Risk Spillover and Large Institutional Investors

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Abstract: We investigate the relation between the activities of large institutional investors and the stocks they hold in their portfolio. Through an empirical analysis, we find that the holdings and trades of the largest ten institutional investors in the United States increase the riskiness of the stocks they hold. We find this relation to be robust to exogenous measures of risk, including to institutional flow volatility and CDS spreads. This relation is stronger for smaller stocks. Finally, we find that these effects are compounded during times of financial crisis.

Keywords: Firm Risk, Financial Institutions, Institutional Investors, Asset Pricing
JEL Codes: G01, G12, G23

"The failure of a large asset management firm could be a source of risk, depending on its size, complexity, and the interaction among its various investment management strategies and activities."

-Department of the Treasury, Office of Financial Research, "Asset Management and Financial Stability Report," September, 2013

1. Introduction

This study examines whether firm-specific risks from large asset managers are transmitted or propagated to other parts of the financial system, namely, the stocks they hold. We study the largest asset managers in the United States since 1980 and find that their largest holdings exhibit risks specific only to the institutional managers who hold them. This risk transmission manifests as increased volatility and comovement proportional to the level of ownership and trade intensity of large asset managers and to various exogenous measures of the risks that only these managers are subject to. We find that this risk transmission is systematic in nature and more intense during periods of financial stress. Our study sheds light on recent concerns from regulators that "distress at a large asset manager could amplify or transmit risks to other parts of the financial system" (OFR, 2013).

The findings of Coval and Stafford (2007) represent an extreme case of the impact of distress in large institutions. This spillover is manifested in large outflows that create price pressure on the securities held by these distressed funds. An anecdotal example of this phenomenon is the effect of the failure of Long-Term Capital Management (LTCM) on the stock market and on other large institutions. LTCM managed a large portfolio, consisting of nearly $100 billion in assets. Due to events in Russia and other countries, LTCM lost 44% of its NAV by the end of August, 1998. As a result, many other institutions experienced distress, and the New York Federal Reserve was forced to orchestrate a bailout of the hedge fund. Due to these events, the U.S. stock market lost 20% of its value, and equity volatility was at "historically high levels" (Fahlenbrach, et al., 2012). Other recent events, such as those at PIMCO, although less extreme, have further highlighted the potential for large investment managers to be exogenous sources of risk for the assets they hold. The sudden departure of co-founder Bill Gross on September 26, 2014 came as a

surprise to Wall Street (Goldstein, 2014). His departure led to a so-called Bill Gross Effect, which, in other words, is the departure of funds from PIMCO and to other asset managers (Ablan, 2014). This effect may put downward pressure on the assets managed by PIMCO and increase their volatility not because of a fundamental or macroeconomic shock, but rather due to a shock specifically related to the asset manager.

This study is the first to examine the transmission of risk from large asset managers to the stocks they manage. Large institutions grow as they have multiple successful business lines that take advantage of the institution's economies of scale. For example, a large institution may generate additional revenues from lending securities held in their various independent portfolios. However, this creates interconnections and complexities among the institution's business lines. This increases the importance of the institutions in financial markets, which in turn increases the concentration of risks at the firm level. In normal times these activity-specific risks within the institution are diversified away, unless they are visible to investors in extreme cases (e.g. JPMorgan Chase's $7 billion loss due to the "London Whale" CDS trade). However, these risks can become extremely concentrated among the strategies and funds within the institution. This may create correlations in these risks which are overlooked by the institution's management, and such correlations are likely to build up especially in downturns and periods of financial stress. These correlations may create a negative effect which snowballs, and causes stress on the institution and consequently spill over to the institution's holdings. For example, an institution may have difficulty unwinding clients' investments due to extensive repo and securities lending businesses with an array of interconnections through derivatives and other exposures during a period of market weakness. Extreme distress at the firm level could increase the probability and intensity of redemptions from a firm's managed assets, which might show up in extreme cases as firesale-types of events. This in turn may amplify market contagion or contribute to a broader loss of confidence in markets (Boyson, Stahel, and Stulz (2010)).

Within the literature, the impact of market frictions and institutional flows on asset prices, expected returns, non-fundamental volatilities, and return comovements is an important question. Evidence is offered on both sides of the issue, with some arguing that trading by institutional investors has a considerable effect on underlying asset prices in a way that distorts the cross-sectional risk-return relation (Wurgler (2010) and Baker, Bradley, and Wurgler (2011), Hong, Chang, and Liskovich (2013), and Basak and Pavlova (2013)). Such a relation is shown to be magnified due to the effects of flows caused by financial instruments and derivatives such as futures (Stein (1987)). Moreover, ETFs (Ben-David, Franzoni and Moussawi (2014), Da and Shive (2013)) can impact the volatility and comovements of the underlying assets for no fundamental reasons. Basak and Pavlova (2013) also argue that the increased reliance on indexing and excess demand of indexed stocks causes an index effect. Institutional flows and the demand of indexed securities result in price pressures which lead to higher returns and non-fundamental volatilities of index members, and an asset class effect due to the increased comovement among the indexed stocks that are subject to the same demand shocks. Alternatively, others argue that derivatives may ease the effect of liquidity or price shocks on their underlying assets (Grossman (1988), Danthine (1978), Turnovsky (1983)). Similar to this topic is the idea that investment firms may also transmit liquidity and demand shocks to the assets which comprise their respective portfolios.

Building on prior literature, we investigate the impact of large asset managers on the riskiness of the assets they manage. We provide evidence, using data from the ten largest institutional investors in each quarter of our sample that a risk-spillover effect exists from large asset managers to firms held in their portfolios. Specifically, we examine how trading by the largest US money managers can contribute to price pressures on their portfolio of securities due to the sheer size of their portfolios. This in turn would result in a systematic increase in the volatility of these stocks proportional to the holdings of these large managers. Also, because these stocks are subject to the same demand shocks and flows in or out of these large money managers' portfolios, we find statistically and economically significant evidence of increased comovement between these stocks which is arguably distorting the risk-return relation.

Specifically, we estimate that for a one standard deviation increase in the holdings of the largest ten institutional investors in a given quarter, firm volatility increases by 0.99% in the following quarter. This relation is robust to alternative definitions of asset risk, including total quarterly volatility, the Scholes-Williams beta, the Fama-French R^2, and SRatio – the ratio of total volatility to idiosyncratic volatility. We find additional evidence that large institutions increase the riskiness of stocks by estimating Fama-MacBeth (1973) style regressions which show that risk specific to large institutions is an important risk factor, which distorts the traditional asset pricing approach based on the Fama-French factors. Lastly, we address the potentially endogenous nature of our baseline tests. We will estimate additional tests which will explore the relation of institution-level CDS spreads with the volatility of the stocks they hold. We find that increases to large institution CDS spreads are statistically significant and associated with an increase in the volatility of the stocks they hold. We also planning to include tests which will look at how institution-specific "bad news" events impact the volatility of stocks held in the institution's portfolios. Both the CDS and "bad news" tests will allow us to isolate risk that is specific to the large institutions, rather than risk that may be linked to market-wide shocks.

Additionally, understanding the relation between large asset managers and the assets they hold is also important because it relates to the effect of a systemic financial crisis on non-financial entities. Acharya (2009) defines a systemic crisis as one in which "many banks fail together, or if one bank's failure propagates as a contagion causing the failure of many banks." Accordingly, asset management companies like Blackrock may be susceptible to a systemic crisis, especially given the large amount of assets they manage and their connections to other financial institutions. To this end, if shocks to, for example, Blackrock's volatility and riskiness spill over to the firms which comprise their portfolio during normal times, this effect may be compounded during times of financial crisis. Correlations may rise during periods of stress in the market, which correspondingly will reduce any benefits of diversification achieved by the funds (Boyson, Stahel, and Stulz (2010)).

We start our empirical investigation by estimating the impact of the holdings of large institutional investors on various measures of firm risk, including the Scholes-Williams beta; the Fama-French R^2 and ratio of total to idiosyncratic volatility; and the quarterly volatility. In the multiple factor model setting, we employ measures in addition to beta to account for potential comovement of the stock with multiple portfolio based risk factors. We build on Da and Shive (2014) and construct the SRatio as the total volatility of the stock divided by the idiosyncratic volatility, which is constructed as the standard error from the Fama and French (1993) and the Carhart (1997) four-factor model. The SRatio, similar to R^2, will be high if the stock variation can be mostly explained by the comovement with multiple factors. All risk variables are measured using daily returns and risk factors on the last 60 trading days within the quarter. We find a positive and statistically significant effect between the holdings of the largest asset managers and all of the firm risk variables in the following quarter. Moreover, we study the quarterly trades of an asset manager, and find that increases in firm risk are related to large institutions purchasing their stock. As we increase the number of large institutions we investigate from the single largest institution to the top ten largest institutions, we find that this risk spillover effect on concentrated positions remains.

We then move on to look at the risk of institutions themselves and how it may transmit to the stocks which comprise their respective portfolios. Mainly, risk at a large institutional investor comes from the liquidity risk surrounding net fund flows. If there is a large demand for share redemption, then asset managers must sell assets in order to generate cash to pay their clients. The risk of this type of event may increase the riskiness of the stocks held by these large asset managers. Accordingly, we find that the net directional fund flows and the volatility of funds are statistically related to the volatility of the stocks held in asset manager portfolios. Moreover, we find, through a Fama-MacBeth (1973) analysis, that an institution-specific risk factor is important.

In this paper we also seek to understand this relation during stress events. Following Berger and Bouwman (2012), we identify five financial crises which take place during our sample period. When

examining specifically the relation between institutional investors and their asset pools during these times, we find that the relation between the two is stronger than in non-crisis times. We find that during a crisis, a one standard deviation increase in ownership of a firm by a large institutional investor is related to a 0.88% increase in that firm's volatility.

This paper contributes to the literature on the effect of institutions on asset prices, risk spillovers, and financial stability. There is a substantial amount of evidence which shows the effect of institutional investors on expected returns, including Shleifer (1986), Barberis, Shleifer, and Wurgler (2005), Greenwood (2005), Coval and Stafford (2007), and Wurgler (2011). Moreover, other papers show that institutions can affect the correlations of asset returns (Anton and Polk (2014), Greenwood and Thesmar (2011), Lou (2011), Jotikasthira, Lundblad, and Ramadorai (2012), and Chang, Hong, and Liskovich (2013)). Moreover, Basak and Pavlova (2013a, 2013b) show theoretically that an asset included in an index tracked by institutional investors increases the non-fundamental volatility in that asset's prices. Ben-David, Franzoni, and Moussawi (2014) provide empirical evidence which confirms this relation. Lastly, Billio, et al. (2012) and Adrian and Brunnermeir (2011), among others, provide evidence that institutional investors are connected to other financial institutions within the financial system. While Allen and Gale (2000) and Boyson, Stahel, and Stulz (2010), among other, show that shocks within one part of the financial system may propagate throughout the rest of the system, causing a large-scale stress event.

This paper is organized as follows. Section 2 describes our data. Section 3 presents our main results, while section 4 presents robustness checks. Section 5 concludes.

2. Data

We construct our sample of asset managers using data from SEC 13F filings from the first quarter of 1980 until the second quarter of 2014. We examine the largest ten asset management firms in each quarter based on a rolling four quarter average of assets under management (AUM). This methodology

allows for a smooth sample of asset managers, preventing firms from jumping in and out of the sample over time.[4] Moreover, we map each company's holdings to the publicly traded stocks in their portfolios. In tests below, we consider all stocks in the CRSP universe, regardless of whether they are held by large asset managers in a given quarter.

Panel A of Table 1 provides summary statistics for our sample of stocks. Our main variables of interest are the *holdings* of each stock and the *trades* of each stock by the largest institutional investors. Large asset managers hold large percentages of the outstanding shares of these stocks, too. On average, the largest ten institutions hold 6.44% of the outstanding shares of each company in a given quarter in our sample. The largest asset manager in a given quarter holds 1.4% of the average company. This means that the largest institutional investor makes up 21.74% of total holdings of the top ten institutions. Moreover, our tests study the impact of the trades of large asset managers. We find, in our sample, that on average, the largest institution's net trades of a given stock amounts to 0.05% of its outstanding shares each quarter. The largest ten institutions trade an average of 0.20% of the outstanding shares of a given stock each quarter.

Our main dependent variables include the *Scholes-Williams beta* and *SRatio*, the *Fama-French* R^2 and *SRatio* – the ratio of total volatility to idiosyncratic volatility, and the *Q-Vol*, the total volatility of the stock using daily returns on the last 60 days during the quarter that follows the reported holding stake by large institutions. The average stock in our sample of quarter-firm observations has a Scholes-Williams beta of 0.79, and an idiosyncratic CAPM risk component of 3.22%.

Finally, we identify a number of stock-level control variables for our analysis. We include *size*, *book-to-market*, *6-month momentum*, the *inverse price ratio*, *Amihud liquidity measure*, *spread*, *CRSP weight*, *breadth of ownership*, and *total institutional ownership*. All these control variables are computed during quarter t. In our sample, the average stock has a book-to-market ratio of 0.24, Amihud liquidity measure of 0.362, and total institutional ownership of 33.19%.

[4] We also compile the sample using a rolling eight-quarter window. Our results are robust to this alternative specification.

Panel B of Table 1 provides summary statistics for our sample of asset managers. We compile the length of time that each firm stays in our sample, its average long equity assets, average quarterly turnover, and the average rank of the firm while it is in the sample. Blackrock Inc (and formerly Barclays Bank, and BZW Barclays Global Investors) has the highest average size ranking, and is in our sample from the second quarter of 1990 until the third quarter of 2013.[5] In the recent few years, the firm had average equity assets of $710 billion, and a quarterly turnover of 3.78%. In all, our sample comprises 39 unique institutions, which hold an average of $172 billion in assets in a given quarter of our sample.

3. Results

a. Holdings and Trades of Large Institutions

We first examine the effects of institutional holdings on several measures of firm risk. Table 2 presents our first set of regression results, which relate to the volatility of stocks held by asset managers. We express volatility in terms of quarterly volatility. Most independent variables are lagged one quarter, while the stock's size and book-to-market ratio are lagged two quarters. In both cases, this approach helps to mitigate potential endogeneity concerns. All regressions are run using an ordinary least squares (OLS) specification. For each dependent variable, we report five regressions – one each for the combined holdings of the top 1, top 2, top 3, top 5, and top 10 institutional investors in each stock in our sample. The standard errors of all regressions are clustered at the stock level, and include stock fixed effects. We control for time fixed effects by demeaning each variable by quarter.

Across all specifications, we find that the coefficients on the holdings of the largest institutions are statistically and economically significant. Using the coefficient from model (1), we estimate that a one standard deviation increase in the holdings of the largest institutional investor is related to an increase in

[5] In 1996, Barclays bought Wells Fargo Nikko Investment Advisors and merged it with BZW. This formed Barclays Global Investors. Barclays reenters our sample in the first quarter of 1997, and remains until the third quarter of 2009, when it was merged with BlackRock Inc. which subsequently becomes the largest asset manager by the size of their equity assets under management.

the quarterly volatility of a stock by 0.39% over its mean levels.[6] For the ten largest institutional investors, we find that this effect becomes 0.99%. Note that we find this effect even after controlling for the combined holdings of *all* institutional investors.

Turning to the control variables, we find that book-to-market, the inverse price ratio, and the Amihud liquidity measure are positive and statistically different from zero. We also find that momentum, the stock's CRSP weight, and the overall institutional ownership are negative and statistically different from zero.

Table 3 examines to alternative independent variables: the Fama-French SRatio and the Scholes-Williams beta. The SRatio is the total volatility of the stock divided by the idiosyncratic volatility, which is constructed as the standard error from the Fama and French (1993) and the Carhart (1997) 4 factor model. The key independent variables, holdings of large investors, are statistically significant and positively related to both measures of the stocks' risk. Economically, we find that a one standard deviation increase in the holdings of the largest institution is related to an increase in the Fama-French SRatio or Scholes-Williams beta of 0.58% and 2.69%, respectively. For the ten largest institutions, we find that the impacts of a one standard deviation increase in holdings grow to 1.22% and 3.78%.

We provide alternative specifications for this test in the Appendix. Table A.1 shows that our results hold when examining other firm risk characteristics, namely the Scholes-Williams SRatio and the Fama-French R^2. We find that the coefficients on institutional holdings are statistically and economically significant, and positively related to these measures of risk. For example, we estimate that a one standard deviation increase in the holdings of the largest asset manager is related to a0.59% increase in the Fama-French SRatio. Because our results are robust to these alternative dependent variables, we report results only for quarterly volatility in the remainder of the paper in order to conserve space.

An alternative variable to consider is the amount of trading in which large institutions engage. This can more closely reflect the effect that a given asset manager has on a firm, as it measures for the change

[6] We calculate economic impact by multiplying the standard deviation of lagged holdings of the top institution (0.024) by its coefficient from the regression (0.00484), and dividing by the sample mean of quarterly volatility (3.33%). We follow a similar methodology throughout the paper.

in the investment that the asset manager has in the stock. We calculate trades by finding the difference between the holdings of an institutional investor in a stock from quarter to quarter.

Table 4 presents results which examine institutional trading. We investigate the relation between institutional trading and the firms' volatility, again expressed as quarterly volatility. We find that the coefficients on the trades of the largest asset managers are statistically and economically significant and positively related to the dependent variable. Regression (1) implies that a one standard deviation increase in trades from the largest asset manager is related to a 0.18% increase in a firm's quarterly volatility over mean levels. For the largest ten asset managers, this effect is 0.52%. We further find that control variables behave in a manner consistent with the results in Table 2.

Appendix tables A.3 and A.4 present alternative specifications for the trading of large institutions, focusing on the Scholes-Williams SRatio and beta; and Fama-French R^2 and SRatio, respectively. All institutional trading variables are statistically and economically significant, and positively related to the dependent variables. Economically, we estimate that a one standard deviation increase in the trades of the largest firms is related to an increase in the Scholes-Williams SRatio of 0.93%, and an increase of 0.16% in the Fama-French R^2.

b. Risks of Large Institutions

We also examine the transmission of risk from institutional investors to the stocks they hold. Table 5 presents results which utilize the lagged net directional flows as a key independent variable and volatility as the dependent variable. We also interact net directional flows with institutional holdings. Across all specifications, we find that the coefficient on lagged institutional holdings is again positive and statistically significant. Moreover, we find that the interaction term between holdings and net directional flows is negative and statistically significant. This means that as large investors experience large outflows, the volatility of underlying stocks increases. The coefficient on the interaction term in regression (1), -0.0887, suggests that for a one standard deviation increase in net directional flows of the largest institutional investor and mean levels of holdings, volatility increases by 0.17% over its mean level. This effect grows to 0.44% when net flows move from their median level to the 1st percentile. This

negative coefficient can be interpreted that for forced-selling or firesale events, the risk of stocks held by institutional investors increases due to the unexpected outflows faced by the institutions. The opposite effect is also true. When large institutions receive positive news, the risk of underlying stocks decreases. This is similar to the stabilizing effect of index funds.

Table 6 presents a second set of results which also examine the transmission of risk from institutions to stocks. The key independent variable is the interaction between holdings and the volatility of fund flows. In this case, we examine the relation between the uncertainty of the institution's fund flows and how it relates to the riskiness of the stocks they hold. For specifications (1), (2), (3), and (5), we find that the coefficient on the interaction term is positive and statistically significant. This provides secondary evidence that institutional investors pass risk on to the components of their respective portfolios. In unreported tests, we also find evidence that the standard deviation of the daily portfolio of large institutional investors impacts the risk of the stocks they hold.

Lastly, Table 7 reports a series of results which investigate whether large institution risk is a priced factor. Panel A reports summary statistics for the risk factors used in our analysis. In addition to using the standard market, SMB, and HML factors, we also create a fourth factor, which is the return of the portfolio of large institutional investors. This fourth factor proxies for risk specific to large institutional investors.

Panel B of Table 7 presents OLS regressions which examine the relation between the loading on the institution risk factor and the holdings of large institutions. We find that the holdings of large institutions are generally not statistically significant on their own. However, we also interact these variables with the SMB factor. In this case, we find that the interaction term between the SMB factor and the holdings of large institutions is positive and statistically significant. This result implies that smaller stocks are effected by large institution risk spillovers than large stocks. As the exposure to the SMB factor increases, the stock's exposure to the institutional risk factor also increases.

Panel C presents the results of Fama-MacBeth (1973) style regressions. We estimate regressions using the daily returns of the stocks in the portfolios of large institutions. In this table, we report on set of

results for each of the institution size classes we have implemented throughout the paper. We find that the institution risk factor is positive, but not statistically significant in all regressions. This factor is important, however, even if it is not necessarily a priced risk factor. First, we demean the institutional risk factor by the market return. Thus, the institutional risk factor represents only abnormal returns to the institution's portfolio. Second, we find that the inclusion of the firm risk factor greatly reduces the level of statistical significance found on the market risk term, and eliminates the statistical significance of the SMB factor. In sum, the results from Table 7 show that institution risk plays a role in the riskiness of the stocks held in the portfolios of large asset managers.

c. Endogeneity

We also implement tests which address the endogenous nature of the relations we study. It may be the case that fund flows, trades, and holdings are determined simultaneous with firm risk factors. We examine the impact of a change in the CDS spread of a large institution on the change in the volatility of the stocks they hold. Thus, we can examine the effects of a negative credit risk event on the underlying stocks held by a large institution. This test will also shed light on the possibility that large institutions present potential for risk that goes beyond stock price volatility.

Table 8 reports the results of this test. We restrict our analysis to only the largest two institutions in a given quarter. We are constrained to this subsample as not all large institutional investors have CDS written on them. Moreover, we are also constrained to a sample period beginning in 2001, rather than in 1980, again due to data availability constraints. We find, in the case of both the largest and top two largest institutional investors, that the coefficient on the CDS spreads of large asset managers is positive and statistically significant in our regressions.

In the future, we will add a second test which will also address our potential endogeneity concern. We will isolate "bad events" specific to the large institutions we study. Specifically, we will use Capital IQ's database to identify negative firm-specific events like bankruptcies, SEC inquiries, and accounting misstatements. We will then in turn seek to study how these events impact the volatility of underlying stocks. This test directly addresses the endogenous nature of the above results by isolating events which

are specific to the large institutions we study. We can then capture institution-specific risk and study its direct effects on the underlying stock portfolio.

4. Robustness

We also study the impact of large institution holdings during a financial crisis. During a crisis, the impact of large institutional investors on the stocks they hold in their portfolios may be magnified. This is especially interesting for regulators who wish to prevent or curtail the effects of a systemic financial crisis. We define financial crisis periods following Berger and Bouwman (2012). These periods include the stock market crash in the fourth quarter of 1987; the credit crunch from the first quarter of 1990 until the fourth quarter of 1992; the Russian debt and LTCM crisis in the third and fourth quarters of 1998; the dot.com bubble and September 11 crisis from the second quarter of 2000 until the third quarter of 2002; and the subprime lending crisis from the third quarter of 2007 until the fourth quarter of 2009.

Table 9 presents the results of the crisis-based test, using quarterly volatilityas the dependent variable, and using the holdings of large asset managers as the key independent variable. We interact the holdings of large asset managers with a dummy variable which takes a value of one during quarters of a financial crisis. We do not differentiate between crises, but rather use a generalized approach. Across all regressions, we find that the holdings of the large institutional investors are positive and statistically significant. Moreover, we find that the interaction term between the holdings and the crisis period is also positive and statistically significant. The coefficient on holdings in regression (1) implies that for a one standard deviation increase, quarterly volatility increases by 0.21% over mean levels. Combining this coefficient with the coefficient on the interaction term yields a total coefficient of 0.011. This combined coefficient implies that a one standard deviation increase in holdings is related to an increase of 0.88% above the average quarterly volatility level in the following quarter. This effect is 319% larger during a crisis than during normal times.

We also investigate whether the holdings of large institutions have a disproportionate effect on the volatility of small stocks relative to that of large stocks. Table 10 presents results which examine this relation. The key independent variable in these regressions is an interaction term between large institution holdings and small stocks. In these results, we find that the coefficient on the interaction term statisticially significant and positive for regressions which incorporate the holdings of the top two, three, five, and ten largest institutions. Economically, an increase in holdings of the largest ten institutions in small stocks is related to a 0.64% increase in volatility over mean levels. This represents a 53% increase over the general effect of institutional holdings on underlying stocks.

Lastly, in the future, we will report results for a study of whether inflows at large institutions have a different effect on the riskiness of holdings from that of outflows.

5. Conclusion

We investigate the relation between large institutional investors and the riskiness of firms. We find that holdings and trades of the ten largest asset managers are associated with increases in the riskiness of the stocks they hold. We find that this effect is amplified during times of financial crisis, and that the effect of holdings may be increased by 319% over its effect during non-crisis periods.

Moreover, we find that institution-specific risk spills over to the underlying stocks. Net flows and flow volatility are important determinants of volatility and stock-specific risk. Moreover, we find an institution-specific risk factor which is priced in a Fama-MacBeth (1973) setting.

Futher plans for this study include addressing the endogenous nature of our results. We will implement tests which examine the relation between institution CDS spreads and the CDS spreads of underlying companies. Moreover, we will look specifically at "bad news" events surrounding large institutions.

This paper contributes to the existing literature by furthering the discourse on the effect of institutions on asset prices, risk spillovers, and financial stability. We add to literature which suggests that some large institutions may put downward pressure on prices, by examining how institutions may impact the

volatility and riskiness of stocks. Moreover, we add to literature which already examines ETFs and mutual funds by isolating the effects of large asset management firms. Lastly, we study the ways in which this effect is compounded during a crisis.

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Table 1 – Summary Statistics: This table presents summary statistics for key variables used in the analysis below. Panel A presents the characteristics of the stocks we study, and Panel B presents the characteristics of the institutions used in our analysis. The sample period is 1980-2014. Data are reported quarterly.

Panel A: Stock Characteristics

Dependent Variables:

Variable	Number of observations	Mean	Median	Standard deviation	Minimum	Maximum
Scholes-Williams Beta	877,523	0.79	0.7	1.1	-8.47	9.23
Scholes-Williams SRatio	858,486	1.08	1.017	0.22	0.5632	5.13
Fama-French SRatio	877,492	1.16	1.07	0.32	1	9.57
Fama-French R^2	877492	0.19	0.124	0.18	0.0001	1
Daily Return Volatility, during Quarter	887,139	3.33%	2.62%	2.53%	0.21%	23.27%

Key Independent Variables:

Variable	Number of observations	Mean	Median	Standard deviation	Minimum	Maximum
Ownership by Largest 13F Institution	886,807	1.40%	0.05%	2.40%	0.00%	14.99%
Ownership by Largest 10 13F Institutions	886,807	6.44%	2.81%	8.35%	0.00%	49.88%
Trade by Largest 10 13F Institutions	839,710	0.05%	0.00%	0.67%	-5.64%	6.84%
Trade by Largest 13F Institution	839,710	0.20%	0.00%	1.89%	-15.60%	25.94%

Control Variables

Variable	Number of observations	Mean	Median	Standard deviation	Minimum	Maximum
Size, $ mil	881,628	$1,577	$127	$9,593	$0	$626,550
Book to Market, Fiscal Period End	722,051	0.76	0.6	0.67	-0.03	10.31
6-Month Momentum	855,380	6.10%	3.00%	40.51%	-93.86%	818.18%
Inverse Price Ratio	887,633	0.245	0.075	0.636	0.006	10.291
Amihud Illiquidity Measure	868,593	0.362	0.08	0.59	0	4.33
Spread	701910	3.12%	1.55%	5.19%	0.01%	196.04%
CRSP Weight	881628	0.02%	0.00%	0.08%	0.00%	6.25%
Breadth	869013	0.06%	0.00%	0.56%	-38.02%	50.00%
Total Institutional Ownership	886,807	33.19%	24.63%	29.82%	0.01%	140.14%

Panel B: Institution Characteristics:

13F Institution Number	13F Institution Name	Number of Quarters	First Quarter	Last Quarter	Average Long Equity Assets	Average Quarterly Turnover	Top Rank
92040	BZW BARCLAYS GLBL INVTS	24	30-Jun-90	31-Mar-96	$72,401.27	2.94%	1.3
9385	BLACKROCK INC	11	31-Dec-10	30-Sep-13	$710,435.63	3.78%	1.4
7900	BARCLAYS BANK PLC	50	31-Mar-97	30-Sep-09	$461,530.10	5.26%	1.6
27800	FIDELITY MGMT & RESEARCH CO	91	31-Dec-91	30-Jun-14	$397,565.19	13.29%	2.0
26590	FMR CORP	20	31-Mar-86	31-Dec-90	$24,808.76	21.02%	3.6
7800	DEUTSCHE BK AKTIENGESELLSCHAFT	93	31-Mar-80	30-Jun-05	$71,431.35	6.00%	3.8
81540	STATE STR CORPORATION	97	30-Jun-88	30-Jun-14	$313,848.92	4.21%	4.1
90457	VANGUARD GROUP, INC.	62	31-Mar-99	30-Jun-14	$425,072.42	2.49%	4.5
72280	PRUDENTIAL INS CO/AMER	15	31-Mar-80	30-Sep-83	$6,322.04	11.11%	4.7
18265	COLLEGE RETIRE EQUITIES	74	31-Mar-80	30-Jun-98	$30,415.48	4.76%	4.7
92035	WELLS FARGO BANK N.A.	35	30-Jun-80	31-Mar-90	$20,328.29	4.21%	4.7
12740	CAPITAL RESEARCH & MGMT CO	69	30-Sep-90	30-Sep-07	$186,198.48	8.83%	5.0
53690	MANUFACTURERS NATL	1	31-Mar-80	31-Mar-80	$3,931.77	.	5.0
8190	BATTERYMARCH FINL MGMT	13	31-Dec-81	31-Dec-85	$8,415.31	10.85%	5.5
11836	CAPITAL WORLD INVESTORS	27	31-Dec-07	30-Jun-14	$277,070.53	8.17%	5.6
25610	AXA FINANCIAL, INC.	63	30-Jun-94	31-Mar-10	$188,741.35	13.08%	6.1
16260	CITICORP	28	31-Mar-80	31-Mar-88	$8,089.42	13.43%	6.3
58835	JPMORGAN CHASE & COMPANY	72	31-Mar-80	31-Mar-14	$47,718.42	11.56%	6.3
23375	DONALDSON LUFKIN & JEN	13	31-Dec-82	31-Dec-85	$9,400.29	21.26%	6.4
1250	ALLIANCE CAPITAL MGMT	27	31-Dec-86	30-Jun-93	$20,505.82	14.40%	6.5
71110	T. ROWE PRICE ASSOCIATES, INC.	40	31-Mar-80	30-Jun-14	$191,393.98	9.23%	6.6
55390	MELLON BANK NA	118	31-Mar-80	31-Dec-13	$117,863.82	7.74%	6.7
72400	PUTNAM INVESTMENT MGMT, L.L.C.	40	30-Sep-80	30-Sep-03	$121,156.99	16.27%	7.3
29800	FIRST INTERSTATE BANCORP	17	30-Jun-81	31-Mar-87	$10,284.75	8.63%	7.5
76045	SAROFIM FAYEZ	10	31-Dec-80	31-Mar-83	$5,331.44	5.54%	7.7
81575	STATE STREET RESR & MGMT	12	30-Jun-82	31-Mar-85	$6,947.09	8.97%	7.9
63850	NEW YORK ST COMMON RET.	27	31-Dec-86	31-Mar-94	$18,887.11	3.98%	8.1
11835	CAPITAL RESEARCH GBL INVESTORS	22	31-Dec-07	30-Jun-14	$219,362.06	8.81%	8.2
12000	CALIF PUBLIC EMP. RET.	4	31-Dec-88	30-Sep-89	$15,360.45	8.44%	8.3
91910	WELLINGTON MANAGEMENT CO, LLP	93	30-Jun-85	30-Jun-14	$143,576.97	11.71%	8.3
43680	HARRIS TRUST & SAV BANK	3	31-Mar-80	30-Sep-80	$4,188.83	9.35%	8.7
48170	JANUS CAPITAL	5	31-Mar-	31-Mar-01	$185,674.99	16.64%	8.8

	CORPORATION		00				
58950	MSDW & COMPANY	20	31-Dec-97	31-Mar-11	$167,649.99	10.54%	9.3
84900	CITIGROUP INC	17	30-Jun-96	30-Sep-05	$136,146.07	10.60%	9.4
50160	LEGG MASON INC	4	30-Sep-06	30-Jun-07	$197,726.63	7.90%	9.5
65260	NORTHERN TRUST CORP	18	31-Dec-03	30-Jun-14	$200,789.09	3.08%	9.7
12090	CALIF PUBLIC EMPL RETIRM	1	30-Sep-86	30-Sep-86	$10,598.98	.	10.0
15230	CHASE MANHATTAN CORP	2	31-Mar-80	30-Jun-80	$3,849.58	5.79%	10.0
41260	GOLDMAN SACHS & COMPANY	1	30-Sep-07	30-Sep-07	$228,626.59	18.64%	10.0

Table 2 – Holdings of Large Asset Managers and Quarterly Volatility: This table presents Ordinary Least Squares (OLS) regression results. The dependent variable is the stock's quarterly volatility (Q-Vol), computed from daily returns during the quarter t+1. The key independent variables are the holdings of the top one, two, three, five, and ten largest institutional investors, and are all measured during quarter t. The sample period is 1980-2014, and t-statistics based on standard errors clustered at the stock level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	$Q\text{-}Vol_{t+1}$	$Q\text{-}Vol_{t+1}$	$Q\text{-}Vol_{t+1}$	$Q\text{-}Vol_{t+1}$	$Q\text{-}Vol_{t+1}$
Holdings – Top 1	0.00484***				
	(3.818)				
Holdings – Top 2		0.00407***			
		(4.483)			
Holdings – Top 3			0.00418***		
			(5.114)		
Holdings – Top 5				0.00475***	
				(6.633)	
Holdings – Top 10					0.00354***
					(6.497)
$Q\text{-}Vol_{t}$	0.421***	0.421***	0.421***	0.421***	0.421***
	(118.2)	(118.2)	(118.2)	(118.3)	(118.2)
$Size_{t-1}$	8.75e-05	7.90e-05	7.20e-05	5.02e-05	4.20e-05
	(1.330)	(1.197)	(1.090)	(0.758)	(0.634)
B/M_{t-1}	0.000237***	0.000233***	0.000233***	0.000228***	0.000232***
	(2.805)	(2.765)	(2.764)	(2.708)	(2.755)
Momentum	-0.000479***	-0.000476***	-0.000474***	-0.000468***	-0.000461***
	(-7.727)	(-7.681)	(-7.641)	(-7.536)	(-7.427)
$1/Price_{t}$	0.00640***	0.00640***	0.00641***	0.00641***	0.00641***
	(29.58)	(29.59)	(29.61)	(29.62)	(29.62)
$Amihud_{t}$	0.00563***	0.00563***	0.00563***	0.00562***	0.00561***
	(32.02)	(32.02)	(32.04)	(31.98)	(31.94)
$Spread_{t}$	0.0465***	0.0464***	0.0464***	0.0463***	0.0463***
	(16.90)	(16.88)	(16.86)	(16.84)	(16.85)
$CRSP\ Weight_{t}$	-0.312***	-0.312***	-0.313***	-0.317***	-0.317***
	(-4.688)	(-4.691)	(-4.704)	(-4.743)	(-4.717)
$Breadth_{t}$	-0.00125	-0.00123	-0.00113	-0.000900	-0.000572
	(-0.323)	(-0.316)	(-0.291)	(-0.232)	(-0.148)
$Inst.\ Own._{t}$	-0.000598**	-0.000705***	-0.000781***	-0.00101***	-0.00121***
	(-2.509)	(-2.951)	(-3.274)	(-4.176)	(-4.862)
Constant	8.77e-11***	8.90e-11***	8.83e-11***	9.02e-11***	8.77e-11***
	(150.7)	(230.1)	(238.7)	(222.2)	(202.1)
Observations	537,459	537,459	537,459	537,459	537,459
R-squared	0.702	0.702	0.702	0.702	0.702

Table 3 – Holdings of Large Asset Managers and Alternative Measures of Firm Risk: This table presents Ordinary Least Squares (OLS) regression results. The dependent variables are the stock's Fama-French SRatio, ratio of total volatility to idiosyncratic volatility, and Scholes-Williams Beta, measured using stock daily returns, and Fama-French daily risk factors during quarter t+1. The key independent variables are the holdings of the top one, two, three, five, and ten largest institutional investors, and are all measured during quarter t. The sample period is 1980-2014, and t-statistics based on standard errors clustered at the stock level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	(6)	(7)	(8)	(9)	(10)	(6)	(7)	(8)	(9)	(10)
	Fama-French SRatio $_{t+1}$					Scholes-Williams Beta $_{t+1}$				
Holdings – Top 1	0.284***					0.887***				
	(18.10)					(9.478)				
Holdings – Top 2		0.255***					0.768***			
		(22.73)					(11.08)			
Holdings – Top 3			0.279***					0.738***		
			(26.81)					(11.78)		
Holdings – Top 5				0.243***					0.603***	
				(26.78)					(11.52)	
Holdings – Top 10					0.170***					0.358***
					(25.09)					(9.108)
FF Ratio $_{t}$	0.362***	0.361***	0.359***	0.358***	0.360***					
	(94.31)	(93.69)	(93.84)	(93.64)	(93.48)					
S-W Beta $_{t}$						0.0790***	0.0790***	0.0789***	0.0790***	0.0791***
						(32.42)	(32.42)	(32.39)	(32.39)	(32.45)
Size $_{t-1}$	0.0219***	0.0215***	0.0212***	0.0206***	0.0206***	0.0887***	0.0875***	0.0868***	0.0859***	0.0871***
	(34.39)	(33.77)	(33.17)	(32.18)	(32.14)	(19.15)	(18.90)	(18.74)	(18.51)	(18.83)
B/M $_{t-1}$	0.000561	0.000386	0.000349	0.000226	0.000438	0.0174***	0.0170***	0.0170***	0.0168***	0.0174***
	(1.112)	(0.768)	(0.700)	(0.454)	(0.877)	(3.281)	(3.197)	(3.203)	(3.169)	(3.278)
Momentum	0.00120***	0.00133***	0.00148***	0.00169***	0.00183***	0.103***	0.103***	0.103***	0.104***	0.104***
	(3.039)	(3.402)	(3.771)	(4.300)	(4.662)	(20.82)	(20.89)	(20.95)	(21.03)	(21.02)
1/Price $_{t}$	-0.00303***	-0.00287***	-0.00271***	-0.00279***	-0.00291***	0.0747***	0.0751***	0.0755***	0.0752***	0.0748***
	(-4.843)	(-4.615)	(-4.393)	(-4.541)	(-4.717)	(6.797)	(6.838)	(6.871)	(6.848)	(6.808)
Amihud $_{t}$	0.000115	4.79e-05	6.95e-05	-0.000378	-0.000542	-0.169***	-0.169***	-0.169***	-0.170***	-0.170***
	(0.161)	(0.0680)	(0.0996)	(-0.545)	(-0.776)	(-19.65)	(-19.68)	(-19.66)	(-19.76)	(-19.75)
Spread $_{t}$	0.146***	0.142***	0.138***	0.137***	0.138***	0.0556	0.0435	0.0357	0.0348	0.0447
	(17.26)	(17.16)	(17.00)	(16.94)	(17.10)	(0.586)	(0.459)	(0.376)	(0.367)	(0.472)
CRSP Weight $_{t}$	5.294***	5.295***	5.303***	5.167***	5.192***	-47.35***	-47.36***	-47.37***	-47.66***	-47.44***
	(2.831)	(2.818)	(2.813)	(2.758)	(2.795)	(-6.848)	(-6.856)	(-6.819)	(-6.812)	(-6.800)
Breadth $_{t}$	0.422***	0.422***	0.426***	0.435***	0.445***	4.870***	4.874***	4.888***	4.909***	4.914***
	(8.471)	(8.447)	(8.493)	(8.632)	(8.835)	(14.77)	(14.74)	(14.76)	(14.81)	(14.83)
Inst. Own.$_{t}$	0.0284***	0.0229***	0.0178***	0.0140***	0.0110***	0.143***	0.129***	0.123***	0.120***	0.133***
	(11.59)	(9.245)	(7.122)	(5.548)	(4.231)	(8.224)	(7.375)	(6.987)	(6.687)	(7.131)
Observations	537,330	537,330	537,330	537,330	537,330	537,329	537,329	537,329	537,329	537,329
R-squared	0.471	0.471	0.472	0.472	0.472	0.192	0.193	0.193	0.193	0.192

Table 4 – Trades of Large Asset Managers and Quarterly Volatility: This table presents Ordinary Least Squares (OLS) regression results. The dependent variable is the stock's quarterly volatility (Q-Vol), measured using daily returns at quarter t+1. The key independent variables are the trades of the top one, two, three, five, and ten largest institutional investors measured during quarter t. The sample period is 1980-2014, and t-statistics based on standard errors clustered at the stock level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	(1) $Q\text{-}Vol_{t+1}$	(2) $Q\text{-}Vol_{t+1}$	(3) $Q\text{-}Vol_{t+1}$	(4) $Q\text{-}Vol_{t+1}$	(5) $Q\text{-}Vol_{t+1}$
$Trades_t$ – Top 1	0.00817***				
	(3.503)				
$Trades_t$ – Top 2		0.00992***			
		(5.841)			
$Trades_t$ – Top 3			0.00916***		
			(5.999)		
$Trades_t$ – Top 5				0.00891***	
				(6.781)	
$Trades_t$ – Top 10					0.00818***
					(7.714)
$Q\text{-}Vol_t$	0.425***	0.425***	0.425***	0.425***	0.425***
	(118.7)	(118.7)	(118.7)	(118.7)	(118.7)
$Size_{t-1}$	0.000173***	0.000171***	0.000171***	0.000170**	0.000167**
	(2.620)	(2.594)	(2.589)	(2.571)	(2.537)
B/M_{t-1}	0.000297***	0.000297***	0.000297***	0.000296***	0.000298***
	(3.498)	(3.493)	(3.494)	(3.489)	(3.505)
Momentum	-0.000504***	-0.000505***	-0.000505***	-0.000508***	-0.000511***
	(-8.140)	(-8.156)	(-8.163)	(-8.197)	(-8.261)
$1/Price_t$	0.00636***	0.00636***	0.00636***	0.00636***	0.00636***
	(29.91)	(29.92)	(29.92)	(29.92)	(29.91)
$Amihud_t$	0.00551***	0.00551***	0.00551***	0.00551***	0.00551***
	(30.07)	(30.07)	(30.07)	(30.07)	(30.05)
$Spread_t$	0.0499***	0.0499***	0.0499***	0.0499***	0.0500***
	(16.27)	(16.27)	(16.27)	(16.27)	(16.27)
$CRSP\ Weight_t$	-0.326***	-0.325***	-0.325***	-0.325***	-0.325***
	(-4.942)	(-4.935)	(-4.934)	(-4.931)	(-4.924)
$Breadth_t$	-0.00582	-0.00620	-0.00635	-0.00637	-0.00573
	(-1.428)	(-1.519)	(-1.558)	(-1.562)	(-1.404)
$Inst.\ Own._t$	-0.000466*	-0.000465*	-0.000465*	-0.000469*	-0.000467*
	(-1.920)	(-1.914)	(-1.915)	(-1.930)	(-1.922)
$Inst.\ Own.\ Trades_t$	0.00143***	0.00114***	0.00109**	0.000888**	0.000374
	(3.338)	(2.647)	(2.503)	(2.028)	(0.820)
Constant	-6.24e-11***	-6.25e-11***	-6.24e-11***	-6.25e-11***	-6.24e-11***
	(-87.72)	(-87.75)	(-87.74)	(-87.83)	(-87.71)
Observations	523,264	523,264	523,264	523,264	523,264
R-squared	0.695	0.695	0.695	0.695	0.695

Table 5 – Asset Manager Net Flows and Quarterly Volatility: This table presents Ordinary Least Squares (OLS) regression results. The dependent variable is the stock's quarterly volatility (Q-Vol), computed using daily returns during quarter t+1. The key independent variables are the net directional flows of the top one, two, three, five, and ten largest institutional investors and the interaction between net directional flows and holdings. The sample period is 1980-2014, and t-statistics based on standard errors clustered at the stock level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	(1) Q-Vol $_{t+1}$	(2) Q-Vol $_{t+1}$	(3) Q-Vol $_{t+1}$	(4) Q-Vol $_{t+1}$	(5) Q-Vol $_{t+1}$
Holdings $_t$ - Top 1	0.00548***				
	(4.199)				
Net Flows $_t$ – Top 1	26,451				
	(1.362)				
Holdings $_t$ *Net Flows $_t$ – Top 1	-0.0887***				
	(-4.529)				
Holdings $_t$ - Top 2		0.00339***			
		(3.735)			
Net Flows $_t$ – Top 2		-0.000516			
		(-0.439)			
Holdings $_t$ *Net Flows $_t$ – Top 2		-0.0410***			
		(-2.612)			
Holdings $_t$ - Top 3			0.00372***		
			(4.590)		
Net Flows $_t$ – Top 3			0.000192		
			(0.187)		
Holdings $_t$ *Net Flows $_t$ – Top 3			-0.0336***		
			(-2.624)		
Holdings $_t$ - Top 5				0.00447***	
				(6.364)	
Net Flows $_t$ – Top5				0.000122	
				(0.130)	
Holdings $_t$ *Net Flows $_t$ – Top 5				-0.0294***	
				(-3.023)	
Holdings $_t$ - Top 10					0.00319***
					(5.889)
Net Flows $_t$ – Top 10					-0.000439
					(-0.734)
Holdings $_t$ *Net Flows $_t$ – Top 10					-0.0123***
					(-2.692)
Q-Vol $_t$	0.433***	0.432***	0.432***	0.433***	0.431***
	(87.51)	(108.0)	(109.0)	(112.0)	(115.0)
Size $_{t-1}$	-0.000225***	0.000140**	0.000131*	0.000146**	0.000151**
	(-3.368)	(2.011)	(1.882)	(2.106)	(2.228)
B/M $_{t-1}$	0.000565***	0.000423***	0.000452***	0.000452***	0.000381***
	(5.494)	(4.424)	(4.755)	(4.863)	(4.217)
Momentum	0.000301***	-0.000351***	-0.000359***	-0.000380***	-0.000456***
	(3.710)	(-5.214)	(-5.469)	(-5.905)	(-7.310)
1/Price $_t$	0.00550***	0.00622***	0.00620***	0.00634***	0.00646***
	(16.98)	(22.35)	(22.74)	(24.04)	(26.29)
Amihud $_t$	0.00530***	0.00542***	0.00546***	0.00532***	0.00558***
	(14.79)	(21.35)	(21.93)	(22.80)	(25.80)
Spread $_t$	0.0583***	0.0545***	0.0538***	0.0544***	0.0496***
	(9.705)	(13.85)	(13.98)	(15.00)	(13.82)
CRSP Weight $_t$	-0.243***	-0.327***	-0.317***	-0.323***	-0.327***
	(-3.701)	(-5.081)	(-5.007)	(-5.031)	(-5.123)
Breadth $_t$	0.00160	0.00313	0.00271	0.00337	0.00272
	(0.417)	(0.830)	(0.723)	(0.902)	(0.733)
Inst. Own. $_t$	-0.000324	-0.000450*	-0.000518**	-0.000767***	-0.000959***
	(-1.181)	(-1.751)	(-2.049)	(-3.071)	(-3.801)
Constant	1.17e-06	-8.09e-11***	7.66e-11***	-2.21e-10***	0***
	(1.363)	(-72.34)	(118.8)	(-309.5)	(84.53)
Observations	329,110	432,379	440,667	457,864	482,348
R-squared	0.658	0.670	0.673	0.675	0.679

Table 6 – Asset Manager Flow Volatility and Quarterly Volatility: This table presents Ordinary Least Squares (OLS) regression results. The dependent variable is the stock's quarterly volatility (Q-Vol), computed using daily returns in quarter t+1. The key independent variables are the volatility of flows of the top one, two, three, five, and ten largest institutional investors and the interaction between flow volatility and holdings. The sample period is 1980-2014, and t-statistics based on standard errors clustered at the stock level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

VARIABLES	(1) Q-Vol $_{t+1}$	(2) Q-Vol $_{t+1}$	(3) Q-Vol $_{t+1}$	(4) Q-Vol $_{t+1}$	(5) Q-Vol $_{t+1}$
Holdings $_t$ - Top 1	0.00338***				
	(2.649)				
Flow Vol. $_t$ – Top 1	798.2				
	(0.163)				
Holdings $_t$ * Flow Vol.$_t$ – Top 1	0.0201***				
	(2.989)				
Holdings $_t$ - Top 2		0.00240**			
		(2.496)			
Flow Vol.$_t$ – Top 2		-0.000155			
		(-0.482)			
Holdings $_t$ * Flow Vol.$_t$ – Top 2		0.0154**			
		(2.560)			
Holdings $_t$ - Top 3			0.00287***		
			(3.289)		
Flow Vol.$_t$ – Top 3			-0.000352		
			(-1.079)		
Holdings $_t$ * Flow Vol.$_t$ – Top 3			0.0121**		
			(2.054)		
Holdings $_t$ - Top 5				0.00396***	
				(5.174)	
Flow Vol.$_t$ – Top5				-0.000655*	
				(-1.914)	
Holdings $_t$ * Flow Vol.$_t$ – Top 5				0.00644	
				(1.125)	
Holdings $_t$ - Top 10					0.00356***
					(5.973)
Flow Vol.$_t$ – Top 10					-0.000429
					(-1.168)
Holdings $_t$ * Flow Vol.$_t$ – Top 10					-0.0104**
					(-2.468)
Q-Vol $_t$	0.433***	0.432***	0.432***	0.433***	0.431***
	(87.50)	(107.9)	(109.0)	(112.0)	(115.0)
Size $_{t-1}$	-0.000223***	0.000142**	0.000132*	0.000147**	0.000151**
	(-3.343)	(2.039)	(1.910)	(2.113)	(2.228)
B/M $_{t-1}$	0.000569***	0.000425***	0.000454***	0.000454***	0.000381***
	(5.529)	(4.444)	(4.780)	(4.880)	(4.221)
Momentum $_{t-1}$	0.000301***	-0.000349***	-0.000359***	-0.000380***	-0.000454***
	(3.709)	(-5.199)	(-5.470)	(-5.903)	(-7.272)
1/Price $_t$	0.00550***	0.00622***	0.00620***	0.00634***	0.00646***
	(16.97)	(22.34)	(22.72)	(24.02)	(26.28)
Amihud $_t$	0.00531***	0.00543***	0.00546***	0.00532***	0.00558***
	(14.80)	(21.37)	(21.92)	(22.77)	(25.76)
Spread $_t$	0.0583***	0.0546***	0.0539***	0.0545***	0.0496***
	(9.704)	(13.84)	(13.98)	(15.00)	(13.79)
CRSP Weight $_t$	-0.242***	-0.326***	-0.316***	-0.321***	-0.327***
	(-3.697)	(-5.086)	(-5.011)	(-5.031)	(-5.125)
Breadth $_t$	0.00139	0.00284	0.00235	0.00305	0.00270
	(0.362)	(0.753)	(0.627)	(0.817)	(0.728)
Inst. Own.$_t$	-0.000328	-0.000461*	-0.000529**	-0.000783***	-0.000951***
	(-1.197)	(-1.794)	(-2.092)	(-3.132)	(-3.772)
Constant	-1.27e-08	-7.18e-11***	8.66e-11***	-2.27e-10***	0***
	(-0.161)	(-61.98)	(154.1)	(-318.3)	(50.61)
Observations	329,111	432,382	440,671	457,868	482,352
R-squared	0.658	0.670	0.673	0.675	0.679

Table 7: Risk Premiums: This table presents results of an analysis of the risk premium for large institution risk. Panel A presents summary statistics. Panel B presents regressions which examine the impact of large institution holdings on a stock's risk premium. Lastly, Panel C reports Fama-MacBeth Regressions, where, in addition to the standard Fama-French factors, we add a fourth factor which represents the daily portfolio returns of the largest three institutions.

Panel A: Summary Statistics

Daily Return Series of Risk Factors	N	Mean	Std Dev	Median	Minimum	Maximum
Risk-Free Return Rate (One Month Treasury Bill Rate)	8,491	0.0177%	0.01%	0.018%	0.00%	0.06%
Excess Return on the Market	8,491	0.0304%	1.09%	0.060%	-17.44%	11.35%
Small-Minus-Big Return	8,491	0.0012%	0.56%	0.020%	-11.25%	6.44%
High-Minus-Low Return	8,491	0.0186%	0.54%	0.010%	-4.86%	3.95%
Largest Institution Portfolio Returns	8,491	0.0489%	1.14%	0.076%	-18.19%	11.46%
Largest 2 Institutions Portfolio Returns	8,491	0.0497%	1.14%	0.078%	-18.02%	11.65%
Largest 3 Institutions Portfolio Returns	8,491	0.0500%	1.12%	0.076%	-17.96%	11.60%
Largest 5 Institutions Portfolio Returns	8,491	0.0488%	1.13%	0.074%	-18.24%	11.40%
Largest 10 Institutions Portfolio Returns	8,491	0.0484%	1.13%	0.075%	-18.19%	11.63%

Panel B: Beta of Exposure to Large Institution Portfolio Returns, in Excess of Market Returns:

VARIABLES	(1) β_{Top1}	(2) β_{Top1}	(3) β_{Top2}	(4) β_{Top2}	(5) β_{Top3}	(6) β_{Top3}	(7) β_{Top5}	(8) β_{Top5}	(9) β_{Top10}	(10) β_{Top10}
β_{SMB}		1.356***		1.832***		1.336***		1.659***		1.510***
		(34.96)		(47.23)		(41.00)		(45.23)		(37.99)
Holdings – Top 1	0.195	0.374								
	(1.521)	(0.536)								
Holdings * β_{SMB}		1.409***								
		(6.552)								
Holdings – Top 2			0.240**	0.111						
			(1.972)	(0.371)						
Holdings * β_{SMB}				0.918***						
				(7.351)						
Holdings – Top 3					0.271*	-0.280				
					(1.931)	(-1.358)				
Holdings * β_{SMB}						1.057***				
						(7.882)				
Holdings – Top 4							0.0974	-0.912***		
							(1.227)	(-3.493)		
Holdings * β_{SMB}								0.757***		
								(5.619)		
Holdings – Top 5									0.0784	-1.142***
									(1.297)	(-3.257)
Holdings * β_{SMB}										0.363**
										(2.083)
Observations	848,187	848,187	848,187	848,187	848,187	848,187	848,187	848,187	848,187	848,187
R-squared	0.052	0.116	0.055	0.157	0.057	0.122	0.059	0.134	0.062	0.119

Panel C: Fama-MacBeth Regressions

Variable	N	Mean	t-Value	Pr > |t|
Market Beta	8,432	0.022705%	1.78	0.0755
SMB Beta	8,432	-0.005130%	-0.75	0.4558
HML Beta	8,432	0.027174%	4.16	<.0001
InstRisk Beta, using (total daily return of Top Institution Portfolio - Market Return)	8,432	0.000132%	0.09	0.9294

Variable	N	Mean	t-Value	Pr > |t|
Market Beta	8,432	0.022514%	1.76	0.0788
SMB Beta	8,432	-0.004560%	-0.67	0.5042
HML Beta	8,432	0.027379%	4.2	<.0001
InstRisk Beta, using (total daily return of Top 2 Institutions Port. - Market Return)	8,432	0.001837%	1.42	0.1551

Variable	N	Mean	t-Value	Pr > |t|
Market Beta	8,432	0.022658%	1.77	0.0767
SMB Beta	8,432	-0.004675%	-0.68	0.4935
HML Beta	8,432	0.027320%	4.19	<.0001
InstRisk Beta, using (total daily return of Top 3 Institutions Port. - Market Return)	8,432	0.002416%	1.97	0.0494

Variable	N	Mean	t-Value	Pr > |t|
Market Beta	8,432	0.023823%	1.87	0.062
SMB Beta	8,432	-0.004953%	-0.72	0.4692
HML Beta	8,432	0.026637%	4.08	<.0001
InstRisk Beta, using (total daily return of Top 5 Institutions Port. - Market Return)	8,432	0.001390%	1.29	0.1968

Variable	N	Mean	t-Value	Pr > |t|
Market Beta	8,432	0.023827%	1.87	0.0611
SMB Beta	8,432	-0.004838%	-0.71	0.4803
HML Beta	8,432	0.026745%	4.1	<.0001
InstRisk Beta, using (total daily return of Top 10 Institutions Port. - Market Return)	8,432	0.000708%	0.67	0.5024

Table 8 – Credit Default Swap (CDS) Premiums of Large Investors and CDS Premiums of Underlying Institutions: This table presents Ordinary Least Squares (OLS) regression results. The dependent variable is the stock's quarterly volatility, computed using daily returns in quarter t+1. The key independent variables are the holdings of the top one, two, three, five, and ten largest institutional investors and the interaction terms between the holdings and a financial crisis dummy. The sample period is 1980-2014, and t-statistics based on standard errors clustered at the stock level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
	Q-Vol $_{t+1}$	Q-Vol $_{t+1}$	Q-Vol $_{t+1}$	Q-Vol $_{t+1}$
Holdings – Top 1	0.0233***	0.0235***		
	(5.437)	(5.488)		
CDS – Top 1	0.176***	0.142***		
	(4.673)	(3.248)		
Holdings * CDS		0.899		
		(1.607)		
Holdings – Top 2			0.00589***	0.00585***
			(4.824)	(4.786)
CDS – Top 2			0.608***	0.574***
			(8.083)	(7.346)
Holdings * CDS				0.447*
				(1.820)
Q-Vol $_{t}$	0.375***	0.375***	0.405***	0.405***
	(44.83)	(44.83)	(63.55)	(63.53)
Size $_{t-1}$	-0.00175***	-0.00175***	-0.000173	-0.000176
	(-9.623)	(-9.642)	(-1.380)	(-1.400)
B/M $_{t-1}$	0.000951***	0.000942***	0.000959***	0.000955***
	(5.797)	(5.737)	(7.435)	(7.400)
Momentum	0.000656***	0.000658***	-0.000469***	-0.000472***
	(3.936)	(3.948)	(-3.795)	(-3.816)
1/Price $_{t}$	0.00388***	0.00386***	0.00470***	0.00469***
	(8.950)	(8.915)	(14.65)	(14.62)
Amihud $_{t}$	0.00542***	0.00536***	0.00543***	0.00540***
	(7.777)	(7.695)	(11.17)	(11.10)
Spread $_{t}$	0.0656***	0.0661***	0.0390***	0.0392***
	(4.426)	(4.465)	(3.546)	(3.563)
CRSP Weight $_{t}$	-1.240***	-1.237***	-0.436***	-0.436***
	(-4.565)	(-4.559)	(-2.886)	(-2.887)
Breadth $_{t}$	-0.0439***	-0.0440***	-0.0431***	-0.0432***
	(-5.672)	(-5.684)	(-6.534)	(-6.546)
Inst. Own.$_{t}$	-0.000412	-0.000450	-0.000749*	-0.000764*
	(-0.726)	(-0.793)	(-1.851)	(-1.889)
Constant	0.0243***	0.0243***	0.0136***	0.0136***
	(19.74)	(19.76)	(15.55)	(15.57)
Observations	101,138	101,138	164,170	164,170
R-squared	0.745	0.745	0.732	0.732

Table 9 – Within-Crisis Holdings of Large Asset Managers and Quarterly Volatility: This table presents Ordinary Least Squares (OLS) regression results. The dependent variable is the stock's quarterly volatility (Q-Vol), computed using daily returns in quarter t+1. The key independent variables are the holdings of the top one, two, three, five, and ten largest institutional investors and the interaction terms between the holdings and a financial crisis dummy. The sample period is 1980-2014, and t-statistics based on standard errors clustered at the stock level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	(1) $Q\text{-}Vol_{t+1}$	(2) $Q\text{-}Vol_{t+1}$	(3) $Q\text{-}Vol_{t+1}$	(4) $Q\text{-}Vol_{t+1}$	(5) $Q\text{-}Vol_{t+1}$
Holdings – Top 1	0.00265**				
	(2.332)				
Holdings * Crisis	0.00835***				
	(3.978)				
Holdings – Top 2		0.00308***			
		(3.586)			
Holdings * Crisis		0.00348**			
		(2.515)			
Holdings – Top 3			0.00317***		
			(4.113)		
Holdings * Crisis			0.00375***		
			(3.196)		
Holdings – Top 5				0.00372***	
				(5.497)	
Holdings * Crisis				0.00390***	
				(4.329)	
Holdings – Top 10					0.00273***
					(5.188)
Holdings * Crisis					0.00267***
					(4.331)
$Q\text{-}Vol_t$	0.421***	0.421***	0.421***	0.421***	0.420***
	(118.3)	(118.3)	(118.4)	(118.5)	(118.4)
$Size_{t-1}$	9.30e-05	8.24e-05	7.71e-05	5.86e-05	5.07e-05
	(1.414)	(1.249)	(1.168)	(0.884)	(0.766)
B/M_{t-1}	0.000237***	0.000234***	0.000235***	0.000231***	0.000237***
	(2.814)	(2.773)	(2.783)	(2.743)	(2.812)
Momentum	-0.000480***	-0.000477***	-0.000475***	-0.000469***	-0.000462***
	(-7.737)	(-7.693)	(-7.655)	(-7.557)	(-7.436)
$1/Price_t$	0.00641***	0.00641***	0.00642***	0.00642***	0.00642***
	(29.63)	(29.63)	(29.66)	(29.70)	(29.70)
$Amihud_t$	0.00565***	0.00565***	0.00566***	0.00566***	0.00565***
	(32.16)	(32.12)	(32.18)	(32.19)	(32.16)
$Spread_t$	0.0465***	0.0464***	0.0464***	0.0463***	0.0463***
	(16.90)	(16.88)	(16.86)	(16.84)	(16.85)
CRSP $Weight_t$	-0.317***	-0.316***	-0.318***	-0.323***	-0.323***
	(-4.744)	(-4.730)	(-4.757)	(-4.815)	(-4.783)
$Breadth_t$	-0.000967	-0.00101	-0.000811	-0.000374	-4.79e-05
	(-0.249)	(-0.261)	(-0.210)	(-0.0970)	(-0.0124)
Inst. $Own._t$	-0.000612**	-0.000709***	-0.000792***	-0.00103***	-0.00122***
	(-2.566)	(-2.967)	(-3.319)	(-4.260)	(-4.878)
Constant	8.79e-11***	8.89e-11***	8.83e-11***	8.99e-11***	8.76e-11***
	(150.1)	(231.7)	(238.8)	(226.2)	(201.5)
Observations	537,459	537,459	537,459	537,459	537,459
R-squared	0.702	0.702	0.702	0.702	0.702

Table 10 – Small vs. Large Underlying Stocks: This table presents Ordinary Least Squares (OLS) regression results. The dependent variable is the stock's quarterly volatility (Q-Vol) computed using daily returns in quarter t+1. The key independent variables are the holdings of the top one, two, three, five, and ten largest institutional investors and the interaction terms between the holdings of large institutions and a small stock dummy. The sample period is 1980-2014, and t-statistics based on standard errors clustered at the stock level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

VARIABLES	(1) $Q\text{-}Vol_{t+1}$	(2) $Q\text{-}Vol_{t+1}$	(3) $Q\text{-}Vol_{t+1}$	(4) $Q\text{-}Vol_{t+1}$	(5) $Q\text{-}Vol_{t+1}$
Holdings – Top 1	0.00513***				
	(3.911)				
Holdings * Small Stock	-0.00151				
	(-0.620)				
Holdings – Top 2		0.00204**			
		(2.099)			
Holdings * Small Stock		0.00469***			
		(2.934)			
Holdings – Top 3			0.00182**		
			(2.060)		
Holdings * Small Stock			0.00604***		
			(4.238)		
Holdings – Top 5				0.00310***	
				(4.056)	
Holdings * Small Stock				0.00447***	
				(3.815)	
Holdings – Top 10					0.00222***
					(3.659)
Holdings * Small Stock					0.00339***
					(3.891)
$Q\text{-}Vol_{t}$	0.424***	0.424***	0.424***	0.424***	0.424***
	(119.1)	(119.1)	(119.1)	(119.2)	(119.0)
$Size_{t-1}$	0.000492***	0.000484***	0.000475***	0.000456***	0.000450***
	(7.303)	(7.172)	(7.037)	(6.730)	(6.649)
B/M_{t-1}	0.000285***	0.000277***	0.000276***	0.000272***	0.000278***
	(3.360)	(3.279)	(3.266)	(3.223)	(3.283)
Momentum	-0.000466***	-0.000462***	-0.000460***	-0.000453***	-0.000447***
	(-7.558)	(-7.482)	(-7.448)	(-7.345)	(-7.250)
$1/Price_{t}$	0.00646***	0.00646***	0.00647***	0.00647***	0.00647***
	(30.33)	(30.34)	(30.35)	(30.36)	(30.37)
$Amihud_{t}$	0.00566***	0.00569***	0.00570***	0.00569***	0.00568***
	(31.08)	(31.22)	(31.30)	(31.26)	(31.23)
$Spread_{t}$	0.0494***	0.0494***	0.0494***	0.0493***	0.0493***
	(16.25)	(16.23)	(16.21)	(16.19)	(16.20)
$CRSP\ Weight_{t}$	-0.442***	-0.437***	-0.433***	-0.436***	-0.436***
	(-5.904)	(-5.867)	(-5.858)	(-5.883)	(-5.862)
$Breadth_{t}$	0.00627	0.00643*	0.00648*	0.00659*	0.00690*
	(1.619)	(1.661)	(1.675)	(1.704)	(1.785)
$Inst.\ Own._{t}$	-0.000272	-0.000395*	-0.000496**	-0.000722***	-0.000909***
	(-1.146)	(-1.661)	(-2.085)	(-3.001)	(-3.647)
Constant	0.00179***	0.00156***	0.00145***	0.00146***	0.00143***
	(14.18)	(11.76)	(10.77)	(10.63)	(10.02)
Observations	523,264	523,264	523,264	523,264	523,264
R-squared	0.695	0.695	0.695	0.695	0.695

Appendix: Table A.1 – Holdings of Large Asset Managers and Scholes-Williams Variables: This table presents Ordinary Least Squares (OLS) regression results. The dependent variables are the Scholes-Williams SRatio, ratio of total volatility to idiosyncratic volatility, and the Scholes-Williams Beta, computed using daily stock returns and daily risk factors during quarter t+1. The key independent variables are the holdings of the top one, two, three, five, and ten largest institutional investors, measured during quarter t. The sample period is 1980-2014, and t-statistics based on standard errors clustered at the stock level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
	Scholes-Williams SRatio $_{t+1}$					Fama-French R^2_{t+1}				
Holdings – Top 1	0.195***					0.286***				
	(15.87)					(21.39)				
Holdings – Top 2		0.189***					0.257***			
		(19.73)					(26.79)			
Holdings – Top 3			0.212***					0.268***		
			(24.02)					(30.03)		
Holdings – Top 5				0.186***					0.236***	
				(23.89)					(30.87)	
Holdings – Top 10					0.129***					0.166***
					(22.30)					(28.79)
S-W Ratio $_t$	0.303***	0.303***	0.301***	0.300***	0.301***					
	(81.81)	(81.72)	(81.68)	(81.38)	(81.75)					
FF R^2_t						0.318***	0.317***	0.315***	0.315***	0.316***
						(100.4)	(99.48)	(99.52)	(99.63)	(99.45)
Size $_{t-1}$	0.0193***	0.0190***	0.0187***	0.0182***	0.0182***	0.0244***	0.0240***	0.0237***	0.0232***	0.0232***
	(36.46)	(35.85)	(35.24)	(34.25)	(34.20)	(44.37)	(43.77)	(43.26)	(42.14)	(42.06)
B/M $_{t-1}$	-0.000365	-0.000506	-0.000543	-0.000646	-0.000477	-0.000648	-0.000818*	-0.000837*	-0.000951**	-0.000752
	(-0.876)	(-1.221)	(-1.319)	(-1.571)	(-1.157)	(-1.392)	(-1.767)	(-1.817)	(-2.070)	(-1.629)
Momentum	0.000841**	0.000941***	0.00105***	0.00122***	0.00134***	0.00159***	0.00172***	0.00185***	0.00205***	0.00217***
	(2.523)	(2.827)	(3.153)	(3.640)	(4.008)	(4.156)	(4.524)	(4.867)	(5.370)	(5.671)
1/Price $_t$	-0.00339***	-0.00326***	-0.00313***	-0.00319***	-0.00328***	-0.00236***	-0.00220***	-0.00206***	-0.00213***	-0.00224***
	(-6.401)	(-6.203)	(-6.003)	(-6.140)	(-6.302)	(-3.792)	(-3.559)	(-3.347)	(-3.469)	(-3.649)
Amihud $_t$	0.00520***	0.00515***	0.00518***	0.00482***	0.00468***	-0.00468***	-0.00475***	-0.00472***	-0.00514***	-0.00527***
	(9.029)	(9.034)	(9.167)	(8.595)	(8.294)	(-6.933)	(-7.109)	(-7.118)	(-7.770)	(-7.921)
Spread $_t$	0.109***	0.105***	0.102***	0.101***	0.102***	0.132***	0.128***	0.124***	0.123***	0.124***
	(16.90)	(16.75)	(16.56)	(16.50)	(16.68)	(17.11)	(16.97)	(16.75)	(16.67)	(16.84)
CRSP Weight $_t$	4.575***	4.572***	4.575***	4.466***	4.487***	1.934*	1.931*	1.930*	1.801	1.834
	(2.688)	(2.677)	(2.669)	(2.618)	(2.652)	(1.723)	(1.717)	(1.691)	(1.584)	(1.634)
Breadth $_t$	0.274***	0.274***	0.277***	0.285***	0.293***	0.782***	0.782***	0.787***	0.796***	0.804***
	(6.694)	(6.671)	(6.726)	(6.866)	(7.067)	(17.74)	(17.64)	(17.65)	(17.72)	(17.88)
Inst. Own.$_t$	0.0162***	0.0113***	0.00681***	0.00358*	0.00109	0.0387***	0.0335***	0.0296***	0.0260***	0.0239***
	(7.884)	(5.443)	(3.250)	(1.698)	(0.492)	(17.29)	(14.82)	(13.04)	(11.38)	(10.10)
Constant	-5.57e-09***	-5.57e-09***	-5.59e-09***	-5.57e-09***	-5.62e-09***	-6.09e-10***	-4.91e-10***	-5.57e-10***	-5.95e-10***	-6.60e-10***
	(-375.7)	(-415.8)	(-415.8)	(-409.0)	(-437.1)	(-148.4)	(-82.67)	(-122.8)	(-144.7)	(-139.7)
Observations	537,644	537,644	537,644	537,644	537,644	537,330	537,330	537,330	537,330	537,330
R-squared	0.407	0.408	0.408	0.409	0.408	0.530	0.530	0.531	0.531	0.531

Table A.2 – Trades of Large Asset Managers and Scholes-Williams Variables: This table presents Ordinary Least Squares (OLS) regression results. The dependent variables are the Scholes-Williams SRatio, ratio of total volatility to idiosyncratic volatility, and the Scholes-Williams Beta, computed using daily returns and daily risk factors in quarter t+1. The key independent variables are the trades of the top one, two, three, five, and ten largest institutional investors, computed in quarter t. The sample period is 1980-2014, and t-statistics based on standard errors clustered at the stock level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Scholes-Williams SRatio $_{t+1}$					Scholes-Williams Beta $_{t+1}$				
Trades – Top 1	0.191***					1.100***				
	(9.423)					(6.136)				
Trades – Top 2		0.137***					1.305***			
		(8.516)					(9.879)			
Trades – Top 3			0.135***					1.316***		
			(9.312)					(10.61)		
Trades – Top 5				0.112***					1.000***	
				(8.630)					(9.847)	
Trades – Top 10					0.0694***					0.597***
					(7.084)					(7.912)
S-W Ratio $_{t}$	0.304***	0.304***	0.304***	0.304***	0.304***					
	(81.95)	(81.92)	(81.93)	(81.92)	(81.86)					
S-W Beta $_{t}$						0.0852***	0.0852***	0.0852***	0.0852***	0.0852***
						(35.05)	(35.05)	(35.05)	(35.05)	(35.04)
Size $_{t-1}$	0.0202***	0.0202***	0.0201***	0.0201***	0.0201***	0.0904***	0.0901***	0.0901***	0.0900***	0.0899***
	(37.08)	(37.03)	(37.02)	(37.00)	(36.97)	(19.31)	(19.28)	(19.27)	(19.25)	(19.23)
B/M $_{t-1}$	-0.000146	-0.000149	-0.000149	-0.000153	-0.000136	0.0172***	0.0171***	0.0171***	0.0171***	0.0172***
	(-0.339)	(-0.347)	(-0.347)	(-0.355)	(-0.317)	(3.190)	(3.179)	(3.179)	(3.174)	(3.201)
Momentum	0.000739**	0.000742**	0.000732**	0.000713**	0.000701**	0.102***	0.102***	0.102***	0.102***	0.102***
	(2.147)	(2.153)	(2.125)	(2.067)	(2.034)	(20.81)	(20.79)	(20.77)	(20.73)	(20.72)
1/Price $_{t}$	-0.00340***	-0.00339***	-0.00338***	-0.00339***	-0.00343***	0.0823***	0.0826***	0.0827***	0.0825***	0.0822***
	(-6.070)	(-6.040)	(-6.030)	(-6.047)	(-6.121)	(7.398)	(7.425)	(7.431)	(7.420)	(7.385)
Amihud $_{t}$	0.00374***	0.00373***	0.00374***	0.00373***	0.00368***	-0.177***	-0.177***	-0.177***	-0.177***	-0.177***
	(6.019)	(6.011)	(6.028)	(6.003)	(5.928)	(-19.67)	(-19.66)	(-19.64)	(-19.66)	(-19.70)
Spread $_{t}$	0.126***	0.126***	0.126***	0.126***	0.127***	0.0592	0.0582	0.0578	0.0583	0.0602
	(17.21)	(17.22)	(17.21)	(17.21)	(17.23)	(0.561)	(0.552)	(0.548)	(0.553)	(0.570)
CRSP Weight $_{t}$	4.389***	4.403***	4.406***	4.407***	4.405***	-46.55***	-46.44***	-46.40***	-46.40***	-46.43***
	(2.610)	(2.616)	(2.617)	(2.618)	(2.618)	(-6.781)	(-6.772)	(-6.765)	(-6.764)	(-6.764)
Breadth $_{t}$	0.245***	0.243***	0.240***	0.241***	0.250***	3.780***	3.733***	3.701***	3.726***	3.808***
	(5.537)	(5.482)	(5.408)	(5.441)	(5.648)	(11.32)	(11.12)	(11.02)	(11.11)	(11.34)
Inst. Own.$_{t}$	0.0217***	0.0218***	0.0218***	0.0217***	0.0218***	0.136***	0.136***	0.136***	0.136***	0.136***
	(9.997)	(10.02)	(10.02)	(10.00)	(10.02)	(7.684)	(7.698)	(7.697)	(7.675)	(7.694)
Inst. Own. Trades $_{t}$	0.00429	0.00241	0.00107	-0.000205	-0.00152	0.265***	0.228***	0.214***	0.209***	0.201***
	(1.257)	(0.700)	(0.311)	(-0.0588)	(-0.422)	(8.907)	(7.613)	(7.125)	(6.882)	(6.315)
Observations	523,453	523,453	523,453	523,453	523,453	523,169	523,169	523,169	523,169	523,169
R-squared	0.407	0.407	0.407	0.407	0.407	0.199	0.199	0.199	0.199	0.199

Table A.3 – Trades of Large Asset Managers and Fama-French Variables: This table presents Ordinary Least Squares (OLS) regression results. The dependent variables are the Fama-French SRatio, ratio of total volatility to idiosyncratic volatility, and the Fama-French R^2, computed using daily returns and risk factors in quarter t+1. The key independent variables are the trades of the top one, two, three, five, and ten largest institutional investors, measured in quarter t. The sample period is 1980-2014, and t-statistics based on standard errors clustered at the stock level are in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Fama-French R^2_{t+1}					Fama-French SRatio $_{t+1}$				
Trades – Top 1	0.279***					0.244***				
	(12.81)					(10.38)				
Trades – Top 2		0.221***					0.190***			
		(13.43)					(10.13)			
Trades – Top 3			0.229***					0.191***		
			(15.35)					(11.30)		
Trades – Top 5				0.200***					0.158***	
				(15.65)					(10.56)	
Trades – Top 10					0.116***					0.0858***
					(12.10)					(7.766)
FF R^2_t	0.321***	0.321***	0.321***	0.320***	0.320***					
	(99.04)	(99.03)	(99.03)	(99.01)	(98.93)					
FF Ratio $_t$						0.363***	0.363***	0.363***	0.363***	0.363***
						(93.07)	(93.05)	(93.06)	(93.04)	(92.98)
Size $_{t-1}$	0.0251***	0.0250***	0.0250***	0.0250***	0.0250***	0.0229***	0.0229***	0.0229***	0.0228***	0.0228***
	(44.75)	(44.69)	(44.66)	(44.63)	(44.59)	(35.01)	(34.96)	(34.94)	(34.92)	(34.90)
B/M $_{t-1}$	-0.000544	-0.000551	-0.000551	-0.000559	-0.000530	0.000819	0.000814	0.000814	0.000809	0.000831
	(-1.138)	(-1.152)	(-1.155)	(-1.170)	(-1.109)	(1.568)	(1.558)	(1.558)	(1.549)	(1.591)
Momentum	0.00160***	0.00160***	0.00158***	0.00154***	0.00153***	0.00115***	0.00115***	0.00113***	0.00110***	0.00110***
	(4.081)	(4.073)	(4.023)	(3.924)	(3.899)	(2.828)	(2.825)	(2.789)	(2.721)	(2.716)
1/Price $_t$	-0.00234***	-0.00231***	-0.00230***	-0.00231***	-0.00239***	-0.00301***	-0.00298***	-0.00297***	-0.00299***	-0.00305***
	(-3.571)	(-3.522)	(-3.501)	(-3.518)	(-3.635)	(-4.549)	(-4.508)	(-4.494)	(-4.515)	(-4.609)
Amihud $_t$	-0.00694***	-0.00694***	-0.00692***	-0.00694***	-0.00702***	-0.00201***	-0.00201***	-0.00200***	-0.00202***	-0.00208***
	(-9.588)	(-9.593)	(-9.566)	(-9.601)	(-9.699)	(-2.611)	(-2.614)	(-2.595)	(-2.625)	(-2.701)
Spread $_t$	0.147***	0.147***	0.147***	0.147***	0.147***	0.168***	0.168***	0.168***	0.168***	0.168***
	(17.33)	(17.34)	(17.33)	(17.33)	(17.35)	(17.50)	(17.51)	(17.51)	(17.50)	(17.52)
CRSP Weight $_t$	1.792	1.813	1.820	1.824*	1.818	5.113***	5.131***	5.136***	5.138***	5.133***
	(1.622)	(1.640)	(1.643)	(1.646)	(1.643)	(2.766)	(2.774)	(2.775)	(2.776)	(2.776)
Breadth $_t$	0.765***	0.760***	0.755***	0.756***	0.773***	0.399***	0.396***	0.391***	0.394***	0.407***
	(16.40)	(16.22)	(16.07)	(16.09)	(16.45)	(7.409)	(7.326)	(7.236)	(7.276)	(7.522)
Inst. Own.$_t$	0.0471***	0.0471***	0.0471***	0.0470***	0.0471***	0.0372***	0.0373***	0.0373***	0.0372***	0.0373***
	(20.16)	(20.20)	(20.19)	(20.17)	(20.19)	(14.22)	(14.25)	(14.24)	(14.23)	(14.24)
Inst. Own. Trades $_t$	-0.00288	-0.00671*	-0.00947***	-0.0125***	-0.0136***	0.000900	-0.00229	-0.00427	-0.00607	-0.00609
	(-0.826)	(-1.904)	(-2.670)	(-3.513)	(-3.682)	(0.228)	(-0.577)	(-1.071)	(-1.511)	(-1.467)
Observations	523,170	523,170	523,170	523,170	523,170	523,170	523,170	523,170	523,170	523,170
R-squared	0.529	0.529	0.530	0.530	0.529	0.470	0.470	0.470	0.470	0.470