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Beating Market Expectations, Analysts' Forecasts Dispersion and the Pricing of Credit Default Swaps

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Abstract

I study the impact of beating analysts' forecasts and the impact of analysts' forecast dispersion on the pricing of firms' credit default swaps (CDSs). CDS premium is the compensation required by investors for bearing firms' credit default risk. Sell-side analysts collect and combine market, industry and firm information to produce stock recommendations, stock price targets and accounting number forecasts. The information contained in their forecasts may provide additional information to investors to price CDSs. My results show that firms that beat analysts' earnings and revenue forecasts, and firms with less dispersed analysts' earnings and revenue forecasts have on average reduced CDS premia around the earnings announcement date. These effects are stronger for firm that jointly beat the two forecasts and for firms with high risk of default. The effect of beating analysts' earnings (revenue) forecasts is stronger for firms with more (less) earnings quality.

Key Words: Earnings and Revenues Forecasts, Forecast Dispersion, Cost of Debt, Default Risk, Earnings Quality.

JEL Classification: M41, G10, G14

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1. Introduction

I explore the impact of meeting/beating analysts' earnings and revenue forecasts on firms' Credit Default Swaps (CDSs) and the effect of analysts' forecast dispersion on perceptions regarding firm credit default risk. A CDS is the most commonly utilized type of credit derivative in the market. Similar to an insurance contract, a CDS is a bilateral contract of protection between the buyer and seller that provides the buyer protection against credit default risks. Unlike the firm's cost of debt, which is a function of the firm's probability of default, the recovery risk and differences in contractual agreements, CDSs provide a "clean" measure of the value of firm's default risk because it is the compensation required by market participants if they are to bear that specific risk. Moreover, CDS spreads tend to respond more quickly to credit conditions in the short term (Zhu 2006).[1] As a result, CDSs provide a specific measure that allows one to test the impact of beating analysts' forecasts and analysts' forecast dispersion on the pricing of firms' probability of default.

Several models have been developed to study the pricing of CDSs. My study relies on hybrid models (Duffie and Lando 2001) that assume that expected future cash flow and thus the probability of default depend partially on firms' future asset value and capital structure. Because these variables are not observable a priori, investors might rely on a firm's periodic accounting information (Das et al. 2009, Callen et al. 2009) and on the

[1] Further details about CDS contracts are presented in the next section.

communications of other market participants, such as credit rating agencies (Hull et al. 2004, Daniels and Jensen 2005) and sell-side analysts, to value firms' credit default risk. Because financial analysts are information intermediaries with a relative advantage in processing and disseminating firm, industry and market information, meeting or exceeding their expectations (in the form of analysts' earnings and revenue forecasts) provides additional information about future firm performance and therefore help investors to price firms' CDSs. In addition, previous literature finds that an increase in investors' expectations about firms' profitability (e.g., firms that beat analysts' earnings and revenues forecasts) results in an increase in the firms' equity value and in a decrease in the firms' probability of default (Black and Scholes, 1973 and Merton, 1974). As a result, I expect that meeting/beating analysts' expectations has an impact on firms' CDSs.

Several papers have documented the impact of analysts' forecast dispersion on the equity and bond markets (Chen and Subramanyam 2008, Mansi et al. 2010).[2] The information contained in analysts' forecasts may reduce information asymmetry between the market and the firm, helping investors to price securities. Thus, the information contained in analysts' earnings and revenues forecast dispersion might have an impact on the price of a firm's credit default risk.

Based on a sample of 56,775 observations (480 unique firms) from the Fitch database from 2002 to 2009, my results show that after controlling for structural factors (Merton 1974), accounting information, credit ratings scores and cumulative abnormal returns, firms that meet/beat analysts' quarterly earnings and/or revenues forecasts show, on average, a reduction in their CDS premia around the earnings announcement date. I find

[2] Mansi et al. (2010) study the impact of analysts' earnings forecast accuracy, dispersion and revision volatility on firms' cost of debt. These authors find that analysts' forecast dispersion is the most important attribute.

that the effects of exceeding analysts' forecasts on firms' CDS premia are stronger for firms with a high risk of default and for firms that jointly beat analysts' earnings *and* revenue forecasts. In addition, beating analysts' quarterly earnings (revenues) forecasts has an impact on CDS premia only for firms with high (low) levels of earnings quality and for firms reporting profits (losses). I also find that the effect of beating analysts' forecasts on the CDS Premium is stronger during the financial crisis period.

I also document a significant association between analysts' forecast dispersion and the pricing of CDSs. Specifically, firms with less dispersed analyst earnings and revenues forecasts tend to present a reduction in their CDS premia around the earnings announcement date. My results indicate that less uncertainty about firms' future performance, as proxied by the dispersion in analysts' forecasts, are priced into firms' credit default risk.

In recent years, CDSs have dramatically increased in popularity, rising from $180 billion in 1996 to over $54.6 trillion in the second quarter of 2008.[3] This amount represents over two times the size of the U.S. stock market according to the International Swaps and Derivatives Association (ISDA). The rapid development and lax regulation of the CDS market have been implicated as some of the causes behind the recent financial crisis, raising a number of policy concerns about market stability. Given the amount of resources allocated in the economy in the form of CDSs and the composition of most investor portfolios, studying the determinants of CDS pricing has become an important task in recent years. Moreover, previous literature has studied the impact of sell-side analysts' forecasts on the equity and bond market. My paper attempts to provide evidence on the impact of the information provided by this important group of market participants on

[3] http://www.isda.org/statistics/pdf/ISDA-Market-Survey-historical-data.pdf

perceptions regarding firms' credit default risk and on how earnings quality affects the impact of beating market expectations.

Previous studies document that a firm's cost of debt responds to beating analysts' earnings forecasts and to the amount of dispersion in those forecasts (Jiang 2008, Mansi et al. 2010). My paper extends this literature in two important ways. First, by focusing on CDS pricing rather than on the cost of debt of firms, I am able to isolate the impact of beating analysts' forecasts on the market's perception of a firm's probability of default. The reason for this analysis is that a firm's cost of debt prices not only the firm's probability of default but also the debtholders' recovery risk.[4] Second, I provide evidence that beating analysts' forecasts (earnings and revenue forecasts) and not only earnings forecasts are associated with declines in the market's perception of a firm's probability of default.

The paper proceeds as follows. Section 2 describes some characteristics of CDS contracts. This section also reviews the literature about the impact of analysts' forecasts on the equity and debt market, the models developed to estimate the price of CDSs and the impact of accounting information on the CDS market. In this section, I develop the main hypothesis. Section 3 presents the research design and the sample selection procedure. Section 4 presents the descriptive statistics and the correlation coefficients among the main

[4] The importance of being able to isolate the effect on the market's perception of a firm's default risk is most easily seen by trying to control for the debtholders' recovery risk when examining the impact of exceeding analysts' forecasts on the firm's cost of debt. To perform this analysis, I compute the ratio of the firm's total debt to property, plant and equipment each year and use it as a proxy for recovery risk—those with small (large) values are those with lower (higher) levels of recovery risk. Replacing the log of the firm's CDS price at the end of the quarter with the log of the firm's initial bond yield at the end of the quarter as the independent variable and running the regressions separately for those firms in the top and bottom terciles as ranked by the ratio of total debt to PPE provide evidence of the value of isolating default risk from recovery risk. In particular, beating analysts' forecasts is not associated with a firm's cost of debt when the firm's recovery risk is high. Furthermore, while the association between analysts' forecasts and a firm's cost of debt is similar to their association to the price of CDS on the firm's debt, the relation is significantly weaker. Because the ratio of total debt to PPE is merely a proxy for recovery risk, these results show the value of focusing specifically on a pure measure of the market's pricing of the firm's default risk.

variables used in this study. Section 5 presents the multivariate analysis and describes the main results. Section 6 shows some additional analysis and section 7 concludes the paper.

2. Literature Review and Hypotheses development

2.1 Credit Default Swaps

Credit default swaps (CDSs) are financial instruments that serve to protect against a default on a particular bond or security. CDSs are a bilateral contract between the buyer and the seller of protection where the buyer of a CDS, who is not required to but often owns the underlying credit asset, pays a periodic, quarterly or annual, fee or premium to the seller. The CDS spreads are the annualized premium rate quoted as a percentage of the notional value of the underlying debt. The seller agrees to pay the buyer a set amount if there is a credit event, such as bankruptcy, failure to pay, and restructuring. Once the specified credit-related event, such as the insolvency of an underlying corporate entity, occurs, a 'Credit Event Notice' is delivered either by the buyer or seller. Usually, the settlement conditions for the default payments of CDS are established at the time of writing the relevant CDS contract. These conditions typically take the form of physical or cash settlements. If a physical settlement is agreed upon, the protection buyer has to deliver the underlying bond in exchange for compensation. If a cash settlement is agreed upon, the protection buyer receives the difference between the bond value at the time of settlement and the bond's nominal value in cash. CDS contracts are usually traded in maturities from 6 months to 30 years.

In contrast to other types of derivatives, such as interest rate swaps, but similar to options, the risks assumed in a CDS by the protection buyer and protection seller are not symmetrical. The protection buyer effectively takes on a short position in the credit risk of

the reference entity, which thereby relieves the buyer from exposure to default. The protection seller, in contrast, takes on a long position in the credit risk of the reference entity, which is essentially the same as the default risk taken on when lending directly to the reference entity.

The motivation for this paper comes from two sources within the literature: i) the impact of beating/meeting analysts' expectations on investors' perceptions about firm performance and the effect of analysts' forecasts on capital markets and ii) the impact of accounting information on perceptions regarding firms' credit default risk.

2.2 The effects of beating analysts' forecasts and the properties of analysts' forecasts for capital markets

Previous literature provides evidence that investors, boards of directors, and creditors use analysts' forecasts as points of reference in evaluating firms' future performance. Accordingly, meeting/beating analysts' earnings and revenue forecasts have an important impact on firm stock prices and on the cost of debt (Bartov et al. 2005, Brown and Caylor 2005, Rees and Sivaramakrishnan 2007, Ertimur et al. 2003, Ertimur et al. 2009).

Providing evidence of the impact of meeting analysts' earnings forecasts on equity returns, Brown and Caylor (2005) and Bartov et al. (2005) find that after controlling for earnings forecast errors, firms that beat current analysts' earnings expectations enjoy a higher return than firms that fail to meet such expectations. These authors also find that avoiding negative quarterly earnings surprises has become the most important reference point in recent years and has become more important than meeting zero earnings or earnings numbers for previous years. Because earnings are the most important metric used

to evaluate firms' future performance (Graham et al. 2005), firms that beat analysts' earnings forecasts may provide useful information that helps to determine firm credit default risk.

The literature also provides evidence on the value relevance of analysts' revenues forecasts. Rees and Sivaramakrishnan (2007) find that the revenue response coefficient is statistically significant after controlling for the magnitude of the earnings surprise. These researchers conclude that revenues provide incremental information to the market about firm value. Jegadeesh and Livnat (2006) find that meeting analysts' revenues forecasts predicts more persistent future earnings growth. After controlling for past earnings surprises, earnings growth is positively related to past revenue surprises. Therefore, when a firm reports accounting numbers, investors may obtain valuable information if they can determine whether the earnings surprise is driven by changes in revenues or by changes in expenses.

Recent evidence has also shown that beating analysts' earnings forecasts impacts firms' cost of debt. Jiang (2008) reports that debt holders and credit rating agencies appear to use earnings benchmarks to evaluate firm solvency. He finds that firms that report profits and beat analysts' earnings forecasts have lower initial bond yield spreads in the next period year and a lower initial bond yield between consecutive periods. Moreover, he finds that firms that beat earnings forecasts have a higher probability of a credit rating upgrade in the next year.

Overall, the literature provides evidence that beating analysts' forecasts affects firms' equity valuation and perceptions regarding the firms' repayment capacity. Therefore, when firms meet or beat market earnings and/or revenues expectations, this event may

provide additional information to investors, helping them to evaluate the firms' future performance and to adjust their valuations of the firms' credit default risk accordingly.[5]

2.3 The impact of accounting information on the firm's credit risk

Several papers have studied the impact of earnings numbers on the bond markets. Ziebart and Reiter (1992) show that a higher return on assets (ROA) is associated with low bond yield spreads. Datta and Dhillon (1993) find that bondholders appear to react positively to unexpected earnings increases. Furthermore, bond and stock price responses to unexpected earnings announcements are symmetric. Easton et al. (2009) find that accounting information is value relevant in the bond market. Specifically, these researchers show that bond trading increases around earnings announcement dates and that bond return reactions around earnings announcement dates are positively related to changes in earnings and to analysts' forecasts errors. Moreover, they document an asymmetrical association between bad and good news in the bond market. Bond returns react more strongly to negative earnings surprises than positive earnings surprises. Overall, these papers provide evidence of the value relevance of accounting information, especially earnings information, in pricing firms' credit default risk, capacity for debt repayment and recovery.

As discussed in detail by Callen et al. (2009), the literature provides three types of models for studying the valuation of CDSs: structural models, reduced form models and hybrid models. The recent accounting and finance literature has focused on empirically testing the different models proposed to explain the pricing of credit derivatives. Ericsson et

[5] The view of analysts as sophisticated information intermediaries has been challenged by recent studies that find that analysts do not use all of the information in past earnings, changes in earnings, and working capital accruals and that they face some incentives to bias their forecasts (Abarbanell and Bushee 1997 and Bradshaw et al. 2001). In a recent paper, Bradshaw et al. (2010) find that for longer forecasts horizons and for small and young firms, a simple random-walk forecast model performs better than analysts' forecasts in predicting future EPS.

al. (2009) find that the theoretical (structural) determinants of a credit event modeled by Merton (1974), including the amount of leverage incurred by the underlying firm, the volatility of the underlying assets and the riskless spot rate, explain a large portion of the variance in the valuation of firms' credit default risk premia. Other studies build on the hybrid model developed by Duffie and Lando (2001) and incorporate accounting and other market information in the CDS valuation models. Hybrid models of CDS pricing assume that the expected future cash flows (and, therefore, the probability of default) depend on the variables defined in the structural models, imperfect information about firms' asset value and capital structure and uncertainty regarding firms' future value. Because these variables are not directly observable, investors might rely on firms' accounting information and on the analysis of other market participants (e.g., credit rating agencies and sell-side analysts) in determining firm credit risk. Seeking evidence of the association between CDS and credit ratings, Daniels and Jensen (2005) and Hull et al. (2004) find that CDS spreads and bond spreads change at the time of a credit rating downgrade and that the market seems to anticipate changes in credit rating scores. Some papers examine the impact of accounting information on CDS pricing. Das et al. (2009) compare accounting-based and market-based valuation models for the period 2001-2005 and find that a credit risk valuation model entirely composed of accounting metrics performs comparably to market-based structural models[6]. In a related study, Callen et al. (2009) find that accounting information affects CDS price. Specifically, these authors find that quarterly earnings numbers and both of their components (accruals and cash flow) positively impact the levels and changes of

[6] Das et al. (2009) use 10 variables to proxy for firm size, profitability, financial liquidity, trading account activity, sales growth and capital structure.

firms' CDS premia in the next period and between consecutive periods.[7] In addition, in an event study analysis, these researchers find that earnings surprises affect the perception of firm credit default risk around the earnings announcement date. My paper also provides evidence on the impact of meeting analysts' revenues forecasts on the pricing of CDSs and on how earnings quality affects the impact of meeting earnings and revenue forecasts on the perceptions of firms' credit default risk.

I base my analysis on the empirical implications of the hybrid models. Because financial analysts are information intermediaries who have a relative advantage in processing firm, industry and market information, firms that beat their expectations (in terms of analysts' earnings and revenue forecasts) may indicate relevant information about their future performance and their asset dynamics and thus help investors in updating their valuations of CDSs. Because standard asset pricing theories predict that an increase in investors' expectations about future firms' value results in the perceived probability of default, I expect a decrease in the premium that firms pay for credit risk protection for firms that beat analysts' expectations. On the other hand, since the major players in the credit market are institutional investors, if analysts' forecasts contain little information about firm probability of default, the credit markets would ignore them. In addition, managers face incentives to meet analysts' forecasts; if this is the case meeting these forecasts would not provide relevant information to price credit default swaps.

[7] Because their main analysis focuses on the effect of accounting numbers on CDS prices, Callen et al. (2009) measure the level of CDS premium as the log of the CDS premium one day after the SEC filing date and compute the change in the CDS premium from one day after the quarter t SEC filing date to one day after the quarter t+1 SEC filing date.

Hypothesis 1. *Firms that meet or beat analysts' earnings or revenue expectations have, on average, a reduction in their CDS premia around the earnings announcement date.*

The role of accounting information is particularly important at shorter maturities (Duffie and Lando (2001)). Consequently, I expect the impact of meeting/beating analysts' forecasts be more pronounced at shorter maturities.

As argued by Mansi et al. (2010), the information contained in analysts' forecasts (especially forecast dispersion) impacts perceptions regarding firms' future performance. These authors find that less forecast dispersion and less revision volatility are negatively related to firms' cost of debt. If analysts disagree about the future accounting information of a firm to a lesser degree, there will likely be less uncertainty about the firm's future performance, and therefore, a reduced premium may need to be paid for default risk protection.

Hypothesis 2. *Firms for which analysts' earnings and revenue forecasts have less dispersion have, on average, lower CDS premia around the earnings announcement date.*

If earnings surprises are accompanied by revenue surprises in the same direction, the earnings surprises are likely to be driven by revenue growth rather than by a reduction in expenses (or by increases in net margins). This situation might provide useful information about a firm's future ability to grow and therefore reduce the firm's perceived probability of a default.

Hypothesis 3. *Firms that jointly beat analysts' earnings and revenue forecasts have a stronger impact on the pricing of CDSs.*

When earnings are more informative about firms' performance, investors may place a greater emphasis on earnings information. Therefore, I hypothesize that the effect of beating analysts' earnings forecasts on the pricing of firms' credit default risk is more pronounced for firms with more earnings quality.[8]

Hypothesis 4. *The effect of beating analysts' earnings expectations compared to the effect of beating analysts' revenue forecasts on the pricing of CDS premia is more pronounced for firms with higher earnings quality.*

Previous studies indicate that there is a stronger effect of earnings benchmark beating for high default risk firms (Jiang, 2008, DeFond and Zhang, 2008). As a result, meeting earnings and revenues forecasts is likely more important when there is a high risk of insolvency.

Hypothesis 5. *The effect of beating analysts' earnings and revenue forecasts on the pricing of CDS premia is more pronounced for firms with high default risk.*

3. Research Design

Following previous studies, I use a regression approach to model the determinants of CDS prices (e.g., Abid and Naifar 2006 and Callen et al. 2009). The main analysis involves cross-sectional regressions of changes on firms' CDS premia around the earnings

[8] I measure a firm's earnings quality by calculating the firm's historic accrual quality.

announcement date on dummy variables indicating firms that meet/beat analysts' forecasts, analyst forecast dispersion measures and other control variables.

To test whether the dispersion of analysts' quarterly forecasts and beating analysts' quarterly earnings and revenue forecast affect the value of CDS premia when earnings numbers are reported, I estimate the coefficients of the following model[9]:

$$\begin{aligned} CDS\_Change_{i,t} = {} & \beta_1 + \beta_2 Lev_{i,t} + \beta_3 Size_{i,t} + \beta_4 StdRet_{i,t} + \beta_5 Yield_t + \beta_6 SP_{i,t} + \beta_7 CAR_{i,t} \\ & + \beta_8 EarnSurp_{i,t} + \beta_9 RevSurp_{i,t} + \beta_{10} BeatEarn_{i,t} + \beta_{11} BeatRev_{i,t} \\ & + \beta_{12} DispersionEarn_{i,t} + \beta_{13} DispersionRev_{i,t} + \beta_{14} Mat_{i,t} + \beta_{15} Senior_{i,t} \\ & + \beta_{16} Liq_{i,t} + \beta_{17} Year\_dummies + \varepsilon_{i,t} \end{aligned} \quad (1)$$

The dependent variable is the change of the CDS premium from one day before to one day after the quarterly earnings announcement date. To test my first hypothesis, I include the following independent variables: i) $BeatEarn_{i,t}$, which takes the value of 1 if the firm meets or beats the analysts' quarterly earnings forecast consensus in quarter t and 0 otherwise; and ii) $BeatRev_{i,t}$, which is set equal to 1 if the firm meets or beats the analysts' quarterly revenue forecast consensus in quarter t and 0 otherwise. [10] My first hypothesis predicts that the coefficients of these two variables will be negative and statistically significant. To test my second hypothesis, I include the dispersion of analysts' forecasts in the model. I define the dispersion of analysts' earnings and revenue forecasts as the negative value of the standard deviation of all analysts' earnings and revenues forecasts, respectively, which are issued for the quarter t:

[9] Because the data include several contracts for each firm in each period, I use robust standard errors clustered by firm to compute the p-values and test the statistical significance of the coefficients in each regression.
[10] I also used the last analyst's earnings and revenue forecast before the earnings announcement without any difference in the results.

$$\text{Dispersion}_{i,t} = - \frac{STD\ (Forecasts_{i,t})}{Price_{i,t}} \quad (2)$$

I expect that the coefficients of analysts' forecast dispersions (β_{13}, β_{14}, and β_{15}) will be negative and significant.

Following the structural models of CDS valuation, I include in the model firm leverage (*Lev*), measured as the firm's long-term debt divided by total assets at the end of the quarter t, the one-year T-Bill rate at the end of quarter (*Yield*), and the standard deviation of daily returns (*StdRet*) as control variables. Moreover, following the findings of Callen et al. (2009), I include firm size (*Size*), measured as the log of the total assets at the end of the quarter. To control for the magnitude of the equity returns, I include as a control variable the cumulative abnormal returns around the earnings announcement date (*CAR*). In addition, I also control for the magnitude of the analysts' forecast surprises scaled by stock price (*EarnSurp* and *RevSurp*) and for CDS contract-specific characteristics. I include the maturity of the CDS protection (*Mat*), measured as the numbers of years to maturity, a dummy variable (*Sen*ior) set equal to 1 for senior contracts and 0 otherwise, and a dummy variable (*Liq*) set equal to 1 for semi-liquid contracts and 0 for liquid contracts.[11] Finally, I control for the Standard & Poor's short-term credit rating (Hull et al. 2004) of the underlying firm. I translate rating letters into numbers, with smaller numbers indicating better ratings.[12] I include year dummy variables to control for time effects. I also estimate

[11] The difference between liquid and semi-liquid CDSs is in the method used to capture the premium data. The premia for liquid CDSs are based directly on market maker prices. The premia for semi-liquid CDSs are based on benchmark prices derived by comparing similar entities.

[12] Trying to control for some nonlinearities in the association between variables, I also estimate the coefficients of the model using rank variables instead of continuous variables. I assign all of the continuous variables to one of ten deciles based on the sample distribution each year. I estimate the coefficients of the following model:

$$\text{Rank\_ CDS\_Change}_{i,t} = \beta_0 + \beta_1\ \text{Rank\_Lev}_{i,t} + \beta_2\ \text{Rank\_Size}_{i,t} + \beta_3\ \text{Rank\_StdRet}_{i,t} + \beta_4 \text{Yield}_t + \beta_5 \text{SP}_{i,t} + \beta_6\ \text{Rank\_CAR}_{i,t} + \beta_7\ \text{Rank\_EarnSurp}_{i,t} + \beta_8\ \text{Rank\_RevSurp}_{i,t} + \beta_9\ \text{BeatEarn}_{i,t} + \beta_{10}\ \text{BeatRev}_{i,t} + \beta_{11}\ \text{Rank\_DispersionEarn}_{i,t} + \beta_{12}\ \text{Rank\_DispersionRev}_{i,t} + \beta_{13}\text{Mat}_{i,t} + \beta_{14}\text{Sen}_{i,t} + \beta_{15}\text{Liq}_{i,t} + \varepsilon_{i,t}$$

the coefficients of the model for three subsamples: CDS with maturities of less than one year, CDS contracts with maturities between 1 and 5 years and contract with maturities of more than 5 years.

To test my hypothesis about the joint impact of beating or missing analysts' earnings, cash flow and revenue forecasts on CDS premia levels, I construct three dummy variables: *i) BeatEarn_BeatRev$_{i,t}$,* ii) *MissEarn_MissRev$_{i,t}$,* and iii) *MissEean_BeatRev*. The dummy variable *BeatEarn_BeatRev$_{i,t}$* (*MissEarn_MissRev$_{i,t}$),* which represents good (bad) news about earnings and good (bad) news about revenues, obtains the value of 1 if the firm meets or beats (misses) analysts' earnings *and* revenue forecasts in quarter t and takes the value of 0 otherwise. *MissEarn_BeatRev$_{i,t}$* obtains the value of 1 if the firm misses analysts' earnings forecasts but beats analysts' revenues forecasts in quarter t and takes the value of 0 otherwise. Then, I estimate the coefficients of the following model:

$$\begin{aligned} CDS\_Change_{i,t+1} = {} & \beta_1 + \beta_2 Lev_{i,t} + \beta_3 Size_{i,t} + \beta_4 StdRet_{i,t} + \beta_5 Yield_t + \beta_6 SP_{i,t} + \beta_7 CAR_{i,t} \\ & + \beta_8 EarnSurp_{i,t} + \beta_9 RevSurp_{i,t} + \beta_{10} BeatEarn\_BeatRev_{i,t} \\ & + \beta_{11} MissEarn\_MissRev_{i,t} + \beta_{12} MissEarn\_BeatRev_{i,t} + \beta_{13} DispersionEarn_{i,t} \\ & + \beta_{14} DispersionRev_{i,t} + \beta_{15} Mat_{i,t} + \beta_{16} Sen_{i,t} + \beta_{17} Liq_{i,t} \\ & + \beta_{18} Year\_dummies + \varepsilon_{i,t.} \end{aligned} \quad (3)$$

I also estimate the coefficients of the model for three subsamples: CDS with maturities of less than one year, CDS contracts with maturities between 1 and 5 years and contract with maturities of more than 5 years.

To analyze whether the effect of beating analysts' earnings forecasts (as opposed to revenue forecasts) on firms' CDS premia is more pronounced for firms with greater

earnings quality, I run models 1 and 3 again for two subsamples of firm-quarter observations: firms with higher and lower accrual quality. Based on Dechow and Dichev (2002), I measure accrual quality as the standard deviation of the residuals of the following regression[13]:

$$\frac{\text{TCA}_{it}}{\text{AT}_{it}} = \alpha_0 + \alpha_1 \frac{CFO_{it-1}}{AT_{it}} + \alpha_2 \frac{CFO_{it}}{AT_{it}} + \alpha_3 \frac{CFO_{it+1}}{AT_{it}} + \varepsilon_{it}, \qquad (4)$$

where

AT_{it} = Firm i's average total assets in quarter t and quarter t-1;

TCA_{it} = Firm i's total current accruals in quarter t. I measure total accruals as firm's i change in current asset in quarter t and quarter t-1, minus firm's i change in current liabilities in quarter t and quarter t-1, less the firm's i change in cash in quarter t and quarter t-1, plus firm's i change in debt in current liabilities in quarter t and quarter t-1; and

CFO_{it} = Firm i's net income before extraordinary items minus total accruals in quarter t.[14]

I estimate equation (1) for each firm over rolling twelve-quarter windows. Using the regression coefficients, I estimate twelve firm- and quarter-specific residuals. I define accrual quality as the negative of the standard deviation of the firm-quarter estimated residuals:

$$\text{Accrual Quality}_{it} = - \text{SD} (\varepsilon_{j\ time}) \qquad time = t\text{-}12, t\text{-}8, \ldots, t \qquad (5)$$

Larger values of Accrual Quality_{it} correspond to firms with higher accrual quality.[15]

[13] The results are robust for other models develop in the literature to measure earnings quality such as Francis et al (2005).
[14] I measure total accruals as the Total current accruals (TCA) less depreciation.
[15] An observation is classified in the high earnings quality group if the standard deviation of the residuals is above the median values of the distribution each year.

To test whether the effect of meeting analysts' forecasts is more pronounced for firms with a high risk of default, I run models 1 and 3 again for two subsamples of firm-quarter observations based on their S&P credit rating. Specifically, I classify a firm-quarter observation in the "high risk of default" group if it has a credit rating of BBB- or lower at the end of the quarter. I expect that the effect of beating analysts' forecasts will be stronger for this subsample of firms.

3.1 Sample Selection

I obtain CDS price data from the Fitch CDS pricing services. These data include the consensus pricing for liquid CDSs based directly on market maker prices and the benchmark pricing for semi-liquid CDSs derived by comparing similar entities. The database also includes the initial maturity of the protection, its seniority (senior or subordinated), the currency of the underlying debt and the restructuring clause used in the contracts.[16] This database includes monthly data from July 1999 to June 2002, biweekly data from July 2002 to May 2003 and daily data from May 2003. I also select all firms with at least two-quarter-ahead earnings or revenue forecasts issued by sell-side analysts from 2002 to 2009 from the IBES database. The forecasts must be issued between 90 days before the earnings announcement date and the earnings announcement date. I obtain accounting data from the Compustat database, security returns from the CRSP database and the Standard and Poor's short-term credit rating from Compustat. The final data set consists of 56,775 observations for 480 unique firms.

[16] I consider only CDS contracts denominated in US dollars.

4. Descriptive Statistics

Table 1 shows the distribution of the observations by credit rating category and the mean and median CDS premium for all of the observations in each category. I translate ratings letters into numbers, with a smaller number indicating a better rating. As expected, the mean (median) CDS premium decreases monotonically from more than 1,233.1 (1,172.2) basis points for firms with CCC+ credit ratings to 22.5 (21) basis points for firms with AAA+ credit ratings. Almost half of the observations correspond to contracts for firms with credit ratings of BBB+, BBB, BBB- and BB+.

[Insert Table 1 around here]

Table 2 presents the descriptive statistics for the main variables in my analysis.[17] The mean (median) CDS premium change around the earnings announcement date in the sample is 0.002 (-0.002), and the mean firm size is US$ 11,872 million. Table 2 shows that 62.6% and 61.9% of the observations beat analysts' annual earnings and revenue forecasts, respectively. The mean forecast errors are -0.008 and 0.003 for analyst earnings and revenue forecasts, respectively. Almost 42% of the observations beat the two forecasts, and 17.4% of the observations miss earnings and revenues forecasts. The average maturity is 7.52 years, and almost 40% of the observations correspond to semi-liquid contracts.

[Insert Table 2 around here]

Table 3 presents the correlation coefficients. This table shows that the CDS premium change around the earnings announcement date is negatively related to analysts' forecast dispersion and to the dummy variables denoting firms that meet or beat analysts' earnings and revenues forecasts. Analysts' earnings and revenues forecast dispersions are

[17] To remove the influence of outliers, I winsorize all continuous variables at their 1st and 99th percentile levels

positively related to and the cumulative abnormal returns around the earnings announcement date are negatively related to the CDS premium change, which is consistent with previous research. The univariate analysis supports my hypothesis that beating analysts earning and/or revenues forecasts and the dispersion in such forecasts are negatively associated with the premium that firms have to pay to investors to bear credit risk.

[Insert Table 3 around here]

5. Results

To test whether meeting/beating analysts' earnings and revenues forecasts and the dispersion of those forecasts have an impact on firms' CDS premia, I estimate the coefficients of Equation 1 and present the results in Table 4. The first column presents the results for the full sample, the second, third and fourth columns presents the results for CDS contracts at short, medium and long term maturities, respectively The variable that measures the cumulative abnormal return (*CAR*) is negative and statistically significant, which is consistent with theories about the association between equity returns and firms' probability of default previously documented in the literature (Black and Scholes, 1973 and Merton 1974). The variable denoting observations that beat analysts' earnings (*BeatEarn*) or revenue (*BeatRev*) forecasts is negative and significant (-0.0033, p-value <0.0011, and -0.001, p-value<0.10, respectively). Moreover, the coefficients of analyst earnings and revenues forecasts dispersion (*DispersionEarn and DispersionRev*) are negative and statistically significant in each model (-0.0054, p-value<0.001 and -0.022, p-value<0.001). These results are also economically significant; for example, a decrease of one standard deviation in analysts' revenues forecast dispersion leads to a reduction on average of about

7.4 basis points in CDS premia. In addition, the forecast surprise coefficients (*EpsSurp* and *RevSurp*) are also statistically significant. These results support the first two hypotheses: firms that exceed analysts' forecasts and firms with lower levels of analysts' forecast dispersion enjoy smaller CDS premia when earnings are announced.[18] In addition, the effect of beating analysts' forecasts is stronger at shot maturities. The coefficients of the variable indicating firms that beet or meet analysts' earnings forecasts for CDS at short maturities is almost the double than CDS with maturities more than 5 years (0.0025 vs. 0.0050).

[Insert Table 4 around here]

The results of the joint impact of beating analysts' earnings and revenues forecasts on CDS premia are shown in Table 5. The first column presents the results for the full sample, the second, third and fourth columns presents the results for CDS contracts at short term, medium term and long term maturities, respectively. Considering all the observations, the dummy variable denoting observations that beat both analysts' earnings and revenue forecasts (*BeatEarn_BeatRev*) is negative and significant (-0.0023, p-value<0.001), meaning that firms that beat both analysts' forecasts enjoy, on average, lower CDS premia when firms announce their earnings numbers. However, the dummy variable denoting observations that miss analysts' earnings and that beat revenue forecasts (*MissEarn_BeatRev*) is positive and significant (0.0022, p-value<0.05). Investors value more earnings signals when they assess the impact of beating analysts' forecasts on the firms' credit default risk. In addition, the effect of beating both analyst' forecasts is stronger at short maturities.

[18] Using rank variables, I find that the estimated coefficients of Rank_EarnSurp and Rank_RevSurp are negative and statistically significant. Also, I find that the coefficients of Rank_DispersionEarn and Rank_ DispersionRev are negative and statistically significant.

[Insert Table 5 around here]

In this study, I test whether the effect of beatings analysts' quarterly earnings (revenues) forecasts on a firm's CDS is stronger for firms with higher (lower) earnings quality. Table 6 presents the results. As predicted, the coefficient of the dummy variable denoting firms that beat analysts' earnings forecasts (*BeatEarn*) is negative and statistically significant for only the subset of observations with high accrual quality (-0.0036, p-value<0.001). However, the dummy variables denoting firms that beat revenues forecasts (*BeatRev*) is negative and statistically significant for only the subsample of firms with low accrual quality (-0.0047, p-value<0.001). In addition, the accounting variables leverage (Lev) and firms' size (*Size*) have a larger impact on firms' CDS when earnings map more precisely the firms' cash flow. Table 7 presents the effect of beating analysts' earnings and revenues for firms with high and low accrual quality. Firms with low (high) earnings quality that miss earnings and that beat revenues forecasts have a negative (positive) coefficient. The results show that beating earnings (revenues) analysts' forecasts has a stronger (weaker) impact on the pricing of CDS for firms with high (low) accrual quality.

[Insert Tables 6 and 7 around here]

To test whether there is a stronger effect of earnings benchmark beating for high default risk firms (Jiang, 2008, DeFond and Zhang, 2008), I estimate models 1 and 3 for two subsamples of firms, with one presenting high default risk and one presenting low default risk. Table 8 presents the results. The effect of beating analysts' earnings forecasts is almost 1.5 times larger for the group of firms with a high risk of default (-0.0043, p-value<0.001 vs. -0.0027, p-value<0.001). Also, exceeding analysts' revenues forecasts is only significant for this subsample of firms (-0.0017, p-value<0.05). Most variables based on accounting numbers (leverage and size) are more or only significant for the group of

firms with a high risk of default. Table 9 presents the effect of jointly exceeding or missing analysts' earnings and revenues forecasts on the perceptions on firms' default risk for the two subsamples of firms. Firms that miss the two forecasts (*MissEarn_MissRev*) have to pay a greater premium for credit risk protection only for the firms with a high credit risk (0.0052, p-value<0.001). The effect of exceeding analysts' forecasts is stronger for firms with high risk of default.

[Insert Tables 8 and 9 around here]

Overall, the results of this paper show that analysts provide important information that help investors to price firms' credit default risk. Analysts' earnings and revenues forecast dispersion and exceeding analysts' earnings and revenue forecasts have an impact on the pricing of firms' CDS premia around the earnings announcement date.

6. Additional analysis

6.1 Firms reporting losses vs. firms reporting profits

Losses are less informative about firms' future prospects (Hayn 2005). Consequently, investors probably find revenues more informative when they assess the impact of accounting information in the valuation of CDS for firms reporting losses during the quarter. To test this idea, I estimate the coefficients of model 1 for two subsamples of firms based on the sign of earnings: firms reporting profits and firms reporting losses. Table 10 presents the results. The dummy variable indicating firms that beat analysts' earnings (revenues) forecasts is only significant for firms reporting profits (losses). The coefficient of BeatEarn is -0.0032 (p<0.001) for firms reporting profits. The same variable is not significant for firms reporting losses. On the other hand, the variable BeatRev is only significant for firms reporting losses (-0.0066, p-value,0.001)

[Insert Table 10 around here]

6.2 Analysis before and after the financial crisis

My sample period includes the financial crisis years of 2008 and 2009. Given the information uncertainty relating to asset prices during this period, I expect the impact of beating analysts' forecast be more pronounced during the crisis. I estimate the coefficients of model 1 for two subsamples of periods: before 2008 and after 2008. Table 11 presents the results. The coefficients of the variables denoting firms that beat analysts' earnings and revenues forecasts are larger during the period after 2008 during the financial crisis (-0.0050, $p<0.001$ vs. -0.0023, $p<0.001$ and -0.0025, $p<0.001$ vs -0.0017, $p<0.001$, respectively). The same results are observed for the dispersion on analysts' earnings and revenues forecasts. Accounting information seems to be more important to value firms' CDS during the financial crisis.

[Insert Table 11 around here]

7. Conclusions

Previous literature has examined the impact of sell-side analysts on the equity and debt market. This paper has attempted to determine the impact of the information provided by these important market participants on investors' perceptions of firms' credit default risk. Credit default swaps (CDSs) are credit derivatives that provide a clean measure of firms' credit default risk and thus allow one to test the impact of analysts' forecast dispersion and the effect of beating analysts' earnings and revenues forecasts on the pricing of this particular type of risk. My results indicate that firms with less dispersed quarterly analysts' earnings and revenues forecasts show lower CDS premia around the earnings

announcement date. Moreover, firms that beat analysts' earnings and revenue forecasts experience a decrease in the price that they must pay for credit default risk protection when preliminary earnings are announced. All of these effects are stronger for firms with high risk of default. The evidence in this study indicates that analyst communications, specifically analysts' forecasts, play an important role in the pricing of firms' credit default risk.

References

Abarbanell, J., and B. Bushee, 1997. Fundamental analysis, future earnings, and stock prices. *Journal of Accounting Research* 35: 1−24.

Abid, F., and N. Naifar. 2006. The determinant of credit default swap rates: An explanatory study. *International Journal of Theoretical and Applied Finance* 9: 23-42.

Ahmed, A., M. Song, and D. Stevens. 2009. Earnings Characteristics and Analysts' Differential Interpretation of Earnings Announcements: An empirical Analysis. *Accounting and Finance* 49: 223-246.

Bartov, E., D. Givoly, and C. Hayn. 2002. The rewards to meeting or beating earnings expectations. *Journal of Accounting and Economics* 33: 173-204.

Black, F., and M. Scholes. 1973. The pricing of options and corporate liabilities. *Journal of Political Economy* 637–654.

Bradshaw, M., S. Richardson, and R. Sloan. 2001. Do analysts and auditors use information in accruals? *Journal of Accounting Research* 39: 45−74

Brown, L. and M. Caylor. 2005. A temporal analysis of thresholds: propensities and valuation consequences. *The Accounting Review* 2: 423-440.

Callen J., J. Livnat, and D. Segal. 2009 The impact of earnings on the pricing of credit default swaps. *The Accounting Review*5:1363-1394.

Cheng, M., and K. Subramanyam, 2008. Analyst following and credit ratings. *Contemporary Accounting Research* 25: 1007–1044.

Daniels, K., and M. Jensen. 2005. The effect of credit ratings on credit default swaps spreads and credit spreads. *Journal of fix income* 15:16-33.

Das, S. R., P. Hanouna, and A. Sarin 2009. Accounting based versus market based cross sectional models of CDS. *Journal of banking and Finance.* 33: 719-730.

DeFond, M., J. Zhang. 2008. The information content of earnings surprises in the corporate bond market. Working paper, University of Southern California.

Datta, S. and U. Dhillon. 1993. Bond and stock market response to unexpected earnings announcements. *Journal of Financial and Quantitative Analysis* 28: 565-577.

Duffie, D., and D. Lando. 2001. Term structures of credit spreads with incomplete accounting information. *Econometrica* 69: 633–664.

Easton, P., S. Monahan, and F. Vasvari. 2009 Initial Evidence on the Role of Accounting Earnings in the Bond Market. *Journal of Accounting Research*, 47: 721 – 765.

Ericsson, J., K. Jacobs, and R. Oviedo. 2009. The determinants of credit default swap premia. *Journal of Financial and Quantitative Analysis* 44: 109-132.

Ertimur Y, J. Livnat, and M. Martikainen. 2003. Differential Reaction to Revenue and Expense Surprises. *Review of Accounting Studies* 8: 185 – 211.

Ertimur, Y., W. Mayew, and S. Stubben 2009. Analyst Reputation Building via Sales Forecasting. Working paper. Duke University.

Francis, J., R. LaFond, P. Olsson, and K. Schipper, 2005. The market pricing of accruals quality. *Journal of Accounting and Economics* 39: 295–327.

Graham, J., C. Harvey, and S. Rajgopal. 2005. The economic implications of corporate financial reporting. *Journal of Accounting and Economics* 40: 3-73.

Hayn, C. 1995. The information content of losses. *Journal of Accounting & Economics* 20: 125–154.

Hull, J., M. Predescu, and A. White. 2004. The relationship between credit default swap spreads, bond yields and credit rating announcements. *Journal of Banking &Finance.*28:2789-2811.

Jegadeesh, N., and J. Livnat. 2006. Revenue surprises and stock returns, *Journal of Accounting and Economics* 41: 147—171.

Jiang, J. 2008. Beating earnings benchmarks and the cost of debt. *The Accounting Review* 83: 377–416.

Mansi S., W. Maxwell, and D. Miller. 2010. Analyst forecast characteristics and the cost of debt. *Review of Accounting Studies*. April 2010

Merton, R. 1974. On the pricing of corporate debt: The risk structure of interest rates. *Journal of Finance*, 29, 449–470.

Rees, L. and K. Sivaramakrishnan. 2007. The effect of meeting or beating revenue forecasts on the association between quarterly returns and earnings forecast errors. *Contemporary Accounting Research* 24: 259-90.

Yu, F., 2005. Accounting transparency and the term structure of credit spreads. *Journal of Financial Economics* 75: 53-84.

Ziebart, D. and S. Reiter. 1992. Bond ratings, bond yields and financial information. *Contemporary Accounting Research* 9: 252-282.

Zhu, H. 2006. An empirical comparison of credit spreads between the bond market and the credit default swap market. *Journal of Financial Services Research* 29:211-235.

Table 1
Sample Distribution by S&P Credit Rating Category

Table 1 shows the sample distribution by S&P credit rating category. It also shows the mean and median values of the Credit Default Swap (CDS) premium (in basis points) for all firms in each category.

S&P Credit Letter Rating	S&P Credit Number	N	Mean_CDS	Median_CDS
AAA	1	214	22.5	21.0
AA	3	132	28.5	16.9
AA-	4	615	44.5	35.2
A+	5	1,670	45.5	36.3
A	6	5,517	45.9	35.2
A-	7	5,444	66.6	42.5
BBB+	8	7,176	84.6	50.7
BBB	9	9,467	98.8	61.5
BBB-	10	8,385	137.7	92.2
BB+	11	5,587	241.1	160.5
BB	12	3,899	377.6	229.1
BB-	13	2,931	503.1	311.7
B+	14	3,351	642.9	439.7
B	15	1,480	1054.7	455.9
B-	16	692	1054.7	688.0
CCC+	17	215	1233.1	1172.2
		56,775		

Table 2
Descriptive Statistics

Table 2 shows the descriptive statistics of the following variables: **CDS_change$_{it}$**= the percentage change of the CDS premium between one day before and one day after the earnings announcement day. **Lev$_{it}$**= firm i's long term debt divided by total assets at the end of quarter t. **Size$_{it}$** = log of firm i's total assets at the end of quarter t. **StdRet$_{it}$**= firm i's standard deviation of daily returns during quarter t. **SP$_{it}$** = Standard & Poor's debt rating for firm i in quarter t. I translate ratings letters into numbers, with smaller number indicating better rating. **Yield$_{t}$**= one-year T-Bill rate at the end of quarter t. **CAR$_{it}$**= Cumulative abnormal returns around the earnings announcement day of quarter t. **EarnSurp$_{it}$**= earnings surprise, computed as firm i's actual earnings per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **RevSurp$_{it}$**= revenues surprise, computed as firm i's actual revenues per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **BeatEarn$_{it}$** = 1 if firm i meets or beats the analysts' earnings forecast consensus in quarter t. **BeatRev$_{it}$** = 1 if firm i meets or beat the analysts' revenues forecast consensus in quarter t. **BeatEarn_BeatRev** = 1 if firm i meets or beats analysts' earnings *and* revenues forecast consensus in quarter t. **MissEarn_MissRev** = 1 if firm i misses analysts' earnings *and* revenues forecast consensus in quarter t. **Dispersion $_{it}$ =** the negative value of the standard deviation of all analysts' forecasts issued for firm i in quarter t. **Mat$_{it}$ =** Maturity of the cds protection. **Senior$_{it}$** = 1 for senior cds, 0 otherwise. **Liq$_{it}$** = 1 for a semi-liquid contracts, and 0 for liquid contracts.

	Q1	Mean	Median	Q3	Std
CDS_change	-0.022	0.002	-0.002	0.019	0.064
Lev	0.166	0.268	0.242	0.339	0.150
Size	8.702	9.397	9.375	10.097	0.950
StdRet	0.014	0.025	0.019	0.028	0.017
SP	8.000	9.499	9.000	11.000	2.728
Yield	1.770	2.912	2.270	4.890	1.558
CAR	-0.034	0.029	-0.014	0.036	0.067
EpsSurp	-0.001	-0.008	0.002	0.005	0.162
RevSurp	-0.003	0.003	0.002	0.008	0.079
BeatEarn	0.000	0.626	1.000	1.000	0.484
BeatRev	0.000	0.619	1.000	1.000	0.486
BeatEarn_BeatRev	0.000	0.419	0.000	1.000	0.493
MissEarn_MissRev	0.000	0.174	0.000	0.000	0.379
MissEarn_BeatRev	0.000	0.200	0.000	0.000	0.400
Dispersion_eps	0.001	0.004	0.001	0.002	0.014
Dispersion_rev	0.002	0.023	0.006	0.015	0.095
Mat	2.000	7.519	5.000	10.000	7.671
Senior	1.000	0.969	1.000	1.000	0.174
Liq	0.000	0.402	0.000	1.000	0.490

Table 3
Pearson Correlation Coefficients

Table 3 shows the Pearson correlation coefficients. Variable definitions are as follows: **CDS_change$_{it}$**= the percentage change of the CDS premium between one day before and one day after the earnings announcement day. **Lev$_{it}$**= firm i's long term debt divided by total assets at the end of quarter t. **Size$_{it}$** = log of firm i's total assets at the end of quarter t. **StdRet$_{it}$**= firm i's standard deviation of daily returns during quarter t. **SP$_{it}$** = Standard & Poor's debt rating for firm i in quarter t. I translate ratings letters into numbers, with smaller number indicating better rating. **Yield$_{t}$**= one-year T-Bill rate at the end of quarter t. **CAR$_{it}$**= Cumulative abnormal returns around the earnings announcement day of quarter t. **BeatEarn$_{it}$** = 1 if firm i meets or beats the analysts' earnings forecast consensus in quarter t. **BeatRev$_{it}$** = 1 if firm i meets or beats the analysts' revenues forecast consensus in quarter t. **Dispersion $_{it}$ =** the negative value of the standard deviation of all analysts' forecasts issued for firm i in quarter t. **Mat$_{it}$ =** Maturity of the cds protection. **Senior$_{it}$** = 1 for senior cds, 0 otherwise. **Liq$_{it}$** = 1 for a semi-liquid contracts, and 0 for liquid contracts. The coefficients in bold are statistically significant at least at p<0.05.

	CDS_change	**Lev**	**Size**	**StdRet**	**SP**	**Tbill**	**CAR**	**Beat_Earn**	**Beat_Rev**	**Disp_eps**	**Disp_rev**	**Senior**	**Liq**	**Mat**
CDS_change	1.00	**0.01**	**-0.05**	**0.04**	**0.02**	**-0.06**	**-0.15**	**-0.06**	**-0.04**	**-0.01**	**-0.01**	**-0.02**	**0.01**	0.00
Lev		1.00	**-0.22**	**0.16**	**0.47**	**-0.09**	**0.01**	**-0.09**	**-0.03**	0.00	0.00	**-0.12**	**0.11**	0.01
Size			1.00	**-0.18**	**-0.46**	**-0.02**	**0.03**	**0.10**	**0.05**	**0.03**	**-0.05**	**0.06**	**-0.15**	**0.01**
StdRet				1.00	**0.36**	**-0.53**	**-0.05**	**-0.06**	**-0.12**	**0.22**	**0.27**	**-0.11**	**0.04**	**0.06**
SP					1.00	**0.00**	**-0.03**	**-0.11**	**-0.07**	**0.13**	**0.15**	**-0.11**	**0.17**	0.01
Tbill						1.00	**0.01**	**-0.01**	**0.04**	**-0.03**	**-0.10**	**0.07**	**0.09**	**-0.03**
CAR							1.00	**0.23**	**0.17**	**-0.04**	**-0.06**	**-0.03**	**0.01**	-0.01
BeatEarn								1.00	**0.13**	**-0.08**	-0.06	0.00	-0.03	0.01
BeatRev									1.00	**-0.07**	**-0.07**	0.01	-0.03	-0.02
Dispersion_eps										1.00	**0.20**	-0.01	0.01	0.02
Dispersion_rev											1.00	**-0.02**	0.00	0.02
Senior												1.00	**-0.20**	0.01
Liq													1.00	**0.39**
Mat														1.00

Table 4
Regression Results of the Effect of Beating Analysts' Earnings and Revenues Forecasts on the CDS Premium around the Earnings Announcement Date

Table 4 presents the regression results of the following model:

$$CDS\_Change_{i,t} = \beta_1 + \beta_2 Lev_{i,t} + \beta_3 Size_{i,t} + \beta_4 StdRet_{i,t} + \beta_5 Yield_t + \beta_6 SP_{i,t} + \beta_7 CAR_{i,t} + \beta_8 EarnSurp_{i,t} + \beta_9 RevSurp_{i,t} + \beta_{10} BeatEarn_{i,t} + \beta_{11} BeatRev_{i,t} + \beta_{12} DispersionEarn_{i,t} + \beta_{13} DispersionRev_{i,t} + \beta_{14} Mat_{i,t} + \beta_{15} Senior_{i,t} + \beta_{16} Liq_{i,t} + \beta_{17} Year\_dummies + \varepsilon_{i,t}$$

Where: **CDS_change_{it}**= the percentage change of the CDS premium between one day before and one day after the earnings announcement day. **Lev_{it}**= firm i's long term debt divided by total assets at the end of quarter t. **$Size_{it}$** = log of firm i's total assets at the end of quarter t. **$StdRet_{it}$**= firm i's standard deviation of daily returns during quarter t. **SP_{it}** = Standard & Poor's debt rating for firm i in quarter t. I translate ratings letters into numbers, with smaller number indicating better rating. **$Yield_t$**= one-year T-Bill rate at the end of quarter t. **CAR_{it}**= Cumulative abnormal returns around the earnings announcement day of quarter t. **$EarnSurp_{it}$**= earnings surprise, computed as firm i's actual earnings per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **$RevSurp_{it}$**= revenues surprise, computed as firm i's actual revenues per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **$BeatEarn_{it}$** = 1 if firm i meets or beats the analysts' earnings forecast consensus in quarter t. **$BeatRev_{it}$** = 1 if firm i meets or beat the analysts' revenues forecast consensus in quarter t. **$Dispersion_{it}$ =** the negative value of the standard deviation of all analysts' forecasts issued for firm i in quarter t. **Mat_{it} =** Maturity of the cds protection. **$Senior_{it}$** = 1 for senior cds, 0 otherwise. **Liq_{it}** = 1 for a semi-liquid contracts, and 0 for liquid contracts.

	Full sample			Mat less than a year			Mat between 1 and 5 years			Mat more than 5 years		
Variable	**Coeff.**	**t-stat**		**Coeff.**	**t-stat**		**Coeff.**	**t-stat**		Coeff.	t-stat	
Intercept	0.0123	1.37		-0.0097	-0.45		0.0101	0.78		0.0333	2.20	**
Lev	0.0006	0.03		-0.0002	-0.03		-0.0001	-0.02		0.0005	0.17	
Size	-0.0027	-8.17	***	-0.0022	-2.20	**	-0.0028	-5.73	***	-0.0029	-6.45	***
StdRet	0.0494	2.11	**	0.0229	0.32		0.0409	1.11		0.0700	2.23	**
Yield	-0.0062	-5.41	***	-0.0071	-5.90	***	-0.0068	-6.19	***	-0.0051	-6.52	***
SP	0.0002	1.71	*	0.0001	0.13		-0.0002	-1.03		-0.0003	-1.59	
CAR	-0.1331	-3.45	***	-0.1733	-3.07	***	-0.1401	-3.87	***	-0.1090	-3.78	***
EarnSurp	-0.0094	-3.44	***	-0.0137	-2.59	***	-0.0081	-1.90		-0.0038	-1.32	
RevSurp	-0.0069	-1.79	*	-0.0144	-2.30	**	-0.0057	-0.89		-0.0051	-1.01	
BeatEarn	-0.0033	-3.59	***	-0.0050	-3.74	***	-0.0032	-3.68	***	-0.0025	-3.26	***
BeatRev	-0.0011	-1.92	*	-0.0023	-2.13	**	-0.0014	-1.80	*	-0.0012	-1.98	*
DispersionEarn	-0.0054	-3.14	***	-0.0066	-1.85	*	-0.0046	-2.79	***	-0.0045	-1.93	*
DispersionRev	-0.0220	-8.77	***	-0.0266	-3.45	***	-0.0222	-5.60	***	-0.0200	-6.19	***
Liq	0.0015	2.30	**	0.0001	0.04		0.0022	2.27	**	0.0006	0.67	
Senior	-0.0066	-4.06	***	-0.0088	-1.86	*	-0.0065	-2.66	***	-0.0059	-2.64	***
Mat	-0.0039	-1.01										
N	56775			N	10898		N	22487		N	23390	
Adj_R2	0.039			Adj_R2	0.048		Adj_R2	0.040		Adj_R2	0.035	

***, **, * denote significance at 1%, 5% and 10% respectively; p-values are calculated using robust standard errors clustered by firm.

Table 5
Regression Results of the Joint Effect of Beating Analysts' Earnings and Revenues Forecasts on the CDS Premium around the Earnings Announcement Date

Table 5 presents the regression results of the following model:

$$CDS\_Change_{i,t+1} = \beta_1 + \beta_2 Lev_{i,t} + \beta_3 Size_{i,t} + \beta_4 StdRet_{i,t} + \beta_5 Yield_t + \beta_6 SP_{i,t} + \beta_7 CAR_{i,t} + \beta_8 EarnSurp_{i,t} + \beta_9 RevSurp_{i,t} + \beta_{10} BeatEarn\_BeatRev_{i,t} + \beta_{11} MissEarn\_MissRev_{i,t} + \beta_{12} MissEarn\_BeatRev_{i,t} + \beta_{13} DispersionEarn_{i,t} + \beta_{14} DispersionRev_{i,t} + \beta_{15} Mat_{i,t} + \beta_{16} Sen_{i,t} + \beta_{17} Liq_{i,t} + \beta_{18} Year\_dummies + \varepsilon_{i,t}$$

CDS_change_{it}= the percentage change of the CDS premium between one day before and one day after the earnings announcement day. **Lev_{it}**= firm i's long term debt divided by total assets at the end of quarter t. **$Size_{it}$** = log of firm i's total assets at the end of quarter t **$StdRet_{it}$**= firm i's standard deviation of daily returns during quarter t. **SP_{it}** = Standard & Poor's debt rating for firm i in quarter t. I translate ratings letters into numbers, with smaller number indicating better rating. **$Yield_t$**= one-year T-Bill rate at the end of quarter t. **CAR_{it}**= Cumulative abnormal returns around the earnings announcement day of quarter t. **$EarnSurp_{it}$**= earnings surprise, computed as firm i's actual earnings per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **$RevSurp_{it}$**= revenues surprise, computed as firm i's actual revenues per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **BeatEarn_BeatRev** = 1 if firm i meets or beats analysts' earnings *and* revenues forecasts in quarter t. **MissEarn_MissRev** = 1 if firm i misses analysts' earnings *and* revenues forecasts in quarter t. **Dispersion $_{it}$ =** the negative value of the standard deviation of all analysts' forecasts issued for firm i in quarter t. **Mat_{it} =** Maturity of the cds protection. **$Senior_{it}$** = 1 for senior cds, 0 otherwise. **Liq_{it}** = 1 for a semi-liquid contracts, and 0 for liquid contracts.

	Full sample			Mat less than a year			Mat between 1 and 5 years			Mat more than 5 years		
Variable	**Coeff.**	**t-stat**		**Coeff.**	**t-stat**		**Coeff.**	**t-stat**		**Coeff.**	**t-stat**	
Intercept	0.0099	1.10		-0.0132	-0.61		0.0078	0.61		0.0313	2.07	**
Lev	0.0002	0.11		0.0001	0.01		0.0001	0.03		0.0006	0.22	
Size	-0.0027	-8.15	***	-0.0022	-2.19	**	-0.0028	-5.72	***	-0.0029	-6.44	***
Std_Ret	0.0497	2.12	**	0.0239	0.34		0.0413	1.12		0.0700	2.23	**
Yield	-0.0062	-5.40	***	-0.0071	-5.88	***	-0.0068	-5.17	***	-0.0051	-5.52	***
SP	-0.0002	-1.42		0.0001	0.13		-0.0002	-1.04		-0.0003	-1.60	
CAR	-0.1328	-3.37	***	-0.1728	-3.05	***	-0.1397	-4.82	***	-0.1088	-4.71	***
EarnSurp	-0.0095	-3.48	***	-0.0039	-0.62		-0.0082	-1.93	*	-0.0139	-3.34	***
RevSurp	-0.0073	-1.89	*	-0.0150	-1.36		-0.0062	-0.96		-0.0053	-1.05	
BeatEarn_BeatRev	-0.0023	-3.14	***	-0.0031	-3.95	***	-0.0027	-2.46	***	-0.0019	-1.01	
MissEarn_MissRev	0.0015	1.73	*	0.0021	0.76		0.0013	0.96		0.0014	1.28	
MissEarn_BeatRev	0.0022	2.51	**	0.0048	1.76	*	0.0019	1.41		0.0013	1.18	
DispersionEarn	-0.0053	-3.06	***	-0.0066	-3.80	***	-0.0055	-2.73	***	-0.0044	-1.90	*
DispersionRev	-0.0219	-8.75	***	-0.0266	-3.44	***	-0.0222	-5.59	***	-0.0200	-6.18	***
Liq	0.0015	2.31	**	0.0001	2.03	*	0.0022	2.27	***	0.0006	0.68	
Senior	-0.0066	-4.05	***	-0.0088	-1.87	*	-0.0065	-2.66	***	-0.0059	-2.63	***
Mat	0.0000	-1.02										
N	56775			N	10898		N	22487		N	23390	
Adj_R2	0.040			Adj_R2	0.042		Adj_R2	0.040		Adj_R2	0.032	

***, **, * denote significance at 1%, 5% and 10% respectively; p-values are calculated using robust standard errors clustered by firm.

Table 6
Regression Results of the Effect of Beating Analysts' Earnings and Revenues Forecasts on the CDS Premium around the Earnings Announcement Date for Groups Formed on Accrual Quality

Table 8 presents the regression results of the following model:

$$CDS\_Change_{i,t} = \beta_1 + \beta_2 Lev_{i,t} + \beta_3 Size_{i,t} + \beta_4 StdRet_{i,t} + \beta_5 Yield_t + \beta_6 SP_{i,t} + \beta_7 CAR_{i,t} + \beta_8 EarnSurp_{i,t} + \beta_9 RevSurp_{i,t} + \beta_{10} BeatEarn_{i,t} + \beta_{11} BeatRev_{i,t} + \beta_{12} DispersionEarn_{i,t} + \beta_{13} DispersionRev_{i,t} + \beta_{14} Mat_{i,t} + \beta_{15} Sen_{i,t} + \beta_{16} Liq_{i,t} + \beta_{17} Year\_dummies + \varepsilon_{i,t\backslash}$$

Where: **CDS_change_{it}**= the percentage change of the CDS premium between one day before and one day after the earnings announcement day. **Lev_{it}**= firm i's long term debt divided by total assets at the end of quarter t. **$Size_{it}$** = log of firm i's total assets at the end of quarter t. **$StdRet_{it}$**= standard deviation of daily returns during firm i's quarter t. **SP_{it}** = Standard & Poor's debt rating for firm i in quarter t. I translate ratings letters into numbers, with smaller number indicating better rating. **$Yield_t$**= one-year T-Bill rate at the end of quarter t. **CAR_{it}**= Cumulative abnormal returns around the earnings announcement day of quarter t. **$EarnSurp_{it}$**= earnings surprise, computed as firm i's actual earnings per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **$RevSurp_{it}$**= revenues surprise, computed as firm i's actual revenues per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **$BeatEarn_{it}$** = 1 if firm i meets or beats the analysts' earnings forecast consensus in quarter t. **$BeatRev_{it}$** = 1 if firm i meets or beat the analysts' revenues forecast consensus in quarter t. **Dispersion $_{it}$ =** the negative value of the standard deviation of all analysts' forecasts issued for firm i in quarter t. **Mat_{it} =** Maturity of the cds protection. **$Senior_{it}$** = 1 for senior cds, 0 otherwise. **Liq_{it}** = 1 for a semi-liquid contracts, and 0 for liquid contracts.

	Low Accrual Quality			High Accrual Quality	
Variable	**Coeff.**	**t-stat**		**Coeff.**	**t-stat**
Intercept	0.0107	0.75		0.0243	1.89**
Lev	0.0076	0.24		-0.0078	-0.22
Size	-0.0017	-3.24***		-0.0023	-4.38***
StdRet	0.0425	1.14		0.0552	1.37
Yield	-0.0049	-8.19***		-0.0068	-8.49***
SP	-0.0001	-0.70		-0.0003	-1.25**
CAR	-0.1692	-8.05***		-0.0879	-6.21***
EarnSurp	-0.0087	-2.95***		-0.0092	-1.41
RevSurp	-0.0025	-0.60		0.0336	3.33***
BeatEarn	-0.0003	-0.37		-0.0036	-3.87***
BeatRev	-0.0047	-5.20***		0.0002	0.25
DispersionEarn	-0.0095	-4.49***		0.0342	3.42***
DispersionRev	-0.0226	-7.84***		-0.0340	-5.53***
Mat	-0.0001	-0.93		0.0001	1.43
Liq	0.0017	1.66*		0.0005	0.47
Senior	0.0035	1.29		-0.0142	-5.05***
N	23056			23094	
Adj_R2	0.059			0.056	

***, **, * denote significance at 1%, 5% and 10% respectively; p-values are calculated using robust standard errors clustered by firm.

Table 7
Regression Results of the Joint Effect of Beating Analysts' Earnings and Revenues Forecasts on the CDS Premium around the Earnings Announcement Date for Groups formed Based on Accrual Quality

Table 9 presents the regression results of the following model:

$$CDS\_Change_{i,t+1} = \beta_1 + \beta_2 Lev_{i,t} + \beta_3 Size_{i,t} + \beta_4 StdRet_{i,t} + \beta_5 Yield_t + \beta_6 SP_{i,t} + \beta_7 CAR_{i,t} + \beta_8 EarnSurp_{i,t} + \beta_9 RevSurp_{i,t} + \beta_{10} BeatEarn\_BeatRev_{i,t} + \beta_{11} MissEarn\_MissRev_{i,t} + \beta_{12} MissEarn\_BeatRev_{i,t} + \beta_{13} DispersionEarn_{i,t} + \beta_{14} DispersionRev_{i,t} + \beta_{15} Mat_{i,t} + \beta_{16} Sen_{i,t} + \beta_{17} Liq_{i,t} + \beta_{18} Year\_dummies + \varepsilon_{i,t}$$

CDS_change_{it}= the percentage change of the CDS premium between one day before and one day after the earnings announcement day. **Lev_{it}**= firm i's long term debt divided by total assets at the end of quarter t. **$Size_{it}$** = log of firm i's total assets at the end of quarter t. **$StdRet_{it}$**= standard deviation of daily returns during firm i's quarter t. **SP_{it}** = Standard & Poor's debt rating for firm i in quarter t. I translate ratings letters into numbers, with smaller number indicating better rating. **$Yield_t$**= one-year T-Bill rate at the end of quarter t. **CAR_{it}**= Cumulative abnormal returns around the earnings announcement day of quarter t. **$EarnSurp_{it}$**= earnings surprise, computed as firm i's actual earnings per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **$RevSurp_{it}$**= revenues surprise, computed as firm i's actual revenues per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **BeatEarn_BeatRev** = 1 if firm i meets or beats analysts' earnings *and* revenues forecasts in quarter t. **MissEarn_MissRev** = 1 if firm i misses analysts' earnings *and* revenues forecasts in quarter t. **$Dispersion_{it}$** = the negative value of the standard deviation of all analysts' forecasts issued for firm i in quarter t. **Mat_{it}** = Maturity of the cds protection. **$Senior_{it}$** = 1 for senior cds, 0 otherwise. **Liq_{it}** = 1 for a semi-liquid contracts, and 0 for liquid contracts.

	Low Accrual Quality			High Accrual Quality	
Variable	**Coeff.**	**t-stat**		**Coeff.**	**t-stat**
Intercept	0.0111	0.78		0.0240	1.86**
Lev	0.0011	0.34		-0.0002	-0.05
Size	-0.0017	-3.23***		-0.0022	-4.25***
StdRet	0.0419	1.12		0.0613	1.53
Yield	-0.0049	-8.16***		-0.0068	-10.44***
SP	-0.0001	-0.75		-0.0003	-1.28
CAR	-0.1684	-7.84***		-0.0891	-7.35***
EarnSurp	-0.0088	-3.00***		-0.0080	-1.24
RevSurp	-0.0028	-0.67		0.0347	3.43***
BeatEarn_BeatRev	-0.0059	-4.98***		-0.0039	-3.46***
MissEarn_MissRev	-0.0013	-0.95		0.0032	2.27***
MissEarn_BeatRev	-0.0044	-3.20***		0.0042	2.97***
DispersionEarn	-0.0092	-4.34***		0.0302	3.02***
DispersionRev	-0.0226	-7.80***		-0.0346	-5.64***
Liq	0.0016	1.65*		0.0005	0.49
Mat	-0.0001	-0.94		0.0001	1.44
Senior	0.0035	1.30		-0.0143	-5.08***
N	23053			23094	
Adj_R2	0.060			0.059	

***, **, * denote significance at 1%, 5% and 10% respectively; p-values are calculated using robust standard errors clustered by firm.

Table 8
The effect of Analysts' Expectations and the Dispersion of Analysts' Forecasts on the CDS Premium for Groups formed Based on Credit Risk

Table 6 presents the regression results of the following model:

$$CDS\_Change_{i,t} = \beta_1 + \beta_2 Lev_{i,t} + \beta_3 Size_{i,t} + \beta_4 StdRet_{i,t} + \beta_5 Yield_t + \beta_6 SP_{i,t} + \beta_7 CAR_{i,t} + \beta_8 EarnSurp_{i,t} + \beta_9 RevSurp_{i,t} + \beta_{10} BeatEarn_{i,t} + \beta_{11} BeatRev_{i,t} + \beta_{12} DispersionEarn_{i,t} + \beta_{13} DispersionRev_{i,t} + \beta_{14} Mat_{i,t} + \beta_{15} Sen_{i,t} + \beta_{16} Liq_{i,t} + \beta_{17} Year\_dummies + \varepsilon_{i,t}$$

Where: **CDS_Change_{it}**= the percentage change of the CDS premium between one day before and one day after the earnings announcement day. **Lev_{it}**= firm i's long term debt divided by total assets at the end of quarter t. **$Size_{it}$** = log of firm i's total assets at the end of quarter t. **$StdRet_{it}$**= firm i's standard deviation of daily returns during quarter t. **SP_{it}** = Standard & Poor's debt rating for firm i in quarter t. I translate ratings letters into numbers, with smaller number indicating better rating. **$Yield_t$**= one-year T-Bill rate at the end of quarter t. **CAR_{it}**= Cumulative abnormal returns around the earnings announcement day of quarter t. **$EarnSurp_{it}$**= earnings surprise, computed as firm i's actual earnings per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **$RevSurp_{it}$**= revenues surprise, computed as firm i's actual revenues per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **$BeatEarn_{it}$** = 1 if firm i meets or beats the analysts' earnings forecast consensus in quarter t. **$BeatRev_{it}$** = 1 if firm i meets or beat the analysts' revenues forecast consensus in quarter t. **Dispersion $_{it}$ =** the negative value of the standard deviation of all analysts' forecasts issued for firm i in quarter t. **Mat_{it} =** Maturity of the cds protection. **$Senior_{it}$** = 1 for senior cds, 0 otherwise. **Liq_{it}** = 1 for a semi-liquid contracts, and 0 for liquid contracts.

	Low Default risk				High Default risk		
Variable	**Coeff.**	**t-stat**			**Coeff.**	**t-stat**	
Intercept	-0.0062	-0.52			0.0553	4.00	***
Lev	-0.0025	-0.66			-0.0041	-1.74	*
Size	-0.0009	-2.07	**		-0.0058	-6.69	***
StdRet	-0.0553	-1.49			0.0875	2.95	***
Yield	-0.0080	-3.98	***		-0.0046	-8.42	***
CAR	-0.1164	-5.89	***		-0.1368	-4.96	***
EarnSurp	0.0546	0.92			-0.0079	-2.88	***
RevSurp	-0.0514	-6.65	***		0.0043	1.09	
BeatEarn	-0.0027	-3.02	***		-0.0047	-5.63	***
BeatRev	0.0000	0.03			-0.0017	-2.03	**
DispersionEarn	-0.0045	-2.55	**		-0.0050	-1.78	*
DispersionRev	-0.0804	-8.95	***		-0.0162	-6.52	***
Mat	0.0001	1.12			-0.0001	-2.10	**
Liq	-0.0142	-3.54	***		-0.0041	-2.25	**
Senior	-0.0007	-0.77			0.0027	3.02	***
N	30235				26540		
Adj_R2	0.035				0.055		

***, **, * denote significance at 1%, 5% and 10% respectively; p-values are calculated using robust standard errors clustered by firm.

Table 9
Regression Results of the Joint Effect of Beating Analysts' Earnings and Revenues Forecasts on the CDS Premium around the Earnings Announcement Date for Groups formed Based on Credit Risk

Table 7 presents the regression results of the following model:

$$CDS\_Change_{i,t+1} = \beta_1 + \beta_2 Lev_{i,t} + \beta_3 Size_{i,t} + \beta_4 StdRet_{i,t} + \beta_5 Yield_t + \beta_6 SP_{i,t} + \beta_7 CAR_{i,t} + \beta_8 EarnSurp_{i,t} + \beta_9 RevSurp_{i,t} + \beta_{10} BeatEarn\_BeatRev_{i,t} + \beta_{11} MissEarn\_MissRev_{i,t} + \beta_{12} MissEarn\_BeatRev_{i,t} + \beta_{13} DispersionEarn_{i,t} + \beta_{14} DispersionRev_{i,t} + \beta_{15} Mat_{i,t} + \beta_{16} Sen_{i,t} + \beta_{17} Liq_{i,t} + \beta_{18} Year\_dummies + \varepsilon_{i,t}$$

CDS_change_{it}= the percentage change of the CDS premium between one day before and one day after the earnings announcement day. **Lev_{it}**= firm i's long term debt divided by total assets at the end of quarter t. **$Size_{it}$** = log of firm i's total assets at the end of quarter t. **$StdRet_{it}$**= standard deviation of daily returns during firm i's quarter t. **SP_{it}** = Standard & Poor's debt rating for firm i in quarter t. I translate ratings letters into numbers, with smaller number indicating better rating. **$Yield_t$**= one-year T-Bill rate at the end of quarter t. **CAR_{it}**= Cumulative abnormal returns around the earnings announcement day of quarter t. **$EarnSurp_{it}$**= earnings surprise, computed as firm i's actual earnings per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **$RevSurp_{it}$**= revenues surprise, computed as firm i's actual revenues per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **BeatEarn_BeatRev** = 1 if firm i meets or beats analysts' earnings *and* revenues forecasts in quarter t. **MissEarn_MissRev** = 1 if firm i misses analysts' earnings *and* revenues forecasts in quarter t. **$Dispersion_{it}$** = the negative value of the standard deviation of all analysts' forecasts issued for firm i in quarter t. **Mat_{it}** = Maturity of the cds protection. **$Senior_{it}$** = 1 for senior cds, 0 otherwise. **Liq_{it}** = 1 for a semi-liquid contracts, and 0 for liquid contracts.

	Low Default risk			High Default risk	
Variable	**Coeff.**	**t-stat**		**Coeff.**	**t-stat**
Intercept	-0.0081	-0.68		0.0503	3.63***
Lev	-0.0021	-0.55		-0.0041	-1.76*
Size	-0.0008	-1.98**		-0.0058	-7.69***
StdRet	-0.0506	-1.37		0.0877	2.95
Yield	-0.0079	-3.90***		-0.0046	-8.42***
CAR	-0.1163	-5.89***		-0.1369	-4.96***
EarnSurp	0.0528	0.89		-0.0079	-2.87***
RevSurp	-0.0516	-6.67***		0.0044	1.12
BeatEarn_BeatRev	-0.0026	-2.64***		-0.0014	-1.27
MissEarn_MissRev	-0.0016	-1.21		0.0052	4.19***
MissEarn_BeatRev	0.0029	2.26**		0.0030	2.38**
DispersionEarn	-0.0040	-2.20**		-0.0050	-1.78*
DispersionRev	-0.0811	-6.99***		-0.0162	-6.54***
Liq	-0.0008	-0.82		0.0027	3.01***
Mat	0.0001	1.14		-0.0001	-2.10**
Senior	-0.0136	-3.39***		-0.0041	-2.24**
N	30235			26540	
Adj_R2	0.026			0.055	

***, **, * denote significance at 1%, 5% and 10% respectively; p-values are calculated using robust standard errors clustered by firm.

Table 10
Regression Results of the Effect of Beating Analysts' Earnings and Revenues Forecasts on the CDS Premium around the Earnings Announcement Date for firms Reporting Profits and Losses

Table 10 presents the regression results of the following model for subsample of firms reporting profits and losses:

$$CDS\_Change_{i,t} = \beta_1 + \beta_2 Lev_{i,t} + \beta_3 Size_{i,t} + \beta_4 StdRet_{i,t} + \beta_5 Yield_t + \beta_6 SP_{i,t} + \beta_7 CAR_{i,t} + \beta_8 EarnSurp_{i,t} + \beta_9 RevSurp_{i,t} + \beta_{10} BeatEarn_{i,t} + \beta_{11} BeatRev_{i,t} + \beta_{12} DispersionEarn_{i,t} + \beta_{13} DispersionRev_{i,t} + \beta_{14} Mat_{i,t} + \beta_{15} Senior_{i,t} + \beta_{16} Liq_{i,t} + \beta_{17} Year\_dummies + \varepsilon_{i,t}$$

Where: **CDS_change_{it}**= the percentage change of the CDS premium between one day before and one day after the earnings announcement day. **Lev_{it}**= firm i's long term debt divided by total assets at the end of quarter t. **$Size_{it}$** = log of firm i's total assets at the end of quarter t. **$StdRet_{it}$**= firm i's standard deviation of daily returns during quarter t. **SP_{it}** = Standard & Poor's debt rating for firm i in quarter t. I translate ratings letters into numbers, with smaller number indicating better rating. **$Yield_t$**= one-year T-Bill rate at the end of quarter t. **CAR_{it}**= Cumulative abnormal returns around the earnings announcement day of quarter t. **$EarnSurp_{it}$**= earnings surprise, computed as firm i's actual earnings per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **$RevSurp_{it}$**= revenues surprise, computed as firm i's actual revenues per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **$BeatEarn_{it}$** = 1 if firm i meets or beats the analysts' earnings forecast consensus in quarter t. **$BeatRev_{it}$** = 1 if firm i meets or beat the analysts' revenues forecast consensus in quarter t. **$Dispersion_{it}$ =** the negative value of the standard deviation of all analysts' forecasts issued for firm i in quarter t. **Mat_{it} =** Maturity of the cds protection. **$Senior_{it}$** = 1 for senior cds, 0 otherwise. **Liq_{it}** = 1 for a semi-liquid contracts, and 0 for liquid contracts.

	Firms reporting profits				**Firms reporting losses**		
Variable	**Coeff.**	**t-stat**			**Coeff.**	**t-stat**	
Intercept	0.0037	0.36			0.0801	4.64	***
Lev	-0.0079	-3.36	***		0.0253	5.81	***
Size	-0.0016	-4.32	***		-0.0086	-6.91	***
StdRet	-0.0099	-0.34	**		0.0323	0.62	
Yield	-0.0067	-5.05	***		-0.0052	-5.36	***
SP	0.0000	0.06			0.0018	6.35	***
CAR	-0.1229	-3.97	***		-0.1487	-3.79	***
EarnSurp	-0.1395	-8.37	***		-0.0071	-2.51	**
RevSurp	-0.0267	-5.62	***		0.0244	3.92	***
BeatEarn	-0.0032	-3.33	***		-0.0017	-1.31	
BeatRev	0.0001	0.22			-0.0066	-4.75	***
DispersionEarn	-0.0025	-1.62	*		-0.0100	-2.47	**
DispersionRev	-0.0208	-6.27	***		-0.0206	-5.31	***
Mat	0.0000	-0.88			0.0000	-0.58	
Liq	0.0026	3.56	***		-0.0051	-3.60	***
Senior	-0.0092	-4.98	***		-0.0035	-1.02	
N	47101				N	9674	
Adj_R2	0.033				Adj_R2	0.088	

***, **, * denote significance at 1%, 5% and 10% respectively; p-values are calculated using robust standard errors clustered by firm.

Table 11
Regression Results of the Effect of Beating Analysts' Earnings and Revenues Forecasts on the CDS Premium around the Earnings Announcement Date Before and After 2008

Table 11 presents the regression results of the following model for subsample of firms before and after 2008:

$$CDS\_Change_{i,t} = \beta_1 + \beta_2 Lev_{i,t} + \beta_3 Size_{i,t} + \beta_4 StdRet_{i,t} + \beta_5 Yield_t + \beta_6 SP_{i,t} + \beta_7 CAR_{i,t} + \beta_8 EarnSurp_{i,t} + \beta_9 RevSurp_{i,t} + \beta_{10} BeatEarn_{i,t} + \beta_{11} BeatRev_{i,t} + \beta_{12} DispersionEarn_{i,t} + \beta_{13} DispersionRev_{i,t} + \beta_{14} Mat_{i,t} + \beta_{15} Senior_{i,t} + \beta_{16} Liq_{i,t} + \beta_{17} Year\_dummies + \varepsilon_{i,t}$$

Where: **CDS_change_{it}**= the percentage change of the CDS premium between one day before and one day after the earnings announcement day. **Lev_{it}**= firm i's long term debt divided by total assets at the end of quarter t. **$Size_{it}$** = log of firm i's total assets at the end of quarter t. **$StdRet_{it}$**= firm i's standard deviation of daily returns during quarter t. **SP_{it}** = Standard & Poor's debt rating for firm i in quarter t. I translate ratings letters into numbers, with smaller number indicating better rating. **$Yield_t$**= one-year T-Bill rate at the end of quarter t. **CAR_{it}**= Cumulative abnormal returns around the earnings announcement day of quarter t. **$EarnSurp_{it}$**= earnings surprise, computed as firm i's actual earnings per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **$RevSurp_{it}$**= revenues surprise, computed as firm i's actual revenues per share values from IBES minus the analysts' forecast consensus in quarter t, scaled by quarter-end price. **$BeatEarn_{it}$** = 1 if firm i meets or beats the analysts' earnings forecast consensus in quarter t. **$BeatRev_{it}$** = 1 if firm i meets or beat the analysts' revenues forecast consensus in quarter t. **Dispersion $_{it}$ =** the negative value of the standard deviation of all analysts' forecasts issued for firm i in quarter t. **Mat_{it} =** Maturity of the cds protection. **$Senior_{it}$** = 1 for senior cds, 0 otherwise. **Liq_{it}** = 1 for a semi-liquid contracts, and 0 for liquid contracts.

	Before 2008				After 2008		
Variable	**Coeff.**	**t-stat**			**Coeff.**	**t-stat**	
Intercept	0.0158	1.58			0.0574	8.36	***
Lev	-0.0043	-1.47			0.0011	0.37	
Size	-0.0023	-5.21	***		-0.0041	-8.23	***
StdRet	-0.3626	-6.01	***		0.2180	6.71	***
Yield	-0.0079	-7.35	***		-0.0027	-3.08	***
SP	0.0002	0.92			0.0004	1.69	*
CAR	-0.1753	-4.07	***		-0.1043	-4.27	***
EarnSurp	-0.0037	-0.89			-0.0087	-2.73	***
RevSurp	-0.0125	-1.28			-0.0053	-1.30	
BeatEarn	-0.0023	-3.04	***		-0.0050	-5.43	***
BeatRev	-0.0017	2.02	**		-0.0025	-2.78	***
DispersionEarn	-0.0026	-2.41	**		-0.0065	-2.12	**
DispersionRev	-0.0048	-2.01	**		-0.0260	-6.08	***
Mat	0.0000	-0.50			-0.0001	-1.41	
Liq	0.0025	2.93	**		0.0002	0.21	
Senior	-0.0039	-1.36			-0.0076	-3.79	***
N	36948				N	19827	
Adj_R2	0.040				Adj_R2	0.054	

***, **, * denote significance at 1%, 5% and 10% respectively; p-values are calculated using robust standard errors clustered by firm.