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Born after the Volcker Rule: Regulatory change, managerial remuneration and hedge fund performance

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Abstract

Substantial remunerative benefits accrue to managers of new hedge funds launched after the implementation of the Volcker Rule if their previous employer is a large US bank. After the rule, ex-bankers' funds charge higher management fees and receive more flows as compared with other new hedge funds established during the same period. This phenomenon is related to changes in investor perception of the distribution of skills of new fund managers rather than to the actual differences in skills. Ex-bankers' funds are indistinguishable from other funds in terms of performance, risk, and liquidation probability, both before and after the Volcker Rule.

KEYWORDS
ex-US LCFI bankers, fee structure, fund flows, hedge funds, Volcker Rule

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1 | INTRODUCTION

Historically, the contribution made by short-term, nonclient-related proprietary investments in securities, commodities and various derivatives to the overall profitability of investment banks has been substantial (Crotty et al., 2010).[1] However, during the financial crisis of 2007–2008, such trading led to large losses reported by many banks.[2] These developments presage significant global regulatory reforms focusing on large and complex financial institutions (LCFIs).[3] In particular, in 2010, the US government implements the Dodd–Frank Wall Street Reform and Consumer Protection Act, whose primary objective is to separate the investment and commercial businesses of banks. Section 619 of the Act, the Volcker Rule, prohibits banking entities from engaging in proprietary trading, or investing in or sponsoring hedge funds or private equity funds, also known as covered funds. Subsequently, to conform with the regulation, LCFIs begin to close their proprietary trading desks,[4] and some proprietary traders leaving LCFIs move to the hedge fund industry, often launching their own funds. While the long-term success of these firms may be mixed, anecdotal evidence suggests a strong initial investor appetite for such funds.[5]

This paper investigates whether significant differences exist in patterns of fund performance and managerial remuneration received by former LCFI bankers who launch hedge funds after the Volcker Rule in comparison to their industry peers. Our motivation is that implementation of the Rule is likely to induce changes not only in the composition of the talent pool of traders leaving LCFIs, but also in investors' perceptions of their inherent skill set.

Using a sample of 1924 new hedge funds established both before and after the adoption of the Volcker Rule, we find that the composition of the remuneration packages of ex-bankers leaving LCFIs after the Volcker Rule is consistent with investor perceptions of them as being more talented. In the post-Rule period, ex-banker-managed funds charge higher management fees and receive higher flows during the first year following origination in comparison to

[1]In 2006, proprietary trading accounted for 63.79% of net revenues for Goldman Sachs and 45.68% for Morgan Stanley.
[2]According to Stowell (2017), investment banks experienced over $230 billion in proprietary trading losses during the four-quarter period ending in April 2008 and these losses continued to grow during the remainder of 2008.
[3]We adopt the term 'large and complex financial institutions' (LCFIs), in reference to the large, systemically important global commercial and investment banks, as in King and Maier (2009).
[4]In 2010 J.P. Morgan starts to wind-down activity in its 20 proprietary commodity trading desks (J.P. Morgan to Close Proprietary-Trading Desks, The Wall Street Journal, 1 September 2010) and Goldman Sachs begins to cull its trading operations (Goldman winds down proprietary trading arm, Financial Times, 16 February 2011), while Morgan Stanley spins off its proprietary trading arm, Process Driven Trading, in 2011 (Morgan Stanley to spin off prop trading desk, Financial Times, 10 January 2011).
[5]In 2010, two Goldman Sachs prominent proprietary traders, Pierre-Henri Flam and Morgan Sze, each raises $1bn and launches the largest hedge fund start-ups since the beginning of the financial crisis (Goldman's Sze raises money for hedge fund, Financial Times, 15 December 2010). In 2014, a former JPMorgan trader Andrea Angelone starts a London-based hedge fund (Former JPMorgan and UBS Bankers Plan to Start London Hedge Fund, Bloomberg, 2 April 2014), and a former Goldman trader Leland Lim launches a macro hedge fund (Ex-Goldman, Noble top traders to set up Asia hedge fund, Reuters, 10 February 2014). Former global head of foreign exchange at Citigroup, Anil Prasad, established his own macro hedge fund in 2015 with initial start-up capital of at least $500 million (Ex-Citi FX head readies $500 million hedge fund launch in April. Reuters, 23 January 2015).

similar funds not launched by ex-bankers. This contrasts with evidence from before the Volcker Rule, which indicates ex-banker funds are charging higher incentive fees and receiving lower flows as compared to those launched by other fund managers. This pattern is consistent with investor expectations that before the Rule, banks retain their top trading talent and funds managers leaving bank employment are on average, inherently less skilful.

At the same time, we find no evidence that the ex-bankers' funds can be distinguished from other new hedge funds in terms of their pre- or postfee performance, investment or operational risk, and survival probability, either before or after the Volcker Rule. Hence, while the implementation of the Volcker Rule changes investor perceptions of the average quality of new hedge fund managers, leading to alterations in their fee structure and funding flows, the actual quality of new managers, as subsequently revealed in fund performance, remains unchanged. Our interpretation of this result is that fund managers who establish new funds after leaving LCFIs following the Volcker Rule's implementation appear to benefit from association with their former institution. These personal benefits take the form of a reputational premium in the reward structure of their new fund, that is, a rent derived from the enhanced reputation due to previous association with a prestigious LCFI. These managers subsequently demonstrate no superior fund-management skills. Hence, their pre-Volcker Rule trading success may simply be a result of good fortune, emanate from the institution-specific characteristics particular to the proprietary trading environment within their previous LCFI, or be attributable to a combination of both factors.

Our study contributes to several strands of literature, including the effects of regulations on financial markets and managerial human capital, fund performance, and managerial remuneration. Our results show how regulatory changes, in particular the Volcker Rule, affect investor perception of managerial ability and hence their ability to charge higher management fees. However, we find no measurable impact on the performance or risk of the funds, highlighting a discrepancy between the actual and perceived skills of hedge fund managers.

Recent literature examines the effects of direct regulatory oversight on hedge fund performance, risk, and flows (Joenväärä & Kosowski, 2021), as well as fund misreporting (Dimmock & Gerken, 2016). By focusing on the impact of the Volcker Rule on the hedge fund industry, our paper provides insights into the far-reaching indirect effects of regulatory changes, beyond their ultimate objectives (such as, in the case of the Volcker Rule, stimulating more prudent banking and investment practices in LCFIs). While a substantial body of research investigates the consequences of the Rule for banks,[6] our paper contributes to the emerging literature on the Rule's effects on the dynamics of the hedge fund industry and its association with the banking sector.[7]

Our analysis also extends the literature on the characteristics of fund managers' human capital and their effect on fund performance. Manager's education and past work experience usually are found to be important determinants of performance. Mutual fund managers who hold MBAs from schools with higher mean GMAT scores and *Business Week* ranking exhibit

[6]Following the Volcker Rule, banks reduce the size of their trading books although overall, their risk profile does not decrease (Chung et al., 2016; Keppo & Korte, 2016; Schäfer et al., 2015). Banks' earnings and equity value increase after the Volcker Rule, suggesting a positive market response (Chung et al., 2016; Elayan et al., 2018). The Volcker Rule also leads to a deterioration of liquidity in stressed bonds (Bao et al., 2018).

[7]Following the Rule, hedge funds exhibit lower flows (Cumming et al., 2020) and relocate their liquidity provision from less liquid to more liquid segments of the equity market (Bowe et al., 2023).

superior performance (Gottesman & Morey, 2006), while hedge fund managers from higher-scholastic aptitude test (SAT) undergraduate institutions evidence higher returns, receive more inflows, and take fewer risks (Li et al., 2011). Prior work experience as a venture capitalist or executive at start-up companies is found to be a better predictor of fund performance than education for first-time venture capital fund management teams (Zarutskie, 2010). Mutual fund managers acquire skills from prior work experience as industry analysts or macro analysts, leading to enhanced performance (Chen et al., 2018). Hedge fund managers with past hedge fund experience report superior performance and those with brokerage-related experience have higher survival probabilities (Papageorgiou et al., 2011). The special expertise from private equity funds and general expertise from investment banks results in better hedge fund activism outcomes (Boyson et al., 2019), while hedge fund managers who transfer from the mutual fund industry under-perform their peers (Deuskar et al., 2011). By contrast, hedge fund managers whose previous employers are located in New York or London, especially those with investment management experience, outperform their peers, suggesting an inherited agglomeration effect (De Figueiredo et al., 2013). However, our findings demonstrate that past work experience in a US-based LCFI does not significantly alter the performance of managers of newly launched funds as compared to other managers without such experience, either before or after the Volcker Rule. Ex-bankers either do not accumulate relevant skills to move into the independently managed hedge fund industry or the trading skills acquired are not portable (Groysberg et al., 2008). This is consistent with the presence of institutional complementarities and economies of scope within the LCFIs proprietary trading environment serving to improve an individual's trading performance, but only during their actual employment at that institution. In this regard, our paper complements the literature on performance of hedge funds affiliated with larger financial institutions (Franzoni & Giannetti, 2019; Zheng & Yan, 2021).

Furthermore, our study contributes to the literature on managerial compensation, in particular that associated with hedge funds. Hedge funds increase incentive fees following periods of enhanced performance and raise their management fees after higher capital flows (Agarwal & Ray, 2011). Large and better performing fund families charge higher fees for their newly launched funds (Ramadorai & Streatfield, 2011). Similarly, new fund families tend to charge at- or above-median fees, while existing families charge higher fees for new funds following superior past performance (Deuskar et al., 2011).[8] Gompers and Lerner (1999) and Deuskar et al. (2011) develop a signalling model where new managers with privately known ability charge high incentive fees to signal their ability and switch to a fee structure with high management fees once their ability is revealed. Our empirical results relating to the fee structure of new funds launched by ex-bankers are consistent with their model. Before the Volcker Rule, investors' perception of managers who leave LCFIs is less favourable on average, as LCFIs are expected to retain their star trading talent to run their proprietary trading desks. Therefore, in an attempt to provide an external, market credible signal of their ability, managers who leave LCFIs charge significantly higher incentive fees and regularly use a high-water mark. After the Volcker Rule which mandates star managers must leave LCFIs if they wish to continue trading, investors will likely expect an increase in the proportion of skilled traders moving into hedge fund

[8]The compensation structure of hedge funds in turn affects their future performance and risk-taking behaviour. Kouwenberg and Ziemba (2007) provide evidence that higher incentive fees lead to increased risk-taking, which is reduced by the manager's own investment in the fund. Agarwal et al. (2009) find that hedge funds with higher managerial incentives and high-water mark provisions deliver superior performance.

management. Benefiting from these reputational effects, managers leaving LCFIs charge significantly higher management fees and use a high-water mark less often.

And finally, our paper contributes to the strand of research that focuses on the stellar trader/manager phenomenon. Returns to talent are documented to be 300% higher in finance than in the rest of the economy (Célérier & Vallée, 2019). Here, the importance of reputational signals appears to be critical, with evidence revealing that it is changes in Morningstar's star rating rather than the dynamics of underlying performance measures that drive investor flows to mutual funds (Guercio & Tkac, 2008). A star fund enhances capital flows to both the fund itself and other funds in the mutual fund family, and lower ability fund families are more likely to create stars by adopting higher cross-fund variance investments (Nanda et al., 2004). Fund families that allocate well-performing managers to new funds increase inflows to both those funds and their fund families, with such funds exhibiting higher returns in their first year (Chen & Lai, 2010). However, star managers do not guarantee sustained superior future fund performance. The future performance of funds receiving Morningstar's highest-rating shows no significant difference to that of median-rated funds (Blake & Morey, 2000), while only a minority of star mutual fund managers select stocks sufficiently well to more than cover their costs (Kosowski et al., 2006). Consistent with our findings, Groysberg et al. (2008) report that star security analysts in investment banks experience an immediate decline in performance after changing employers, suggesting that their skills are not highly transferable. Moreover, Emery and Li (2009) maintain the analyst rankings of *Institutional Investor* and *Wall Street Journal* are largely 'popularity contests' and document the investment performance of stars' recommendations deteriorates significantly the following year. Our analysis indicates that before the Volcker Rule ex-banker funds receive significantly lower flows in the first year after origination when compared to other new funds, which is consistent with a perception by investors that it is predominantly less-skilful traders that leave LCFIs during this period. After the Volcker Rule's requirement that star traders leave banks to continue trading, new funds launched by ex-bankers receive significantly higher flows in their first year. This supports the star-chasing effect documented in Guercio and Tkac (2008) and Chen and Lai (2010). However, these funds fail to generate superior returns and exhibit no difference in their long-term flows, indicating that such reputational effects are not indicative of superior ability and are short-lived.

Overall, our research sheds light on how the changing regulatory landscape affects the hedge fund industry. It contributes to the discussion of the wider impact of the Volcker Rule on financial markets. Our focus is on the remuneration and performance of new hedge funds launched by former LCFI employees who leave bank employment following the Volcker Rule's ban on proprietary trading and establish their own hedge funds. We show that while such ex-bankers personally benefit from favourable investor perceptions of their quality after the Volcker Rule through receiving enhanced remuneration and higher flows, they do not generate benefits for their clients in the form of superior fund performance. These results provide a better understanding of the dynamics and outcomes associated with the entry of ex-bankers into the hedge fund industry and contribute to the broader literature on the actual versus perceived skills of hedge fund managers.

2 | RESEARCH DESIGN

The Volcker Rule prohibits LCFIs from engaging in proprietary trading. It limits their ability to pursue speculative activities with their own cash to 3% of their Tier-one capital (in 2010 approximately $2.1 billion for Goldman Sachs and $1.5 billion for Morgan Stanley). The Rule

receives its first public endorsement from President Obama on 21 January 2010 and is enacted as part of the Dodd–Frank Wall Street Reform and Consumer Protection Act on 21 July 2010, codified in Section 13 of the Bank Holding Company Act of 1956. On 10 December 2013, final regulations are issued with the rule becoming effective on 1 April 2014. From 1 July 2014 the largest US banking entities (with at least $50 billion in trading assets) are required to report quantitative measurements demonstrating their best endeavours to comply with the restrictions on proprietary trading (among other requirements). Full compliance is required by 21 July 2015. Although a series of further extensions are granted to LCFIs to achieve full compliance with the Rule,[9] banks must endeavour to implement the legislation from 1 April 2014. Importantly, from July 2014 their compliance efforts are monitored through a legally mandated reporting channel. Consequently, our expectation is that major adjustments in bank proprietary trading operations and the resulting exodus of traders are likely to manifest after April 2014. As information concerning the eventual need for regulatory compliance is publicised during 2010, we consider any changes to the characteristics of new hedge funds launched by former bankers during two different phases: the implementation phase, from July 2011 to March 2014; and the compliance phase, from April 2014 to March 2016.

Investment banking is often seen as the optimal career pathway into the hedge fund industry, and indeed, precrisis many hedge fund hires are former proprietary traders from the banking sector.[10] Before the Volcker Rule, proprietary trading desks populated by well-remunerated star traders generate substantial profits for their LCFI employers, in the process certain traders often established a reputation akin to legendary.[11] Traders enhance their trading-related human capital while working for LCFIs, and the monetary incentive for LCFIs to try to retain star proprietary trading talent is significant.

Before the Volcker Rule, LCFI's structure remuneration arrangements in an attempt to retain their best performing proprietary traders, so the bank can continue to benefit from their abilities (as revealed by past performance) to enhance trading returns and profitability.[12] Even though some stellar managers were leaving LCFIs before the Rule,[13] LCFIs were often successful in their endeavours to retain their top talent. Knowing the retention incentives possessed by LCFIs creates a signal extraction problem for external investors in relation to traders who leave these institutions before the Volcker Rule. Investors must decide whether a trader's departure is voluntary, perhaps motivated by a latent desire to establish an independent fund, or whether the individual has not been retained owing to inferior trading performance. While external investors can observe the results-based performance of the LCFI proprietary trading team as a collective, the opacity of much of the relevant information precludes clearly attributing a specific individual's contribution to the institution's overall trading performance. This informational asymmetry, combined with the significant opportunity cost (in terms of foregone remuneration) for those successful traders who voluntarily leave an LCFI, is likely to

[9]A detailed implementation time line is discussed in Bowe et al. (2023).
[10]Beyond Banking: traditional talent pool dries up for hedge funds. Financial Times, 12 November 2015.
[11]The top six LCFIs (JPMorgan Chase, Goldman Sachs, Bank of America, Morgan Stanley, Citigroup, and Wells Fargo) made an aggregate of $59.7 billion in pretax income from proprietary trading in 2009. See Robert Lenzner. Six Giant Banks Made $51 Billion Last Year; The Other 980 Lost Money. Forbes, 3 June 2010.
[12]Imogen Rose-Smith. US Banks Are Getting Out of Hedge Funds. Will They Return? Institutional Investor, 7 October 2013.
[13]Eric Mindich founded Eton Park, a successful US hedge fund, in 2004 after working as a proprietary trader at Goldman for over a decade, as did Kenneth Brody and Frank Brosens, who cofounded the Taconic hedge fund. See Miles Johnson: Goldman stars fall back down to earth, Financial Times, 9 June 2014.

generate an external perception that former LCFI traders are, on average, inherently less skilled than those who remain.[14]

Following the adoption of the Volcker Rule, LCFIs are mandated to close their proprietary trading desks, requiring star traders to gradually leave these institutions.[15] In such circumstances, in comparison to the situation prevailing before the Volcker Rule, investors may rationally anticipate an overall increase in the average quality of traders leaving LCFIs when these institutions begin to implement the Rule's regulations. After the Volcker Rule imposes proprietary trading restrictions on LCFIs, star traders confront two basic choices: either accept reassignment to potentially less attractive roles within their home LCFI, or alternatively, a requirement to leave their current institution if they wish to continue trading. If investors expect many LCFI star traders to choose the latter option, they may anticipate that the average inherent ability of new managers with prior banking experience entering the hedge fund industry after the Volcker Rule to be superior to that beforehand. This follows as they expect the proportion of successful ex-LCFI traders in the pool of new fund managers to increase.

In summary, we contend the implementation of the Volcker Rule will not only lead to a change in the inherent characteristics of traders that leave LCFIs, but also in external investors' perception of the average trading ability possessed by such individuals. A more positive investor perception of the ability of traders is likely to influence their subsequent capital allocation decisions, and also the resulting fees which hedge fund managers are able to command. These anticipated shifts in both investor perceptions and inherent managerial quality form the cornerstone of our hypotheses which are discussed in the following sections. We analyse potential changes in investor perceptions regarding managerial human capital of former LCFI bankers after the Volcker Rule, and check if the perception shift is justified by the actual performance and risk of new hedge funds established by such bankers.

2.1 | Changes in investor perceptions and the fee structure of new hedge funds

A complex and nonlinear fee structure is a distinctive feature of hedge funds' managerial remuneration. Gompers and Lerner (1999) and Deuskar et al. (2011) outline three competing theories explaining funds' initial fee structure: the signalling, the implicit incentive and the startup cost theories.

The signalling theory adopts an adverse selection setting in which fund managers know their own inherent ability but investors do not. High-ability managers will attempt to signal

[14]The well-publicised practice of Goldman Sachs cyclically terminating the contracts of the lowest-performing fraction of its traders is one of the best known examples of enforced departure. Of course, certain star traders do leave LCFIs voluntarily and are subsequently successful. Eric Mindich founded Eton Park, a successful US hedge fund, in 2004 after working as a proprietary trader at Goldman for over a decade, as did Kenneth Brody and Frank Brosens, who co-founded the Taconic hedge fund. See Miles Johnson. Goldman stars fall back down to earth. Financial Times, 9 June 2014. We conjecture that the presence of such traders in the overall pool of former LCFI traders before the Rule is exceptional, whereas after the Rule's adoption departure is mandatory for those individuals wishing to continue trading.

[15]Reflecting this change, proprietary trading revenues at Goldman Sachs fall from $25 billion in 2009 to $18 billion in 2010 to $5 billion in 2015 (The Economist. Investment Banking: Rebooting. 29 October 2016.) and the number of employees in equity trading declines from a peak of 600 people in 2000 to only two in 2016, (The Economist. Goldman Sachs: Too Squid To Fail? 27 October 2016.

their type by accepting riskier pay packages, that is, higher pay-for-performance sensitivities and lower base compensation. The pay-for-performance sensitivity increases as the difference in abilities increases. Once the high-ability manager's type is revealed by performance, they desire more insurance, receiving a higher fixed and less variable component in their compensation.

The implicit incentive theory assumes investors and fund managers both have the same initial information about managers' abilities, but investors cannot observe the managerial effort level chosen, which creates a moral hazard problem. As fund returns correlate positively with effort, initially managers have an incentive to enhance effort following the launch of their new fund, even in the absence of explicit incentive fees. The enhanced returns generated lead investors to believe that a manager possesses superior trading ability. Once a fund manager becomes well-established, higher explicit incentive fees are needed to induce managerial effort.

The startup cost theory suggests that the manager of a new hedge fund charges both higher management fees and higher incentive fees to recuperate the nontrivial startup cost of market entry.

In our case, traders who leave LCFIs and establish a fund encounter startup costs both before and after the Volcker Rule. However, as investors have contrasting perceptions of the trading ability of the average new fund manager in these two periods, this leads to potential differences in the funds' compensation structures. Specifically, as external perceptions of the trading ability of individuals leaving LCFIs before the Volcker Rule may be unfavourable, these ex-bankers may adopt alternative strategies to convince external investors of their ability. One such mechanism relates to specifying a remuneration structure which involves higher incentive fees and which is more likely to incorporate a high-water mark (Agarwal & Ray, 2011) as compared to other new hedge funds launched contemporaneously. If, on average, traders who leave LCFIs after the Volcker Rule are perceived by investors to be more skilful, there is less need to convey inherent trading and fund management ability through their choice of fee structure. On the contrary, these managers may charge higher fixed management fees which contribute the major share of total management compensation (Lan et al., 2013).

Hence, if investor perceptions of the ability of former LCFI bankers become more favourable following the Volcker Rule, hedge funds launched by ex-bankers charge higher management fees, lower incentive fees, and use a high-water mark less often relative to other new funds established within this same time period. We test this proposition using the following regression models:

$$Fee^i = \beta_0 + \beta_1 US\ spin^i + \beta_2 Phase^i + \beta_3 US\ spin^i \times Phase^i + \delta Controls^i + \varepsilon^i, \quad (1)$$

$$HWM^i = \begin{cases} 1, & \text{if } HWM^i_{L^*} > 0, \text{ hedge fund uses the high-water mark;} \\ 0, & \text{otherwise.} \end{cases}$$

$$HWM^i_{L^*} = \beta_0 + \beta_1 US\ spin^i + \beta_2 Phase^i + \beta_3 US\ spin^i \times Phase^i + \delta Controls^i + \eta^i, \quad (2)$$

where *Fee* denotes either the management fee (*MgtFee*), or incentive fee (*IncFee*) a fund i charges. We use a logit regression for the high-water mark provision. HWM^i equals 1 if a high-water mark provision is present for fund i. $HWM^i_{L^*}$ is a latent variable that depends on a set of explanatory variables. The error term η^i follows a logistical distribution.

The key variable of interest is *US spin*, which equals 1 if a fund has at least one manager whose last employer immediately before launching the new fund is a US LCFI. We also use an alternative measure, *US years*, that denotes the number of years the ex-banker(s) worked in a US LCFI immediately before starting a hedge fund. To identify the Volcker Rule's effect on newly established hedge funds, we use a vector *Phase* consisting of two dummy variables: *Phase*1 and *Phase*2, capturing the implementation and compliance periods of the Volcker Rule, respectively. *Phase*1 equals 1 for funds launched between July 2011 to March 2014, and zero otherwise. *Phase*2 equals 1 for funds launched between April 2014 to March 2016, and zero otherwise.

The US-based LCFIs are the eight US banks classified as Systemically Important Financial Institutions (SIFI), namely: the Bank of America Corporation, JP Morgan Chase & Co., Citigroup Inc., Wells Fargo & Company, Goldman Sachs Group, Morgan Stanley, Bank of New York Mellon Corporation, and State Street Corporation (Financial Stability Board, 2011). Our reasons for focusing exclusively on traders who leave these SIFIs are as follows. First, as Paul Volcker himself notes, the Volcker Rule will only affect banks engaged in highly speculative trading, particularly those institutions deemed too-big-to-fail.[16] Additionally, the proprietary trading business appears very concentrated within LCFIs. In 2009 the top six bank holding companies, JPMorgan Chase, Goldman Sachs, Bank of America, Morgan Stanley, Citigroup and Wells Fargo, earned an aggregate of $59.7 billion from trading, accounting for 92.8% of total industry trading revenue (of 986 banks).[17] We also control for a manager's general work experience in US LCFIs, which does not immediately precede a new hedge fund's launch, via a variable *US experience*, that equals 1 if a fund has at least one manager having any prior work experience in a US LCFI.

We recognise the potential for other time varying factors to influence both the mangerial performance and external perceptions of the ability of former LCFI bankers which are unrelated to the Volcker Rule's enactment. To control for these wider environmental effects, we include the following (similarly computed) variables reflecting traders' experience in working for LCFIs headquartered outside the United States: *NonUS spin*, *NonUS years*, and *NonUS experience*. Since non-US LCFIs remain outside the Volcker Rule jurisdiction, its provisions do not directly affect a trader's decision to leave such institutions. The non-US LCFIs include: HSBC Bank plc, UBS Group AG, Deutsche Bank AG, Credit Suisse Group AG, BNP Paribas S.A., Barclays plc, Banco Santander S.A., Société Générale S.A., Standard Chartered PLC, The Royal Bank of Scotland, and Crédit Agricole S.A.

We further control for other fund characteristics, by including dummy variables to indicate funds with at least one female manager, team managed funds, and fund managers with experience in investment management, financial services, research, nonfinancial industry, or government. We present the complete list of variables in Table 1.

Our analysis predicts β_3 to be positive for the management fees, and negative for both the incentive fees and high-water mark provision specifications, indicating that hedge funds launched by former bankers charge higher management fees, lower incentive fees and are less likely to use the high-water mark provision after the Volcker Rule when investor perceptions of average managerial ability become more positive.

[16]Volcker made this statement during his tenure as Chairman of President Obama's Economic Advisory Board.
[17]Robert Lenzner. Six Giant Banks Made $51 Billion Last Year; The Other 980 Lost Money. Forbes, 3 June 2010.

TABLE 1 Variable description.

This table reports the variables used in this paper listed in alphabetical order.

Variables	Description
Age	The age of a hedge fund.
Alpha (α)	The abnormal performance of a hedge fund.
AUM	The asset under management of a hedge fund.
CREDIT	The change in Moody's Baa yield minus the 10-year Treasury constant maturity yield.
Family	A dummy variable that equals 1 if a hedge fund belongs to a multifund family.
Female	A dummy variable that equals 1 if a hedge fund has a female manager.
Financial Service	A dummy variable that equals 1 if a fund has at least one manager who has financial service work experience.
Flow	The monthly flow to a hedge fund derived by Equation (4).
$\overline{\text{Flow}}$	The average annual flow for a hedge fund.
Government	A dummy variable that equals 1 if a fund has at least one manager who has work experience in a government.
HWM	A dummy variable that equals 1 if a high-water mark is present in a hedge fund.
IncFee	The incentive fee a hedge fund charges.
Industry	A dummy variable that equals 1 if a fund has at least one manager who has work experience in nonfinancial industries.
Investment Management	A dummy variable equals 1 if a fund has at least one manager who has investment management work experience.
IRisk	The idiosyncratic risk of a hedge fund derived by Equation (5).
kink1	A dummy variable that equals 1 if the average number of return observations that are between 0% to 2% and −4% to −2% minus the number of return observations that are between −2% and 0 is above the median.
kink2	A dummy variable that equals 1 if the value of the test statistic in Equation (10) measuring the discontinuity at zero in the distribution of a hedge fund's returns is below the median.
LCFI years	The number of years worked in a US LCFI for spin-off managers.
Leverage	A dummy variable that equals 1 if a hedge fund uses leverage.
LIQRisk	A hedge fund's return exposure to the Pástor and Stambaugh (2003) traded liquidity factor.
Liquidation	A dummy variable that equals 1 if a hedge fund is liquidated within 5 years.
LockUp	A hedge fund's lockup period.
MgtFee	The management fee a hedge fund charges.
MKT	The Standard & Poors (S&P) 500 index total return.
MPPM	The manipulation-proof performance measure of a hedge fund.
Negative	A dummy variable that equals 1 if the percentage of returns below zero is below the median.

TABLE 1 (Continued)

Variables	Description
NonUS experience	A dummy variable that equals 1 if a fund has at least one manager who has work experience in a non-US LCFI.
NonUS spin	A dummy variable that equals 1 if a fund has at least one manager whose last employer is a non-US LCFI before starting the new fund.
ORisk	The sum of risk points for *Repeat*, *Negative*, *kink*1, and *kink*2.
Phase1	A dummy variable that equals 1 for funds launched between July 2011 and March 2014, and 0 otherwise.
Phase2	A dummy variable that equals 1 for funds launched between April 2014 and March 2016, and 0 otherwise.
PTFSBD	The bond trend-following factor in Fung and Hsieh (2001).
PTFSCOM	The currency trend-following factor in Fung and Hsieh (2001).
PTFSFX	The commodity trend-following factor in Fung and Hsieh (2001).
Redemption	A hedge fund's redemption period.
Repeat	A dummy variable that equals 1 if the percentage of repeated returns is above the median.
Research	A dummy variable that equals 1 if a fund has at least one manager who has research related work experience.
Ret	The reported returns of a hedge fund.
SMB	The difference between the Russell 2000 index total return and the S&P 500 total return.
SRisk	The systematic risk of a hedge fund derived by Equation (9).
STD	The standard deviation of monthly returns for a hedge fund.
StyleFlow	The average flow into hedge funds from the same style category.
Subscription	A hedge fund's subscription period.
Team	A dummy variable that equals 1 if a hedge fund is managed by a team.
TERM	The change in the 10-year Treasury constant maturity yield.
US experience	A dummy variable that equals 1 if a fund has at least one manager who has work experience in a US LCFI.
US spin	A dummy variable that equals 1 if a fund has at least one manager whose last employer is a US LCFI before starting the new fund.

2.2 | Changes in investor perceptions and flows to new hedge funds

In addition to hosting active and profitable proprietary trading desks, before the implementation of the Volcker Rule, LCFIs also own and sponsor hedge funds that provide asset management services to their clients. When a trader leaves an LCFI to launch their own hedge fund, in-house investors face certain choices: to remain loyal to the LCFI-owned fund, to follow the exiting trader and relocate capital in their newly established fund, or to move the capital to

alternative funds. While the latter option cannot be discarded, it may be a suboptimal strategy given the informational asymmetries and high costs incurred in searching for suitable alternative funds. Our previous discussion together with anecdotal evidence suggests that before the Volcker Rule traders with inferior trading performance records are those more likely to exit or be dismissed by LCFIs, with such institutions also attempting to retain their best performers. Both these factors reinforce our belief that existing LCFI investors will be more likely to remain with their in-house managed funds rather than follow a departing trader. Overall, before the Volcker Rule, in-house investors are not likely to follow the departing trader and the general prevailing perception of the average trading ability of former bankers is below that of traders retained by LCFIs. These two observations lead to an expectation that before the Volcker Rule, investors will be more reluctant to invest in hedge funds launched by former bankers as compared to other newly established funds.

Implementation of the Volcker Rule, however, enhances external perceptions of the average ability of the overall pool of traders leaving LCFIs, making ex-banker funds more attractive to all investors. As the Rule prohibits LCFIs from owning funds in-house, investors no longer retain the option of remaining with LCFI-owned funds and must relocate their investment capital. Given the aforementioned high search costs characterising the industry, these investors are now more likely to follow the exiting trader than they were before the Rule. Consequently, we expect new funds launched by former bankers after the Rule to receive higher flows in the first year after their fund's origination.

The duration of any discernible funding flow effect is also important. If funds launched by former bankers prove to be successful, any enhanced flow effect should persist longer-term, beyond the fund's first year. If there is no inherent difference in managerial ability or subsequent fund performance, this initial positive effect on flows is likely to be detectable only during the year immediately following the fund's launch, when the fund is best positioned to benefit from positive reputational considerations and also to attract investment from in-house clients of the manager's former LCFI employer.

We test our fund flow hypothesis using the following regression specification:

$$\overline{Flow_t^i} = \beta_0 + \beta_1 US\ spin^i + \beta_2 Phase^i + \beta_3 US\ spin^i \times Phase^i + \delta Controls_t^i + \varepsilon_t^i, \tag{3}$$

where $\overline{Flow_t^i}$ is the average annual flow for fund i in year t. To differentiate between short-term and long-term effects on flows, we regress the first year flow and flows in subsequent years (second to third year and second to the fifth year) separately. The monthly flows for hedge fund i in month t are measured using Equation (4); AUM_t^i denotes the assets under management of fund i at the end of month t, and Ret_t^i is the reported return for fund i during month t.

$$Flow_t^i = \frac{AUM_t^i - AUM_{t-1}^i(1 + Ret_t^i)}{AUM_{t-1}^i}, \tag{4}$$

In choosing the remaining control variables, we closely follow Liang et al. (2019) and Kolokolova and Mattes (2018) and include the following: $MgtFee^i$ is the management fee fund i charges; $IncFee^i$ is the incentive fee fund i charges; HWM^i equals 1 if the high-water mark provision is present for fund i, and 0 otherwise; $Redemption^i$ is fund i's redemption period (measured in months); $Subscription^i$ is fund i's subscription period (measured in months); $LockUp^i$ is fund i's lockup period (measured in months); $Leverage^i$ equals 1 if fund i uses

leverage, and 0 otherwise. To capture more generally the time-varying effects of other macro and environmental factors that potentially affect hedge fund flows in a systematic way, we include the variable $StyleFlow_t^i$ which is the average flow into hedge funds in the same style category as fund i. To measure flows in the first year, we control for the natural logarithm of hedge fund dollar assets at the beginning of the first year ($\ln AUM^i$). For flows in later years (year 2–5), we control for the average return of a hedge fund over the previous year (Ret_{t-1}^i), the standard deviation of monthly returns during the past year (STD_{t-1}^i), the natural logarithm of hedge fund dollar assets at the end the past year ($\ln AUM_{t-1}^i$), and the age of a hedge fund at the end of the past year (Age_{t-1}^i). All the other variables are defined in Section 2.1.

We expect β_3 to be positive when we use first year flows in Equation (3), indicating that hedge funds established by former US LCFI bankers after the Volcker Rule receive higher flows in their first year following launch. If these funds are indeed managed by higher ability traders after the Volcker Rule, our expectation is that β_3 in Equation (3) will be positive when we use flows from the second year to fifth year, indicating that those funds also receive enhanced flows for a longer duration. The overall effect of the Volcker Rule on flows to new hedge funds is captured by β_2. Previous literature suggests that this effect is likely to be negative, due to both increased uncertainty and a decline in bank investment in hedge funds (Bowe et al., 2023).

2.3 | The change in managerial quality and performance of new hedge funds

If the expectation that the proportion of high-performing traders in the pool of ex-bankers increases subsequent to the Volcker Rule is justified, hedge funds established by former bankers should exhibit better performance compared to other hedge funds that are launched contemporaneously. We capture any changes in fund performance using the following regression:

$$Performance^i = \beta_0 + \beta_1 US\ spin^i + \beta_2 Phase^i + \beta_3 US\ spin^i \times Phase^i + \delta Controls^i + \varepsilon^i, \quad (5)$$

where $Performance^i$ denotes either the returns (Ret), or the alpha (α) relative to the Fung and Hsieh (2001) seven-factor model, or the manipulation-proof performance measure ($MPPM$) of Goetzmann et al. (2007), of fund i. Following Kolokolova (2011), we calculate the alpha and MPPM using both postfee reported returns and prefee returns to allow for the possibility that managers generate higher prefee returns but collect the surplus in their fees.

The abnormal performance of hedge fund i (a^i) is measured using Equation (6) and the first 36 observations for each fund. Here Ret_t^i is hedge fund i's return in month t. $F_{k,t}$ are the seven Fung and Hsieh (2001) factors which include: two equity-oriented risk factors (the Standard & Poors [S&P] 500 index total return [MKT] and the difference between the Russell 2000 index total return and the S&P 500 total return [SMB]), two bond-oriented risk factors (the change in the 10-year Treasury constant maturity yield [$TERM$] and the change in Moody's Baa yield over the 10-year Treasury constant maturity yield [$CREDIT$]), and three

trend-following momentum risk factors (*PTFSBD* [bond], *PTFSFX* [currency] and *PTFSCOM* [commodity]).[18]

$$Ret_t^i = \alpha^i + \sum_{k=1}^{7} \beta_k^i F_{k,t} + \varepsilon_t^i, \tag{6}$$

Following Goetzmann et al. (2007), we calculate the manipulation-proof performance measure using Equation (7), where T is the total number of observations used for each fund, r_{ft} is the risk-free rate, and the curvature coefficient ρ is set to 3.

$$MPPM^i = \frac{1}{12(1-\rho)} \ln\left[\frac{1}{T}\sum_{t=1}^{T}\left(\frac{1+Ret_t^i}{1+r_{ft}}\right)^{1-\rho}\right]. \tag{7}$$

In Equation (5), we also control for fund size (ln*AUM*), management and incentive fees (*MgtFee* and *IncFee*), the use of HWM and leverage (*HWM* and *Leverage*), and share restrictions (*Redemption*, *Subscription*, and *LockUp*), which are important determinants of hedge fund performance (Fung et al., 2008). The remaining variables are defined in Section 2.1.

The key variable of interest is β_3. If the average managerial ability and subsequent performance exhibited by new, ex-banker fund managers is enhanced subsequent to the Volcker Rule, then β_3 should be positive. Insignificant coefficients signify there is no evidence of any discernible difference in performance between former bankers' funds and those launched by managers who lack such prior work experience.

2.4 | The change in managerial quality and risk of new hedge funds

Examining hedge fund risk profiles, Namvar et al. (2016) find that skilled hedge fund managers minimise systematic risk in adverse market conditions. Therefore, if the managerial ability of traders leaving LCFIs after the Volcker Rule is, on average, higher relative to traders departing before the Rule, one may expect the ex-bankers' newly launched funds to exhibit lower systematic risk. Conversely, as hedge funds trading in high idiosyncratic risk stocks earn significantly higher abnormal returns (Bali & Weigert, 2021; Ben-David et al., 2010; Lee & Kim, 2014), these high-ability managers may deliberately assume greater idiosyncratic risk to generate superior returns.

Liquidity risk also plays an important role in hedge fund performance (Sadka, 2010). On one hand, skilled managers may possess the ability to identify profitable trades in illiquid market segments, leading potentially more skilled ex-bankers to invest in illiquid assets in their new funds. On the other hand, the increasing demand for transparent and liquid hedge funds in recent years may incentivize ex-bankers to launch low-liquidity-risk funds instead. For instance, Joenväärä and Kosowski (2021) highlight that hedge fund firms are more inclined to launch UCITS hedge funds compared to conventional ones.

In addition, after the Rule, well-managed funds may exhibit a lower operational risk and a lower liquidation probability, as the operational risk often underpins financial risk and is a determinant of fund failure (Brown et al., 2009).

[18]These factors may be downloaded from http://faculty.fuqua.duke.edu/~dah7/DataLibrary/TF-FAC.xls.

To capture any changes in hedge fund risk, we estimate the following linear regression model:

$$Risk^i = \beta_0 + \beta_1 US\ spin^i + \beta_2 Phase^i + \beta_3 US\ spin^i \times Phase^i + \delta Controls^i + \varepsilon^i, \tag{8}$$

where $Risk^i$ denotes the systematic risk (SRisk), idiosyncratic risk (IRisk), operational risk (ORisk), or liquidity risk (LIQRisk) of fund i. Following Bali et al. (2012), we measure both the SRisk and IRisk of a fund relative to the Fung and Hsieh (2001) factors. The idiosyncratic (or residual) risk of fund i is defined by the variance of the error term ε_t^i in Equation (5), denoted by $\sigma_{\varepsilon,i}^2$. The total risk of fund i is defined by the variance of Ret_t^i denoted by σ_i^2. The systematic risk of fund i is defined as the difference between total and idiosyncratic variance, as given by Equation (9).

$$SRisk^i = \sigma_i^2 - \sigma_{\varepsilon,i}^2. \tag{9}$$

To measure operational risk, we follow Brown et al. (2009) and Bollen and Pool (2012) and use four categories of red performance flags to indicate regulatory risk exposure: *Repeat* is a dummy variable that equals one if the percentage of repeated reported returns by a hedge fund is above the median; *Negative* is a dummy variable that equals one if the percentage of returns below zero is below the median; *kink*1 is a dummy variable that equals one if the average number of return observations that are between 0% to 2% and −4% to −2% minus the number of return observations that are between −2% and 0 is above the median; *kink*2 is a dummy variable that equals one if the value of the test statistic in Equation (10) measuring the discontinuity at zero in the distribution of a hedge fund's returns is below the median.

$$t\_stat\_kink = \frac{x - np}{\sqrt{np(1-p)}}. \tag{10}$$

Here x is the number of return observations between −2% and 0, n is the total number of observations, and p is the probability that a normally distributed variable with the same mean and standard deviation as the hedge fund returns lies in this bin. Our measure of operational risk ORisk is the sum of the aforementioned four indicators.

We measure the liquidity risk of a hedge fund using its return exposure to the traded liquidity factor (*TradedLiq*) proposed by Pástor and Stambaugh (2003).[19] We regress hedge fund returns on the Fung and Hsieh (2001) seven factors and *TradedLiq* as shown in Equation (11) utilising the first 36 return observations for each fund. The fund-specific liquidity risk (LIQRisk) is captured by the estimated coefficient γ^i.

$$Ret_t^i = \alpha^i + \sum_{k=1}^{7} \beta_k^i F_{k,t} + \gamma^i\ TradedLIQ_t + \varepsilon_t^i. \tag{11}$$

To test for any potential changes in hedge fund liquidation probability, use a logit regression.

[19]This data is available at https://faculty.chicagobooth.edu/lubos.pastor/research/.

$$Liquidation^{i} = \begin{cases} 1, & \text{if } Liquidation^{i}_{L^*} > 0 \text{ hedge fund is liquidated within the first 5 years,} \\ 0, & \text{otherwise.} \end{cases}$$

$$Liquidation^{i}_{L^*} = \beta_0 + \beta_1 US\ spin^{i} + \beta_2 Phase^{i} + \beta_3 US\ spin^{i} \times Phase^{i} + \delta Controls^{i} + \eta^{i}, \quad (12)$$

$Liquidation^{i}$ equals 1 if a fund i is liquidated within the first 5 years following its launch. $Liquidation^{i}_{L^*}$ is a latent variable that depends on a set of explanatory variables. The error term η^{i} follows a logistical distribution.

In Equation (8), we also control for fund size (ln*AUM*), management and incentive fees (*MgtFee* and *IncFee*), the use of HWM and leverage (*HWM* and *Leverage*), and share restrictions (*Redemption*, *Subscription*, and *LockUp*) following Gao et al. (2017). Examining liquidation probability, we further control for the average return of fund i during the first 3 years (Ret^{i}), the standard deviation of monthly returns for fund i during the first 3 years (STD^{i}), the average flow for fund i over the first 3 years ($Flow^{i}$), and a dummy variable that equals 1 if fund i belongs to a multifund family ($Family^{i}$), which are all known to be important determinants of hedge fund liquidation probability (Kolokolova, 2011). The remaining variables are defined in Section 2.1. We include fund strategy fixed effects to capture systematic differences in fee structure, returns, and risk-taking across different hedge fund investment styles. We cluster standard errors at the fund family level to account for any potential return correlation within fund families, as documented in Elton et al. (2007) and Kolokolova (2011).

Our analysis predicts β_3 to be positive for idiosyncratic risk and negative for systematic risk, operational risk and liquidation probability, if funds launched by ex-bankers after the Volcker Rule differ in terms of their risk-taking profile from funds launched by other managers.

3 | DATA

We collect hedge fund data from the Eurekahedge database, which includes fund return history, together with information on both fund characteristics and manager profiles. We restrict our sample to funds with at least 36 return observations that report their returns in US dollars. We further select new hedge funds launched during the pre-Volcker, implementation, and compliance periods. The pre-Volcker period extends from July 2009 to June 2011, the implementation period runs from July 2011 to March 2014, and the compliance period is from April 2014 to March 2016. The resulting overall sample includes 1924 new funds.

Manager profiles reported in the Eureka database provide biographical descriptions of fund managers, containing information on their positions, career paths, and education. Following an Internet and LinkedIn (when available) search of each fund manager's name, we collect gender information and identify the start and end date in each employment. Hedge fund managers come from diverse career backgrounds. We separate their prior work experience into five broad categories: (1) investment management, including banking, hedge fund, mutual fund, venture capital, private equity, pension fund, and investment management companies, excluding the immediate work experience in a US LCFI before starting the hedge fund; (2) financial services, including consulting, accounting, insurance, law, and financial service firms; (3) research, including university, research firms, software, and technology; (4) industry, including engineering, manufacturing, and energy, and

(5) government. We use a 2018 snapshot of the database to capture manager information, since many more funds report relevant information in 2018 as compared to earlier snapshots of the database. We further compare the managerial information reported in the 2018 snapshot with that from 2013 to ensure that we have accurate information for hedge funds launched during the pre-Volcker period. We identified only 22 funds that reported different manager names in the two snapshots, and use the earlier snapshot for pre-Volcker launched funds. Overall, out of the 1924 new funds, we identify managerial information for 1846 funds (96%). Altogether, there are 603, 758, and 398 new funds launches during our three periods of interest, respectively, of which 35, 38, and 14 are initiated by individuals whose previous employer is a US LCFIs.

Table 2 reports summary statistics for hedge fund managers. Panel A and B report the statistics for US spin funds and other funds, respectively. On average, US spin fund managers work 6.345 years in a US LCFI immediately before starting a hedge fund. These funds have more managers (1.736 vs. 1.584), they tend to have more female managers, on average, too (0.103 vs. 0.058), exhibit a greater tendency to be managed as a team (0.517 vs. 0.378), and managers in these teams are less likely to have either investment management or financial services experience, excluding the previous LCFI experience (0.724 vs. 0.947 and 0.103 vs. 0.190).

Table 3 reports summary statistics for hedge fund monthly returns and flows. Panels A, B, and C report the statistics for new funds established during the pre-Volcker, implementation, and compliance periods, respectively. Funds launched by former bankers from US LCFIs reveal no statistically discernible differences from other new funds in relation to their mean returns and flows in either of the periods.

In relation to other hedge fund characteristics during the pre-Volcker period (Table 4), we note that funds launched by ex-US LCFI bankers exhibit statistically significant differences in their fee structures, share restrictions, and their use of leverage as compared to other independent new funds. On average, the former funds charge higher incentive fees (18.422% vs. 16.744%), appear more likely to use both a high-water mark and leverage (0.971 and 0.657 vs. 0.743 and 0.514, respectively), and evidence longer redemption, subscription, and lockup periods. During the compliance period, funds launched by ex-US LCFI bankers charge significantly higher management fees (1.712% vs. 1.330%), but their average incentive fees and the fraction of funds using an HWM do not differ significantly from those of other funds.

Overall, the average composition of the fee structure of funds is consistent with our proposition relating to more positive investor perceptions of the trading ability of former US LCFI banker fund managers post-Volcker Rule. At the same time, return patterns across funds do not indicate superior managerial abilities of former US LCFI employees compared other fund managers.

4 | EMPIRICAL RESULTS

4.1 | The change in investor perception

Table 5 reports the estimation results for Equations (1)–(2), capturing the changes in the fee structure of new hedge funds. Columns (1)–(3) employ a dummy variable to indicate if a fund manager is a former US LCFI banker, and Columns (4)–(6) use our alternative measure of LCFI experience, the number of years that the manager is employed in a US LCFI.

The positive and highly significant coefficients β_1 in Columns (2), (3), and (5) indicate that hedge funds launched before the Volcker Rule by US LCFI ex-bankers charge significantly higher incentive fees and are more likely to use a high-water mark. Subsequent to the Volcker

TABLE 2 Summary statistics of hedge fund managers' characteristics.

This table reports the descriptive statistics for hedge fund managers of new funds launched between July 2009 and March 2016 including: number of years in a US LCFI for ex-bankers (*LCFI_years*), number of managers per fund (*Number of managers*), number of female managers (*Female*), whether the fund is managed by a team (*Team*), and whether fund managers have experience in investment management (*Investment Management*), financial services (*Financial Service*), research (*Research*), nonfinancial industry (*Industry*), or government (*Government*). Panel A and B report the statistics for US spin funds and other funds, respectively. We conduct *t*-tests in mean difference between LCFI spin funds and Other funds. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Category	Mean	Median	SD	Skewness	Kurtosis	Min.	Max.	*N*
Panel A: US spin funds								
LCFI_years	6.345***	6.000	3.628	0.559	3.049	1.000	17.000	87
Number of manager	1.736**	2.000	0.882	1.460	5.656	1.000	5.000	87
Female	0.103*	0.000	0.306	2.604	7.782	0.000	1.000	87
Team	0.517***	1.000	0.503	−0.069	1.005	0.000	1.000	87
Investment management	0.724***	1.000	0.450	−1.003	2.006	0.000	1.000	87
Financial service	0.103**	0.000	0.306	2.604	7.782	0.000	1.000	87
Research	0.103	0.000	0.306	2.604	7.782	0.000	1.000	87
Industry	0.035	0.000	0.184	5.103	27.036	0.000	1.000	87
Government	0.000*	0.000	0.000	–	–	0.000	0.000	87
Panel B: Other funds								
LCFI_years	0.000	0.000	0.000	–	–	0.000	0.000	1759
Number of manager	1.584	1.000	0.935	2.247	10.960	1.000	10.000	1759
Female	0.058	0.000	0.234	3.782	15.307	0.000	1.000	1759
Team	0.378	0.000	0.485	0.506	1.256	0.000	1.000	1759
Investment management	0.947	1.000	0.224	−3.996	16.970	0.000	1.000	1759
Financial service	0.190	0.000	0.393	1.577	3.486	0.000	1.000	1759
Research	0.126	0.000	0.332	2.251	6.068	0.000	1.000	1759
Industry	0.023	0.000	0.149	6.403	41.998	0.000	1.000	1759
Government	0.031	0.000	0.174	5.387	30.014	0.000	1.000	1759

Rule, β_2 reveals a significant reduction in management and incentive fees in all new hedge funds, with a more pronounced effect evident during the compliance period. The corresponding coefficients increase in absolute value, from −0.053 to −0.161 and −1.200 to −2.043, for management and incentive fees, respectively, in Columns (1) and (2). This overall reduction in management fees, however, is more than offset during the compliance period in funds launched by ex-bankers, as indicated by the significantly positive β_3 of 0.282 in Column (1) on the interaction term *US spin* × *Phase*2. Furthermore, these funds are also less likely to use a high-water mark as reflected in the significant coefficient for β_3 of −2.327 in Column (3). The estimated coefficient on the interaction term *US spin* × *Phase*2 in Columns (2) and

TABLE 3 Summary statistics for new hedge funds' returns and flows.

This table reports the descriptive statistics of the first 36 monthly returns and flows (in percent) of new funds launched between July 2009 and March 2016. The 'Pre-Volcker period' is from July 2009 to June 2011, the 'Implementation period' is from July 2011 to March 2014, and the 'Compliance period' is from April 2014 to March 2016. US spin includes funds that have at least one manager whose last employer before starting the new fund is a US LCFI, and Other funds include other new funds. We conduct *t*-tests in mean difference between US spin funds and Other funds. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Category	Mean	Median	SD	Skewness	Kurtosis	Min.	Max.	*N*
Panel A: Pre-Volcker period								
Return								
US spin	0.826	0.870	2.916	0.165	5.006	−6.216	8.447	35
Other funds	0.737	0.744	3.393	−0.113	4.358	−7.030	8.377	603
Flow								
US spin	4.035	0.163	22.104	2.013	12.677	−19.744	113.384	35
Other funds	4.514	−0.055	24.102	1.765	11.516	−23.013	108.996	603
Panel B: Implementation period								
Return								
US spin	0.784	0.830	2.502	−0.034	4.289	−5.079	6.642	38
Other funds	0.683	0.677	3.119	−0.008	3.958	−6.295	7.871	758
Flow								
US spin	4.650	1.018	16.461	2.010	11.885	−17.602	76.252	38
Other funds	4.931	0.345	24.529	2.031	12.864	−22.484	113.215	758
Panel C: Compliance period								
Return								
US spin	1.018	0.960	2.975	−0.103	5.736	−6.049	7.722	14
Other funds	0.613	0.580	3.119	−0.016	4.227	−6.438	7.743	398
Flow								
US spin	7.914	0.900	39.159	3.256	20.633	−20.255	213.840	14
Other funds	5.254	0.795	22.935	1.986	12.304	−19.713	108.507	398

(5) for the incentive fee is statistically insignificant, suggesting the incentive fees associated with new funds launched by former bankers after the Volcker Rule incorporate no noteworthy changes.[20]

Overall, our results indicate a change in the fee structure of funds launched by ex-bankers from US LCFIs following the Volcker Rule's implementation. Consistent with our hypothesis, such funds charge higher management fees and are less likely to employ a high-water mark provision.

[20]As for other characteristics, funds that are managed by teams or have female managers charge, on average, lower incentive fees, while funds which managers have experience in non-US LCFIs are more likely to use the HWM.

TABLE 4 Summary statistics of new hedge funds' characteristics.

This table reports the descriptive statistics of new funds launched between July 2009 and March 2016 including: management fee (*MgtFee* in percent), incentive fee (*IncFee* in percent), use of high-water mark (*HWM*), redemption period (in months), subscription period (in months), lock-up period (in months), use of leverage (*Leverage*), fund age (in years), assets under management at origination (*AuM_first* in million USD), and the percentage of funds with the life span more than 5 years (*Survival* in percent). The 'Pre-Volcker period' is from July 2009 to June 2011, the 'Implementation period' is from July 2011 to March 2014, and the 'Compliance period' is from April 2014 to March 2016. US spin includes funds that have at least one manager whose last employer before starting the new fund is a US LCFI, and Other funds include other new funds. We conduct t-tests in mean difference between US spin funds and Other funds. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	MgtFee	IncFee	HWM	Redemption	Subscription	Lockup	Leverage	Age	AuM_first	Survival	*N*
Panel A: Pre-Volcker period											
US spin	1.608	18.422*	0.971***	1.717**	0.889**	4.441**	0.657**	6.498	45.114	0.314	35
Other funds	1.502	16.744	0.743	1.180	0.717	2.352	0.514	6.739	102.531	0.279	603
Panel B: Implementation period											
US spin	1.439	17.778**	0.921***	1.736**	0.822	1.676	0.697*	5.684	42.7143	0.237	38
Other funds	1.434	15.282	0.740	1.142	0.690	2.286	0.584	5.479	61.447	0.338	758
Panel C: Compliance period											
US spin	1.712**	15.385	0.786	1.364	0.793*	5.615**	0.500	3.393**	32.214	0.214	14
Other funds	1.330	14.362	0.764	1.032	0.608	2.188	0.602	3.720	111.088	0.163	398

TABLE 5 The fee structure of hedge funds launched before and after the Volcker Rule.

This table reports the fee structure of new funds launched between July 2009 and March 2016. *MgtFee* is the management fee a fund charges, *IncFee* is the incentive fee a fund charges, and *HWM* equals 1 if a high-water mark provision is present. *US_spin* (*NonUS_spin*) equals 1 if a fund has a manager whose last employer is a US (non-US) LCFI, and *LCFI_years* equals the number of years an ex-banker worked in a US LCFI. *US_experience* (*NonUS_experience*) equals 1 if a fund has a manager who previously worked in a US (non-US) LCFI. *Phase*1 and *Phase*2 equal one for funds launched between July 2011 to March 2014 and April 2014 to March 2016, respectively. Other variables are defined in Table 1. Standard errors are reported in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	US_spin			*LCFI_years*		
LCFI	**MgtFee**	**IncFee**	**HWM**	**MgtFee**	**IncFee**	**HWM**
LCFI (β_1)	0.146*	2.795***	2.693***	0.018*	0.381***	0.331*
	(0.076)	(0.747)	(1.020)	(0.010)	(0.107)	(0.197)
Phase1 (β_2)	−0.053	−1.200***	−0.011	−0.056*	−1.209***	−0.017
	(0.033)	(0.411)	(0.132)	(0.033)	(0.407)	(0.132)
Phase2 (β_2)	−0.161***	−2.043***	0.225	−0.161***	−2.085***	0.204
	(0.042)	(0.519)	(0.162)	(0.041)	(0.515)	(0.161)
LCFI×Phase1 (β_3)	−0.171	−0.620	−1.234	−0.019	−0.147	−0.193
	(0.104)	(1.013)	(1.186)	(0.012)	(0.159)	(0.212)
LCFI×Phase2 (β_3)	0.282**	−0.158	−2.327*	0.061***	0.247	−0.234
	(0.123)	(2.231)	(1.279)	(0.020)	(0.318)	(0.236)
NonUS_spin	0.118	−0.899	−0.436	0.119	−0.903	−0.445
	(0.107)	(1.260)	(0.426)	(0.106)	(1.261)	(0.424)
NonUS_spin×Phase1	−0.092	2.139	0.943	−0.095	2.170	0.949
	(0.145)	(1.663)	(0.702)	(0.145)	(1.669)	(0.699)
NonUS_spin×Phase2	−0.073	1.347	−0.689	−0.077	1.334	−0.694
	(0.192)	(2.220)	(0.678)	(0.192)	(2.219)	(0.676)
US_experience	0.003	−0.503	−0.232*	0.005	−0.445	−0.197
	(0.032)	(0.422)	(0.133)	(0.031)	(0.412)	(0.132)
NonUS_experience	−0.031	0.398	0.434***	−0.029	0.463	0.456***
	(0.035)	(0.428)	(0.149)	(0.035)	(0.430)	(0.149)
Female	0.012	−1.112*	0.050	0.012	−1.158*	0.038
	(0.048)	(0.665)	(0.204)	(0.048)	(0.667)	(0.204)
Team	0.018	−1.343***	−0.246**	0.019	−1.311***	−0.234*
	(0.032)	(0.385)	(0.123)	(0.032)	(0.384)	(0.122)
Investment management	0.012	−0.106	0.031	0.019	−0.056	0.006
	(0.058)	(0.745)	(0.251)	(0.058)	(0.754)	(0.250)

(Continues)

TABLE 5 (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)
	US_spin			*LCFI_years*		
LCFI	**MgtFee**	**IncFee**	**HWM**	**MgtFee**	**IncFee**	**HWM**
Financial service	−0.052	−0.102	0.057	−0.052	−0.105	0.048
	(0.036)	(0.461)	(0.152)	(0.036)	(0.461)	(0.152)
Research	−0.061	−1.131*	−0.520***	−0.064	−1.170*	−0.535***
	(0.053)	(0.606)	(0.160)	(0.053)	(0.607)	(0.160)
Industry	−0.023	0.165	0.303	−0.024	0.157	0.298
	(0.098)	(1.142)	(0.395)	(0.098)	(1.143)	(0.395)
Government	0.025	−0.614	0.047	0.023	−0.644	0.031
	(0.068)	(1.027)	(0.321)	(0.068)	(1.028)	(0.322)
Constant	1.550***	18.569***	1.863***	1.544***	18.514***	1.888***
	(0.065)	(0.820)	(0.286)	(0.065)	(0.830)	(0.286)
R^2	0.044	0.137	0.066	0.043	0.137	0.062
Number of HFs	1748	1751	1846	1748	1751	1846
Strategy fixed effect	Yes	Yes	Yes	Yes	Yes	Yes

Table 6 reports the estimation results for Equation (3) for flows to new hedge funds. Columns (1)–(3) report the results using *US spin* as an indicator for the LCFI-connected managers, while Columns (4)–(6) use *LCFI_years*. The coefficient β_1 in Column (1) is negative and significant, with a value of −3.366. This suggests that new funds launched by former US LCFI bankers before the Volcker Rule attract fewer flows in their first year. First-year flows to new hedge funds decrease significantly after the Volcker Rule, as indicated by the significant negative coefficients on *Phase*1 and *Phase*2 in the first column. The corresponding coefficients of −0.716 and −1.085, both significant at the 1% level, reflect an overall decline in investor confidence in the hedge fund industry. In contrast to this overall reduction in fund flows, new funds launched after the Volcker Rule by former US LCFI bankers receive enhanced flows in their first year of operation, and this pattern is even more pronounced during the compliance period. The corresponding loadings β_3 on the interaction term *US spin* × *Phase*1 and *US spin* × *Phase*2 of 2.287 and 6.063, respectively, both significant at the 1% level, more than offset the average negative effect. On average, US LCFI funds receive around 2.70 percentage point higher annual flows during the compliance period. This result is consistent with the findings in Mullally (2022) that banks may help some good-performing funds in raising capital. By contrast, the insignificant coefficients in Columns (2) and (3) indicate that there are no significant differences in the flows to former US LCFI banker-managed funds evident from the second year onward. Results remain qualitatively unchanged using our alternative measure, *LCFI_years*, in Columns (4)–(6). The effects of other control variables are consistent with previous literature. Funds with a larger size, higher management and incentive fees, longer subscription and lockup periods, higher return volatility, and older age attract lower inflows, while funds with a high-water mark provision, use of leverage, and better performance attract

TABLE 6 Flows to hedge funds launched before and after the Volcker Rule.

This table reports the flows to new funds launched between July 2009 and March 2016. *Flow* is the average annual flow for a fund in the first year, second to third or second to fifth years. *US_spin* (*NonUS_spin*) equals 1 if a fund has a manager whose most recent employer is a US (non-US) LCFI, and *LCFI_years* equals the number of years an ex-banker worked in a US LCFI. *US_experience* (*NonUS_experience*) equals 1 if a fund has a manager who previously worked in a US (non-US) LCFI. *Phase*1 and *Phase*2 equal one for funds launched between July 2011 and March 2014 and April 2014 to March 2016, respectively. Other variables are defined in Table 1. Standard errors are reported in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
LCFI	***US_spin***			***LCFI_years***		
Flow	**Year 1**	**Year 2–3**	**Year 2–5**	**Year 1**	**Year 2–3**	**Year 2–5**
LCFI (β_1)	−3.366***	0.431	−0.660	−0.197***	0.121	−0.108
	(0.155)	(2.018)	(2.282)	(0.022)	(0.280)	(0.312)
Phase1 (β_2)	−0.716***	−0.013	−0.238	−0.639***	0.003	−0.256
	(0.049)	(0.624)	(0.704)	(0.049)	(0.620)	(0.700)
Phase2 (β_2)	−1.085***	−0.015	−0.321	−1.051***	0.024	−0.299
	(0.057)	(0.751)	(0.887)	(0.057)	(0.746)	(0.882)
LCFI×Phase1 (β_3)	2.287***	0.446	1.399	0.192***	0.012	0.264
	(0.208)	(2.696)	(3.025)	(0.028)	(0.357)	(0.398)
LCFI×Phase2 (β_3)	6.063***	4.329	3.525	1.314***	0.818	0.630
	(0.270)	(3.492)	(4.277)	(0.050)	(0.638)	(0.808)
NonUS_spin	−0.409**	5.134**	4.415*	−0.388**	5.132**	4.397*
	(0.163)	(2.117)	(2.399)	(0.163)	(2.117)	(2.399)
NonUS_spin×Phase1	2.648***	−4.579	−4.403	2.704***	−4.549	−4.369
	(0.233)	(2.979)	(3.375)	(0.233)	(2.979)	(3.375)
NonUS_spin×Phase2	1.949***	−4.959	−5.273	2.090***	−4.976	−5.281
	(0.256)	(3.305)	(3.981)	(0.256)	(3.304)	(3.980)
US_experience	1.039***	−0.928	−0.873	0.765***	−0.941	−0.886
	(0.048)	(0.617)	(0.708)	(0.048)	(0.608)	(0.698)
NonUS_experience	0.673***	0.408	0.258	0.669***	0.443	0.265
	(0.052)	(0.661)	(0.754)	(0.052)	(0.663)	(0.756)
Female	−1.099***	−0.844	−0.404	−1.055***	−0.849	−0.391
	(0.077)	(0.986)	(1.121)	(0.077)	(0.986)	(1.121)
Team	0.910***	0.446	0.099	0.883***	0.452	0.088
	(0.045)	(0.572)	(0.655)	(0.045)	(0.572)	(0.655)
Investment management	1.263***	−1.272	−3.867***	1.570***	−1.148	−3.886***
	(0.093)	(1.128)	(1.292)	(0.094)	(1.141)	(1.306)
Financial service	−0.147***	−0.597	−1.065	−0.085	−0.584	−1.061
	(0.055)	(0.692)	(0.796)	(0.055)	(0.691)	(0.795)

(Continues)

TABLE 6 (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)
LCFI	*US_spin*			*LCFI_years*		
Flow	**Year 1**	**Year 2–3**	**Year 2–5**	**Year 1**	**Year 2–3**	**Year 2–5**
Research	−0.629***	1.163	2.472**	−0.611***	1.163	2.471**
	(0.066)	(0.837)	(0.972)	(0.066)	(0.836)	(0.972)
Industry	−3.440***	−0.190	−0.598	−3.395***	−0.189	−0.629
	(0.144)	(1.804)	(2.056)	(0.145)	(1.805)	(2.056)
Government	3.328***	1.241	0.047	3.443***	1.240	0.055
	(0.114)	(1.447)	(1.645)	(0.114)	(1.446)	(1.644)
lnAUM	−1.686***	−0.964***	−0.993***	−1.683***	−0.968***	−0.995***
	(0.012)	(0.152)	(0.173)	(0.012)	(0.152)	(0.173)
MgtFee	−0.131***	0.061	−0.413	−0.146***	0.065	−0.409
	(0.036)	(0.450)	(0.517)	(0.035)	(0.449)	(0.517)
IncFee	−0.147***	−0.105**	−0.101**	−0.147***	−0.104**	−0.101**
	(0.003)	(0.044)	(0.051)	(0.003)	(0.044)	(0.051)
HWM	0.491***	1.601**	0.180	0.428***	1.594**	0.174
	(0.062)	(0.794)	(0.916)	(0.061)	(0.793)	(0.915)
Redemption	0.351***	0.121	0.012	0.343***	0.117	0.006
	(0.016)	(0.210)	(0.235)	(0.016)	(0.210)	(0.235)
Subscription	−2.552***	−1.692***	−0.280	−2.559***	−1.693***	−0.285
	(0.049)	(0.612)	(0.703)	(0.049)	(0.612)	(0.703)
Lockup	−0.042***	0.009	−0.009	−0.040***	0.010	−0.007
	(0.004)	(0.052)	(0.060)	(0.004)	(0.052)	(0.060)
Leverage	0.746***	−0.090	0.222	0.737***	−0.112	0.213
	(0.043)	(0.546)	(0.630)	(0.043)	(0.546)	(0.631)
StyleFlow	0.860***	0.345*	0.839***	0.845***	0.344*	0.838***
	(0.021)	(0.187)	(0.180)	(0.021)	(0.187)	(0.180)
Ret		0.377**	0.493***		0.374**	0.492***
		(0.151)	(0.176)		(0.151)	(0.176)
STD		−0.106*	−0.143*		−0.105*	−0.142*
		(0.060)	(0.077)		(0.060)	(0.077)
Age		−0.630**	−0.112		−0.631**	−0.111
		(0.246)	(0.225)		(0.246)	(0.225)
Constant	6.642***	8.616***	10.023***	6.506***	8.498***	10.057***
	(0.213)	(1.776)	(2.001)	(0.213)	(1.782)	(2.008)
R^2	0.063	0.068	0.028	0.063	0.069	0.028
Number of HFs	1329	1361	1361	1329	1361	1361

more inflows. Finally, capital flows into the same-style category positively impact individual fund flows.

In summary, new funds established after the Volcker Rule by former US LCFI bankers receive higher flows in their first year, suggesting they benefit from the fund managers' reputation and/or attract investment from their former banking clients when starting an independent fund. However, this effect is short-term, with no significant differences in flows being discernible beyond the first year of new fund operations.

Economically, our estimates of higher management fees and percentage flows indicate substantial monetary gains that accrue to ex-banker fund managers in the post-Volcker Rule period compared to other new fund managers. The estimates of β_1 and β_3 from Table 5 imply that during the compliance period, ex-bankers receive an extra 42.8 basis points per dollar of assets under management in management fees ($\beta_1 + \beta_3 = 0.146 + 0.282 = 0.428$). Furthermore, these funds enjoy an additional flow of 3.429% per year of their initial assets compared to other funds launched during the same period ($\beta_1 + \beta_3 = -3.366 + 6.063 = 3.429$ from Table 6), on which they earn the average management fee of 1.712% per year (Table 4). As the average initial asset size of ex-banker hedge funds launched during this period is around USD 32.2 million, these values translate to an extra income for US LCFI ex-banker fund managers of about USD 157,000 per year in excess of that received by managers of other new funds of the same size launched subsequent to the Volcker Rule ($32.2 \times (0.00428 + 0.03429 \times 0.01712) = 0.15672$).

4.2 | The change in managerial quality

We report the results from estimating Equation (5) in Table 7. Collectively, they indicate no performance differences between those funds launched by former bankers and other funds, either before or after the Volcker Rule. The estimated coefficients β_1 on *LCFI* and β_3 on *LCFI* × *Phase* are never statistically significant. On the basis of either their returns, alpha, or MPPM, funds launched by ex-US LCFI bankers perform no differently to other new funds, irrespective of whether we employ the *USspin* dummy, the number of years in a US LCFI, and postfee or prefee returns. These results further demonstrate that neither immediate (or indeed any former) trading experience in non-US LCFIs, nor prior experience in US LCFIs on the part of the fund managers contribute to generating measurable differences in fund performance.[21]

Also noteworthy in Table 7 is the inferior performance of hedge funds launched during the compliance period, as manifest in the highly significant negative β_2 coefficients on *Phase*2 evident in almost all the regressions. Investors appear to be aware of this phenomena, with Table 5 indicating they pay lower fees to fund managers during this period. The effects of other control variables are consistent with the literature: higher incentive fees, as well as longer redemption and subscription periods are associated with better fund performance.

Table 8 presents the estimation results obtained from Equation (8), capturing the changes in new hedge fund risk and liquidation probability. Before the Volcker Rule, funds launched by former bankers exhibit higher idiosyncratic risk as compared to other new funds, captured by

[21]Our results are based on the hedge funds that report to the Eurekahedge database. Therefore, they may be subject to hedge fund self-selection—a common issue for hedge fund commercial databases. This issue has been examined in, for example, Joenväärä et al. (2021) and Aiken et al. (2013). We cannot rule out the possibility that certain newly established hedge funds launched by ex-bankers may deliver higher performance but choose not to report to commercial databases.

TABLE 7 The performance of hedge funds launched before and after the Volcker Rule.

This table reports the performance of new funds launched between July 2009 and March 2016. *Ret* is the postfee or pre-fee returns of a hedge fund. *Alpha* and *MPPM* are the abnormal performance and the manipulation-proof performance measure of a hedge fund calculated based on pre-fee or postfee returns. *US_spin* (*NonUS_spin*) equals 1 if a fund has a manager whose last employer is a US (non-US) LCFI, and *LCFI_years* equals the number of years an ex-banker worked in a US LCFI. *US_experience* (*NonUS_experience*) equals 1 if a fund has a manager who previously worked in a US (non-US) LCFI. *Phase*1 and *Phase*2 equal one for funds launched between July 2011 to March 2014 and April 2014 to March 2016, respectively. Other variables are defined in Table 1. Standard errors are reported in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Postfee						**Prefee**					
	US_spin			***LCFI_years***			***US_spin***			***LCFI_years***		
LCFI	**Ret**	**Alpha**	**MPPM**	**Ret**	**Alpha**	**MPPM**	**Ret**	**Alpha**	**MPPM**	**Ret**	**Alpha**	**MPPM**
LCFI (β_1)	−0.034	−0.027	0.308	−0.004	−0.005	0.021	−0.032	−0.029	0.563	−0.004	−0.007	0.056
	(0.147)	(0.160)	(1.686)	(0.018)	(0.020)	(0.209)	(0.162)	(0.168)	(1.788)	(0.020)	(0.020)	(0.221)
Phase1 (β_2)	−0.053	−0.077	−0.188	−0.055	−0.080	−0.211	−0.099*	−0.144**	−0.796	−0.102**	−0.149***	−0.820
	(0.049)	(0.054)	(0.570)	(0.049)	(0.053)	(0.563)	(0.053)	(0.057)	(0.583)	(0.052)	(0.056)	(0.575)
Phase2 (β_2)	−0.153***	−0.434***	−1.893***	−0.156***	−0.438***	−1.918***	−0.199***	−0.489***	−2.476***	−0.202***	−0.494***	−2.505***
	(0.058)	(0.062)	(0.628)	(0.058)	(0.062)	(0.624)	(0.062)	(0.067)	(0.638)	(0.062)	(0.066)	(0.634)
LCFI×Phase1 (β_3)	0.106	0.058	1.079	0.021	0.020	0.211	0.093	0.036	0.957	0.021	0.020	0.192
	(0.171)	(0.185)	(1.992)	(0.021)	(0.023)	(0.243)	(0.185)	(0.193)	(2.085)	(0.023)	(0.023)	(0.254)
LCFI×Phase2 (β_3)	0.316	0.257	3.426	0.086	0.080	0.926	0.302	0.267	2.969	0.084	0.087	0.855
	(0.294)	(0.275)	(2.772)	(0.076)	(0.066)	(0.634)	(0.308)	(0.296)	(2.745)	(0.079)	(0.073)	(0.608)
NonUS_spin	−0.288	−0.370	−4.257	−0.289	−0.371	−4.280	−0.298	−0.400	−4.377	−0.300	−0.402	−4.404
	(0.302)	(0.294)	(4.532)	(0.302)	(0.294)	(4.532)	(0.306)	(0.296)	(4.552)	(0.306)	(0.296)	(4.552)
NonUS_spin×Phase1	0.249	0.284	4.706	0.252	0.286	4.750	0.233	0.277	4.891	0.236	0.280	4.936
	(0.309)	(0.310)	(4.508)	(0.308)	(0.309)	(4.506)	(0.314)	(0.314)	(4.536)	(0.314)	(0.313)	(4.535)

TABLE 7 (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Postfee						Prefee					
	US_spin			*LCFI_years*			*US_spin*			*LCFI_years*		
LCFI	**Ret**	**Alpha**	**MPPM**	**Ret**	**Alpha**	**MPPM**	**Ret**	**Alpha**	**MPPM**	**Ret**	**Alpha**	**MPPM**
NonUS_spin×Phase2	0.304	0.493	4.323	0.308	0.498	4.354	0.304	0.550*	4.416	0.308	0.555*	4.449
	(0.332)	(0.321)	(4.830)	(0.332)	(0.320)	(4.828)	(0.338)	(0.324)	(4.852)	(0.338)	(0.324)	(4.850)
US_experience	−0.016	0.011	−0.345	−0.021	0.005	−0.359	−0.015	0.021	−0.336	−0.021	0.014	−0.347
	(0.049)	(0.054)	(0.556)	(0.048)	(0.053)	(0.545)	(0.052)	(0.058)	(0.569)	(0.051)	(0.056)	(0.558)
NonUS_experience	−0.010	0.008	0.059	−0.008	0.010	0.098	−0.012	0.013	0.138	−0.010	0.014	0.185
	(0.046)	(0.049)	(0.526)	(0.046)	(0.049)	(0.530)	(0.049)	(0.052)	(0.537)	(0.049)	(0.052)	(0.541)
Female	−0.019	−0.094	−0.120	−0.018	−0.092	−0.118	−0.021	−0.114	−0.308	−0.020	−0.111	−0.311
	(0.075)	(0.079)	(0.862)	(0.075)	(0.079)	(0.860)	(0.078)	(0.084)	(0.860)	(0.077)	(0.083)	(0.858)
Team	−0.099**	−0.125**	−0.523	−0.100**	−0.127***	−0.528	−0.102**	−0.132**	−0.480	−0.103**	−0.134***	−0.482
	(0.046)	(0.049)	(0.550)	(0.046)	(0.049)	(0.551)	(0.049)	(0.052)	(0.558)	(0.049)	(0.052)	(0.560)
Investment management	−0.147	−0.139	−1.475	−0.144	−0.137	−1.446	−0.174*	−0.156	−1.441	−0.171*	−0.154	−1.407
	(0.091)	(0.105)	(1.006)	(0.092)	(0.106)	(1.020)	(0.098)	(0.111)	(1.038)	(0.099)	(0.112)	(1.052)
Financial service	0.134**	0.129**	1.516**	0.135**	0.129**	1.518**	0.148**	0.139**	1.563**	0.149**	0.140**	1.564**
	(0.056)	(0.062)	(0.645)	(0.056)	(0.062)	(0.644)	(0.060)	(0.067)	(0.656)	(0.060)	(0.067)	(0.655)
Research	0.082	0.168**	0.946	0.082	0.168**	0.937	0.094	0.178**	1.067	0.094	0.178**	1.056
	(0.068)	(0.074)	(0.785)	(0.068)	(0.074)	(0.787)	(0.072)	(0.078)	(0.810)	(0.072)	(0.078)	(0.811)
Industry	0.213	0.040	1.525	0.210	0.037	1.481	0.205	0.040	1.321	0.202	0.036	1.272
	(0.165)	(0.166)	(1.671)	(0.165)	(0.166)	(1.673)	(0.174)	(0.178)	(1.643)	(0.174)	(0.178)	(1.645)
Government	0.033	0.093	0.380	0.036	0.096	0.391	0.042	0.103	0.379	0.045	0.107	0.388
	(0.093)	(0.094)	(1.189)	(0.093)	(0.094)	(1.185)	(0.100)	(0.101)	(1.220)	(0.100)	(0.101)	(1.217)

(Continues)

TABLE 7 (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Postfee						**Prefee**					
	US_spin			***LCFI_years***			***US_spin***			***LCFI_years***		
LCFI	**Ret**	**Alpha**	**MPPM**	**Ret**	**Alpha**	**MPPM**	**Ret**	**Alpha**	**MPPM**	**Ret**	**Alpha**	**MPPM**
lnAUM	−0.007	−0.012	0.179	−0.007	−0.013	0.176	−0.011	−0.018	0.217*	−0.011	−0.019	0.213*
	(0.011)	(0.012)	(0.123)	(0.011)	(0.012)	(0.123)	(0.012)	(0.012)	(0.124)	(0.012)	(0.012)	(0.125)
MgtFee	−0.001	−0.029	−0.468	−0.001	−0.029	−0.473	0.076	0.047	0.640	0.076	0.047	0.634
	(0.054)	(0.056)	(0.744)	(0.054)	(0.056)	(0.744)	(0.057)	(0.060)	(0.751)	(0.057)	(0.060)	(0.751)
IncFee	0.006*	0.006	0.045	0.006*	0.006	0.045	0.011***	0.011**	0.026	0.011***	0.011**	0.025
	(0.004)	(0.004)	(0.041)	(0.004)	(0.004)	(0.041)	(0.004)	(0.005)	(0.042)	(0.004)	(0.005)	(0.042)
HWM	0.040	0.007	0.948	0.040	0.006	0.956	0.022	−0.016	1.155	0.021	−0.016	1.165
	(0.065)	(0.070)	(0.792)	(0.065)	(0.069)	(0.791)	(0.071)	(0.077)	(0.807)	(0.071)	(0.077)	(0.807)
Redemption	0.060***	0.071***	0.744***	0.059***	0.071***	0.742***	0.065***	0.078***	0.811***	0.065***	0.077***	0.810***
	(0.018)	(0.021)	(0.198)	(0.018)	(0.021)	(0.198)	(0.019)	(0.023)	(0.212)	(0.019)	(0.023)	(0.211)
Subscription	0.122**	0.086	1.440**	0.120**	0.085	1.432**	0.129**	0.079	1.504**	0.128**	0.078	1.497**
	(0.051)	(0.054)	(0.571)	(0.051)	(0.054)	(0.570)	(0.055)	(0.058)	(0.584)	(0.055)	(0.058)	(0.583)
Lockup	0.000	0.002	−0.021	0.000	0.002	−0.019	−0.000	0.001	−0.026	−0.000	0.002	−0.024
	(0.004)	(0.005)	(0.051)	(0.004)	(0.005)	(0.051)	(0.004)	(0.005)	(0.053)	(0.004)	(0.005)	(0.053)
Leverage	0.003	−0.020	0.069	0.002	−0.020	0.049	0.005	−0.022	0.074	0.004	−0.022	0.051
	(0.042)	(0.048)	(0.492)	(0.042)	(0.048)	(0.493)	(0.045)	(0.051)	(0.504)	(0.045)	(0.051)	(0.505)
Constant	0.642***	0.887***	4.325**	0.642***	0.890***	4.332**	0.707***	0.980***	4.554***	0.708***	0.985***	4.558***
	(0.141)	(0.156)	(1.725)	(0.142)	(0.157)	(1.727)	(0.149)	(0.163)	(1.751)	(0.150)	(0.164)	(1.753)
R^2	0.086	0.109	0.084	0.087	0.110	0.085	0.111	0.128	0.098	0.112	0.129	0.099
Number of HFs	1391	1391	1391	1391	1391	1391	1391	1391	1391	1391	1391	1391
Strategy fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

the positive and significant β_1 in Columns (2) and (11). Subsequent to the Volcker Rule, all new funds launched during both the implementation and compliance period exhibit lower idiosyncratic risk and lower liquidity risk, as indicated by the negative and highly significant β_2 on both *Phase*1 and *Phase*2 in Columns (2), (8), (11), and (17). Hedge funds established during the Rule's compliance period also reveal a lower return discontinuity and smaller probability of liquidation as shown in the significantly negative coefficient β_2 on *Phase*2 in Columns (6), (9), (15) and (17). This indicates an overall movement of new funds into less risky investment strategies. Such a trend towards lower risk is consistent with the inferior fund performance documented in Table 7, as well as the evidence in Bowe et al. (2023) which reveals funds moving into more liquid investments during the post-Volcker period, and Bollen et al. (2021) documenting generally poor hedge fund performance over the recent decade.

Finally, we find no consistent evidence of significant changes in either risk-taking or liquidation probabilities for funds launched by former bankers after the Volcker Rule, with the coefficient estimates of β_3 being statistically insignificant in the majority of cases. This suggests that bankers who leave US LCFIs before the Volcker Rule do not inherently differ from those leaving subsequently in terms of their risk-taking behaviour. Overall, our results indicate no change in the managerial quality of former US LCFI bankers after the Volcker Rule. New hedge funds launched by such bankers reveal no significant differences in performance and risk compared to other newly established funds in the post-Rule period.[22]

5 | ROBUSTNESS: PROPENSITY SCORE MATCHING

To control for other possible (unobserved) differences between funds launched by former US LCFI bankers and managers without such experience, this section employs propensity score matching techniques. We examine fees, flows, performance and risk of funds launched by ex-bankers in comparison with a matched control sample of other new funds launched during the same period. We implement the matching within each hedge fund investment style separately, using new funds launched during the pre-Volcker, implementation and compliance periods, respectively.

The first-stage probit regression relates the probability of being launched by an ex-banker to a set of explanatory variables that are observed at the time of a new fund launch. These include the fund's initial size, redemption and subscription periods, indicators of whether the fund has a female manager, is managed by a team, and whether managers possess previous employment experience in investment management, financial services, research, a nonfinancial industry, and/or government. Funds launched by ex-bankers and other new funds are then matched using one-to-one matching without replacement based on the estimated propensity score. We retain only those matches for which the difference in the score is smaller than 0.01 resulting in a total of 68 matched pairs. Table 9 reveals that the resulting treated and control groups are indistinguishable in terms of all the characteristics we use as the basis of matching.

[22]We have also examined the legal structure of newly launched hedge funds. Joenväärä and Kosowski (2021) demonstrate that hedge fund firms often launch UCITS compliant hedge funds to generate higher fee revenues and attract capital. The fraction of UCITS funds in the total number of new funds launched by ex-bankers and other managers increases from 2.9% to 14.3% and 17.7% to 24.6% from the pre-Volcker to the compliance period, respectively. However, the differences are not significant after the Volcker Rule.

TABLE 8 The risk and liquidation probability of hedge funds launched before and after the Volcker Rule.

This table reports the risk and liquidation probability of new funds launched between July 2009 and March 2016. *SRisk* and *IRisk* are the systematic risk and idiosyncratic risk of a hedge fund. *Repeat* equals 1 if the percentage of reported returns that are repeated at least once is above the median; *Negative* equals 1 if the percentage of returns below zero is below the median; *kink*1 equals 1 if the average number of return observations that are between 0 and 2% and −4% to −2% minus the number of return observations that are between −2% and 0 is above the median; *kink*2 equals 1 if the value of the test statistic in Equation (10) measuring the discontinuity at zero in the distribution of a hedge fund's returns is below the median; *ORisk* is the sum of risk points for each measure; *LIQRisk* is a hedge fund exposure to the Pástor and Stambaugh (2003) traded liquidity factor. *Liquidation* equals 1 if a fund is liquidated within 5 years. *US_spin* (*NonUS_spin*) equals 1 if a fund has a manager whose last employer is a US (non-US) LCFI, and *LCFI_years* equals the number of years an ex-banker worked in a US LCFI. *US_experience* (*NonUS_experience*) equals 1 if a fund has a manager who previously worked in the US (non-US) LCFI. *Phase*1 and *Phase*2 equal one for funds launched between July 2011 to March 2014 and April 2014 to March 2016, respectively. Other variables are defined in Table 1. Standard errors are reported in brackets. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	US_spin									*LCFI_years*								
LCFI	SRisk	IRisk	Repeat	Negative	kink1	kink2	ORisk	LIQRisk	Liquidation	SRisk	IRisk	Repeat	Negative	kink1	kink2	ORisk	LIQRisk	Liquidation
LCFI (β_1)	−0.321	0.022*	−0.089	0.044	0.075	−0.120	−0.089	−6.125	−0.241	−0.041	0.003***	0.002	0.017*	0.014	−0.005	0.027	−0.644	−0.152
	(0.403)	(0.012)	(0.094)	(0.096)	(0.083)	(0.101)	(0.261)	(4.604)	(0.618)	(0.056)	(0.001)	(0.015)	(0.010)	(0.010)	(0.013)	(0.035)	(0.639)	(0.094)
Phase1 (β_2)	0.114	−0.485***	0.036	0.043	0.054*	−0.012	0.121	−18.537***	0.376**	0.098	−0.485***	0.043	0.050	0.059*	−0.003	0.148*	−18.322***	0.327**
	(0.232)	(0.005)	(0.030)	(0.032)	(0.032)	(0.034)	(0.090)	(1.767)	(0.167)	(0.228)	(0.005)	(0.030)	(0.032)	(0.032)	(0.034)	(0.089)	(1.752)	(0.166)
Phase2 (β_2)	−0.089	−0.479***	0.090**	−0.038	0.015	−0.096**	−0.029	−14.489***	−0.401*	−0.095	−0.479***	0.090***	−0.037	0.016	−0.088**	−0.019	−14.269***	−0.398*
	(0.233)	(0.005)	(0.035)	(0.038)	(0.038)	(0.040)	(0.103)	(2.170)	(0.213)	(0.231)	(0.005)	(0.035)	(0.037)	(0.037)	(0.039)	(0.102)	(2.157)	(0.210)
LCFI × Phase1 (β_3)	−0.455	−0.016	0.039	0.204	0.136	0.194	0.574*	8.441	−0.132	−0.008	−0.003	−0.011	0.009	0.000	0.006	0.004	0.673	0.151
	(0.419)	(0.016)	(0.124)	(0.129)	(0.123)	(0.142)	(0.346)	(6.233)	(0.797)	(0.055)	(0.002)	(0.018)	(0.013)	(0.015)	(0.018)	(0.045)	(0.815)	(0.112)
LCFI × Phase2 (β_3)	−0.583	−0.020	0.128	0.081	0.100	0.272	0.581	5.173	1.031	−0.100	−0.005	0.042*	0.022	0.021	0.022	0.107	−0.305	0.174
	(0.895)	(0.021)	(0.166)	(0.156)	(0.166)	(0.191)	(0.466)	(8.379)	(0.896)	(0.254)	(0.004)	(0.025)	(0.022)	(0.033)	(0.035)	(0.078)	(1.335)	(0.158)
NonUS_spin	1.125	−0.004	0.019	0.078	0.004	−0.000	0.101	−7.732	−0.801	1.130	−0.004	0.023	0.078	0.003	0.003	0.107	−7.654	−0.793
	(1.217)	(0.013)	(0.095)	(0.111)	(0.112)	(0.110)	(0.321)	(4.817)	(0.767)	(1.217)	(0.013)	(0.094)	(0.111)	(0.112)	(0.110)	(0.322)	(4.824)	(0.772)
NonUS_spin × Phase1	−2.106*	0.014	0.186	0.119	0.142	0.097	0.544	11.868**	0.063	−2.117*	0.014	0.185	0.125	0.145	0.098	0.552	11.882**	0.052
	(1.192)	(0.017)	(0.137)	(0.142)	(0.140)	(0.143)	(0.401)	(6.012)	(0.984)	(1.190)	(0.017)	(0.136)	(0.140)	(0.139)	(0.144)	(0.396)	(6.008)	(0.989)

TABLE 8 (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	US_spin									*LCFI_years*								
LCFI	SRisk	IRisk	Repeat	Negative	kink1	kink2	ORisk	LIQRisk	Liquidation	SRisk	IRisk	Repeat	Negative	kink1	kink2	ORisk	LIQRisk	Liquidation
NonUS_spin×Phase2	−1.267	−0.005	−0.060	0.049	0.122	0.241	0.351	7.377	−0.159	−1.260	−0.005	−0.054	0.052	0.122	0.237	0.357	7.218	−0.223
	(1.323)	(0.023)	(0.149)	(0.160)	(0.155)	(0.164)	(0.510)	(9.377)	(1.322)	(1.324)	(0.023)	(0.149)	(0.161)	(0.156)	(0.164)	(0.512)	(9.387)	(1.327)
US_experience	0.569	−0.001	0.037	0.014	−0.040	0.051	0.062	−0.551	0.078	0.531	−0.000	0.028	0.013	−0.033	0.051	0.059	−0.490	0.104
	(0.414)	(0.005)	(0.031)	(0.031)	(0.032)	(0.034)	(0.088)	(1.768)	(0.174)	(0.407)	(0.005)	(0.030)	(0.031)	(0.031)	(0.034)	(0.088)	(1.737)	(0.171)
NonUS_experience	−0.094	−0.002	0.002	−0.028	0.023	−0.013	−0.016	3.739**	0.105	−0.104	−0.002	0.002	−0.022	0.027	−0.015	−0.008	3.612*	0.081
	(0.303)	(0.005)	(0.031)	(0.037)	(0.034)	(0.036)	(0.096)	(1.871)	(0.172)	(0.305)	(0.005)	(0.031)	(0.037)	(0.035)	(0.036)	(0.097)	(1.877)	(0.172)
Female	−0.065	−0.005	−0.027	−0.038	−0.006	−0.041	−0.111	5.386**	−0.029	−0.049	−0.005	−0.028	−0.042	−0.010	−0.042	−0.122	5.380**	0.005
	(0.221)	(0.006)	(0.047)	(0.051)	(0.051)	(0.051)	(0.133)	(2.591)	(0.257)	(0.219)	(0.006)	(0.047)	(0.051)	(0.051)	(0.051)	(0.134)	(2.595)	(0.252)
Team	−0.831***	0.005	0.009	0.019	0.043	0.031	0.102	−2.497	−0.268*	−0.839***	0.005	0.009	0.021	0.046	0.032	0.108	−2.497	−0.278*
	(0.310)	(0.004)	(0.027)	(0.029)	(0.029)	(0.030)	(0.078)	(1.712)	(0.159)	(0.313)	(0.004)	(0.027)	(0.029)	(0.029)	(0.030)	(0.078)	(1.715)	(0.160)
Investment management	−0.065	−0.000	−0.018	−0.029	0.013	0.017	−0.016	3.495	−0.638**	−0.069	0.000	−0.002	−0.017	0.019	0.023	0.024	3.354	−0.708**
	(0.372)	(0.008)	(0.052)	(0.056)	(0.056)	(0.058)	(0.147)	(3.525)	(0.277)	(0.372)	(0.008)	(0.053)	(0.057)	(0.057)	(0.059)	(0.153)	(3.584)	(0.284)
Financial service	0.305	0.003	0.046	0.041	−0.001	0.013	0.099	−0.217	0.324*	0.309	0.003	0.049	0.042	−0.001	0.015	0.105	−0.199	0.310*
	(0.493)	(0.005)	(0.035)	(0.035)	(0.035)	(0.038)	(0.096)	(2.114)	(0.180)	(0.492)	(0.005)	(0.035)	(0.035)	(0.035)	(0.038)	(0.096)	(2.118)	(0.179)
Research	0.105	0.002	−0.044	0.005	−0.013	0.068	0.016	−5.351*	−0.055	0.110	0.002	−0.044	0.004	−0.014	0.069	0.015	−5.285*	−0.057
	(0.274)	(0.006)	(0.040)	(0.045)	(0.045)	(0.046)	(0.119)	(2.920)	(0.228)	(0.275)	(0.006)	(0.040)	(0.044)	(0.045)	(0.046)	(0.118)	(2.928)	(0.228)
Industry	0.784	−0.014	0.004	0.086	−0.006	−0.005	0.079	12.197*	0.145	0.785	−0.014	0.010	0.086	−0.005	0.000	0.091	12.334*	0.120
	(0.567)	(0.016)	(0.089)	(0.107)	(0.088)	(0.104)	(0.254)	(6.950)	(0.504)	(0.567)	(0.016)	(0.089)	(0.107)	(0.088)	(0.104)	(0.254)	(6.961)	(0.502)

(Continues)

TABLE 8 (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	US_spin									*LCFI_years*								
LCFI	SRisk	IRisk	Repeat	Negative	kink1	kink2	ORisk	LIQRisk	Liquidation	SRisk	IRisk	Repeat	Negative	kink1	kink2	ORisk	LIQRisk	Liquidation
Government	0.053	0.023***	0.049	−0.037	0.007	−0.075	−0.056	−0.228	−0.366	0.068	0.022***	0.052	−0.036	0.005	−0.074	−0.053	−0.209	−0.378
	(0.336)	(0.007)	(0.074)	(0.069)	(0.080)	(0.084)	(0.212)	(3.639)	(0.459)	(0.336)	(0.007)	(0.073)	(0.068)	(0.080)	(0.084)	(0.211)	(3.631)	(0.455)
lnAUM	−0.309***	−0.001	−0.003	0.019***	0.035***	0.007	0.058***	−0.252	−0.275***	−0.310***	−0.001	−0.003	0.019***	0.036***	0.007	0.059***	−0.238	−0.278***
	(0.095)	(0.001)	(0.006)	(0.007)	(0.007)	(0.007)	(0.020)	(0.359)	(0.044)	(0.094)	(0.001)	(0.006)	(0.007)	(0.007)	(0.007)	(0.020)	(0.360)	(0.045)
MgtFee	0.378*	0.002	−0.005	−0.053**	−0.055**	−0.003	−0.115*	2.831	−0.040	0.379*	0.002	−0.005	−0.054**	−0.055**	−0.003	−0.118**	2.839	−0.032
	(0.216)	(0.003)	(0.020)	(0.023)	(0.023)	(0.024)	(0.059)	(1.741)	(0.123)	(0.217)	(0.003)	(0.020)	(0.023)	(0.023)	(0.024)	(0.059)	(1.741)	(0.122)
IncFee	0.025*	0.001*	0.000	0.002	0.000	−0.003	0.000	−0.055	0.014	0.025*	0.001*	0.000	0.002	0.000	−0.003	0.000	−0.052	0.014
	(0.014)	(0.000)	(0.002)	(0.002)	(0.002)	(0.003)	(0.006)	(0.140)	(0.012)	(0.014)	(0.000)	(0.002)	(0.002)	(0.002)	(0.003)	(0.006)	(0.140)	(0.012)
HWM	−0.466*	0.003	−0.084**	0.024	0.019	0.020	−0.020	−0.391	−0.104	−0.476*	0.003	−0.086**	0.025	0.021	0.019	−0.022	−0.420	−0.098
	(0.257)	(0.007)	(0.040)	(0.042)	(0.039)	(0.044)	(0.110)	(2.335)	(0.204)	(0.258)	(0.007)	(0.040)	(0.042)	(0.039)	(0.044)	(0.110)	(2.334)	(0.203)
Redemption	−0.036	0.000	−0.006	0.036***	0.008	−0.005	0.034	0.549	−0.072	−0.037	0.000	−0.006	0.037***	0.009	−0.005	0.035	0.529	−0.077
	(0.053)	(0.002)	(0.010)	(0.010)	(0.012)	(0.011)	(0.031)	(0.453)	(0.063)	(0.053)	(0.002)	(0.010)	(0.010)	(0.012)	(0.011)	(0.031)	(0.455)	(0.063)
Subscription	−0.144	−0.003	0.036	0.029	0.020	−0.017	0.068	−0.562	0.138	−0.146	−0.003	0.036	0.028	0.020	−0.017	0.066	−0.587	0.139
	(0.277)	(0.005)	(0.029)	(0.033)	(0.034)	(0.034)	(0.092)	(2.070)	(0.174)	(0.277)	(0.005)	(0.029)	(0.033)	(0.034)	(0.034)	(0.092)	(2.071)	(0.174)
Lockup	0.006	−0.000	0.002	0.000	0.000	0.002	0.005	−0.035	−0.001	0.006	−0.000	0.002	0.000	−0.000	0.002	0.005	−0.035	−0.001
	(0.014)	(0.000)	(0.003)	(0.003)	(0.003)	(0.003)	(0.008)	(0.132)	(0.013)	(0.014)	(0.000)	(0.003)	(0.003)	(0.003)	(0.003)	(0.008)	(0.132)	(0.013)
Leverage	0.068	0.000	−0.007	0.036	0.036	0.047	0.111	0.955	−0.010	0.077	0.000	−0.008	0.031	0.033	0.046	0.103	0.976	0.003
	(0.208)	(0.004)	(0.027)	(0.030)	(0.030)	(0.032)	(0.082)	(1.673)	(0.158)	(0.212)	(0.004)	(0.027)	(0.030)	(0.030)	(0.032)	(0.083)	(1.679)	(0.159)
Ret									−0.196**									−0.195**
									(0.078)									(0.077)
STD									0.033									0.033
									(0.020)									(0.020)

TABLE 8 (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	US_spin									*LCFI_years*								
LCFI	SRisk	IRisk	Repeat	Neg-ative	kink1	kink2	ORisk	LIQRisk	Liqui-dation	SRisk	IRisk	Repeat	Neg-ative	kink1	kink2	ORisk	LIQRisk	Liqui-dation
Flow									−0.006									−0.006
									(0.007)									(0.007)
Family									0.147									0.142
									(0.152)									(0.152)
Constant	4.026***	1.044***	0.216***	0.295***	0.254***	0.389***	1.154***	8.408*	0.454	4.043***	1.043***	0.202***	0.284***	0.245***	0.379***	1.110***	8.394*	0.527
	(0.582)	(0.012)	(0.076)	(0.084)	(0.085)	(0.087)	(0.232)	(4.996)	(0.432)	(0.574)	(0.012)	(0.077)	(0.084)	(0.085)	(0.088)	(0.233)	(5.011)	(0.441)
R^2	0.079	0.927	0.093	0.138	0.169	0.061	0.178	0.127	0.0851	0.078	0.927	0.094	0.138	0.167	0.059	0.177	0.127	0.0851
Number of HFs	1391	1391	1391	1391	1391	1391	1391	1391	1245	1391	1391	1391	1391	1391	1391	1391	1391	1245
Strategy fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

TABLE 9 Balancing tests of propensity score matching.

This table reports the balancing test results of propensity score matching. The treated group includes funds launched by ex-bankers from US LCFIs and the Control group includes other funds. The 'Pre-Volcker period' is from July 2009 to June 2011, the 'Implementation period' is from July 2011 to March 2014, and the 'Compliance period' is from April 2014 to March 2016. *AuM_first* are the assets under management at origination (in million USD), *MgtFee* is the management fee (in percent), *IncFee* is the incentive fee (in percent), *Redemption* is the redemption period (in months), *Subscription* is the subscription period (in months), *Strategy* is the strategy category a fund belongs to, *Female* equals one if a fund has a female manager, *Team* equals one if a fund is managed by a team, *Investment Management*, *Financial Service*, *Research*, *Industry*, and *Government* equals one if a fund manager has investment management, financial service, research, nonfinancial industry, and government work experience, respectively. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively. The missing values of %bias and *t*-stats indicate that no managers with particular work experience in either of the groups during the specific period.

	Pre-Volcker period				Implementation period				Compliance period			
Variables	**Treated**	**Control**	**%bias**	***t*-stats**	**Treated**	**Control**	**%bias**	***t*-stats**	**Treated**	**Control**	**%bias**	***t*-stats**
AUM_first	43.731	22.654	32.500	1.170	48.379	26.621	9.100	1.410	35.900	17.400	49.500	1.080
Redemption	1.341	1.392	−2.800	−0.100	1.351	1.522	−13.100	−0.500	1.110	1.330	−19.600	−0.430
Subscription	0.803	0.738	12.200	0.440	0.833	0.867	−8.300	−0.360	0.710	0.730	−4.500	−0.100
Female	0.192	0.269	−16.300	−0.590	0.103	0.034	27.900	1.030	0.100	0.000	46.900	1.000
Team	0.500	0.654	−30.900	−1.110	0.517	0.586	−13.700	−0.520	0.400	0.500	−19.100	−0.430
Investment Management	0.923	0.962	−16.200	−0.590	0.828	0.828	0.000	0.000	0.800	0.900	−28.000	−0.600
Financial Service	0.115	0.192	−21.000	−0.760	0.034	0.103	−22.900	−1.030	0.100	0.000	35.000	1.000
Research	0.077	0.154	−23.800	−0.860	0.103	0.103	0.000	0.000	0.200	0.200	0.000	0.000
Industry	0.038	0.000	27.700	1.000	0.034	0.034	0.000	0.000	0.000	0.000	.	.
Government	0.000	0.000	.	.	0.000	0.000	.	.	0.000	0.000	.	.

TABLE 10 Propensity score matching results.

This table reports the propensity matching results for new funds launched between July 2009 and March 2016. US spin includes funds that have at least one manager whose last employer is a US LCFI before starting the new fund and Others include other new hedge funds launched during the same period. The 'Pre-Volcker period' is from July 2009 to June 2011, the 'Implementation period' is from July 2011 to March 2014, and the 'Compliance period' is from April 2014 to March 2016. *MgtFee* and *IncFee* are the management and incentive fees a fund charges, respectively, and *HWM* equals 1 if a high-water mark provision is present. *Flow*_1, *Flow*_2, and *Flow*_3 are the average flow for a hedge fund in the first, second, and third year, respectively. *Ret* is the reported returns of a hedge fund. A*lpha* is the abnormal performance of a hedge fund and *MPPM* is the manipulation-proof performance measure. *SRisk* and *IRisk* are the systematic and idiosyncratic risk of a hedge fund, respectively. *Repeat* equals 1 if the percentage of reported returns that are repeated at least once is above the median; *Negative* equals 1 if the percentage of returns below zero is below the median; *kink*1 equals 1 if the average number of return observations that are between 0% and 2% and −4% to −2% minus the number of return observations that are between −2% and 0 is above the median; *kink*2 equals 1 if the value of the test statistic in Equation (10) measuring the discontinuity at zero in the distribution of a hedge fund's returns is below the median; *ORisk* is the sum of risk points for each measure; *LIQRisk* is a hedge fund exposure to the Pástor and Stambaugh (2003) traded liquidity factor. *Liquidation* equals 1 if a fund is liquidated within 5 years. *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively.

Pre-Volcker period					**Implementation period**				**Compliance period**			
	US spin-offs	**Others**	**Difference**	***t*-stat**	**US spin-offs**	**Others**	**Difference**	***t*-stat**	**US spin-offs**	**Others**	**Difference**	***t*-stat**
MgtFee	1.690	1.452	0.238	1.700*	1.367	1.487	−0.119	−0.610	1.725	1.100	0.625	2.600***
IncFee	19.048	15.101	3.946	2.640***	17.315	16.407	0.907	0.540	14.500	17.750	−3.250	−0.840
HWM	1.000	0.769	0.231	2.740***	0.931	0.828	0.103	1.200	0.700	0.900	−0.200	−1.100
Flow_1	8.214	15.151	−6.936	−1.130	5.335	1.105	4.230	1.050	12.493	6.282	6.212	0.820
Flow_2	0.716	4.884	−4.168	−2.650***	2.605	2.200	0.405	0.280	2.812	1.121	1.690	0.640
Flow_3	1.587	3.723	−2.136	−0.660	2.448	−1.715	4.163	1.170	12.811	2.649	10.162	0.720
Ret	0.805	0.593	0.212	1.110	0.714	0.769	−0.055	−0.310	0.684	0.925	−0.242	−0.570
Alpha	0.906	0.631	0.275	1.520	0.729	0.999	−0.271	−1.400	0.535	0.836	−0.301	−0.630
MPPM	7.773	4.831	2.942	1.200	7.136	5.721	1.416	0.630	6.516	6.737	−0.221	−0.070
Srisk	1.055	1.034	0.021	0.960	0.572	0.561	0.011	0.700	0.567	0.552	0.014	0.460

(Continues)

TABLE 10 (Continued)

Pre-Volcker period					Implementation period				Compliance period			
	US spin-offs	Others	Difference	*t*-stat	US spin-offs	Others	Difference	*t*-stat	US spin-offs	Others	Difference	*t*-stat
Irisk	2.670	2.835	−0.165	−0.340	2.379	4.045	−1.666	−2.950***	2.517	1.866	0.651	0.580
Repeat	0.231	0.115	0.115	1.090	0.241	0.207	0.034	0.310	0.333	0.556	−0.222	−0.920
Negative	0.654	0.538	0.115	0.840	0.655	0.621	0.034	0.270	0.667	0.444	0.222	0.920
kink1	0.577	0.500	0.077	0.550	0.690	0.345	0.345	2.750***	0.667	0.333	0.333	1.410
kink2	0.577	0.577	0.000	0.000	0.483	0.552	−0.069	−0.520	0.556	0.222	0.333	1.460
ORisk	2.038	1.731	0.308	0.780	2.069	1.724	0.345	0.960	2.222	1.556	0.667	0.920
LIQRisk	8.561	9.405	−0.844	−0.120	−12.067	−13.788	1.721	0.220	−5.548	−21.096	15.548	1.210
Liquidation	0.346	0.154	0.192	1.610	0.172	0.207	−0.034	−0.330	0.111	0.333	−0.222	−1.110

Finally, in Table 10 we compare the differences across the two groups of funds in terms of their management and incentive fees, the use of a high-water mark, the average fund flows in their first, second, and third year, their return, alpha and MPPM during the first 3 years, and their systematic, idiosyncratic, operational risk, and liquidity risk, as well as liquidation probability. The results indicate that during the pre-Volcker period, funds launched by former US LCFI bankers charge significantly higher incentive fees and are more likely to use a high-water mark in comparison to other new funds. The corresponding differences are 3.946 and 0.231, both significant at the 1% level. During the implementation period, funds launched by ex-bankers exhibit lower idiosyncratic risk and higher discontinuity at zero, while during the Rule's compliance period they charge significantly higher management fees (1.725% vs. 1.100%), with the difference being significant at the 1% level. However, there is no evidence of any difference in performance between these two groups of hedge funds.

Overall, the matching results support our central conclusion, namely that there is a significant change in the fee structure of funds launched by former US LCFI bankers after the Volcker Rule, one which cannot be justified by their realised performance.

6 | CONCLUSION

Investors' perceptions of managerial human capital in fund management play an important role in the industry. This paper analyses the impact of the Volcker Rule on the supply of human capital to the hedge fund industry and subsequent managerial remuneration and fund performance. We investigate new hedge funds launched by bankers who leave US LCFIs following the Volcker Rule's ban on proprietary trading by these large, systemically important banking institutions. Our focus is on the fee structure, capital flows, performance, and risk-taking of these new funds, together with their probability of liquidation, and any changes of these measures after the Volcker Rule. Our key findings show that while there appears to be a difference in how investors perceive funds launched by former US LCFI bankers before and after the Volcker Rule, there is no discernible difference in managerial quality.

We find that funds launched by ex-US LCFI bankers before the Volcker Rule receive significantly lower capital flows in their first year as compared to other new hedge funds launched during the same period. These ex-banker funds also charge significantly higher incentive fees, and are more likely to use a high-water mark in an attempt to convince the investment community of their inherent acquired skill set, which supports the signalling theory of Gompers and Lerner (1999) and Deuskar et al. (2011). These funds exhibit higher idiosyncratic risk, but reveal no differences in performance, systematic risk, operational risk, and liquidation probability as compared to those funds established by managers originating from outside the banking sector.

After the Volcker Rule, when all proprietary traders (including stars) are mandated to leave US LCFIs, funds launched by former bankers receive significantly higher flows in their first year. These funds switch to a fee structure characterised by higher management fees and are less likely to use a high-water mark. Over time, no significant differences are evident in either long-term flows, performance, risk profile, or liquidation probability between ex-banker funds and other new funds.

Our paper highlights the importance of investor perceptions of acquired signals arising from the employment history of hedge fund managers for managerial remuneration. Following the Volcker Rule, former US LCFI bankers who launch new hedge funds earn an additional

USD169,000 per fund, on average, during the fund's first year, largely attributable to receiving higher management fees, without rewarding their investors with higher returns during either this period or indeed subsequent years.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from EurekaHedge (https://www.eurekahedge.com). Restrictions apply to the availability of these data, which were used under license for this study.

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