \$14.50 \\
\hline Offer Amount (in mils) & \$188.53 & \$114.23 \\
\hline Change in offer price & -4.18\% & 0.00\% \\
\hline \multicolumn{3}{|c|}{Panel B: Offer Day Trading Statistics} \\
\hline Variable & Mean & Median \\
\hline First Day Return from Offer Price to Open & 9.07\% & 2.84\% \\
\hline First Day Return from Open to Close & 0.62\% & 0.00\% \\
\hline First Day Return from Offer Price to Close & 9.58\% & 4.17\% \\
\hline Trading Volume/Shares Offered & 58.94\% & 53.80\% \\
\hline \multicolumn{3}{|c|}{Panel C: Offer Day Short Selling} \\
\hline Variable & Mean & Median \\
\hline Short Sales \({ }_{\text {T }+0} /\) Shares Offered & 7.26\% & 5.56\% \\
\hline Short Sales \({ }_{\text {T }+0} /\) Trading Volume \({ }_{\text {T }+0}\) & 12.02\% & 10.36\% \\
\hline Short Sales \({ }_{\text {T }+0} /\) Shares Outstanding & 3.02\% & 1.94\% \\
\hline
\end{tabular}

\section*{Table 2}

Comparison of First Day Trading and Short Selling by Quartiles of First Day Returns The sample includes 388 IPOs issued between January 1, 2005 and December 31, 2006 excluding closedend funds. Short sales are from Regulation SHO Pilot data and compiled from the following exchanges and SROs: Amex, Arcaex, Boston, Chicago, NASD, Nasdaq, National, NYSE and Phlx and are scaled by shares offered, trading volume on the offer day and shares outstanding after the offer. Offer amount and shares offered are from SDC and excludes the exercise of the overallotment option. Opening and closing prices for the calculation of first day returns are from CRSP. Change in offer price is the percent difference of the final offer price from the midpoint of the preliminary offer price range in the prospectus. The percent positive (negative) change in offer price is the percent of IPOs whose final offer price exceeds the midpoint of the offer price in the preliminary price range. Volume is the daily number of shares traded from CRSP. Medians are in parentheses.
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{} & \multicolumn{4}{|c|}{First Day Return} \\
\hline & Lowest & Quartile 2 & Quartile 3 & Highest \\
\hline Number of IPOs & 85 & 109 & 97 & 97 \\
\hline Offer Amount (in mils) & \$181.24 & \$173.53 & \$200.07 & \$200.25 \\
\hline First Day Return from Offer Price to Open & \[
\begin{gathered}
0.04 \% \\
(0.00 \%)
\end{gathered}
\] & \[
\begin{array}{r}
1.56 \% \\
(0.29 \%)
\end{array}
\] & \[
\begin{array}{r}
9.41 \% \\
(7.14 \%)
\end{array}
\] & \[
\begin{array}{r}
25.11 \% \\
(21.58 \%)
\end{array}
\] \\
\hline First Day Return from Open to Close & \[
\begin{array}{r}
-4.70 \% \\
(-3.57 \%) \\
\hline
\end{array}
\] & \[
\begin{gathered}
-0.31 \% \\
(0.00 \%)
\end{gathered}
\] & \[
\begin{array}{r}
0.72 \% \\
(1.43 \%)
\end{array}
\] & \[
\begin{array}{r}
6.20 \% \\
(5.60 \%)
\end{array}
\] \\
\hline First Day Return from Offer Price to Close & \[
\begin{array}{r}
-4.78 \% \\
(-3.53 \%) \\
\hline
\end{array}
\] & \[
\begin{array}{r}
1.11 \% \\
(0.48 \%) \\
\hline
\end{array}
\] & \[
\begin{array}{r}
9.72 \% \\
(9.70 \%) \\
\hline
\end{array}
\] & \[
\begin{array}{r}
31.54 \% \\
(26.20 \%) \\
\hline
\end{array}
\] \\
\hline Change in Offer Price & -12.55\% & -13.51\% & 0.08\% & 9.38\% \\
\hline Percent with Positive Change in Offer Price & 9.41\% & 12.84\% & 58.76\% & 76.29\% \\
\hline Percent with Negative Change in Offer Price & 76.47\% & 66.97\% & 30.93\% & 17.53\% \\
\hline Volume \({ }_{\text {T+0 }} /\) Shares Offered & \[
\begin{array}{r}
48.49 \% \\
(46.39 \%) \\
\hline
\end{array}
\] & \[
\begin{array}{r}
46.56 \% \\
(37.88 \%) \\
\hline
\end{array}
\] & \[
\begin{array}{r}
60.41 \% \\
(59.57 \%) \\
\hline
\end{array}
\] & \[
\begin{array}{r}
80.53 \% \\
(74.63) \\
\hline
\end{array}
\] \\
\hline Short Sales \({ }_{\text {T+0 }}\) /Shares Offered & \[
\begin{array}{r}
5.48 \% \\
(4.07 \%)
\end{array}
\] & \[
\begin{array}{r}
5.20 \% \\
(3.44 \%)
\end{array}
\] & \[
\begin{array}{r}
7.37 \% \\
(5.67 \%)
\end{array}
\] & \[
\begin{gathered}
\hline 11.00 \% \\
(7.80 \%)
\end{gathered}
\] \\
\hline Short Sales \(_{\text {T+0 }} /\) Trading Volume \(_{\text {T }+0}\) & \[
\begin{gathered}
11.47 \% \\
(8.77 \%)
\end{gathered}
\] & \[
\begin{aligned}
& 10.17 \% \\
& (9.91 \%)
\end{aligned}
\] & \[
\begin{array}{r}
13.50 \% \\
(10.61 \%)
\end{array}
\] & \[
\begin{array}{r}
13.12 \% \\
(10.69 \%)
\end{array}
\] \\
\hline Short Sales \({ }_{\text {T }+0} /\) Shares Outstanding & \[
\begin{array}{r}
2.39 \% \\
(1.35 \%)
\end{array}
\] & \[
\begin{array}{r}
2.07 \% \\
(1.21 \%)
\end{array}
\] & \[
\begin{array}{r}
3.15 \% \\
(2.26 \%) \\
\hline
\end{array}
\] & \[
\begin{array}{r}
4.49 \% \\
(2.93 \%) \\
\hline
\end{array}
\] \\
\hline Cumulative Short Sales \({ }_{\text {T+0 to }}\) T+21/Shares Offered & \[
\begin{array}{r}
12.83 \% \\
(10.57 \%)
\end{array}
\] & \[
\begin{aligned}
& 13.27 \% \\
& (9.97 \%)
\end{aligned}
\] & \[
\begin{array}{r}
18.94 \% \\
(14.13 \%)
\end{array}
\] & \[
\begin{array}{r}
33.38 \% \\
(20.55 \%)
\end{array}
\] \\
\hline
\end{tabular}

\section*{Table 3}

\section*{Regression Analysis on Offer Day Short Sales}

The sample includes 388 IPOs issued between January 1, 2005 and December 31, 2006 excluding closed-end funds. The dependent variable is the offer day short sales as a percent of the offer amount. Short sales are from Regulation SHO Pilot data and compiled from the following exchanges and SROs: Amex, ArcaEx, Boston, Chicago, NASD, Nasdaq, National, NYSE and Phlx, aggregated and then scaled by offer amount. Shares offered are from SDC and exclude the exercise of the overallotment option. The first day return is from the offer price from SDC to the first trading day opening price on CRSP. Change in offer price is the percent difference of the final offer price from the midpoint of the preliminary offer price range in the prospectus. Volume is the daily number of shares traded from CRSP. Price Supported IPO is a dummy variable equal to 1 if the first day return is equal to zero or the IPO is in the bottom quartile of the percent of the overallotment option exercised collected from Bloomberg or top quartile for the percent of trades, using TAQ, executed at the offer price on the first trading day. Percent float is the ratio of shares offered from SDC to shares outstanding from CRSP. The ability to execute is estimated using TAQ and measures the extent to which the Uptick Rule or Nasdaq Bid Test allows short sales to execute. Nasdaq is a dummy variable equal to 1 if the IPO trades on either the Nasdaq, 0 if it trades on the NYSE or the Amex. t-values are in parentheses. \({ }^{* * *}\), **, * indicates significance at the \(1 \%, 5 \%\) or \(10 \%\) levels.
\begin{tabular}{|c|c|c|c|c|}
\hline Variable & Model 1 & Model 2 & Model 3 & Model 4 \\
\hline Intercept & \[
\begin{array}{r}
\hline 0.056 \\
(4.70)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.073 \\
(6.41)^{* * *}
\end{array}
\] & \[
\begin{gathered}
-0.016 \\
(-1.67)^{*}
\end{gathered}
\] & \[
\begin{array}{r}
0.075 \\
(5.87)^{* * *}
\end{array}
\] \\
\hline First Day Return from Offer Price to Open & \[
\begin{array}{r}
0.188 \\
(8.88)^{* * *}
\end{array}
\] & & & \\
\hline Change in offer price & & \[
\begin{array}{r}
0.173 \\
(9.90)^{* * *}
\end{array}
\] & & \\
\hline Volume \({ }_{T+0} /\) Shares Offered & & & \[
\begin{array}{r}
0.150 \\
(21.49)^{* * *}
\end{array}
\] & \\
\hline Price Supported IPO & \[
\begin{gathered}
0.008 \\
(1.17)
\end{gathered}
\] & \[
\begin{gathered}
0.004 \\
(0.55)
\end{gathered}
\] & \[
\begin{gathered}
-0.002 \\
(-0.50)
\end{gathered}
\] & \[
\begin{array}{r}
-0.023 \\
(-3.40)^{* * *}
\end{array}
\] \\
\hline Float & \[
\begin{aligned}
& -0.005 \\
& (-1.37)
\end{aligned}
\] & \[
\begin{array}{r}
-0.008 \\
(-2.30)^{* *}
\end{array}
\] & \[
\begin{gathered}
0.0004 \\
(0.15)
\end{gathered}
\] & \[
\begin{aligned}
& -0.005 \\
& (-1.41)
\end{aligned}
\] \\
\hline Ability to Execute \({ }_{\text {T+0 }}\) & \[
\begin{gathered}
-0.029 \\
(-1.84)^{*}
\end{gathered}
\] & \[
\begin{gathered}
-0.022 \\
(-1.43)
\end{gathered}
\] & \[
\begin{array}{r}
-0.025 \\
(-2.09)^{* *}
\end{array}
\] & \[
\begin{gathered}
-0.016 \\
(-0.91)
\end{gathered}
\] \\
\hline Nasdaq & \[
\begin{array}{r}
0.022 \\
(3.57)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.033 \\
(5.41)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.023 \\
(5.05)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.028 \\
(4.05)^{* * *}
\end{array}
\] \\
\hline Adjusted R \({ }^{2}\) & 0.23 & 0.25 & 0.58 & 0.07 \\
\hline
\end{tabular}

Table 4

\section*{Summary Statistics on Fails to Deliver}

The sample includes 388 IPOs issued between January 1, 2005 and December 31, 2006 excluding closedend funds. Daily fails to deliver are from NSCC's Continuous Net Settlement which includes stocks with aggregate fails to deliver of at least 10,000 shares. Short sales are from Regulation SHO Pilot data and compiled from the following exchanges and SROs: Amex, ArcaEx, Boston, Chicago, NASD, Nasdaq, National, NYSE and Phlx, aggregated. Shares offered are from SDC and exclude the exercise of the overallotment option. The first day return is from the offer price from SDC to the first trading day closing price on CRSP.

Panel A: All IPOs First Settlement Day (T+3)
\begin{tabular}{|l|r|r|}
\hline Variable & \multicolumn{1}{c|}{ Mean } & Median \\
\hline Fails to Deliver/Shares Offered & \(4.23 \%\) & \(2.29 \%\) \\
\hline Fails to Deliver/Short Sales & T+0 & \(1,083.37 \%\) \\
\hline
\end{tabular}

Panel B: 237 IPOs with First Fail on First Settlement Day (T+3)
\begin{tabular}{|l|r|r|}
\hline Variable & \multicolumn{1}{|c|}{ Mean } & \multicolumn{1}{c|}{ Median } \\
\hline First Day Return From Offer Price to Close & \(9.14 \%\) & \(3.67 \%\) \\
\hline Fails to Deliver/Shares Offered & \(6.92 \%\) & \(5.73 \%\) \\
\hline Fails to Deliver/Short Sales & T+0 & \(1,779.50 \%\) \\
\hline
\end{tabular}

Panel C: 134 IPOs with First Fail Later Than First Settlement Day (T+4 to T+24)
\begin{tabular}{|l|r|r|}
\hline Variable & \multicolumn{1}{c|}{ Mean } & Median \\
\hline First Day Return From Offer Price to Close & \(10.88 \%\) & \(5.44 \%\) \\
\hline First Fails to Deliver/Shares Offered & \(0.86 \%\) & \(0.46 \%\) \\
\hline First Fails to Deliver/Short Sales & \(7 .+0\) & \(31.47 \%\) \\
\hline Day of First Fails to Deliver & 6.14 & \(5.99 \%\) \\
\hline
\end{tabular}

\section*{Table 5}

\section*{Analysis on Fails To Deliver and Probability of Being on Threshold List on T+7}

The sample includes 388 IPOs issued between January 1, 2005 and December 31, 2006 excluding closed-end funds. Dependent variables are first settlement day fails as a percent of shares offered and a dummy variable if the IPO is on the threshold list on day T+7. Daily fails to deliver are from NSCC's Continuous Net Settlement which includes stocks with aggregate fails to deliver of at least 10,000 shares. Information is collected from daily threshold lists on the NYSE, Amex, and Nasdaq. Short sales are from Regulation SHO Pilot data and compiled from the following exchanges and SROs: Amex, ArcaEx, Boston, Chicago, NASD, Nasdaq, National, NYSE and Phlx, aggregated and then scaled by offer amount (excluding the exercise of the overallotment option). The first day return is from the offer price from SDC to the first trading day closing price on CRSP. Change in offer price is the percent difference of the final offer price from the midpoint of the preliminary offer price range in the prospectus. Volume is the daily number of shares traded from CRSP. Price Supported IPO is a dummy variable equal to 1 if the first day return is equal to zero or the IPO is in the bottom quartile of the percent of the overallotment option exercised collected from Bloomberg or top quartile for the percent of trades, using TAQ, executed at the offer price on the first trading day. Percent float is the ratio of shares offered from SDC to shares outstanding from CRSP. The ability to execute is estimated using TAQ and measures the extent to which the Uptick Rule or Nasdaq Bid Test allows short sales to execute. Nasdaq is a dummy variable equal to 1 if the IPO trades on either the Nasdaq, 0 if it trades on the NYSE or the Amex. \(t\)-values are in parentheses for tobit regressions and \(\chi^{2}\) for probit analysis. ***,**, * indicates significance at the \(1 \%, 5 \%\) or \(10 \%\) levels.
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline & \multicolumn{4}{|c|}{Panel A
Tobit Regression
Dependent Variable: Level of Fails} & \multicolumn{4}{|l|}{Panel B
Probit Analysis
Class Variable: On Threshold List at \(\mathrm{T}+7\)} \\
\hline Variable & Model 1 & Model 2 & Model 3 & Model 4 & Model 1 & Model 2 & Model 3 & Model 4 \\
\hline Intercept & \[
\begin{array}{r}
0.056 \\
(3.40)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.056 \\
(3.44)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.059 \\
(3.70)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.054 \\
(3.04)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
-0.405 \\
(2.16)
\end{array}
\] & \[
\begin{array}{r}
-0.322 \\
(1.43)
\end{array}
\] & \[
\begin{array}{r}
-0.373 \\
(2.00)
\end{array}
\] & \[
\begin{array}{r}
-0.314 \\
(1.12)
\end{array}
\] \\
\hline Short Sales \({ }_{\text {T+0 }} /\) Shares Offered & \[
\begin{aligned}
& 0.039 \\
& (0.62)
\end{aligned}
\] & & & & \[
\begin{aligned}
& 0.430 \\
& (0.15)
\end{aligned}
\] & & & \\
\hline First Day Return & & \[
\begin{aligned}
& 0.029 \\
& (1.06)
\end{aligned}
\] & & & & \[
\begin{array}{r}
-0.495 \\
(0.92)
\end{array}
\] & & \\
\hline Change in Offer Price & & & \[
\begin{gathered}
0.004 \\
(0.17)
\end{gathered}
\] & & & & \[
\begin{array}{r}
-0.398 \\
(0.88)
\end{array}
\] & \\
\hline Volume \(_{\text {T+0 }} /\) Shares Offered & & & & \[
\begin{gathered}
0.009 \\
(0.74)
\end{gathered}
\] & & & & \[
\begin{array}{r}
-0.101 \\
(0.20)
\end{array}
\] \\
\hline Price Supported IPO & \[
\begin{array}{r}
0.038 \\
(4.53)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.040 \\
(4.55)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.037 \\
(4.16)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.038 \\
(4.55)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.571 \\
(15.39)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.483 \\
(8.58)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.502 \\
(10.23)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.548 \\
(13.98)^{* * *}
\end{array}
\] \\
\hline Float & \[
\begin{gathered}
-0.008 \\
(-0.81)
\end{gathered}
\] & \[
\begin{aligned}
& -0.008 \\
& (-0.85)
\end{aligned}
\] & \[
\begin{aligned}
& -0.008 \\
& (-0.84)
\end{aligned}
\] & \[
\begin{aligned}
& -0.008 \\
& (-0.80)
\end{aligned}
\] & \[
\begin{aligned}
& 0.038 \\
& (0.20)
\end{aligned}
\] & \[
\begin{gathered}
0.035 \\
(0.17)
\end{gathered}
\] & \[
\begin{aligned}
& 0.041 \\
& (0.25)
\end{aligned}
\] & \[
\begin{gathered}
0.032 \\
(0.14)
\end{gathered}
\] \\
\hline Ability to Execute \({ }_{\text {T+0 }}\) & \[
\begin{array}{r}
-0.043 \\
(-2.05)^{* *}
\end{array}
\] & \[
\begin{array}{r}
-0.045 \\
(-2.11)^{* *}
\end{array}
\] & \[
\begin{array}{r}
-0.044 \\
(-2.08)^{* *}
\end{array}
\] & \[
\begin{array}{r}
-0.045 \\
(-2.11)^{* *}
\end{array}
\] & \[
\begin{gathered}
-0.240 \\
(0.43)
\end{gathered}
\] & \[
\begin{array}{r}
-0.214 \\
(0.34)
\end{array}
\] & \[
\begin{gathered}
-0.22 / \\
(-0.39)
\end{gathered}
\] & \[
\begin{aligned}
& -0.238 \\
& (0.43)
\end{aligned}
\] \\
\hline Nasdaq & \[
\begin{array}{r}
-0.038 \\
(-4.40)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
-0.037 \\
(-4.41)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
-0.036 \\
(-4.33)^{* * *}
\end{array}
\] & \[
\begin{gathered}
-0.037 \\
(-4.39)^{* * *}
\end{gathered}
\] & \[
\begin{array}{r}
-0.483 \\
(10.65)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
-0.463 \\
(10.11)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
-0.487 \\
(11.13)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
-0.471 \\
(10.53)^{* * *}
\end{array}
\] \\
\hline Log Likelihood & 169.58 & 169.95 & 169.40 & 169.66 & 221.11 & 220.73 & 220.75 & 221.09 \\
\hline
\end{tabular}

\section*{Table 6}

\section*{Determinants of Loan Fees}

The dependent variables are for 1) the probit model: the probability the IPO will have a rebate rate from the anonymous data source during the month of trading and 2) for the regression model: the weighted average loan fee (by loan amount ) which is equal to the rebate rate minus the fed funds rate over the first month of trading and is collected from an anonymous data source The sample includes 388 IPOs issued between January 1, 2005 and December 31, 2006 excluding closed-end funds. Short sales are from Regulation SHO Pilot data and compiled from the following exchanges and SROs: Amex, ArcaEx, Boston, Chicago, NASD, Nasdaq, National, NYSE and Phlx, aggregated and then scaled by offer amount (excluding the exercise of the overallotment option). Daily fails to deliver are from NSCC's Continuous Net Settlement which includes stocks with aggregate fails to deliver of at least 10,000 shares. Price Supported IPO is a dummy variable equal to 1 if the first day return is equal to zero or the IPO is in the bottom quartile of the percent of the overallotment option exercised collected from Bloomberg or top quartile for the percent of trades, using TAQ, executed at the offer price on the first trading day. Percent float is the ratio of shares offered from SDC to shares outstanding from CRSP. The ability to execute is estimated using TAQ and measures the extent to which the Uptick Rule or Nasdaq Bid Test allows short sales to execute. Nasdaq is a dummy variable equal to 1 if the IPO trades on either the Nasdaq, 0 if it trades on the NYSE or the Amex. \(\chi^{2}\) are in parentheses for the probit analysis and t-values for the OLS regressions. \({ }^{* * *}{ }^{* *}, *\) indicates significance at the \(1 \%, 5 \%\) or \(10 \%\) levels.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Variable} & \multicolumn{2}{|l|}{Panel A
Probit Analysis
Dependent Variable:
Probability of Observing IPO
in Rebate Rate Data} & \multicolumn{4}{|c|}{\begin{tabular}{l}
Panel B \\
Regression Analysis \\
Dependent Variable: \\
Average Weighted Loan Fee From T+3 to T+24
\end{tabular}} \\
\hline & Model 1 & Model 2 & Model 3 & Model 4 & Model 5 & Model 6 \\
\hline Intercept & \[
\begin{aligned}
& 0.429 \\
& (2.25)
\end{aligned}
\] & \[
\begin{aligned}
& 0.444 \\
& (2.44)
\end{aligned}
\] & \[
\begin{gathered}
0.014 \\
(2.49)^{* *}
\end{gathered}
\] & \[
\begin{gathered}
0.013 \\
(2.73)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
0.019 \\
(3.13)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
0.023 \\
(4.05)^{* * *}
\end{gathered}
\] \\
\hline Short Sales \({ }_{\text {T }+0}\) /Shares Offered & \[
\begin{gathered}
3.620 \\
(9.49)^{* * *}
\end{gathered}
\] & & \[
\begin{gathered}
0.120 \\
(5.59)^{* * *}
\end{gathered}
\] & & & \\
\hline Cumulative Short Sales \({ }_{\text {T+0 to } T+21 / 2}\) Shares Offered & & \[
\begin{gathered}
1.437 \\
(10.02)^{* * *}
\end{gathered}
\] & & \[
\begin{gathered}
0.049 \\
(10.65)^{* * *}
\end{gathered}
\] & & \\
\hline Fails to Deliver \({ }_{\text {T+3 }} /\) Shares Offered & & & & & \[
\begin{gathered}
0.068 \\
(2.14)^{* *}
\end{gathered}
\] & \\
\hline Price Supported IPO & \[
\begin{aligned}
& -0.151 \\
& (1.11)
\end{aligned}
\] & \[
\begin{gathered}
-0.130 \\
(0.81)
\end{gathered}
\] & \[
\begin{aligned}
& 0.003 \\
& (1.13)
\end{aligned}
\] & \[
\begin{gathered}
0.005 \\
(2.04)^{* *}
\end{gathered}
\] & \[
\begin{gathered}
-0.0007 \\
(-0.21)
\end{gathered}
\] & \[
\begin{aligned}
& 0.001 \\
& (0.28)
\end{aligned}
\] \\
\hline Float & \[
\begin{aligned}
& 0.083 \\
& (0.51)
\end{aligned}
\] & \[
\begin{aligned}
& 0.082 \\
& (0.51)
\end{aligned}
\] & \[
\begin{gathered}
0.0003 \\
(0.21)
\end{gathered}
\] & \[
\begin{gathered}
0.0006 \\
(0.49)
\end{gathered}
\] & \[
\begin{gathered}
-0.0004 \\
(-0.27)
\end{gathered}
\] & \[
\begin{gathered}
-0.0005 \\
(-0.31)
\end{gathered}
\] \\
\hline Ability to Execute \({ }_{\text {T+0 }}\) & \[
\begin{aligned}
& 0.168 \\
& (0.21)
\end{aligned}
\] & \[
\begin{aligned}
& 0.134 \\
& (0.13)
\end{aligned}
\] & \[
\begin{aligned}
& -0.008 \\
& (-1.11)
\end{aligned}
\] & \[
\begin{gathered}
-0.010 \\
(-1.47)
\end{gathered}
\] & \[
\begin{gathered}
-0.007 \\
(-0.94)
\end{gathered}
\] & \[
\begin{aligned}
& -0.009 \\
& (-1.15)
\end{aligned}
\] \\
\hline Nasdaq & \[
\begin{gathered}
-0.482 \\
(10.10)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
-0.494 \\
(10.55)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
-0.003 \\
(-0.76)
\end{gathered}
\] & \[
\begin{aligned}
& -0.003 \\
& (-1.23)
\end{aligned}
\] & \[
\begin{aligned}
& 0.003 \\
& (0.93)
\end{aligned}
\] & \[
\begin{aligned}
& 0.001 \\
& (0.38)
\end{aligned}
\] \\
\hline \(\chi^{2} /\) Adj. \(\mathrm{R}^{2}\) & 235.81 & 234.38 & 0.10 & 0.30 & 0.01 & 0.00 \\
\hline N & 388 & 388 & 259 & 259 & 259 & 259 \\
\hline
\end{tabular}

\section*{Table 7}

\section*{Univariate Statistics on Loan Fees and Profitability}

The sample includes 388 IPOs issued between January 1, 2005 and December 31, 2006 excluding closed-end funds. The weighted average loan fee (by loan amount ) is equal to the rebate rate minus the fed funds rate over the first month of trading and is collected from an anonymous data source. The first day return is from the offer price from SDC to the first trading day closing price on CRSP. Short sales are from Regulation SHO Pilot data and compiled from the following exchanges and SROs: Amex, ArcaEx, Boston, Chicago, NASD, Nasdaq, National, NYSE and Phlx, aggregated and then scaled by offer amount (excluding the exercise of the overallotment option). Daily fails to deliver are from NSCC's Continuous Net Settlement which includes stocks with aggregate fails to deliver of at least 10,000 shares. First month and three month returns are the buy-andhold return minus the return on the Nasdaq Composite Index. Three Month Profit is the Nasdaq Composite index adjusted return over the first three months of trading excluding the first day return plus the loan fee (measured over the first month of trading and multiplied by three). Price Supported IPO is a dummy variable equal to 1 if the first day return is equal to zero or the IPO is in the bottom quartile of the percent of the overallotment option exercised collected from Bloomberg or top quartile for the percent of trades, using TAQ, executed at the offer price on the first trading day. Nasdaq is a dummy variable equal to 1 if the IPO trades on the Nasdaq, 0 if it trades on the NYSE or the Amex. Information is collected from daily threshold lists on the NYSE, Amex, and Nasdaq. Medians are in parentheses. ***, **, * indicates returns/profits are significantly different from zero at the \(1 \%, 5 \%\) or \(10 \%\) levels.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{} & \multirow[t]{2}{*}{IPOs without rebate rate} & \multirow[t]{2}{*}{IPOs with rebate rate} & \multicolumn{4}{|c|}{Three month Nasdaq adjusted return} \\
\hline & & & Lowest & Quartile 2 & Quartile 3 & Highest \\
\hline Number of IPOs & 129 & 259 & 69 & 61 & 65 & 64 \\
\hline Annual Weighted Loan Fee From T+3 to T+24 & NA & \[
\begin{gathered}
\hline 1.88 \% \\
(1.17 \%)
\end{gathered}
\] & \[
\begin{gathered}
\hline 2.19 \% \\
(1.47 \%)
\end{gathered}
\] & \[
\begin{gathered}
\hline 1.35 \% \\
(0.62 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
\hline 1.88 \% \\
(0.96 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
\hline 2.05 \% \\
(1.21 \%) \\
\hline
\end{gathered}
\] \\
\hline Month Weighted Loan Fee From T+3 to T+24 & NA & \[
\begin{gathered}
0.15 \% \\
(0.10 \%)
\end{gathered}
\] & \[
\begin{gathered}
0.17 \% \\
(0.12 \%)
\end{gathered}
\] & \[
\begin{gathered}
0.11 \% \\
(0.05 \%)
\end{gathered}
\] & \[
\begin{gathered}
0.15 \% \\
\text { (0.08\%) }
\end{gathered}
\] & \[
\begin{gathered}
0.17 \% \\
\text { (0.10\%) } \\
\hline
\end{gathered}
\] \\
\hline First Day Return From Offer to Close & \[
\begin{gathered}
\hline 5.14 \% * * * \\
(1.00 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
\hline 11.80 \% \%^{* * *} \\
(6.52 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
\hline 8.08 \% * * * \\
(1.76 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
\hline 6.92 \% * * * \\
(1.92 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
\hline 13.02 \% * * * \\
(10.00 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
\hline 10.31 \% * * * \\
(7.50 \%) \\
\hline
\end{gathered}
\] \\
\hline Short Sales \({ }_{\text {T }+0} /\) Shares Offered & \[
\begin{gathered}
6.07 \% \\
\text { (4.32\%) } \\
\hline
\end{gathered}
\] & \[
\begin{aligned}
& 7.85 \% \\
& \text { (5.76\%) } \\
& \hline
\end{aligned}
\] & \[
\begin{gathered}
\hline 8.38 \% \\
(6.42 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
\hline 7.06 \% \\
(5.32 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
\hline 7.05 \% \\
\text { (5.03\%) } \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
\hline 6.53 \% \\
\text { (5.42\%) } \\
\hline
\end{gathered}
\] \\
\hline Cumulative Short Sales \({ }_{T+0 \text { to } T+21 /}\) Shares Offered & \[
\begin{gathered}
\hline 14.83 \% \\
(11.72 \%)
\end{gathered}
\] & \[
\begin{gathered}
\hline 22.00 \% \\
(15.26 \%)
\end{gathered}
\] & \[
\begin{gathered}
\hline 19.98 \% \\
(14.99 \%)
\end{gathered}
\] & \[
\begin{gathered}
18.25 \% \\
(11.72 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
\hline 20.92 \% \\
(13.11 \%)
\end{gathered}
\] & \[
\begin{gathered}
\hline 19.34 \% \\
(13.74 \%)
\end{gathered}
\] \\
\hline Fails to Deliver \({ }_{T+3} /\) Shares Offered & \[
\begin{gathered}
4.37 \% \\
(1.40 \%)
\end{gathered}
\] & \[
\begin{gathered}
4.16 \% \\
(2.66 \%)
\end{gathered}
\] & \[
\begin{aligned}
& 4.52 \% \\
& (2.48 \%)
\end{aligned}
\] & \[
\begin{gathered}
4.73 \% \\
(1.59 \%)
\end{gathered}
\] & \[
\begin{gathered}
\hline 3.56 \% \\
(2.20 \%)
\end{gathered}
\] & \[
\begin{gathered}
4.10 \% \\
(2.10 \%)
\end{gathered}
\] \\
\hline One Month Nasdaq Adjusted Return & \[
\begin{gathered}
-0.34 \% \\
(-0.59 \%)
\end{gathered}
\] & \[
\begin{aligned}
& 1.06 \% * * \\
& (-0.31 \%)
\end{aligned}
\] & \[
\begin{gathered}
-9.86 \% * * * \\
(-9.34 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
-1.94 \% * * \\
(-2.21 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
4.43 \% * * * \\
(3.89 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
9.74 \%^{* * *} \\
(7.67 \%) \\
\hline
\end{gathered}
\] \\
\hline Three Month Nasdaq Adjusted Return & \[
\begin{gathered}
1.69 \% \\
(-0.17 \%)
\end{gathered}
\] & \[
\begin{gathered}
\hline 2.70 \% * \\
(-0.67 \%)
\end{gathered}
\] & \[
\begin{gathered}
\hline-26.34 \% * * * \\
(-22.03 \%)
\end{gathered}
\] & \[
\begin{gathered}
\hline-6.71^{* * * \%} \\
(-6.83 \%)
\end{gathered}
\] & \[
\begin{gathered}
\hline 7.43 \% * * * \\
(7.61 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
36.30 \% * * * \\
(27.87 \%) \\
\hline
\end{gathered}
\] \\
\hline Three Month Profit & NA & \[
\begin{gathered}
-3.62 \% * * * \\
(0.24 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
23.09 \%^{* * *} \\
(20.80 \%)
\end{gathered}
\] & \[
\begin{gathered}
6.30 \% * * * \\
(6.69 \%)
\end{gathered}
\] & \[
\begin{gathered}
-7.78 \% * * * \\
(-7.74 \%) \\
\hline
\end{gathered}
\] & \[
\begin{gathered}
-37.64 \% * * * \\
(-29.45 \%) \\
\hline
\end{gathered}
\] \\
\hline Percent Price Supported IPOs & 45\% & 35\% & 48\% & 51\% & 26\% & 28\% \\
\hline Percent Nasdaq IPOs & 74\% & 59\% & 69\% & 61\% & 58\% & 68\% \\
\hline Percent on Threshold List T+7 & 34\% & 27\% & 34\% & 33\% & 28\% & 22\% \\
\hline
\end{tabular}

\section*{Table 8}

\section*{Short Term Price Effects}

The dependent variables are the first day return from the open to the close (Panel A), the Nasdaq Composite index adjusted return over the first month of trading (Panel B), the first three months of trading (Panel C) and the Three Month Return Adjusted For Loan Fees (Panel D). Three Month Return Adjusted For Loan Fees is the Nasdaq Composite index adjusted return over the first three months of trading excluding the first day return plus the loan fee (measured over the first month of trading and multiplied by three). The sample includes 388 IPOs issued between January 1, 2005 and December 31, 2006 excluding closed-end funds. Short sales are from Regulation SHO Pilot data and compiled from the following exchanges and SROs: Amex, ArcaEx, Boston, Chicago, NASD, Nasdaq, National, NYSE and Phlx, aggregated and then scaled by offer amount (excluding the exercise of the overallotment option). Price Supported IPO is a dummy variable equal to 1 if the first day return is equal to zero or the IPO is in the bottom quartile of the percent of the overallotment option exercised collected from Bloomberg or top quartile for the percent of trades, using TAQ, executed at the offer price on the first trading day. Percent float is the ratio of shares offered from SDC to shares outstanding from CRSP. The ability to execute is estimated using TAQ and measures the extent to which the Uptick Rule or Nasdaq Bid Test allows short sales to execute. Nasdaq is a dummy variable equal to 1 if the IPO trades on either the Nasdaq, 0 if it trades on the NYSE or the Amex. t -values are in parentheses for OLS regressions and standard errors are adjusted for monthly clustering. \({ }^{* * *}\), \({ }^{* *}\), * indicates significance at the \(1 \%, 5 \%\) or \(10 \%\) levels.
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Variable} & \begin{tabular}{l}
Panel A \\
First Day Return from Open to Close
\end{tabular} & \multicolumn{2}{|l|}{\begin{tabular}{l}
Panel B \\
One Month Return From First Day Close
\end{tabular}} & \multicolumn{2}{|l|}{\begin{tabular}{l}
Panel C \\
Three Month Return From First Day Close
\end{tabular}} & \multicolumn{2}{|l|}{\begin{tabular}{l}
Panel D \\
Three Month Return Adjusted For Loan Fees
\[
(\mathrm{N}=259)
\]
\end{tabular}} \\
\hline & Model 1 & Model 2 & Model 3 & Model 4 & Model 5 & Model 6 & Model 7 \\
\hline Intercept & \[
\begin{aligned}
& -0.007 \\
& (-0.69)
\end{aligned}
\] & \[
\begin{array}{r}
0.083 \\
(3.43)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.057 \\
(2.99)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
0.119 \\
(2.51)^{* *}
\end{array}
\] & \[
\begin{array}{r}
0.087 \\
(2.21)^{* *}
\end{array}
\] & \[
\begin{array}{r}
0.108 \\
(2.33)^{* *}
\end{array}
\] & \[
\begin{array}{r}
0.076 \\
(1.87)^{*}
\end{array}
\] \\
\hline Short Sales \({ }_{\text {T }+0}\) Shares Offered & \[
\begin{gathered}
-0.044 \\
(-0.58)
\end{gathered}
\] & \[
\begin{array}{r}
-0.215 \\
(-1.35)
\end{array}
\] & & \[
\begin{array}{r}
-0.500 \\
(-1.67)
\end{array}
\] & & \[
\begin{gathered}
-0.491 \\
(-1.67)
\end{gathered}
\] & \\
\hline Cumulative Short Sales T+0 to \(^{T+21} 1\) Shares Offered & & & \[
\begin{aligned}
& 0.050 \\
& (1.33)
\end{aligned}
\] & & \[
\begin{gathered}
-0.031 \\
(-0.60)
\end{gathered}
\] & & \[
\begin{aligned}
& -0.027 \\
& (-0.69)
\end{aligned}
\] \\
\hline Price Supported IPO & \[
\begin{gathered}
-0.043 \\
(-6.37)^{* * *}
\end{gathered}
\] & \[
\begin{array}{r}
-0.079 \\
(-5.63)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
-0.070 \\
(-4.78)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
-0.099 \\
(-3.34)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
-0.091 \\
(-3.10)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
-0.107 \\
(-2.97)^{* * *}
\end{array}
\] & \[
\begin{array}{r}
-0.099 \\
(-2.78)^{* * *}
\end{array}
\] \\
\hline Float & \[
\begin{gathered}
-0.006 \\
(-3.12)^{* * *}
\end{gathered}
\] & \[
\begin{aligned}
& 0.006 \\
& (1.46)
\end{aligned}
\] & \[
\begin{array}{r}
0.008 \\
(2.06)^{* *}
\end{array}
\] & \[
\begin{aligned}
& 0.006 \\
& (0.94)
\end{aligned}
\] & \[
\begin{aligned}
& 0.008 \\
& (1.36)
\end{aligned}
\] & \[
\begin{gathered}
0.007 \\
(0.97)
\end{gathered}
\] & \[
\begin{aligned}
& 0.010 \\
& (1.41)
\end{aligned}
\] \\
\hline Ability to Execute \({ }_{\text {T }+0}\) & \[
\begin{gathered}
0.044 \\
(3.28)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
-0.070 \\
(-2.47)^{* *}
\end{gathered}
\] & \[
\begin{gathered}
(-0.067) \\
(-2.45)^{* *}
\end{gathered}
\] & \[
\begin{array}{r}
-0.066 \\
(-1.30)
\end{array}
\] & \[
\begin{gathered}
-0.058 \\
(-1.17)
\end{gathered}
\] & \[
\begin{gathered}
-0.027 \\
(-0.47)
\end{gathered}
\] & \[
\begin{gathered}
-0.023 \\
(-0.39)
\end{gathered}
\] \\
\hline Nasdaq & \[
\begin{gathered}
0.017 \\
(2.40)^{* *}
\end{gathered}
\] & \[
\begin{gathered}
0.009 \\
(0.67)
\end{gathered}
\] & \[
\begin{gathered}
-0.001 \\
(-0.10)
\end{gathered}
\] & \[
\begin{gathered}
0.025 \\
(0.80)
\end{gathered}
\] & \[
\begin{gathered}
0.013 \\
(0.46)
\end{gathered}
\] & \[
\begin{gathered}
0.027 \\
(0.77)
\end{gathered}
\] & \[
\begin{gathered}
0.015 \\
(0.49)
\end{gathered}
\] \\
\hline Adj. \(\mathrm{R}^{2}\) & 0.10 & 0.09 & 0.09 & 0.04 & 0.03 & 0.05 & 0.03 \\
\hline
\end{tabular}

Table 9

\section*{Potential Effects of Market Making Activity for Nasdaq IPOs Only}

The sample includes 248 Nasdaq IPOs issued between January 1, 2005 and December 31, 2006 excluding closed-end funds. Tests are conducted using two different short selling samples: 1) Exempt Short Sales: short sales executed on Nasdaq in Nasdaq IPOs that are marked as "exempt" as a proxy for market maker activity and 2) All Other Short Sales: short sales excluding exempt. In Panel A, the dependent variable in the regression is the offer day short sales (as defined above) as a percent of the offer amount. In Panel B, the dependent variable in the tobit regression is the first settlement day failure to deliver as a percent of shares offered. The independent variable of interest is offer day short sales (as defined above) as a percent of the offer amount. In Panel C, the dependent variable in the regression is the Three Month Return Adjusted For Loan Fees. Three Month Return Adjusted For Loan Fees is the Nasdaq Composite index adjusted return over the first three months of trading excluding the first day return plus the loan fee (measured over the first month of trading and multiplied by three). The first day return is from the offer price from SDC to the first trading day closing price on CRSP. Change in offer price is the percent difference of the final offer price from the midpoint of the preliminary offer price range in the prospectus. Volume is the daily number of shares traded from CRSP. Price Supported IPO is a dummy variable equal to 1 if the first day return is equal to zero or the IPO is in the bottom quartile of the percent of the overallotment option exercised collected from Bloomberg or top quartile for the percent of trades, using TAQ, executed at the offer price on the first trading day. Percent float is the ratio of shares offered from SDC to shares outstanding from CRSP. The ability to execute is estimated using TAQ and measures the extent to which the Uptick Rule or Nasdaq Bid Test allows short sales to execute. Nasdaq is a dummy variable equal to 1 if the IPO trades on either the Nasdaq, 0 if it trades on the NYSE or the Amex. \(t\)-values are in parentheses and standard errors are clustered by IPO month in Panel C. \({ }^{* * *, * *, * \text { indicates significance at the } 1 \%, 5 \% \text { or } 10 \% \text { levels. }}\)
\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[b]{3}{*}{Variable} & \multicolumn{2}{|l|}{Panel A Level of Short selling Dependent Variable: Short Selling} & \multirow[b]{3}{*}{Variable} & \multicolumn{2}{|l|}{Panel B
Level of FTDs
Dependent Variable:
Level of Failures to Deliver} & \multicolumn{2}{|l|}{\begin{tabular}{l}
Panel C \\
Short Term Price Effects \\
Dependent Variable: \\
One Month Nasdaq Return
\end{tabular}} & \multicolumn{2}{|l|}{\begin{tabular}{l}
Panel D \\
Short Term Price Effects \\
Dependent Variable: \\
Three Month Nasdaq Return
\end{tabular}} \\
\hline & Dep. Var: Exempt Short Sales & \begin{tabular}{l}
Dep. Var: \\
All Other \\
Short Sales
\end{tabular} & & \begin{tabular}{l}
Indep. Var: \\
Exempt Short Sales
\end{tabular} & \begin{tabular}{l}
Indep. Var: \\
All Other \\
Short Sales
\end{tabular} & \begin{tabular}{l}
Indep. Var: \\
Exempt \\
Short Sales
\end{tabular} & \begin{tabular}{l}
Indep. Var: \\
All Other \\
Short Sales
\end{tabular} & \begin{tabular}{l}
Indep. Var: \\
Exempt Short Sales
\end{tabular} & \begin{tabular}{l}
Indep. Var:: \\
All Other \\
Short Sales
\end{tabular} \\
\hline & Model 1 & Model 2 & & Model 3 & Model 4 & Model 5 & Model 6 & Model 7 & Model 8 \\
\hline Intercept & \[
\begin{gathered}
0.054 \\
(7.03)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
0.050 \\
(3.75)^{* * *}
\end{gathered}
\] & Intercept & \[
\begin{gathered}
0.055 \\
(2.31)^{* *}
\end{gathered}
\] & \[
\begin{gathered}
0.069 \\
(2.99)^{* *}
\end{gathered}
\] & \[
\begin{gathered}
0.134 \\
(3.42)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
0.148 \\
(3.90)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
0.234 \\
(3.94)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
0.228 \\
(4.43)^{* * *}
\end{gathered}
\] \\
\hline First Day Return from Offer Price to Open & \[
\begin{gathered}
0.059 \\
(4.99)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
0.106 \\
(5.14)^{* * *}
\end{gathered}
\] & Short Sales \({ }_{T+0} /\) Shares Offered & \[
\begin{aligned}
& 0.214 \\
& (1.30)
\end{aligned}
\] & \[
\begin{aligned}
& -0.040 \\
& (-0.43)
\end{aligned}
\] & \[
\begin{aligned}
& -0.257 \\
& (-0.74)
\end{aligned}
\] & \[
\begin{gathered}
-0.399 \\
(-1.97)^{*}
\end{gathered}
\] & \[
\begin{aligned}
& -0.897 \\
& (-1.32)
\end{aligned}
\] & \[
\begin{gathered}
-0.766 \\
(-2.17)^{* *}
\end{gathered}
\] \\
\hline Price Supported IPO & \[
\begin{gathered}
-0.00002 \\
(-0.01)
\end{gathered}
\] & \[
\begin{aligned}
& -0.005 \\
& (-0.72)
\end{aligned}
\] & Price Supported IPO & \[
\begin{gathered}
0.029 \\
(2.86)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
0.027 \\
(2.64)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
-0.079 \\
(-4.17)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
-0.084 \\
(-4.88)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
-0.098 \\
(-2.74)^{* *}
\end{gathered}
\] & \[
\begin{gathered}
-0.105 \\
(-3.05)^{* * *}
\end{gathered}
\] \\
\hline Float & \[
\begin{aligned}
& -0.001 \\
& (-0.78)
\end{aligned}
\] & \[
\begin{aligned}
& -0.003 \\
& (-1.13)
\end{aligned}
\] & Float & \[
\begin{gathered}
-0.048 \\
(-2.23)^{* *}
\end{gathered}
\] & \[
\begin{gathered}
-0.046 \\
(-2.15)^{* *}
\end{gathered}
\] & \[
\begin{gathered}
0.0042 \\
(2.08)^{* *}
\end{gathered}
\] & \[
\begin{gathered}
0.003 \\
(1.74)^{*}
\end{gathered}
\] & \[
\begin{aligned}
& -0.005 \\
& (-1.30)
\end{aligned}
\] & \[
\begin{aligned}
& 0.004 \\
& (1.00)
\end{aligned}
\] \\
\hline Ability to Execute \({ }_{\text {T }+0}\) & \[
\begin{gathered}
-0.049 \\
(-3.87)^{* * *}
\end{gathered}
\] & \[
\begin{aligned}
& -0.012 \\
& (-0.52)
\end{aligned}
\] & Ability to Execute \({ }_{\text {T+0 }}\) & \[
\begin{gathered}
-0.081 \\
(-2.35)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
-0.090 \\
(-2.64)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
-0.178 \\
(-3.11)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
-0.170 \\
(-3.35)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
-0.263 \\
(-3.66)^{* * *}
\end{gathered}
\] & \[
\begin{gathered}
-0.226 \\
(-2.72)^{* *}
\end{gathered}
\] \\
\hline Adj. \(\mathrm{R}^{2}\) & 0.12 & 0.11 & Log Likelihood/Adj. R \({ }^{2}\) & 99.87 & 99.12 & 0.09 & 0.11 & 0.04 & 0.05 \\
\hline
\end{tabular}

\section*{Figure 1}

Distribution of Short Selling on the Offer Day
The sample includes 388 IPOs issued between January 1, 2005 and December 31, 2006 excluding closedend funds. Short sales are from Regulation SHO Pilot data and compiled from the following exchanges and SROs: Amex, Arcaex, Boston, Chicago, NASD, Nasdaq, National, NYSE and Phlx. Short selling is a percent of shares offered. Shares offered are from SDC and excludes the exercise of the overallotment option.


\section*{Figure 2}

\section*{Intraday Short Selling}

The sample includes 388 IPOs issued between January 1, 2005 and December 31, 2006 excluding closedend funds. Short sales are from Regulation SHO Pilot data and compiled from the following exchanges and SROs: Amex, Arcaex, Boston, Chicago, NASD, Nasdaq, National, NYSE and Phlx. Exchange listing information is from CRSP. Short selling is a percent of total shares shorted on the offer day. Trades are a percent of total shares traded on the offer day. Because all IPOs do not open at 9:30, opening times are aligned and the first four hours of actual trading are captured in fifteen minute increments (e.g., if trading opens at 11 am , this chart captures 11:00-3:00.)


Time Relative to Open in 15 Minute Increments

\section*{Figure 3}

\section*{Short Selling, Returns and Trading Volume}

The sample includes 388 IPOs issued between January 1, 2005 and December 31, 2006 excluding closedend funds. Short sales are from Regulation SHO Pilot data and compiled from the following exchanges and SROs: Amex, Arcaex, Boston, Chicago, NASD, Nasdaq, National, NYSE and Phlx. Short selling is a percent of shares offered. Shares offered are from SDC and excludes the exercise of the overallotment option. The first day return is from the offer price from SDC to the first trading day closing price on CRSP. Daily returns after the offer date are from CRSP. Volume is the daily number of shares traded from CRSP scaled by the number of shares offered.


\section*{Figure 4}

\section*{Short Selling as a Percent of Volume}

The sample includes 388 IPOs issued between January 1, 2005 and December 31, 2006 excluding closedend funds. Short sales are from Regulation SHO Pilot data and compiled from the following exchanges and SROs: Amex, Arcaex, Boston, Chicago, NASD, Nasdaq, National, NYSE and Phlx. Exchange listing and daily volume (in shares) are from CRSP. Volume is the daily number of shares traded from CRSP scaled by the number of shares offered.


Figure 5

\section*{Short Selling and Failures to Deliver}

The sample includes 388 IPOs issued between January 1, 2005 and December 31, 2006 excluding closedend funds. Short sales are from Regulation SHO Pilot data and compiled from the following exchanges and SROs: Amex, Arcaex, Boston, Chicago, NASD, Nasdaq, National, NYSE and Phlx. Daily fails to deliver for IPOs are from NSCC's Continuous Net Settlement which includes stocks with aggregate fails to deliver of at least 10,000 shares. Fails to deliver on \(\mathrm{T}+\mathrm{N}\) are shown three trading days prior ( \(\mathrm{N}-3\) ). Short sales and fails to deliver are a percent of shares offered. Shares offered are from SDC and excludes the exercise of the overallotment option.
```


[^0]:    ${ }^{1}$ This is not a complete literature review of studies that are relevant to the uptick rule proposal, but focuses on those submitted in comment letters to the proposal.
    ${ }^{2}$ We also note that an OEA memo from 2007 and a publicly available academic study (Boehmer et al 2008, cited by Citadel) do provide direct evidence that the uptick rule does not alleviate downward price pressure.

[^1]:    ${ }^{3}$ For instance, a study of the impact of the ban on short selling on the London Stock Exchange during the fourth quarter of 2008 found that during the time period that the ban was in place, there was an overall decline in liquidity and a widening of bid-asked spreads (see 'The Effect of Short-selling Restrictions on Liquidity: Evidence from the London Stock Exchange,' Matthew Clifton and Mark Snape (19 December 2008)). Also, IIROC releases two studies on marketplace trends related to short sales (available online at http://docs.iiroc.ca/DisplayDocument.aspx?DocumentD=1BB3il789F8A04628A1C1D2CE68FEDEB4\&1,t lllguage=en) that show that stocks subject to the short sale ban had lower market quality as measured by spreads and volatility.
    ${ }^{4}$ See OEA Memorandum "Comments on Shapiro and Pham Analysis of FTDs", June 2, 2009.
    ${ }^{5}$ According to an industry research conducted by Credit Suisse, only $0.7 \%$ of investment management firms (which are commonly believed to be a substantial source of short sales) are dedicated to a short selling strategy, see
    http://www.hedgeindex.com/hedgeindex/documents/CS\%20Tremont\%20Hedge\%20Fund\%2008\%20Recap Final.pdf. Also For example, a fund that is required to keep a $130 / 30$ long/short ratio must invest 30 cents short for every $\$ 1.30$ invested long.

[^2]:    ${ }^{6}$ Ana Avramovic, What Happened When Traders' Short Were Pulled Down?, Credit Suisse Market Commentary (September 2008).
    ${ }^{7}$ Note that an OEA memo on returns on February 27, 2007 does provide some direct evidence that the uptick rule does not alleviate downward price pressure.

[^3]:    ${ }^{8}$ See also OEA Memorandum "Abnormal Market Volatility and the 2008 Market Crisis", February 2, 2009.

[^4]:    ${ }^{9}$ A contemporaneously prepared RiskFin memo points out that investor confidence is an ambiguous term that can mean several things. For example, investor confidence often refers to the systematic risk in the market, which cannot be diversified away, optimism about the economy, and investor protections.
    ${ }^{10}$ The State Street Investor Confidence Index in May 2009 rose to 106.3 from 82 in Fall 2008. The Gallup Index of Investor Optimism has increased by 73 points from its low in February 2009 through August 2009; The Bloomberg Professional Global Confidence Index set two consecutive record highs in August

[^5]:    and September 2009; the Rasmussen Investor Index has increased over 60\% from its March 9, 2009, record low of 54.7 to a level of 91.8 on September 21, 2009.
    ${ }^{11}$ Among the others: "U.S. fund managers' exposure to stocks rose for a second consecutive month in May to their highest point this year", Reuters, May 28, 2009; "Stock Funds Take in Dollars for $12^{\text {th }}$ week", WSJ, June 11 2009).
    ${ }^{12}$ Marketable orders are both market orders to sell short at the bid and limit orders to sell short where the limit price is below the existing bid.
    ${ }^{13}$ Credit Suisse cited the following studies studying the existence of possible magnet effect: Abad and Pascual (2005) studying the Spanish stock exchange; Chan, ef al (2005) studying the Kula Lumpur Stock Exchange; Hall and Karfman (2001) studying five agriculture futures contracts; Berkman and Steenbeek (1998) studying futures contracts on the Osaka Securities Exchange; Arak and Caak (1997) studying treasury bond futures

[^6]:    ${ }^{14}$ The uptick rule applied to individual stocks and many stocks experienced significant price declines during the Pilot period. Further, the OEA did not find any results indicating that the uptick rule would matter any more during in the uncertain period around Hurricane Katrina or on February 27, 2007 when the market dropped $3 \%$.

[^7]:    ${ }^{15}$ Memorandum of meeting with the Office of Commissioner Aguilar; also provided written materials.
    ${ }^{16}$ Prof. Angel submitted a letter on May 5, 2009 and a second letter on June 19, 2009.
    ${ }^{17}$ Don M. Autore, Randall S. Billingsley, and Tunde Kovacs jointly authored a paper that was submitted to the comment file.

[^8]:    ${ }^{18}$ Citadel Investment Group, The D.E. Shaw Group, and Renaissance Technologies submitted a joint comment letter.
    ${ }^{19}$ Credit Suisse submitted a letter on March 30, 2009 and a second letter on June 16, 2009. Credit Suisse also submitted written materials at a meeting with the Office of Commissioner Aguilar on June 24, 2009.

[^9]:    ${ }^{20}$ In addition to individual letters submitted by, Aflac Incorporated and Overstock.com, Aflac Incorporated, Overstock.com, Life Partners Holdings, Inc., Ditech, Veraz Networks, Inc., Assurant, Inc., EnerNOC, Inc. Companies, Medis Technologies Ltd., Sangamo BioSciences, Inc., and Web.Com Group, Inc. submitted a joint comment letter.

[^10]:    ${ }^{21}$ Vadim Timkovsky, Dmytro Matsypura, and E.G. Coffman, Jr. jointly authored a paper that was submitted to the comment file.

[^11]:    ${ }^{1}$ We acknowledge that under different market conditions the statistics might change. For the period of the analysis volume was higher than average and spreads were larger than average. We think that this implies that, for example, executions rates were expected to be higher for our sample period compared to less volatile periods.

[^12]:    ${ }^{2}$ We have not included all market centers because we found instances in which stale or out of sequence quotes resulted in erroneous statistics. By considering a subset of market centers, we lowered the possibility that stale quotes might have resulted in incorrect calculation of midquotes and spreads. At the same time, we believe that the subset of markets considered is substantial and the analysis is not significantly affected by the exclusion of some market centers.
    ${ }^{3}$ The differentiated impact of the rule may have important policy implications. For example, in the analysis of the results of the Reg SHO pilot, one important hypothesis that proved to be unfounded is that an uptick test would dampen downward returns.

[^13]:    ${ }^{4}$ Momentum traders purchase when the market rises and sell when the market falls in the previous trading session. Contrarian investors buy after a drop in the market and sell after a rise.

[^14]:    ${ }^{5}$ This is smaller than the average size of a short sale for the period under analysis, which was approximately 250 shares. In addition, many times, traders split the original order into smaller orders send to different exchanges or at different times to improve price execution. This means that the average size of the original short sale order, was higher than the average size of the short sales as reported by the exchanges.
    ${ }^{6}$ We place a hypothetical order every minute, independently of the time of the day and stock characteristics.

[^15]:    ${ }^{1}$ In this graph, volatility was measured as the annualized standard deviation of log of daily returns over a rolling window of 30 trading days.
    ${ }^{2}$ The bottom panel is based on the returns of the S\&P 500 Index. Because the S\&P 500 index does not go back far enough, the top panel uses alternative market indices compiled by the Center for Research in Securities Prices (CRSP) beginning in 1926, and by Professor William Schwert at the University of Rochester for the period prior to 1926.

[^16]:    ${ }^{3}$ For example, see Lockwood, Larry J. and Scott C. Linn, 1990, "An Examination of stock market return volatility during overnight and intraday periods, 1964-1989." Journal of Finance v45 pp. 591-601.

[^17]:    ${ }^{4}$ Although it is not shown on the graph, it is worth noting that end-of-day variance was also high during the third and fourth quarters of 2007, when variance in the last half hour of the day was roughly double the intraday average.

[^18]:    5 "Offhand Comment Sinks GE Stock, Maybe Market," The Ticker, washingtonpost.com, October 29, 2008. "Dow, S\&P 500 fall on profit worry, GE’s outlook," Kristina Cooke, Reuters, October 29, 2008.

[^19]:    6 "Geithner talk gooses stocks," Alexandra Twin, CNNMoney.com, November 21, 2008.

