Financial Conglomerate Affiliated Hedge Funds: Risk Taking Behavior and Liquidity Transformation*

Francesco Franzoni
USI Lugano and the Swiss Finance Institute
francesco.franzoni@usi.ch

Mariassunta Giannetti
Stockholm School of Economics, CEPR, and ECGI
mariassunta.giannetti@hhs.se

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We show that financial-conglomerate-affiliated hedge funds (FCAHFs) have more stable funding and lower flow-performance sensitivity than other funds even though they are less likely to impose impediments on withdrawals. Arguably due to their privileged access to funding, during periods of financial turmoil, FCAHFs are able to take more risk and to purchase less liquid and more volatile stocks than other hedge funds. During good times, instead, FCAHFs expand their assets less than other funds and are less exposed to systematic risk factors. Thus, FCAHFs appear to perform a stabilizing function for the financial system even though they do not generate higher returns for their investors.

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A new wave of financial regulation following the global financial crisis aims to curtail proprietary trading by systemically important financial institutions. For instance, in the U.S., the Volcker Rule prohibits "banking entities from engaging in proprietary trading and from acquiring or retaining any equity, partnership, or other ownership interest in or sponsoring a hedge fund or a private equity fund".[1] The Liikanen Report and the Vickers Report advice similar or even tougher initiatives in the EU and in the UK, respectively. As a consequence, hedge funds that are sponsored by financial conglomerates (i.e., financial-conglomerate-affiliated hedge funds, henceforth FCAHFs) could cease to exist, even if they are funded mostly using other investors' capital.

The rationale of these regulations is limiting risk taking by financial conglomerates that are systemically important and directly or indirectly benefit from public guarantees. Current regulations, however, could have unintended consequences on financial markets not least because, on the aggregate, hedge funds are known to exercise a stabilizing function on financial markets (e.g., Aragon and Strahan, 2012, Jylha, Rinne, and Suominen, 2014, Cao, Chen, Goetzmann and Liang, 2015). While on average hedge funds' ability to contribute to price formation may be impaired in periods of market turmoil (Ben-David, Franzoni, Moussawi, 2012, Jylha, Rinne, and Suominen, 2014, Cao, Liang, Lo, and Petrasek, 2014), during these periods, FCAHFs could be

[1] The Volcker Rule refers to § 619 (12 U.S.C. § 1851) of the Dodd–Frank Wall Street Reform and Consumer Protection Act. On December 10, 2013, the necessary agencies approved regulations implementing the rule, which were scheduled to go into effect April 1, 2014. On January 14, 2014, after a lawsuit by community banks over provisions concerning specialized securities, revised final regulations were adopted. On December 18, 2014, the Federal Reserve extended the Volcker Rule's conformance period for "legacy covered funds" (i.e. hedge funds and private equity funds) until July 21, 2016, and indicated it would likely extend the period further to July 21, 2017. The extension to 2016 is the second of three possible one-year extensions the Federal Reserve may issue under the Dodd-Frank Act.

better at performing this function than other hedge funds thanks to their funding characteristics.

Surprisingly, there is no evidence on how affiliation to financial conglomerates affects hedge fund advisors' structures, incentives, and strategies. Exploring these effects is even more crucial before the implementation of regulations that could impair the existence of investment funds associated with financial conglomerates.

This paper attempts to make a first step in this direction. We conjecture that FCAHFs, benefitting from the reputation and visibility of the financial conglomerate, are likely to be among the asset managers that Gennaioli, Shleifer and Vishny (2015) identify as enjoying more trust. FCAHFs are also likely to receive stable funding from other subsidiaries of the group and may attract clienteles of investors, such as wealthy individuals , who are less likely to chase performance. Not only do these factors directly lead to significantly less redemptions from FCAHFs during periods of financial turmoil or following weak performance, but they can also exert an indirect retention effect on the funds' other clients. In particular, Chen, Goldstein and Jiang (2010) and Goldstein, Jiang and Ng (2015) highlight that there exist strategic complementarities in investors' redemption decisions. For this reason, the investors in FCAHFs may be less prone to engage in runs on the funds' assets.

Less volatile funding and more established reputation may in turn affect asset managers in various ways. As Stein (2005) highlights, a lower sensitivity of flows to performance is expected to affect fund managers' strategies and may make asset managers more inclined to provide liquidity especially if this implies taking a long-term view on investment. However, the benefits of a lower sensitivity of flows to performance may come at a cost, as redemptions play the beneficial roles of disciplining fund managers and reallocating capital from low to high ability fund managers (Fama

and Jensen, 1983). These costs may be accentuated in FCAHFs, which in bad times may be tempted to purchase risky assets from other subsidiaries of the financial conglomerate in need for liquidity, similar to the behavior of affiliated funds of mutual funds (Battacharya, Lee, and Pool, 2013).

To investigate these issues, we start by assembling a novel dataset of hedge fund ownership, mostly hand-collected from regulatory filings. This dataset allows us to construct a measure of financial conglomerate affiliation. We then show that FCAHFs have access to more stable funding and explore how this affects the nature of the services that FCAHFs are able to offer to their investors and the way they operate in the market.

We start by showing that FCAHFs experience fewer redemptions during periods of financial turmoil. Furthermore, their flows are less sensitive to performance, especially following low returns. FCAHFs also appear able to offer investors different contracts. We find that FCAHFs impose less redemption restrictions, have a larger number of investors, and a higher dispersion of their assets across different investor classes. These features may also reflect FCAHFs easier access to funding. Large investors are expected to internalize the negative effects of their redemption decisions on the profitability of a fund's strategy and to be less inclined to redeem (Chen, Goldstein and Jiang, 2014). Thus, funds facing a high risk of redemptions following small deterioration in firms' performance may try to reduce redemption risk by attracting few large investors. Together with the findings on the flow-performance sensitivity, these facts suggest that FCAHFs do not need to impose redemption restrictions or rely on few large investors to obtain stable funding. FCAHFs therefore appear to be able to offer their investors liquidity transformation services.

We then explore FCAHFs strategies and risk taking. Hanson, Shleifer, Stein and Vishny (2015) argue that a stable funding structure is an important source of comparative advantage for holding assets that are vulnerable to transitory price movements. Having more stable funding, FCAHFs are likely to suffer lower liquidation costs. Hence, they can provide liquidity in periods of market turmoil. Their returns also appear to be more exposed to systematic risk factors and to experience larger reversal in quarters following high VIX periods suggesting that FCAHFs may be able to purchase undervalued assets during financial turmoil.

Possibly because they appear to grow less following good performance, FCAHFs are also less exposed to market risk than other funds during good times. Their behavior contrasts with that of banks, which in periods of large availability of funding expand credit (Shleifer and Vishny, 2010) and take more risk (Jimenez, Ongena, Peydro and Saurina, 2014) with the effect of fostering asset price bubbles (Allen and Gale, 2000). Thus, in this respect, FCAHFs do not appear to increase risk taking.

Not only are the benefits associated to FCAHFs' lower sensitivity of flows to performance fully consistent with the implications of Stein (2005), but also the costs. FCAHFs seems to provide their investors lower risk-adjusted returns even after controlling for their time-varying risk exposure suggesting they lack the disciplining role of redemptions. Thus, consistently with Gennaioli, Shliefer and Vishny (2015), these asset managers enjoy rents thanks to their investors' trust, but do not share any surplus as trust is not associated with higher returns for investors. Investors may also be willing to trade weak performance for lower redemption restrictions because share liquidity offers valuable option like payoffs (Ang and Bollen, 2010).

Because of this trade off, and because ours is the first empirical evidence regarding the effects of financial conglomerate affiliation for hedge funds' trading and

risk taking, we defer the optimal regulatory design and other broader issues to future research.

This paper belongs to a recent and growing literature exploring different aspects of financial conglomerates. Most existing literature explores conflicts of interest affecting mutual funds affiliated with financial conglomerates and shows that conglomerate affiliation affects negatively performance (e.g., Massa and Rehman, 2008; Bhattacharya, Lee and Pool, 2013; Golez and Marin, 2015; Ferreira, Matos, and Pires, 2015). On the other hand, conflicts of interest do not negatively affect the performance of institutional funds and hedge funds (Berzins, Liu, and Trzcinka, 2013).

More closely related to us, Kacperczyk and Schnabl (2013) show that money market funds that were part of financial conglomerates were less inclined to take risks during the global financial crisis, presumably because of reputational reasons. Abbassi, Iyer, Peydro, and Tous (2015) show that during the financial crisis, German banks with more trading expertise increased their investments in less liquid fixed income securities at the expense of credit. Fang, Ivashina and Lerner (2013) study how bank sponsored private equity deals differ from unaffiliated ones. To the best of our knowledge, we are the first to focus on the financing and trading of hedge funds belonging to financial conglomerates. The lower level of regulation and supervision to which hedge fund managers are subject in comparison to other asset managers allows them more contractual and trading freedom, thus potentially accentuating the benefits and costs of their affiliations to financial conglomerates.

Our paper also contributes to a growing literature exploring the characteristics of asset managers that favor liquidity provision and risk taking. For instance, Brunnermeier and Nagel (2004) and Griffin, Harris, Shu, and Topaloglu (2011) find that hedge funds were highly exposed to the IT bubble. A number of recent papers,

instead, show that hedge funds tend to provide liquidity and to be contrarian investors.[2] Our paper contributes to this literature by showing that hedge funds are heterogeneous and that the characteristics of their funding affect their strategies. By exploring the incentives associated with financial conglomerate affiliation, we complement earlier studies that have shown how hedge funds' share restrictions affect liquidity provision (Hombert and Thesmar, 2014) and long-term risky arbitrage (Giannetti and Kahraman, 2014).

1. Data and Sample

1.1 Identifying FCAHFs

The main data sources of this study are ADV regulatory filings that we merge with the union of three commercial datasets, as described below.

The Investment Advisers Act requires all advisers with more than $25 million in assets under management in the U.S. and with 15 or more U.S. clients to register and file ADV forms with the Securities and Exchange Commission (SEC) or with state securities authorities if they manage less than $100 million. The Act defines an investment adviser as any entity that receives compensation for managing securities portfolios or providing advice regarding individual securities. Thus, firms advising mutual funds, institutional investment funds, and hedge funds in the U.S. use ADV filings to register. The ADV forms are filed once a year or whenever material changes occur to the information provided with the last filing.

[2] See Grinblatt, Jostova, Petrasek and Philipov (2016), Akbas, Armstrong, Sorescu, Subrahmanyam (2014), Cao, Chen, Goetzmann, and Lian (2013), Kokkonen and Suominen (2014) and Jylha, Rinne and Suominen (2014).

Using the Freedom of Information Act, we obtain historical information on ADV filings from the SEC starting from 2000 through the end of 2013. The ADV filings disclose information about the investment advisors' operations, conflicts of interest, disciplinary histories, and other material facts. Several prior studies use ADV filings to explore different aspects of hedge funds' behavior (Dimmock and Gerken, 2012 and 2015; Brown, Goetzmann, Liang, and Schwarz, 2008).

Crucially for our purposes, Item 7 of the ADV Form requests investment advisers to report information on their financial industry affiliations and activities. The funds have to report whether any subsidiary or any other entity which is under common control with the filing adviser provides financial, legal, or brokerage services. We define an investment adviser to be part of a financial conglomerate if the investment adviser declares to be related to a banking or thrift institution, to an insurance company or agency, or to a broker dealer.

We identify hedge funds using three commonly used commercial datasets, Lipper Tass, CISDM/Morningstar, and Hedge Fund Research, from which we also obtain information on hedge funds' characteristics including returns, assets under management, and other contractual characteristics.

As Agarwal, Fos and Jiang (2013) describe, the three commercial datasets we use provide information on largely different subsets of hedge funds. Following the procedure described in Joenväärä, Kosowski, and Tolonen (2014), we manually merge the databases by management company name. Then, we exclude multiple share classes for the same management company. We end up with a sample of 21,892 distinct funds over the period between 1994 and 2013.

Next, we merge the information from the union of the three dataset with the ADV filings using the management company names. Out of the 8717 firms in our

sample, we are able to find a match in the ADV filings for 2258 firms (about 26%), which manage 5693 distinct funds over the period 2000-2013. In our merged sample, there are 1929 (about 34%) financial-conglomerate-affiliated hedge funds.

1.2 Sample Representativeness

One may wonder to what extent our sample is representative of the general hedge fund universe. The main concern arises from the fact that up to the introduction of Rule IA-2333 in February 2005, hedge fund advisers could count their private funds as clients, effectively creating an exemption from registration. Rule IA-2333, removed this exemption, leading to the requirement of registration for hedge fund advisors.[3] Following a lawsuit, this rule was revoked and the exemption from registration became effective again. Dimmock and Gerken (2015), however, show that about 70% of the hedge fund advisors in their sample that had registered following the introduction of Rule IA-2333 remained registered after its repeal, arguably because they had already born the fixed cost of registration and their investors had adjusted their expectations.

With the amendments to the Advisers Act introduced by the Dodd-Frank Act, the exemption for hedge fund advisors from registration has fallen once again, effective September 2011. In the current regulatory environment, U.S. hedge fund advisors with more than $150 million under management need to register with the SEC. An exemption from registration survives for foreign hedge fund advisors that have fewer than 15 U.S. clients and less than $25 millions of U.S. assets under management.

[3] The SEC reports that a majority of hedge fund advisors was already registered before the introduction of Rule IA-2333, possibly because they were also managing mutual funds, advising 15 or more funds, or voluntarily forgoing the exemption. See: http://www.sec.gov/news/testimony/ts051606sfw.htm.

These changes in regulation clearly cause large oscillations in the number of reporting funds with the sample of reporting hedge funds been highly representative in 2006 and 2011.

To improve the coverage of our sample we assume any hedge fund that was affiliated with a financial conglomerate in 2006 to be still affiliated with a financial conglomerate in the following years if the fund status did not change between 2006 and 2011 or if the fund does not appear in the ADV filings again. We also backward impute the financial conglomerate status for hedge funds that only appear in a later part of the ADV sample. Overall, we fill approximately 36% of the observations.

To evaluate whether filling missing ADV observations introduces any biases we perform two types of checks. First, we consider funds that report both in 2006 and 2011 and explore what proportion of them changes status. We find that this is the case for less than 2% of the hedge funds suggesting that our procedure of attributing missing status to hedge funds that report only in a few years should not introduce big biases. Second, we perform all of our tests in an alternative sample in which we abstain from backward imputation of the financial-conglomerate status. The results we report hereafter are qualitatively unchanged further indicating that our procedure of constructing the panel of hedge funds and their financial conglomerate affiliations does not introduce large biases.

One may also wonder whether the sample of hedge funds reporting to the commercial dataset that we are able to merge with ADV forms is selected. To evaluate the extent of selection problems, Table 1 compares the main characteristics of the funds in the merged commercial datasets and in the final dataset for which we are able to find a match with the ADV filings. We consider unmatched onshore hedge funds because

our sample based on U.S. regulatory filings can be representative only of funds active in the U.S. market.

Unsurprisingly, given the minimum threshold on assets for mandatory registration, the hedge funds that we are able to match with ADV filings are somewhat larger. This finding suggests that we should control for size in our regressions. While there are some statistical differences in returns or in fees, these are not necessarily economically significant. The most remarkable difference is that our dataset has relatively more funds of funds than the union of commercial datasets. Hence, style controls are also included in our regressions.

1.3 Hedge Fund Trading

We perform tests on two other samples, which allow us to explore hedge funds' trading and liquidity provision at different frequencies. First, we merge our main dataset with stockholdings from Thomson Financial 13F. Since Thomson Financial 13F and the hedge funds' databases provide no common identifiers allowing us to match the hedge funds to their management companies, we merge by management company name as is common in the literature (e.g., Agarwal, Fos, and Jiang, 2013). Thomson Financial 13F provides the shareholdings of management companies. In case of financial conglomerates, this may include holdings of different subsidiaries. Differently from previous literature, we do not include only "pure-play" hedge funds, as this would imply the exclusion of financial-conglomerate-affiliated hedge funds. We are able to match 401 management companies to our sample resulting from the intersection of ADV filings and the commercial databases. We use this dataset to explore how different types of hedge funds rebalance their holdings in stocks with different characteristics during periods of market turmoil.

We also perform tests on a second sample obtained by merging our main dataset with the ANcerno database by management company name. Abel Noser Solutions Ltd., provider of the ANcerno data, is a consulting firm that works with institutional investors to monitor their equity trading costs. The ANcerno data contain trade-level information for individual funds. However, the only recognizable identifier is at the management company level (see, e.g., Jame, 2015, and Franzoni and Plazzi, 2015), which is therefore the chosen level of aggregation. We are able to identify 184 hedge fund management companies matching to the intersection of the ADV filings and the commercial hedge fund databases. ANcerno does not provide the funds' holdings, but only the trades. For this reason, similarly to Anand, Irvine, Puckett and Venkataraman (2013), we focus on institutional investors' cross-sectional differences in trading costs over time. We measure trading costs over a quarter using the average execution shortfall. Average execution shortfall is measured for buy orders as the execution price minus the market open price on the day of order placement divided by the market open price (for sell orders, we multiply by -1). As in Anand, Irvine, Puckett and Venkataraman (2013), we consider a negative execution shortfall a proxy for liquidity provision.

2. Characteristics of FCAHFs

FCAHFs are a sizeable part of the hedge fund industry. During our sample period, we always classify at least 30% of our sample hedge funds as FCAHFs. Among these, 14% are affiliated with a bank, 7% with an insurance company and the remaining

with broker dealers.[4] As shown in Figure 1, the proportion of FCAHFs has been increasing over time, even though it decreases in 2010, possibly in anticipation of regulations after the financial crisis. In the aggregate, FCAHFs in our sample always control at least 40% of the hedge fund industry assets under management, indicating that FCAHFs are larger than other funds.

Figure 2 shows the proportion of the hedge funds' TNA managed by FCAHFs. Similarly to what Fang, Ivashina, and Lerner (2013) find for banks' investment in private equity, it appears that the proportion of assets managed by FCAHFs increased in the heyday of easy credit, when presumably banks increased their investments in hedge funds.

Panel B of Table 1 compares other salient characteristics of FCAHFs and other hedge funds in our sample. FCAHFs are larger and belong to larger families. These characteristics are often associated with asset managers' reputation. It is thus an empirical question whether investors consider FCAHFs to be more trustworthy than other large funds or funds belonging to large families.

Surprisingly, while they have the same average leverage (variable *Leverage*) as other funds, FCAHFs have lower propensity to use leverage than other funds (variable *Leveraged*). A larger proportion of FCAHFs are funds of funds. Finally, Panel C of Table 1 presents the descriptive statistics for our sample. Variable definitions are in Appendix Table A1.

A question arising from the comparison of hedge funds' characteristics in Panel B of Table 1 is whether affiliation to a financial conglomerate is a salient characteristic

[4] Results are qualitatively similar using different definitions of financial conglomerate affiliation.

that affects hedge funds' contractual features and strategies beyond their style, size, and family characteristics.

Table 2 describes some features of FCAHFs controlling for the fund's age, family size, and style. We also control for fund size (with the exception of the model in which we consider differences in fund size). In Panel A, FCAHFs appear to be larger than other funds (column 1) and have more clients even after controlling for their size (column 2). Unsurprisingly, FCAHFs attract a larger percentage of assets from banks and insurance companies (column 3). These assets presumably belong to the financial conglomerate. The average of the percentage of assets from banks and insurances companies is slightly above 7% for FCAHFs and can be considered an upper bound on the capital invested by the financial conglomerate in the hedge fund. The average of this variable is only 2% for non-FCAHFs, as we would expect.

Notwithstanding the larger percentage of assets from banks and insurance companies, FCAHFs have a lower concentration of their assets across different investor types, as captured by the Herfindahl index (column 4). Finally, arguably because of their larger size, FCAHFs can afford to charge lower management and incentive fees to their clients than other hedge funds (columns 5 and 6).

Panel B of Table 2 describes some salient features of the performance of the hedge funds in our sample. It appears that there is no statistically significant difference between FCAHFs and other funds in terms of: Beta on the market factor, Negative Beta (i.e. the co-movement with negative realizations of the market factor), Skewness, Maximum Draw Down (MaxDD), and R-squared on the eight Fung and Hsieh (2004) factors. FCAHF's skewness is more negative, although not significantly so.

3. Financial Conglomerate Affiliation and Access to Funding

Financial intermediaries' ability to provide liquidity in financial markets during periods of market turmoil is often impaired by investors' redemptions (Shleifer and Vishny, 1997).

In this section, we explore whether FCAHFs enjoy a special status in financial markets and experience less redemptions during these periods. These funds may be special for several reasons. They may invest the capital of the financial conglomerate and its subsidiaries, which is naturally less volatile. In addition, they may be considered more trustworthy by investors, thanks to the reputation of the financial conglomerate they are affiliated with. Investors may also be less inclined to redeem if they expect the capital coming from within the financial conglomerate not to be withdrawn. Thus, runs on the financial intermediaries arising from the payoff complementarities of the fund investors may be less likely to arise (Chen, Goldstein and Jiang, 2014). All these elements should contribute to making these funds less financially fragile.

We perform two types of tests to evaluate the validity of this conjecture. First, we test whether during periods of market turmoil FCAHFs experience lower redemptions, holding constant other characteristics of the funds that may lead to similar outcomes. Second, we estimate whether flows are less sensitive to performance for FCAHFs, indicating that they have access to more stable funding. For both these tests, we use quarterly data, given that redemption restrictions, typically present in hedge funds, constrain investors' ability to withdraw their funds at higher frequencies.

As is common in the literature, quarterly net flows are computed as the change in assets under management relative to the prior quarter minus the dollar return on prior quarter assets, divided by prior quarter assets:

$$flow_{j,t} = \frac{\left[TNA_{j,t} - TNA_{j,t-1} \times (1 + R_{j,t})\right]}{TNA_{j,t-1}},$$

where $TNA_{j,t}$ is the total net assets under management in quarter *t* for fund , and $R_{j,t}$ is fund *j*'s quarterly return, which is obtained from compounding the fund's monthly returns.

We capture periods of market turmoil using the VIX index, a measure of implied volatility in S&P500 index options. The VIX index is often referred to as the "fear gauge index" (Whaley, 2000) and is commonly used in the literature to identify periods of market stress and high aggregate market volatility (see, for instance, Adrian and Shin, 2010; Ben-Rephael, Kandel, and Wohl, 2012; Nagel, 2012; Cella, Ellul, and Giannetti, 2013). We define high VIX periods as quarters during which the average VIX index exceeds the 75th percentile of its distribution. This allows us to concentrate on periods of extreme aggregate market volatility, such as the recent financial crisis.

We test whether quarterly net flows are larger during these periods for hedge funds affiliated with financial conglomerates. In all specifications, we control for fund size, age, the logarithm of redemption restrictions, and the fund's performance, captured by the fund's fractional ranking in the cross-sectional distribution of the funds' returns. We also include style and time fixed effects. Standard errors are clustered at the quarter level.

Table 3 shows that FCAHFs indeed experience less withdrawals in periods of financial turmoil. In column 1, FCAHFs grow less than other funds, which may be due to their already larger size. FCAHFs having access to the conglomerate sales channels may reach faster their optimal size and for this reason they may appear to receive less flows on average. However, in periods of high VIX, the quarterly flows of FCAHFs

experience smaller drops (by 0.9%). This is a large number considering that the average hedge fund has flows equal to the 3.6% of assets in an average quarter.

Moreover, large funds and funds belonging to large families may benefit from a reputational advantage in attracting flows. We find however that differently from FCAHFs, they become less, not more able to attract flows in periods of high VIX (columns 2 and 3). In column 4, also share restrictions appear ineffective during periods of high VIX, confirming the findings in Ben David, Franzoni and Moussawi (2012).

Thus, these results suggest that FCAHFs have an edge during periods of market turmoil. This edge does not appear to be driven exclusively by investments within the financial conglomerate, which we proxy in column 5 using the percentage of assets invested by banks and insurance companies in the fund. This result suggests that FCAHFs' investors are less likely to run on the fund assets in periods of high VIX.

Being part of a financial conglomerate could lead to lower redemptions only during periods of high VIX, when financial conglomerates' less volatile funding and potential loans in case of distress may reduce the strategic complementarities between investors and avoid runs on the intermediaries. Alternatively, it could always translate into a lower flow-performance sensitivity.

To test this conjecture, we adapt the model of Sirri and Tufano (1998). In particular, we regress the fund's quarterly flows on its raw return percentile ranking relative to other funds. A higher value of the fund's fractional rank here means better performance.

In Panel A of Table 4, we estimate the flow-performance relation unconditionally. As expected, in column 1, a higher fractional rank leads to larger flows. Column 2 shows that this relation is weaker for FCAHFs. In column 3, we distinguish the effect of flows on performance for funds in the bottom, middle, and top

terciles because performance may matter most for bottom and top performing funds. Importantly, in column 4, being part of a financial conglomerate appears to weaken the relation between flow and performance, especially for bottom-performing hedge funds (FRANK1).

In Panel B of Table 4, we condition the flow-performance sensitivity on the realizations of the VIX and further control for variables that could affect this relation. The main result is that FCAHFs have a lower sensitivity of flows to poor performance during bad times, as proxied by periods of high VIX.

The other estimates in Panel B, Table 4, show that large funds, but not funds belonging to large families, seem to share with funds that are part of financial conglomerates a lower flow-performance sensitivity. Importantly, the lower flow-performance sensitivity of FCAHFs does not appear to be driven by other hedge funds' characteristics. The flow-performance sensitivity of FCAHFs remains lower even when we control for the effects of these other fund characteristics. Also, the top performing FCAHFs appear to attract lower flows as is consistent with their larger size and the interpretation that they reach optimal size faster than other funds thanks to the sale channels of the financial conglomerate.

Overall, FCAHFs appear to have more stable access to funding than other funds. As implied by the theories of Stein (2005) and Hanson, Shleifer, Stein and Vishny (2015), funding stability should have an influence on intermediaries' strategy and performance as well as on their structure. In what follows, we explore to what extent this is the case.

4. The Performance and Risk Taking of FCAHFs

We start exploring how the returns of FCAHFs compare with the returns of other hedge funds. In Table 5, the returns of FCAHFs are lower than those of other funds whether we consider raw returns (columns 1 and 2) or we risk-adjust returns using the market return (column 3) or the Fung and Hsieh (2004) eight factors (column 4). These effects do not appear to depend on fund or family size or other funds characteristics. As we show below, however, the lower alpha of FCAHFs is not necessarily driven by lower unconditional skill, but to a large extent by time-varying exposure to aggregate market risk.

Table 6 explores differences in return volatility, computed as the standard deviation of monthly returns on a twenty-four-month rolling window. It is evident that in periods of market turmoil, captured as before as months in which the VIX index is in the top quartile, FCAHFs have higher volatility of returns than other hedge funds. This suggests that when other market participants are less risk seeking, FCAHFs take more aggregate market risk (columns 2 to 3). In terms of magnitude, FCAHFs have higher volatility of about 9.4% of a standard deviation of the dependent variable in high VIX periods. On the contrary, FCAHFs' return volatility is significantly lower in normal times, in the specification with controls (column 3).

For robustness, we also define a proxy for strong market conditions, using the index of market sentiment of Baker and Wurgler (2006) and the measure of sentiment based on consumer surveys of the Michigan Survey Research Center (Lemmon and Portniaguina, 2006). We define strong market conditions as months in which the Baker and Wurgler (2006) and the Michigan Survey Center Index are in the top quartile.

Consistent with our earlier findings, the volatility of returns of FCAHFs is lower in periods of high sentiment, that is, when market conditions are strongest and other market participants are generally more inclined to take risk.

Similar conclusions emerge if we look at the funds' exposures to aggregate risk factors. Column 1 in Panel A of Table 7 shows that FCAHFs' returns appear to have higher exposure to aggregate market risk in high VIX periods. The contrary is true during periods of strong market sentiment. During these months, FCAHFs appear less exposed to systematic risk factors than other funds. In some specifications, unconditional differences in performance tend to become statistically insignificant, as evident from the slope on the financial-conglomerate dummy.

In Panel B and C, we control for differential exposure to a broader set of risk factors. In particular, in Panel B, we consider in addition to the market returns the Fama French factors, the momentum factor and the Pastor and Stambaugh (2003) liquidity factor. In Panel C, we include the eight Fung and Hsieh (2004) factors. In both instances, we continue to find that in periods of high VIX, FCAHFs are more exposed to aggregate market risk. The contrary is true in periods of high sentiment. In some cases, controlling for differential exposure, partly explains the unconditional differences in performance.

Overall, FCAHFs appear to have a countercyclical propensity to take on risk. This has beneficial effects on their returns in the months that follow periods of market turmoil. Table 8 shows that FCAHFs exhibit higher returns than other funds three to five months following periods of market turmoil suggesting that these funds are able to benefit from market rebounds. The effect is economically significant as, e.g., three months after a high-VIX period, the FCAHFs exhibit about 17 basis points higher monthly returns than other hedge funds (that is, about 2% higher annualized returns).

5. Trading Strategies and Liquidity Provision

It appears that a lower flow-performance sensitivity and better access to funding during periods of financial turmoil lead FCAHFs to have a more countercyclical exposure to risk than other funds.

To investigate the implication of more stable funding on trading strategies, we focus on the subsample of hedge funds that we were able to merge with Thomson Financial 13F. Panel A of Table 9 provides stock-level evidence that FCAHFs increase their exposure to high-volatility stocks during periods of market turmoil. Moreover, in high-VIX periods, FCAHFs purchase stocks that have been falling in value.

In Panel B, we study how the proportion of the stock held by FCAHFs varies as a function of stock-level liquidity, which we measure using the Amihud (2002) illiquidity ratio and the bid-ask spread (columns 1 and 4, respectively), in normal times and during periods of high VIX. Contrary to other hedge funds, FCAHFs increase the proportion of illiquid stocks that they hold during high VIX periods, while other funds decrease their holdings of illiquid stocks.

Thus, FCAHFs appear to provide liquidity during high VIX periods. Such conclusion is also supported by Table 10, which focuses on the funds' average price impact. FCAHFs have lower price impact than other hedge funds during high VIX periods when they trade in high volatility, low past return, and illiquid stocks. These findings suggest that FCAHFs provide liquidity in bad times, consistent with the evidence in Table 9.

These results confirm that FCAHFs are more inclined to take risk and to be liquidity suppliers than other funds and that this tendency is more accentuated in periods of financial turmoil.

6. Financial Conglomerate Affiliation and Contractual Characteristics

This section provides evidence that access to funding affects not only the strategies adopted by these funds, but also their contractual characteristics. Anticipating more stable funding, not only may FCAHFs be able to trade in a way that stabilizes financial markets, but they may also offer more liquidity to their investors. This feature is valuable for investors (Ang and Bollen, 2010) and, consequently, it improves the reputation of the fund family (Aiken, Clifford, and Ellis, 2015).

To decrease their flow-performance sensitivity, hedge funds often impose lockup periods during which new investors cannot recover their funds (Agarwal, Daniel, and Naik, 2009). Once the lock up period has expired, investors must often give the fund advance notice (e.g., one month) before redeeming. Investors may also be able to redeem only at fixed dates (e.g., every quarter), which denote the redemption frequency. These contractual impediments to withdrawals are collectively referred to as share restrictions.

Having lower flow-performance sensitivity, FCAHFs may be able to offer investors less restrictive contracts. The data support this conjecture. Table 11 shows that FCAHFs offer their investors strictly shorter lock up periods (column 1), shorter redemption notice periods (column 2), and higher redemption frequency (which we measure in column 3 using the average duration between redemption dates). Thus, FCAHFs offer their investors shares with significantly lower restrictions (column 4). The effects are also economically large. For instance in column 4, the financial conglomerate affiliation dummy explains one quarter of the standard deviation of the logarithm of total restrictions.

FCAHFs also seem to impose smaller minimum investment requirements to investors although the effect is not significant at conventional levels (column 5).

Overall, besides providing liquidity in financial markets, FCAHFs appear to offer more liquidity to their investors than other, unaffiliated, hedge funds.

7. Conclusion

Following the Volker Rule and similar regulations around the world, it has been argued that limiting proprietary trading by banking institutions could have unintended negative consequences on market making and liquidity in financial markets (Duffie, 2012). We highlight a so far neglected consequence. Severing the ties between financial conglomerates and hedge funds may curtail the counter-cyclical risk taking and the liquidity transformation function that financial-conglomerate-affiliated hedge funds (FCAHFs) seem to perform in financial markets.

We show that FCAHFs experience lower redemptions at times of financial turmoil and have lower sensitivity of flows to performance than other hedge funds. Thanks to their more stable funding, FCAHFs appear better able to provide liquidity and take on risk at times of crisis, performing a stabilizing function on the financial system.

FCAHFs are also able to reach more numerous investors suggesting that they broaden access to alternative investments. However, they provide investors lower net-of-fees risk-adjusted performance than other hedge funds. Finally, we show that FCAHFs impose lower restrictions to redemptions, giving higher liquidity to their investors. Hence, the benefits associated with the organizational structure of FCAHFs do not accrue to investors in terms of better performance, but rather in terms of the higher value of the liquidity option that they grant.

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Table 1
Descriptive Statistics

Panel A compares the mean of salient fund characteristics for the unmatched funds in the union dataset, our universe, and the funds in the union dataset matched with the ADV files. Panel B compares FCAHFs and other hedge funds in our sample. Panel C reports summary statistics on the variables that are used in the analysis. Variable definitions are provided in the Appendix Table A1.

Panel A: Characteristics of the ADV Matched Sample

	Matched		Unmatched	
	N	Mean	N	Mean
TNA (in Million)	257713	151	259839	82.1
Monthly Returns	382641	0.00318	369311	0.00343
Alpha (market adjusted)	286083	0.00127	242074	0.00121
Qflows	285975	0.0421	242416	0.0502
Fund Age (in months)	229776	68.3	212156	59.5
Share Restrictions (in days)	389969	197	384317	281
Management Fee	279672	1.46	189618	1.5
Incentive Fee	389969	15.5	384317	17.3
Minimum investment	389969	906867	384317	735633
Style:				
Equity Hedge	389969	0.348	384317	0.42
Event Driven	389969	0.0681	384317	0.0579
Fund of Funds	389969	0.276	384317	0.232
Macro	389969	0.114	384317	0.165
Relative Value	389969	0.0726	384317	0.0533

Panel B. FCAHFs and Other Hedge Funds

	FCAHFs		Other Hedge Funds	
	N	Mean	N	Mean
TNA (in Million)	14976	208	33449	166
Family Size	14976	11	33449	8.33
Age	14976	73.5	33449	75.9
Leveraged	14976	0.517	33449	0.592
Leverage	10795	49.8	27595	49
Equity Hedge	14976	0.301	33449	0.405
Event Driven	14976	0.0729	33449	0.0961
Fund of Funds	14976	0.336	33449	0.193
Macro	14976	0.118	33449	0.139
Relative Value	14976	0.103	33449	0.0984

Panel C: Summary Statistics

	N	Mean	Std Dev	Min	p25	Median	p75	Max
Fin Cong	48,425	0.31	0.46	0	0	0	1	1
Log Size	48,425	14.7	6.17	-2.98	13.9	17.3	18.7	24
Age	48,425	75.2	56.4	7	32	60	105	361
Quarterly Return	48,425	0.01	0.05	-0.28	0	0	0.04	0.41
Quarterly Flows	48,425	0.03	0.18	-0.46	-0.04	0	0.07	1.11
Restrictions	48,425	230	222	1	60	120	450	1170
% Assets Fin Cong	48,425	0.03	0.13	0	0	0	0	1
Family Size	48,425	9.16	10.7	0	2	5	14	76
Monthly Volatility	129,196	0.0228	0.0176	0.0000746	0.0085	0.0213	0.035	0.0719
Alpha	136,561	0.0015	0.0071	-0.0234	-0.0025	0.0002	0.005	0.0313
Beta	135,749	0.22	0.3	-0.61	0	0.15	0.38	1.25
Negative Beta	136,116	0.24	0.42	-1.09	0	0.13	0.47	1.94
Skewness	134,755	-0.17	0.62	-2.11	-0.55	-0.15	0.22	1.62
R2_fs	135,384	0.31	0.3	-0.37	0.08	0.32	0.55	0.89
Number of Clients Range	137,974	59.5	125	0	5	18	63	600
Lock Up Period	5,693	2.46	5.06	0	0	0	0	24
Redemption Period	5,693	41.1	27.9	0	30	30	60	105
Redemption Frequency	5,693	66.4	70.8	0	30	30	90	365
Management Fee (%)	5,693	1.41	1.45	0	1	1.5	1.75	2.5
Incentive Fee (%)	5,693	15.2	7.64	0	10	20	20	50
Log Minimum Investment	5,693	0.002	0.007	0	0	0	0	0.05
HHI Assets	2,099	0.49	0.36	0.06	0.13	0.44	0.81	1.75

Table 2
Characteristics of Financial-Conglomerate Affiliated Hedge Funds

Panel A. Clienteles and Fees

The dependent variable is indicated on top of each column. In column 1 and 2, we estimated pooled panel regressions with time fixed effects. The unit of observation is the fund month. Standard errors are corrected for heteroscedasticity and clustered at the firm level. In the rest of Panel A, we estimate cross-sectional regressions. Standard errors are corrected for heteroscedasticity and clustered at the fund level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Dependent Variable:	Log Size	Clients Range	% Assets Fin Cong	HHI Assets	Management Fee	Incentive Fee
	(1)	(2)	(3)	(4)	(5)	(6)
Fin Cong	2.287***	54.541***	5.178***	-0.033**	-0.083***	-0.820***
	(12.409)	(10.825)	(11.646)	(-1.973)	(-5.831)	(-4.355)
Log Size		-0.893**	0.040	-0.007***	0.001	0.014
		(-2.340)	(1.430)	(-4.597)	(1.080)	(1.039)
Log Age	0.454***	3.263*	0.262	-0.014	-0.063***	-0.058
	(6.295)	(1.911)	(1.134)	(-1.270)	(-6.996)	(-0.491)
Number of Funds	-0.190***	-0.754***	-0.060***	-0.005***	-0.000	-0.018**
	(-12.854)	(-5.092)	(-4.338)	(-9.130)	(-0.509)	(-2.083)
Month FE	Yes	Yes	No	No	No	No
Style FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	257572	257572	5693	2099	5693	5693
AdjR2	0.165	0.055	0.037	0.063	0.051	0.333

Panel B. Performance Features

The dependent variable is indicated on top of each column. We estimate cross-sectional regressions. Standard errors are corrected for heteroscedasticity and clustered at the fund level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Dependent Variable:	Beta	Neg. Beta	Skewness	Max DD	R2
	(1)	(2)	(3)	(4)	(5)
Fin Cong	-0.012	-0.004	-0.020	-0.001	0.010
	(-1.318)	(-0.359)	(-1.585)	(-0.518)	(1.342)
Log Size	0.018***	0.019***	0.004***	0.005***	0.010***
	(34.390)	(31.282)	(3.428)	(41.495)	(19.225)
Log Age	0.033***	0.036***	-0.051***	0.000	0.054***
	(5.298)	(4.564)	(-5.447)	(0.438)	(9.927)
Month FE	Yes	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes	Yes
Observations	194526	195117	193389	189006	193095
AdjR2	0.208	0.159	0.126	0.305	0.159

Table 3
FCAHFs and Net Flows During Periods of Financial Turmoil

This table regresses quarterly fund flows on the high VIX dummy and fund characteristics. All regressions include time and style fixed effects and standard errors are corrected for heteroskedasticity and clustered at the quarter level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Dependent Variable:	Quarterly Flows				
	(1)	(2)	(3)	(4)	(5)
High Vix×Fin Cong	0.009**	0.009**	0.009**	0.009**	0.010***
	(2.534)	(2.439)	(2.564)	(2.516)	(2.732)
High Vix×Large Fund		-0.002			
		(-0.276)			
High Vix×Large Family			-0.025***		
			(-2.890)		
High Vix×High Rest				-0.002	
				(-0.349)	
High Vix×% Assets_Fin Cong					-0.018
					(-1.587)
Fin Cong	-0.009***	-0.010***	-0.010***	-0.010***	-0.009***
	(-4.597)	(-4.698)	(-4.775)	(-4.698)	(-4.447)
Large Fund		0.016***			
		(4.017)			
Large Family			0.013***		
			(2.846)		
High Rest				0.012***	
				(5.139)	
% Assets_Fin Cong					-0.001
					(-0.064)
Log Totrest	0.003***	0.003***	0.003***	-0.001	0.003***
	(3.765)	(3.558)	(3.998)	(-0.787)	(3.756)
Log Age	-0.030***	-0.031***	-0.030***	-0.030***	-0.030***
	(-19.789)	(-19.708)	(-19.510)	(-19.811)	(-19.818)
Log Size	-0.001***	-0.002***	-0.001***	-0.001***	-0.001***
	(-4.803)	(-5.387)	(-3.505)	(-4.674)	(-4.777)
Lagged FRANK	0.077***	0.077***	0.078***	0.076***	0.077***
	(14.525)	(14.340)	(15.223)	(14.489)	(14.547)
Lagged Flows	0.273***	0.271***	0.272***	0.273***	0.273***
	(27.120)	(27.426)	(27.113)	(27.097)	(27.145)
Quarter FE	Yes	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes	Yes
Observations	48425	48425	48425	48425	48425
AdjR2	0.178	0.179	0.179	0.179	0.178

Table 4

The Flow-Performance-Sensitivity of Financial-Conglomerate-Affiliated Hedge Funds

This table estimates the flow performance sensitivity of different types of hedge funds. We regress the quarterly flows of a fund on the funds' fractional rank at the end of the previous quarter and control variables. A hedge fund's fractional rank (FRANK*)* represents its percentile performance relative to other hedge funds. In the piecewise linear regressions, we define FRANK1=min(FRANK, 1/3), FRANK2=min(FRANK-FRANK1, 1/3), and FRANK3= min(FRANK-FRANK1-FRANK2, 1/3). All regressions include time fixed effects and standard errors are corrected for heteroskedasticity and clustered at the quarter level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Panel A

Dependent Variable:	Quarterly Flows			
	(1)	(2)	(3)	(4)
FRANK×Fin Cong		-0.019***		
		(-2.739)		
FRANK1×Fin Cong				-0.048**
				(-2.507)
FRANK2×Fin Cong				0.006
				(0.374)
FRANK3×Fin Cong				-0.035
				(-1.406)
FRANK	0.079***	0.084***		
	(14.115)	(15.799)		
FRANK1			0.096***	0.111***
			(6.420)	(6.848)
FRANK2			0.056***	0.054***
			(3.568)	(3.223)
FRANK3			0.104***	0.113***
			(6.460)	(6.493)
Fin Cong		0.003		0.008
		(0.855)		(1.637)
Log Size	-0.002***	-0.002***	-0.002***	-0.002***
	(-7.234)	(-7.112)	(-7.342)	(-7.186)
Log Age	-0.026***	-0.026***	-0.026***	-0.027***
	(-19.203)	(-19.358)	(-19.048)	(-19.208)
Log Totrest	0.003***	0.003***	0.003***	0.003***
	(4.044)	(3.717)	(4.008)	(3.677)
Lagged Flows	0.271***	0.271***	0.271***	0.271***
	(27.195)	(27.110)	(27.178)	(27.109)
Quarter FE	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes
Observations	48840	48840	48840	48840
AdjR2	0.181	0.181	0.181	0.181

Panel B

Dependent Variable:	Quarterly Flows		
	(1)	(2)	(3)
FRANK1× High Vix×Fin Cong	-0.171***	-0.201***	-0.178***
	(-3.894)	(-4.434)	(-4.105)
FRANK2×High Vix×Fin Cong	0.031	0.038	0.040
	(0.793)	(0.995)	(1.067)
FRANK3×High Vix×Fin Cong	-0.116**	-0.126**	-0.099*
	(-2.071)	(-2.270)	(-1.767)
FRANK1×High Vix×Large Fund	-0.114**		
	(-2.541)		
FRANK2×High Vix× Large Fund	-0.030		
	(-0.692)		
FRANK3×High Vix× Large Fund	-0.023		
	(-0.434)		
FRANK1×High Vix×Large Family		0.175*	
		(1.961)	
FRANK2×High Vix× Large Family		-0.177***	
		(-2.743)	
FRANK3×High Vix× Large Family		-0.095	
		(-1.221)	
FRANK1×High Vix×High Rest			-0.009
			(-0.192)
FRANK2×High Vix× High Rest			-0.101***
			(-2.957)
FRANK3×High Vix× High Rest			-0.075
			(-1.433)
FRANK1×Fin Cong	0.062**	0.081***	0.066***
	(2.323)	(3.132)	(2.689)
FRANK2×Fin Cong	0.022	0.021	0.015
	(0.987)	(0.974)	(0.702)
FRANK3×Fin Cong	0.072**	0.094***	0.057*
	(2.375)	(3.101)	(1.875)
FRANK1×Large Fund	0.087***		
	(3.203)		
FRANK2×Large Fund	0.062**		
	(2.630)		
FRANK3×Large Fund	0.076***		
	(2.785)		
FRANK1×Large Family		0.012	
		(0.258)	
FRANK2×Large Family		0.076*	
		(1.751)	
FRANK3×Large Family		0.020	
		(0.406)	

(continued on next page)

Panel B (continued)

Dependent Variable:	Quarterly Flows		
	(1)	(2)	(3)
FRANK1×High Rest			0.058**
			(2.298)
FRANK2×High Rest			0.068***
			(3.162)
FRANK3×High Rest			0.097***
			(4.799)
FRANK1×High Vix	0.160***	0.097***	0.130***
	(5.087)	(3.659)	(3.960)
FRANK2×High Vix	0.006	0.049	0.028
	(0.156)	(1.546)	(0.765)
FRANK3×High Vix	0.064	0.093***	0.075
	(1.528)	(2.995)	(1.676)
High Vix×Fin Cong	0.052***	0.060***	0.050***
	(4.406)	(5.127)	(4.405)
Fin Cong	-0.032***	-0.038***	-0.031***
	(-4.364)	(-5.546)	(-4.633)
High Vix×Large Fund	0.024*		
	(1.978)		
Large Fund	-0.031***		
	(-5.382)		
High Vix×Large Family		-0.009	
		(-0.466)	
Large Family		-0.028***	
		(-2.953)	
High Vix×High Rest			0.021
			(1.656)
High Rest			-0.022***
			(-3.788)
Log Size	-0.002***	-0.002***	-0.002***
	(-4.666)	(-7.058)	(-6.213)
Log Age	-0.028***	-0.027***	-0.027***
	(-21.377)	(-19.524)	(-19.592)
Log Totrest	0.003***	0.003***	0.000
	(4.438)	(4.821)	(0.147)
Lagged Flows	0.272***	0.274***	0.272***
	(26.519)	(27.131)	(27.068)
Quarter FE	Yes	Yes	Yes
Style FE	Yes	Yes	Yes
Observations	48840	48840	48840
AdjR2	0.175	0.174	0.176

Table 5
The Performance of Financial-Conglomerate-Affiliated Hedge Funds

The dependent variables are alternative measures of fund performance as indicated on top of each column. The unit of observation is the fund month in all columns. All regressions include time and style effects. Standard errors are double-clustered at the time and the fund level and are corrected for heteroskedasticity. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Dependent Variable:	Monthly Excess return		Alpha (Carhart)	Alpha (FS)
	(1)	(2)	(3)	(4)
Fin Cong	-0.00092***	-0.00084**	-0.00057***	-0.00062***
	(-2.734)	(-2.549)	(-3.635)	(-3.711)
Large Fund		-0.00009	0.00111***	0.00101***
		(-0.200)	(5.683)	(4.997)
Large Family		-0.00119*	-0.00015	-0.00035
		(-1.698)	(-0.753)	(-1.605)
Log Size	0.00041***	0.00035***	0.00028***	0.00026***
	(5.135)	(3.195)	(12.460)	(12.277)
Log Age	-0.00087***	-0.00084***	-0.00119***	-0.00094***
	(-3.342)	(-3.235)	(-8.241)	(-6.338)
Log Totrest	0.00048**	0.00046**	0.00037***	0.00032***
	(2.497)	(2.470)	(4.931)	(4.429)
Quarter FE	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes
Observations	172902	172902	130676	130807
AdjR2	0.009	0.009	0.114	0.100

Table 6
Volatility of Returns

The dependent variable is the firm's return computed as standard deviation of monthly returns on a twenty-four-month rolling window. Mkt Cond is a dummy variable that takes value equal to one when the value of the associated market conditions proxy is in the top quartile. Standard errors are double-clustered at the fund and month level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Dependent Variable:	Monthly Return Volatility						
Market Conditions:	Weak			Strong			
Market Conditions Proxy:		VIX		U. Michigan		Baker-Wurgler	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Fin Cong	0.00106	0.00064	-0.00168***	0.00168**	-0.00080	0.00155**	-0.00087
	(1.489)	(0.898)	(-3.071)	(2.332)	(-1.510)	(2.055)	(-1.532)
Mkt Cond×Fin Cong		0.00165***	0.00167***	-0.00305***	-0.00213***	-0.00189***	-0.00147***
		(4.498)	(5.630)	(-4.125)	(-3.492)	(-3.712)	(-3.301)
Large Fund			-0.00727***		-0.00725***		-0.00726***
			(-12.260)		(-12.252)		(-12.245)
Large Family			-0.00232***		-0.00238***		-0.00234***
			(-3.537)		(-3.626)		(-3.557)
Log Size			0.00194***		0.00193***		0.00193***
			(33.566)		(33.531)		(33.537)
Log Age			-0.00001		-0.00000		-0.00001
			(-0.017)		(-0.003)		(-0.031)
Log Totrest			-0.00046**		-0.00045**		-0.00046**
			(-2.041)		(-1.998)		(-2.028)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	129196	129196	129196	129196	129196	129196	129196
AdjR2	0.127	0.127	0.469	0.128	0.469	0.127	0.469

Table 7
Conditional Exposures and Performance

In all panels, the dependent variable is the monthly fund return in excess of the risk free rate. Mkt Cond is a dummy variable that takes value equal to one when the value of the associated market conditions proxy is in the top quartile. In Panel A, we consider only the market risk as aggregate risk factor. In Panel B we use a five-factor model including the Fama-French SMB and HML, the momentum factor, UMD, and the Pastor and Stambaugh liquidity factor, PS. In Panel C, we use the Fung and Hsieh eight-factor model. All factors are interacted with a financial-conglomerate-affiliated dummy and a market-conditions dummy for months in the top quartile of the distribution of market conditions. The levels and all double interactions are also included. Standard errors are double-clustered at the fund and time levels. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Panel A. One- Factor Model

Dependent Variable:	Monthly Excess Return		
Market Conditions:	Weak	Strong	
Market Conditions Proxy:	VIX	U. Michigan	Baker-Wurgler
	(1)	(2)	(3)
Fin Cong	-0.00056	-0.00061	-0.00104**
	(-1.633)	(-1.440)	(-2.448)
Mktrf×Mkt Cond×Fin Cong	0.05742***	-0.03055**	-0.02075
	(3.803)	(-2.393)	(-0.682)
Mktrf	0.21514***	0.17372***	0.17699***
	(10.606)	(10.194)	(10.527)
Mktrf×Fin Cong	-0.00226	0.03492***	0.03235***
	(-0.223)	(3.596)	(3.445)
Mktrf×Mkt Cond	-0.06090**	0.08812**	0.06663
	(-2.065)	(2.065)	(1.188)
Mkt Cond×Fin Cong	0.00051	-0.00061	0.00153***
	(0.588)	(-1.256)	(2.582)
Mkt Cond	-0.00174	0.00281**	0.00207
	(-1.015)	(2.229)	(1.220)
Constant	0.00263***	0.00194**	0.00197***
	(3.451)	(2.450)	(2.638)
Observations	172902	172902	172902
AdjR2	0.095	0.096	0.095

Panel B: Five-Factor Model

Dependent Variable:	Monthly Excess Return		
Market Conditions:	Weak	Strong	
Market Conditions Proxy:	VIX	U. Michigan	Baker-Wurgler
	(1)	(2)	(3)
Fin Cong	-0.00060**	-0.00058	-0.00092**
	(-2.052)	(-1.541)	(-2.392)
Mktrf×Mkt Cond×Fin Cong	0.05922***	-0.02977**	-0.04701***
	(3.059)	(-2.181)	(-2.828)
Hml×Mkt Cond×Fin Cong	0.0446	0.00506	-0.00892
	(1.238)	(0.216)	(-0.310)
Smb×Mkt Cond×Fin Cong	-0.0017	0.04335**	-0.00439
	(-0.045)	(2.211)	(-0.207)
Umd×Mkt Cond×Fin Cong	-0.00045	0.01592	-0.03433**
	(-0.032)	(1.642)	(-2.325)
PS×Mkt Cond×Fin Cong	0.00126	-0.03283***	-0.04297**
	(0.078)	(-3.007)	(-2.069)
Mktrf×Fin Cong	0.01136	0.04630***	0.04577***
	(1.214)	(4.398)	(4.553)
HML×Fin Cong	-0.03842***	0.00035	-0.0031
	(-2.830)	(0.018)	(-0.184)
SMB×Fin Cong	-0.04275***	-0.05647***	-0.04449***
	(-3.287)	(-3.168)	(-3.003)
UMD×Fin Cong	0.00899	-0.00287	0.00344
	(0.924)	(-0.409)	(0.434)
PS×Fin Cong	0.01692**	0.02028**	0.01809**
	(2.187)	(2.415)	(2.494)
Mkt Cond×Fin Cong	0, 000)	-0.00061	0.00167***
	(1.105)	(-1.310)	(2.832)
Mkt Cond	0, 000)	0.00085	0.00241
	(0.015)	(0.711)	(1.212)
Constant	0, 000)	0.00159**	0.00124*
	(1.438)	(2.144)	(1.897)
Observations	172902	172902	172902
AdjR2	0.106	0.109	0.108

Panel C: Eight-Factor Model

Dependent Variable:	Monthly Excess Return		
Market Conditions:	Weak	Strong	
Market Conditions Proxy:	VIX	U. Michigan	Baker-Wurgler
	(1)	(2)	(3)
Fin Cong	-0.00058*	-0.00056	-0.00084**
	(-1.748)	(-1.577)	(-2.335)
SP500×Mkt Cond×Fin Cong	0.05918*	-0.03248	-0.06465**
	(1.660)	(-1.639)	(-2.123)
Russell2000×Mkt Cond×Fin Cong	-0.00685	0.04182***	0.01351
	(-0.258)	(2.919)	(0.636)
ptfsbd×Mkt Cond×Fin Cong	-0.00178	0.00033	0.00033
	(-0.333)	(0.089)	(0.088)
ptfsfx×Mkt Cond×Fin Cong	0.00251	0.00375	0.00494
	(0.548)	(1.236)	(1.328)
ptfscom×Mkt Cond×Fin Cong	0.00807	-0.00383	-0.00576
	(1.331)	(-1.073)	(-1.382)
bond×Mkt Cond×Fin Cong	-0.03513	0.01413	0.0113
	(-1.127)	(0.627)	(0.403)
credit×Mkt Cond×Fin Cong	-0.09628**	0.06671	0.00117
	(-2.000)	(1.539)	(0.028)
emmkt×Mkt Cond×Fin Cong	-0.01175	-0.01975	0.00385
	(-0.706)	(-1.588)	(0.273)
SP500×Fin Cong	0.02513	0.05780***	0.05052***
	(1.488)	(3.292)	(2.962)
Russell2000×Fin Cong	-0.03296***	-0.04191***	-0.03442***
	(-3.414)	(-3.547)	(-2.909)
ptfsbd×Fin Cong	-0.00276	-0.00346	-0.00239
	(-1.291)	(-1.405)	(-0.973)
ptfsfx×Fin Cong	-0.00214	-0.00234	-0.00264
	(-0.980)	(-0.904)	(-1.043)
ptfscom×Fin Cong	-0.0008	0.00303	0.00224
	(-0.284)	(0.935)	(0.625)
bond×Fin Cong	0.00518	-0.02068	-0.0164
	(0.297)	(-1.349)	(-1.144)
credit×Fin Cong	0.02711	-0.05824***	-0.06128***
	(0.621)	(-3.128)	(-3.024)
emmkt×Fin Cong	0.01302	0.00902	0.00561
	(1.318)	(1.018)	-0.562
Mkt Cond	-0.00066	0.00170*	-0.0007
	(-0.493)	(1.887)	(-0.435)
Mkt Cond×Fin Cong	0.00012	-0.00081*	0.00107*
	(0.170)	(-1.666)	-1.815
Constant	0.00105*	0.00114*	0.00148**
	(1.733)	(1.878)	(2.506)
Observations	172902	172902	172902
AdjR2	0.135	0.133	0.131

Table 8
Performance Following Periods of Market Turmoil

The dependent variable is the monthly fund return in excess of the risk free rate. The main explanatory variable is an interaction the financial-conglomerate-affiliated hedge fund dummy (Fin Cog) and a dummy denoting the fact that the lagged VIX index was in the top quartile of the VIX distribution (Lagged High Vix). We consider twelve different monthly lags. All regressions include controls for Fin Cong and (not reported) as in Table 4: Lagged High Vix, Large Fund, Large Family, Log Size, Log Age, Log Totrest, Fund Styles, the Fung and Hsieh eight factors, the factors interacted with Fin Cong, the factors interacted with a dummy for the contemporaneous VIX in the top quarter of the VIX distribution (High Vix), and the factors interacted with Fin Cong and High Vix. Standard errors are clustered at the time level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Monthly Lag:	1	2	3	4	5	6
Dependent Variable:	Monthly Excess Return					
Fin Cong × Lagged High Vix	0.00018	0.00053	0.00168***	0.00100*	0.00105*	0.00034
	(0.355)	(0.907)	(2.820)	(1.839)	(1.783)	(0.652)
Fin Cong	-0.00101***	-0.00115***	-0.00127***	-0.00118***	-0.00122***	-0.00100***
	(-3.489)	(-3.371)	(-3.978)	(-3.741)	(-3.644)	(-3.033)
Observations	166683	163314	160459	157173	154259	151521
AdjR2	0.000	0.000	0.000	0.000	0.000	0.000

Monthly Lag:	7	8	9	10	11	12
Dependent Variable:	Monthly Excess Return					
Fin Cong × Lagged High Vix	0.0003	0.00048	-0.00092	0.00095*	-0.00008	-0.00045
	(0.616)	(0.817)	(-1.354)	(1.697)	(-0.136)	(-0.735)
Fin Cong	-0.00103***	-0.00111***	-0.00084**	-0.00134***	-0.00090**	-0.00074**
	(-3.378)	(-3.375)	(-2.465)	(-3.578)	(-2.379)	(-2.054)
Observations	148391	145473	142786	139771	136929	134341
AdjR2	0.000	0.000	0.000	0.000	0.000	0.000

Table 9
Fund Trading

The unit of observation is the stock quarter. In Panel A, the dependent variable in columns 1 (2) and 4 (5) is the change in shares of stock *i* held by financial-conglomerate-affiliated (other) hedge funds between quarter *t* and *t+1*, divided by the shares of stock i held by financial-conglomerate-affiliated (other) hedge funds at the end of quarter *t*. In columns 3 and 6, the dependent variable is the difference between the dependent variable in columns 1 and 2. We control for the proportion of shares held by financial-conglomerate-affiliated (other) hedge funds at the end of quarter t, Fin Cong Weight (Non Fin Cong Weight). All models are estimated by ordinary least squares and include time and stock fixed effects. Standard errors are clustered at the stock level and corrected for heteroskedasticity. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Panel A

Dependent Variable:	Change in shares of stock *i* by institution type					
Institution Type:	Financial Conglomerate HF	Non Financial Conglomerate HF	Financial Conglomerate-Non Financial Conglomerate	Financial Conglomerate HF	Non Financial Conglomerate HF	Financial Conglomerate-Non Financial Conglomerate
	(1)	(2)	(3)	(4)	(5)	(6)
Volatility×High Vix	0.086***	-0.013*	0.102***			
	(8.280)	(-1.849)	(9.028)			
Volatility	-0.099***	-0.004	-0.097***			
	(-9.808)	(-0.557)	(-9.413)			
Past Return×High Vix				-0.001**	0.001	-0.002***
				(-2.340)	(1.596)	(-3.147)
Past Return				0.002***	-0.000	0.002***
				(4.783)	(-1.215)	(5.534)
Fin Cong Weight	-0.156***		-0.154***	-0.149***		-0.146***
	(-45.417)		(-42.482)	(-46.128)		(-43.046)
Non Fin Cong Weight		-0.211***	0.183***		-0.205***	0.175***
		(-42.518)	(29.319)		(-43.539)	(30.539)
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Stock FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	87404	79737	79218	98250	89763	88975
AdjR2	0.195	0.218	0.189	0.184	0.213	0.179

Panel B

Dependent Variable:	Change in shares of stock *i* by institution type					
Institution Type:	Financial Conglomerate HF	Non Financial Conglomerate HF	Financial Conglomerate-Non Financial Conglomerate	Financial Conglomerate HF	Non Financial Conglomerate HF	Financial Conglomerate-Non Financial Conglomerate
	(1)	(2)	(3)	(4)	(5)	(6)
Amihud×High Vix	0.014***	-0.005**	0.039***			
	(6.910)	(-2.030)	(7.271)			
Amihud	0.002	0.009***	-0.015***			
	(0.721)	(3.232)	(-2.760)			
Spread×High Vix				0.062***	-0.028**	0.086***
				(3.754)	(-2.411)	(3.982)
Spread				-0.013	0.034***	-0.037**
				(-0.809)	(2.907)	(-1.979)
Fin Cong Weight	-0.155***		-0.153***	-0.155***		-0.153***
	(-44.815)		(-42.055)	(-44.733)		(-42.080)
Non Fin Cong Weight		-0.211***	0.182***		-0.211***	0.182***
		(-42.474)	(29.156)		(-42.499)	(29.132)
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Stock FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	87404	79737	79218	87347	79683	79164
AdjR2	0.194	0.218	0.188	0.194	0.218	0.187

Table 10
Price Impact

The unit of observation is the stock quarter. The dependent variable is the average price impact of FCAHFs (column 1 and 4), other hedge funds (columns 2 and 5), and the difference in price impact between FCAHFs and other hedge funds (columns 3 and 6). All models are estimated by ordinary least squares and include time and stock fixed effects. Standard errors are clustered at the stock level and corrected for heteroskedasticity. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Panel A

Dependent Variable:	Price Impact in stock i by institution type					
Institution Type:	Financial Conglomerate HF	Non Financial Conglomerate HF	Financial Conglomerate-Non Financial Conglomerate	Financial Conglomerate HF	Non Financial Conglomerate HF	Financial Conglomerate-Non Financial Conglomerate
	(1)	(2)	(3)	(4)	(5)	(6)
High Vix×Volatility	-0.556***	-0.099	-0.438**			
	(-3.773)	(-1.547)	(-2.528)			
Volatility	1.305***	0.214***	1.012***			
	(9.545)	(3.636)	(6.584)			
High Vix×Past Return				0.010***	-0.002	0.011***
				(3.913)	(-1.391)	(3.983)
Past Return				-0.001	-0.001*	-0.000
				(-0.930)	(-1.671)	(-0.249)
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Stock FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	74876	74828	68202	77413	77446	75974
AdjR2	0.091	0.050	0.091	0.065	0.032	0.056

Panel B

Dependent Variable:	Price Impact in stock i by institution type					
Institution Type:	Financial Conglomerate HF	Non Financial Conglomerate HF	Financial Conglomerate-Non Financial Conglomerate	Financial Conglomerate HF	Non Financial Conglomerate HF	Financial Conglomerate-Non Financial Conglomerate
	(1)	(2)	(3)	(4)	(5)	(6)
High Vix×Amihud	-0.417***	-0.032	-0.421***			
	(-4.159)	(-0.933)	(-3.139)			
Amihud	0.275***	-0.077**	0.577***			
	(2.840)	(-2.158)	(4.499)			
High Vix×Spread				-2.623***	0.161	-2.358***
				(-4.398)	(0.665)	(-3.328)
Spread				2.177***	-0.738***	3.093***
				(4.147)	(-3.265)	(5.132)
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Stock FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	74845	74737	68196	74414	74416	67759
AdjR2	0.088	0.050	0.089	0.089	0.050	0.090

Table 11
Hedge Funds' Contractual Characteristics

We estimate cross-sectional regressions in which the dependent variables are indicated on top of each column. Standard errors are corrected for heteroscedasticity and clustered at the fund level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Dependent Variable:	Lockup Period	Redemption Notice Period	Redemption Frequency	Log Totrest	Log Minimum Investment
	(1)	(2)	(3)	(4)	(5)
Fin Cong	-17.384***	-5.270***	-5.719***	-0.249***	-0.034
	(-4.250)	(-6.819)	(-2.904)	(-7.962)	(-1.144)
Log Size	-2.568***	0.249***	0.722***	-0.009***	-0.014***
	(-6.554)	(4.216)	(4.344)	(-3.246)	(-6.075)
Log Age	-13.025***	-1.846***	6.232***	0.012	-0.019
	(-4.586)	(-3.742)	(4.754)	(0.608)	(-1.030)
Number of Funds	-1.619***	0.032	-0.094	-0.005***	-0.016***
	(-11.217)	(0.856)	(-1.285)	(-4.040)	(-12.012)
Style FE	Yes	Yes	Yes	Yes	Yes
Observations	5693	5693	5693	5693	5693
AdjR2	0.048	0.083	0.045	0.053	0.097

Figure 1
The Proportion of FCAHFs over Time

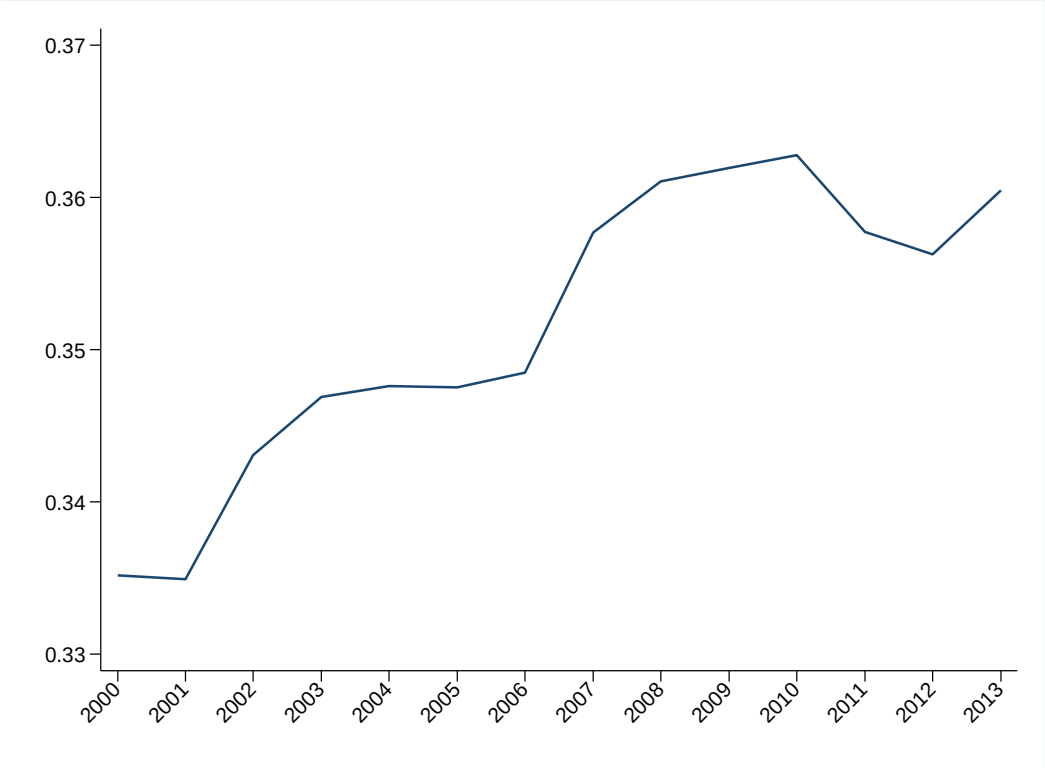
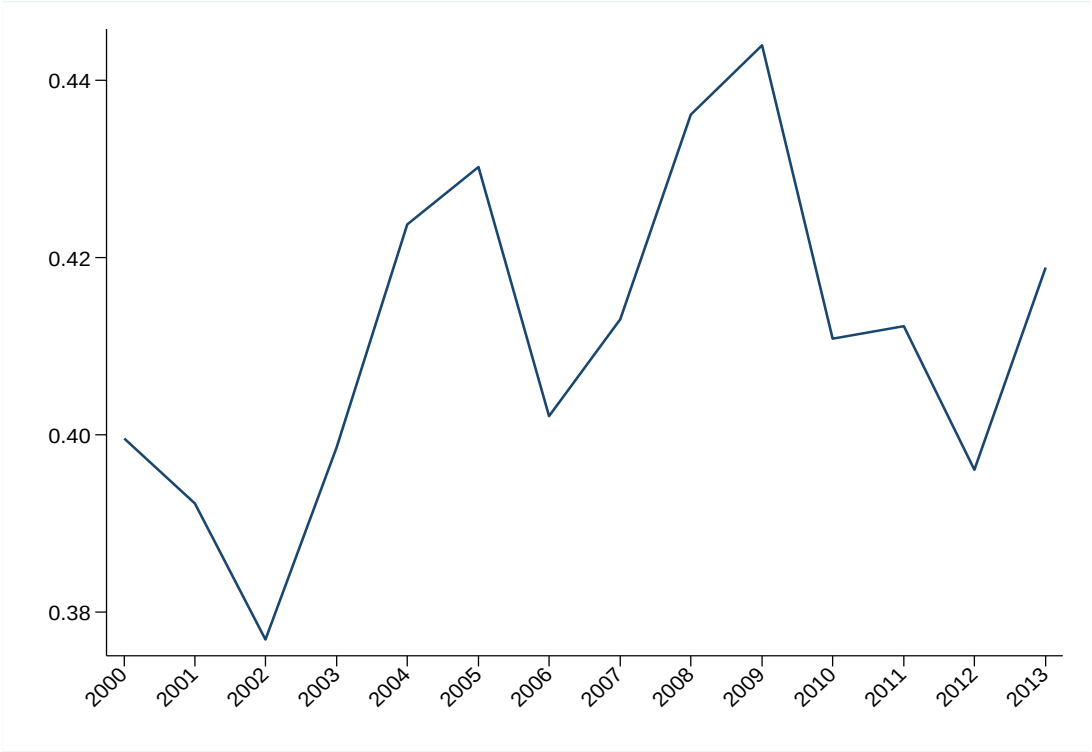


Figure 2
The Proportion of Assets Managed by FCAHFs over Time



Appendix Table A1. Variable Definitions

Variable	Description
TNA	Fund assets in millions of dollars. The variable *logsize* denotes the logarithm of TNA
Returns	Fund monthly returns in dollars at the specified frequency. The variable excess monthly returns (*exret)* denotes the monthly fund return in excess of the risk free rate.
Financial Conglomerate (Fin Cong)	Indicator variable denoting whether the fund is part of a financial conglomerate. The variable is constructed using information from ADV filings. In particular, a fund is considered to be part of a financial conglomerate if the answer in Part 1A of the ADV form is "Yes" to either item 7_A1 or item7_A8 or item 7_A12, that is, if the financial advisor reports to be affiliated to related to a banking or thrift institution, to an insurance company or agency, or to a broker dealer.
Quarterly Flows (qflows)	Quarterly flows are computed as: (TNA(q) – TNA(q-1) × Returns (q)) – 1
Restrictions	The sum of lock-up period (*LockUpPeriod*), the redemption notice period (*RedemptionNoticePeriod*), and the redemption frequency (*redfreq*), measured in days. The variable *Log Totrest* denotes the logarithm of Total Restrictions.
Age	The number of months since the inception date. The variable *Log Age* denotes the logarithm of Age.
Frank Frank1, Frank2, Frank3	Fractional rank of the fund in the cross sectional distribution of fund quarterly returns Frank1 = min(frank,1/3), Frank2= min(Frank-Frank1,1/3), Frank3= min(1/3, Frank - Frank1-Frank2)
Large Fund dummy (Large Fund)	Indicator variable for a fund that belongs to the top quartile of the TNA distribution in a given year.
Large Family dummy (Large Family)	Indicator variable for whether a fund belongs to a family with more than 10 funds.
High restrictions (High Rest)	Indicator variable for whether the fund has total restrictions above the sample median.
Percentage of Assets in Financial Conglomerate (% Assets_Fin Cong)	The percentage of client assets coming from financial institutions, i.e. banks and insurance. The information is obtained from the ADV Form, Item 5, section D, question 1, sub-items (c) and (l).
Family Size	Number of other funds in the same family in the same month.
High-VIX Quarter (*High Vix*)	Indicator variable denoting a quarter in which the VIX index is in the top quartile of its distribution.
Minimum Investment	Minimum initial investment in the fund.
Number of Clients (*Number of Clients Range*)	Approximate number of clients as reported in the ADV Form, Item 5, section C.
Herfindahl Index of Asset Ownership (*Hassets*)	Herfindahl Index of ownership computed using the shares of assets from different client types as reported in ADV Form, Item 5, section D, question 1.
Alpha_car	Monthly alpha from the market model
Alpha_fs	Monthly alpha from the eight-factor model based on Fung and Hsieh (2004), estimated over a rolling window of 24 monthly observations, with at least 12 monthly observations.