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Essays on Institutional Trading Around the World

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ESSAYS ON INSTITUTIONAL TRADING AROUND THE WORLD

by

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Abstract

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This dissertation consists of two essays on institutional trading around the world. The first essay (Chapter 1) investigates the trading behavior of institutional investors from 28 countries around the world. During the period from 1999 to 2008, we find strong empirical evidence that institutional investors tend to move their funds out of volatile foreign equity markets and back to their home markets, particularly following the recent 2007-2008 global financial crisis. Our results also show that institutional investors prefer to hold more liquid stocks in highly volatile markets, suggesting evidence of flight to liquidity. Institutional investors are also inclined to increase the level of liquidity of their home portfolios relative to that of their foreign portfolios when there is a surge in foreign market volatility. Finally, evidence supports that the overall portfolio risk of institutional investors reduces during the financial crisis period.

The second essay (Chapter 2) studies the impact of market sentiment on institutional home bias around the world. The paper explores the effects of three investor sentiment measures on institutional home bias from 1999 to 2009 for 14 institutional domiciled countries based on Factset Lionshares and Worldscope data. WE show a negative significant impact of global investor sentiment on institutional home bias. We provide the empirical evidence that global investor sentiment index reduces the institutional home bias in the international market during the past decase. Local

and total market sentiment do not show the statistically significant effects on home bias. Distance and language have positive and negative effects on institutional home bias, respectively. Investor protection variables such as rule of law index and risk of expropriation index have a significant positive effect and negative effect on institutional over-weighted investment on domestic market. Our findings are robust for the sample either including or excluding the U.S. market.

To my parents

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Chapter 1

ESSAY 1: INSTITUTIONAL TRADING BEHAVIOR AND GLOBAL FINANCIAL CRISES

1.1 Introduction

The past decade has witnessed a steady growth of institutional investors around the world. There were over $4,000$ global institutions in year 2008, compared to only around $1,400$ institutions worldwide in year 2000.* Institutional investors manage over $53 trillion dollars around the world in year 2005 with half of the amount being attributable to U.S. institutions.† In the U.S. market, institutional investors hold 46.6 percent of the total stock market value in 1987 and 76.4 percent in 2007.‡

The trend of institutionalization that had been pronounced during the last decade leads to an enormous literature that has extensively examined the trading characteristics of institutional investors emphasizing on the U.S. market.§ Institutions exhibit the feedback trading, herding, and momentum trading behavior.¶ Guercio(1996) shows that institutions demonstrate strong preference for quality s-

*Institutional holding data is from the Factset Lionshares, a primary source for equity ownership of global institutions located in the U.S.

†This number has been more than doubled during the past decade according to Global Financial Stability Report from International Monetary Fund (IMF) in 2007.

‡According to the report by the Conference Board in *Institutional Investment Report* in September 2008.

§Refer to Bennett, Sias, and Starks (2003), and Schwartz (1991).

¶Lakonishok, Shleifer, and Vishny (1992) address the evidence of two types of institutional trading behaviors: herding, defined as institutional investors buying or selling the same stock simultaneously, and feedback trading, defined as institutional investors buying past winners and selling past losers, by using a sample of the U.S. pension funds.

tocks and that little momentum trading strategies. Apart from institutional trading patterns, researchers are also interested in how institutional ownership is related to asset pricing and its possible effects on market stability.[‖]

Few papers, however, are devoted to investigating the institutional holding preference, especially when markets are set in extreme volatility. Bennett, Sias, and Starks (2003) find that institutional investors have switched their preference from large firms between 1983 and 1997 toward small and risky securities - a preference shift motivated by institutional investors' belief that small stocks provide "greener pastures". Huang (2008) examines liquidity preference of U.S. mutual funds and finds that mutual fund managers prefer more liquid stocks when the market is expected to go down. Hameed, Kang, and Viswanathan (2008) show large negative market returns decrease liquidity much more than positive returns increase liquidity, particulary for high volatility returns. Beber, Brandt, and Kavajecz (2009) present evidence that investors demand credit quality and liquidity in general. Yet, in times of market depression, investors chase liquidity, not credit quality, based on a sample of Euro-area bond markets.

This paper investigates institutional holding preference from January 1999 to December 2008 focusing on three issues: flight home, flight to liquidity, and flight to safety (i.e., risk shifting), based on two primary datasets Factset Lionshares and Datastream. We particularly look into the recent financial crisis period of 2007-2008 which gives us a good opportunity to investigate such trading behavior.

We focus on the trading behavior of institutional investors domiciled in 28 home countries and their investment spreading 52 target countries. We define domestic institutions as institutions who invest greater than or equal to 80% of the total assets in domestic market throughout the sample period; otherwise, institutions are classified as the international institutions. We exclude pure domestic institutions

[‖]See Nofsinger and Sias (1999) show a positive relation between institutional ownership and stock returns as well as lag stock returns. Gompers and Metrick (2001) prove that institutions affects positively stock prices.

that never invest outside of their home countries throughout the sample period. So all institutions in the sample must hold at least one foreign market traded stock in one semester. Note international institutions based on our definition constitute the majority of institutions around the world by the total holding assets market capitalization.**

This paper provides empirical evidence of institutional trading behavior. First of all, we find that institutions tend to move out of volatile foreign markets and move back to home markets when foreign markets in which they invest become volatile. Our result shows that the change of foreign market volatility is positively associated with the change of proportion of institutional domestic investment. The positive association becomes pronounced during high volatility periods in foreign markets. The empirical evidence still holds after controlling the volatility of institutional home countries. Our estimates indicate that institutions tend to switch to their home markets to better cope with the individual redemption, other possible financial needs, and avoid the financial turmoil when the foreign markets becomes intensively volatile.

Furthermore, we form two sub-samples by separating the above and below the time-series average of foreign market volatility. Due to the increasing integrity of the world market, the home volatility is highly correlated with the foreign market volatilities in the sample. We rerun the regression to see how institutional investors adjust their home and foreign portfolios when facing the higher-than-average and lower-than-average changes in foreign markets. All types of institutions including the U.S. international and domestic institutions, non-U.S. domestic and international institutions show the evidence of flight home in the face of volatile foreign markets.

**For instance, domestic institutions constitute only 1% of total institutional total net assets(TNA) in developed countries and only 4% in developing countries. 40 countries have more international institutions than domestic institutions. Take the U.S. for instance, the U.S. has the largest number of institutions, among them 23% is domestic institution and 77% is international institution, which is nearly three times of domestic institutions. Moreover, the percentage of international institutional TNA counts approximately 99% among developed countries and 95% among developing countries by the end of year 2008. Refer to Table 1.

Moreover, we identify market crises time by looking at the semester in which the market return is 1.3 standard deviation below the mean of market returns experienced in the 1965-2010 time frame. Based on our definition of the crisis, the U.S. market had three crises time periods: the Internet bubble in 2000, the stock market downturn after September 11 in 2002, and the most recent financial crisis in 2007-2008, that was marked by the Lehman brothers bankruptcy in September 2008. This regression result also supports the flight home evidence. Compared to previous financial crises, the most recent crisis in 2007-2008 apparently affects institutional decisions on reallocating to the home market more than previous crises. For instance, institutions decrease their foreign investments by 0.039, three times more than the 0.013 before 2007. The evidence becomes stronger at the 1% level in the biggest two institution domiciled home countries, knowing, the U.S. and the U.K., than in another countries.

We run robustness tests to consider the possibility that this flight to home evidence might be driven purely by price fluctuations. We recompute the change of the institutional domestic holding percentage by summing up the change of holding shares in domestic stocks multiplied by the corresponding stock price for each institution, scaled on an institutions' total portfolio value. In addition, we consider the possible effects of home market fluctuations. Again, the regression of robustness confirms institutional flight home trading behavior.

Next, we provide evidence that institutional investors appear to increase their holding liquidity level during the downturn economy situation faced by foreign markets in which they have an investment. This aptness is strengthened particularly for the non-U.S. institutions. We use the proportion of zero daily returns as the illiquidity measure proposed by Lesmond, Ogden, and Trzcinka (1999) for securities around the world. As for the robustness test, we use the weighted average of holding security illiquidity ranks as institutional illiquidity scores. We find a significant negative

relationship between the institutions overall investment illiquidity level and foreign market volatility. To the robustness test, we add the market volatility of institution host countries as control variables. The conclusion still stands up and remains highly significant. Institution overall illiquidity scores based on the rankings of holding stock illiquidity in each exchange market. The negative relation between institution overall illiquidity scores on their investments and foreign volatilities holds as well for both international and domestic institutions. Moreover, the U.S. institutions, which count for almost half of observations in our sample, show a stronger increasing switch to liquid assets than the non-US institutions. International institutions show, at the same time, a higher upward adjustment on liquid assets investment than their domestic peers who mainly face the turmoil spread in their home countries.

On the other hand, home market volatilities also negatively affect institutions holding illiquidity level. The U.S. institutions who invest much more in domestic market compared to other country domiciled institutions show the particularly strong effect revealed through a negative home market downturn. Thus home market volatilities play an important role in institutional decisions on adjusting the overall portfolio level. Our evidence supports the previous researching findings, that high market volatilities drive up institutional demand for liquid assets.

To further investigate flight to liquidity evidence, we run two additional robustness tests. First, we consider the relative domestic portfolio liquidity, meaning, we compute the ratio of weighted average of domestic portfolio illiquidity to weighted average of foreign portfolio illiquidity. The regression of such relative domestic portfolio liquidity supports our previous conclusion on institutional flight to liquidity evidence. The other question is whether our results are driven by changes of stock illiquidity measure, since market volatility inevitably affects individual trading stocks' liquidity. We recompute the changes in institutional portfolio illiquidity by fixing stocks illiquidity at the beginning of the time period and take into con-

sideration the buying or selling of stocks of the institutions. Our regression firmly assure our flight to liquidity evidence.

Last, based on our findings on flight home and flight to liquidity evidence, we can conclude that institutions are able to reduce their holding portfolio risk level. We use a holding-based risk shifting measure, based on the difference between current holding volatility and the past realized holding volatility proposed by Huang, Sialm, and Zhang (2010). We find a significant negative relation between the foreign market volatility and the risk shifting measure, defined as the difference of institutional current holding standard deviation and the past realized portfolio return standard deviation. Our estimation suggests that if foreign markets potentially become more volatile, then institutions may want to decrease their holdings risk level for the purpose of grabbing investment opportunities. The negative effect of foreign market volatility on institutional holding risk level exists for both international and domestic institutions, particularly for non-U.S. institutions. Our result also suggests that the U.S. domestic institutions are more apt to decrease the overall investment risk level than international institutions when home market shows a sign of turmoil.

The rest of the paper is organized as follows. Section 2 presents the literature review of the institutional trading behaviors, particularly during the crisis period. In section 3, we describe the databases and sample statistics for institutions around the world, including a primary description of institutional holding characteristics. Section 4 presents the investigation on institutional investor behaviors of flight home, followed by the regression results and interpretations. Section 5 examines institutional investors' holding portfolio liquidity level. Section 6 presents empirical results on the implication of institutional reducing the risk exposure to volatile markets. Section 7 concludes.

1.2 Literature review

The paper contributes to literatures on investigating the institutional trading behaviors in general. Guercio (1996) presents the evidence of prudent-man laws of institutional trading patterns and find that bank managers prefer high quality stocks in their portfolios. Gompers and Metrick (2001) show that institutional investors do not engage in momentum trading strategies by using a sample of the U.S. institutions over the 1980 to 1996 period. Nofsinger and Sias (1999) show a positive relation between institutional ownership and stock returns as well as lag stock returns. Gompers and Metrick (2001) present the evidence that institutional ownership not only positively affects stock prices and returns but also positively forecasts expected stock returns. Vayanos (2001) shows that large traders, for instance, mutual funds and pension funds tend to manipulate the market with a selling high and buying low strategy by constructing a dynamic model mimicking the financial market with a strategic trader as well as noise traders. In this paper, we not only demonstrate the institutional investing patterns from 1999 through 2008, but also show the dynamic holding changes during the recent financial crisis of 2007-08.

Institutional investors are known for investing in their domestic market more heavily than in foreign markets. Karolyi and Stulz (2003) investigate whether financial assets priced locally or globally. Lau, Ng, and Zhang (2010) find that home bias is strongly related to the variations in the cost of capital around the world. Starting from home bias, we are interested in whether this home bias propensity would be intensified when institutions are facing the adverse economic macro condition. Haas and Horen (2011) find that banks lend more to countries nearby geographically where they are incorporated with domestic co-lenders. Further, Giannetti and Laeven (2012) test the flight home effect in the international market for syndicated loan market. The authors find that the home bias of lenders' loan increases significantly in the original market in the presence of an economic crisis.

Our paper shows the increasing of the proportion of institutional holding in domestic market from 1999 to 2009, based on a conclusive holding data of institutional investors around the world and our following regressions support the flight to home hypothesis.

Institutional investors are proven to show preference to liquid assets in the past literature. Scholes (2000) proposes that financial institutions need to find more liquid assets in terms of producing dynamic cushions in order to reduce the volatility price. Goyenko and Sarkissian (2007) use the illiquidity of the U.S. short-term Treasury bond as a measure of joint fact of flight to liquidity and flight quality. The authors find that this measure strongly predict the local market returns and stock market illiquidity. Huang (2008) shows that the U.S. mutual funds tend to hold more cash and liquid stocks forecasting the coming of a market turmoil condition. On the other hand, David, Franzoni, and Moussawi (2011) demonstrate that hedge funds sell more liquid assets during the crisis compared to mutual funds which indicates the vulnerability of hedge funds to an external source of funding.

Interestingly, between choosing flight to liquidity and flight to quality [††], Beber, Brandt, and Kavajecz (2008) find that for the Euro-area bond market, bond investors chase liquidity instead of quality when facing a market stressing period. We contribute to the literature by testing whether institutional investors tend to exhibit flight to liquidity and flight to quality across the ten-year time period of 1999 through 2008.

1.3 Data and summary statistics

We retrieve the global institutional investor holding data from FactSet LionShares from January 1999 to December 2008. $13F$ filing is the primary source of Fact-

[††]Flight to quality refers to the time when risky assets become illiquid, see Brunnermeier and Pedersen (2008).

Set LionShares for institutional ownership of U.S.-traded securities.13F filings are mandatory imposed by the SEC for any institutional investors including foreign institutional investors managing over $100 million or more on Section 13 securities. A complete list of Section 13 securities is available on the SEC's website at http://www.sec.gov/divisions/investment/13flists.htm at the end of each quarter. As mentioned in FactSet LionShares documentation, some institutional investors also report their holding of non-U.S. traded equity, although it is not required. In such case, FactSet set the default source of institutions holding as 13F, depending on the portion of this institution's non-U.S. portfolio that is reported to 13F. Our study includes all types of institutions and all types of securities. Institutional ownership data of non-U.S. trades securities are obtained from publicly available information source, such as annual reports, firms' websites, transaction announcements, regulatory news service, and company proxies, etc. FactSet LionShares collects institutional investor ownership data across regions in Asia, Africa, Europe, North America, Latin America, Pacific, and Middle West since January 1999. Our sample covers the holding data of institutions domiciled in 28 countries with investments in 52 target countries over the period from January 1999 to December 2008, including 19 developed countries and 9 developing countries.[‡‡] We consider all types of institutions in our paper, including arbitrage, bank management division, broker, broker/investment bank asset management, corporate, foundation/endowment, fund, fund distributor, government(Federal/Local/Agency), hedge fund company, insurance company, insurance management division, investment adviser, investment banking, market maker, mutual fund manager, pension fund, private banking portfolio, research firm, stock borrowing/lending, and venture capital/private equity. Data of securities held by institutional investors, including returns, prices, trading

[‡‡]Those 40 countries must have the complete MSCI daily returns from January, 1999 to December, 2008; must have the non missing holdings within the recent five years from 2004 to 2008; must have at least 10 institutions from Lionshares Factset report. Therefore, some countries, such as New Zealand, Croatia, Pakistan, Slovenia, Turkey and Vietnam are dropped from our sample.

volumes, market capitalizations, etc., are retrieved from Datastream. To combine the institutional investors holding data from FactSet LionShares and the individual securities data from Datastream, we use ISIN codes, SEDOL codes and CUSIP. In addition, market level monthly returns from Datastream provides country benchmark indices for measuring market volatility.

For institutional holding securities, the initial holding data retrieved from Factset Lionshares is composed by 36,266 securities from 117 countries and traded in 102 exchange markets. Among these securities, 34, 134 securities are matched with Datastream to obtain the security-level information. The final sample has 34,134 securities. We require that the home country must have at least 10 different institutions in the sample period. As for institutions, the initial holding data includes 5, 632 institutions from 80 countries. After combining holding data with the available security information from Datastream and retaining institution holdings across 52 target countries, the final sample has 5, 467 institutions from 19 developed countries and 9 developing countries.

We choose the semi-annual year-end holdings for institutions rather than quarter-end or year-end reporting as the holding frequency. The reporting frequencies of institutional holdings data from Factset Lionshares are quarterly, semi-annually, or annually. For instance, Japan's institutional holdings are based on annual frequency, while the U.S. reports regularly on a quarterly basis. We set up the semi-annual holding frequency to capture accurately the adjustment of institutional holdings while accommodating the reporting discrepancy among countries during the same time.

In the paper, we examine institutional holdings from the first semi-annual year of 1999 to the second semi-annual year of 2008. Table 1 describes the institutional investor holdings and characteristics at the country level in 1999-2008 by taking the time-series of cross-sectional average. We first compute institutional TNA on a

semi-annual basis and then compute the average within the same year. Table 1 thus reports the annual total asset holdings, the percentage of domestic asset holdings, number of international institutions and domestic institutions, domestic institution investment in the home country, home market and foreign market volatility, return, investment portfolio concentration, turnover, and institution flow by country.

Compared to institutional investors domiciled in other countries, the U.S. institutions have the largest total net asset (TNA). Note that the U.S. institutions heavily invest in the domestic market from 99% in 1999 to 90% in 2008, while other country's institutions have less domestic security holdings. That is, all the developed country institutions other than the U.S. domiciled institutions on average invest more in foreign developed markets than their home markets. The U.K. institution ranks the second highest in asset holdings, and then followed by Canada, France, and Sweden at the end of year 2008. On the other hand, we see a different trend for developing country's domiciled institutions, i.e., they mainly invest in foreign markets rather than their home markets, accompanied by a lower total asset values.

In order to examine institutional trading behavior during the extreme market time period, it is important to set up the definition for crisis time period. In the paper, we define the crisis time period as the time when the market return is 1.3 standard deviation less than the time-series average of market return based on the monthly market return data we retrieved from Datastream from 1965 to 2011.Choosing 1.3 standard deviation below the mean market return is not random. It is the minimum requirement to include three major crisis time period in the U.S., which are the year 2000 marked by the internet bubble, the year 2002 marked by the stock market shutdown following September 11, 2001, and the year 2008 marked by Lehman Brothers filing for bankruptcy. Following the definition, we include the second semi-annual of year 2008 as one of crisis time periods for all countries, marked by the bankruptcy of Lehman Brothers. Other crisis time periods include the sec-

ond semi-annual of 2000 for Indonesia, Japan, South Korea, Sweden, Taiwan, and the U.S., accompanied by the Internet bubble within our sample period from 1999 to 2009. The years 2000 and 2001 are also defined as the crisis time period for a few major developed countries such as Finland, France, Germany, Singapore, and Switzerland. The second semi-annual 2008 is the crisis time period for 50 out of 52 countries we investigate. There are no crisis time periods defined from 2003 through 2007.

Previous literatures show that institutional investors flow affects their trading behaviors. Edelen and Warner (2001) show the empirical evidence of the relation between trading activity and flow for open-end mutual fund. In this paper we use the flow to investigate the buy-and-sell behaviors of institutions in each period during 1999-2008. The percentage of an institutional i overall flow during the time period t is defined as the growth rate of the holding assets, assuming all the new cash flows are reinvested in the next period. Mathematically, we compute institutional $FLOW$ as follows,

$$FLOW_{i,t} = \frac{TNA_{i,t} - TNA_{i,t-1}(1 + R_{i,t})}{TNA_{i,t-1}}$$

where $R_{i,t}$ is the weighted average of return for the institution i at time period t. Similarly, we compute the flow of an institution to the domestic market and the flow to the foreign developed markets by considering institutional holdings in domestic market traded assets and the foreign markets traded assets, and institutional holding returns from domestic markets investments and foreign markets investments, correspondingly.

In order to capture the volatile condition for institution home country and foreign countries, we use the standard deviation of institutional home market returns as the proxy for home market volatility. The volatility of institutional investment in foreign countries is captured by market value-weighted average of foreign markets return standard deviation Institution concentration equals to the reciprocal of the

number of distinct stocks held by an institution. Institutional performance in terms of returns on a semi-annual basis is measured by the market weighted average of holding stock returns. Flow represents the growth rate of institutional total asset values. Institutional total asset holding takes the log of institutional holding asset values. Institution investment portfolio turnover ratio is proxyed by the minimum of aggregate buys or sales of holding assets divided by the institutional TNA.

The other two important control variables are supported by the proportion of the domestic institutions' investment in their home countries and the proportion of home stock market value as the world stock market value. These two variables used in the regression equation later are to control the effects of large stock markets such as the U.S. and U.K., which are heavily invested by institutional investors across the world. This partly corrects the effect of home bias on our conclusion when testing flight home, flight to liquidity, and flight to safety.

The next thing is to see how institutional investors react to the economic downturn by adjusting their overall holdings liquidity. Since liquidity has always been one of the top concerns of institutional investors, the question comes to, what is the relatively appropriate liquidity measure for the purpose of our study on institutional investments in international financial markets. High liquidity leads to low transaction costs, low information asymmetry, low financial risk, thus affects stock returns and institution investment decisions. See Amihud and Mendelson (1986), Amihud (2002), Amihud, Mendelson, and Peterson (2005). Previous papers use firm size, turnover ratio, bid-ask spread, and Amihud illiquidity ratios. In this paper, we use the zero-proportion measure proposed by Lesmond, Ogden, and Trzcinka (1999) to gauge stock's illiquidity level. That is, we use the proportion of zero daily returns with respect to the total number of existing trading days within each semi-annual year as a measure of stock illiquidity. This method simply uses the zero returns proportion in a certain time period to proxy the transaction costs. Intuitively, a

high transaction cost security would be more likely to be less frequently traded and thus more zero returns would be generated. Lee (2011) uses the same measure to investigate the price of liquidity risk worldwide and argue that using a liquidity proxy that is based only on returns fits international financial markets appropriately.

To have a clear picture of a security's illiquidity level within its trading markets, we first retrieve the daily returns of the available daily returns of all $192,292$ securities traded in the main exchange markets as of December 2008 from Datastream. If a security's return index or previous return index is less than 0.01, or greater than 3, or reversed the next day, then that day will be set as missing. Mathematically, if $(1 + r_{i,t-1})(1 + r_{i,t}) \leqslant 0.5$, or at least one of $r_{i,t-1}, r_{i,t}$ is greater than 3, then the day t is set to be missing. In addition, we require a stock should have at least 100 non-missing trading days in each semi-annual period; otherwise, the security would be dropped from this period. It corresponds to Lesmond's requirement of 200 nonmissing trading days within a year. After going through the screening procedure, we have $154,559$ securities traded in 98 markets held by institutions have their zero-return proportions illiquid measures. Then we pick the securities traded in 52 developed and developing markets and then rank all securities in the same market by their illiquid measure from the highest (top 1010$ means the most illiquid, i.e., the least liquid) to the lowest(bottom 1010$ means the least illiquid, i.e., the most liquid). We can next compute the weighted average of holding securities ranks for an institution and claims as the liquidity measure of institutions. Weighted average scores as an alternative measure of illiquidity level considers all securities in a position of their trading market. It avoids the problem of comparing a stock's liquidity traded in market with the other stock's illiquidity traded in a different market.

1.4 Institutional investors' trading at home and foreign markets

To examine how institutional investors react to stock market fluctuations, we regress the change in the proportion of institutional domestic assets holdings on the change of the foreign market volatility.

Table 2, panel A reports the regression results at the institution level by looking at the effects of the change of foreign markets in which the institutions invest on the change of the institutional investment proportion in the domestic market. It shows that foreign market volatility has a positive effect on the institutional domestic investment. The positive coefficient of foreign market volatility change is significant for the whole sample as for the U.S. and Non-U.S. institutions. In regressions, we control for institution domiciled home market by adding the change of home market return and the proportion of domestic investment from institutions.

Next, we examine more closely how institutions readjust their investments in home markets by splitting the sample into high and low foreign. We use mean of foreign market volatilities as a breakpoint. Panels B and C report the regression of the change of foreign market volatilities on the change of institutional home market investment proportions when the foreign markets are higher-than-average volatile or lower-than-average volatile, respectively. Although institutions in general increase their home investment proportions when faced the downturn from foreign markets, the U.S. institutions react slightly different from non-U.S. institutions. Note the majority of the U.S. institutions are domestic institutions, while non-U.S. institutions are mainly international institutions. The U.S. domestic institutions show a higher tendency of flight home evidence when foreign markets are more than normal volatile. The coefficient of the change in the foreign volatility for the U.S. domestic institution group is significant at 1% statistical level. When foreign

markets becomes less volatile related to other, then U.S. international institutions react more than other subgroups. The coefficient of changes on foreign volatility is 2.816 being significant at 1% level. Overall, we find that institutions tend to increase their investment in domestic market when foreign markets are more volatile.

Table 3 reports the regression of the change in institutional domestic investment on the change in home market volatility. We see home market volatility drives the institutions away from the home market with the slightly lower at 10% statistical significance level. On the other hand, U.S. domestic institutions investments in home market are positively affected by the home market volatility. We find that U.S. domestic institutions tend to increase home investment when their home market becomes more volatile. The result perhaps suggests that U.S. institutions consider their domestic market more appealing than foreign markets due to the fact that the U.S market is the biggest market in the world. We find that institutions have the less tendency to flee from home when home markets are going through the downturn time period.

Further, we want to investigate the flight-home effect when foreign markets are extremely volatile, i.e, the financial crisis time. So we differentiate the institution domiciled home market and their investment target market by defining the crisis period, when market return is 1.3 standard deviations below the mean of market returns from 1965 to 2011. The crisis time period for the second biggest market U.K. includes only the second semi-annual of year 2008. There are 50 countries have the financial crisis time period identified in the second semi-annual of year 2008. In order to differentiate institutional investment in home market and foreign market, we adopt a foreign dummy variable which equals to 1 when the institutions' home domiciled country is not the same with institutional investing target country, i.e., foreign investment; it equals to 0 when the home country is the same with the target country, i.e., domestic investment. Models 1 to 6 are regressions without adding

institutional characteristics, while models 7 to 11 include institution characteristics.

Table 4 shows the regression results of such settings. We followed the method proposed by Giannetti and Laeven (2012) to test whether institutional investors moving funds from foreign volatile markets to their home markets From models 1 to 11, we see the negative coefficient for $ForeignDummy$ significant at the 1% level. For the U.S. and U.K., we find the higher level of home bias (coefficient= -0.589) than the other institutions domiciled countries (coefficient =-0.202). Institutions tend to favor their home markets compared to foreign markets due to factors introduced by information asymmetry and transaction costs between the home and foreign markets. More important, our regression strongly supports our finding on the flight home effect when institutions face the foreign market crisis. The coefficient -0.023 for all sample is significant at 1% level. Since the dependent variable is the proportion of institutional investment in each target country, the value is between 0 and 1. So we construct the robust test by using Tobit regression. The Tobit regression in Model 2 provides the similar and significant coefficient on the interaction term of the target country crisis and the foreign dummy. Moreover, the U.S. and U.K. show the higher tendency of flight home compared to the rest of other countries. The coefficient for interaction term for the U.S and the U.K. institutions is -0.004 significant at 1% level, while the coefficient for the latter is -0.003 with 1% significance level. This difference is enlarged by 0.001 after we add institutional characteristics in Model 7 to 11. To control for target country differences and time differences, we include the time and target country fixed effects for all models in Table 4. In addition, when compared the most recent financial crisis 2007-08 to the previous crises, we run the regression by separating the sample into two sub-samples. Model 5 and 6 (with institutional characteristics), Model 10 and 11 (without institutional characteristics) clearly demonstrate that the most recent financial crisis affects the institutions decision of increasing the home investment

more deeply than previous crises. The coefficient for our interaction term is 3 times the difference between the most recent crisis time and the crisis before time.

To sum up, our regressions based on the change of foreign market volatilities and foreign market crises provide the evidence of the institutional flight home effect when facing the foreign market tumultuous conditions. The flight home evidence exists for institutions in our sample.

1.5 Robustness tests on flight home evidence

We show that institutional investors shift their investment to domestic market when foreign markets become volatile. One question is whether the institutional investment shifting from foreign to domestic markets could be driven completely by price changes. To address this question, we run a robustness test on the flight home testing. With stock prices being fixed, we compute the changes of the institution's proportion of domestic investment as the sum of changes of domestic stock shares multiplied by the corresponding stock prices, then scaled by the institution's total portfolio value. Table 4 reports the panel regression results.

Model 1 shows a large overall increase of volatility for foreign markets is associated with institutions increasing their investments in the home markets. This association is noticeably stronger in non-US domiciled institutions than that in the U.S. institutions. The coefficient of foreign market volatility for the non-U.S. institutions in Model 2 equals 6.194 (significant at 1% level), compared to the coefficient for the U.S. based institutions of 3.873 (equally significant at 1% level). Model 1 to 3 show that the foreign market conditions actually play an important role in institutional investors' investment strategy.

To investigate the solo effect of home market volatility on institutional investors investment, we redo the regression of the change of the home market volatility on the change of the proportion of institutional investors investment in the home market.

We find that home market volatility affects the U.S. institutions more than non-U.S. institutions. The model shows that for the U.S. institutions, if the U.S. market becomes more volatile, then institutions investors might be forced to fly away from the home market and emphasize on their investments abroad. This trend, however, seems not significant for the non-U.S. institutions.

Next for Model 7 to 9, we put together the changes of the home markets and the foreign markets to see the horse-racing effect, i.e., whether economic conditions in the home markets or in the foreign markets affects more than institutions investment. We find that overall, foreign volatility affects the institutional investments more than domestic market conditions do, despite the findings that the U.S. institutions, which counts more than half of the sample, show more influence from domestic markets. The non-U.S. institutions has shown more effects from foreign volatilities than from their home markets. The coefficient of changes in home volatilities is -3.827, significant at a 1% level, compared to the equally significant coefficient of changes of foreign volatility at 2.370. The conclusion is intuitive; the majority of U.S. institutions are domestic institutions with over 80 percent of their investment are in domestic markets, while the majority of non-U.S. institutions are international institutions.

An interesting results from the robustness test is that institutional investors show an evidence of "flight to safety." We are going to show this trend again by adopting an newly-proposed safety measure for institutions later. In Model 1 through 9 in Table 4, we read that institutional investors, being professional money managers, try to reduce the exposure to the investment risk through balancing between the domestic investment portfolio and the foreign investment, particulary when markets fluctuate more often.

1.6 Institutional investors' holdings of liquid assets and dynamic changes of markets

The next question we would like to know is that when institutions increase their home investment proportions when faced by foreign market volatile conditions, do their overall holding illiquidity levels increase consequently? That is, we would like to examine whether institutional investors around the world would prefer to hold more liquid assets during the financial turmoil. Table 5 reports the regression of foreign market volatilities on the institutional weighted average of illiquidity both at the level and scores. Overall, institutional investors are apt to include more liquid assets when the foreign investing markets go down and become more volatile, for the purpose of preparing for the possible redemption or other financial needs during the tough times.

Table 5 panel A regresses the changes of institutional overall illiquidity level on the changes of foreign market volatilities. Panel B regresses the change of institution illiquidity scores on the foreign market volatility. In order to control the possible effects imposed by institutional domiciled home countries, we add the change of home market return and change of proportion of home market value as the percentage of the world market total value. Time fixed effects and home country fixed effects are both considered in all models, except for the U.S. institutions where we drop the country fixed effects, since there is only one home country the U.S. in that sub sample. To be able to measure the institutional illiquidity, we compute first the stock illiquidity by computing the proportion of zero daily returns as of the total existing trading days in each semi-annual year. Then institution illiquidity level is computed as the value-weighted of holding stock illiquidity. In order to consider the market difference in terms of measuring the zero return proportion, we also compute the institution illiquidity score as a robustness test based on the ranking of the stock's

illiquidity in a given exchange market. We rank all stocks traded in the same market from the highest (rank=10, the most illiquid) to the lowest (rank=1, the least illiquid) in each market. Then we compute the weighted average of the holding stock ranks as institutions overall liquidity score. The dependent variables in Panel A and Panel B are institutional overall illiquidity level and scores, respectively.

Table 5 shows that the change in foreign market volatility motivates institutions to decrease their portfolio illiquidity level and thus increase their overall holding liquidity when facing the upward going direction of the foreign market volatile conditions. Model 1 shows the coefficient of -0.268 for change of foreign market volatility at the 1% level for the whole sample in Model 1. The U.S. country domiciled and non-U.S. country domiciled institutions also shows the flight to liquidity evidenced by -0.068 significant at the 1% level and -0.392 significant at the 1% level, respectively. The regression coefficients are enlarged by using the scores based on the rankings on illiquidity for individual stocks. The results are mainly driven by the U.S. domestic institutions and non-U.S. international institutions. Note, our regression results also show that non-U.S. institutions seem to be more sensitive to the foreign market investment than non-U.S. institutions. This is not surprising since the largest proportion of non-U.S. country domiciled institutions invest more in foreign markets than their U.S. peers. The U.S. domestic institutions and non-U.S. international institutions constitute the major institutions in the sample.

Next, we would also like to know whether any changes in institutional domiciled home country have any effects on an institution's decision on their portfolio's illiquidity level. So we regress institutional portfolio illiquidity on the institutional home market volatility. Compared to the foreign market volatilities, we find that the home market volatile conditions have a direct effect on institutional decisions on adjusting the portfolio liquidity. Table 6 represents the evidence of flight to liquidity. For the whole sample, the coefficient for the changes of home volatility is -0.818

with a significance at a 1% level. All four groups of institutions show a liquidity increase of their portfolio when facing the turmoil conditions of the home market, except for non-U.S. domestic institutions. Our regression also suggests that compared to domestic institutions, international institutions are more actively adjusting their portfolio when compared with their domestic peers.

Overall, our regression results show that when facing the foreign market volatile conditions, institutions tend to decrease their portfolio illiquidity and therefore increase the liquidity level. The results are robust with using institutions illiquidity level or scores.

1.7 Robustness tests on flight to liquidity evidence

So far we observe the changes in liquidity of an institutions' portfolio and we find that institutions actively adjust their portfolio's liquidity level according to the changes in the market conditions that are faced by managers. Using the previous measure, this attributes to the possibility of the liquidity of the stocks held by the institutions may change, since the overall macro economic condition of the market changes. So to verify that institutions actually take action to more liquid stock when the stock markets drop down, we next fix the liquidity of the stocks and see whether, with liquidity constant, do institutions sell previously illiquid securities and buy liquid ones during the market volatile time period.

Then we redo the flight to liquidity regression by calculating the institutional portfolio's illiquidity in an alternative way. That is, we compute the changes of the weight for the stocks held by institutions first. Then we sum up the product of stock illiquidity multiplied by its change of weight to capture the changes of the institutional illiquid level. The robustness regression stands still and support our previous conclusion on flight to liquidity proposition. We report the robustness regression in Table 9.

Table 9 Model 1 to 3 report the regression of the changes of the institutional overall illiquidity level on foreign volatilities. After adopting the alternative measure of calculating the institutional portfolio's illiquidity level, we find that the negative effect of foreign market volatility on changes of institutional domestic investment persists. It shows that institutional investment in home markets decreases by 0.047 percent when foreign market's volatility boost up by 1 percent. The coefficient is significant at 1% level. Similarly, we show that this negative relations persists when breaking our sample into two subsamples, the U.S. and the non-U.S. institutions. The coefficient for foreign volatilities in model 2 for the U.S. institutions only equals to -0.024, significant at 5% level; the foreign market volatility coefficient in model 3 equals to -0.129 with significance at % level. It clearly shows that the non-U.S. based institutions adjust their portfolio's illiquidity more actively than their U.S. peers. This finding is corresponding to the fact that non-U.S. institutions invest more in foreign markets than their home markets.

Model 4 to 6 in table 9 exhibit the regression results of changes of institution overall illiquidity level on home volatilities instead. Similarly, the home market conditions have negative effects on institutional illiquidity level. Model 7 to 9 combine the volatilities of home and foreign markets together in a horse-racing regression. With consideration of home market effects, foreign market volatilities still stand out as a major influence on institution managers' decisions for adjusting their portfolio's exposure to market liquid risk. In this robustness test, we also control for home markets' illiquidity and returns. The robustness regression supports our conclusion that institutional investors actually increase their portfolio liquidity level by reducing the investment on illiquid stocks and adding illiquid stocks, when foreign market are expected to go through a fluctuating time period.

1.8 Institutional investors' investment risk exposure

Institutional investors are professional money managers. Consequently when facing the changing economic environment, institutional investors adjust their holding portfolio's overall risk level. So we investigate whether institutional investors tend to flight to safety in terms of reducing the holding portfolio risk level, when facing the foreign market volatile conditions. We adopt the risk shifting measure proposed by Huang, Sialm, and Zhang (RFS, 2010). The holding based risk shifting measures is defined as the difference of institutional current holding standard deviation and institutional past realized actual returns in the past 3 years. If institutions increase the holding risk level, then the risk shifting measure is positive, that is, the most updated holding return standard deviation is greater than the past actual institutional returns; otherwise, the risk shifting measure is negative when institutions decreases their holding risk level.

Table 7 reports the regression of market return volatility on the risk shifting measure during the whole sampling period from 1999 to 2008. We find a significant negative correlation between market volatility and the risk shifting measure of the sample. Panel A reports the regression results of institutional risk shifting and foreign market volatilities. Panel B extends the regression to investigating the relationship between institutional risk shifting and their domiciled home market volatilities. The years are from 1999 to 2008. We control for time fixed effects and home country fixed effects for all regressions, except in the U.S. sub-sample, we drop the home country fixed effects since there is only a home country in that sub-sample.

Panel A shows that in general, institutions decrease their portfolio risk level when facing the downturn of the foreign markets in which they invest. The coefficient of $FVoalitlity$ is -0.505 significant at a 1% level. When separating into the U.S. and

non-U.S. sample, we find that the result is mainly driven by non-U.S. international institutions. This is understandable because, except for the U.S. institutions, the non-U.S. institution tend to invest more heavily in foreign markets and therefore will be more subject to the volatile foreign conditions. On the other hand, Panel B suggests that the U.S. institutions, which the majority of them are domestic institutions, are more affected by home market volatilities when compared to the other groups. The coefficients of home volatilities for the U.S. international and domestic institutions are -0.521 and -0.506, both significant at the 1% level. For non-U.S. international institutions, the coefficient for foreign volatility is -0.668, much higher compared to -0.392 the coefficient for home volatilities, both significant at a 5% level. The results indicate that when facing the market downturn, international institutions are actually more vulnerable compared to their domestic peers.

Overall, our regression supports the hypothesis that institutions tend to shift downward their holding portfolio risk level when facing foreign market downturn. In addition, the U.S. domestic institutions are more affected by home market volatilities than foreign market volatilities.

1.9 Conclusions

In this paper, we study the trading behavior of flight home, flight to safety, and flight to liquidity of institutions from 1999 to 2008 for 28 institutional domiciled home countries and 52 target countries based on Factset Lionshares and Datastream. To our knowledge, this is the first paper that investigates these three trading behavior of institutional investors around the world. Particularly, we examine such trading behavior during the crises time periods. We use the complete Factset Lionshares data by a complete ten years of institutional holding data. This paper makes a contribution to topics on institutional investors' investment strategy and market volatility.

First, we provide the empirical evidence of institutional flight home trend if foreign markets in which institutions invest become more volatile. Further examination by including crises time periods at the country level confirms the evidence of flight home effect. We also conduct the robustness tests to exclude the stock price factor as a reason which drives institutional investors back to their home markets when facing volatile markets, and thus confirm that institutional investors prefer to hold more liquid stocks in highly volatile markets.

Second, we present the evidence of institutional investors' flight to liquidity by showing a significant negative relation between foreign market volatility condition and the institutional overall illiquidity level. The conclusion holds by either employing institution illiquid level or overall illiquid scores based on the ranking of their holding stock illiquidity measure. We also notice that institutional home domiciled market volatilities affect negatively on institution holding portfolio's illiquidity. In addition, institutional investors are also inclined to increase the level of liquidity of their home portfolios relative to that of their foreign portfolios when there is a surge in foreign market volatility.

Finally, combining the flight home and flight to liquidity evidence, we claim that institutions, being the professional money mangers, tend to decrease their holding portfolio risk level during the foreign market turmoil to be conservative on the investment opportunities. This shows the trend of institutional investor's flight to safety by decreasing their risk level when markets become riskier.

Chapter 2

ESSAY 2: THE ROLE OF MARKET SENTIMENT IN INSTITUTIONAL HOME BIAS AROUND THE WORLD

2.1 Introduction

The trend of institutionalization that had been pronounced during the last decade in the world leads to an enormous literature on examining the trading characteristics of institutional investors, particularly for the U.S. market.* Institutions exhibit the feedback trading, herding, and momentum trading behavior.† Guercio(1996) shows that institutions demonstrate strong preference for quality stocks and that little momentum trading strategies. Apart from institutional trading patterns, researchers are also interested in how institutional ownership is related to asset pricing and its possible effects on market stability.‡

Among the investigation on institutional trading behavior, academia researches have particularly interested in investigating institutional home bias. Home bias by institutional investors refers to the fact that institutions may invest disproportionately more in their domestic markets. Plenty of past literature has been devoted to such topic for the U.S. market or under international circumstances. For exam-

*Refer to Bennett, Sias, and Starks (2003), and Schwartz (1991).

†Lakonishok, Shleifer, and Vishny (1992) address the evidence of two types of institutional trading behaviors: herding, defined as institutional investors buying or selling the same stock simultaneously, and feedback trading, defined as institutional investors buying past winners and selling past losers, by using a sample of the U.S. pension funds.

‡See Nofsinger and Sias (1999) show a positive relation between institutional ownership and stock returns as well as lag stock returns. Gompers and Metrick (2001) prove that institutions affects positively stock prices.

ple, Stulz (1999), De Jong and De Roon (2005), and Carrieri, Errunza, and Hogan (2007) show that investors are not adequately investing in foreign markets. Moreover, Stulz(1999) presents the evidence that the U.S. investors' home bias affects the cost of capital. Chan, Covrig, and Ng (2005) examine the mutual fund home bias scenario for 26 countries. They argue that mutual funds from these countries allocate disproportionately larger fraction of their investment to domestic markets. And stock market development and familiarity variables have effects on the home bias exhibited by mutual funds.

However, substantial research has shown that investors do not exploit the diversification benefits and they allocate a relatively large proportion of their investment in domestic stocks. This so called "home bias" is one of many unsolved puzzles in the finance. Many studies provide the explanations for this phenomenon. See Chan, Covrig, and Ng (JF, 2005), Hau and Rey (AER, 2008), Lau, Ng, and Zhang (JFE, 2010), Kho, Stulz, and Warnock (JAR, 2009). This paper is aimed to provided an alternative explanation for institutional investors' home bias in the international market.

To our knowledge, this is the first paper that investigates the relationships of three investor sentiments on institutional home bias in the international markets. We explore the possible effects of three investor sentiment measures on institutional home bias from 1999 to 2009 for 14 institutional domiciled countries, based on Factset Lionshares and Worldscope data. We want to provide a solid alternative explanation for investors' reluctance to take advantage of the international diversification benefits.

First, following Baker, Wurglar, and Yuan (2011) methods, we construct total investor sentiment and its two component global sentiments and local sentiments for 14 countries. We start with four raw sentiment proxies, including the volatility premium, number of IPOs, the average first day returns, and market turnover ratio.

Then we gradually construct total investor sentiment, global investor sentiment, and local sentiment index in 1999-2009 on a annual basis.

Second, our findings claim that global investor sentiment sentiment has a statistically negative impact on institutional home bias. In addition, the Pearson correlation are significant at minimum of 1% level.

Next, by regressing the three investor sentiments on institutional home bias measure, we provide the empirical evidence that global investor sentiment index reduces the institutional home bias in the international market during the past decade. The result is robust, either for the sample including the U.S. or excluding the U.S. Local and Total market sentiment, however, do not show the statistically significant effects on home bias.

Last, distance and language have positive and negative effects on institutional home bias, respectively. The result is consistent with the previous findings in Chan, Covrig, and Ng (2005). Investor protection variables such as rule of law index and risk of expropriation index have a significant positive effect and negative effect on home bias.

The rest of the paper is organized as follows. Section 2 describes the databases and sample statistics for institutions around the world, including a primary description of home bias, market level investor sentiment index, and other country level control variables. Section 3 presents the evidence of effects of global and local investor sentiments on institutional investor home bias, followed by the regression results and interpretations. Section 4 concludes.

2.2 Data and summary statistics

I retrieve the global institutional investor holding data from Factset Lionshares from 1999 to 2010. $13F$ filing is the primary source of FactSet LionShares for institution-

al ownership of U.S.-traded securities.[§] Institutional ownership data of non-U.S. trades securities are obtained from publicly available information source, such as annual reports, firms' websites, transaction announcements, regulatory news service, and company proxies, etc. FactSet LionShares collects institutional investor ownership data across regions in Asia, Africa, Europe, North America, Latin America, Pacific, and Middle West since January 1999. Our sample covers the holding data of institutions domiciled in 14 countries, inncluding Australia, Canada, Denmark, France, Germany, Italy, Japan, Netherlands, New Zealand, Poland, Sweden, Switzerland, the United Kingdom, and the United States. So the absolute majority of the sample is composed of developed countries.

We choose the semi-annual year-end holdings for institutions rather than quarter-end or year-end reporting as the holding frequency. The reporting frequencies of institutional holdings data from Factset Lionshares are quarterly, semi-annually, or annually. For instance, Japan's institutional holdings are based on annual frequency, while the U.S. reports regularly on a quarterly basis. We set up the semi-annual holding frequency to capture accurately the adjustment of institutional holdings while accommodating the reporting discrepancy among countries during the same time. In the paper, we examine institutional holdings from the first semi-annual year of 1999 to the second semi-annual year of 2010. We require that the home country must have at least 10 different institutions in the sample period.

Monthly market returns and market capitalizations are from Worldscope. 14 institution domiciled home countries must have the complete macro variables in order to orthogonalize the raw investor sentiment proxies: consumption growth rate from

[§]13F filings are mandatory imposed by the SEC for any institutional investors including foreign institutional investors managing over $100 million or more on Section 13 securities. A complete list of Section 13 securities is available on the SEC's website at http://www.sec.gov/divisions/investment/13flists.htm at the end of each quarter. As mentioned in FactSet LionShares documentation, some institutional investors also report their holding of non-U.S. traded equity, although it is not required. In such case, FactSet set the default source of institutions holding as 13F, depending on the portion of this institution's non-U.S. portfolio that is reported to 13F. Our study includes all types of institutions and all types of securities.

the Penn World Tables, industrial production growth rate, inflation, employ growth rate, and the term premium from the Organisation for Economic Co-operation and Development(OECD).

There are four initial investor sentiment proxies defined in Baker, Wurgler, and Yuan(2011). The first one is volatility premium $PVOL$, defined as the year-end log ratio of the value-weighted average market-to-book ratio of high volatility stocks to that of low volatility stocks. The volatility is specified by the variance of the prior year's monthly returns and considers the differences in market returns. It is based on the variance of residual from regressing stock returns on returns of market in which the stock is traded. The top three deciles of variance is defined as high volatile stocks in the market, while the bottom deciles of variance is low volatile stocks in the market. The second raw proxy of investor sentiment is log number of IPOs of the country in the year. The third proxy is the average of first-day returns of IPOs in the market of the year. The fourth proxy market turnover $TURN$ is the log market turnover ratio, detrended by a five-year average for each country. Due to the data limitation, some countries lack of IPO data. So we consider $PVOL$ and $TURN$ two proxies only. Table 1 gives the summary statistics for initial four investor sentiment proxies used in the paper.

Next, we use six macro variables, consumption growth rate, industrial production growth, employment growth, inflation, the term premium, the short-term rate at the country level to orthogonalize the initial four investor sentiment raw proxies. This step is remove the information contained in the raw proxies which is irrelevant to the sentiment raw proxies due to the differences in macroeconomic situations. Thus, the total investor sentiment IS_{Total} index at the country level is the first first principal component of the time-series investor sentiment proxies after orthogonaliation. The global investor sentiment index for 28 countries is therefore the first component of total investor sentiment index IS_{Total} in the 28 countries in our sample. Last, the

local investor sentiment index IS_{Local} is retrieved from the residual of regressing IS_{Total} on global sentiment index IS_{Global} in the panel regression,

$$IS_{Total} = a * IS_{Global} + IS_{Local}$$

where the residual is estimated for each country separately. Table 1 gives the correlations of initial investor sentiment proxies and total investor sentiment IS_{Total} at the country level.

As for investor sentiment index, Italy scores the highest total investor sentiment index on historical average in 1999-2010. Its total investor sentiment index equals 0.325. The lowest total sentiment index comes from Israel -0.387. On the other hand, local investor sentiment index is the highest in $France$ with 0.164, while it is the lowest in $Israel$ with -0.575. Israel has the both lowest total investor sentiment and lowest local investor sentiment index among 28 countries in the sample.

The monthly market equal-weighted and value-weighted returns are based on Worldscope data. The initial sample has over 60 countries. We exclude countries without complete six macro variables and without monthly market returns from Worldscope. All countries in the sample must also have complete volatility premium $PVOL$ and log market turnover ratio $Turn$. The final sample contains 28 countries from 1999 to 2010. The main control variable $MVGDP$ is the total market capitalization of country's stock market as a percent of its GDP. The other control variable at the country level is the log total dollar value of institutions' holdings in the country. Except monthly market returns, other variables are calculated for each country and for each year from 1999 through 2010.

Table XI provides the summary statistics on investor sentiment components at the country level. We list the four market-level sentiment proxies and its correlations with IS_{Total}. Take Australia as an example, the average of the first-day IPO returns $RIPO$ has a correlation coefficient 0.458 with its market total sentiment IS_{Total},

significant at 5% level. The correlation between log number of IPOs and IS_{Total} is 0.709, significant at 1% level. For other countries, most of the coefficients between the raw sentiment proxies and total sentiment index are significantly positive at a minimum of 10% level. Therefore, our measure of sentiment index appropriately grasps the market overall altitude toward stock returns.

2.3 Institutional Home Bias Measure

The dependent variable home bias HB is defined as follows,

$$HB = \frac{W_{Domestic}}{W}$$

where $W_{Domestic}$ is the proportion of domestic institution holdings on domestic traded stocks as of the total dollar holdings of institutions in each country, W is the market capitalization of country's stock market as of the market capitalization of the world-market portfolio. Home bias is annual value at the country level. It gives the idea of whether institutional investors invest disproportionately in their home countries. Table 1 Panel A presents the time-series average of annual home bias variable in each country. Among all countries, Poland has the highest home bias index ($HB = 6.393$) in the sample, while investors in Netherlands rank the lowest home bias ($HB = 1.110$) toward their investment around the world. The U.S. has relatively low home bias index with $HB = 1.279$ and the U.K. is HB index 1.351. In the sample, institutional investors from Netherlands, the U.S., and the U.K. rank the bottom three countries for the lowest home bias attitude toward their domestic investments. By comparison, Poland, New Zealand, and Turkey domiciled institutional investors rank the top 3 countries which exhibit the highest home bias toward their home investments.

Table XII provides the summary statistics for investor sentiment measures and

country characteristics by country. Panel A presents the time-series average of country-level characteristics HB, $W_{Domestic}$, W, $MVGDP$, IS_{Total}, and IS_{Local}, Law, $Accountability$, $Minority$, $Expropriation\ Efficiency$, $MVGDP$, $Turnover$, and dummy variable for legal environment Dum_{Legal}. $Dist$ is

Tables 2 Panel B gives the Pearson-correlation coefficients for HB and the three investor sentiments, i.e., IS_{Total}, IS_{Global}, and IS_{Local}. It clear shows that HB is negatively corrlated with IS_{Global}, significant at the 1% level. $Dist$ is average of geographical distances. Dum_{Lang} is the average of common language dummy variables, based on the World Fact Book. Investor protection variables include rule of law index Law, accounting standard index Acc, minority investor protection index $Minor$, expropriation risk index $Expropo$, efficiency of judicial system index Eff, and legal system dummy variable Dum_{Legal}. $MVGDP$ is the total market capitalization of country's stock market as a percent of its GDP. $Turn$ is the market-level turnover ratio retrieved from the World Bank.

2.4 Is market sentiment the driving force behind institutional home bias?

Institutional home bias has been widely explored and documented in the academia. Although cross-border investments seem to be quite beneficial, institutional investors are proved to invest disproportionately in their home markets. Many researchers have provided the clear picture of such home bias, see Lau, Ng, and Zhang (2010) for an international documentation of institutional home bias. This so called "home bias" is one of many unsolved puzzles in the finance. Many studies provide the explanations for this phenomenon. See Chan, Covrig, and Ng (JF, 2005), Hau and Rey (AER, 2008), Lau, Ng, and Zhang (JFE, 2010), Kho, Stulz, and Warnock (JAR, 2009).

Therefore, a naturally raised question is: are institutional investors, being large and professional investors, willing to link their investment strategy to the current market investment sentiment, Or whether the market overoptimistic and overpessimistic would have effects on institutional investors investment decision? To explore the answers for this question, we take the sample of 28 countries in 1999-2010 to regressing global, local, and total investor sentiment variables on institutional home bias in the form of panel regression. Table 3 presents the regression results.

First, Global investor sentiment have a strong negative effects on home bias in the panel regression. Panel A conducts the panel regression for all countries, all clustered at the country level. Without any control variables, the coefficient of IS_{Global} equals 0.071, significant at 5% level in Model 1(M1). Considering the local investor sentiment and other control variables, the coefficients of IS_{Global} are positive and significant at least 5% level. M5 adds the control variable MVGDP, and M9 adds $MVGDP$ and $LogInstMV$. These three models include only investor sentiment index IS_{Global} indicates global sentiment index exerts a significant influence on institutional investors home bias toward their domestic markets. This result is robust, when adding local investor sentiment index of each domestic market. The globalization of world plays an critical role in institutions investment strategy in the past decade.

Second, we expect that local investor sentiment IS_{Local} should peak some sort of overoptimistic or overpessimistic in the local market and therefore drives the professional institutional investors away from the domestic market. Our results in Table 2 Panel B supports this hypothesis. Local investor sentiment index IS_{Local} is negative associated with institutional home bias in the sample of 28 countries. The coefficient of IS_{Local} being -0.133 statistically significant at 5% level. Given the wide-spread influence from global market sentiment, M4 still holds the conclusion that local investor sentiment reduces institutional home bias in the domestic market. Panel A

also shows that IS_{Local} negatively affects more on cross-section country level home bias then it does in time-series country level home bias. The coefficient IS_local is -0.133 , significant at 5% level under the regression which including year fixed effects. When included country level time-series control variables such as $LogInstMV$ and $MVGDP$, the coefficient of IS_{Local} becomes smaller with less significance level at 10% level. Surprisingly, despite the fact that two components of market sentiments, IS_{Global} and IS_{Local}, have significant associations with disproportionately more investment toward institutional home markets, total investor sentiment IS_{Total} has no significant effects on such bias behavior in our sample.

Panel B of Table 3 reports the similar regression for all countries excluding the U.S. The consideration behind is that the U.S. has the largest number of institutional investors and the largest stock market so far, so we would like to see whether institutions from the rest of the world would be affected equally or similarly by the global and local investor sentiments. The regression results in Panel B gives the positive answer. IS_{Local} is more negatively associated with institutional home bias. The coefficient of IS_{Local} in M2 is -0.136 with t value being)-2.53, higher than the coefficient in M2 of Panel A where the U.S. are included. IS_{Global} and IS_{Local} play more important role in institutional home bias: M8 gives the coefficients of IS_{Global} 0.113 and IS_{Local} -0.110, where we include the country level control variable $MVGDP$.

Our sample has more European countries than countries in other regions based on the sample construction and institutional ownership data. So next step we would like to distinguish European countries and non-European countries to see whether our results are merely driven by European countries. Panel C and Panel D of Table 3 report the separate regression results for Europe region and non-Europe region, respectively. The results show that Global investor sentiment still stands out for explaining institutional home bias toward domestic market more considerably in

time-series data than in cross-sectional data. M4 in Panel C and M17 in Panel B supports our results. The coefficient of IS_{Global} in M4 of Panel C equals 0.095 with significance at 5% level, while it equals 0.123 in Panel D M17 with the same statistical significance. Global sentiment index affects more on home bias in Non-European countries than in European region. This may relate to the fact of similar fiscal and financial policies of European Union, which is formed formally already during our sample period 1999-2010. IS_{Local} sentiment index have the stronger significant negative effects on home bias in European countries than in non-European countries. The explanation could be that non-European group contains the U.S. and Canada. Both countries have the much lower home bias to start with, compared with other countries in the sample.

Overall, global and local investor sentiments significant affect institutional home bias behavior around the world. The global investor sentiment strengthens home bias, while the local investor sentiment reduces it. Our regression results in subgroups of the U.S. versus Non-U.S. and subgroups of European countries versus non-European countries support our conclusion. Moreover, Global sentiments have more considerably positive effect on fostering institutional investment more disproportionately in domestic market at the cross-section level, while IS_{Local} drives down such disproportionately investment in domestic market more at the time-series level.

2.5 Robustness tests on the effect of global sentiment on home bias

Considering the fact that the U.S. is the largest stock market in the sample, I exclude the U.S. market in the robustness regression to make sure that our findings are not practically driven by the U.S. I run the regression model 4, 8, 11, and model 14 in the robustness tests. Model 8 confirms the previous findings. The coefficient

of IS_{Global} equals -0.115, significant at 1% level. It shows that for the non-U.S. countries in the sample, we still witness that global sentiment drives down institutional overly investment in domestic market. Next, in Model 8 we include the stock market development variables market turnover $Turn$ and $MVGDP$, the negative correlation between IS_{Global} and HB stands still at 5% level. M11 includes the familiarity variables Distance $Dist$ and average of dummy variables for language Dum_{Lang}. The negative impact of global sentiment on institutional home bias continues at 5% level. The coefficient of Dum_{Lang} is significantly positive at 5% level indicates that institutional investors have investment preference on those foreign countries which share the same official language. Last, I include the set of investor protection variables. The coefficient of IS_{Global} equals -0.099, significant at 1% level.

Overall, the robustness tests strongly support the previous findings that global market sentiment index reduces institutional home bias.

2.6 Conclusions

In this paper, we explore the possible effects of three investor sentiment measures on institutional home bias from 1999 to 2009 for 14 institutional domiciled countries based on Factset Lionshares and Worldscope data. To our knowledge, this is the first paper that investigates the relationships of three investor sentiments on institutional home bias in the international markets. We examine such relationship for several different subgraoups and we use the complete Factset Lionshares data from 1999 to 2009. We explore impact of market sentiment on home bias for 14 countries around the world. We decompose the investor sentiment index into global and local sentiment indices. My study shows that a wave of global sentiment has a statistically significant negative effect on country-level home bias.

Our sample shows a significant negative impact of global sentiment on institutional home bias and the negative correlation between local investor sentiment and

home bias. The Pearson correlation between global sentiment and home bias across 14 countries is significant at the 1% level.

Familiarity variables such as distance and language have positive and negative significant effects on institutional home bias, respectively. The result is compatible with the previous research findings. Institutional investors show a smaller home bias when the home country and the host country share a common language or have a relatively closer geographical distance.

Third, Investor protection variables such as rule of law index and risk of expropriation index have a significant positive effect and negative effect on home bias, respectively. We show that institutional investors tend to invest a relatively large proportion of their investments in a country which strongly practices its law and expropriation risk is small.

REFERENCES

Agarwal, P., 2007. Institutional ownership and stock liquidity. *SSRN*.

Almazan, A., Hartzell, J., and Starks, L., 2005. Active institutional shareholders and cost of monitoring: evidence from executive compensation. *Financial Management* 34, 5-34.

Amihud, Y., 2002. Illiquidity and stock returns: cross-section and time-series effects. *Journal of Financial Markets* 5, 31-56.

Amihud, Y., and Mendelson, H., 1986. Asset pricing and the bid-ask spread. *Journal of Finance* 17, 223-249.

Amihud, Y., Mendelson, H., and Peterson, L.H., 2005. Liquidity and asset prices, *Foundations and Trends in Finance* 1, 269-364.

Badrinath, S.G., and Wahal, S., 2002. Momentum trading by institutions, *Journal of Finance* 57, 2449-2478.

Baker, M. and Wurgler, J., 2007. Investor sentiment in the stock market. *Journal of Economics Perspectives* 21, 129-151.

Baker, M. and Wurgler, J., 2006. Investor sentiment and the Cross-section of stock returns. *Journal of Finance* 4, 1645-1680.

Baker, M, Wurgler, J., and Yu, Y., 2011. Global, local, and contagious investor sentiment. *Journal of Financial Economics* 10, 1-16.

Beber, A., Brandt, M.W., and Kavajecz, K.A., 2009. Flight-to-quality or flight-to-liquidity? Evidence from the Euro-area bond market, *Review of Financial Studies* 22, 925-957.

Bennett, J., Sias, R., and Starks, L., 2003. Greener Pastures and the impact of dynamic institutional preference. *Review of Financial Studies* 16, 1203-1238.

Brickley, J., Lease, R., and Smith, C., 1988. Ownership structure and voting on antitakeover amendments. *Journal of Financial Economics* 20, 267-292.

Brown, G.W. and Cliff, M.T. 2004. Investor sentiment and the near-term stock market. *Journal of Empirical Finance* 11, 1-17.

Brunnermeier, M.K., and Pederson, L.H., 2009. Market Liquidity and funding liquidity. *Review of Financial Studies* 22, 2201-2238.

Campello, M., Graham, J., and Harvey, C., 2009. The real effects of financial constrains: evidence from the financial crisis. *Journal of Financial Economics*, forthcoming.

Carrieri, F., Errunza, V., and Hogan, K., 2007. Characterizing world market integration through time. *Journal of Financial and Quantitative Analysis* 42, 915-940.

Chan, K., Covrig, V., Ng, L., 2005. What determines the domestic bias and foreign bias? Evidence from mutual fund equity allocations worldwide. *Journal of Financial Economics* 60, 1495-1534.

Cooper, I., Kaplanis, E., 1994. Home bias in equity portfolios, inflation hedging, and international capital market equilibrium. *Review of Financial Studies* 7, 45-60.

David., I.B., Franzoni, F.A., and Moussawi, R., 2011. Hedge fund stock trading in the financial crisis of 2007-2009. Working paper.

De Joing, F., De Roon, 2005. Time-varying market integration and expected returns in emerging markets. *Journal of Financial Economics*78, 583-613.

Dennis, P.J., and Strickland, D., 2002. Who blinks in volatile markets, individuals or institutions? *Journal of Finance* 5, 1923-1949.

Edelen, M.R., Warner, B.J., 2001. Aggregate price effects of institutional trading: a study of mutual fund flow and market returns. *Journal of Financial Economics* 59, 195-220.

Ferreira, M.A., and Matos, P., 2008. The colors of investors' money: the role of institutional investors around the world. *Journal of Financial Economics* 88, 499-533.

Giannetti, M., and Laeven, Luc, 2012. The Flight home effect: Evidence from the syndicated loan market during the financial crisis. *Journal of Financial Economics* 104, 23-43.

Gompers, P., and Metrick, A., 2001. Institutional investors and equity prices. *Quarterly Journal of Economics* 116, 229-259.

Goyenko, R., and Sarkissian, S., 2008. Flight-to-liquidity and global equity returns. Working paper.

Guercio, D.D., 1996. The distorting effect of the prudent-man laws on institutional equity investments. *Journal of Financial Economics* 40, 31-62.

Giannetti, M., and Laeven, L., 2012. The flight home effect: evidence from the syndicated loan market during financial crises. *Journal of Financial Economics* 104, 23-43.

Hameed, A., Kang, W.J., and Viswanathan, S., 2008. Stock market declines and liquidity. *Journal of Finance*, forthcoming.

Hasbrouck, J., 2006. Trading costs and returns for US equitites: estimating effective costs from daily data. *Working paper*.

Haas, R.D. and Horen, N.V., 2012. Running for the exit? International bank lending during a financial crisis. *Review of Financial Studies*, forthcoming.

Hau, H., Rey, H., 2008. Home bias at the fund level. *American Economic Review* 98, 333-338.

Huang, J., 2008. Dynamic liquidity preferences of mutual funds. Working paper.

Huang, J., Sialm, C., and Zhang, H., 2009. Risk shifting and mutual fund performance. *Review of Financial Studies*, forthcoming.

Hwang, B., 2011. Country-specific sentiment and security prices. *Journal of Financial Economics* 100, 382-401

Jennings, W.W., Schnatterly, K., and Seguin, P.J., 2002. Institutional ownership, information and liquidity. *Innovations in Investments and Corporate Finance* 7, 41-71.

Keim, B.D., 1999. An analysis of mutual fund design: the case of investing in small-cap stocks. *Journal of Financial Economics* 51, 173-194.

Karolyi, G.A. and Stulz, R.M., 2003. Are assets priced locally or globally. *The Handbook of Economics of Finance*, North Holland.

Karolyi, G.A., Lee, K.H., and Dijk, M.A. 2009. Commonality in returns, liquidity, and turnover around the world. Working Paper.

Kho, B.C., Stulz, R.M., and Warnock. F.E., 2009. Financial Globalization, Governance, and the Evolution of the home bias. *Journal of Accounting Research* 47, 597-635.

Ince, O.S., and Porter, R.B., 2006. Individual equity return data from Thomson datastream: handle with care! *The Journal of Financial Research* 4, 463-479.

La Porta, R., Vishny, R., Silanes, F. and Shleifer, A., 1997. Legal determinants of external finance. *Journal of Finance* 52, 1131-1150.

La Porta, R., Vishny, R., Silanes, F. and Shleifer, A., 1998. Law and finance. *Journal of Political Economy* 106, 1113-1155.

La Porta, R., Vishny, R., Silanes, F. and Shleifer, A., 2000. Investor protection and corporate governance. *Journal of Financial Economics* 58, 3-28.

Lakonishok, J., Shleifer, A., and Vishny, R.W., 1992. The impact of institutional trading on stock prices. *Journal of Financial Economics* 32, 23-43.

Lau, S.T., Ng, L., and Zhang, B.H., 2010. The world price of home bias. *Journal of Financial Economics* 97, 191-217.

Lesmond, D.A., Ogden, J.P., and Trzcinka, Charles A., 1999. A new estimate of transaction costs. *Review of Financial Studies* 12, 1113-1141.

Lee, K.H., 2011. The world price of liquidity risk. *Journal of Financial Economics* 99, 136-161.

Liang, X. and Wei. K.C., 2012. Are investors compensated for bearing market volatility in a country. Working paper.

Nofsinger, J.R., and Sias, R.W., 1999. Herding and feedback trading by institutional and individual investors. *Journal of Finance* 6, 2263-2296.

Scheinkman, J., and Xiong, W., 2003. Overconfidence and speculative bubbles. *Journal of Political Economy* 111, 1183-1219.

Rouwenhorst, K.G., 1999. Local factors and turnover in emerging markets. *Journal of Finance* 54, 1439-1464.

Schwartz, R. 1991. Institutionalization of the equity market. *The Journal of Portfolio Management* 17, 44-49.

Sibley, S.F., Xing, Y.H., and Zhang, X.Y., 2012. Is "Sentiment" Sentimental? Working paper.

Stambaugh, R.F., Yu, J.F., and Yu, Y., 2011. The short of it: Investor Sentiment and anomalies.

Tetlock, P., 2007. Giving content to investor sentiment. *Journal of Financial Economics* 62, 1139-1168.

Yu, J.F. and Shen, J.Y., 2012. Investor Sentiment and Economic Forces. Working paper.

Yu, J.F. and Yuan, Y., 2011. Investor sentiment and the mean-variance relation. *Journal of Financial Economics* 100, 367-381.

Table I: Descriptive Statistics for Institutional Domiciled Home Countries

The table presents the time-series average of the cross-sectional average of the institutional characteristics for 28 institutional domiciled home countries based on their holdings across 52 target countries. The global institutional investors holding data is retrieved from Factset Lionshares from January 1999 to December 2008. Institution holding frequency is set up as semi-annual year in order to accommodate the discrepancy in various reporting frequencies across the country. We define domestic institution (Dom. Inst.) as those institution who invest greater than or equal to 80% of the total assets in domestic market throughout the sample period; otherwise, institutions are classified as international (Intl. Inst.). Pure domestic institutions who never invest outside of their country throughout the sample period. Column 3 and 4 summarize the domestic and international institutions by country. TNA equals to the institutional total net asset values in million dollars. $DomesticInvest$ measures the proportion of the domestic institutions' domestic investment in their home country. $HVolatility$ is the standard deviation of institutional home market returns in each semi-annual year. $FVolatility$ measures the volatility of institutional investment in the foreign markets by using the market value-weighted average of foreign market return standard deviation in every semi-annual year. Ret measures institutional weighted average of holding stock returns. $Flow$ is the growth rate of institutional total asset values. $Turn$ ratio equals to the minimum of aggregate buys or sales of holding assets divided by institutional total asset values. $Illiquidity$ is computed as the market weighted average of holding stock illiquidity measured by the proportion of zero returns with respect to the total number of existing trading days within each semi-annual year. $Risk\ Shifting$ measures the difference of institutional current holding standard deviation and their past realized actual return standard deviation. The sample period is from 1999 to 2008.

	Type of	*No. of Institutions*		*TNA*									
Country	*Market*	*Domestic*	*International*	*($Mil)*	*DInvest*	*HVolatility*	*FVolatility*	*Ret*	*Concen*	*Turn*	*Flow*	*Illiquidity*	*Risk Shifting*
Australia	DEV	35	29	564	0.662	0.017	0.014	0.051	0.030	0.062	0.475	0.028	0.001
Austria	DEV	0	42	201	0.114	0.013	0.013	0.039	0.019	0.092	0.385	0.031	0.003
Belgium	DEV	1	26	1,870	0.286	0.012	0.012	0.026	0.014	0.085	0.378	0.019	0.004
Canada	DEV	6	177	3,131	0.343	0.013	0.013	0.056	0.017	0.086	0.486	0.028	0.005
China	EMG	7	2	2,708	0.418	0.020	0.019	0.004	0.012	0.101	0.118	0.092	0.007
Denmark	DEV	0	36	1,760	0.288	0.014	0.013	0.039	0.011	0.092	0.559	0.030	0.002
Finland	DEV	4	28	699	0.509	0.017	0.013	0.043	0.018	0.093	0.357	0.020	0.001
France	DEV	33	135	2,059	0.532	0.014	0.013	0.022	0.020	0.094	0.675	0.020	0.002
Germany	DEV	4	172	2,091	0.324	0.014	0.013	0.030	0.021	0.087	0.449	0.023	0.002
Hong Kong	DEV	2	44	1,800	0.422	0.014	0.014	0.096	0.012	0.102	0.308	0.086	0.006
India	EMG	31	0	714	0.992	0.020	0.013	0.132	0.012	0.119	0.644	0.049	0.001
Ireland	DEV	0	13	4,499	0.028	0.015	0.013	0.011	0.005	0.105	0.255	0.037	0.004
Italy	DEV	1	52	727	0.439	0.013	0.013	0.021	0.018	0.117	0.767	0.022	0.001
Japan	DEV	22	19	2,144	0.782	0.014	0.013	0.027	0.010	0.112	0.297	0.077	0.006
Malaysia	EMG	4	10	132	0.853	0.010	0.018	0.043	0.016	0.118	0.292	0.052	-0.001
Netherlands	DEV	2	24	4,235	0.232	0.013	0.013	0.021	0.023	0.090	0.541	0.029	0.004
Norway	DEV	2	21	1,254	0.564	0.019	0.013	0.065	0.014	0.098	0.393	0.026	-0.001
Poland	EMG	27	7	719	0.917	0.018	0.015	0.049	0.014	0.073	0.743	0.015	0.007
Portugal	EMG	6	22	121	0.441	0.011	0.013	0.040	0.025	0.087	0.273	0.016	0.003
Singapore	DEV	1	43	957	0.140	0.012	0.014	0.077	0.013	0.093	0.380	0.076	0.006
South Africa	EMG	14	52	456	0.768	0.021	0.015	0.095	0.026	0.082	0.344	0.015	0.006
Spain	EMG	10	110	271	0.502	0.012	0.012	0.040	0.015	0.116	0.259	0.016	0.002
Sweden	DEV	17	52	3,169	0.592	0.018	0.014	0.029	0.026	0.090	0.369	0.026	0.006
Switzerland	DEV	7	149	1,144	0.241	0.011	0.013	0.021	0.025	0.088	0.408	0.035	0.005
Taiwan	EMG	1	2	213	0.683	0.016	0.013	0.076	0.015	0.128	0.078	0.051	0.002
Thailand	EMG	12	7	116	0.937	0.018	0.015	0.091	0.032	0.075	1.008	0.083	-0.003
United Kingdom	DEV	49	219	3,603	0.447	0.013	0.013	0.026	0.020	0.098	0.399	0.035	0.017
United States	DEV	2,026	264	5,053	0.961	0.012	0.014	0.025	0.021	0.100	0.114	0.049	0.005

Table II: Institutional Investment in Home Markets and Foreign Volatility

The table presents the flight home regression results at the institution level. The dependent variable is the change in the proportion of the institutional investment in domestic market as of the total institutional investment for every semi-annual semester. $\Delta FVolatility$ gives the changes on the market value-weighted average of the foreign market volatility. $\Delta Concen.$ equals to the change in the reciprocal of the number of distinct stocks held by an institution. ΔRet measures the institutional weighted average of the holding stock returns. $\Delta Flow$ is the growth rate of the institutional total asset value. ΔTNA takes the change in the log of institutional holding asset values. $\Delta Turn$ ratio equals to changes on the minimum of aggregate buys or sales of holding assets divided by institutional total asset values. $\Delta MktRet.$ equals to the change of semi-annual market return in institutions domiciled home country. $\Delta DInvest$ is the change on the proportion of domestic investment by institutions in each home country. In addition, we define domestic institution (Domestic) as those institutions which invest greater than or equal to 80% of the total assets in domestic market throughout the sample period. Otherwise, institutions are classified as international (International). Robust t-statistics in parenthesis are adjusted for institution-level clustering. The symbols $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively.The sample period is from 1999 to 2008.

				US		Non-US	
	All	US	Non-US	International	Domestic	International	Domestic
	M1	M2	M3	M6	M7	M8	M9
$\Delta FVolatility$	0.866**	0.483***	2.276**	1.898***	0.100***	2.689**	0.794*
	(2.50)	(4.23)	(2.10)	(3.10)	(3.31)	(1.98)	(1.94)
$\Delta Concen$	-0.394***	-0.709***	-0.029	-0.502***	-0.060	-0.024	-0.275
	(-3.72)	(-8.49)	(-0.26)	(-4.56)	(-0.51)	(-0.21)	(-1.54)
$\Delta Flow$	0.001*	0.000	0.002***	-0.001	0.001***	0.002***	0.002**
	(1.70)	(0.24)	(2.78)	(-0.50)	(2.85)	(2.69)	(2.20)
$\Delta Ret.$	0.023***	0.005	0.043***	0.019	-0.001	0.045***	0.013
	(2.74)	(0.69)	(3.05)	(0.82)	(-0.63)	(2.95)	(0.78)
ΔTNA	0.015***	0.029***	0.008	0.070***	0.001	0.009	-0.005
	(2.69)	(3.82)	(1.20)	(4.65)	(1.36)	(1.23)	(-1.01)
$\Delta Turn$	0.008	0.014	0.011	0.036	0.004	0.009	0.043**
	(0.54)	(1.23)	(0.43)	(0.75)	(1.34)	(0.34)	(2.03)
$\Delta MktRet$	-0.044***	0.023***	-0.047***	0.073**	0.012***	-0.049***	-0.030
	(-4.41)	(2.83)	(-3.51)	(2.21)	(4.48)	(-3.39)	(-1.57)
$\Delta DInvest$	0.137*	0.057*	5.900***	0.028	0.062***	6.214***	0.913
	(1.66)	(1.77)	(3.03)	(0.15)	(6.86)	(3.01)	(0.71)
Time FE	Yes	No	Yes	No	No	Yes	Yes
Country FE	Yes	No	Yes	No	No	Yes	Yes
NObs	28,672	14,768	13,904	2,653	12,115	13,037	867
$\overline{R}^2$	3.8%	17.7%	1.9%	22.7%	1.0%	2.0%	1.2%

Table III: Institutional Investment in Home and Foreign Volatility

The table presents the regression of the proportion of the institutional domestic investment on the volatility of their home country. The dependent variable is the change the proportion of country's institutional investment in domestic market as total institutional investment. $\Delta HVolatility$ is the change in the market value-weighted standard deviation of institution domiciled home market returns. $\Delta Concen.$ equals to the change on reciprocal of the number of distinct stocks held by an institution. ΔRet measures the changes in the institutional weighted average of holding stock returns. $\Delta Flow$ is the changes on growth rate of institutional total asset values. ΔTNA takes the change in the log of institutional holding asset values. $\Delta Turn$ ratio equals to changes on the minimum of aggregate buys or sales of holding assets divided by institutional total asset values. $\Delta MktRet.$ equals to the change of the semi-annual market return in institutions domiciled home country. $\Delta DInvest$ is the change on the proportion of domestic investment by institutions in each home country. In addition, we define domestic institution (Domestic) as those institution who invest greater than or equal to 80% of total assets in domestic market throughout the sample period. Otherwise, institutions are classified as international (International). Robust t-statistics in parenthesis are adjusted for institution-level clustering. The symbols $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. The sample period is from 1999 to 2008.

				US		Non-US	
	All	US	Non-US	International	Domestic	International	Domestic
	M1	M2	M3	M6	M7	M8	M9
$\Delta HVolatility$	-0.631*	0.305***	-0.084	0.872	0.117***	-0.262	0.188
	(-1.77)	(3.20)	(-0.18)	(1.25)	(5.63)	(-0.45)	(0.70)
$\Delta Concen$	0.008	-0.040	0.208*	0.017	0.009***	0.225*	0.013
	(0.14)	(-0.71)	(1.70)	(0.14)	(2.95)	(1.68)	(0.46)
$\Delta Flow$	0.001*	0.001	0.002**	0.001	0.000	0.002**	0.000
	(1.68)	(0.46)	(2.48)	(0.27)	(0.90)	(2.49)	(-0.10)
ΔRet	0.016***	0.006	0.037***	0.032	0.000	0.041***	-0.003
	(2.85)	(1.26)	(2.70)	(1.41)	(-0.29)	(2.58)	(-0.34)
ΔTNA	0.008**	0.011***	0.005	0.040***	0.000	0.006	-0.004*
	(2.12)	(3.15)	(0.67)	(3.32)	(0.30)	(0.77)	(-1.67)
$\Delta Turn$	0.004	0.003	0.006	0.034	0.000	0.004	0.014
	(0.42)	(0.50)	(0.25)	(0.90)	(-0.18)	(0.14)	(1.23)
$\Delta MktRet$	-0.039***	0.012**	-0.046***	0.032	0.008***	-0.057***	-0.004
	(-4.53)	(2.03)	(-3.25)	(0.81)	(4.70)	(-3.39)	(-0.32)
$\Delta DInvest$	0.127*	0.045*	5.213***	-0.007	0.051***	5.804***	0.202
	(1.75)	(1.96)	(2.81)	(-0.04)	(7.96)	(2.83)	(0.27)
Time FE	Yes	No	Yes	No	No	Yes	Yes
Country FE	Yes	No	Yes	No	No	Yes	Yes
NObs	43,807	28,753	15,054	3,402	25,351	13,344	1,710
$\overline{R}^2$	1.0%	1.9%	1.4%	5.5%	0.5%	1.6%	0.3%

Table IV: Global Financial Crises and the Flight-Home Effect

The table reports the estimates of the regression of the institution investment in the target countries during home and foreign market crisis. We define the market crisis time period by looking at the time period with which the market return is 1.3 standard deviation below the mean of market returns from 1999 to 2008. $ForeignDummy$ is the dummy variable. It is equal to 1 when institutions home domiciled country is not the same with investing target country; it equals to 0 when the home country is the same as the target country. $TargetCountryMV(\%)$ is the proportion of market value of target country as of the sum of market value of all target countries. *Concen.* equals to the reciprocal of the number of distinct stocks held by an institution. *Ret* measures institutional weighted average of holding stock returns. $Flow$ is the growth rate of institutional total asset values. TNA takes the log of institutional holding asset values. $Turn$ equals to the minimum of aggregate buys or sales of holding assets divided by institutional total asset values. We define domestic institution (Dom.) as those institution who invest greater than or equal to 80% of total assets in domestic market throughout the sample period. Otherwise, institutions are classified as international (Intl.). Robust t-statistics in parenthesis are adjusted for institution-level clustering. Model 1 to 6 give the regression without adding institutional characteristics. Model 6 to 11 gives the results after adding institutional characteristics. The recent crisis in Model 5 and 10 gives the regression results by limiting the regression sample to year 2007-2008, the latest financial crisis. Model 2 runs the Tobit regression. Model 3 and 8 run the regression by limiting the sample to the United States and the United Kingdom whose numbers of institutions rank the top 2 among all 28 institution domiciled home countries. The symbols $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. The sample period is from January 1999 to June 2008.

	All M1	All Tobit M2	US & UK only M3	US & UK Excluded M4	Recent Crisis 07-08 only M5	Before Year 07 M6	All M7	US & UK only M8	US & UK Excluded M9	Recent Crisis 07-08 only M10	Before Year 07 M11
$TargetCountryCrisis$	-0.023***	-0.021***	-0.004***	-0.003***	-0.039***	-0.013***	-0.021***	-0.005***	-0.003**	-0.036***	-0.013***
$*\ ForeignDummy$	(-20.12)	(-20.56)	(-3.36)	(-2.75)	(-25.41)	(-9.74)	(-17.79)	(-3.98)	(-2.26)	(-21.10)	(-9.88)
$ForeignDummy$	-0.490***	-0.437***	-0.589***	-0.202***	-0.480***	-0.492***	-0.436***	-0.556***	-0.197***	-0.423***	-0.439***
	(-81.93)	(-553.59)	(-35.33)	(-41.08)	(-78.26)	(-76.12)	(-68.91)	(-33.58)	(-39.94)	(-65.88)	(-63.90)
$TargetCountryMV(\%)$	0.306***	0.453***	0.066***	0.210***	-0.305***	0.460***	0.458***	0.166***	0.211***	-0.111	0.718***
	(12.46)	(-40.59)	(2.66)	(4.96)	(-6.58)	(13.09)	(11.97)	(3.92)	(4.98)	(-1.64)	(13.00)
$Concen$							0.632***	0.431***	0.845***	0.651***	0.625***
							(14.96)	(7.26)	(16.99)	(12.57)	(11.91)
$Flow$							0.000***	0.000**	0.000	-0.001***	0.000***
							(-4.14)	(-2.52)	(-1.34)	(-5.94)	(-4.04)
Ret							-0.020***	-0.016***	0.005	0.004	-0.034***
							(-7.12)	(-5.56)	(1.04)	(1.08)	(-8.77)
TNA							-0.001***	-0.003***	-0.002***	-0.001***	-0.001***
							(-6.09)	(-13.66)	(-8.09)	(-6.49)	(-4.94)
$Turn$							-0.002	-0.009***	0.001	-0.010**	0.002
							(-0.66)	(-2.96)	(0.18)	(-2.28)	(0.56)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Target Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NObs	343,696	343,696	189,632	154,064	111,394	232,302	313,394	159,330	154,064	102,538	210,856
$\overline{R}^2$	86.5%	86.5%	93.9%	39.9%	85.3%	87.0%	77.9%	89.7%	42.2%	76.2%	78.7%

Table V: Robustness Test on Flight Home

The table reports the robust test of flight home evidence around the world. Panel A uses the dependent variable as the change of institutional domestic holding percentage. I calculate this change of domestic holding percentage by summing up the product of changing shares of domestic stocks times the stock price at the beginning time period, then scaled by the average of institutional holding portfolio market value at the beginning time period and at the end time period in each semester. $\Delta FVolatility$ gives the changes on market value-weighted average of foreign market volatility. $\Delta Concen.$ equals to the changes on reciprocal of the number of distinct stocks held by an institution. $\Delta HVolatility$ is the change in market value-weighted standard deviation of institution domiciled home market returns. ΔRet measures institutional weighted average of holding stock returns. $\Delta Flow$ is the growth rate of institutional total asset values. ΔTNA takes the change on log of institutional holding asset values. $\Delta Turn$ ratio equals to change in the minimum of aggregate buys or sales of holding assets divided by institutional total asset values. ΔMV measures the change of log home market capitalization as of the total world market value. I consider home country fixed effects (i.e., Country FE) for all regressions except for the U.S. institutions in Model 2, 5, and 9, time fixed effects(Time FE). Robust t-statistics in parenthesis are adjusted for institution-level clustering. The symbols $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. The sample period is from year 1999 to 2008.

	All M1	US M2	Non-US M3	All M4	US M5	Non-US M6	All M7	US M8	Non-US M9
$\Delta FVolatility$	4.736***	3.873***	6.194***				4.601***	2.370***	6.552***
	(11.04)	(8.99)	(2.75)				(10.21)	(5.79)	(2.93)
$\Delta HVolatility$				-3.052***	-2.745***	-1.423	-1.893**	-3.827***	-2.247**
				(-3.73)	(-12.09)	(-1.41)	(-2.22)	(-12.05)	(-2.39)
$\Delta Concen$	0.916***	1.139***	0.908***	0.912***	1.062***	0.904***	0.917***	1.061***	0.910***
	(7.22)	(6.26)	(4.01)	(7.24)	(6.34)	(3.97)	(7.24)	(6.34)	(4.04)
$\Delta Flow$	0.000	-0.020***	0.000*	0.000	-0.020***	0.000*	0.000	-0.019***	0.000*
	(-1.64)	(-5.60)	(-1.74)	(-1.64)	(-6.00)	(-1.74)	(-1.64)	(-6.03)	(-1.74)
ΔRet	0.086***	0.115***	0.042**	0.076***	0.120***	0.038**	0.084***	0.124***	0.039**
	(7.92)	(8.55)	(2.23)	(7.08)	(11.28)	(2.05)	(7.85)	(11.70)	(2.11)
ΔTNA	0.181***	0.238***	0.166***	0.182***	0.225***	0.167***	0.181***	0.224***	0.166***
	(21.31)	(14.76)	(15.46)	(21.34)	(15.73)	(15.40)	(21.32)	(15.72)	(15.46)
$\Delta Turn$	0.043***	0.096***	-0.047**	0.043***	0.096***	-0.045*	0.043***	0.096***	-0.046*
	(3.04)	(5.45)	(-1.99)	(3.02)	(5.43)	(-1.92)	(3.07)	(5.47)	(-1.95)
ΔMV	-0.358***		-1.724***	-0.520***	0.546***	-1.929***	-0.361***	0.527***	-1.829***
	(-5.50)		(-2.81)	(-8.09)	(13.64)	(-3.08)	(-5.56)	(13.06)	(-3.03)
Time FE	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
Country FE	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
Nobs	41,402	26,653	14,749	41,402	26,653	14,749	41,402	26,653	14,749
$\overline{R}^2$	25.5%	21.2%	27.2%	25.0%	16.8%	26.9%	25.5%	16.9%	27.2%

TABLE 5
Robustness Test on Flight Home (Continued)

*Panel B: Dep.= Sum(change of holding shares in domestic stocks*beginning time price)/Institutions'TNA at the beginning time period*

	All	US	Non-US	All	US	Non-US	All	US	Non-US
	M1	M2	M3	M4	M5	M6	M7	M8	M9
$\Delta FVolatility$	1.709***	1.076**	1.487**				1.568***	0.362	1.635**
	(3.92)	(2.21)	(2.15)				(3.58)	(0.80)	(2.35)
$\Delta HVolatility$				-2.360***	-0.561**	-0.729	-1.944***	-0.727**	-0.924*
				(-5.70)	(-2.57)	(-1.46)	(-4.78)	(-2.34)	(-1.84)
$\Delta Concent.$	0.515***	1.009***	0.375***	0.514***	0.941***	0.373***	0.516***	0.941***	0.376***
	(4.45)	(4.93)	(3.07)	(4.45)	(4.88)	(3.06)	(4.47)	(4.87)	(3.09)
$\Delta Flow$	0.000	-0.035***	0.000	0.000	-0.034***	0.000	0.000	-0.034***	0.000
	(-1.51)	(-7.55)	(-1.55)	(-1.51)	(-7.63)	(-1.55)	(-1.51)	(-7.63)	(-1.55)
ΔRet	0.036***	0.043**	0.010	0.031**	0.046***	0.008	0.034***	0.047***	0.009
	(2.88)	(2.17)	(1.04)	(2.57)	(3.43)	(0.89)	(2.74)	(3.40)	(0.93)
ΔTNA	0.108***	0.222***	0.067***	0.109***	0.209***	0.067***	0.108***	0.209***	0.067***
	(18.71)	(11.66)	(16.98)	(18.68)	(12.06)	(16.97)	(18.71)	(12.08)	(16.99)
$\Delta Turn$	0.213***	0.298***	0.046***	0.213***	0.298***	0.047***	0.213***	0.298***	0.046***
	(17.65)	(17.31)	(4.12)	(17.70)	(17.55)	(4.15)	(17.68)	(17.53)	(4.13)
ΔMV	-0.260***		-0.446	-0.318***	0.216***	-0.509*	-0.263***	0.213***	-0.490*
	(-5.11)		(-1.64)	(-5.74)	(5.87)	(-1.85)	(-5.18)	(5.77)	(-1.78)
Time FE	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nobs	40,987	26,653	14,334	40,987	26,653	14,334	40,987	26,653	14,334
$\overline{R}^2$	15.1%	20.2%	15.3%	15.0%	18.6%	15.3%	15.1%	18.6%	15.3%

Table VI: Institutional Holding Liquidity and the Effect of Foreign Volatility

The table reports the estimates of regression of institution illiquidity on foreign market volatility. Stocks illiquidity is the proportion of zero daily returns as of the total existing trading days in each semi-annual year. Institution illiquidity is computed as the value-weighted average of holding stock illiquidities. We also compute institution illiquidity scores based on the rankings of stocks illiquidity in a given exchange market. We rank all stocks traded in the same market from the highest (rank=100, the most illiquid) to the lowest (rank=1, the least illiquid) in each market. Then we compute the weighted average of holding stock ranks as institutions overall liquidity score. $\Delta FVolatility$ is the change on standard deviation of foreign market returns in which institutions invest. $\Delta MktRet$ measures the change of semi-annual home market returns. ΔMV gives the change on the home market capitalization. $\Delta Concen.$ equals to the changes on reciprocal of the number of distinct stocks held by an institution. ΔRet measures the changes on institutional weighted average of holding stock returns. $Flow$ is the growth rate of institutional total asset values. ΔTNA takes the changes on log of institutional holding asset values. $\Delta Turn$ equals to the change in the minimum of aggregate buys or sales of holding assets divided by institutional total asset values. Panel A reports the regression results of institutions overall illiquidity level on foreign market volatility and institutional characteristics. Panel B reports the regression results of institution illiquidity scores on foreign market volatility as well as institution characteristics. The time fix effects are considered in all regression. Robust t-statistics in parenthesis are adjusted for institution-level clustering.The symbols $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. The sample period is from 1999 to 2008.

Panel A: Dep.= Change of institutional holding illiquidity

				US.		Non-US								
	All	US	Non US	Intl.	Dom.	Intl.	Dom.	All	US	Non US	Intl.	Dom.	Intl.	Dom.
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14
$\Delta FVolatility$	-0.268***	-0.068***	-0.392***	-0.022	-0.065***	-0.713***	0.516**	-74.719***	-38.003***	-196.224***	-35.501	-38.017***	-193.255***	-202.829
	(-7.67)	(-4.34)	(-3.29)	(-0.34)	(-3.96)	(-5.58)	(2.04)	(-3.99)	(-2.77)	(-3.35)	(-0.44)	(-3.02)	(-3.00)	(-1.45)
$\Delta MktRet$	-0.003***	-0.006***	0.001	-0.003	-0.006***	-0.001	0.010**	-1.217**	-6.900***	-1.561*	-3.320	-6.981***	-1.691**	1.293
	(-2.99)	(-3.35)	(0.66)	(-0.33)	(-3.66)	(-0.63)	(2.20)	(-2.14)	(-3.90)	(-1.88)	(-0.23)	(-4.22)	(-2.02)	(0.28)
ΔMV	-0.009***		-0.019			0.003	-0.125	-1.310		29.037**			24.840*	2.832
	(-2.75)		(-0.61)			(0.08)	(-1.00)	(-0.72)		(2.39)			(1.93)	(0.08)
$\Delta Concen$	0.055	-0.008**	0.068	-0.004	-0.041***	0.070	-0.097*	11.241	19.921	9.452	20.379	-3.698	8.923	7.595
	(0.97)	(-2.19)	(1.02)	(-1.13)	(-3.36)	(1.05)	(-1.66)	(1.06)	(0.94)	(0.80)	(0.92)	(-0.25)	(0.75)	(0.18)
$\Delta Flow$	0.000	0.000***	0.000	0.000**	0.000**	0.000*	0.001	0.090***	-0.089	0.084**	-0.052	-0.143	0.079**	0.147
	(-1.14)	(-2.89)	(-1.23)	(-2.26)	(-2.18)	(-1.76)	(1.53)	(2.67)	(-0.95)	(2.42)	(-0.31)	(-1.57)	(2.28)	(0.63)
ΔTNA	-0.001***	0.000***	-0.001**	0.000	-0.001***	-0.001*	-0.005*	-0.399**	-0.473*	-0.257	-0.992	-0.375**	-0.345	0.320
	(-3.49)	(-2.91)	(-2.36)	(-0.02)	(-3.71)	(-1.78)	(-1.91)	(-2.28)	(-1.93)	(-1.09)	(-1.40)	(-2.54)	(-1.43)	(0.34)
ΔRet	0.002**	0.002***	-0.001	0.000	0.002***	-0.001	0.000	1.670***	0.704	1.317	-1.213	1.022**	0.390	4.441
	(2.36)	(4.36)	(-0.55)	(0.37)	(3.89)	(-0.78)	(0.02)	(3.21)	(1.43)	(1.59)	(-0.82)	(2.26)	(0.45)	(1.27)
$\Delta Turn$	0.000	0.000	0.000	-0.001	0.000	0.000	0.000	-0.017	0.064	-0.232	-0.674	0.084	-0.087	-1.102
	(0.73)	(0.25)	(0.58)	(-0.79)	(0.31)	(0.42)	(-0.45)	(-0.07)	(0.25)	(-0.99)	(-0.42)	(0.35)	(-0.32)	(-1.01)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
NObs	30,937	14,715	16,222	2,351	12,364	15,116	1,106	30,937	14,715	16,222	2,351	12,364	15,116	1,106
$\overline{R}^2$	41.9%	89.7%	27.9%	82.6%	91.3%	28.3%	29.3%	11.9%	10.8%	22.7%	7.1%	15.2%	23.4%	26.7%

Panel B: Dep.= Change of institutional holding illiquidity score

Table VII: Institutional Holding Portfolio's Illiquidity and Home Country Volatility

The table reports the estimates of the regression of the institutional portfolio's illiquidity on volatility in the home market. Stock illiquidity is the proportion of zero daily returns as of the total existing trading days in each semi-annual year. Institution illiquidity is computed as the value-weighted average of the holding stock's illiquidity. Institution illiquidity scores based on the rankings of stocks illiquidity in a given exchange market. We rank all stocks traded in the same market from the highest (rank=10, the most illiquid) to the lowest (rank=1, the least illiquid) in each market. Then we compute the weighted average of the holding stock ranks as institutions overall liquidity score. $\Delta MktRet$ measures the change of semi-annual home market returns. ΔMV is the change of the log home market capitalization. ΔTNA gives the changes on the home market values. $\Delta Concen.$ equals to the change on reciprocal of the number of distinct stocks held by an institution. ΔRet measures the change in institutional weighted average of holding stock returns. $\Delta Flow$ is the the change in growth rate of institutional total asset values. ΔTNA takes the change in the log of institutional holding asset values. $\Delta Turn$ equals to the change in the minimum of aggregate buys or sales of holding assets divided by institutional total asset values. Panel A reports the regression results of institutions overall illiquidity level on the foreign market volatility and institutional characteristics. Panel B reports the regression results of institution illiquidity scores on foreign market volatility as well as institution characteristics. The time fix effects are considered in all regression. Robust t-statistics in parenthesis are adjusted for institution-level clustering.The symbols $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. The sample period is from 1999 to 2008.

Panel A: Dep.= Change of institution illiquidity

				US.		Non-US		*Panel B: Dep.= Change of institution illiquidity scores*			US.		Non-US	
	All	US	Non US	Intl.	Dom.	Intl.	Dom.	All	US	Non US	Intl.	Dom.	Intl.	Dom.
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14
$\Delta HVolatility$	-0.818***	-0.422***	-0.366***	-0.560***	-0.419***	-0.442***	-0.018	-71.252***	-213.134***	-96.267***	-440.924	-195.235***	-65.185**	-319.679**
	(-17.53)	(-11.03)	(-4.21)	(-2.65)	(-10.69)	(-5.08)	(-0.06)	(-4.58)	(-5.86)	(-2.96)	(-1.32)	(-5.75)	(-2.00)	(-2.75)
$\Delta MktRet$	-0.005***	-0.018***	0.000	-0.017	-0.018***	-0.002	0.005	-1.985***	-2.625	-2.931***	-15.876	-2.248	-2.489***	-7.992*
	(-4.01)	(-7.92)	(-0.28)	(-1.44)	(-8.06)	(-0.99)	(0.88)	(-3.68)	(-1.36)	(-3.96)	(-0.84)	(-1.30)	(-3.38)	(-1.82)
ΔMV	0.007**		-0.030			-0.025	-0.079	8.357***		9.422			12.153	-43.103
	(2.09)		(-0.98)			(-0.85)	(-0.61)	(4.59)		(0.84)			(0.99)	(-1.34)
$\Delta Concen$	0.055	-0.009**	0.069	-0.004	-0.046***	0.071	-0.093	5.433	6.660	5.557	5.632	-2.068	5.043	8.118
	(0.96)	(-2.39)	(1.02)	(-1.21)	(-3.63)	(1.04)	(-1.58)	(0.64)	(0.43)	(0.58)	(0.36)	(-0.15)	(0.52)	(0.19)
$\Delta Flow$	0.000	0.000***	0.000	0.000**	0.000**	0.000	0.001	0.095***	-0.101	0.088**	-0.090	-0.129	0.086**	0.129
	(-1.20)	(-2.78)	(-1.08)	(-2.21)	(-2.03)	(-1.55)	(1.49)	(2.74)	(-1.11)	(2.41)	(-0.54)	(-1.47)	(2.33)	(0.55)
ΔTNA	-0.001***	-0.001***	-0.001**	0.000	-0.001***	-0.001**	-0.005*	-0.531***	-0.657***	-0.313	-1.137*	-0.533***	-0.406	0.068
	(-3.18)	(-3.57)	(-2.44)	(-0.26)	(-4.45)	(-1.99)	(-1.87)	(-2.90)	(-2.85)	(-1.26)	(-1.67)	(-3.44)	(-1.58)	(0.08)
ΔRet	0.001	0.002***	0.000	0.000	0.002***	0.000	0.000	1.706***	0.654	2.077**	-1.446	1.082***	1.096	7.246**
	(1.58)	(4.58)	(-0.16)	(0.45)	(4.18)	(-0.11)	(0.04)	(3.29)	(1.36)	(2.49)	(-0.98)	(2.62)	(1.26)	(2.01)
$\Delta Turn$	0.000	0.000	0.000	-0.001	0.000	0.000	0.000	-0.036	0.051	-0.268	-0.731	0.078	-0.165	-0.756
	(0.82)	(-0.08)	(0.56)	(-0.78)	(-0.07)	(0.42)	(0.18)	(-0.17)	(0.25)	(-1.16)	(-0.47)	(0.41)	(-0.69)	(-0.78)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
NObs	33,018	15,746	17,272	2,525	13,221	16,063	1,209	33,018	15,746	17,272	2,525	13,221	16,063	1,209
$\overline{R}^2$	43.2%	89.9%	27.9%	82.7%	91.5%	28.1%	28.2%	11.2%	10.6%	21.4%	6.2%	15.2%	22.0%	26.5%

Table VIII: The Effect of Foreign Market Volatility on the Institutional Portfolio's Illiquidity in the Home and Foreign Markets

The table reports the estimation result of the regressing foreign market volatility on institution illiquidity in the home and foreign markets. Stock illiquidity is the proportion of zero daily returns as of the total existing trading days in each semi-annual year. Institution illiquidity is computed as the value-weighted average of holding stock liquidities. $MktRet$ measures the semi-annual home market returns. MV is the log of home market capitalization. $Concent$ equals the reciprocal of the number of distinct stocks held by an institution. Ret measures the institutional weighted average of holding stock returns. $Flow$ is the the change in the growth rate of institutional total asset values. TNA takes the log of the institutional holding asset values. $Turn$ equals to the minimum of aggregate buys or sales of the holding assets divided by the institutional total asset values. The time fix effects are considered in all regressions. Robust t-statistics in parenthesis are adjusted for institution-level clustering.The symbols $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. The sample period is from 1999 to 2008.

Dep.= log (weighted average of domestic portfolio illiquidity /weighted average of foreign portfolio illiquidity)

				US.		Non-US	
	All	US	Non US	Intl.	Dom.	Intl.	Dom.
	M1	M2	M3	M4	M5	M6	M7
$FVolatility$	-32.690***	-49.224***	-22.471**	-71.518***	-34.112***	-27.080***	5.524
	(-6.19)	(-6.48)	(-2.58)	(-4.36)	(-4.47)	(-2.78)	(0.27)
$MktRet$	-0.367***	-1.334*	-0.067	-2.060*	-0.989	-0.072	-0.353
	(-3.61)	(-1.76)	(-0.56)	(-1.68)	(-1.14)	(-0.61)	(-0.62)
MV	0.260		-1.053			-1.320	0.372
	(0.87)		(-0.59)			(-0.71)	(0.06)
$Concent$	0.981	0.797	1.718	2.233***	1.077	1.727	-1.483
	(1.54)	(1.28)	(1.58)	(2.70)	(0.71)	(1.51)	(-0.60)
$Flow$	-0.003	-0.033**	0.001	0.002	0.032	0.002	-0.026
	(-0.78)	(-2.12)	(0.27)	(0.11)	(1.31)	(0.60)	(-0.94)
TNA	-0.057***	-0.071***	-0.042***	-0.083***	-0.059***	-0.035***	-0.108***
	(-9.53)	(-7.29)	(-5.47)	(-5.98)	(-4.66)	(-4.45)	(-3.54)
Ret	-0.182**	-0.605***	0.193	-0.841***	-0.209	0.220*	0.076
	(-2.01)	(-4.41)	(1.64)	(-3.64)	(-1.45)	(1.80)	(0.17)
$Turn$	0.061	0.002	0.073	-0.344*	0.333***	0.043	0.312**
	(1.14)	(0.02)	(1.28)	(-1.73)	(3.06)	(1.04)	(2.09)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	No	Yes	No	No	Yes	Yes
NObs	23,994	10,264	13,730	2,557	7,707	12,731	999
$\overline{R}^2$	58.4%	11.2%	40.3%	16.4%	10.1%	41.0%	37.9%

Table IX: Robustness Test on Flight to Liquidity

The table reports the robustness test of evidence of institutions flight to liquidity. The dependent variable is the change of institutional overall illiqudity. To capture it, I first compute stock illiquidity by using the proportion of zero daily returns. Then we compute the change of the weight for every stock in the institutional holding portfolio. Then I sum up the product of stock illiquidity multiplied by its change of weight to capture the change of the institutional overall illiqudity level. $\Delta FVolatility$ gives the change in the market value-weighted average of foreign market volatility. $\Delta Concen.$ equals to the change in the reciprocal of the number of distinct stocks held by an institution. $\Delta HVolatility$ is the change in market value-weighted standard deviation of institution domiciled home market returns. ΔRet measures institutional weighted average of holding stock returns. $\Delta MktRet$ measures the change in the semi-annual home market returns. ΔMV is the change of the log home market capitalization. $\Delta Flow$ is the growth rate of the institutional total asset values. ΔTNA takes the change in the log of institutional holding asset values. $\Delta Turn$ ratio equals to the change in the minimum of aggregate buys or sales of holding assets divided by institutional total asset values. ΔMV measures the change of the log home market capitalization as of the total world market value. I consider home country fixed effects (i.e., Country FE) for all regressions except for the U.S. institutions in Model 2, 5, and 9, time fixed effects(Time FE). Robust t-statistics in parenthesis are adjusted for institution-level clustering. The symbols $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. The sample period is year 1999 to 2008.

	All M1	US M2	Non-US M3	All M4	US M5	Non-US M6	All M7	US M8	Non-US M9
$\Delta FVolatility$	-0.047***	-0.024**	-0.129***				-0.042**	-0.029*	-0.105**
	(-2.74)	(-2.55)	(-3.07)				(-2.44)	(-1.76)	(-2.45)
$\Delta HVolatility$				-0.070***	-0.016*	-0.094***	-0.066***	0.006	-0.077***
				(-3.43)	(-1.84)	(-3.27)	(-3.22)	(0.38)	(-2.60)
$\Delta Concen$	0.005	-0.009**	0.034***	0.005	-0.009**	0.035***	0.005	-0.009**	0.035***
	(0.99)	(-2.03)	(3.67)	(0.97)	(-2.06)	(3.78)	(0.98)	(-2.02)	(3.71)
$\Delta Flow$	0.000	-0.001***	0.000**	0.000	-0.001***	0.000**	0.000	-0.001***	0.000**
	(-0.34)	(-4.31)	(2.06)	(-0.34)	(-4.30)	(2.13)	(-0.35)	(-4.31)	(2.10)
ΔTNA	-0.004***	-0.004***	-0.004***	-0.004***	-0.004***	-0.004***	-0.004***	-0.004***	-0.004***
	(-21.43)	(-13.13)	(-19.74)	(-21.40)	(-12.99)	(-19.80)	(-21.42)	(-12.94)	(-19.74)
ΔRet	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***
	(-4.89)	(-4.35)	(-3.91)	(-4.83)	(-4.31)	(-3.61)	(-4.91)	(-4.34)	(-3.83)
$\Delta Turn$	-0.001**	-0.002	-0.001*	-0.001**	-0.002	-0.001*	-0.001**	-0.002	-0.001*
	(-2.15)	(-1.37)	(-1.70)	(-2.15)	(-1.37)	(-1.69)	(-2.15)	(-1.37)	(-1.69)
ΔMV	0.007***	0.000	0.025*	0.007***	0.000	0.023	0.008***	0.000	0.024
	(3.61)	(0.27)	(1.65)	(3.62)	(-0.01)	(1.50)	(3.72)	(0.28)	(1.61)
$\Delta Mktret$	0.001	0.001	0.001	0.000	0.001	0.000	0.000	0.001	0.000
	(1.09)	(1.38)	(1.00)	(0.39)	(1.60)	(0.10)	(0.21)	(1.44)	(0.08)
$\Delta MktIlliquidity$	0.044	0.192***	0.063	0.033	0.184***	0.065	0.035	0.194***	0.063
	(1.00)	(6.58)	(1.22)	(0.77)	(6.30)	(1.23)	(0.82)	(6.46)	(1.23)
Time FE	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
Country FE	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes
NObs	28,973	15,465	13,508	28,973	15,465	13,508	28,973	15,465	13,508
$\overline{R}^2$	13.6%	10.5%	17.1%	13.6%	10.4%	17.1%	13.7%	10.5%	17.2%

Table X: Institutional Risk Shifting, Home Market Volatility, and Foreign Market Volatility

The table reports the estimate of the regression of the institution investment risk shifting level on volatility in home and foreign markets. Institutional risk shifting is defined as the difference of the institutional current holding standard deviation and the institutional past realized actual return standard deviation. We compute the current holding volatility as the most updated holding risk level at the institution level. The past realized volatility is based on the actual past three years returns, i.e., 36 months of holding stocks monthly returns retrieved from Datastream. *FVolatility* measures the volatility of the institutional investment in foreign markets by using the market value-weighted average of the foreign markets return standard deviation. *HVolatility* is the market value-weighted standard deviation of institution home market returns. *Concen.* equals to the reciprocal of the number of distinct stocks held by an institution. *Ret* measures the institutional value-weighted average of holding stock returns. *Flow* is the growth rate of institutional total asset values. TNA takes the log of institutional holding asset values. *Turn* ratio equals to the minimum of aggregate buys or sales of the holding assets divided by the institutional total asset values. In addition, we define domestic institution (Dom.) as those institutions which invest greater than or equal to 80% of the total assets in the domestic market throughout the sample period; otherwise, institutions are classified as international (Intl.). Panel A reports the results of regressing institutional risk shifting on foreign market volatilities. Panel B reports the regression of institutional risk shifting measures on home market volatilities. Time fixed effects are considered in all regressions. Home country fixed effects are considered for all regressions except for the U.S. institutions in Model 2 and 9. Robust t-statistics in parenthesis are adjusted for institution-level clustering. The symbols $*$, $**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels, respectively. The sample period is year 1999 to 2008.

Panel A: Risk shifting and foreign market volatility

				US.		Non-US								
	All	US	Non US	Intl.	Dom.	Intl.	Dom.	All	US	Non US	Intl.	Dom.	Intl.	Dom.
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14
FVolatility	-0.505***	-0.027	-0.487***	-0.083	-0.031	-0.668***	0.133							
	(-11.56)	(-0.93)	(-2.77)	(-0.75)	(-1.06)	(-3.51)	(0.44)							
HVolatility								-0.842***	-0.507***	-0.394***	-0.521***	-0.506***	-0.392***	-0.609***
								(-18.97)	(-15.36)	(-5.60)	(-3.90)	(-15.01)	(-5.26)	(-2.68)
MV	0.010***	0.088***	0.011	0.088***	0.088***	0.017	0.249**	0.019***	0.062***	-0.004	0.054***	0.063***	-0.004	0.204***
	(3.06)	(34.41)	(0.32)	(9.93)	(33.25)	(0.45)	(2.15)	(7.21)	(25.40)	(-0.12)	(5.64)	(25.26)	(-0.10)	(2.68)
Concen.	0.025***	0.003	0.041***	-0.003	0.013	0.038***	0.262***	0.011***	0.005***	0.034***	0.002	0.006**	0.036***	0.028
	(3.26)	(0.86)	(2.80)	(-0.83)	(1.15)	(2.82)	(2.73)	(3.27)	(2.88)	(2.72)	(0.74)	(2.25)	(2.71)	(0.80)
Flow	0.000	0.000**	0.000	0.000	0.000**	0.000	0.000	0.000	0.000***	0.000	0.000	0.000***	0.000	0.000
	(0.18)	(2.11)	(0.74)	(0.18)	(2.08)	(0.26)	(1.01)	(-0.25)	(2.68)	(0.88)	(0.38)	(2.62)	(0.28)	(1.26)
Ret	-0.005***	0.001	-0.007***	0.003	-0.001	-0.006**	-0.009*	-0.004***	0.000	-0.008***	0.002	-0.001	-0.007***	-0.011***
	(-3.73)	(0.75)	(-2.97)	(1.32)	(-0.84)	(-2.40)	(-1.75)	(-3.72)	(-0.10)	(-3.70)	(1.30)	(-1.31)	(-2.72)	(-2.61)
TNA	0.000***	0.000***	0.000***	0.000***	0.000***	0.000**	0.001	0.000***	0.000***	-0.001***	0.000**	0.000***	0.000***	0.000
	(-4.15)	(-4.33)	(-2.94)	(-3.07)	(-2.98)	(-2.19)	(1.43)	(-5.99)	(-4.35)	(-3.98)	(-2.45)	(-4.09)	(-2.85)	(-0.03)
Turn	0.003***	0.002***	-0.002	-0.002	0.003***	-0.001	-0.009	0.002***	0.003***	-0.004**	0.000	0.003***	-0.003	-0.007
	(2.97)	(2.81)	(-1.33)	(-0.88)	(3.41)	(-0.59)	(-1.62)	(2.62)	(4.41)	(-2.29)	(0.24)	(4.49)	(-1.34)	(-1.64)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
NObs	33,323	17,906	15,417	2,988	14,918	14,352	1,065	46,649	30,243	16,406	3,518	26,725	14,615	1,791
$\overline{R}^2$	16.5%	34.1%	15.3%	25.8%	36.7%	13.1%	51.7%	18.5%	30.9%	16.0%	22.3%	32.4%	12.9%	46.1%

Panel B: Risk shifting and home market volatility

Table XI: Summary Statistics on Investor Sentiment Components by Country

The table presents the summary statistic for four investor sentiment proxies for 14 countries around the world based on the period of 1980-2011. The first proxy $RIPO$ is the average first-day returns of initial public offerings(IPO) in the year for each country. The second proxy $NIPO$ equals the log number of IPO in the year for each market. The third proxy $PVOL$ is the log ratio of the equal-weighted average market-to-book ratios of high volatile stocks(located on the top three decides of idiosyncratic volatility ranked by country) to low volatile stocks(located on the bottom three decides of idiosyncratic volatility). The fourth proxy $Turn$ is the log market turnover, i.e., the total dollar trading volume through the year divided by the prior year-end total market capitalization, then detrended with up-to-eight-year moving average. IS_{Total} index is the first principal component of four time-series macro variable orthogonalized investor sentiment proxies at the country level. The last two columns show the Pearson correlation (corr.) with total investor sentiment IS_{Total} and the corresponding p-values.

Country	*Proxy*	*Mean*	*Std*	*Min*	*Max*	Corr. with IS_{Total}	$p-value$
Australia	$RIPO$	0.138	0.131	-0.085	0.498	0.458	(0.032)
	$NIPO$	3.649	1.340	0.693	5.268	0.709	(0.000)
	$PVOL$	0.233	0.425	-0.676	0.834	0.486	(0.022)
	$TURN$	-0.024	0.547	-1.739	0.634	0.372	(0.088)
Canada	$RIPO$	0.058	0.048	-0.038	0.198	0.653	(0.000)
	$NIPO$	2.609	0.878	1.386	4.248	0.478	(0.007)
	$PVOL$	0.403	0.396	-0.038	2.203	-0.117	(0.537)
	$TURN$	0.171	0.387	-0.364	1.719	0.664	(0.000)
Denmark	$RIPO$	0.061	0.081	-0.100	0.263	0.608	(0.006)
	$NIPO$	1.387	0.980	0.000	3.296	0.728	(0.000)
	$PVOL$	0.194	0.380	-0.459	0.958	0.315	(0.190)
	$TURN$	0.046	0.505	-0.983	1.319	-0.241	(0.321)
France	$RIPO$	0.085	0.114	-0.358	0.293	0.832	(0.000)
	$NIPO$	3.136	1.134	0.693	4.796	0.743	(0.002)
	$PVOL$	0.030	0.603	-0.897	1.706	0.442	(0.099)
	$TURN$	0.040	0.522	-0.896	1.254	0.373	(0.171)
Germany	$RIPO$	0.124	0.142	-0.002	0.541	0.554	(0.014)
	$NIPO$	2.792	1.127	0.000	5.165	0.590	(0.008)
	$PVOL$	0.010	0.722	-1.334	1.777	0.391	(0.098)
	$TURN$	0.566	2.105	-0.679	9.147	0.550	(0.015)
Italy	$RIPO$	0.151	0.222	-0.097	0.808	-0.163	(0.531)
	$NIPO$	2.237	0.743	0.693	3.738	0.514	(0.035)
	$PVOL$	-0.065	0.634	-1.032	2.021	0.849	(0.000)
	$TURN$	0.453	0.851	-0.475	2.622	-0.268	(0.299)
Japan	$RIPO$	0.409	0.346	0.076	1.379	0.682	(0.000)
	$NIPO$	4.327	0.767	2.565	5.313	0.601	(0.001)
	$PVOL$	0.425	0.277	-0.375	0.904	0.664	(0.000)
	$TURN$	0.622	2.078	-1.744	7.981	0.174	(0.404)
Netherlands	$RIPO$	0.122	0.188	-0.035	0.849	-0.305	(0.463)
	$NIPO$	1.647	0.990	0.000	3.258	0.001	(0.999)
	$PVOL$	0.288	1.622	-3.138	3.534	0.131	(0.756)
	$TURN$	0.304	1.159	-0.425	5.166	-0.421	(0.299)
New Zealand	$RIPO$	0.080	0.069	-0.004	0.213	-0.460	(0.212)
	$NIPO$	1.664	0.759	0.000	3.045	0.728	(0.026)
	$PVOL$	0.103	0.650	-0.853	1.189	0.449	(0.226)
	$TURN$	0.210	0.311	-0.317	0.577	-0.391	(0.298)
Poland	$RIPO$	0.169	0.252	-0.169	1.004	0.257	(0.474)
	$NIPO$	2.317	1.212	0.000	4.220	0.081	(0.825)
	$PVOL$	-0.070	0.271	-0.563	0.342	0.189	(0.600)
	$TURN$	-0.058	0.486	-0.957	0.751	0.271	(0.449)

TABLE 11
Investor Sentiment Index of 14 Countries (continued)

Country	Proxy	Mean	Std	Min	Max	Corr. with IS_{Total}	$p-value$
Sweden	$RIPO$	0.140	0.183	-0.215	0.600	0.527	(0.010)
	$NIPO$	2.124	0.755	0.693	3.296	0.561	(0.005)
	$PVOL$	0.248	0.663	-1.002	1.796	0.579	(0.004)
	$TURN$	-0.010	0.695	-1.383	1.638	0.388	(0.067)
Switzerland	$RIPO$	0.107	0.107	-0.023	0.362	0.324	(0.221)
	$NIPO$	1.559	0.904	0.000	2.890	0.589	(0.016)
	$PVOL$	0.238	0.581	-0.267	2.334	0.493	(0.052)
	$TURN$	-0.018	0.475	-0.584	1.307	-0.379	(0.148)
United Kingdom	$RIPO$	0.170	0.160	0.063	0.843	0.282	(0.273)
	$NIPO$	4.360	0.765	1.946	5.429	0.770	(0.000)
	$PVOL$	-0.016	0.428	-0.940	0.892	0.783	(0.000)
	$TURN$	-0.001	0.334	-0.959	0.584	0.068	(0.795)
United States	$RIPO$	0.165	0.133	0.064	0.710	0.665	(0.000)
	$NIPO$	5.402	0.958	3.045	6.860	0.337	(0.069)
	$PVOL$	0.356	0.471	-0.526	1.475	0.388	(0.034)
	$TURN$	0.102	0.629	-1.195	2.322	0.515	(0.004)

Table XII: Summary Statistics for Investor Sentiment Measures and Country Characteristics by Country

The table presents time-series average of annual investor sentiment measures and other country-level characteristics. *Dist* is average of geographical distances. Dum_{Lang} is the average of common language dummy variables, based on the World Fact Book. Investor protection variables include rule of law index *Law*, accounting standard index *Acc*, minority investor protection index *Minority*, expropriation risk index *Expropo*, efficiency of judicial system index Eff, and legal system dummy variable Dum_{Legal}. $MVGDP$ is the total market capitalization of country's stock market as a percent of its GDP. $Turn$ is the market-level turnover ratio retrieved from the World Bank. Home Bias (HB) equals to $W_{Domestic}$ divided by W, where $W_{Domestic}$ is the proportion of domestic institution holdings on domestic traded stocks as of the total dollar holdings of institutions in each country. W is the market capitalization of country's stock market as of the market capitalization of the world-market portfolio. IS_{Total} index is the first principal component of four time-series macro variable orthogonalized investor sentiment proxies in each country. Local investor sentiment IS_{Local} is the residual of regression $IS_{Total} = a * IS_{Global} + IS_{Local}$ in the year for each country. Global investor sentiment index IS_{Global} is the first principal component of the total investor sentiment index IS_{Total} in the 28 countries. Panel A provides the summary statistics for country level characteristics. Panel B reports the Pearson-Correlations of variables. p-values are included in the parenthesis. The sample period is from 1999 to 2009.

Panel A: Investor Sentiment Measures and Other Country-level Characteristics

Country	HB	IS_{Total}	IS_{Local}	$Dist$	Dum_{Lang}	Law	Acc	$Minority$	$Exprop$	Eff	Dum_{Legal}	$MVGDP$	$Turn$	Dum_{EMG}
Australia	2.926	0.351	0.259	14484	0.308	10.000	75	4	9.270	10.000	1	114.250	-0.251	0
Canada	2.689	-0.023	-0.221	7342	0.385	10.000	74	4	9.670	9.250	1	109.718	-0.326	0
Denmark	3.017	-0.153	-0.198	4813	0.000	10.000	62	3	9.670	10.000	0	62.763	-0.199	0
France	2.094	-0.394	-0.463	4968	0.077	8.980	69	2	9.650	8.000	0	84.611	-0.055	0
Germany	1.590	-0.395	-0.512	4826	0.077	9.230	62	1	9.900	9.000	0	50.568	0.234	0
Italy	2.042	0.294	0.285	5354	0.000	8.330	62	0	9.350	6.750	0	47.713	0.173	0
Japan	1.298	0.786	0.646	9274	0.000	8.980	65	3	9.670	10.000	0	79.734	-0.033	0
Netherlands	0.044	0.000	0.000	4814	0.000	10.000	64	2	9.980	10.000	0	120.389	0.228	0
New Zealand	5.790	0.408	0.460	15769	0.308	10.000	70	4	9.690	10.000	1	38.347	-0.907	0
Poland	5.617	0.377	0.427	4993	0.000							28.590	-0.939	1
Sweden	3.760	0.204	-0.038	4949	0.000	10.000	83	2	9.400	10.000	0	109.898	0.159	0
Switzerland	1.098	0.217	0.127	5056	0.154	10.000	68	1	9.980	10.000	0	258.638	-0.049	0
United Kingdom	0.592	-0.018	-0.144	4947	0.308	8.570	78	4	9.710	10.000	1	141.147	0.160	0
United States	0.519	0.499	0.297	7843	0.308	10.000	71	5	9.980	10.000	1	138.078	0.639	0

Panel B: Pearson Pair-wise Correlations Coefficients

	HB	IS_{Total}	IS_{Local}	IS_{Global}	$Turn$	$MVGDP$	Dum_{Lang}	$Dist$	Law	Acc	$Minority$	$Exprop$	Eff
HB	1.000	-0.083	0.008	-0.153	-0.449	-0.424	0.258	0.113	0.239	0.207	0.030	-0.512	-0.049
		(0.18)	(0.89)	(0.01)	(0.00)	(0.00)	(0.00)	(0.16)	(0.00)	(0.00)	(0.63)	(0.00)	(0.44)
IS_{Total}		1.000	0.799	0.566	-0.123	0.122	0.130	0.183	0.022	0.027	0.076	-0.041	0.078
			(0.00)	(0.00)	(0.05)	(0.05)	(0.03)	(0.02)	(0.73)	(0.67)	(0.23)	(0.52)	(0.22)
IS_{Local}			1.000	0.001	-0.076	0.020	0.161	0.228	0.010	-0.011	0.066	-0.054	0.073
				(0.99)	(0.22)	(0.75)	(0.01)	(0.00)	(0.87)	(0.86)	(0.29)	(0.40)	(0.25)
IS_{Global}				1.000	-0.096	0.191	-0.022	-0.015	0.051	0.021	-0.021	0.040	0.047
					(0.12)	(0.00)	(0.72)	(0.85)	(0.42)	(0.74)	(0.73)	(0.53)	(0.46)
$Turn$					1.000	0.238	-0.259	-0.121	-0.142	-0.038	-0.065	0.255	-0.044
						(0.00)	(0.00)	(0.13)	(0.02)	(0.54)	(0.30)	(0.00)	(0.49)
$MVGDP$						1.000	-0.084	0.178	0.329	0.332	0.071	0.361	0.411
							(0.17)	(0.03)	(0.00)	(0.00)	(0.26)	(0.00)	(0.00)
Dum_{Lang}							1.000	0.510	0.288	0.192	0.517	-0.366	0.286
								(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
$Dist$								1.000	0.413	0.791	0.855	-0.264	0.719
									(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Law									1.000	0.222	0.367	0.226	0.626
										(0.00)	(0.00)	(0.00)	(0.00)
Acc										1.000	0.489	-0.317	0.374
											(0.00)	(0.00)	(0.00)
$Minority$											1.000	0.063	0.598
												(0.32)	(0.00)
$Exprop$												1.000	0.333
													(0.00)
Eff													1.000

Table XIII: Evolution of the Home Bias for France, the United Kingdom, and the United States

The table presents time-series average of home bias, total, local, and global sentiment index for all countries in three subperiods, 1999-2001, 2002-2005, and 2006-2009. Home Bias (HB) equals to the log ratio of $W_{Domestic}$ to W, where $W_{Domestic}$ is the proportion of domestic institution holdings on domestic traded stocks as of the total dollar holdings of institutions in each country. W is the market capitalization of country's stock market as of the market capitalization of the world-market portfolio. IS_{Total} index is the first principal component of four time-series macro variable orthogonalized investor sentiment proxies in each country. Local investor sentiment IS_{Local} is the residual of regression $IS_{Total} = a * IS_{Global} + IS_{Local}$ in the year for each country. Global investor sentiment index IS_{Global} is the first principal component of the total investor sentiment index IS_{Total} in 14 countries. The sample period is from 1999 to 2009.

Country	Period	$W_{Domestic}$	W	HB	IS_{Total}	IS_{Local}	IS_{Global}
Australia	1999-2001	0.101	0.015	2.013	0.118	-0.526	2.282
	2002-2005	0.740	0.023	3.462	0.541	0.602	-0.197
	2006-2009	0.729	0.029	3.211	0.307	0.406	-0.330
Canada	1999-2001	0.469	0.029	2.775	0.798	-0.235	2.392
	2002-2005	0.595	0.037	2.790	-0.413	-0.327	-0.197
	2006-2009	0.570	0.046	2.522	-0.248	-0.105	-0.330
Denmark	1999-2001	0.042	0.004	2.684	0.360	-0.042	2.116
	2002-2005	0.123	0.005	3.087	-1.175	-1.207	-0.197
	2006-2009	0.189	0.006	3.448	0.358	0.480	-0.330
France	1999-2001	0.341	0.051	2.040	-0.220	-0.658	2.392
	2002-2005	0.597	0.052	2.446	-0.079	-0.022	-0.197
	2006-2009	0.495	0.064	2.038	-0.839	-0.757	-0.330
Germany	1999-2001	0.149	0.047	1.150	0.498	-0.224	2.392
	2002-2005	0.265	0.038	1.926	-0.508	-0.374	-0.197
	2006-2009	0.265	0.047	1.729	-0.981	-0.833	-0.330
Italy	1999-2001	0.113	0.025	1.487	1.473	1.027	2.116
	2002-2005	0.198	0.025	2.055	-0.242	-0.157	-0.197
	2006-2009	0.244	0.024	2.306	0.240	0.355	-0.330
Japan	1999-2001	0.274	0.121	0.283	1.298	0.560	2.392
	2002-2005	0.616	0.123	1.568	1.310	1.374	-0.197
	2006-2009	0.764	0.126	1.788	-0.121	-0.016	-0.330
Netherlands	1999-2001	0.010	0.022	-0.771	-0.584	-0.696	2.392
	2002-2005	0.028	0.019	0.249	0.411	0.526	-0.197
	2006-2009	0.069	0.019	1.285	0.106	-0.017	2.518
New Zealand	2002-2005	0.713	0.001	6.028	-0.023	0.301	0.053
	2006-2009	0.178	0.001	5.067	1.915	1.016	2.518
Poland	2002-2005	0.952	0.002	6.108	1.103	1.073	0.387
	2006-2009	0.887	0.005	5.249	-0.167	-0.057	-0.330
Sweden	1999-2001	0.582	0.011	3.887	0.382	-0.254	2.392
	2002-2005	0.487	0.011	3.774	-0.769	-0.630	-0.197
	2006-2009	0.488	0.013	3.651	1.000	0.770	-0.330
Switzerland	1999-2001	0.018	0.026	-0.283	1.899	1.440	2.392
	2002-2005	0.154	0.028	1.492	-0.498	-0.301	-0.197
	2006-2009	0.238	0.034	1.940	-0.510	-0.613	0.986
United Kingdom	1999-2001	0.108	0.095	-0.662	0.698	-0.273	2.392
	2002-2005	0.255	0.094	0.996	-0.192	-0.030	-0.197
	2006-2009	0.269	0.088	1.128	-0.380	-0.160	-0.330
United States	1999-2001	0.949	0.565	0.519	2.488	1.441	2.392
	2002-2005	0.923	0.543	0.531	0.009	0.095	-0.197
	2006-2009	0.826	0.497	0.507	-0.504	-0.360	-0.330

Table XIV: Effects of Investor Sentiment Measures on the Home Bias

The table presents the regression results of market sentiment index on home bias at the country level for the full sample. Home Bias (HB) equals to $W_{Domestic}$ divided by W, where $W_{Domestic}$ is the proportion of domestic institution holdings on domestic traded stocks as of the total dollar holdings of institutions in each country. W is the market capitalization of country's stock market as of the market capitalization of the world-market portfolio. IS_{Total} index is the first principal component of four time-series macro variable orthogonalized investor sentiment proxies in each country. Local investor sentiment IS_{Local} is the residual of regression $IS_{Total} = a * IS_{Global} + IS_{Local}$ in the year for each country. Global investor sentiment index IS_{Global} is the first principal component of the total investor sentiment index IS_{Total} in 14 countries. $Turn$ is the market-level turnover ratio retrieved from the World Bank. $MVGDP$ is the total market capitalization of country's stock market as a percent of its GDP. $Dist$ is average of log geographical distances between two countries. Dum_{Lang} is the average of common language dummy variables between two countries, based on the World Fact Book. Investor protection variables include rule of law index Law, accounting standard index Acc, minority investor protection index $Minority$, expropriation risk index $Exprop$, efficiency of judicial system index Eff, and legal system dummy variable Dum_{Legal}. The sample period is from 1999 to 2009.

	All M1	All M2	All M3	All M4	All M5	All M6	All M7	All M8	All M9	All M10	All M11	All M12	All M13	All M14
IS_{Total}	-0.105				-0.121									
	(-1.34)				(-1.67)									
IS_{Local}		0.013		0.013		-0.047		-0.049	-0.199		-0.184	-0.107		-0.103
		(0.10)		(0.10)		(-0.42)		(-0.43)	(-1.17)		(-1.05)	(-1.11)		(-1.09)
IS_{Global}			-0.104***	-0.104***			-0.078**	-0.079***		-0.092**	-0.088**		-0.091***	-0.090***
			(-3.78)	(-3.75)			(-2.98)	(-3.05)		(-3.18)	(-2.97)		(-4.51)	(-4.66)
$Turn$					-0.929	-0.883	-0.951	-0.957						
					(-1.65)	(-1.55)	(-1.64)	(-1.67)						
$MVGDP$					-0.007**	-0.008**	-0.007**	-0.007**						
					(-2.65)	(-2.76)	(-2.75)	(-2.66)						
$Dist$									-0.611	-0.656	-0.616			
									(-1.14)	(-1.21)	(-1.14)			
Dum_{Lang}									0.000**	0.000**	0.000**			
									(2.97)	(2.90)	(2.93)			
Law												1.105***	1.128***	1.118***
												(5.04)	(5.13)	(5.09)
Acc												-0.006	-0.001	-0.004
												(-0.14)	(-0.02)	(-0.09)
$Minority$												0.028	0.020	0.019
												(0.12)	(0.08)	(0.08)
$Exprop$												-3.825***	-3.710**	-3.782***
												(-3.13)	(-3.04)	(-3.07)
Eff												-0.192	-0.207	-0.185
												(-0.74)	(-0.79)	(-0.71)
Dum_{Legal}												-0.126	-0.163	-0.144
												(-0.13)	(-0.17)	(-0.15)
Obs.	266	266	266	266	266	266	266	266	158	158	158	252	252	252
$\overline{R}^2$	0.3%	-0.4%	2.0%	1.6%	37.4%	36.6%	37.8%	37.6%	44.3%	45.2%	46.1%	39.7%	41.5%	41.8%

Table XV: Robustness Tests on Home Bias and Investor Sentiment Measures

The table presents the robustness test on regression results of market sentiment index on home bias for all countries excluding the United States. Home Bias (HB) equals to log of $W_{Domestic}$ divided by W, where $W_{Domestic}$ is the proportion of domestic institution holdings on domestic traded stocks as of the total dollar holdings of institutions in each country. W is the market capitalization of country's stock market as of the market capitalization of the world-market portfolio. IS_{Total} index is the first principal component of four time-series macro variable orthogonalized investor sentiment proxies in each country. Local investor sentiment IS_{Local} is the residual of regression $IS_{Total} = a * IS_{Global} + IS_{Local}$ in the year for each country. Global investor sentiment index IS_{Global} is the first principal component of the total investor sentiment index IS_{Total} in 14 countries. $Turn$ is the market-level turnover ratio retrieved from the World Bank. $MVGDP$ is the total market capitalization of country's stock market as a percent of its GDP. $Dist$ is average of log geographical distances between two countries. Dum_{Lang} is the average of common language dummy variables between two countries, based on the World Fact Book. Investor protection variables include rule of law index Law, accounting standard index Acc, minority investor protection index $Minority$, expropriation risk index $Exprop$, efficiency of judicial system index Eff, and legal system dummy variable Dum_{Legal}. The sample period is from 1999 to 2009.

	M4	M8	M11	M14
IS_{Local}	0.056	-0.034	-0.136	-0.059
	(0.35)	(-0.28)	(-0.59)	(-0.50)
IS_{Global}	-0.115***	-0.082***	-0.104**	-0.099***
	(-4.18)	(-3.08)	(-3.49)	(-5.22)
$Turn$		-0.753		
		(-1.02)		
$MVGDP$		-0.007**		
		(-2.35)		
$Dist$			-0.353	
			(-0.73)	
Dum_{Lang}			0.000**	
			(2.56)	
Law				1.279***
				(4.36)
Acc				0.004
				(0.11)
$Minority$				0.267
				(1.61)
$Exprop$				-2.775**
				(-2.27)
Eff				-0.461*
				(-2.15)
Dum_{Legal}				-0.306
				(-0.37)
Nobs	244	244	136	230
ADJRSQ	2.3%	34.0%	50.1%	41.0%

Appendix A
The World Fact Book on Official or Major Languages of All Countries

The table presents the official languages or major languages of all 14 countries in the sample recorded by the World Fact Book.

Country	Major Languages or Official Languages
Canada	English (official) 58.8%, French (official) 21.6%, other 19.6% (2006 Census)
Germany	German
France	French (official) 100%, rapidly declining regional dialects and languages (Provencal, Breton, Alsatian, Corsican, Catalan, Basque, Flemish)
Italy	Italian (official), German (parts of Trentino-Alto Adige region are predominantly German speaking), French (small French-speaking minority in Valle d'Aosta region), Slovene (Slovene-speaking minority in the Trieste-Gorizia area).
New Zealand	English (official) 91.2%, Maori (official) 3.9%, Samoan 2.1%, French 1.3%, Hindi 1.1%, Yue 1.1%, Northern Chinese 1%, other 12.9%, New Zealand Sign Language (official)
Australia	English 78.5%, Chinese 2.5%, Italian 1.6%, Greek 1.3%, Arabic 1.2%, Vietnamese 1%, other 8.2%, unspecified 5.7% (2006 Census)
Denmark	Danish, Faroese, Greenlandic (an Inuit dialect), German (small minority)
Netherlands	Dutch (official), Frisian (official)
Sweden	Swedish (official), small Sami- and Finnish-speaking minorities
Switzerland	German (official) 63.7%, French (official) 20.4%, Italian (official) 6.5%, Serbo-Croatian 1.5%, Albanian 1.3%, Portuguese 1.2%, Spanish 1.1%, English 1%, Romansch (official) 0.5%, other 2.8% (2000 census)
Poland	Polish (official) 97.8%, other and unspecified 2.2% (2002 census)
United States	English 82.1%, Spanish 10.7%, other Indo-European 3.8%, Asian and Pacific island 2.7%, other 0.7% (2000 census)
United Kingdom	English
Japan	Japanese

Appendix B

Direct-Line Distance between Two Countries

The table presents the latitude and longitude of cities in each country and the corresponding direct-line distance between two cities of two countries. The latitude and the longitude of cities are obtained from www.nber.org/ wei. Then I take log average geographical distances for every country in the sample. For latitude, "-" denotes South and "+" denotes North. For longitude, "-" denotes West and "+" denotes East. Panel A reports the latitude and longitude of cities. Panel B provides the calculated direct-line distance and the average for each city of the country.

Panel A: Latitude and longitude of the city in each country

Country	City	Latitutde	Longtitude
Australia	Sydney	-33.8833	151.2
Canada	Ottawa	45.4167	-75.7
Denmark	Copenhagen	55.6667	12.5833
France	Paris	48.8667	2.3333
Germany	Bonn	50.7333	7.1
Italy	Rome	41.9	12.4833
Japan	Tokyo	35.7	139.7667
Netherlands	Amsterdam	52.35	4.9167
New Zeland	Wellington	-41.3	174.7833
Poland	Warsaw	52.25	21
Sweden	Stockholm	59.3333	18.05
Switzerland	Geneva	46.2	6.1667
United Kingdom	London	51.5	-0.1167
United States	Chicago	41.8833	-87.6333

Appendix B

Direct-Line Distance between Two Countries (continued)

The table presents the latitude and longitude of cities in each country and the corresponding direct-line distance between two cities of two countries. The latitude and the longitude of cities are obtained from www.nber.org/ wei. Then I take log average geographical distances for every country in the sample. For latitude, "-" denotes South and "+" denotes North. For longitude, "-" denotes West and "+" denotes East. Panel A reports the latitude and longitude of cities. Panel B provides the calculated direct-line distance and the average for each city of the country.

Panel B: Distance between two cities and the average of distance

	Australia	Canada	Denmark	France	Germany	Italy	Japan	New Zealand	Netherlands	Poland	Sweden	Switzerland	U.K.	U.S.	Average
Australia		15870	16040	16960	16570	16320	7828	2227	16640	15600	15600	16770	16990	14880	14484.231
Canada	15870		5908	5647	5851	6729	10320	14480	5634	6576	5993	6044	5363	1036	7342.385
Denmark	16040	5908		1027	659	1531	8692	17960	622	668	522	1143	956	6841	4812.938
France	16960	5647	1027		400	1107	9714	18990	428	1367	1543	413	341	6649	4968.146
Germany	16570	5851	659	400		1065	9347	18600	235	975	1181	509	511	6832	4825.700
Italy	16320	6729	1531	1107	1065		9857	18540	1294	1317	1976	695	1432	7740	5354.069
Japan	7828	10320	8692	9714	9347	9857		9276	9291	8580	8172	9794	9561	10130	9274.000
New Zealand	2227	14480	17960	18990	18600	18540	9276		18570	17700	17440	18950	18820	13450	15769.462
Netherlands	16640	5634	622	428	235	1294	9291	18570		1091	1126	690	358	6610	4814.446
Poland	15600	6576	668	1367	975	1317	8580	17700	1091		809	1266	1447	7509	4992.723
Sweden	15600	5993	522	1543	1181	1976	8172	17440	1126	809		1659	1432	6879	4948.592
Switzerland	16770	6044	1143	413	509	695	9794	18950	690	1266	1659		747	7050	5056.108
U.K.	16990	5363	956	341	511	1432	9561	18820	358	1447	1432	747		6354	4947.000
U.S.	14880	1036	6841	6649	6832	7740	10130	13450	6610	7509	6879	7050	6354		7843.077

CURRICULUM VITAE

- EDUCATION

  Ph.D. in Finance January 2008 - August 2013 (Expected)

  Sheldon B. Lubar School of Business, University of Wisconsin-Milwaukee

  Minor in Economics

  M.S. in Mathematics September 2002 - July 2005

  College of Mathematics, Sichuan University, China

  Concentration in Functional Analysis

  B.S. in Mathematics September 1996 - July 2000

  Department of Mathematics, China West Normal University, China

  Concentration in Mathematical Education

- AREA OF EXPERTISE

  Research: International Investment, Institutional Investors, and Corporate Governance.

  My current research focuses on institutional investor trading behavior during financial crises around the world.

  Teaching: International Investment, Intermediate Financial Management, Principles of Finance, Managerial Economics, and Business Statistics.

- HONORS AND AWARDS

  American Finance Association (AFA) Doctoral Student Travel Grant $\$1,500$, Denver, 2011.

Midwest Finance Association Travel Grant $500, Chicago, 2011.

Second Place for Graduate School Entrance Examination, Sichuan University, China, 2005.

Award of Outstanding Graduate Scholarship, China West Normal University, China, 2000.

- WORK INFORMATION

  Instructor, Lubar School of Business, UW-Milwaukee, Wisconsin, 2010-present.

  Teaching Assistant, Lubar School of Business, UW-Milwaukee, Wisconsin, 2008-2010.

  Mathematics Tutor, Tutoring and Academic Resource Center, UW-Milwaukee, Wisconsin, 2008.

  Teaching Assistant, Sichuan University, China, 2002-2005.

  Mathematics Teacher, Qingyang Middle School, Chengdu, Sichuan, China, 2000-2001.

- RESEARCH

  "Institutional Investor Trading Behavior and Global Financial Crises"

  This paper investigates the trading behavior of institutional investors from 28 countries around the world. During the period 1999 to 2008, we find strong empirical evidence that institutional investors tend to move their funds out of volatile foreign equity markets and back to their home markets, particularly in the recent 2007-2008 global crisis. Our results show that institutional investors prefer to hold more liquid stocks in highly volatile markets, suggesting evidence of flight to liquidity. Institutional

investors are also inclined to increase the level of liquidity of their home portfolios relative to that of their foreign portfolios when there is a surge in foreign market volatility. Finally, we show that the overall portfolio risk of institutional investors reduces during the financial crisis period.

Presented in Midwest Finance Conference in Chicago, 2011.
Midwest Finance Conference Travel Award $500, 2011.
American Finance Association (AFA) Doctoral Student Travel Grant $1,500, 2011.

"International Institutional Investor's Herding around the World,"
with Chan Ho Cho

This paper investigates the institutional herding behavior in 52 countries including 22 developed countries and 30 emerging countries from year 1999 to year 2009 by using a comprehensive institutional investor holding database FactSet LionShares. We particularly exmaine the herding behaviors during the financial turmoil in 2008. We document that institutional herding behavior happens more often in developed countries than emerging countries and foreigner institutional investors herd more than domestic institutional investors on average across the world. Moreover, institutional investors herd more during financial crisis period of year 2008 than pre-crisis period. Last, our evidence shows that foreign institutional investor herding has predicting power for their target investment country GDP growth rate as well as stock market capitalization over the time.

"Investor Sentiment and Institutional Investor Home Bias"

I investigate whether investor sentiment influences institutional trading

behavior. The paper addresses the following questions. First, is there any relation between investor market sentiment and institutional home bias phenomenon? Second, can investor sentiment explain the pronounced institutional herding behavior around the world, especially during the global financial crises? Last, is there any difference in this relation between developed and developing countries? Do domestic and foreign institutional investors have different atxtitude regarding the market sentiment in highly volatile markets?

- PROFESSIONAL ACTIVITIES

  Presenter: "Institutional Trading Behavior and Global Financial Crises"

  Lubar School of Business Brown Bag Seminar, UW-Milwaukee, 2012.

  Midwest Finance Association Annual Meeting, Chicago, 2011.

  Discussant:

  Financial Management Association (FMA) Annual Meeting, Denver, 2011.

  Midwest Finance Association Annual Meeting, Chicago, 2011.

  Attendee:

  American Finance Association (AFA), Denver, 2012.

  Financial Management Association (FMA) Annual Meeting, Denver, 2011.

- UNIVERSITY TEACHING EVIDENCE

  Instructor: full responsibility for course design, teaching, and grading

Spring 2013:	*Intermediate Financial Management*	4.65/5.0
Fall 2012:	*International Financial Management*	4.63/5.0
Summer 2012:	*Principles of Finance*	4.56/5.0
Spring 2012:	*Intermediate Financial Management*	4.58/5.0
Fall 2011:	*International Financial Management*	4.26/5.0
Spring 2011:	*Managerial Economics*	4.46/5.0
Winterim 2011:	*Managerial Economics*	4.89/5.0
Fall 2010:	*Managerial Economics*	4.15/5.0

Teaching Assistant: independently leading weekly review sessions

Spring 2010:	*Managerial Economics*
Summer 2009:	*Business Statistics*
Spring 2009:	*Business Statistics*

- MEMBERSHIPS

  American Finance Association

  Financial Management Association

  Midwest Finance Association

- COMPUTER SKILLS

  SAS, Matlab, Maple, Microsoft Office, and Latex.