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Financial Conglomerate Affiliated Hedge Funds: Risk Taking Behavior and Liquidity Provision

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Abstract

This paper explores how affiliation to financial conglomerates relates to hedge funds' funding and risk taking. We find that financial-conglomerate-affiliated hedge funds (FCAHFs) have more stable funding than other hedge funds. This may explain our finding that FCAHFs are able to take more risk and to purchase less liquid and more volatile stocks than other hedge funds during financial turmoil. In good times, instead, FCAHFs expand their assets less than other funds and are less exposed to systematic risk. Thus, FCAHFs perform a stabilizing function for the financial system, even though they do not generate higher returns for their investors.

Keywords: Hedge Funds, Financial Conglomerates, Volker Rule, Liquidity Provision

JEL Classifications: G2

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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 now debated 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. Ideally, the regulations would avoid episodes like the Bear Stearns' collapse, which was partly driven by its exposure to two affiliated hedge funds. These regulations, however, may have unintended consequences on market stability because hedge funds are known to provide liquidity to financial markets (e.g., Aragon and Strahan, 2012, Jylha, Rinne, and Suominen, 2014, Cao, Chen, Goetzmann and Liang, 2015). In particular, thanks to their peculiar funding structure, FCAHFs may be able to give a positive contribution to price formation even during periods of market turmoil, when other hedge funds are financially constrained and their ability to

[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 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, 2017. Recently, Wall Street banks asked the Fed for five more years to comply with the Volcker Rule. Further uncertainty on the implementation of the Rule results from recent statements made by the incoming administration regarding its intention to repeal parts of the Dodd–Frank Act.

provide liquidity is impaired (Ben-David, Franzoni, Moussawi, 2012, Jylha, Rinne, and Suominen, 2014, Cao, Liang, Lo, and Petrasek, 2014).

Surprisingly, there is no evidence on how affiliation to financial conglomerates is associated with hedge funds' funding, contractual characteristics, performance, and risk taking behavior. Exploring these issues seems crucial before the implementation of regulations that challenge the existence of investment funds associated with financial conglomerates.

This paper attempts to make a first step in this direction. We conjecture that FCAHFs are subject to less binding financial constraints than other hedge funds during periods of market turmoil. The typical hedge fund is subject to leverage constraints, which lead to a significant reduction in the demand for risky assets when aggregate market volatility increases, consistent with the theories in Gromb and Vayanos (2002) and Brunnermeier and Pedersen (2009). On the other hand, banks, insurance companies, and broker-dealers, namely the entities that we use to define financial-conglomerate affiliation, are more likely to be subject to capital constraints (He and Krishnamurthy, 2012, 2013). These constraints, albeit tightening during periods of market turmoil, bind intermediaries' demand for risky assets to a lower extent than leverage constraints (He, Kelly, and Manela, 2016). Benefiting from internal capital markets, FCAHFs may receive funding from the financial conglomerate in periods of turmoil, which allows them to overcome leverage constraints and to take on more risk than stand-alone hedge funds.[2]

Also important, FCAHFs are likely to benefit from the reputation and visibility of the financial conglomerate and may be among the asset managers that

[2] In comparison to the other non-hedge fund entities within the financial conglomerate, FCAHFs may also be better positioned to absorb risky assets in bad times because they are less regulated and specialized in identifying mispriced securities. Hence, we also expect FCAHFs to engage in risk taking in periods of stress to a larger extent than the other entities within a financial conglomerate.

Gennaioli, Shleifer and Vishny (2015) identify as enjoying more trust. This inherent trust can make investors less inclined to redeem their capital in periods of market stress.

Not only do these factors directly imply that FCAHFs enjoy more stable funding, 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 can in turn affect hedge fund managers' behavior in several ways. As Stein (2005) highlights, a lower sensitivity of flows to performance is expected to make asset managers more inclined to provide liquidity, especially if it implies taking a long-term view on investments. 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 are likely higher in FCAHFs, which may be tempted to purchase risky assets from other subsidiaries of the financial conglomerate in need for liquidity, similar to affiliated funds of mutual funds (Bhattacharya, Lee, and Pool, 2013).

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

The main difference between FCAHFs and other hedge funds is effectively illustrated by Figure 1, showing that FCAHFs' flows are less sensitive to performance, especially following low returns, when the flow-performance sensitivity of FCAHFs is 43% lower. FCAHFs also experience lower redemptions during periods of financial turmoil. The effect is economically significant at 30% relative to the mean and 5% relative to the standard deviation of quarterly flows.

Importantly, hedge funds controlled by severely underperforming financial conglomerates or by financial conglomerates with extremely high leverage experience outflows to the same or an even larger extent than other hedge funds. This evidence corroborates the interpretation that hedge fund investors anticipate the financial conglomerate's ability to provide a liquidity backstop when making their redemption decisions.

Next, we show that FCAHFs impose less redemption restrictions and accept a larger number of investors. In particular, FCAHFs' total restrictions are lower by a quarter of a standard deviation and their number of clients is larger by 45% of a standard deviation. These features appear consistent with the implications of a more stable capital base. Indeed, restrictions to withdrawals and a limited set of large investors are less relevant when a run on the assets is less likely (Chen, Goldstein and Jiang, 2010).

FCAHFs' strategies and risk taking are also significantly different in a way that is consistent with more stable capital. Stein (2005) and 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 less likely to suffer from liquidation costs and may therefore be able to offer their investors liquidity

transformation services especially during periods of market turmoil. Accordingly, we find that FCAHFs' returns are more exposed to systematic risk factors during high-VIX periods, suggesting that they are less likely to withdraw from the market during turbulent times. Furthermore, in these periods, FCAHFs purchase more volatile and illiquid stocks as well as past losers. FCAHFs' portfolio turnover decreases in bad times, consistent with a longer investment horizon. Finally, patient trading during high-VIX periods is testified also by a lower price impact of trades in illiquid, losing, and volatile stocks.

The longer trading horizons during high-VIX periods can allow FCAHFs to benefit from rebounds in prices. This argument is formalized in Hombert and Thesmar's (2014), who show that arbitrageurs that are more protected from withdrawals recover more quickly after bad performance. Consistent with this view, we find that FCAHFs experience larger return reversals in the months after financial turmoil. For example, in the third month after a high-VIX period, FCAHFs' excess returns are about 22 basis points higher.

On the other hand, in good times, FCAHFs exhibit lower return volatility and load less on market and liquidity risk than other funds. This finding is arguably a consequence of FCAHFs' lower capital growth in good times. Also relevant, FCAHFs' flatter flow-performance sensitivity following outperformance may reduce their risk-taking incentives in good times, consistent with the arguments in Chevalier and Ellison (1997). Hence, FACHFs' behavior contrasts with that of banks, which in periods of large availability of funding expand credit (Shleifer and Vishny, 2010) and take more risk (e.g., 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 contribute to pro-cyclical 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 generate lower risk-adjusted (net-of-fees) returns by about 6 to 8 basis points per month, consistent with the lack of the disciplining role of redemptions. This evidence implies that, in spite of their ability to exploit opportunities during turbulent times, FCAHFs generate lower returns on average.

Thus, financial conglomerate affiliation, decreasing the sensitivity of flows to performance, insulates FCAHFs from market forces and allows them to survive notwithstanding lower net-of-fees performance. In the spirit of Gennaioli, Shleifer and Vishny (2015), a possible interpretation of this finding is that FCAHFs enjoy rents thanks to investors' trust, but do not share any surplus with their clients in the form of higher returns. Another explanation for FCAHFs' lower returns is that part of the fund revenues have to be shared with the financial conglomerate. This fact can act as a disincentive for top-performing managers, so that FCAHFs are more likely to attract less skilled managers or managers that exert lower effort. On the other hand, investors may be willing to trade weak performance for lower redemption restrictions, because the opportunity to redeem their capital offers valuable option-like payoffs (Ang and Bollen, 2010).

In sum, this is the first paper to highlight the beneficial role that affiliated hedge funds perform in terms of liquidity provision and counter-cyclical risk taking. Our results may have two not necessarily alternative interpretations. First, financial conglomerate affiliation may foster hedge funds' countercyclical risk taking thanks to the stability of funding that it provides. Second, hedge fund managers who wish to pursue countercyclical risk taking strategies may seek affiliation with financial conglomerates. Our results suggest that strong incentives to do so arise from the

stability of funding associated with financial conglomerate affiliation. Therefore, according to both interpretations, financial conglomerate affiliation would facilitate countercyclical risk taking thanks to stable funding. Hence, in either case, our results can contribute to the regulatory debate on the costs and benefits of severing the ties between financial conglomerates and hedge funds.

This paper belongs to a recent and growing literature exploring different aspects of financial conglomerates. Most existing literature studies 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 complements the findings of recent papers showing that the Volker Rule decreased liquidity in the bond market (Bao, O'Hara, and Zhou 2016; Adrian, Boyarchenko, and Shachar 2016; Trebbi and Xiao 2016). By highlighting that FCAHFs engage to a larger extent in countercyclical risk taking and liquidity provision during bad times, our results suggest that regulations constraining proprietary trading may have effects that go well beyond the bond markets.

Finally, our paper 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.[3] Our paper contributes to this literature by showing that hedge funds are heterogeneous and that the characteristics of their funding relate to 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, 2017).

1. Data and Sample

1.1 Identifying FCAHFs

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

[3] See Grinblatt, Jostova, Petrasek and Philipov (2016), Akbas, Armstrong, Sorescu, Subrahmanyam (2014), Cao, Chen, Goetzmann, and Lian (2013), Kokkonen and Suominen (2015) and Jylha, Rinne and Suominen (2014).

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.

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 hedge funds' operational risk and misreporting (Brown, Goetzmann, Liang, and Schwarz, 2008; Dimmock and Gerken, 2012 and 2015).

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. Typically, the relation implies that the bank, insurance company, the broker-dealer, or another entity under common control within the financial conglomerate, obtains a share of the affiliated hedge fund's revenues in exchange for the access to marketing and distribution channels. In some instances, the financial conglomerate directly invests capital in the affiliated hedge fund and, in general, the financial conglomerate affiliation facilitates the hedge fund's access to capital for the arguments that we lay out in the introduction.

We consider affiliations with banks, insurance companies and broker-dealers because these institutions are subject to capital requirements rather than to leverage constraints, unlike hedge funds. He, Kelly and Manela (2016) argue that while all financial intermediaries experience negative shocks to their net wealth during periods of market turmoil, leverage constraints become relatively more binding than capital constraints and result in a larger drop in the demand for risky assets. Since FCAHFs benefit directly and indirectly from the internal capital markets of the financial conglomerate, we expect them to reduce their demand for risky assets to a lower extent in bad times.

We identify hedge funds using three common 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 details.

As argued in Agarwal, Fos, and Jiang (2013), the three commercial datasets 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, after converting returns in dollars, 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 datasets with the ADV filings using the management company names. Out of the 8,717 firms in our sample, we are able to find a match in the ADV filings for 2,258 firms (about 26%), which manage 5,693 distinct funds over the period 2000-2013. In our merged sample, there are 1,929 (about 34%) financial-conglomerate-affiliated hedge funds.

Table 1 lists the top 20 FCAHFs by assets under management (AUM) in the last year of our sample (2013). The list includes hedge funds that are affiliated with banks and insurance companies, such as JP Morgan Alternative Asset Management, BNY Mellon ARX Investmentos, or Napier Park Capital Management. It also includes a number of hedge funds that are affiliated with broker-dealers, such as Wellington Management Company.[4] While the broker-dealer arms of our investment advisors often execute trades for external investors, there are a few instances in which the investment advisors are affiliated with a broker-dealer because they have formed a strategic partnership or because they have an internal broker-dealer arm, which only acts as placement agent for the internal funds. Since in these cases the affiliated broker-dealer subsidiaries may have no external visibility and may have limited ability of providing funding when needed, hereafter, we also perform robustness tests excluding broker-dealers. Furthermore, the Volcker Rule and similar regulations do not apply to insurance companies. Hence, in our robustness tests, we focus on hedge funds that are only affiliated with banks.[5]

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

[4] Some hedge funds become associated with a financial conglomerate by creating a broker-dealer arm. For instance, Citadel created Citadel securities, which executes 36% of US retail equity value. For the purposes of this paper, even if it was created by the hedge fund, Citadel Securities allows Citadel to benefit from an internal capital market as well as from name recognition and reputation.

[5] Results are qualitatively similar using different definitions of financial conglomerate affiliation including insurance companies.

advisors.[6] 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 of AUM 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 AUM from U.S. clients.

These changes in regulation induce 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

[6] 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.

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. This is consistent with anecdotal evidence that hedge funds are often acquired by financial conglomerates when they perform early fund raising activities, which is before they enter commercial databases.[7]

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, Panel A of Table 2 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.

There are no economically significant differences in performance between matched and unmatched funds. 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. The matched funds are also older and require larger minimum investments suggesting that our sample includes relatively more established

[7] The experience of Old Lane is a case in point. In the 12 months following its inception as an independent hedge fund, the management team of Old Lane approached Citygroup to market the fund to Citygroup's clients. Citygroup did not want to risk its clients' money in a fund with a too short track record and acquired Old Lane.

funds. To the extent that older non-FCAHFs enjoy higher reputation than other funds this may bias our results against finding any differences between FCAHFs and other funds.

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 stock holdings from Thomson Financial 13F filings. Since Thomson Financial 13F and the hedge funds' databases provide no common identifiers, 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 FCAHFs. We are able to match 401 management companies to our sample resulting from the intersection of ADV filings and the commercial databases. Even though the sample is reduced and the funds are older and require higher minimum investment than in the ADV matched sample, in Panel A of Table 2, the 13F matched dataset does not appear to be much different from the unmatched sample and the ADV matched sample. Therefore, we use the 13F matched 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 (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. In Panel A of Table 2, also this sample, albeit greatly reduced, appears very similar to the ADV matched and the unmatched samples.

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), higher execution shortfall corresponds more liquidity consuming trades.

2. Characteristics of FCAHFs

FCAHFs are a sizeable part of the hedge fund industry. During our sample period, we classify slightly over 30% of our sample hedge funds as FCAHFs. Among these, 16.5% are affiliated with a bank, 7% with an insurance company and the remaining with broker-dealers. As shown in Figure 2, the proportion of FCAHFs has been increasing over time, even though it decreases in 2010, possibly in anticipation of regulations after the financial crisis.

Figure 3 shows the proportion of the hedge funds' AUM managed by FCAHFs. In the aggregate, FCAHFs in our sample always control about 40% of the hedge fund industry assets under management, indicating that FCAHFs are larger than other funds. 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 2 compares a few salient characteristics of FCAHFs and other hedge funds in our ADV matched 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 somewhat higher leverage (variable *Leverage*), FCAHFs have lower propensity to use leverage than other funds (variable *Leveraged*). A larger proportion of FCAHFs are funds of funds.

Interestingly, FCAHFs appear to have higher market beta and R-squared in Fung and Hsieh's (2001) eight-factor-model regressions indicating that they have, on average, higher exposure to systematic risk and a smaller idiosyncratic component in returns.[8] The higher negative skewness and negative beta suggests that FCAHFs' exposure to systematic risk factors is particularly high during bad times, which is confirmed in later analysis. FCAHFs also have higher autocorrelation of monthly returns (rho), which, according to Getmansky, Lo and Makarov (2004), may indicate

[8] The factors can be found here: http://faculty.fuqua.duke.edu/~dah7/DataLibrary/TF-FAC.xls. They include three trend-following factors for bonds, currency, and commodities, an equity market factor (the S&P 500), the size-spread factor in U.S. equities, a bond market factor, a credit spread factor, and an emerging market index.

that they hold less liquid portfolios. Our empirical analysis explores these features of FCAHFs' strategies in more detail.

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 2 is whether affiliation to a financial conglomerate is a salient characteristic that affects hedge funds' contractual features and strategies beyond their style, size, and family characteristics. Table 3 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 column 1 of Panel A, FCAHFs appear to be larger than other funds. Investment advisers report in their ADVs the number of their clients. While some funds may be reporting the number of funds as clients, it appears that just a minority does so as the bottom percentile of registered financial advisors reports 100 clients. We can thus explore whether affiliation with a financial conglomerate allows hedge funds to attract a larger number of clients. It appears that FCAHFs have more clients (Clients Range) even after controlling for their size (column 2). This result is robust if we restrict the sample to funds with more than 10 or even 100 clients indicating that reporting differences are unlikely to drive our findings. In particular, FCAHFs have 55 more clients than non-affiliated funds, which is about as large as the mean of this variable (58 clients).

Unsurprisingly, FCAHFs attract a larger percentage of assets from banks and insurance companies (column 3). 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.

In the rest of Panel A and Panel B, we consider cross-sectional variation in some salient characteristics of the contracts that the hedge funds in our sample offer to their investors. For these variables, we do not have time-series information as these contractual features are typically established upon the fund's inception, which explains the lower number of observations. In columns 5 and 6 of Panel A, arguably because of their larger size, FCAHFs can afford to charge their investors lower management and incentive fees than other hedge funds.

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 lockup 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. Panel B of Table 3 shows that FCAHFs offer their investors strictly shorter lockup 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. Finally, there is no evidence that FCAHFs impose lower minimum investment requirements on their investors once we control for other fund characteristics.

Thus, FCAHFs offer more liquidity to their investors, a feature that is valuable (Ang and Bollen, 2010) and that improves the reputation of the fund family (Aiken, Clifford, and Ellis, 2015). In what follows, we explore whether the greater liquidity FCAHFs offer to their investors implies less fund stability or, rather, if FCAHFs can afford to offer greater liquidity to their investors thanks to more stable funding. Stable funding may also enable FCAHFs to provide liquidity in financial markets to a larger extent than other, unaffiliated, hedge funds. We also test this conjecture.

3. Financial Conglomerate Affiliation and Access to Funding

3.1 Empirical Approach

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 lower 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 FCAHFs 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 j, 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; 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.

3.2 Flows During Periods of Market Turmoil

We test whether quarterly net flows are larger during high VIX periods for FCAHFs. 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 and fund levels.

Panel A of Table 4 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 a hedge fund has flows equal to 3% of assets in an average quarter and that the standard deviation of quarterly flows is 18%.

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 are not more able to attract flows in periods of high VIX (columns 2 and 3). In particular, funds belonging to large families seem to experience large outflows in periods of high VIX. In column 4, share restrictions appear ineffective in constraining outflows during periods of high VIX, consistent with the findings of Ben David, Franzoni and Moussawi (2012).

These results suggest that FCAHFs have an edge during periods of market turmoil. This edge is unlikely to arise only because of reputation and investor trust as also funds belonging to large families, large, or older funds should enjoy higher reputation with the investors. More plausibly, being aware that FCAHFs can access

the internal capital market of the financial conglomerate, investors are less likely to run on the fund's assets in periods of high VIX.

Finally, column 6 shows that our results are not driven by the particular definition of FCAHF we use. In particular, results are qualitatively and quantitatively invariant if we exclude funds affiliated with broker-dealers and insurance companies and consider only hedge funds that are affiliated with a banking group.

In Panel B, we explore how the performance of the financial conglomerate affects FCAHFs' capital base in periods of market turmoil. To do so, we merge by name the control persons of FCAHFs, as resulting from ADV filings, with Compustat Global. This allows us to compute leverage and quarterly stock returns for about 6% percent of our sample. We define a FCAHF to belong to a conglomerate with bad performance (high leverage) if it is in the bottom (top) quartile of returns (leverage) for the merged sample during a quarter. We then explore how poor performance and high leverage of the affiliated financial institutions affect the flows into the fund over the next quarter.

The stabilizing effect on flows of a financial conglomerate affiliation seems to be reduced and even reversed if the institution is highly leveraged or has poor performance as the fund's ability to access the internal capital market is presumably reduced. This is true for all FCAHFs as well as for hedge funds affiliated with banks.

3.3 Flow-Performance Sensitivity

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. Also in these tests, we control for fund size, age, the logarithm of redemption restrictions, include fund style and time fixed effects and double-cluster standard errors at the fund and time level.

In Panel A of Table 5, we estimate the flow-performance relation unconditionally. As expected, in column 1, a higher fractional rank leads to larger flows. Column 3 shows that this relation is weaker for FCAHFs. We also distinguish the effect of flows on performance for funds in the bottom, middle, and top terciles because performance may matter most for funds with extreme performance. For instance, the results of Goetzmann, Ingersoll, and Ross (2003) suggest a concave relation between flow and performance for hedge funds indicating that performance matter most for poor performing funds. In a different sample, Agarwal, Daniel, and Naik (2004) instead find a convex relation suggesting that flows are more sensitive to performance for the best performing funds. More recently, Li, Zhang, and Zhao (2011) find the flow-performance relation to be linear. Our empirical framework can accommodate any of these functional forms.

Our estimates in column 2 suggest that the flow performance sensitivity of hedge funds is indeed high for bottom and top performing funds and is therefore consistent with concavity for low levels of performance and convexity for higher levels of performance. Importantly, in column 4, being part of a financial conglomerate appears to weaken the relation between flow and performance for

bottom-performing hedge funds (FRANK1). The less steep relation between flows and performance for FCAHFs is also apparent from Figure 1 in the introduction, where we use a Kernel-weighted local polynomial smoothing to provide a visual characterization.

This finding has important implications because, as Chevalier and Ellison (1997) argue, the shape of the flow-performance relationship affects asset managers' incentives to take risk. In particular, based on their flow-performance relationship, FCAHFs should be less concerned about underperformance than other hedge funds because they experience less outflows following weak returns. Thus, they are less likely to reduce risk taking when they underperform. In addition, FCAHFs should have weaker incentives to take risk when they are doing relatively well as better performance is unlikely to translate into much larger inflows.

The estimated effects of performance on flows are similar in columns 5 and 6, where we consider only funds that report an affiliation with a bank. However, in column 6, when we distinguish between bottom, middle and top performing funds, the effects are qualitatively similar, although not significant at conventional levels, most likely for lack of power as in these specifications we have a smaller set of affiliated funds.

In Panel B of Table 5, we show that our results are robust if we use continuous measures of performance instead of the funds' fractional rank. In particular, in columns 1 and 2, we measure performance using excess returns, in columns 3 and 4, using the alpha estimated from a Carhart (1997) four-factor model, and in columns 5 and 6 using the alpha estimated from Fung and Hsieh's (2001) eight-factor model. In all cases, the flow-performance sensitivity is smaller for FCAHFs.

In Panel C of Table 5, 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. Also, the top performing FCAHFs appear to attract lower flows during high VIX periods.

Importantly, the flow-performance sensitivity of FCAHFs remains lower even when we control for the effects of other fund characteristics, which are included in the regression as indicated on top of each column. Large funds, but not funds belonging to large families, seem to share with FCAHFs a lower flow-performance sensitivity in bad times. High-share-restrictions appear to reduce the flow-performance sensitivity during bad times at least for funds with middle levels of performance (FRANK2).

Overall, unless the conglomerate is performing very poorly, FCAHFs have more stable access to funding than other funds. This fact can explain our prior finding that FCAHFs offer their investors contracts with weaker share restrictions. Even more importantly, 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. In what follows, we explore this conjecture.

4. The Performance and Risk Taking Behavior of FCAHFs

Table 6 compares the performance of FCAHFs to that of other hedge funds, using different choices for risk adjustment. Since performance can be correlated for a given fund and across funds at a given date, we double-cluster standard errors at the fund and time levels.

The returns of FCAHFs are significantly lower than those of other funds by about 6 to 8 basis points per month whether we consider raw returns (column 1) or we

risk-adjust returns using the Carhart (1997) four-factor model (column 2) or the Fung and Hsieh (2001) eight-factor model (column 3). These effects do not depend on fund or family size or other funds characteristics. Moreover, all effects are more pronounced (between 8 and 11 basis points per month) if we consider only funds affiliated with banks and exclude funds affiliated with broker-dealers or insurance companies (columns 4-6). As we show below, the lower alpha of FCAHFs is not entirely driven by lower unconditional skill, but to some extent also by counter-cyclical exposure to aggregate market risk.

Next, we focus on risk-staking behavior. In Table 7, we start by exploring differences in return volatility, computed as the standard deviation of monthly returns on a twenty-four-month rolling window. On average FCAHFs tend to have lower volatility of returns than other hedge funds. However, in periods of market turmoil, as captured by months in which the VIX index is in the top quartile of its distribution, FCAHFs' volatility of returns increases.

The lower average volatility of FCAHFs' returns is consistent with our earlier finding of a flatter shape of FCAHFs' flow-performance relation, which implies that, on average, FCAHFs have weaker incentives to take risk. On the other hand, in bad times, FCAHFs are able to take more risk thanks to their capital stability and their weaker concerns about outflows following poor performance. This is the case for all FCAHFs as well as for hedge funds affiliated with banks (columns 1 and 4). In terms of magnitude, in column 1, FCAHFs have lower volatility of about 9.5% of a standard deviation of the dependent variable in normal times (column 1), but the volatility of their returns becomes as large as that of other funds in high-VIX periods.

For robustness, we also define proxies 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) or the Michigan Survey Center Index are in the top quartile of our sample. Consistent with our earlier findings, in columns 2 and 3, the volatility of returns of FCAHFs is lower in periods of high sentiment. These results hold also when we consider only bank-affiliated hedge funds (columns 5 and 6). Thus, when market conditions are strongest and other market participants are generally more inclined to take risk, FCAHFs seem less inclined to do so.

Next, in Table 8, we focus on the funds' exposures to aggregate risk factors. This analysis yields similar conclusion to the study of return volatility. Column 1 of Panel A shows that FCAHFs' returns have higher exposure to aggregate market risk, as measured by the CRSP-value-weighted index, in high VIX periods. The contrary is true during periods of strong market sentiment. Columns 2 and 3 show that during these months FCAHFs are less exposed to aggregate market risk than other funds, although the effect is not statistically significant when we measure market sentiment using the Baker and Wurgler's index. Incidentally, these findings are consistent with the higher negative beta of FCAHFs in Panel B of Table 2.

In Panels B and C of Table 8, we control for differential exposure to a broader set of risk factors. In particular, in Panel B, we consider the three Fama and French (1993) factors, the momentum factor (Carhart, 1997) and the Pastor and Stambaugh (2003) liquidity factor. In Panel C, we use the eight Fung and Hsieh (2001) 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.

Interestingly, in Panel B, FCAHFs appear to be more exposed to the Pastor and Stambaugh liquidity factor, as is consistent with a higher illiquidity of their

portfolios, captured by the rho in Panel C of Table 2. This effect however disappears in periods of high market sentiment, when all hedge funds appear equally inclined to absorb liquidity risk.

In some cases, controlling for differential exposures, partly explains the unconditional differences in performance, as evident from the coefficient of the financial-conglomerate dummy.

Overall, FCAHFs display a countercyclical propensity to take risk. This behavior has beneficial effects on their returns in the months that follow times of market stress. Panel A of Table 9 shows that FCAHFs exhibit higher returns than other funds in the two to four months following periods of market turmoil, suggesting that they benefit from picking assets that are temporarily undervalued and the consequent price rebounds. Moreover, they do not seem to experience significantly lower performance in the high-VIX period (lag 0). These results are obtained without controlling for factor exposures. In unreported regressions, we include the eight Fung and Hsieh (2001) factors and let their loadings vary by type of funds and by market state. The conclusions go in the same direction as in Table 9 with somewhat stronger magnitudes.

We also find evidence of return reversals when we consider only bank-affiliated hedge funds in Panel B of Table 9. Importantly, differences in returns are not only statistically but also economically significant as, e.g., three months after a high-VIX period, FCAHFs exhibit about 22 basis points higher monthly returns than other hedge funds (that is, about 2.5% higher annualized returns).

This evidence is consistent with the results Hombert and Thesmar (2014), who argue that return reversals following turbulent periods are typical of arbitrageurs that are less exposed to withdrawals and can take advantage of illiquid markets. Indeed,

thanks to a lower flow-performance sensitivity in bad times, FCAHFs are able to exploit the rebound in prices after turbulent periods. These positive returns, however, are not sufficient to compensate for weaker performance during good times as on average FCAHFs seem to underperform relative to other hedge funds (as shown in Table 6) suggesting that FCAHFs are negatively affected by governance problems or attract less skilled managers.

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 provide more direct evidence on the implications of stable funding, we investigate FCAHFs' trading. In particular, we explore how the proportion of a stock's shares outstanding held by FCAHFs and other hedge funds varies in periods of market turmoil as a function of stock characteristics, such as liquidity, volatility, and past performance.

We focus on the subsample of hedge funds that we were able to merge with Thomson Financial 13F. The unit of observation is the stock-quarter level. Since purchases of different stocks may be correlated at a given date across hedge funds, we include time fixed effects and double-cluster standard errors at the time and stock level. We also include stock fixed effects to absorb unobserved stock characteristics.

In Panel A of Table 10, we explore 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, computed as the average of the daily ratio during a quarter, and the bid-ask spread (columns 1 and 4, respectively), in normal times and during periods of high VIX. In high-VIX periods, FCAHFs increase the proportion of

shares that they hold in highly illiquid stocks, proxied by a dummy that takes value equal to one if the stock has an Amihud ratio in the top quintile. Other funds do not appear to vary their holdings of illiquid stocks (columns 2). As columns 3 shows, differences in the changes in portfolio shares between the two types of funds are statistically significant. Results are similar if we measure illiquidity using the bid-ask spread from CRSP.

Column 1 in Panel B of Table 10 shows that FCAHFs are generally less inclined than other funds to purchase high volatility stocks, but this tendency disappears during periods of market turmoil. Moreover, in high-VIX periods, FCAHFs purchase stocks that have been falling in value.

One may wonder to what extent this behavior is peculiar of FCAHFs or whether instead all financial institutions subject to capital requirements, but not to leverage constraints, tend to provide liquidity and behave as contrarian traders during periods of market turmoil, even if they do not have an affiliated hedge fund. To answer this question, we identify stock holdings of banks, trusts, and insurance companies using the Thomson Reuters Global Ownership database.

In the odd columns of Panel C, we test how their portfolio shares in stocks with different characteristics vary during periods of market turmoil. Banks and insurance companies appear to increase their holdings of illiquid stocks less than FCAHFs. Also, they do not increase their holdings of high volatility stocks in periods of high VIX and do not purchase losing stocks. In all even columns of Panel C, there appear to be significant differences in the change in holdings of FCAHFs and banks and insurance companies. Also in normal times the non-hedge fund financial conglomerates trade differently from FCAHFs and pure play hedge funds.

Overall, it appears that when market conditions deteriorate, FCAHFs take risk and increase liquidity provision to a larger extent. Thus, while the capital structure of the financial conglomerate may favor stable funding that enables contrarian trading and liquidity provision, these effects appear to be enhanced in the hedge funds of the financial conglomerates, which are less subject to regulations and presumably employ managers with better trading skills.

Table 11 shows that FCAHFs' tendency to provide liquidity in financial turmoil translates into more illiquid portfolios during these periods. The average illiquidity of the stocks held by FCAHFs (as captured by their Amihud ratio) increases with respect to other hedge funds and to the portfolios of FCAHFs in normal times.

Presumably, FCAHFs can invest in illiquid assets because the lower flow-performance sensitivity allows them to take a longer horizon on their investments during periods of market turmoil (Cella, Ellul, and Giannetti, 2013). To evaluate whether this is the case, we proxy for a hedge fund management firm's investment horizon using its equity portfolio turnover, measured as in Brunnermeier and Nagel (2004) using 13F holdings. This measure is defined as the minimum of the absolute values of buys and sells made by firm *i* during quarter *t*, divided by the total holdings at the end of quarter *t−1*, with buys and sells being measured using end-of-quarter *t−1* prices. By using the minimum of the absolute values of buys and sells, this proxy has the advantage of capturing trades unrelated to the inflows or outflows experienced by the investor. It is clear that FCAHF management firms have lower portfolio turnover than other firms in high-VIX periods indicating that they take a longer horizon on their investments and can therefore benefit from long-term reversals as shown in Table 9.

FCAHFs appear to provide liquidity during high-VIX periods also in Table 12, which focuses on the funds' average price impact, computed using trade-level data in ANcerno. 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 Tables 10 and 11.

These results confirm that FCAHFs are more inclined to take risk and to be liquidity suppliers than other funds during periods of financial turmoil.

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). The paper contributes to this debate by highlighting a so far neglected consequence of this regulatory wave. Severing the ties between financial conglomerates and hedge funds may curtail the counter-cyclical risk taking and the liquidity transformation function that 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. Consistent with the findings of Chevalier and Ellison (1997), having a flatter flow-performance relationship, FCAHFs take less risk. However, 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, allowing more 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.

References

Abbassi, Puriya, Rajkamal Iyer, Jose-Louis Peydró, and Francesc Tous, 2015, Securities Trading by Banks and Credit Supply: Micro-Evidence, forthcoming *Journal of Financial Economics*.

Adrian, Tobias and Hyun S. Shin, 2010, Liquidity and leverage, *Journal of Financial Intermediation* 19, 418–437.

Adrian, T., N. Boyarchenko, and O. Shachar. Dealer Balance Sheets and Bond Liquidity Provision, Working Paper, Federal Reserve Bank of New York.

Akbas, F., W. J. Armstrong, S. Sorescu, and A. Subrahmanyam, 2015, Smart Money, Dumb Money, and Equity Return Anomalies. *Journal of Financial Economics* 118, 355-382.

Agarwal, V., N. D. Daniel, and N. Y. Naik, 2009, Role of Managerial Incentives and Discretion in Hedge Fund Performance. *Journal of Finance* 64: 2221–2556.

Aiken, Adam L., Christopher P. Clifford, and Jesse A. Ellis, 2015, Hedge funds and discretionary liquidity restrictions, *Journal of Financial Economics* 116(1), 197-218.

Allen, Franklin and Douglas Gale, 2000, Bubbles and Crises. *Economic Journal* 110, 236-255.

Amihud, Yakov, 2002, Illiquidity and Stock Returns: Cross-Section and Time-Series Effects, *Journal of Financial Markets* 5, 31–56.

Anand, A., A. Puckett, P. Irvine and K. Venkataraman, 2013, Market crashes and institutional trading: Evidence from US equities during the financial crisis of 2007-08, *Journal of Financial Economics* 108, 773–797.

Ang, A. and Bollen, N. P.B., 2010, Locked Up by a Lockup: Valuing Liquidity as a Real Option. *Financial Management*, 39, 1069–1096.

Aragon, George O., and Philip E. Strahan, 2012, Hedge funds as liquidity providers: Evidence from the Lehman bankruptcy. *Journal of Financial Economics* 103(3), 570-587.

Baker, Malcolm, and Jeffrey Wurgler, 2006, Investor sentiment and the cross‐section of stock returns, Journal of Finance 61(4), 1645-1680.Ben-David, Itzhak, Francesco Franzoni, and Rabih Moussawi, 2012, The behavior of hedge funds during liquidity crises, *Review of Financial Studies* 25, 1–54.

Bao, J., M. O'Hara, and A. Zhou, 2016, The Volcker Rule and Market-Making in Times of Stress, *Finance and Economics Discussion Series* 2016, no. 102 (December 2016): 1–46. doi:10.17016/FEDS.2016.102.

Berzins, Janis, Crocker H. Liu, and Charles Trzcinka, 2013, Asset management and investment banking, *Journal of Financial Economics* 110(1), 215–231.

Bhattacharya, Utpal, Jung H. Lee, and Veronika K. Pool, 2013, Conflicting family values in mutual fund families. *Journal of Finance* 68, 173–200.

Brown, Stephen, William Goetzmann, Bing Liang, and Christopher Schwarz, 2008, Mandatory disclosure and operational risk: evidence from hedge fund registration, *Journal of Finance* 63, 2785–2815.

Brunnermeier, Markus, and Stefan Nagel, 2004, Hedge funds and the technology bubble, Journal of Finance 59, 2013–2040.

Brunnermeier, M. K., and L. H. Pedersen, 2009, Market liquidity and funding liquidity. *Review of Financial Studies* 22:2201–38.

Carhart, M. 1997. On persistence in mutual fund performance. *Journal of Finance* 52:57–82.

Cao, C., Y. Chen, W. N. Goetzmann, and B. Liang, 2012, The Role of Hedge Funds in the Security Price Formation Process, Working Paper, Yale University.

Cao, C., B. Liang, A. W. Lo, and L. Petrasek, 2014, Hedge Fund Holdings and Stock Market Efficiency, Working Paper, MIT.

Cella, Cristina, Andrew Ellul, and Mariassunta Giannetti, 2013, Investors' Horizons and the Amplification of Market Shocks, *Review of Financial Studies* 26, 1607–1648.

Chen Qi, Itay Goldstein, and Wei Jiang, 2010, Payoff Complementarities and Financial Fragility: Evidence from Mutual Fund Outflows, *Journal of Financial Economics* 97, 239-262.

Chevalier, J., and G. Ellison, 1997, Risk taking by mutual funds as a response to incentives, *Journal of Political Economy* 105, 1167-200.

Dimmock, S. G. and W. C. Gerken, 2012, Predicting fraud by investment managers, *Journal of Financial Economics* 105, 153–173.

Dimmock, S. G. and W. C. Gerken, 2015, Regulatory Oversight and Return Misreporting by Hedge Funds, *Review of Finance*, forthcoming.

Duffie, D., 2012, Market making under the proposed Volcker rule, Working Paper, Rock Center for Corporate Governance, Stanford University.

Fama, Eugene F., and Kenneth R. French, 1993, Common risk factors in the returns on stocks and bonds, *Journal of Financial Economics* 33(1), 3-56.

Fama, E. F. and M. C. Jensen, 1983, Agency problems and residual claims. *Journal of Law and Economics*, 26, 327–349.

Fang, Lily, Victoria Ivashina, and Josh Lerner, 2013, Combining Banking with Private Equity Investing, *Review of Financial Studies* 26, 2139–2173.

Ferreira, Miguel A., Pedro Matos, and Pedro Pires, 2015, Asset Management Within Commercial Banking Groups: International Evidence, University of Virginia Working Paper.

Franzoni, Francesco, and Alberto Plazzi, 2015, Do Hedge Funds Provide Liquidity? Evidence from their Trades. Swiss Finance Institute Working Paper.

Fung, William, and David A. Hsieh, 2001, The risk in hedge fund strategies: Theory and evidence from trend followers, *Review of Financial Studies* 14(2), 313-341.

Getmansky, Mila, Andrew W Lo, and Igor Makarov. 2004. An Econometric Model of Serial Correlation and Illiquidity in Hedge Fund Returns, *Journal of Financial Economics* 74, 529–609.

Giannetti, Mariassunta and Bige Kahraman, 2017, Open-end Organizational Structures and Limits to Arbitrage, *Review of Financial Studies*, forthcoming.

Goetzmann, W. N., J. E. Ingersoll, and S. A. Ross. 2003. High-water Marks and Hedge Fund Management Contracts, *Journal of Finance* 58, 1685–718.

Goldstein, Itay, Hao Jiang, and David T. Ng, 2015, Investor Flows and Fragility in Corporate Bond Funds, University of Pennsylvania Working Paper.

Golez, Benjamin, and Jose M. Marin, 2015, Price support by bank-affiliated mutual funds, *Journal of Financial Economics* 115(3), 614-638.

Griffin, John M., Jeffrey H. Harris, Tao Shu, T., and Selim Topaloglu, 2011, Who drove and burst the tech bubble? *Journal of Finance* 66(4), 1251–1290.

Grinblatt, Mark, Gergana Jostova, Lubomir Petrasek, and Alexander Philipov, 2016, Style and Skill: Hedge Funds, Mutual Funds, and Momentum. Working Paper, UCLA.

Gromb, Denis, and Dimitri Vayanos. 2002, Equilibrium and welfare in markets with financially constrained arbitrageurs, *Journal of Financial Economics* 66(2), 361-407.

Hanson, Samuel G, Andrei Shleifer, Jeremy C Stein, and Robert W Vishny, 2015, Banks as Patient Fixed-Income Investors. *Journal of Financial Economics* 117, 449–69.

He, Zhigu, and Arvind Krishnamurthy, 2012, A Model of Capital and Crises, *Review of Economic Studies* 79 (2), 735-777.

He, Zhiguo, and Arvind Krishnamurthy, 2013, Intermediary asset pricing, *American Economic Review* 103(2), 732-770.

He, Z., B. Kelly, and A. Manela, 2016, Intermediary Asset Pricing: New Evidence From Many Asset Classes, Working Paper, University of Chicago.

Hombert, Johan, and David Thesmar, 2014, Overcoming limits of arbitrage: Theory and evidence, *Journal of Financial Economics* 111(1), 26-44.

Jame, Russell, 2015, Liquidity Provision and the Cross-Section of Hedge Fund Skill, Working Paper, University of Kentucky.

Jiménez, Gabriel, Steven Ongena, José-Luis Peydró, and Jesús Saurina, 2014, Hazardous Times for Monetary Policy: What Do Twenty-Three Million Bank Loans Say About the Effects of Monetary Policy on Credit Risk-Taking? *Econometrica* 82, 463–505.

Jylha, Petri, Kalle Rinne, and Matti Suominen, 2014, Do Hedge Funds Supply or Demand Liquidity? *Review of Finance* 18, 1259-1298.

Kacperczyk, Marcin, and Philip Schnabl, 2013, How Safe Are Money Market Funds? *Quarterly Journal of Economics* 128, 1073-1122.

Kokkonen, J. and M. Suominen, 2015, Hedge Funds and Stock Market Efficiency. *Management Science* 61, 2890-2904.

Lemmon, M., and E. Portniaguina, 2006, Consumer confidence and asset prices: Some empirical evidence, *Review of Financial Studies* 19, 1499-1529.

Li, H., X. Zhang, and R. Zhao. 2011. Investing in Talents: Manager Characteristics and Hedge Fund Performances. *Journal of Financial and Quantitative Analysis* 46, 59–82.

Massa, M. and Z. Rehman, 2008, Information flows within financial conglomerates: Evidence from the banks–mutual funds relation. *Journal of Financial Economics* 89, 288–306.

Nagel, S., 2012, Evaporating liquidity, *Review of Financial Studies* 25, 2005–2039.
Pastor, L., and R. F. Stambaugh, 2003, Liquidity risk and expected stock returns. *Journal of Political Economy* 111:642–85.
Shleifer, A., and R. W. Vishny, 2010, Unstable Banking, *Journal of Financial Economics* 97, 306–18.
Stein, J. C., 2005, Why are most funds open-end? Competition and the limits to arbitrage. *Quarterly Journal of Economics* 120:247–72.
Trebbi, F., and K. Xiao, 2016, Regulation and Market Liquidity, Working Paper, University of British Columbia.

Table 1
Largest FCAHFs

This table lists the largest FCAHFs for AUM in our sample as of December 2013

Advisor Name	Assets ($ million)
ENTRUST CAPITAL INC.	5360.18
SKYBRIDGE CAPITAL II, LLC	3905.00
J.P. MORGAN ALTERNATIVE ASSET MANAGEMENT, INC.	2957.00
BNY MELLON ARX INVESTIMENTOS LTDA	2372.71
SECURITY INVESTORS, LLC	2071.69
WELLINGTON MANAGEMENT COMPANY, LLP	1900.69
LGT CAPITAL PARTNERS (USA) INC.	1846.00
KAYNE ANDERSON CAPITAL ADVISORS LP	1393.50
BRINKER CAPITAL INC	929.24
BNP PARIBAS INVESTMENT PARTNERS UK LTD	821.91
MERRILL LYNCH INVESTMENT MANAGERS INTERNATIONAL, LIMI	785.82
GREYLOCK CAPITAL MANAGEMENT, LLC	630.00
MERCER GLOBAL INVESTMENTS, INC.	617.38
BNP PARIBAS INVESTMENT PARTNERS UK LTD	585.91
CHENAVARI CREDIT PARTNERS LLP	520.22
ALCENTRA, INC.	416.05
RIMA MANAGEMENT LLC	336.00
JENNISON ASSOCIATES LLC	332.37
ING INVESTMENT MANAGEMENT CO. LLC	317.10
NAPIER PARK CAPITAL MANAGEMENT LLC	311.10

Table 2
Descriptive Statistics

Panel A compares the mean of salient fund characteristics for the unmatched funds in the union dataset, our universe, the funds in the union dataset matched with the ADV files, and the match of the latter with 13F filings and the ANcerno dataset, respectively. Panel B compares FCAHFs and other hedge funds in our main sample (ADV matched). Panel C reports summary statistics on the main variables that are used in the analysis. Variable definitions are provided in the Appendix Table A1.

Panel A: Characteristics of ADV Matched and Unmatched Samples

	Unmatched		ADV Matched		13F Matched		Ancerno Matched	
	N	Mean	N	Mean	N	Mean	N	Mean
TNA ($ million)	259,839	82	257,713	151	26,019	220	8,135	119
Monthly Returns	369,311	0.003	382,641	0.003	31,531	0.004	11,190	0.003
Alpha (Carhart)	242,416	0.001	285,975	0.0013	25,765	0.0017	8,604	0.0008
Alpha (Fung and Hsieh)	242,074	0.002	286,083	0.0014	25,798	0.0016	8,604	0.0010
Quarterly Flows	212,156	0.050	229,776	0.042	22,871	0.035	6,878	0.030
Fund Age (in months)	384,317	59.500	389,969	68.300	32,202	83.500	11,575	69.800
Share Restrictions (in days)	189,618	281	279,672	197	24,830	247	9,009	206
Management Fee	384,317	1.500	389,969	1.460	32,202	1.370	11,493	1.260
Incentive Fee	384,317	17.300	389,969	15.500	32,077	18.100	11,282	16.000
Minimum investment	355,614	735633	363,869	906867	32,054	1212748	11,404	1098512
Style:								
Equity Hedge	384,317	0.420	389,969	0.348	32,202	0.593	11,575	0.590
Event Driven	384,317	0.058	389,969	0.068	32,202	0.118	11,575	0.059
Fund of Funds	384,317	0.232	389,969	0.276	32,202	0.061	11,575	0.135
Macro	384,317	0.165	389,969	0.114	32,202	0.075	11,575	0.059
Relative Value	384,317	0.053	389,969	0.073	32,202	0.093	11,575	0.100
Other	384,317	0.071	389,969	0.122	32,202	0.061	11,575	0.057

Panel B: FCAHFs and Other Hedge Funds

	FCAHFs		Other Hedge Funds	
	N	Mean	N	Mean
TNA ($ million)	85,450	185	172,263	135
Family Size	131,021	13.800	258,948	10.700
Age	131,021	62.500	258,948	71.300
Leveraged	116,634	0.475	230,300	0.527
Leverage (%)	72,297	46.100	172,789	42.400
Beta	93,867	0.242	191,184	0.225
Negative Beta	94,261	0.262	191,302	0.238
Skewness	93,453	-0.219	189,742	-0.168
Max Draw Down	90,748	0.073	186,564	0.062
R-squared (Fungh and Hsieh)	93,065	0.343	189,722	0.303
Rho	93,378	0.148	191,366	0.129
Style:				
Equity Hedge	131,021	0.288	258,948	0.378
Event Driven	131,021	0.060	258,948	0.072
Fund of Funds	131,021	0.391	258,948	0.217
Macro	131,021	0.100	258,948	0.120
Relative Value	131,021	0.081	258,948	0.068
Other	131,021	0.081	258,948	0.143

Panel C: Summary Statistics of the Regression Samples

	N	Mean	Std Dev	Min	p25	Median	p75	Max
Fund Quarterly Dataset:								
Fin Cong	48,425	0.310	0.460	0.000	0.000	0.000	1.000	1.000
Bank	39,406	0.165	0.371	0.000	0.000	0.000	0.000	1.000
Log Size	48,425	14.700	6.170	-2.980	13.900	17.300	18.700	24.000
Age (months)	48,425	75	56	7	32	60	105	361
Quarterly Return	48,425	0.010	0.050	-0.280	0.000	0.000	0.040	0.410
Quarterly Flows	48,425	0.030	0.180	-0.460	-0.040	0.000	0.070	1.110
Restrictions (days)	48,425	230	222	1	60	120	450	1170
Quarterly Return of Control Person	504	0.045	0.165	-0.492	-0.040	0.034	0.115	1.140
Book Leverage of Control Person	445	0.234	0.216	0.000	0.039	0.158	0.439	0.779
Low Past Return of Control Person	48,425	0.003	0.051	0.000	0.000	0.000	0.000	1.000
High Leverage of Control Person	48,425	0.003	0.055	0.000	0.000	0.000	0.000	1.000
Fund Monthly Dataset:								
% Assets Fin Inst	257,572	3.420	13.600	0.000	0.000	0.000	0.000	100.000
Number of Funds	257,572	11	10	0	2	9	18	99
Clients Range	257,572	58	122	0	5	18	63	600
Excess Return (%)	172,902	0.301	2.870	-13.000	-0.460	0.012	1.380	13.500
Alpha (Carhart) (%)	130,676	0.140	0.663	-2.200	-0.249	0.016	0.481	2.680
Alpha (Fung and Hsieh) (%)	130,807	0.143	0.696	-2.340	-0.250	0.016	0.490	3.130
Volatility (%)	129,196	2.280	1.760	0.007	0.850	2.130	3.500	7.190
Beta	129,982	0.222	0.296	-0.609	0.004	0.147	0.381	1.250
Negative Beta	130,374	0.240	0.419	-1.090	0.001	0.131	0.463	1.940
Skewness	128,958	-0.183	0.619	-2.110	-0.567	-0.165	0.208	1.620
R-squared (Fungh and Hsieh)	129,607	0.311	0.301	-0.367	0.075	0.320	0.552	0.893
Fund Cross-Sectional Dataset:								
Lock Up Period (days)	5,693	74	152	0	0	0	0	720
Redemption Period (days)	5,693	41	28	0	30	30	60	105
Redemption Frequency (days)	5,693	66	71	0	30	30	90	365
Management Fee (%)	5,693	1	1	0	1	2	2	3
Incentive Fee (%)	5,693	15	8	0	10	20	20	50
Minimum Investment ($ million)	5,693	7	151	0	0	1	1	5000
Stock-Quarter Dataset:								
ΔOwnership by FCAHFs (%)	98,250	-0.098	1.380	-6.640	-0.500	-0.021	0.358	4.220
ΔOwnership by Other HFs (%)	89,096	-0.192	0.844	-5.080	-0.303	-0.038	0.061	2.380
ΔOwnership by Other FCs (%)	95,768	-0.013	0.535	-10.200	-0.076	0.000	0.068	10.400
Volatility	87,306	0.021	0.013	0.001	0.013	0.018	0.026	0.651
Quarterly Return	98,250	0.037	0.177	-0.334	-0.073	0.035	0.145	0.393
Amihud Ratio	87,306	0.012	0.037	0.000	0.000	0.002	0.007	0.893
Bid-Ask Spread	87,249	0.003	0.006	0.000	0.001	0.002	0.003	0.205
Price Impact FCAHFs (%)	86,300	0.141	0.396	-1.210	-0.064	0.098	0.315	1.870
Price Impact Other HFs (%)	86,300	0.039	0.191	-0.647	-0.039	0.005	0.113	0.858
Log Mkt Cap	87,112	7.320	1.420	2.730	6.260	7.070	8.130	13.300
Book-to-Market	86,561	0.566	0.417	-0.062	0.296	0.480	0.730	10.100
ROA (Return on Assets)	87,035	0.008	0.053	-4.920	0.002	0.011	0.022	0.545
1/Price	87,139	0.057	0.062	0.008	0.025	0.039	0.065	1.980
IOR (institutional ownership ratio)	87,139	0.727	0.234	0.001	0.585	0.768	0.899	1.270
Management Firm-Quarter Dataset:								
Portfolio Turnover (%)	4,484	0.122	0.091	0.000	0.056	0.103	0.165	0.983
Portfolio Amihud (×100)	4,361	0.003	0.007	0.000	0.001	0.001	0.003	0.144
Log Firm Size	3,743	15.200	6.450	-2.810	7.420	18.200	19.600	24.200
Log Firm Age	4,484	3.350	0.923	0.000	2.710	3.470	4.040	5.140

Table 3
Characteristics of FCAHFs

The dependent variable is indicated on top of each column. In Panel A, columns (1) through (3) report estimates from pooled regressions at the monthly frequency with time and style fixed effects. The unit of observation is the fund month. Standard errors are clustered at the time and fund level. Columns (4) and (5) of Panel A and all specifications of Panel B report estimates from cross-sectional regressions. Standard errors are clustered at the fund level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Panel A. Clienteles and Fees

Dependent Variable:	Log Size	Clients Range	% Assets Fin Inst	Management Fee	Incentive Fee
	(1)	(2)	(3)	(4)	(5)
Fin Cong	1.841***	54.789***	5.056***	-0.083***	-0.820***
	(9.271)	(10.717)	(7.948)	(-6.008)	(-4.596)
Log Size		-0.878**	0.035	0.001	0.014
		(-2.295)	(0.982)	(1.039)	(0.956)
Log Age	0.470***	3.282*	-0.229	-0.063***	-0.058
	(5.891)	(1.922)	(-1.484)	(-7.080)	(-0.502)
Number of Funds		-0.751***	-0.070***	-0.000	-0.018**
		(-4.958)	(-3.625)	(-0.527)	(-2.149)
Month FE	Yes	Yes	Yes	No	No
Style FE	Yes	Yes	Yes	Yes	Yes
Observations	257,572	257,572	257,572	5,693	5,693
AdjR2	0.067	0.055	0.034	0.051	0.333

Panel B. Performance Features

Dependent Variable:	Lockup Period	Redemption Notice Period	Redemption Frequency	Log Totrest	Minimum Investment
	(1)	(2)	(3)	(4)	(5)
Fin Cong	-17.384***	-5.270***	-5.719***	-0.249***	4.847
	(-4.104)	(-6.894)	(-2.891)	(-8.070)	(1.125)
Log Size	-13.025***	-1.846***	6.232***	0.012	0.873
	(-4.716)	(-3.705)	(4.833)	(0.621)	(0.311)
Log Age	-1.619***	0.032	-0.094	-0.005***	0.252
	(-8.318)	(0.916)	(-1.040)	(-3.388)	(1.273)
Number of Funds	-2.568***	0.249***	0.722***	-0.009***	0.530
	(-7.212)	(3.877)	(4.343)	(-3.632)	(1.462)
Style FE	Yes	Yes	Yes	Yes	Yes
Observations	5,693	5,693	5,693	5,693	5,693
AdjR2	0.048	0.083	0.045	0.053	0.097

Table 4
FCAHFs and Net Flows During Periods of Financial Turmoil

In this table we regress quarterly fund flows on a dummy that takes value equal to one if during the previous quarter the VIX is in the top quartile of our sample period on fund characteristics. In Panel B, the institution indicates whether we consider all FCAHFs (labeled Fin Cong) or only the ones affiliated with a bank. All regressions include time and style fixed effects and standard errors are clustered at the quarter and fund level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Panel A. Baseline Results

DependentVariable:	QuarterlyFlows					
	(1)	(2)	(3)	(4)	(5)	(6)
HighVix×FinCong	0.009**	0.009**	0.009**	0.009**	0.009**	
	(2.462)	(2.374)	(2.506)	(2.445)	(2.508)	
HighVix×Bank						0.010**
						(2.072)
HighVix×LargeFund		-0.002			-0.008	-0.012*
		(-0.277)			(-1.105)	(-1.747)
HighVix×LargeFamily			-0.025***		-0.027***	-0.032***
			(-2.879)		(-3.011)	(-3.266)
HighVix×HighRest				-0.002	-0.002	0.004
				(-0.344)	(-0.284)	(0.634)
FinCong	-0.009***	-0.010***	-0.010***	-0.010***	-0.010***	-0.014***
	(-4.048)	(-4.183)	(-4.196)	(-4.152)	(-4.346)	(-5.069)
LargeFund		0.016***			0.017***	0.018***
		(4.014)			(4.379)	(4.279)
LargeFamily			0.013***		0.010**	0.012**
			(2.759)		(2.022)	(2.219)
HighRest				0.012***	0.012***	0.010***
				(4.427)	(4.372)	(3.588)
LogTotrest	0.003***	0.003***	0.003***	-0.001	-0.001	-0.001
	(3.328)	(3.207)	(3.519)	(-0.672)	(-0.641)	(-0.591)
LogAge	-0.030***	-0.031***	-0.030***	-0.030***	-0.031***	-0.032***
	(-18.319)	(-18.386)	(-18.085)	(-18.384)	(-18.296)	(-18.363)
LogSize	-0.001***	-0.002***	-0.001***	-0.001***	-0.002***	-0.002***
	(-4.692)	(-5.314)	(-3.432)	(-4.572)	(-4.422)	(-4.157)
LaggedFRANK	0.077***	0.077***	0.078***	0.076***	0.078***	0.081***
	(14.108)	(13.931)	(14.768)	(14.073)	(14.551)	(14.979)
LaggedFlows	0.273***	0.271***	0.272***	0.273***	0.269***	0.267***
	(25.553)	(25.777)	(25.537)	(25.534)	(25.591)	(24.058)
QuarterFE	Yes	Yes	Yes	Yes	Yes	Yes
StyleFE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	48,425	48,425	48,425	48,425	48,425	39,639
AdjR2	0.178	0.179	0.179	0.179	0.180	0.182

Panel B. Heterogeneity by Financial Conglomerates' Performance and Leverage

Dependent Variable:	Quarterly Flows					
Institution:	Fin Cong		Bank	Fin Cong		Bank
	(1)	(2)	(3)	(4)	(5)	(6)
High Vix×Low Past Return	-0.077**	-0.077**	-0.072*			
	(-2.633)	(-2.616)	(-1.932)			
High Vix×High Leverage				-0.065*	-0.070**	-0.092**
				(-1.869)	(-2.116)	(-2.125)
High Vix×Institution	0.010**	0.010**	0.011**	0.010**	0.010**	0.011*
	(2.539)	(2.644)	(2.121)	(2.564)	(2.678)	(1.980)
High Vix×Large Fund		-0.008	-0.012*		-0.008	-0.012
		(-1.112)	(-1.730)		(-1.085)	(-1.617)
High Vix×Large Family		-0.027***	-0.032***		-0.027***	-0.032***
		(-3.012)	(-3.260)		(-3.014)	(-3.235)
High Vix×High Rest		0.002	0.004		0.002	0.004
		(0.332)	(0.645)		(0.373)	(0.668)
Institution	-0.010***	-0.010***	-0.014***	-0.010***	-0.010***	-0.014***
	(-4.059)	(-4.379)	(-5.059)	(-4.103)	(-4.344)	(-5.034)
Low Past Return	0.002	0.002	-0.012			
	(0.095)	(0.138)	(-0.663)			
High Leverage				0.015	0.014	0.007
				(0.843)	(0.808)	(0.401)
Large Fund		0.017***	0.018***		0.017***	0.018***
		(4.381)	(4.288)		(4.338)	(4.265)
Large Family		0.010**	0.012**		0.010**	0.012**
		(2.027)	(2.217)		(2.024)	(2.217)
High Rest		0.011***	0.010***		0.011***	0.010***
		(4.001)	(3.579)		(3.962)	(3.589)
Log Totrest	0.077***	0.078***	0.081***	0.077***	0.078***	0.081***
	(14.100)	(14.535)	(14.992)	(14.109)	(14.549)	(14.775)
Log Age	0.273***	0.269***	0.267***	0.273***	0.269***	0.267***
	(25.566)	(25.615)	(24.084)	(25.555)	(25.601)	(24.041)
Log Size	0.003***	-0.001	-0.001	0.003***	-0.001	-0.001
	(3.334)	(-0.625)	(-0.572)	(3.327)	(-0.648)	(-0.598)
Lagged FRANK	-0.030***	-0.031***	-0.032***	-0.030***	-0.031***	-0.032***
	(-18.319)	(-18.302)	(-18.368)	(-18.311)	(-17.949)	(-17.748)
Lagged Flows	-0.001***	-0.002***	-0.002***	-0.001***	-0.002***	-0.002***
	(-4.696)	(-4.425)	(-4.167)	(-4.693)	(-4.422)	(-4.153)
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	48,425	48,425	39,639	48,425	48,425	39,639
AdjR2	0.177	0.179	0.181	0.177	0.179	0.181

Table 5
The Flow-Performance-Sensitivity of FCAHFs

This table estimates the flow performance sensitivity for FCAHFs. We regress quarterly flows on the funds' fractional rank at the end of the previous quarter and control variables. In Panel A and Panel C, 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). Panel B considers alternative measures of fund performance, estimated using the model indicated on top of each column. Panel C differs from Panel A for the inclusion of interactions with control variables. The institution indicates whether we consider all FCAHFs or only the ones affiliated with a bank. All regressions include time and style fixed effects and standard errors are clustered at the quarter and fund level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Panel A. Baseline Results

Dependent Variable:	Quarterly Flows					
Institution:			Fin Cong		Bank	
	(1)	(2)	(3)	(4)	(5)	(6)
FRANK	0.079***		0.084***		0.085***	
	(13.744)		(15.101)		(15.347)	
FRANK×Institution			-0.019**		-0.023**	
			(-2.529)		(-2.172)	
FRANK1		0.096***		0.111***		0.110***
		(6.295)		(6.761)		(6.513)
FRANK2		0.056***		0.054***		0.057***
		(3.544)		(3.201)		(3.345)
FRANK3		0.104***		0.113***		0.111***
		(6.379)		(6.445)		(6.352)
FRANK1×Institution				-0.048**		-0.042
				(-2.342)		(-1.061)
FRANK2×Institution				0.006		-0.013
				(0.353)		(-0.499)
FRANK3×Institution				-0.035		-0.019
				(-1.341)		(-0.545)
Institution			0.003	0.008	0.001	0.004
			(0.785)	(1.548)	(0.174)	(0.439)
Log Size	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***
	(-7.099)	(-7.198)	(-6.969)	(-7.035)	(-6.989)	(-6.987)
Log Age	-0.026***	-0.026***	-0.026***	-0.027***	-0.028***	-0.028***
	(-17.974)	(-17.858)	(-18.094)	(-17.982)	(-17.988)	(-17.904)
Log Totrest	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***
	(3.589)	(3.559)	(3.298)	(3.265)	(3.174)	(3.131)
Lagged Flows	0.271***	0.271***	0.271***	0.271***	0.269***	0.268***
	(25.618)	(25.595)	(25.546)	(25.533)	(23.950)	(23.932)
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	48,840	48,840	48,840	48,840	40,042	40,042
AdjR2	0.181	0.181	0.181	0.181	0.182	0.182

Panel B. Alternative Measures of Performance

Dependent Variable:	Quarterly Flows					
Factor Model:	No Risk Adjustment		Carhart		Fung and Hsieh	
	(1)	(2)	(3)	(4)	(5)	(6)
Alpha	0.375***	0.398***	1.152***	1.214***	1.090***	1.165***
	(9.464)	(10.756)	(13.637)	(12.232)	(14.882)	(14.749)
Alpha×Fin Cong		-0.083**		-0.224*		-0.267**
		(-2.154)		(-1.823)		(-2.362)
Fin Cong		-0.005**		-0.004*		-0.004*
		(-2.411)		(-1.792)		(-1.738)
Log Size	-0.002***	-0.002***	-0.003***	-0.003***	-0.002***	-0.002***
	(-5.914)	(-5.752)	(-7.227)	(-7.092)	(-6.639)	(-6.509)
Log Age	-0.027***	-0.027***	-0.013***	-0.014***	-0.014***	-0.014***
	(-18.238)	(-18.372)	(-8.618)	(-8.643)	(-8.811)	(-8.848)
Log Totrest	0.003***	0.003***	0.001	0.001	0.002*	0.001*
	(4.091)	(3.784)	(1.445)	(1.289)	(1.837)	(1.681)
Lagged Flows	0.273***	0.273***	0.260***	0.260***	0.260***	0.259***
	(25.465)	(25.420)	(20.648)	(20.652)	(20.599)	(20.613)
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	48,840	48,840	37,312	37,312	36,742	36,742
AdjR2	0.175	0.176	0.140	0.140	0.136	0.136

Panel C. Flow-Performance Sensitivity in Periods of Market Turmoil

Dependent Variable:	Quarterly Flows			
Control Variable:	Large Fund	Large Family	High Restrictions	High Age
	(1)	(2)	(3)	(4)
FRANK1× High Vix×Fin Cong	-0.171***	-0.201***	-0.178***	-0.162***
	(-3.882)	(-4.425)	(-4.083)	(-3.819)
FRANK2×High Vix×Fin Cong	0.031	0.038	0.040	0.023
	(0.760)	(0.958)	(1.023)	(0.572)
FRANK3×High Vix×Fin Cong	-0.116**	-0.126**	-0.099*	-0.106*
	(-2.028)	(-2.248)	(-1.732)	(-1.831)
FRANK1×High Vix×Control	-0.114**	0.175*	-0.009	-0.048
	(-2.579)	(1.962)	(-0.195)	(-1.286)
FRANK2×High Vix× Control	-0.030	-0.177***	-0.101***	-0.102**
	(-0.679)	(-2.724)	(-2.863)	(-2.330)
FRANK3×High Vix× Control	-0.023	-0.095	-0.075	-0.152***
	(-0.432)	(-1.221)	(-1.383)	(-3.275)
FRANK1×Fin Cong	0.062**	0.081***	0.066**	0.052**
	(2.255)	(3.007)	(2.554)	(2.114)
FRANK2×Fin Cong	0.022	0.021	0.015	0.031
	(0.986)	(0.963)	(0.686)	(1.350)
FRANK3×Fin Cong	0.072**	0.094***	0.057*	0.060*
	(2.328)	(3.044)	(1.819)	(1.829)
FRANK1×Control	0.087***	0.012	0.058**	0.060***
	(3.282)	(0.258)	(2.247)	(3.152)
FRANK2×Control	0.062**	0.076*	0.068***	0.030*
	(2.615)	(1.734)	(3.096)	(1.686)
FRANK3×Control	0.076**	0.020	0.097***	0.068***
	(2.655)	(0.400)	(4.589)	(3.089)
FRANK1×High Vix	0.160***	0.097***	0.130***	0.147***
	(5.179)	(3.879)	(4.033)	(5.822)
FRANK2×High Vix	0.006	0.049	0.028	0.052
	(0.156)	(1.522)	(0.746)	(1.323)
FRANK3×High Vix	0.064	0.093***	0.075	0.130***
	(1.511)	(2.872)	(1.646)	(2.741)
High Vix×Fin Cong	0.052***	0.060***	0.050***	0.049***
	(4.392)	(5.108)	(4.377)	(4.235)
Fin Cong	-0.032***	-0.038***	-0.031***	-0.030***
	(-4.246)	(-5.343)	(-4.459)	(-4.135)
High Vix×Control	0.024*	-0.009	0.021	0.039***
	(2.001)	(-0.465)	(1.672)	(4.000)
Control	-0.031***	-0.028***	-0.022***	-0.021***
	(-5.517)	(-2.934)	(-3.628)	(-3.791)
Log Size	-0.002***	-0.002***	-0.002***	-0.002***
	(-4.589)	(-6.914)	(-6.059)	(-5.319)
Log Age	-0.028***	-0.027***	-0.027***	-0.029***
	(-19.859)	(-18.191)	(-18.336)	(-12.924)
Log Totrest	0.003***	0.003***	0.000	0.003***
	(3.890)	(4.119)	(0.126)	(3.903)
Lagged Flows	0.272***	0.274***	0.272***	0.272***
	(25.008)	(25.541)	(25.496)	(25.189)
Quarter FE	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes
Observations	48,840	48,840	48,840	48,840
AdjR2	0.174	0.172	0.175	0.173

Table 6
The Performance of Financial-Conglomerate-Affiliated Hedge Funds

The dependent variables are alternative measures of fund performance (in percent): the monthly excess return and the monthly alphas from the Carhart (1997) and Fung and Hsieh (2001) models. The unit of observation is the fund-month. The institution indicates whether we consider all FCAHFs (labeled Fin Cong) or only the ones affiliated with a bank. All regressions include time and style fixed 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.

Institution:	Fin Cong			Bank		
Dependent Variable:	Excess Return	Alpha (Carhart)	Alpha (FS)	Excess Return	Alpha (Carhart)	Alpha (FS)
	(1)	(2)	(3)	(4)	(5)	(6)
Institution	-0.081***	-0.063***	-0.067***	-0.111***	-0.085***	-0.081***
	(-3.382)	(-4.088)	(-4.102)	(-3.205)	(-4.177)	(-3.745)
Large Fund	-0.040	0.116***	0.095***	-0.049	0.112***	0.091***
	(-0.988)	(5.877)	(4.710)	(-1.198)	(5.064)	(3.947)
Large Family	-0.005	-0.044*	-0.018	-0.016	-0.071**	-0.033
	(-0.088)	(-1.868)	(-0.806)	(-0.269)	(-2.551)	(-1.185)
Log Size	0.042***	0.026***	0.027***	0.042***	0.023***	0.026***
	(4.611)	(10.331)	(12.842)	(4.715)	(8.688)	(10.942)
Log Age	-0.081***	-0.114***	-0.100***	-0.080***	-0.111***	-0.099***
	(-5.139)	(-8.683)	(-7.086)	(-5.298)	(-7.536)	(-6.177)
Log Totrest	0.046***	0.037***	0.032***	0.048***	0.037***	0.028***
	(2.625)	(5.055)	(4.436)	(2.650)	(4.585)	(3.509)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	172,902	130,676	130,807	140,420	106,042	106,154
AdjR2	0.180	0.168	0.137	0.167	0.168	0.136

Table 7
Volatility of Returns

The dependent variable is the fund's return volatility (in percent) 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. The market condition variables are the VIX index, the University of Michigan Sentiment Index of Consumer Sentiment and the Baker and Wurgler (2006) Sentiment Index. The institution indicates whether we consider all FCAHFs (labeled Fin Cong) or only the ones affiliated with a bank. 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					
Institution:	Fin Cong			Bank		
Market Conditions:	Weak	Strong		Weak	Strong	
Market Conditions Proxy:	VIX	U. Michigan	Baker-Wurgler	VIX	U. Michigan	Baker-Wurgler
	(1)	(2)	(3)	(4)	(5)	(6)
Institution	-0.168***	-0.080	-0.087	-0.308***	-0.199***	-0.202**
	(-3.027)	(-1.491)	(-1.520)	(-3.993)	(-2.623)	(-2.548)
Mkt Cond×Institution	0.167***	-0.213***	-0.147***	0.215***	-0.271***	-0.205***
	(4.642)	(-3.409)	(-2.932)	(4.595)	(-3.238)	(-3.314)
Large Fund	-0.727***	-0.725***	-0.726***	-0.689***	-0.687***	-0.688***
	(-11.783)	(-11.780)	(-11.771)	(-9.849)	(-9.834)	(-9.848)
Large Family	-0.232***	-0.238***	-0.234***	-0.328***	-0.329***	-0.329***
	(-3.387)	(-3.466)	(-3.410)	(-4.248)	(-4.264)	(-4.261)
Log Size	0.194***	0.193***	0.193***	0.190***	0.190***	0.190***
	(30.828)	(30.833)	(30.841)	(27.903)	(27.906)	(27.947)
Log Age	-0.001	-0.000	-0.001	-0.001	-0.001	-0.002
	(-0.017)	(-0.003)	(-0.030)	(-0.030)	(-0.022)	(-0.034)
Log Totrest	-0.046**	-0.045*	-0.046**	-0.044*	-0.043*	-0.044*
	(-2.017)	(-1.975)	(-2.005)	(-1.749)	(-1.698)	(-1.737)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	129,196	129,196	129,196	105,115	105,115	105,115
AdjR2	0.469	0.469	0.469	0.485	0.485	0.485

Table 8
Conditional Exposures and Performance

In all panels, the dependent variable is the monthly fund return in excess of the risk free rate in percent. 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. The market condition variables are the VIX index, the University of Michigan Sentiment Index of Consumer Sentiment and the Baker and Wurgler (2006) Sentiment Index. In Panel A, we consider only the market risk as aggregate risk factor. In Panel B we use a five-factor model including the excess return on the market (Mtrf), the Fama and French (1993) SMB and HML factors, the momentum factor UMD (Carhart, 1997), and the Pastor and Stambaugh (2003) liquidity factor, PS. In Panel C, we use the Fung and Hsieh (2001) model, with eight factors: including emerging market returns. 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. In Panels B and C, the levels of the factors and all their double interactions with market conditions are also included in the regressions, but in some cases omitted from the table to save space. The institution indicates whether we consider all FCAHFs (labeled Fin Cong) or only the ones affiliated with a bank. Standard errors are double-clustered at the fund and month level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Panel A: One- Factor Model

Dependent Variable:	Monthly Excess Return					
Institution:	Fin Cong			Bank		
Market Conditions:	Weak	Strong		Weak	Strong	
Market Conditions Proxy:	VIX	U. Michigan	Baker-Wurgler	VIX	U. Michigan	Baker-Wurgler
	(1)	(2)	(3)	(4)	(5)	(6)
Institution	-0.056	-0.061	-0.104**	-0.084*	-0.107*	-0.135**
	(-1.494)	(-1.380)	(-2.305)	(-1.829)	(-1.922)	(-2.351)
Mktrf×Mkt Cond×Institution	0.057***	-0.031*	-0.021	0.083***	-0.060**	-0.040
	(3.444)	(-1.708)	(-0.673)	(3.664)	(-2.586)	(-1.085)
Mktrf	0.215***	0.174***	0.177***	0.216***	0.173***	0.177***
	(10.016)	(9.569)	(9.852)	(9.993)	(9.507)	(9.783)
Mktrf×Institution	-0.002	0.035**	0.032**	-0.047**	0.008	0.005
	(-0.150)	(2.523)	(2.361)	(-2.371)	(0.432)	(0.253)
Mktrf×Mkt Cond	-0.061**	0.088**	0.067	-0.063**	0.091**	0.069
	(-2.037)	(2.033)	(1.182)	(-2.090)	(2.085)	(1.215)
Mkt Cond×Institution	0.050	-0.061	0.153**	0.045	-0.037	0.113
	(0.577)	(-1.172)	(2.311)	(0.434)	(-0.551)	(1.366)
Mkt Cond	-0.174	0.281**	0.207	-0.178	0.283**	0.213
	(-1.010)	(2.214)	(1.210)	(-1.031)	(2.209)	(1.240)
Observations	172,902	172,902	172,902	140,420	140,420	140,420
AdjR2	0.095	0.096	0.095	0.085	0.086	0.085

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	-0.060*	-0.058	-0.092**
	(-1.911)	(-1.467)	(-2.263)
Mktrf×Mkt Cond×Fin Cong	0.059***	-0.030*	-0.047**
	(2.930)	(-1.688)	(-2.570)
HML×Mkt Cond×Fin Cong	0.045	0.005	-0.009
	(1.242)	(0.220)	(-0.324)
SMB×Mkt Cond×Fin Cong	-0.002	0.043**	-0.004
	(-0.048)	(2.383)	(-0.216)
UMD×Mkt Cond×Fin Cong	-0.001	0.016*	-0.034**
	(-0.038)	(1.925)	(-2.330)
PS×Mkt Cond×Fin Cong	0.001	-0.033***	-0.043**
	(0.076)	(-2.719)	(-2.212)
Mktrf×Fin Cong	0.011	0.046***	0.046***
	(0.795)	(3.240)	(3.313)
HML×Fin Cong	-0.038**	0.000	-0.003
	(-2.581)	(0.018)	(-0.177)
SMB×Fin Cong	-0.043***	-0.056***	-0.044***
	(-2.960)	(-2.999)	(-2.803)
UMD×Fin Cong	0.009	-0.003	0.003
	(0.872)	(-0.383)	(0.417)
PS×Fin Cong	0.017**	0.020**	0.018**
	(2.017)	(2.266)	(2.347)
Mktrf×Mkt Cond	-0.073*	0.067**	0.093*
	(-1.769)	(2.082)	(1.741)
HML×Mkt Cond	-0.013	0.168***	0.051
	(-0.193)	(3.230)	(0.471)
SMB×Mkt Cond	0.001	0.110**	-0.104
	(0.012)	(2.421)	(-1.339)
UMD×Mkt Cond	-0.029	-0.054**	0.004
	(-0.935)	(-2.474)	(0.065)
PS×Mkt Cond	-0.043	-0.105***	-0.076
	(-1.349)	(-4.238)	(-1.423)
Mkt Cond×Fin Cong	0.099	-0.061	0.167***
	(1.094)	(-1.391)	(2.652)
Mkt Cond	0.003	0.085	0.241
	(0.016)	(0.710)	(1.205)
Observations	172,902	172,902	172,902
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	-0.058*	-0.056	-0.084**
	(-1.661)	(-1.494)	(-2.217)
SP500×Mkt Cond×Fin Cong	0.059*	-0.032	-0.065**
	(1.667)	(-1.566)	(-2.449)
Russell2000×Mkt Cond×Fin Cong	-0.007	0.042***	0.014
	(-0.272)	(3.117)	(0.695)
Ptfsbd×Mkt Cond×Fin Cong	-0.002	0.000	0.000
	(-0.339)	(0.085)	(0.085)
Ptfsfx×Mkt Cond×Fin Cong	0.003	0.004	0.005
	(0.563)	(1.185)	(1.327)
Ptfscom×Mkt Cond×Fin Cong	0.008	-0.004	-0.006
	(1.351)	(-1.106)	(-1.402)
Bond×Mkt Cond×Fin Cong	-0.035	0.014	0.011
	(-1.135)	(0.772)	(0.422)
Credit×Mkt Cond×Fin Cong	-0.096**	0.067**	0.001
	(-1.985)	(2.149)	(0.029)
Emmkt×Mkt Cond×Fin Cong	-0.012	-0.020	0.004
	(-0.702)	(-1.607)	(0.273)
SP500×Fin Cong	0.025	0.058***	0.050***
	(1.420)	(3.112)	(2.835)
Russell2000×Fin Cong	-0.033***	-0.042***	-0.034***
	(-2.842)	(-3.337)	(-2.684)
Ptfsbd×Fin Cong	-0.003	-0.003	-0.002
	(-1.253)	(-1.366)	(-0.905)
Ptfsfx×Fin Cong	-0.002	-0.002	-0.003
	(-0.964)	(-0.912)	(-1.045)
Ptfscom×Fin Cong	-0.001	0.003	0.002
	(-0.288)	(0.923)	(0.629)
Bond×Fin Cong	0.005	-0.021	-0.016
	(0.297)	(-1.259)	(-1.073)
Credit×Fin Cong	0.027	-0.058***	-0.061***
	(0.622)	(-2.954)	(-2.980)
Emmkt×Fin Cong	0.013	0.009	0.006
	(1.129)	(0.873)	(0.513)
Mkt Cond×Fin Cong	0.012	-0.081*	0.107*
	(0.165)	(-1.706)	(1.824)
Mkt Cond	-0.066	0.170*	-0.070
	(-0.490)	(1.885)	(-0.434)
Observations	172,902	172,902	172,902
AdjR2	0.135	0.133	0.131

Table 9
Performance Following Periods of Market Turmoil

The dependent variable is the monthly fund return in excess of the risk free rate in percent. 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 seven different monthly lags, starting from lag 0 (the high-VIX month). All regressions include controls for Fin Cong and Large Fund, Large Family, Log Size, Log Age, Log Totrest, Fund Styles, and month fixed effects. In Panel A, we consider all FCAHFs (labeled Fin Cong), in Panel B only the ones affiliated with a bank. Standard errors are clustered at the time and fund level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Panel A. All FCAHFs

Dependent Variable:	Monthly Excess Return						
Monthly Lag:	0	1	2	3	4	5	6
Fin Cong × Lagged High Vix	-0.066	0.096	0.149*	0.217***	0.191***	0.123	0.027
	(-0.659)	(1.224)	(1.904)	(3.081)	(2.624)	(1.547)	(0.380)
Fin Cong	-0.059**	-0.105***	-0.118***	-0.126***	-0.125***	-0.110***	-0.077***
	(-2.067)	(-3.948)	(-4.324)	(-4.418)	(-4.604)	(-3.879)	(-2.636)
Large Fund	-0.045	-0.044	-0.050	-0.038	-0.033	-0.045	-0.037
	(-1.129)	(-1.113)	(-1.242)	(-0.945)	(-0.815)	(-1.108)	(-0.907)
Large Family	-0.010	0.007	0.008	0.003	0.003	0.018	0.026
	(-0.176)	(0.125)	(0.147)	(0.059)	(0.056)	(0.325)	(0.453)
Log Size	0.042***	0.043***	0.043***	0.041***	0.041***	0.042***	0.042***
	(4.804)	(4.940)	(4.894)	(4.713)	(4.638)	(4.702)	(4.692)
Log Age	-0.082***	-0.081***	-0.080***	-0.078***	-0.075***	-0.069***	-0.063***
	(-5.438)	(-4.874)	(-4.628)	(-4.340)	(-4.047)	(-3.552)	(-3.162)
Log Totrest	0.050***	0.049***	0.051***	0.051***	0.049***	0.050***	0.049***
	(2.882)	(2.832)	(3.030)	(2.979)	(2.908)	(2.912)	(2.882)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	181,123	174,590	171,242	168,354	165,020	162,068	159,324
AdjR2	0.174	0.176	0.177	0.178	0.177	0.176	0.175

Panel B. Hedge Funds Affiliated with Banks

Dependent Variable:	Monthly Excess Return						
Monthly Lag:	0	1	2	3	4	5	6
Bank × Lagged High Vix	0.010	0.063	0.130	0.236***	0.194**	0.055	-0.020
	(0.099)	(0.744)	(1.538)	(2.752)	(2.189)	(0.542)	(-0.219)
Bank	-0.114***	-0.130***	-0.146***	-0.171***	-0.163***	-0.130***	-0.103***
	(-2.854)	(-3.496)	(-3.947)	(-4.594)	(-4.472)	(-3.673)	(-2.879)
Large Fund	-0.047	-0.048	-0.052	-0.040	-0.031	-0.050	-0.037
	(-1.175)	(-1.191)	(-1.306)	(-0.997)	(-0.759)	(-1.221)	(-0.895)
Large Family	-0.025	-0.007	-0.006	-0.003	-0.013	-0.001	0.007
	(-0.398)	(-0.107)	(-0.105)	(-0.056)	(-0.213)	(-0.010)	(0.112)
Log Size	0.042***	0.043***	0.043***	0.041***	0.040***	0.041***	0.041***
	(4.840)	(5.008)	(4.940)	(4.802)	(4.619)	(4.652)	(4.639)
Log Age	-0.083***	-0.081***	-0.080***	-0.079***	-0.077***	-0.072***	-0.064***
	(-5.587)	(-5.045)	(-4.751)	(-4.506)	(-4.270)	(-3.825)	(-3.328)
Log Totrest	0.050***	0.050***	0.052***	0.051***	0.048***	0.049***	0.049***
	(2.805)	(2.810)	(2.943)	(2.880)	(2.748)	(2.791)	(2.763)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	149,559	144,253	141,504	139,123	136,352	133,914	131,627
AdjR2	0.162	0.164	0.165	0.166	0.166	0.165	0.164

Table 10
Comparison of Trading Behavior in Crisis Times

The table reports estimates from OLS regressions of the changes in ownership (in percent) on stock characteristics interacted with an indicator for high-VIX quarters. The unit of observation is the stock quarter. In Panels A and B, the dependent variable in columns 1 (2) and 4 (5) is the change in ownership of stock *i* held by financial-conglomerate-affiliated, FCAHFS, (other) hedge funds between quarter *t* and *t*+1. In columns 3 and 6, the dependent variable is the difference between the dependent variables in columns 1 and 2. In all columns, the change in ownership is standardized by the number of shares outstanding. 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). In Panel C, columns 1, 3, 5, 7, the dependent variable is the change in ownership by financial conglomerate institutions that are not hedge funds (Other FCs). In columns 2, 4, 6, 8, the dependent variable is the difference between the change in ownership of FCAHFs and that of other non-hedge-fund financial institutions (Other FCs). Stock characteristics are expressed as indicator variables for the underlying variable being in the top quintile of the cross-sectional distribution in a given quarter, except for returns for which we take the bottom quintile. In all regressions, we control for the log of market capitalization, book-to-market ratio, the return on assets (ROA), and the inverse price ratio, all measured at the end of the prior quarter. Standard errors are clustered at the time and stock level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Panel A. Stocks with Different Liquidity

Dependent Variable:	Change in ownership of stock *i* by institution type					
Institution Type:	FCAHFs	Other HFs	FCAHFs - Other HFs	FCAHFs	Other HFs	FCAHFs - Other HFs
Characteristic:	High Amihud			High Spread		
	(1)	(2)	(3)	(4)	(5)	(6)
Characteristic×High Vix	0.285**	0.003	0.313**	0.246*	-0.033***	0.283**
	(2.148)	(0.195)	(2.019)	(1.803)	(-2.829)	(2.037)
Characteristic	0.033	0.069***	-0.037	-0.064	0.022**	-0.088
	(0.455)	(4.463)	(-0.466)	(-0.975)	(2.163)	(-1.319)
Holdings of FCAHFs	-15.578***		-15.491***	-15.622***		-15.543***
	(-21.195)		(-22.284)	(-21.218)		(-22.357)
Holdings of Other HFs		-21.180***	18.131***		-21.190***	18.162***
		(-28.778)	(22.044)		(-28.800)	(21.929)
Log Mkt Cap	0.060**	-0.021*	0.066**	0.047*	-0.024*	0.058**
	(2.073)	(-1.752)	(2.384)	(1.761)	(-2.002)	(2.220)
Book-to-Market	-0.023	-0.019	-0.004	-0.027	-0.016	-0.015
	(-0.720)	(-1.150)	(-0.133)	(-0.767)	(-0.976)	(-0.409)
ROA	0.030	-0.016	0.056	0.043	-0.017	0.072
	(0.325)	(-0.318)	(0.483)	(0.444)	(-0.339)	(0.588)
1/Price	-0.122	-0.081	-0.173	-0.050	0.005	-0.171
	(-0.351)	(-0.650)	(-0.419)	(-0.154)	(0.041)	(-0.444)
IOR	0.043	-0.068	0.144*	0.011	-0.091**	0.136*
	(0.614)	(-1.543)	(1.883)	(0.156)	(-2.023)	(1.776)
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Stock FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	86,479	78,900	78,397	86,479	78,900	78,397
AdjR2	0.158	0.183	0.149	0.158	0.183	0.150

Panel B. Stocks with Different Volatility and Past Returns

Dependent Variable:	Change in ownership of stock *i* by institution type					
Institution Type:	FCAHFs	Other HFs	FCAHFs - Other HFs	FCAHFs	Other HFs	FCAHFs - Other HFs
Characteristic:	High Volatility			Low Prior Quarterly Return		
	(1)	(2)	(3)	(4)	(5)	(6)
Characteristic×High Vix	0.155**	-0.025	0.189**	0.097**	-0.029	0.139***
	(2.249)	(-0.917)	(2.490)	(2.226)	(-1.552)	(2.760)
Characteristic	-0.162***	-0.024	-0.145***	-0.075***	-0.001	-0.083***
	(-4.567)	(-1.607)	(-3.423)	(-3.179)	(-0.111)	(-3.063)
Holdings of FCAHFs	-15.604***		-15.507***	-15.626***		-15.537***
	(-21.107)		(-22.241)	(-21.180)		(-22.398)
Holdings of Other HFs		-21.163***	18.247***		-21.192***	18.070***
		(-28.726)	(22.012)		(-28.819)	(22.020)
Log Mkt Cap	0.045	-0.029**	0.061**	0.046	-0.028**	0.061**
	(1.567)	(-2.359)	(2.182)	(1.606)	(-2.296)	(2.166)
Book-to-Market	-0.016	-0.013	-0.006	-0.007	-0.011	0.003
	(-0.473)	(-0.809)	(-0.166)	(-0.210)	(-0.662)	(0.109)
ROA	0.037	-0.023	0.072	0.031	-0.024	0.067
	(0.390)	(-0.460)	(0.606)	(0.340)	(-0.471)	(0.582)
1/Price	0.157	0.029	0.033	0.159	0.011	0.046
	(0.426)	(0.239)	(0.078)	(0.414)	(0.090)	(0.103)
IOR	-0.008	-0.095**	0.115	0.012	-0.091**	0.139*
	(-0.108)	(-2.109)	(1.526)	(0.175)	(-2.025)	(1.827)
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Stock FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	86,479	78,900	78,397	86,479	78,900	78,397
AdjR2	0.158	0.183	0.149	0.157	0.183	0.149

Panel C. FCAHFs and Other Financial Conglomerates

Dependent Variable:	Change in ownership of stock *i* by institution type							
Institution Type:	Other FC	FCAHFs - Other FC	Other FC	FCAHFs - Other FC	Other FC	FCAHFs - Other FC	Other FC	FCAHFs - Other FC
Characteristic:	Volatility		Past Quarterly Return		Amihud		Spread	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Characteristic×High Vix	-0.019	0.154**	-0.002	0.102**	0.016	0.276**	0.020	0.240*
	(-1.299)	(2.126)	(-0.214)	(2.441)	(1.024)	(2.047)	(1.454)	(1.741)
Characteristic	0.008	-0.140***	-0.000	-0.078***	-0.003	-0.025	-0.016*	-0.068
	(0.937)	(-3.870)	(-0.059)	(-3.261)	(-0.341)	(-0.361)	(-1.931)	(-1.029)
Holdings of Other FC	-0.169***	0.165***	-0.169***	0.167***	-0.169***	0.166***	-0.170***	0.166***
	(-19.563)	(16.459)	(-19.478)	(16.445)	(-19.552)	(16.531)	(-19.569)	(16.601)
Holdings of FCAHFs		-15.047***		-15.075***		-15.034***		-15.070***
		(-21.957)		(-22.069)		(-22.056)		(-22.123)
Log Mkt Cap	0.055***	0.033	0.054***	0.033	0.054***	0.040	0.052***	0.034
	(6.939)	(1.224)	(6.935)	(1.229)	(6.965)	(1.462)	(6.572)	(1.328)
Book-to-Market	-0.009	0.010	-0.009	0.021	-0.010	0.007	-0.010	0.001
	(-1.174)	(0.281)	(-1.153)	(0.586)	(-1.281)	(0.205)	(-1.279)	(0.028)
ROA	-0.055	0.040	-0.053	0.030	-0.052	0.029	-0.050	0.041
	(-1.209)	(0.387)	(-1.169)	(0.300)	(-1.139)	(0.297)	(-1.107)	(0.403)
1/Price	0.024	0.064	0.015	0.083	0.001	-0.140	0.004	-0.120
	(0.312)	(0.155)	(0.199)	(0.194)	(0.016)	(-0.359)	(0.058)	(-0.324)
IOR	-0.112***	-0.096	-0.112***	-0.079	-0.112***	-0.070	-0.112***	-0.081
	(-3.611)	(-1.304)	(-3.606)	(-1.073)	(-3.509)	(-0.936)	(-3.611)	(-1.071)
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stock FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	84,755	84,276	84,755	84,276	84,755	84,276	84,755	84,276
AdjR2	0.117	0.150	0.117	0.149	0.117	0.150	0.117	0.150

Table 11
FCAHFs' Investment Horizon and Portfolio Liquidity

The table reports estimates from OLS regressions of the average Amihud illiquidity ratio of the stocks in a fund portfolio during a quarter (columns 1 to 4) and the fund portfolio turnover during a quarter (columns 5 to 8). We control for the log of management firm's Age and Size (i.e. AUM). Quarter and management firm's effects are included. Standard errors are clustered at the time and management firm level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Dependent Variable:	Portfolio Amihud (×100)				Portfolio Turnover (%)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Fin Cong	0.038	0.007	-0.024	-0.042	1.615	1.805	3.177	3.329
	(0.586)	(0.128)	(-0.409)	(-0.727)	(0.533)	(0.599)	(0.657)	(0.692)
Fin Cong × High Vix		0.209**		0.213*		-1.293**		-1.905***
		(2.088)		(1.836)		(-2.318)		(-2.916)
Log Firm Age			-0.077*	-0.076*			0.290	0.279
			(-1.889)	(-1.885)			(1.261)	(1.227)
Log Firm Size			0.002	0.000			-0.169	-0.160
			(0.070)	(0.021)			(-0.470)	(-0.451)
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,233	4,233	3,526	3,526	4,363	4,363	3,639	3,639
Adjusted R-squared	0.408	0.411	0.370	0.373	0.498	0.498	0.503	0.504

Table 12
Price Impact

The table reports estimates from OLS regressions of the price impact of trading from ANcerno (in %) on stock characteristics interacted with an indicator for high-VIX quarters. The unit of observation is the stock quarter. Price impact is computed as percentage difference in execution price and opening price and it is the volume-weighted average across all the trades in the quarter. In both panels, 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). Characteristics are measured as continuous variables. In all regressions, we control for the log of market capitalization, book-to-market ratio, the return on assets (ROA), and the inverse price ratio, all measured at the end of the prior quarter. All models are estimated by ordinary least squares and include time and stock fixed effects. Standard errors are clustered at the time and stock level. ***, **, * denote significance at 1%, 5%, and 10% levels, respectively.

Panel A. Stocks with Different Liquidity

Dependent Variable:	Price Impact in stock *i* by institution type					
Institution Type:	FCAHF	Other HF	FCAHF - Other	FCAHF	Other HF	FCAHF - Other
Characteristic:	Volatility			Past Quarterly Return		
	(1)	(2)	(3)	(4)	(5)	(6)
Characteristic×High Vix	-0.391***	-0.033	-0.394**	-2.470***	0.159	-2.204***
	(-2.905)	(-0.862)	(-2.263)	(-3.467)	(0.637)	(-2.891)
Characteristic	0.117	-0.053	0.340*	1.534***	-0.574**	2.159***
	(1.037)	(-1.511)	(1.898)	(2.947)	(-2.377)	(3.458)
Log Mkt Cap	-0.014***	0.000	-0.016***	-0.014***	-0.000	-0.016***
	(-3.415)	(0.107)	(-3.731)	(-3.386)	(-0.020)	(-3.695)
Book-to-Market	-0.010*	-0.003*	-0.009*	-0.010**	-0.004*	-0.010*
	(-2.020)	(-1.810)	(-1.774)	(-2.061)	(-1.847)	(-1.796)
ROA	-0.002	0.016	-0.027	-0.005	0.018*	-0.028
	(-0.069)	(1.677)	(-1.005)	(-0.192)	(1.748)	(-1.078)
1/Price	0.097	-0.028	0.180**	0.082	-0.031	0.176**
	(1.532)	(-1.251)	(2.260)	(1.255)	(-1.471)	(2.172)
IOR	-0.022**	-0.001	-0.025**	-0.017*	-0.000	-0.024**
	(-2.373)	(-0.310)	(-2.311)	(-1.825)	(-0.080)	(-2.236)
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Stock FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	73,560	73,379	67,007	73,139	73,072	66,584
AdjR2	0.090	0.052	0.091	0.091	0.052	0.093

Panel B. Stocks with Different Volatility and Past Returns

Dependent Variable:	Price Impact in stock *i* by institution type					
Institution Type:	FCAHF	Other HF	FCAHF - Other	FCAHF	Other HF	FCAHF - Other
Characteristic:	Amihud			Spread		
	(1)	(2)	(3)	(4)	(5)	(6)
Characteristic×High Vix	-0.567*	-0.080	-0.472*	0.010***	-0.002*	0.012***
	(-1.900)	(-0.805)	(-1.844)	(3.289)	(-1.971)	(3.241)
Characteristic	1.319***	0.273***	0.929***	-0.001	-0.001**	-0.000
	(5.517)	(3.593)	(3.986)	(-0.934)	(-2.118)	(-0.232)
Log Mkt Cap	-0.015***	-0.000	-0.016***	-0.016**	-0.001	-0.016**
	(-3.765)	(-0.059)	(-3.775)	(-2.574)	(-0.477)	(-2.222)
Book-to-Market	-0.016***	-0.005**	-0.013**	-0.019*	-0.007*	-0.013
	(-3.538)	(-2.441)	(-2.484)	(-1.984)	(-1.853)	(-1.230)
ROA	-0.002	0.021	-0.040	-0.064	0.009	-0.083
	(-0.087)	(1.677)	(-1.533)	(-1.501)	(0.482)	(-1.387)
1/Price	0.019	-0.056**	0.151*	0.113	-0.111**	0.263*
	(0.266)	(-2.394)	(1.718)	(0.943)	(-2.399)	(1.788)
IOR	-0.019**	-0.000	-0.027**	-0.032*	0.015	-0.049**
	(-2.041)	(-0.086)	(-2.517)	(-1.821)	(1.615)	(-2.221)
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Stock FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	73,730	73,617	67,155	75,989	76,004	74,589
AdjR2	0.093	0.052	0.094	0.066	0.034	0.058

Figure 1
Flows and Performance of FCAHFs and Other Hedge Funds

The thick red line denotes FCAHFs, the blue line other HFs. We estimate a non-parametric model for the residuals of flows at t+1 of FCAHFs and other funds on their fractional rank at t (FRANK) using a kernel-weighted local polynomial smoothing. The residuals are estimated by regressing funds flows on the logarithm of the fund's AUM, the logarithm of the fund's age and the fund's share restrictions. The dashed lines represent 95% confidence intervals.

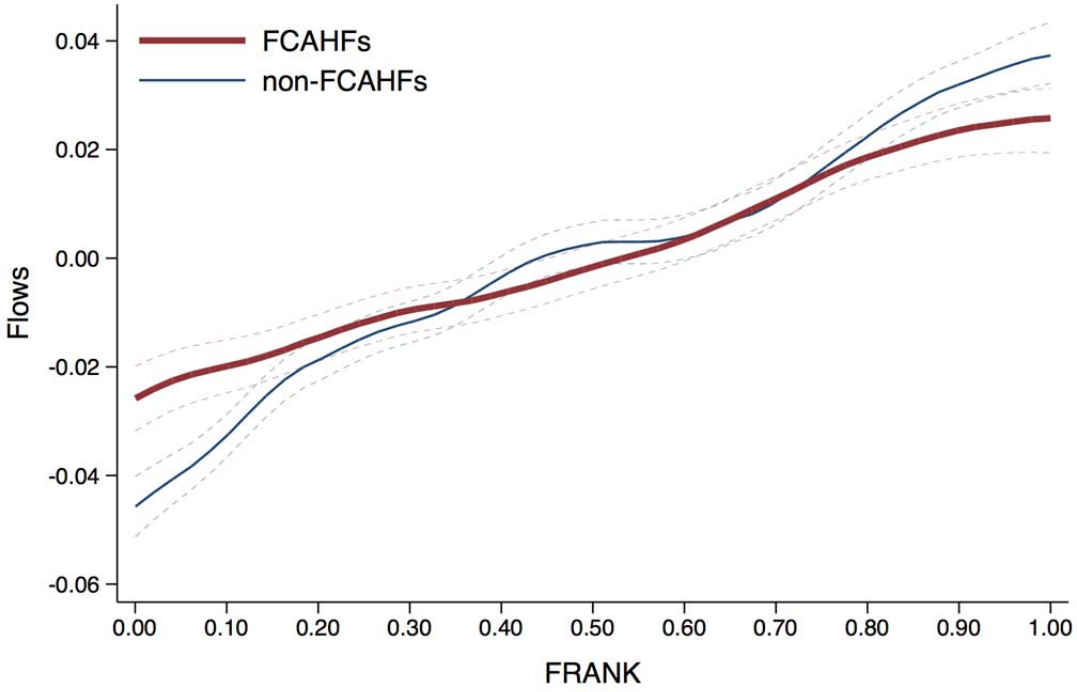
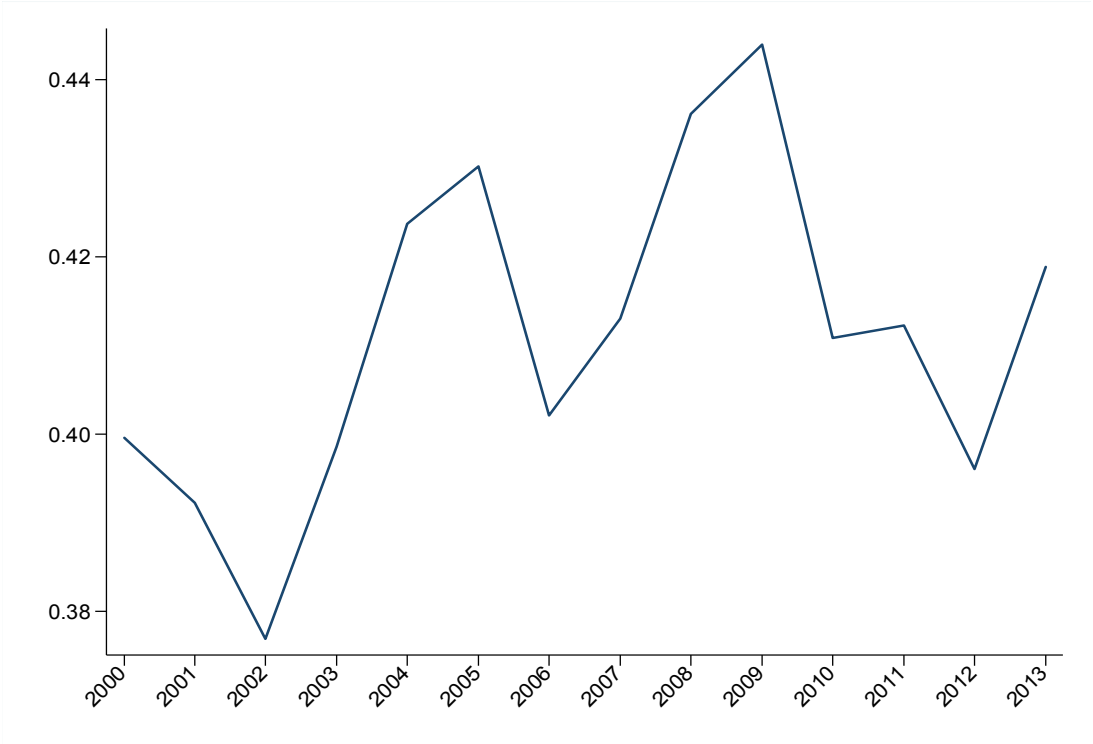


Figure 2
The Proportion of FCAHFs over Time

Figure 3
The Proportion of Assets Managed by FCAHFs over Time



Appendix Table A1. Variable Definitions

Variable	Description
Fin Cong	Indicator variable denoting whether the fund is affiliated to a financial conglomerate. The variable is constructed using information from ADV filings. In particular, a fund is considered to affiliated to 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 related to a banking or thrift institution, to an insurance company or agency, or to a broker dealer.
Bank	Indicator variable denoting whether the fund is affiliated with a bank. This variable therefore denotes a subset of the institutions for which Fin Cong = 1.
Size	Fund's AUM in million dollars. The variable *logsize* denotes the logarithm of AUM.
Large Fund	Indicator variable for a fund that belongs to the top quartile of the AUM distribution in a given year.
Age	The number of months since the inception date. The variable *Log Age* denotes the logarithm of Age.
Flows	A fund's quarterly flows, computed as: (AUM(q) – AUM(q-1) × Returns (q)) – 1
Restrictions	The sum of lock-up period (Lock Up Period), the redemption notice period (Redemption Period), and the redemption frequency (Redemption Frequency), measured in days. The variable *Log Totrest* denotes the logarithm of Total Restrictions.
High restrictions (High Rest)	Indicator variable for whether the fund has total restrictions above the sample median.
% Assets_Fin Inst	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).
Excess Return	Fund returns in dollars at the specified frequency computed in excess of the risk free rate.
Alpha (Carhart)	Monthly alpha from the Carhart four-factor model, estimated over a rolling window of 24 monthly observations, with at least 12 monthly observations.
Alpha (Fung and Hsieh)	Monthly alpha from the eight-factor model based on Fung and Hsieh (2001), estimated over a rolling window of 24 monthly observations, with at least 12 monthly observations.
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)
Volatility	A fund's return volatility computed as the standard deviation of monthly returns on a twenty-four-month rolling window
Beta	A fund's exposure to the market return, computed from monthly regressions on a twenty-four-month rolling window.
Negative Beta	A fund's exposure to the negative market return, computed from monthly regressions on a twenty-four-month rolling window.
Skewness	The skewness of a fund's returns computed over a twenty-four-month rolling window.
R-squared	The R-squared of the regression of the fund's monthly returns on the eight Fung and Hsieh (2001) factors, estimated over a twenty-four-month rolling window.
Max Draw Down	Minimum of a fund's cumulative abnormal returns over the past 24 months.
Number of Funds	Number of other funds in the same family in the same month.

Large Family	Indicator variable for whether a fund belongs to a family with more than 10 funds.
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.
Clients Range	Approximate number of clients as reported in the ADV Form, Item 5, section C.
Change in Ownership by Institution Type	The change in shares held by institutions of a given category (FCAHFs, non FCAHFs, other financial conglomerates) in a given stock between quarter ends, divided by the stock's number of shares outstanding, presented in percentages.
(Stock) Volatility	A stock's idiosyncratic volatility computed from the residuals of four-factor model including the three Fama-French factors and the momentum factor, estimated from monthly returns over a twenty-four-month rolling window.
Portfolio Turnover	A fund's portfolio turnover during a quarter computed as the minimum of the absolute values of buys and sells made by hedge fund i during quarter t, divided by the total holdings at the end of quarter $t-1$, with buys and sells being measured using end-of-quarter $t-1$ prices.
Portfolio Amihud	The average of the Amihud illiquidity ratio for all stocks in a fund's portfolio at the end of the quarter.

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