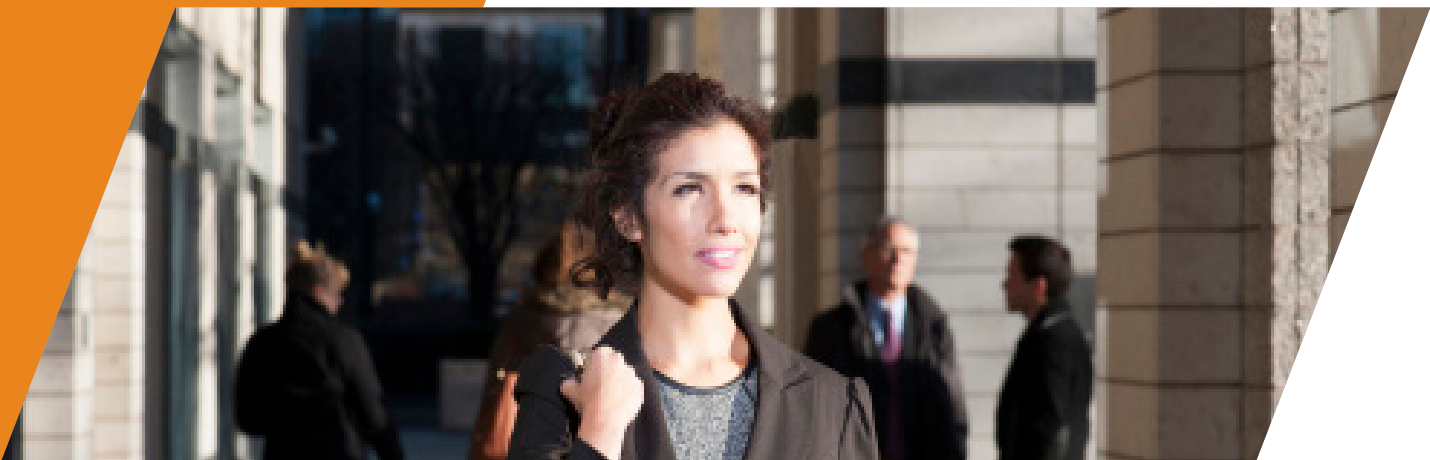


# Hedge Fund Survey

June 2015





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## Abbreviations used in this document

<b>AIF/AIFM</b>	Alternative Investment Fund / Alternative Investment Fund Manager
<b>AIFMD</b>	Alternative Investment Fund Managers Directive
<b>AUM</b>	Assets Under Management
<b>CCP</b>	Central Counterparty
<b>FCA</b>	Financial Conduct Authority
<b>FPC</b>	Financial Policy Committee
<b>FSB</b>	Financial Stability Board
<b>FX</b>	Foreign Exchange
<b>GNE</b>	Gross Notional Exposure
<b>HFS</b>	Hedge Fund Survey
<b>HNW</b>	High net worth
<b>IOSCO</b>	International Organisation of Securities Commissions
<b>IRD</b>	Interest Rate Derivative
<b>NAV</b>	Net Asset Value
<b>NBNI GSIFI</b>	Non-Bank Non-Insurer Global Systemically Important Financial Institution
<b>OTC</b>	Over the Counter
<b>UC</b>	Unencumbered Cash
<b>VaR</b>	Value at Risk

Please note: Information is presented in US dollars (USD) for comparability.

# 1. Introduction

## **The Financial Conduct Authority's role**

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The Financial Conduct Authority (FCA) supervises hedge fund managers operating in the UK. We collect data from hedge funds and hedge fund managers to inform our supervisory activity, with the aim of ensuring markets work well and of promoting market integrity. We also play a leading role in assessing the systemic risks posed by hedge funds, and developing potential policy measures to address these risks, working closely with the UK Financial Policy Committee (FPC), the Financial Stability Board (FSB), and the International Organisation of Securities Commission (IOSCO).

This public report outlines the key findings resulting from our data analysis of the hedge fund industry. Given the interest of other regulators and market participants in our findings, we decided to share these more widely, as we have done in previous years.

## **Hedge fund assets under management in the UK**

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The Hedge Fund survey presents an aggregated picture of industry activity in the UK, illustrating key trends and risks. The survey data was obtained from 52 management firms, which collectively manage USD 623 billion of hedge fund assets globally. Although none of the 132 funds surveyed are domiciled in the UK, the 52 firms nevertheless manage a stated USD 265 billion out of the UK. Data is reported as at September 2014.

## **Risk identification and mitigation**

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Hedge funds fail or close down on a regular basis without causing a significant impact on the financial system, but very large hedge funds potentially pose a risk. A large hedge fund which fails in a disorderly way might impact wider financial markets in two ways: by causing losses to its transaction counterparties (the credit channel) or by disrupting markets as its positions are closed out and/or counterparties rush to sell collateral at the same time (the market channel). The impact on markets could be greater if a fund has highly complex positions across a range of markets.

Hedge funds use leverage to increase the size of the positions taken in financial markets. In some cases, the use of leverage allows them to become large enough to suggest they could impact the wider financial system in certain situations. Hedge funds obtain leverage either by borrowing money or securities directly from counterparties (financial leverage) or indirectly by using derivative instruments such as options, futures or swaps (synthetic leverage). Some hedge fund strategies use derivatives more intensively than others.

Our survey highlights that, by far, the largest proportion of total leverage used by hedge funds in the UK is acquired using derivatives, and that any unsecured financial leverage in aggregate appears minimal. Derivative transactions allow hedge funds to acquire market/economic exposures (this report refers to the Gross Notional Exposure) that are bigger than the capital of the fund. It should be underlined that all institutions, entering derivative transactions with hedge funds, require funds to provide collateral. This protects the counterparty against losses on the transaction if the hedge fund defaults on its commitments under the transaction. As hedge funds increasingly clear their transactions with central counterparties (CCPs), this will also help ensure appropriate collateralisation and default management.

### **Identifying the probability of failure**

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Complexity of a fund can be an indicator of potential systemic risk. The Survey therefore explores a number of aspects that have been listed under the proposed Assessment Methodology for identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions (NBNI GSIFIs). These include among others the extent of OTC trading undertaken by funds, the liquidity buffer that is built into funds, and the degree to which collateral is recycled. Importantly, complexity also relates to the overall leverage of a fund and the position of unencumbered cash it holds. Hedge funds which are highly leveraged using derivatives can fail if they run out of cash or similar liquid assets to post as collateral. The amount of liquid and unencumbered assets in a hedge fund portfolio is therefore a key indicator of its financial health and of its ability to absorb losses on positions.

Given the complexity of hedge funds, their often high trading volumes, and exposure to multiple asset classes and some markets, the FCA expects hedge funds to have an appropriate risk management framework in place that allows them to monitor the characteristics and risk profile of their portfolios. In addition to its oversight of individual funds and firms and their risk management, the FCA seeks to identify funds or trends with the potential to pose risks to wider financial markets, and to manage these risks in cooperation with other international regulators.

## 2. Highlights

The latest Hedge Fund survey covers USD 418 billion managed in 132 qualifying funds by 52 firms, a slightly larger sample than in March 2014. None of these funds are domiciled in the UK, but the 52 funds surveyed nevertheless manage a reported USD 265 billion out of the UK. The Survey thus covers about 13% of the estimated global hedge fund assets under management.

Only two of the top 10 funds by net asset value (NAV) that participated in the Survey also reported the same detail of information under AIFMD, making the overlap of these two reporting channels less significant.

The hedge fund sector remains highly concentrated. This not only applies when considering their assets under management, but also when analysing their risk profiles, including their leverage, number of open positions, and counterparty risk.

Long/short equity and multi-strategy funds remain the most popular fund strategies, accounting for a combined 40% of the total number of funds within the sample.

Turnover is primarily generated by the largest 10 funds in the Survey. Execution on regulated exchanges makes up 68% of the securities transaction volume, but only 60% of derivatives volume, leaving a still substantial part of execution taking place on a bilateral or OTC basis.

Clearing, however, in aggregate is increasingly taking place at CCP level, even if transactions are concluded OTC. This trend is mainly driven by a notable shift of a few large funds with high turnover towards CCP clearing. However, if the top 10 funds are excluded from the aggregate figure, the Survey indicates that the vast majority of funds continue to clear their derivatives bilaterally.

The hedge funds in the Survey obtain their leverage primarily in the form of derivative positions (synthetic leverage). Interest rate derivatives in particular stand out as the key source of synthetic leverage, as measured by gross notional exposure.

Financial leverage is a far less significant source of leverage. Some 20% of funds have no financial leverage at all. The predominant approach is towards secured and collateralised borrowing, with less than 10% of funds using unsecured borrowing.

The overall term structure of financial borrowing has slightly improved since March 2014, with only 60% of the funds exposed to having their funds withdrawn within 1-30 days. Repo and reverse repo transactions dominate financial borrowings, and remain the preferred tool by Macro funds. Their aggregate term structure is generally short, less than 30 days.

The risk profile of funds as measured by VaR has not significantly changed. 67% of the Survey's funds make use of the VaR metric. Funds that indicate the highest VaR metrics are usually following Macro and Managed Futures strategies.



Overall, the funds in the sample run relatively liquid portfolios and offer terms of redemption to investors that allow sufficient time for orderly liquidation of assets to meet such redemption demands. In stressed market conditions and when specialising in a less liquid asset class, such as real estate and credit instruments, 88% of the surveyed hedge funds have additional gating and suspension tools to avert forced selling due to investor redemptions.

A majority of funds allow for the re-hypothecation of collateral they post, as well as of the collateral they receive. However, the survey indicated that 22% of the funds did not know how much of the collateral posted was actually re-hypothecated.

Compared to March 2014, the Survey highlights an increased exposure of funds to structured/ securitised products and listed equities, and their smaller holdings of unlisted equities on the securities front. On the derivatives front, the funds' gross exposure to IRDs and FX increased. Net exposure in fixed income derivatives also remained outright long.

## 3.

# About the survey

### What is a hedge fund?

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Hedge funds are one category of alternative investment funds. Alternative investment funds invest in a variety of global assets, including property and commodities, and they often have a high degree of flexibility around how they invest. Hedge funds are a type of alternative investment fund which use this freedom to pursue a wide variety of strategies in many different asset classes: some run very concentrated portfolios; others pursue complex trading strategies characterised by high levels of turnover; and others employ high levels of leverage.

### What is captured in this iteration of the survey?

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The survey data is collected at the level of the firm (Section 1), as well as the qualifying funds (Section 2), reflecting the international structure and operations of the industry. Data is reported at the end of September 2014.

On the firm level, this survey covers voluntary responses from 52 firms (as compared to 53 firms in March 2014).

On the fund level, the data collected covers 132 funds. To qualify for the survey, a fund must:

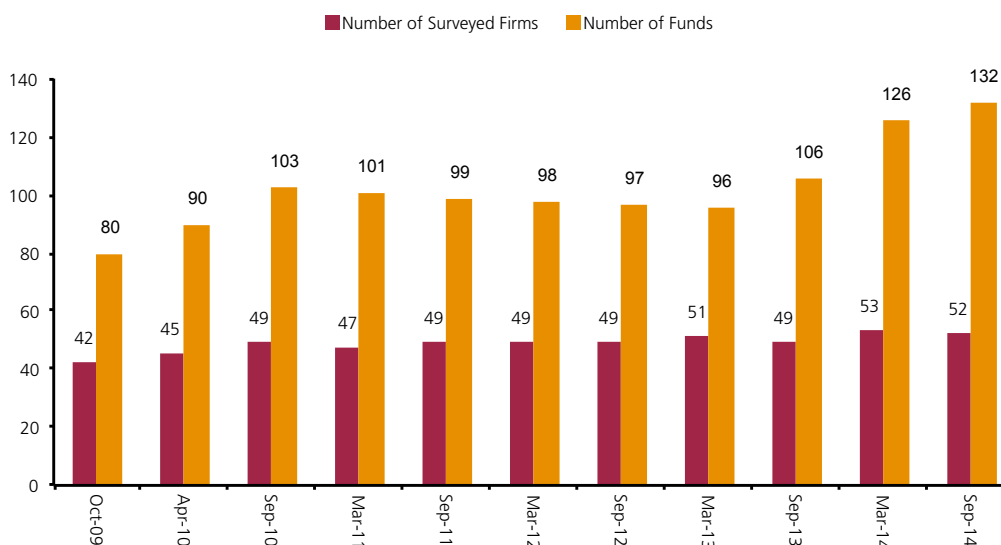
- be a hedge fund, as identified by their firms using a range of criteria, such as the use of leverage, the complexity of strategies or the application of performance fees;
- be at least partially managed by a UK regulated entity or marketed in the UK;
- be managed by a single manager, ie fund of funds (or multimanager funds) are excluded; and
- be able to demonstrate it manages at least USD 500 million of total global net assets (net AUM or NAV). This includes the sum of all accounts managed under the same strategy (for example including pooled funds and separately managed accounts), to ensure the product is fully captured.

Although the firms surveyed also provided some information at firm level, our analysis primarily focuses on the 132 qualifying funds that the firms operate.

## Survey statistics compared to AIFMD reporting

The voluntary response rate in the Survey has allowed for a gradual enlargement of the sample over the years. In the 11 iterations of the Survey, 28 funds have consistently participated, whilst 31 funds have only participated once between October 2009 and September 2014 (see Figure 1).

**Figure 1 – Survey participants**



September 2014 data shows that the 52 firms in the survey managed global hedge fund assets worth USD 623 billion, of which USD 418.6 billion are captured in the fund information of the Survey. The latter figure compares with USD 375 billion in March 2014 and USD 344.7 billion in September 2013. USD 265 billion are reported as being managed out of the UK.

The past Survey iterations have closed an important information gap on the sector. However, since new reporting requirements set by the Alternative Investment Fund Managers Directive (AIFMD) are now in place, regularly reported data on the hedge fund sector is becoming available. Based on the first AIFMD annual data submission of 31 December 2014, as many as 1,330 alternative investment funds (AIFs) categorised themselves as hedge funds, which represent 31% of the entire AIF universe that reported to the FCA. However, there appears to be only limited overlap with the qualifying funds of the Hedge Fund Survey. Only two of the top 10 funds by NAV in the Hedge Fund Survey provided the same detailed information under AIFMD, mainly because all others are managed outside of the UK. Notwithstanding AIFMD we therefore anticipate a continued need to capture some of this information for the largest hedge funds in a smaller, more targeted survey in the future.

## Domestic and international regulatory cooperation

Hedge funds operate across national boundaries and national regulators are continuing to collaborate to respond to these risks. We engage in domestic and international policy initiatives to better assess and manage the risks posed by hedge funds.

On the domestic front, the Bank of England's Financial Policy Committee is responsible for the identification and monitoring of systemic risks to the UK's financial system. Bank and FCA staff periodically update the FPC on such risks. The Bank therefore has a similar interest to the FCA in assessing the risks posed by the alternative investment management industry. As noted in the Bank of England's June 2014 Financial Stability Report, the Bank of England and the FCA are therefore working together to develop better data on alternative fund managers.

On the international front, we cooperate with the International Organisation of Securities Commissions (IOSCO) to compile a similar hedge fund survey on the global level. This is due to be published in the second half of 2015.

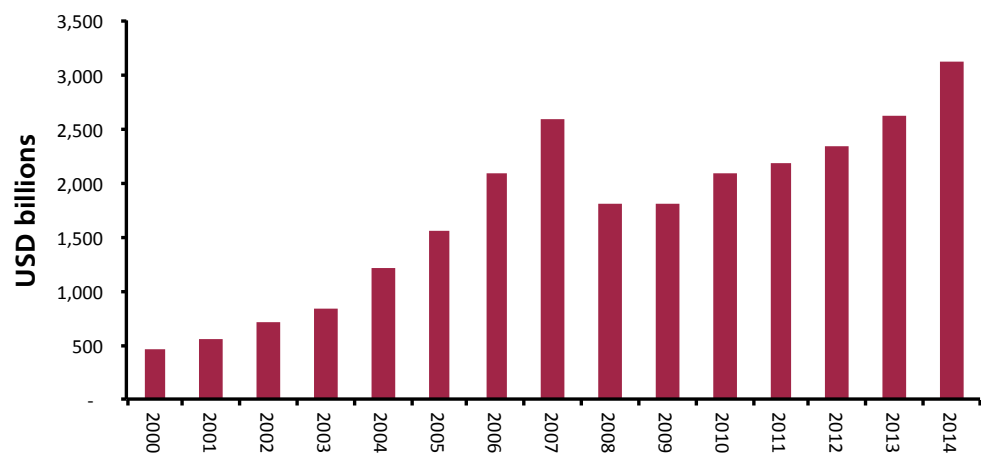
Finally, we are also participating in the debate led by the Financial Stability Board (FSB) about hedge fund activities, both from a systemic perspective, and as a part of its effort to gain better insight into the activities in the 'shadow banking' sector.

## 4. Overview of the Hedge Fund industry

### A) Global hedge fund assets under management

Estimates of the assets managed by the global hedge fund sector are approximate. However, whilst data sources may not be consistent, they nevertheless show a clear trend towards larger assets under management, with financial turmoil in 2008 and 2009 only briefly interrupting this trend (see Figure 2). The latest estimate for 2014 puts global assets at USD 3.1 trillion.<sup>1</sup>

**Figure 2 – Global Hedge Fund industry – assets under management**



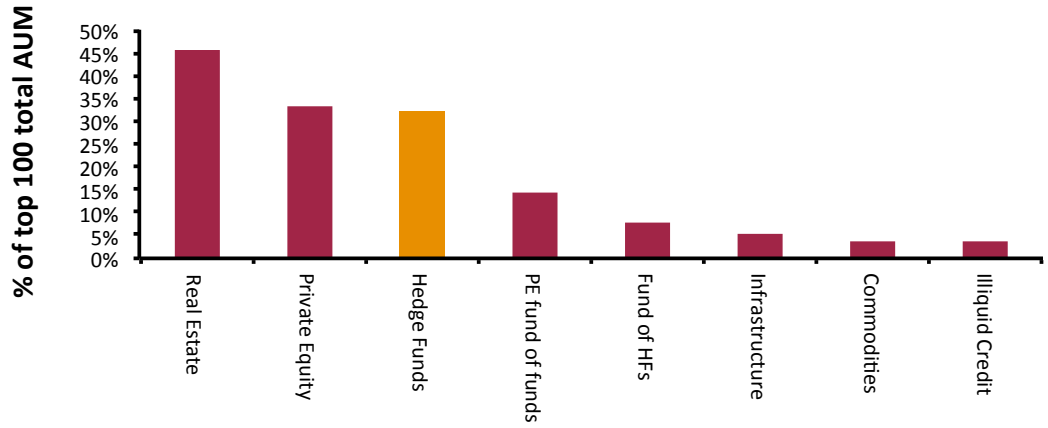
Source: Hedge Fund Journal 2014 and Hedge Fund Research 2014

Based on data from Towers Watson/Financial Times on the top 100 alternative asset managers by total AUM,<sup>2</sup> hedge funds constitute the third largest type of alternative investment in 2014, behind real estate and private equity.

<sup>1</sup> Based on figures from *Hedge Fund Research 2014 for offshore hedge fund assets* and *Hedge Fund Journal 2014* for UCITS compliant hedge fund assets

<sup>2</sup> See *Towers Watson Global Alternatives Survey*, (July 2014)

Figure 3 – Global Top 100 alternatives industry managers

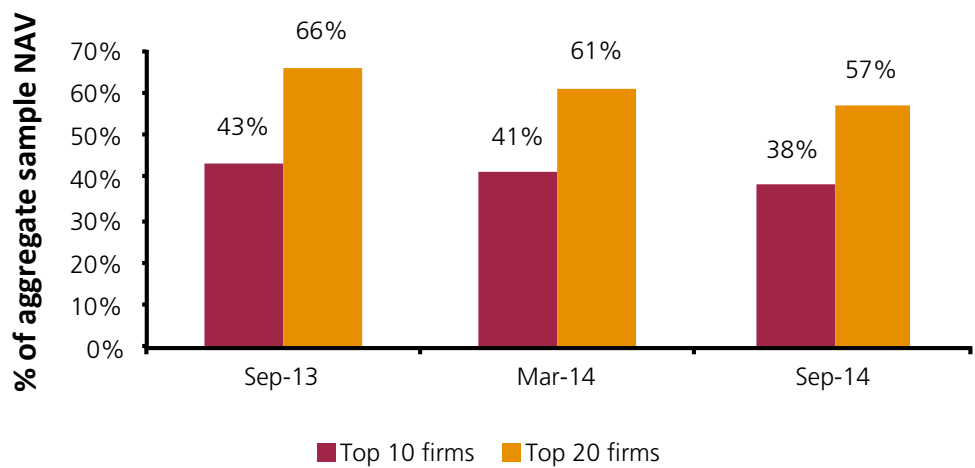


Source: Towers Watson 2014

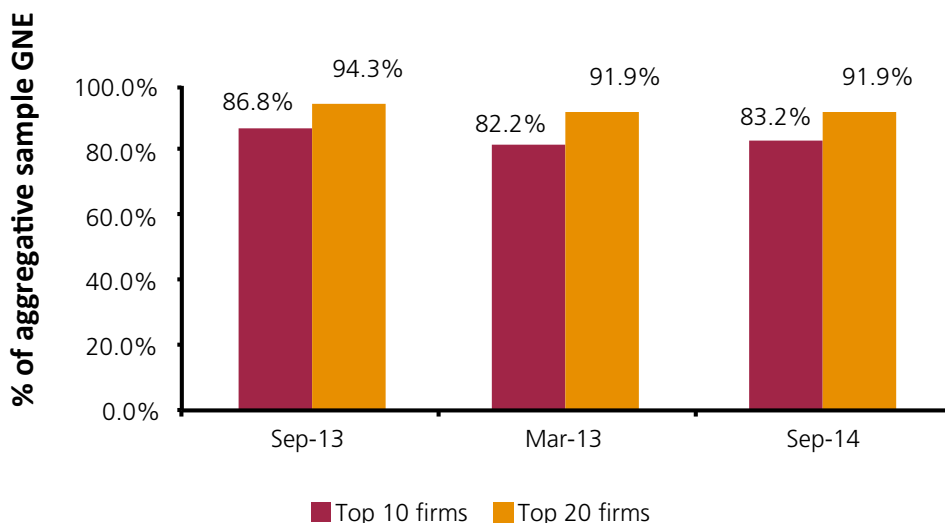
**B) Industry concentration**

Despite a slight trend towards greater diversification over the last three years, the industry remains heavily concentrated. The survey shows that the 10 largest firms control 38% of the sample’s NAV (net AUM). The concentration ratio is significantly higher when considering gross notional exposure (GNE) at the fund level. The 10 largest funds account for 83% of the sample GNE. These 10 funds are managed by eight different firms (see Figures 4 and 5).

Figure 4 – Concentration of industry (% of NAV)



**Figure 5 – Concentration of industry (% of GNE)**

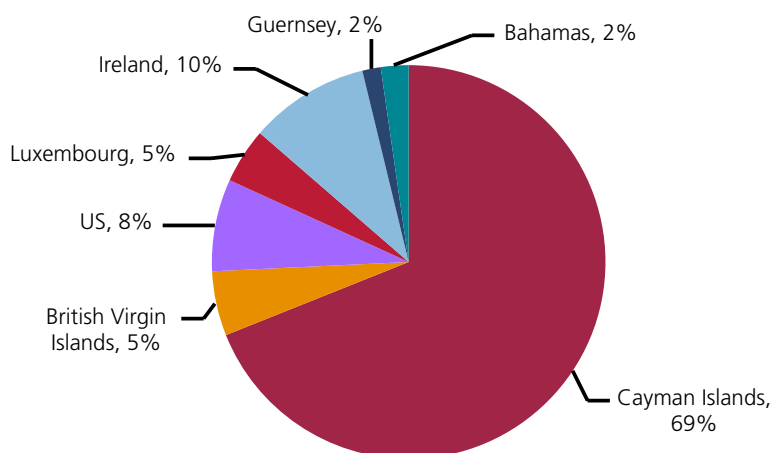


Also confirming industry concentration is the fact that 10 firms in the Survey account for 87% of the interest rate derivatives exposure, 70% of all open positions, and 87% of all turnover across all instruments. Only 10 funds are also responsible for the bulk of financial (76%) and repo borrowing (91%) and counterparty risk to banks (95%).

**C) Domicile and investor profile of Hedge Funds**

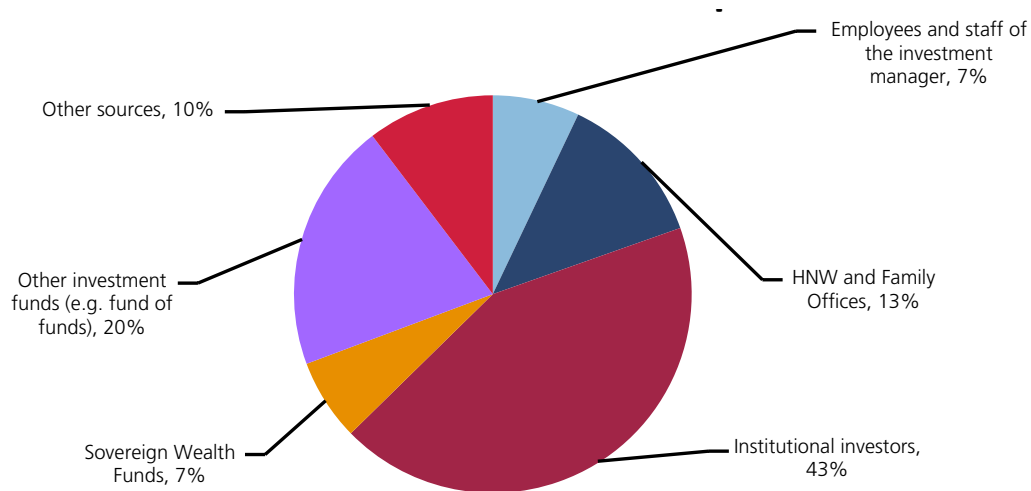
All funds in the sample are domiciled offshore, with the Cayman Islands retaining the largest share (see Figure 6). This metric has been very stable over time.

**Figure 6 – Breakdown by jurisdiction (number of funds)**



Since the financial crisis, institutional investors (largely pension funds and endowment-like institutions) have become the largest source of new money for hedge funds. In contrast, funds of hedge funds have diminished in relative terms from 29% in September 2010 to 20% in September 2014. A number of medium-and larger-size pension funds are choosing to manage their own hedge fund portfolios. Similarly, high net worth (HNW) individuals and family offices now only own 13% of hedge fund assets (see Figure 7).

**Figure 7 – Breakdown of ownership**



**D) Hedge Fund strategies**

The Hedge Fund survey asks funds to classify themselves into one of the following eight predominant strategies and 20 sub-strategies, which we have used to analyse the data:

**Figure 8 – Hedge Fund strategies**

**Hedge Fund Strategies**

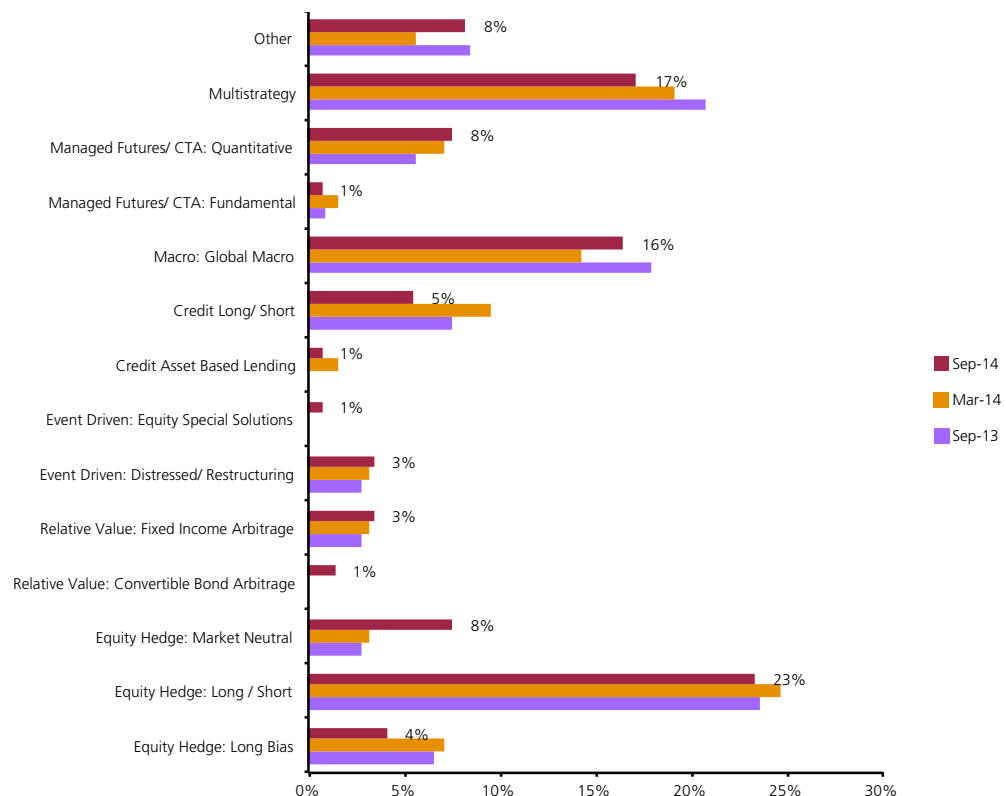
<b>Equity Hedge:</b>	Long Bias
	Long / Short
	Market Neutral
	Short Bias
<b>Relative Value:</b>	Convertible Bond Arbitrage
	Fixed Income Arbitrage
	Volatility Arbitrage
<b>Event Driven:</b>	Distressed/ Restructuring
	Equity Special Solutions
	Risk Arbitrage/ Merger Acquisition
<b>Credit:</b>	Asset Based Lending
	Long/ Short



<b>Macro:</b>	Global Macro
	Active Trading
	Commodity
	Currency
<b>Managed Futures/CTA:</b>	Fundamental
	Quantitative
<b>Multi-strategy</b>	
<b>Other</b>	

Long/short Equity and Multi-Strategy remain the most popular fund strategies, accounting for a combined 40% of the total number of funds within the sample (see Figure 9).

**Figure 9 – Number of funds per strategy (% of total)**



Equity hedge funds also have the largest share of NAV in the sample vis-à-vis other strategies. The funds that benefitted from the highest rate of net subscriptions were those offering Multi-Strategy, whilst those specialising in Credit strategies saw the largest losses in net subscriptions.

Interestingly, the performance results cited for the funds in the Survey do not reveal a strong correlation with a particular investment strategy. While performance over the last 12 months ranged from +26% to -13%, managed futures and equity strategies were among both the best and worst performers in this iteration.

## 5. Hedge Fund activity in financial markets

### A) Trading and clearing

The turnover or transaction volume of a fund's portfolio can be used to measure a fund's market footprint. It is defined as the absolute sum (in US dollars) of all trades (on a rolling one-year basis), using market value or gross notional exposure (where applicable) and only the premiums paid or received for options. This measure provides the degree of activity of a fund in markets, which we then compare with the funds' static size as measured by NAV.

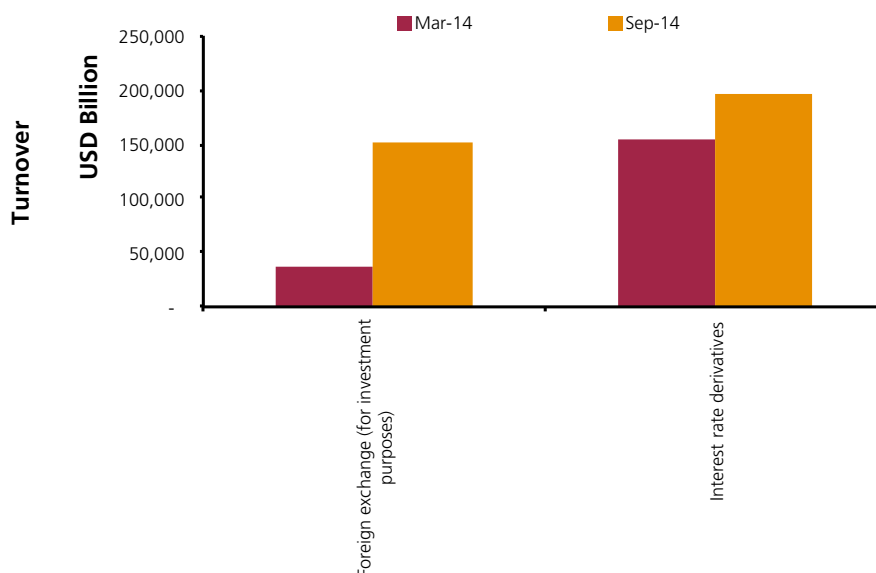
Turnover as of September 2014 is dominated by the largest funds, with 20% of the funds generating more than USD 1 trillion of turnover in a year. The top 10 funds represent 87% of the sample of total portfolio turnover (see Figure 10).

**Figure 10 – Range of turnover per fund (US dollars) in the HFS sample (in percentage of funds)**

<b>Range of turnover per fund (US dollars) in the HFS sample (in percentage of funds)</b>	
>1 trn	20%
100 bn – 1 trn	16%
10 bn – 100 bn	30%
<10 bn	34%

Derivatives account for a large share of the aggregate turnover, with about 48% attributed solely to Interest Rate Derivatives (IRDs). Since March 2014 an increase in trading of IRDs, but also of FX derivatives was noticed (see Figure 11).

**Figure 11 – FX and IRD change in turnover**



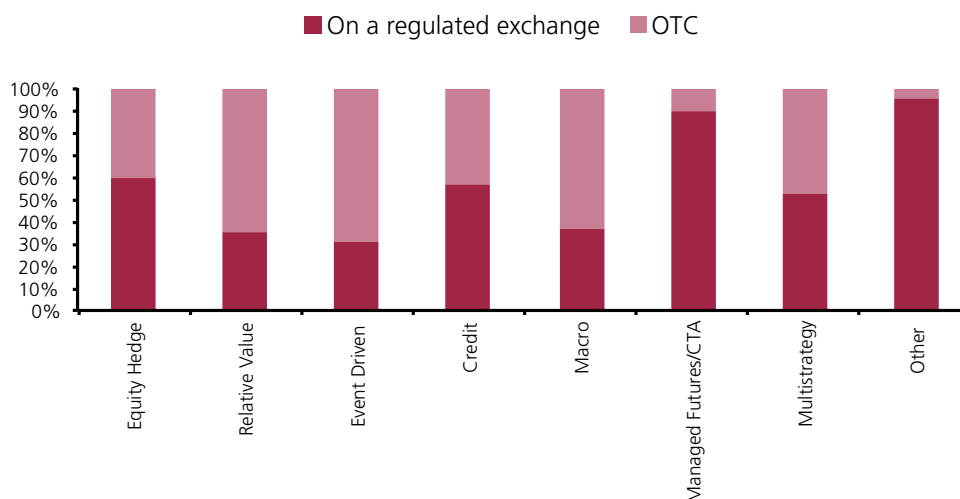
The proportion of derivatives traded over-the-counter (OTC) continues to be higher than derivatives traded on exchanges (see Figure 12).

**Figure 12 – Percentage of derivatives that were traded: (mean sample trade volumes per fund)**

	Sep-13	Mar-14	Sep-14
On a regulated exchange	37%	42%	37%
OTC	63%	58%	63%

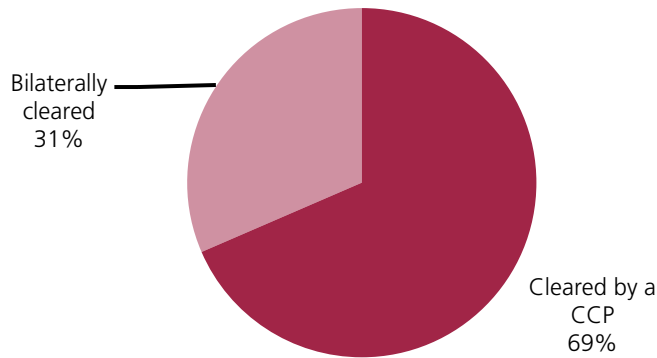
Some hedge fund strategies, most notably Managed Futures, and to a lesser extent Equity Hedge and Credit appear to lean more towards executing on a regulated exchange, whereas Relative Values and Event Driven strategies seem to prefer OTC execution (see Figure 13).

**Figure 13 – Breakdown of derivatives volume by venue**



Although OTC execution seems to dominate, overall clearing has nevertheless moved increasingly to Central Counterparties (CCPs) with the help of CCP members. 69% of the volume of OTC derivative trades were centrally cleared by a CCP (see Figure 14).

**Figure 14 – Aggregate OTC derivatives clearing**



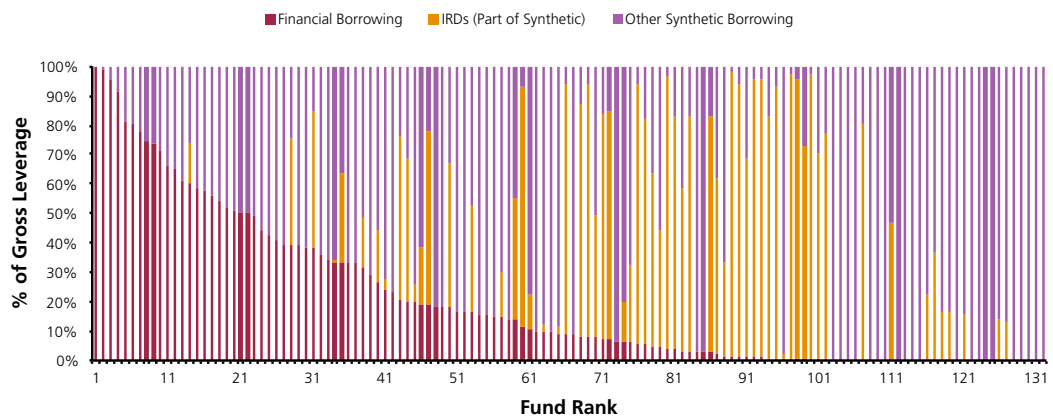
However, this change towards CCP clearing is mainly due to a small number of very large and active hedge funds, which are moving towards CCP clearing. If the Top 10 funds trading derivatives are excluded from the aggregate figures, the breakdown changes significantly. The vast majority of funds by number across the sample continue to transact derivatives bilaterally.

Finally, the Survey asks firms to report the percentage of NAV or portfolio managed using high frequency trading (HFT) execution. Interestingly only one fund reported that it used HFT.

**B) The use of leverage**

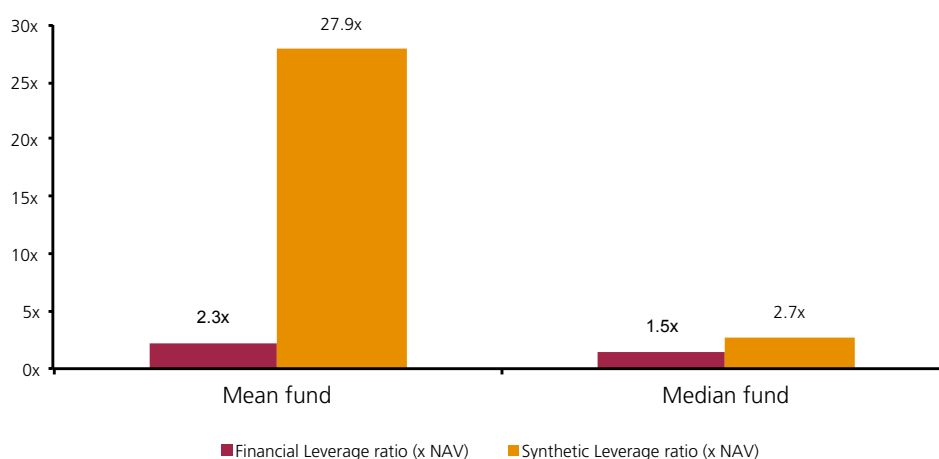
A fund can gain leverage with the help of its derivative positions (synthetic leverage), as well as with the help of outright financial borrowing (financial leverage). For most funds in the sample, leverage is obtained largely through derivatives, and this leverage seems to be concentrated in interest rate derivatives (see Figure 15).

**Figure 15 – Financial and synthetic leverage**



The comparatively low use of financial leverage compared to synthetic leverage through derivatives is also visible from the mean and median values of each in the survey (see Figure 16).

**Figure 16 – Leverage by source (in multiples of NAV)**



### C) Synthetic leverage in the Survey

To obtain an accurate reading of the exposure that is implied by derivative positions, the implicit or synthetic leverage that is associated with the position needs to be reflected. One measure of leverage that has been used in the Hedge Fund Survey is Gross Notional Exposure (GNE).

<b>Gross notional exposure (GNE)</b>	<p>The absolute sum of all long and short positions, including gross notional value (delta-adjusted when applicable) for derivatives. This measure provides a complete appreciation of all the leverage that is employed by a fund to gain market exposure, ie financial leverage (repos, prime broker financing, secured and unsecured lending) and synthetic leverage (exposure through derivatives, including exposure to the underlying asset or reference).</p> <p>GNE does not directly represent an amount of money (or value) that is at risk of being lost. It is a reference figure used to calculate profits and losses. However, it still represents a fairer appreciation than NAV of the economic or market exposure that the position represents by looking through to the underlying asset. The fact that hedge funds use risk management techniques to net out directional exposures does not reduce the overall gross size of the positions they are taking in the markets, which constitutes their market footprint.</p>
<b>Gross leverage</b>	The proportion of GNE to NAV.
<b>Gross market value (GMV)</b>	The absolute sum of all long and short positions, taking into consideration the fair market value for all positions. This measure will usually be larger than NAV and smaller than GNE.
<b>Equivalent DV01</b>	The DV01 is a measure of the sensitivity of a fund's NAV to changes in bond yields: it is expressed as the change in the US Dollar value of the fund as a result of a one basis point change in the bond's yield. It is also a risk metric that funds must report as part of their AIFMD requirements.

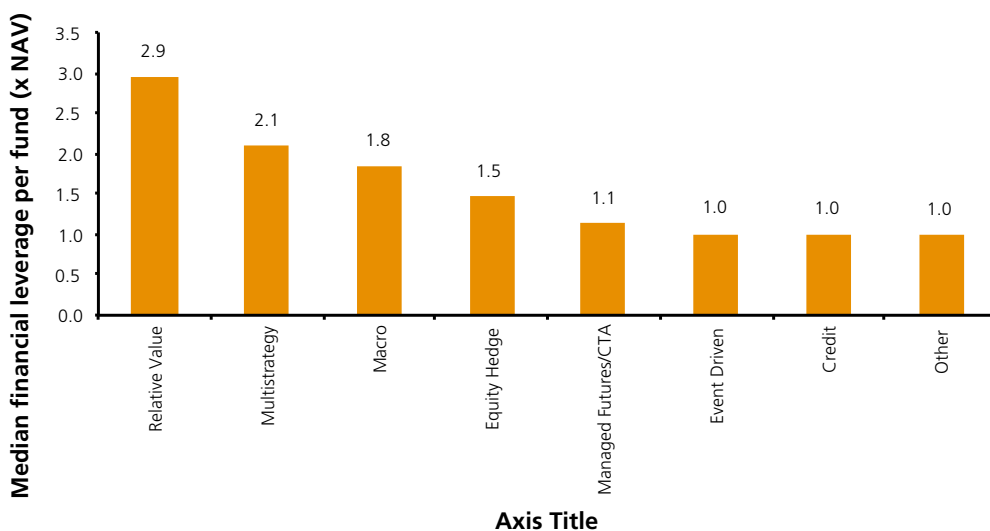
Gross Notional leverage of the funds in the Survey has been computed as outright exposure, as well as gross leverage in order to identify particular outlier funds.

**D) Financial leverage in the Survey**

Financial Leverage is the fund’s balance sheet leverage. It measures the fund’s borrowing of cash and securities and can be heavily influenced by the presence of large repo trades that have not been collapsed.

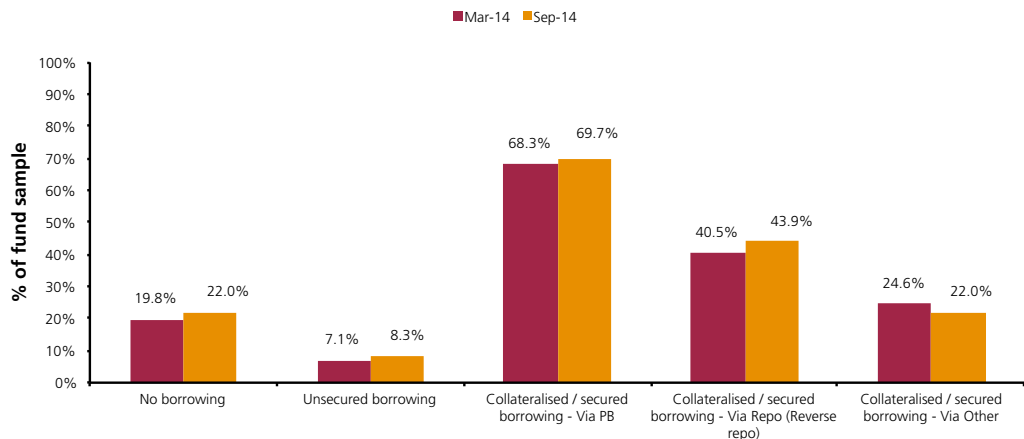
An estimated 22% of funds have no cash and securities borrowings at all, which is a small increase from March 2014. These tend to be Managed Futures, Credit and Event Driven funds, which mainly obtain their leverage through derivatives, which is also consistent with previous findings (see Figure 17).

**Figure 17 – Financial leverage by strategy (median)**



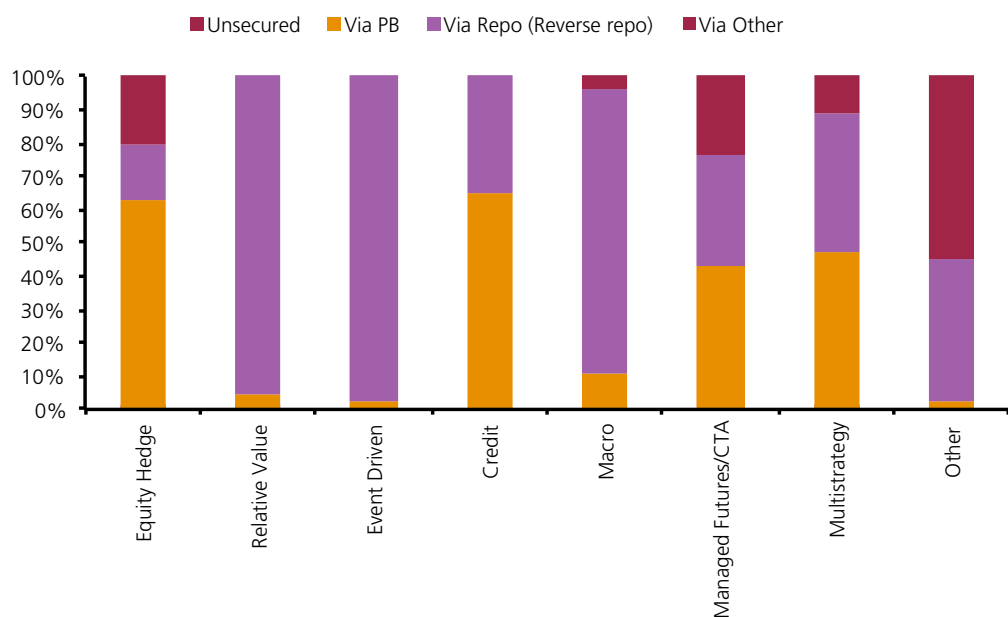
Only 8% of the funds in the Survey rely on unsecured borrowing. Those that rely on collateralised borrowings use mainly Prime Brokers as their source (see Figure 18).

**Figure 18 – Funds that engage in financial borrowing**



Prime Brokers are the preferred channel for Equity Hedge funds, while Macro and Relative Value funds seem to prefer repo borrowing. For Multi-Strategy and Relative Value Strategy funds the data may be skewed as a result of single outlier funds in each strategy accounting for large proportions of the aggregate borrowing. In both instances the outlier funds make heavy use of repos and reverse repos (see Figure 19).

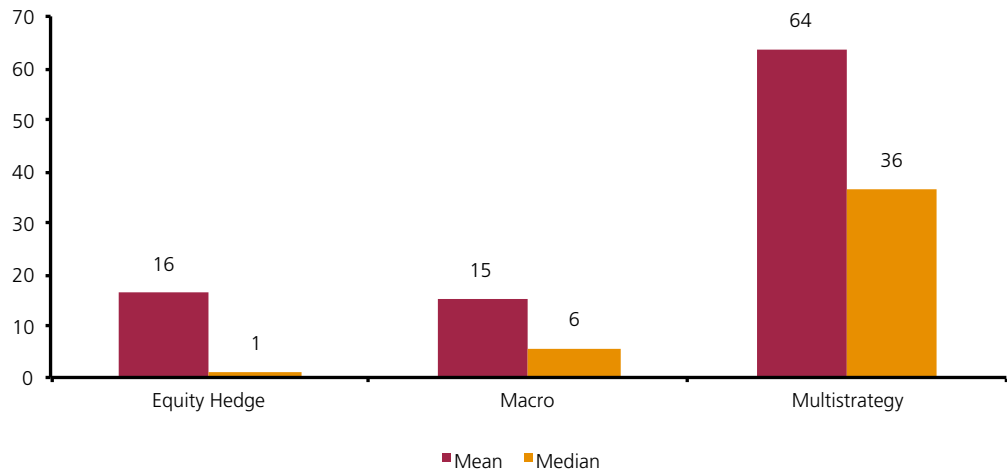
**Figure 19 – Aggregate cash and securities borrowing by strategy**



Of those funds that engage in financial borrowing, the Survey indicates that most funds seem to be borrowing for less than two weeks.

Complex Multi-Strategy funds appear to have secured the most stable financing over the last two surveys. Macro funds reliant on repos have to roll them over at intervals of just a few weeks. This has seen very little change from March 2014. Equity Hedge funds that rely on Prime Broker financing seem to be most vulnerable to a sudden withdrawal of funding (see Figure 20)

**Figure 20 – Mean and median days of financing**

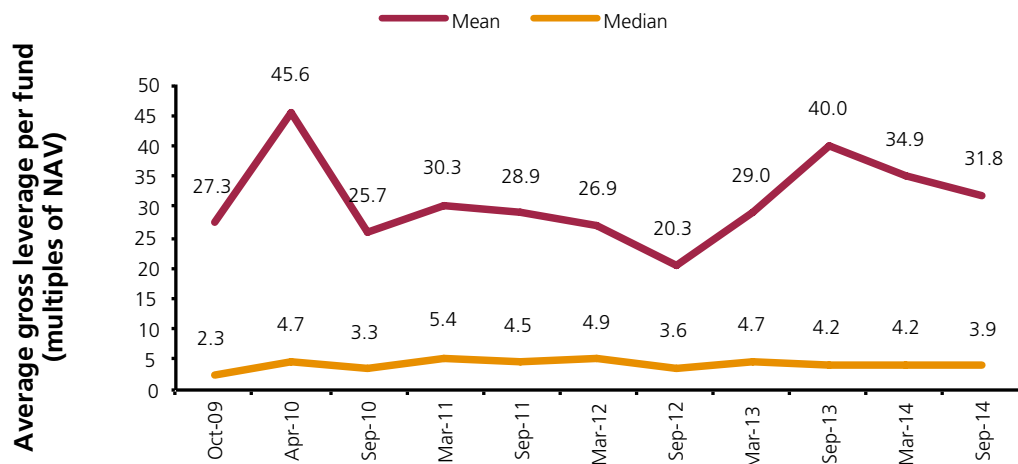


**E) Trends in the use of leverage**

Aggregate gross leverage in the September 2014 survey stood at 67x NAV compared to 64x NAV in September 2013.

Aggregate leverage as percentage of NAV in previous surveys has ranged between 20% and 45% of NAV, with the mean of 32% for September 2014 being located in the mid-range. Median gross leverage as percentage of NAV has also marginally declined to 3.9% of NAV (see Figure 21).

**Figure 21 – Fund gross leverage trend**

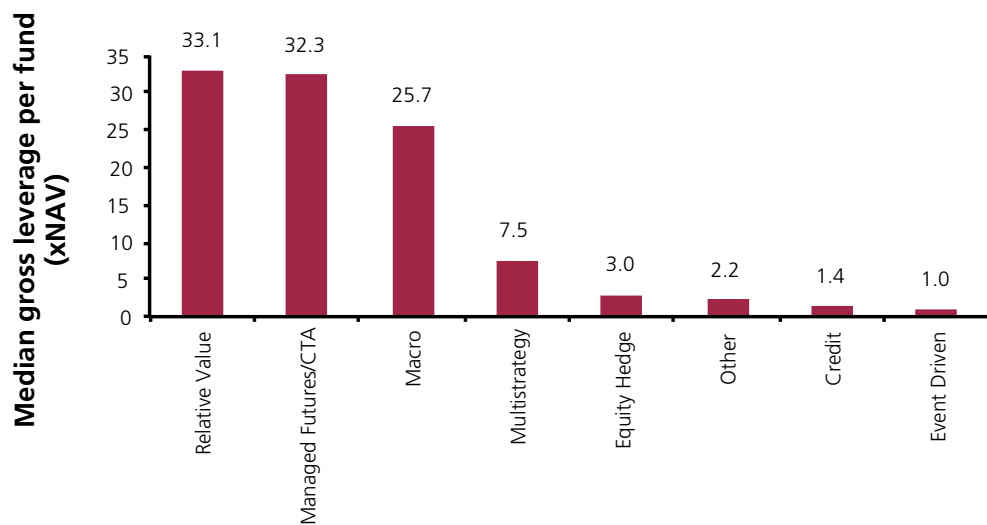




The top 10 funds account for 63% of gross leverage (aggregate GNE as percentage of aggregate NAV) in the current sample, showing gross leverage is highly concentrated. The mean is skewed by a few large funds (mainly Macro funds) that make significant use of leverage, whilst the median shows that the majority of hedge funds tend to use relatively low levels of leverage.

Interest rate derivatives tend to be used mostly in Relative Value, Macro and Managed Futures strategies. This is reflected in their relatively high use of gross leverage (see Figure 22).

**Figure 22 – Gross leverage by strategy (median)**



## 6. Portfolio characteristics of Hedge Funds

### A) Risk

Value at Risk (VaR) is a measure of the potential loss of a portfolio at a given level of confidence. We asked firms to provide us with their own VaR calculations for their funds. We recognise that VaR is by no means an optimal measure, particularly when analysing risks in stressed and unusual market scenarios, however it helps us to understand how firms evaluate their own risk appetite.

Of the total sample, 67% of the Survey reported that they make use of the VaR metric. In order to make the data more comparable across the sample, all VaR figures are reported using a 99% confidence interval and then annualised to produce an indicative range.

Respondents reported a wide range of annualised VaR figures for their funds. The median fund reported a VaR of 14.2% of net asset value (NAV), while a number of funds reported a VaR above 30% of NAV. There is an overall decrease in market risk as measured by VaR across the sample from the March 2014 iteration.

Figure 23 – VaR by strategy



Some strategies do not make use of VaR due to the nature of the investments they engage in. Event Driven funds and funds with large real estate portfolios rarely use VaR. Managed Futures funds typically report the highest VaR estimates. However in September 2014 they were replaced by Macro strategies funds. The Macro and Equity Hedge strategies reported similar median VaR figures, but the dispersion is much greater for Equity Hedge funds.

### B) Liquidity Risk

Liquidity is a measure of a fund’s ability to transact in a timely matter without causing major market impact and meet its cash requirements, whether resulting from investor redemptions or margin calls. The liquidity of the asset class held, the liquidity offered to investors who want to redeem, and the level of cash positions of the fund are all indications of the liquidity risk of the fund.

Except for those hedge funds which specialise in less liquid asset classes, such as real estate and credit hedge funds, hedge funds generally prefer to be able to respond quickly to market conditions, and therefore the majority invest in liquid securities. The Survey signals that in normal market conditions more than 60% of the aggregate hedge fund assets can be liquidated within a week.

Fund managers must monitor the risk caused by mismatches between the liquidity of their portfolios, and the liquidity offered to the investors of the fund. This mismatch is known as the liquidity buffer or days of spare liquidity. When the difference is negative, it means a fund would be exposed to the risk of redemption outpacing its capacity to free up enough cash to meet obligations. Hedge funds tend to restrict investor options to redeem, at least in comparison to other funds, such as collective schemes. The Survey indicates that investors could only redeem 7% of the aggregate NAV within one week and 18% of the funds ask for redemption periods in excess of one year.

It is important to note that the portfolio liquidity figures reflect normal market conditions. In times of stress liquidity may drop considerably. However, funds can also employ additional gating and suspend redemptions to manage liquidity, and may resort to these in times of stress. We note that 88% of the surveyed funds offered memoranda/documentation which provided the right for the fund to temporarily suspend the investor redemption rights.

The Survey asks firms to estimate the liquidity of both assets and liabilities for various time intervals. Overall, the funds in the sample run relatively liquid portfolios and offer terms of redemption to investors that allow sufficient time for orderly liquidation of assets to meet such redemption demands (see Figures 24-26).

**Figure 24 – Aggregate liquidity profile per fund in the HFS sample**

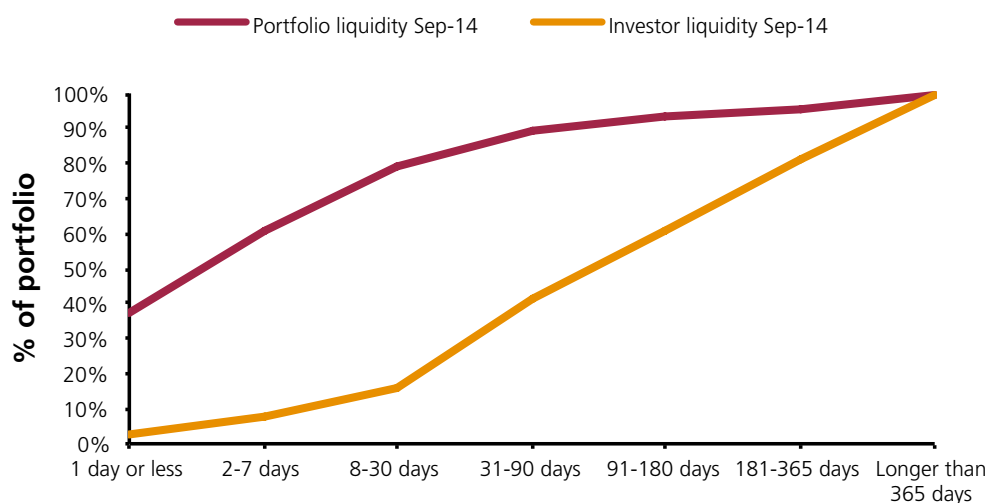


Figure 25 – Aggregate portfolio liquidity

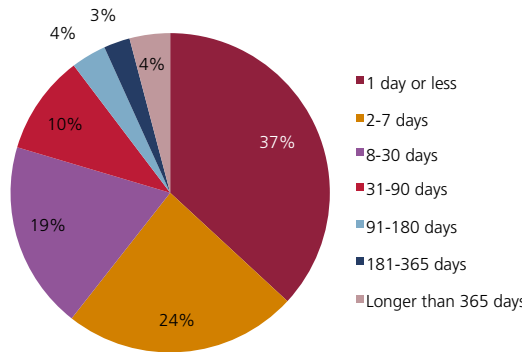
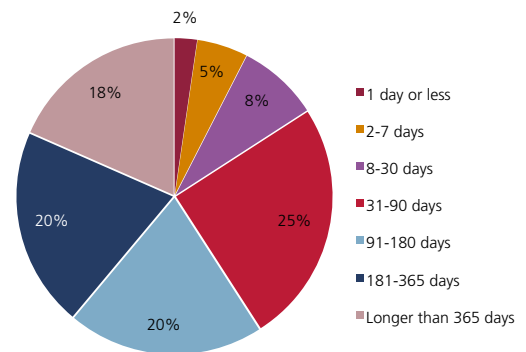


Figure 26 – Aggregate investor liquidity



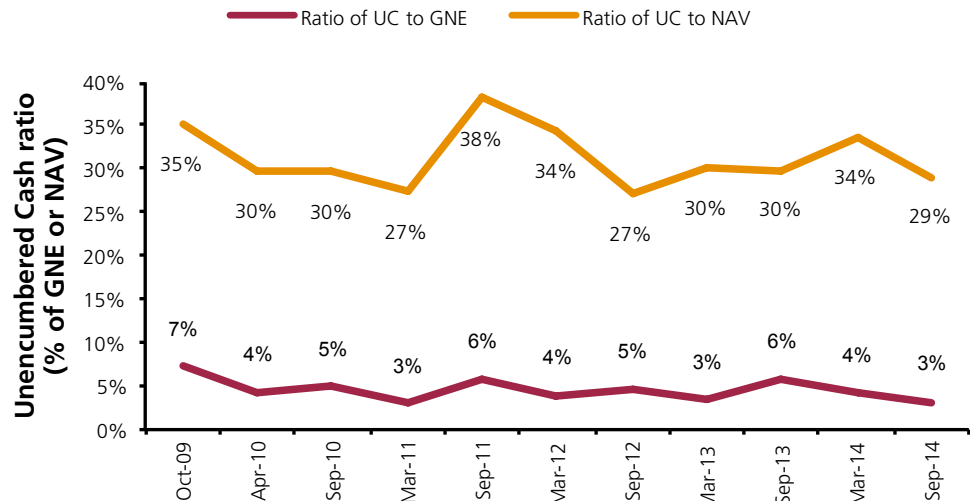
**C) Unencumbered Cash**

The unencumbered cash position is a key risk metric for hedge funds strategies, which make significant use of derivative and synthetic exposure and have to be able to respond to margin calls.

Unencumbered cash refers to the funds’ holding of outright cash or cash-like securities, such as G-10 government bonds, which can be easily transacted (highly liquid) and are not ‘encumbered’ to serve as collateral or margin payments to the fund’s counterparties. The level of unencumbered cash held by any fund affects its ability to meet variation margin calls and fund redemption requests.

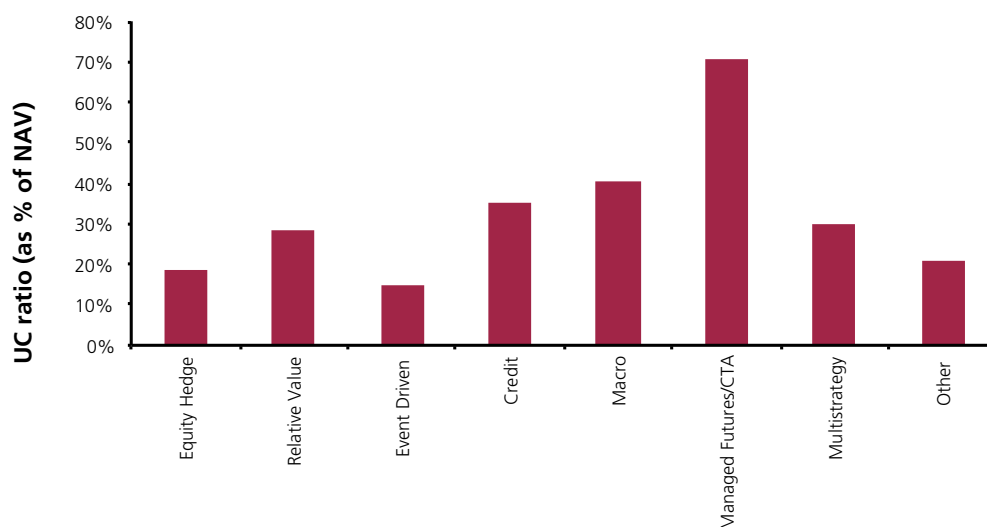
The figure below represents the development of the unencumbered cash (UC) ratio of funds since the first iteration of the HFS in October 2009. This ratio is shown as a percentage of net AUM (NAV) and gross notional exposure (GNE), to illustrate the impact of some highly leveraged funds. The median fund’s unencumbered cash as a proportion of NAV has fluctuated between 27% and 38% and that of unencumbered cash as a proportion of GNE between 3% and 7%. In the latest survey, both ratios decreased, returning to a level last seen in March 2013 (see Figure 27).

Figure 27 – Unencumbered cash (UC) ratio per fund (median)



The level of UC depends on the type of strategies followed and securities held. Derivatives-based strategies retain a high proportion of their NAV in cash in order to accommodate margin calls. The median UC compared to NAV per type of strategy is shown in the next chart. The values shown are close to those indicated in previous hedge fund surveys. However, in the case of credit funds, unencumbered cash has actually increased as a proportion of GNE.

**Figure 28 – Median fund unencumbered cash to NAV ratio by strategy**



#### **D) Re-hypothecation or the re-use of assets**

Asset recycling (or re-hypothecation) by the counterparties to hedge funds (banks, prime brokers) acts as a generator of additional market liquidity and efficient market-wide collateral management, as well as a source of potential risk or multiplier of stress factors in the market.

Hedge funds post collateral to counterparties, against which they borrow cash (repo transaction). They also receive collateral from counterparties in so-called reverse repo transactions. Both the collateral that hedge funds post and the collateral they receive can be re-used or re-hypothecated.

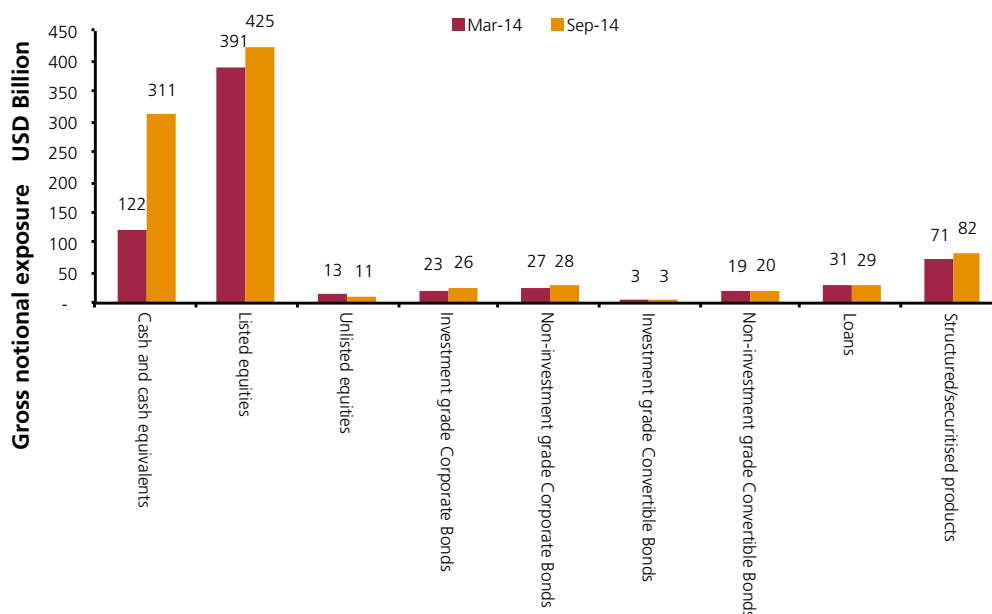
The survey attempts to find appropriate ways to measure re-hypothecation. However, consistent reporting is challenging due to large differences in the contract terms for such transactions. The survey shows that a majority of funds (69%) allow for the re-hypothecation of the collateral they post with their counterparties. However, as many as 22% of the funds in the Survey responded that they do not know how much has actually been re-hypothecated. The information on the collateral received is more reliable: 54% of funds report that they have exercised their re-hypothecation rights on collateral received by them.

**E) Portfolio characteristics**

Hedge fund exposure to specific asset classes varies dependent on the strategy and market environment.

In terms of securities, G10 bonds (1+ year term to maturity) are the most widely held asset, followed closely by listed equities. A comparison of the 114 funds that completed both March and September 2014 surveys indicate an increased exposure to structured/secured products and listed equities, and reduced holdings of unlisted equities (see Figure 29).

**Figure 29 – Securities exposure (gross)**



In terms of derivatives, the gross notional value of interest rate derivatives vastly outstrips all other derivatives. The aggregate exposure to IRDs as measured by GNE in the 114 funds increased by 18% from March 2014. Gross exposure in FX derivatives also increased by 30%, due to a small number of large firms significantly increasing their exposure (see Figures 30 and 31).

Figure 30 – IRDs exposure (gross)

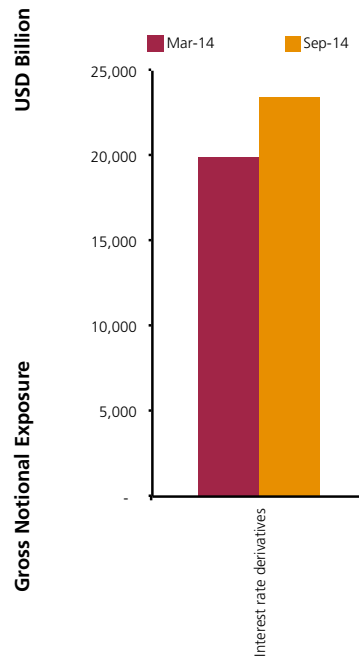
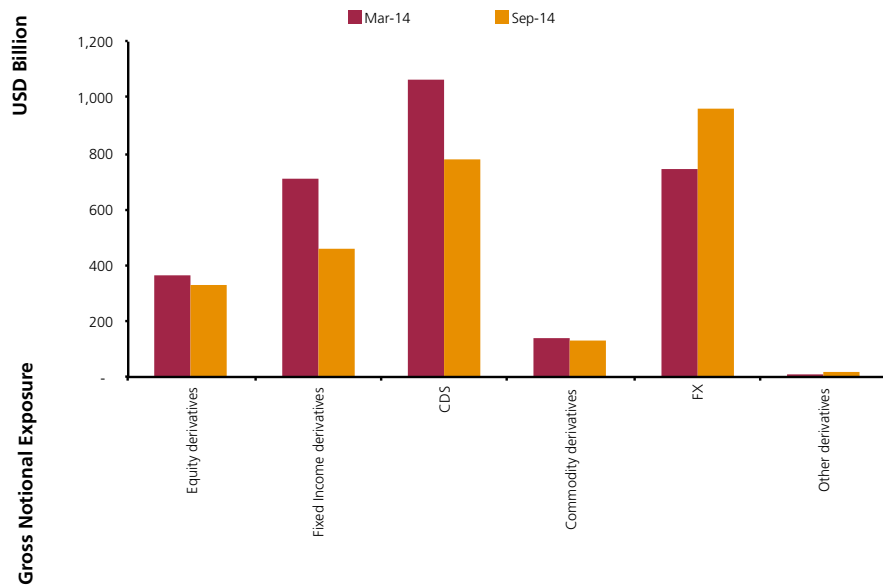
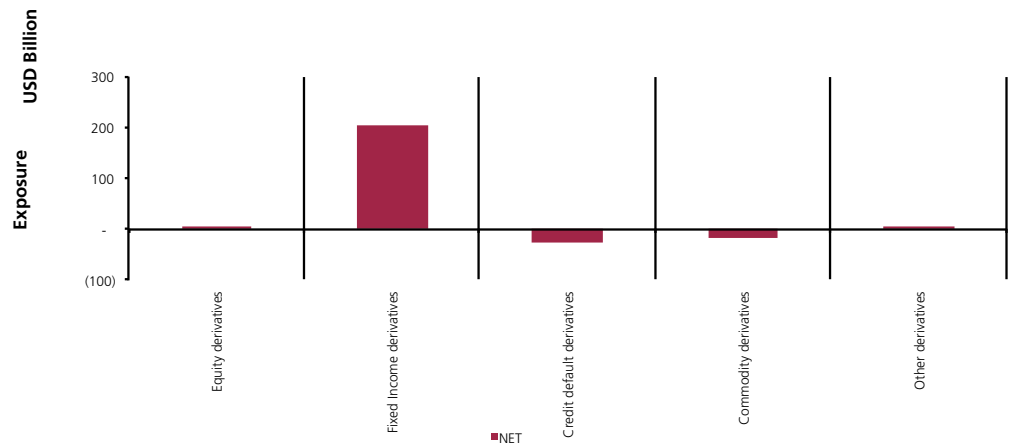


Figure 31 – Derivatives exposure (gross)



Derivatives exposure on net basis across the sample of September 2014 also indicate the largest net long position in fixed income, whilst net positions in credit default swaps and commodities were moderately short (see Figure 32).

**Figure 32 – Derivatives exposure (net)**





## 7. Afterword

We would like to thank all the participants in the survey for committing time and effort to this valuable exercise. We believe their input will help us to refine our approach to monitoring and managing risk in the investment industry, and to do so in a proportionate and informed manner. One of the objectives of this report has been to show the investment community how we intend to analyse the data that we will obtain from future regulatory reporting.

As reported AIFMD data gains in quality and consistency, the FCA will make as much use as possible of this data going forward. As noted in this report, however, this data is currently not a complete substitute for the information gathered in this survey. As part of our ongoing commitment to monitor the risks posed by hedge funds, we continue to closely cooperate with the Bank and PRA to improve the framework for analysing these risks and submit our findings to the FPC. We also plan to remain actively involved in the Financial Stability Board (FSB) and the Securities Commission's (IOSCO) work streams to improve the consistency of data gathering and analysis of the sector at a global level.



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