ASIC
Australian Securities & Investments Commission

REPORT 370

The Australian hedge funds sector and systemic risk

September 2013

About this report

The purpose of this report is to provide an overview of the Australian hedge funds sector and to review the results of our 2012 hedge funds survey, which looked at whether hedge funds pose a systemic risk to the Australian economy.

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Contents

Executive summary

1 This report on the Australian hedge funds sector has three sections:

- Section A gives a general overview of the hedge funds sector in Australia and provides broad context for the systemic risk analysis.
- Section B discusses how hedge funds might contribute to systemic risk and what the indicators of that risk might be. It also discusses the background to our systemic risk surveys of larger hedge funds in 2010 and 2012, and the broader international context to this work.
- Section C addresses the findings of our 2012 hedge funds survey, which looks at whether single-strategy[1] Australian hedge funds pose a systemic risk to the Australian economy, making comparisons with the results of our 2010 hedge funds survey where relevant and practicable.

2 Identified hedge funds manage only a small share of the $2.13 trillion[2] managed by the Australian funds management industry.[3] At 30 September 2012, identified single-strategy hedge funds ($50.7 billion) and funds of hedge funds ($15.2 billion) managed 2.4% and 0.7% (respectively) of all managed funds.[4] The hedge funds sector is characterised by small-sized hedge funds, with more than half of Australian hedge funds managing less than $50 million. Only 8% of funds were reported as having more than $500 million under management.

3 Our 2012 hedge funds survey examined the investment profiles of potentially systemically important single-strategy hedge funds and their managers operating in Australia. Managers qualified for inclusion if they held over US$500 million in hedge fund assets under management. Further, where one or more of a manager's individual hedge funds had over US$500 million in assets under management, the manager was required to answer questions specifically relating to those individual hedge funds.

4 Our survey covered 16 hedge fund managers and 12 single-strategy hedge funds (surveyed qualifying hedge funds). We estimate that these 12 funds represent approximately 42% of the identified Australian hedge funds sector in terms of assets under management as at 30 September 2012.

[1] 'Single-strategy' hedge funds are funds that invest directly in the ultimate assets the fund seeks exposure to, in contrast to 'funds of hedge funds', which invest in other funds. Single-strategy hedge funds include funds pursuing a 'multi-strategy' investment approach, provided their market exposure is not obtained indirectly by investing through other funds. We did not survey funds of hedge funds in either our 2010 or 2012 hedge funds survey.
[2] All figures in this report are in Australian dollars unless otherwise specified.
[3] Data as at 30 June 2013: Australian Bureau of Statistics, *Managed funds* (5655.0, August 2013).
[4] See Section A of the report for further details on the sample size and methodology.

5 The survey results indicate that Australian hedge funds do not currently appear to pose a systemic risk to the Australian economy. We also found that:

- by asset class, the surveyed hedge fund managers' greatest gross market values are to listed equities (over US$19 billion), with almost one-third of this exposure in Australia. Equity derivatives and Group of Ten (G10) sovereign bonds are the next two most significant asset classes, with US$8.2 billion and US$6.9 billion respectively;
- the value of redemptions from hedge funds exceeded applications to those funds in 2012, in contrast to the substantial inflows experienced by hedge funds in 2010. However, the redemptions in 2012 are unlikely to result in any liquidity pressures for most hedge funds because the average size of these net redemptions is relatively small as a percentage of surveyed qualifying hedge funds' net asset value (NAV);
- the surveyed qualifying hedge funds appear to use relatively low levels of borrowing. Synthetic leverage (such as leverage embedded in over-the-counter and exchange-traded derivatives) is the largest source of leverage for hedge funds, accounting for nearly US$10 billion in 2012;
- the average leverage, as measured by gross exposure as a multiple of NAV, increased from 1.25 in 2010 to 1.51 in 2012;
- on average, the surveyed qualifying hedge funds can liquidate 92% of their portfolio in less than 30 days; however, 99% of fund liabilities can be demanded by their creditors in less than 30 days. If the Australian market were subject to significant stress, the sector may struggle to meet redemption requests; and
- all the surveyed qualifying hedge funds have the ability to suspend investor redemptions, if required.

A Overview of the Australian hedge funds sector

Key points

Identified hedge funds manage only a small share of the $2,130 billion managed by the Australian funds management industry as at 30 June 2013. At 30 September 2012, identified single-strategy hedge funds ($50.7 billion) and funds of hedge funds ($15.2 billion) managed 2.4% and 0.7% (respectively) of all managed funds.

The number and assets under management of identified hedge funds have remained relatively stable in 2012.

The Australian hedge funds sector is characterised by many small-sized funds, with managers reporting that more than half of the identified hedge funds have assets under management of less than $50 million, and only 8% of funds have assets under management of more than $500 million.

Since 2006, the average annual return has been negative twice—in 2008 and 2011. The average and median annual returns for hedge funds since 2006 are broadly correlated to the total returns of the S&P/ASX 200 Index over that period.

Limitations of the data

6 This section provides an overview of the Australian hedge funds sector, based on information from various commercial data providers and research houses.

7 For the purposes of this report, all funds that are Australian domiciled, available for sale or marketed in Australia, or have an Australian-based management, have been deemed to be 'Australian hedge funds' and included in the data sample analysed in this section of the report.[5]

8 Unless otherwise stated, the analysis conducted in this section covers 883 unique (active and inactive) funds.[6]

9 Managers are not required to report information about their funds to the commercial data providers and research houses. Consequently, there is an element of self-selection that hinders any work based on these databases (including selection, performance and survivorship biases). Further, international experience suggests that even reporting funds could be misrepresenting information such as their returns.

[5] There may be some differences in the methods used by each data provider to classify what is and isn't an Australian hedge fund, and this may in turn differ from ASIC's interpretation of the definition of an 'Australian hedge fund' in our 2010 and 2012 hedge funds surveys and the definition used in Class Order [CO 12/749] *Relief from the shorter PDS regime*.

[6] These funds are in ASIC's database. For the purposes of this report, 'active' funds include those that are currently open to investors and funds that are frozen or have ceased reporting to one of the data providers. We have relied on each of the data providers' classification of whether funds are active or closed. We have not conducted any due diligence to ensure the accuracy of the data reported in any of the databases.

10 We are also aware there may be some discrepancies in the methodology used by each data provider for their calculation of monthly returns. In addition, non-mandatory reporting can also result in lagged reporting by fund managers, which can have significant effects on the comparability of this data set with historic and other data sets.

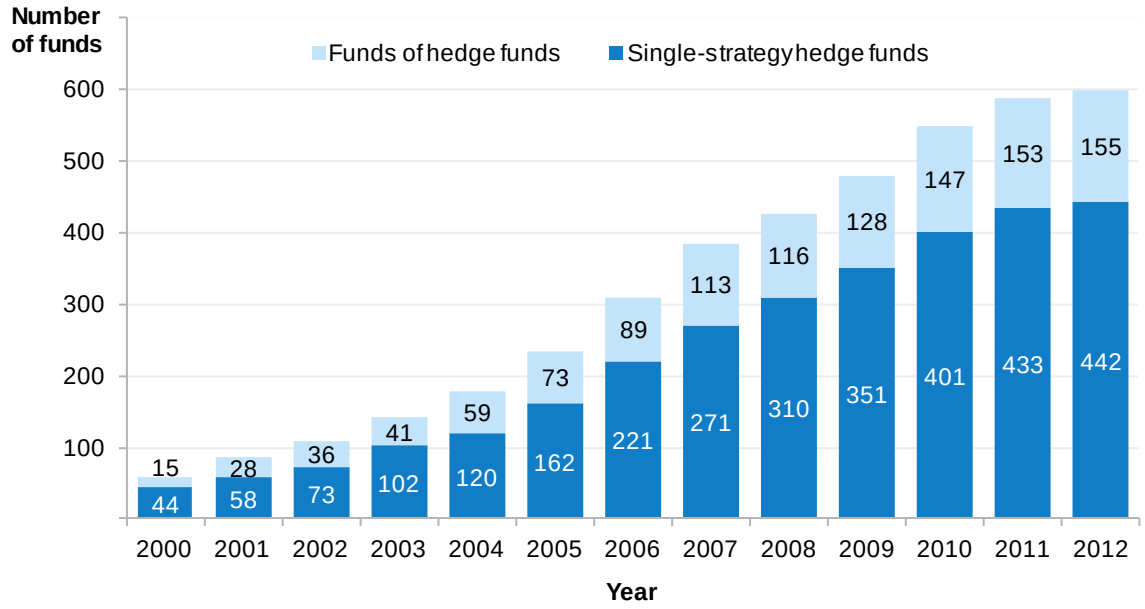
11 We have not conducted any due diligence to ensure the accuracy of the data reported in any of the commercial databases that were used in compiling this report.

Number of funds

12 We have identified 603 active single-strategy hedge funds and funds of hedge funds operating in Australia.

13 The categorisation of funds as either active single-strategy hedge funds or funds of hedge funds is illustrated in Figure 1. The numbers of identified funds in each category has remained relatively stable over the last two years.

Figure 1: Number of active single-strategy hedge funds and funds of hedge funds (to 30 September 2012)[7]

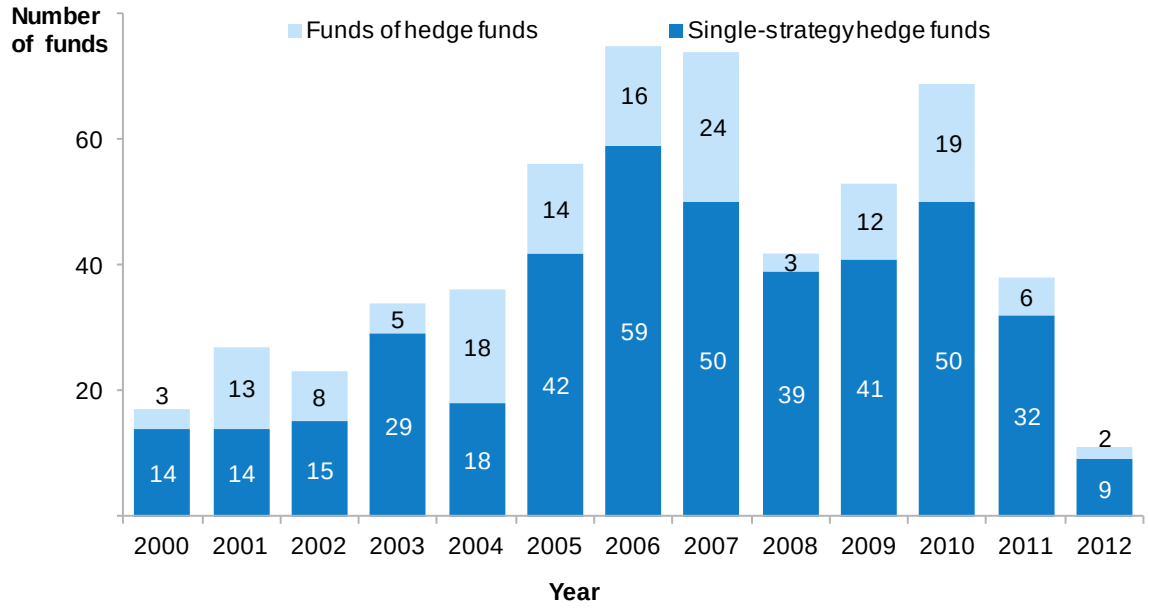


Note: There are a total of 603 active single-strategy hedge funds and funds of hedge funds in ASIC's database. Figure 1 is based on the 597 funds that were reported as currently active and also reported their date of inception.

14 Figure 2 shows that the number of new hedge funds being established each year has continued to fall since 2010, with only 11 new funds established in the nine months to 30 September 2012. This is a significant fall from the peak in 2006, when 75 new funds were established. The uncertain and difficult period in international markets in late 2011 and early 2012 could have contributed to the 2012 fall in the rate of fund creation.

[7] The information in all the figures and tables in this report is from ASIC.

Figure 2: Number of new hedge funds and funds of hedge funds being established (to 30 September 2012)

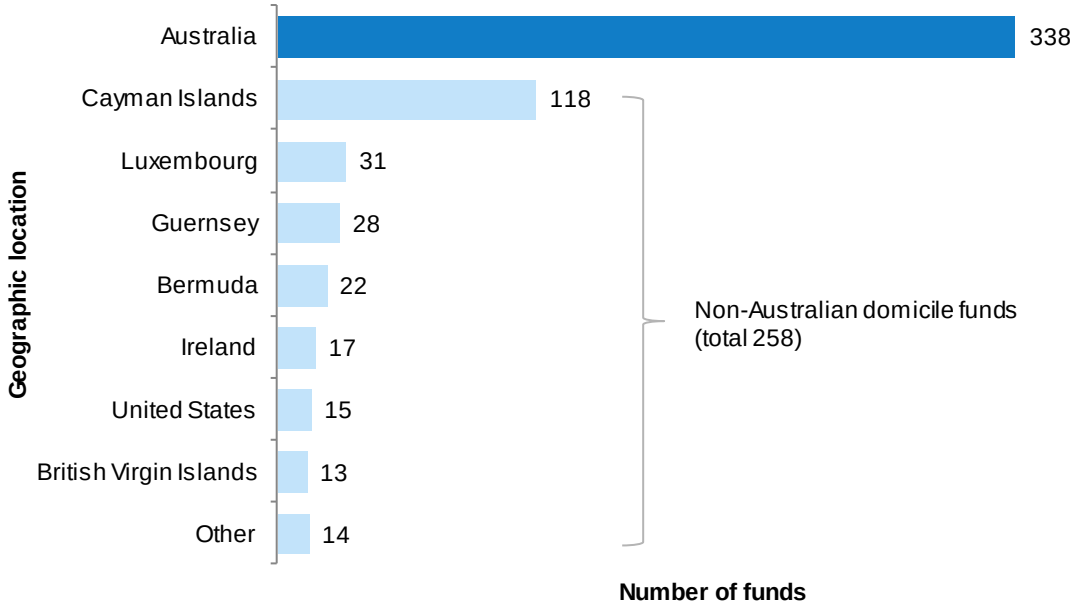


Note: There are a total of 603 active single-strategy hedge funds and funds of hedge funds in ASIC's database. Figure 2 is based on the 597 funds that were reported as currently active and also reported their date of inception.

Fund domicile

15 Close to 60% of the active single-strategy hedge funds and funds of hedge funds in our database are domiciled in Australia: see Figure 3.

Figure 3: Fund domicile of active single-strategy hedge funds and funds of hedge funds (at 30 September 2012)



Note: Figure 3 is based on the 596 funds (out of the 883 funds in our database) whose manager reported their fund status (i.e. active) and fund domicile.

16 The Cayman Islands held the highest number of funds domiciled outside of Australia with 118 funds (or 20%). Globally, the two most used domiciles by hedge funds are the Cayman Islands and Delaware in the United States.[8]

17 In terms of assets under management, 80% of single-strategy hedge funds and 38% of funds of hedge funds that are active are domiciled in Australia: see Table 1. The Cayman Islands is the most common jurisdiction outside of Australia, with $6.9 billion (or 15.5%) for single-strategy hedge funds, and with $2.5 billion (or 22.5%) for funds of hedge funds.

Table 1: Domicile of active funds by number and assets under management (at 30 September 2012)

Single-strategy hedge funds			Funds of hedge funds		
Country	**Number**	**Assets under management ($)**	**Country**	**Number**	**Assets under management ($)**
Australia	175	35.7 bn	**Australia**	27	4.3 bn
Cayman Islands	47	6.9 bn	**Cayman Islands**	5	2.5 bn
British Virgin Islands	6	1.1 bn	**Guernsey**	26	2.1 bn
Bermuda	4	0.5 bn	**Luxembourg**	17	0.9 bn
United States	4	0.2 bn	**Bermuda**	7	0.7 bn
Other	7	0.3 bn	**Other**	15	0.6 bn
Total	243	44.7 bn	**Total**	97	11.1 bn

Note: Table 1 is based on the 243 active single-strategy hedge funds and 97 active funds of hedge funds whose managers reported their fund type, domicile and assets under management at 30 September 2012.

18 It is understood that, while a limited number of Australian managers operate foreign-domiciled funds—principally to offer a tax-effective vehicle for international investors—most foreign-domiciled funds offered in Australia are managed by foreign managers.

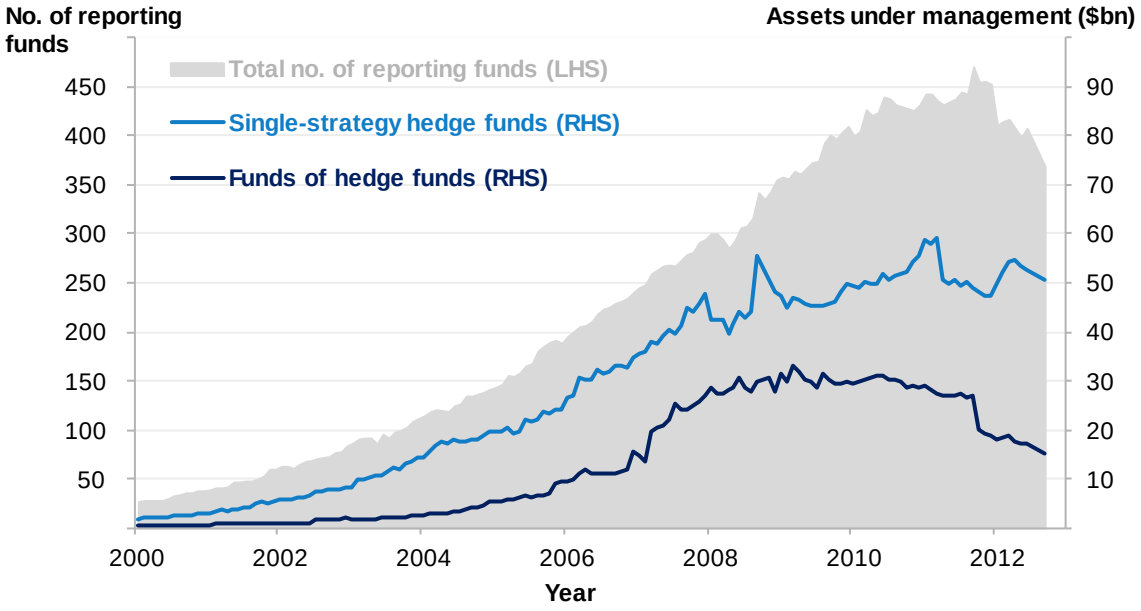
Assets under management

19 The following analysis is based on the 370 funds (comprising of 257 single-strategy hedge funds and 113 funds of hedge funds) whose managers reported their assets under management data at 30 September 2012.

20 There was little movement in reported assets under management for identified single-strategy hedge funds over the 12 months to September 2012, with nearly $51 billion of assets under management: see Figure 4. Reported assets under management for funds of hedge funds have been declining since the start of 2009.

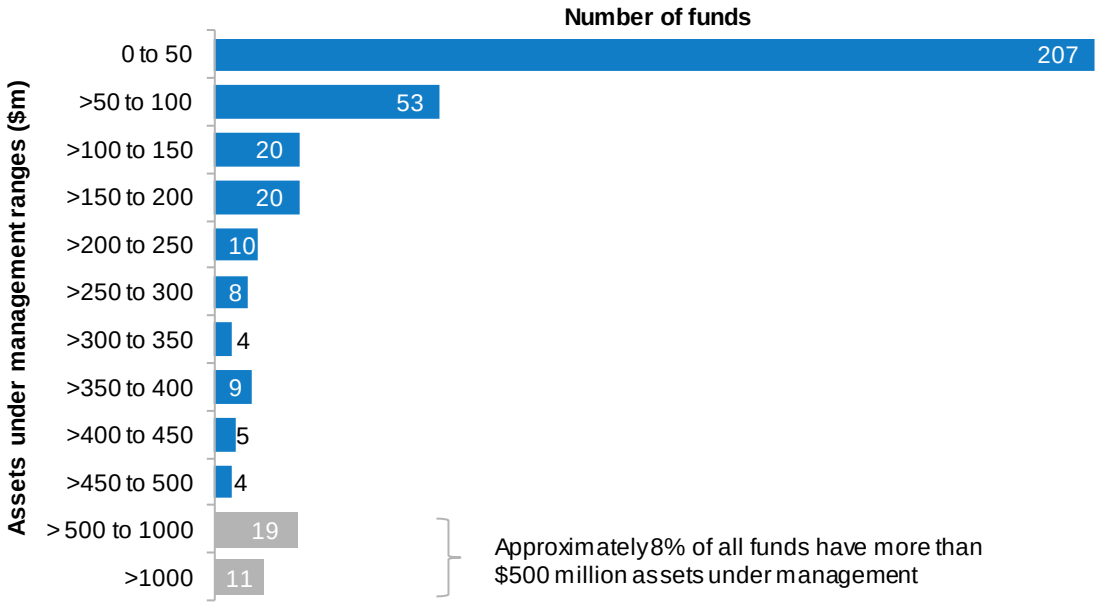
[8] Preqin, *Preqin Special Report: Hedge funds*, report, October 2012.

Figure 4: Reported assets under management (to 30 September 2012)



21 The Australian hedge funds sector is made up of many small-sized funds: see Figure 5. More than half of the funds (207) in the sector had assets under management of less than $50 million, while only 30 funds (8% of all funds) were reported as having more than $500 million in assets under management.[9]

Figure 5: Number of funds by assets under management range (at 30 September 2012)

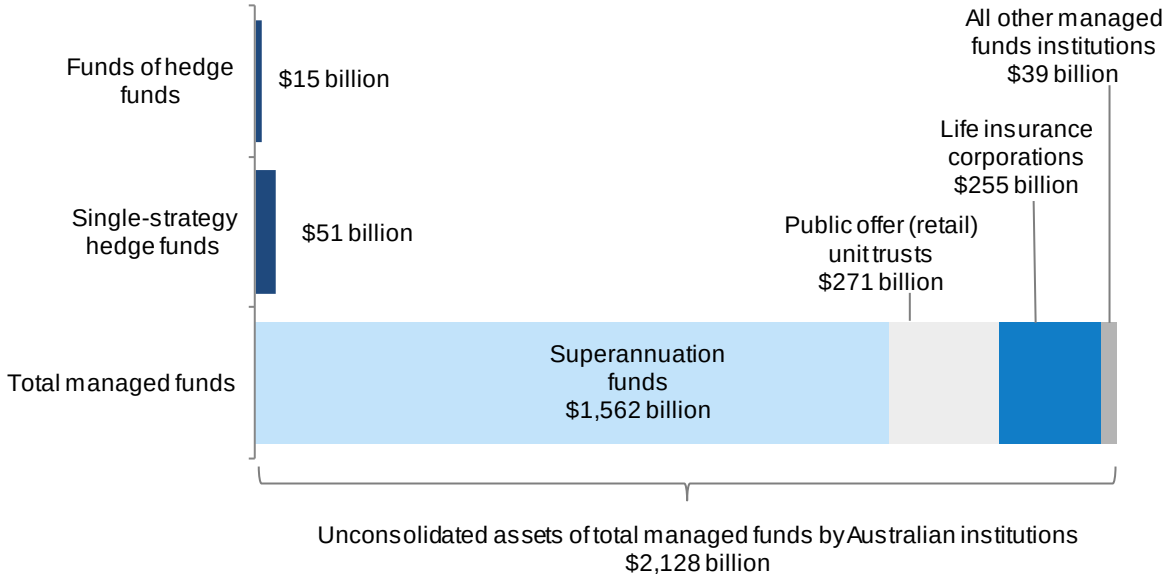


22 The Australian managed funds industry, measured by unconsolidated assets, had $2,128 billion in assets under management at 30 June 2013. Superannuation funds accounted for $1,562 billion, or approximately 73%,

[9] These results are based on the 370 single-strategy hedge funds and funds of hedge funds whose managers reported their assets under management as at 30 September 2012.

of the total. Figure 6 illustrates that the assets under management for identified single-strategy hedge funds and funds of hedge funds as reported at 30 September 2012 represented a very small portion of this, with 2.4% and 0.7% respectively.

Figure 6: Comparison of total managed funds and hedge funds



Note: The amount for the total managed funds industry, as measured by unconsolidated assets, is at 30 June 2013, while the amounts for single-strategy hedge funds and funds of hedge funds are based on the funds whose managers reported their fund type and assets under management at 30 September 2012.

23 The Australian hedge fund sector is relatively small compared to the global sector. In the six months to June 2012, the reported global total assets under management of single-strategy hedge funds and funds of hedge funds expanded 3.2% to US$2.3 trillion.[10]

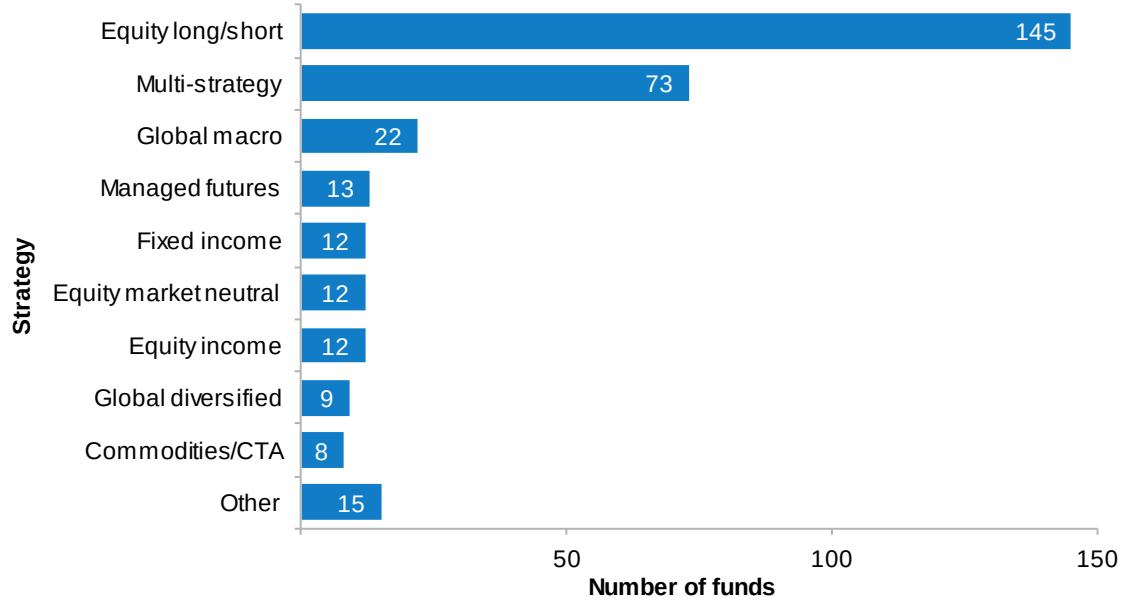
Strategies

24 Figure 7 illustrates that the most common strategy used by identified Australian single-strategy hedge funds and funds of hedge funds is 'equity long/short' (145 funds or 45%), with 'multi-strategy' ranked second (73 funds or 23%) and 'global macro' in third (22 funds or 7%).

25 Globally, in terms of number of single-strategy hedge funds, 'equity long/short' funds dominate with 44%, while that strategy accounted for 33% in terms of the value of all single-strategy hedge funds. The most common strategy in the fund of hedge funds sector, in terms of value, is 'multi-strategy', with more than 50% of these types of funds investing in a range of strategies.[11]

[10] PerTrac, *Sizing the hedge fund universe: First half 2012*, report, August 2012.
[11] Preqin, *Preqin Special Report: Hedge funds*, report, October 2012.

Figure 7: Funds strategies of Australian single-strategy hedge funds and funds of hedge funds by number of funds (at 30 September 2012)

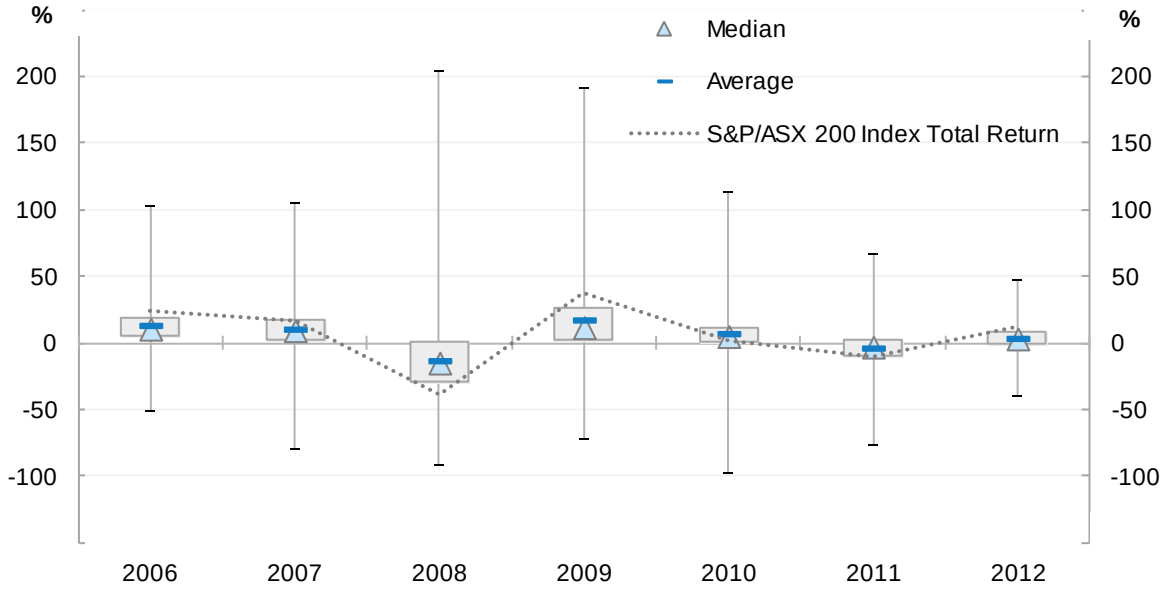


Note: Figure 7 is based on the 321 funds whose managers reported their strategy and assets under management at 30 September 2012.

Investment returns

26 In the 12 months to 30 September 2012, the average annual return for single-strategy hedge funds and funds of hedge funds was 3.7%. Since 2006, the average annual return has been negative twice—in 2008 (−13.1%) and in 2011 (−3.6%). The average and median annual returns for all hedge funds since 2006 show a relatively strong correlation to the total returns of the S&P/ASX 200 Index: see Figure 8.

Figure 8: Annual investment returns (to 30 September 2012)



Note: The 2012 investment returns data is up to 30 September 2012. The returns data is not weighted by assets under management.

B Background to the systemic risk survey

Key points

Hedge funds' investment decisions can adversely affect the financial system by disrupting liquidity and pricing in markets (market channel risk) or through the effect of any losses on their creditors (credit channel risk).

In 2010, and again in 2012, the International Organization of Securities Commissions (IOSCO) called on its members to survey the largest hedge fund managers in their jurisdictions to better understand the level of systemic risk posed by these funds. We surveyed hedge fund managers that operate in Australia and have more than US$500 million in assets under management.

While the main purpose of our 2010 and 2012 hedge funds surveys was to aid the assessment of systemic risk in and posed by the Australian hedge funds sector, there are some important gaps and limitations that need to be considered and recognised.

What is systemic risk, and how might hedge funds contribute to it?

27 'Systemic risk' is the risk of disruption to financial services that:

- is caused by an impairment of all or part of the financial system; and
- has the potential to impair economic activity, with serious negative consequences for production, income and employment.

28 These risks are crystallised by 'systemic events'. In such an event, vulnerabilities and weaknesses that have accumulated in the financial system over a period of time begin to weigh on its operation. Usually this manifests itself in liquidity on the buy-side of the market evaporating, as growing uncertainty causes investors to withdraw their bids, just as investors on the sell-side of the market seek to liquidate their investments. The result is usually a strong and sustained fall in the prices of many or all assets, which may then cause many companies and/or funds to fail to meet their obligations to counterparties and investors. The flow-on impact of this may result in a sharp fall in economic activity, income and employment.

29 The vulnerabilities and weaknesses behind the systemic event tend to accumulate as a result of:

- an underpricing of the cost of credit, which tends to encourage investors to take on new risks in search of yield; and

- investors misjudging:
  - the risks in new (and usually complex) financial products;
  - the durability of a favourable financial and economic climate; and/or
  - the reliability of the hedges they have taken out to protect against losses.

30 The most serious vulnerabilities are usually in the form of leveraged exposure to assets, the prices of which can be impaired by illiquidity. They continue to accumulate for as long as the economic and financial climate is favourable, financiers are content to issue credit, and entrepreneurs can provide investment opportunities.

31 However, if one of these conditions disappears—such as if economic activity slows, or the economy or financial system endures a shock from an external source—the other conditions have a tendency to follow suit, and the chance rises that a systemic event will occur. Hedge funds are entities broadly financed by a combination of investor equity and leverage, which seek profit by first identifying potential mispricings in financial markets and then investing in the expectation that these mispricings will correct in a given period of time. Unlike traditional long-only, unleveraged investment managers, hedge fund managers use a broad range of financial instruments and strategies, including derivatives and leverage. Hedge fund managers also typically have wide discretion in the products and markets in which they invest, allowing many to take concentrated positions (including in exotic and illiquid products).

32 The risk that they face is that the mispricing in which they have invested doesn't correct within their investment horizon, or that prices move contrary to expectations. Should the markets for their assets become illiquid and/or experience rapidly plunging or rising prices, managers may face increasing margin calls from counterparties and finance providers, forcing them to liquidate assets at potentially 'fire sale' prices. This situation may be exacerbated by mounting redemption demands from investors. Funds in these circumstances may become insolvent, with the initial loss borne by their investors' equity and any remaining losses passed on to their creditors.

33 In most cases, this does not cause systemic problems—the losses are borne by those who took risks with their investments in the distressed funds. However, when their borrowing is extensive, their losses considerable, and/or the impact on credit providers and other investors severely adverse, the actions of hedge funds can have systemic consequences.

34 For example, Long-Term Capital Management (LTCM) was an absolute-returns US hedge fund that sought to profit from highly leveraged arbitrage investments. It enjoyed strong success for five years until the Russian debt

default of 1998 caused markets to move against LTCM's positions. Incurring further losses as it sold down positions to raise cash, the firm was soon close to failure, which, because of the extent of its borrowings, posed a threat to the US financial system. A wider crisis was only averted by a US$3.6 billion bailout, organised by the US Federal Reserve and involving 14 financial firms.

Market channel and credit channel risk

35 The Financial Services Authority (FSA)[12] in the United Kingdom assessed hedge funds' potential systemic impact according to the two ways in which they can affect markets. One way is by disrupting liquidity and pricing in markets—this is the 'market channel' for systemic risk. The other way is through the effect of any losses on their creditors—this is the 'credit channel' for systemic risk.

36 Market channel risks can develop through hedge funds' attempts to either enter or exit positions in the equity, derivatives and debt securities markets. These investments or divestments may cause market dislocation if prices move sharply enough to impair the orderliness of the market. Moving markets in this way risks disrupting liquidity and pricing in other markets, and thus causing losses to other investors.[13]

37 Market channel risks alone tend not to create systemic risks. However, they can contribute to credit channel risks, which, because of their consequences for leveraged counterparties, can and do create systemic risks. Credit channel risks develop when losses at, or the failure of, a hedge fund or group of hedge funds create losses for their banking, brokerage and other counterparties.[14] Table 2 and Table 3 describe various indicators for market channel and credit channel risk that we used in analysing the data from our 2012 hedge funds survey.

[12] The FSA operated between 2001 and 2013. It was recently replaced with the Prudential Regulation Authority and the Financial Conduct Authority.
[13] Two examples include: a squeeze in 2008 on hedge funds' short positions in Volkswagen, which caused a scramble for Volkswagen shares that pushed their price from €211 to over €1,000 in less than two days, dislocating the markets for other equities and moving equity indices; and hedge fund Amaranth's trading in US natural gas markets in 2006, which was sufficiently extensive to raise the level and volatility of prices, but also led to Amaranth receiving margin calls so large that they depleted its ability to move the market, resulting in prices moving against Amaranth's positions and causing the hedge fund to fail.
[14] The most notable examples of hedge fund losses generating credit channel risks are the LTCM crisis of 1998 (discussed at paragraph 34) and the subprime mortgage crisis of 2008–09.

Table 2: Market channel risk indicators

Indicator	Description
Market footprint	This indicator measures the extent of hedge funds' participation in asset and derivative markets, to gauge how sudden changes in hedge funds' exposures might affect liquidity and pricing. Measurements of market footprint include: • the total value of long and short positions held, or the gross market value (GMV), which shows the aggregate value of hedge fund positions in the markets for each asset; • the proportion of market value held in long and short positions, which indicates the sector's claim on liquidity in the whole market for each asset; and • the portfolio concentration, which shows the claim that hedge funds have on liquidity in different corners of each asset market—these areas will be the focal points of market channel risk, should hedge funds need to liquidate their positions quickly.
Asset–liability mismatches in liquidity and duration	While maturity transformation creates profitable investment opportunities, it also creates the risks of pressures on solvency and the need to liquidate assets to meet repayment obligations. The greater the mismatch between the liquidity (or duration) of the assets in a hedge fund's portfolio and the 'callability' (or duration) of its liabilities, the greater the fund's liquidity risk, and so the risk of the fund becoming a distressed seller.
Sources of investment	Sources of investment include institutions and sectors of the financial system. These are the parties that would be directly affected by a hedge fund's encountering difficulties meeting its obligations.

Table 3: Credit channel risk indicators

Indicators	Description
Source of borrowings	Knowing who hedge funds' creditors are can inform investors and regulators about the distribution of exposure across the financial sector. It also allows them to observe the developments of concentrations of exposure, should they arise.
Amount and distribution of leverage	This information illuminates the degree of leverage across hedge funds, and also which hedge funds, or hedge fund strategies, have accumulated the greatest leverage and so are most vulnerable to adverse developments in the economy and financial sector.
Type and tenor of borrowings	A hedge fund's vulnerability to risk will vary according to the source of its funds, and the time until maturity of those funds. For example, borrowing from short-term money and repurchase-agreement markets will tend to leave hedge funds more exposed to rollover risk than if they borrowed from longer-term funding sources.
Margin requirements	The higher these are, the more protection a creditor will have from any difficulties that their hedge fund counterparties may be experiencing. Falls in margin requirements caused by competition for business among lenders can indicate that risk appetite is increasing, and that risks are beginning to accumulate in the financial system.

Indicators	Description
Excess collateral held by prime brokers, relative to base margin required	Like margin requirements, collateral gives protection to creditors should their borrowers experience difficulties. Excess collateral gives greater protection to creditors, and indicates their attitudes towards risk taking and risk accumulation.
Rehypothecation of collateral	Many prime brokers offer their hedge fund clients lower rates for the other services they provide hedge funds in return for the right to rehypothecate their collateral; they then use the rehypothecated assets to finance their other activities. However, this option leaves both hedge funds and prime brokers vulnerable to asset freezes and liquidity crunches in the event of a general loss of confidence across the financial system.

Indicators of systemic risk in the broader financial system

38 As well as indicating where risks may be developing in the hedge funds sector, hedge funds data can point to behaviour in the broader financial system that suggests that systemic risks may be beginning to emerge and accumulate. This is because hedge funds tend to be quick to identify profitable opportunities arising from imbalances and mispricings, and to 'pile in' to those opportunities, creating momentum but risking overshooting.

39 Hedge funds also tend to be quick to notice changes in sentiment among investors and lenders, and to adapt their investment and trading strategies accordingly.

40 Changes in the cost of funding offered to hedge funds are an indirect indicator of risk appetite in the financial system. For example, falls in the level of margin that hedge funds are required to post to their prime brokers suggests increased risk appetite among investors.

41 The ability of hedge funds to make leveraged, concentrated investments in less liquid market sectors may also provide information on when markets may be seizing up for lack of liquidity. Hedge funds encountering problems in liquidating their positions, meeting obligations to prime brokers or retrieving their collateral—as occurred in mid-2007 with Basis Capital's two funds, three BNP Paribas investment funds, and with Bear Stearns Asset Management's High Grade and Enhanced Leverage funds—are signs of broader, and potentially serious, problems developing deep along the risk curve, which may in time affect even the largest financial institutions.

42 To the extent that it allows us to see these developments, analysing hedge funds can shed light on where imbalances and mispricings are emerging, and may allow us to gauge changes in sentiment and behaviour in the financial system.

International concerns about systemic risks posed by hedge funds

43 Since November 2008, the Group of Twenty (G20) has called for closer supervision of hedge funds and for the collection of data from them to allow an assessment of the risks they may pose. In response, IOSCO formed the Task Force on Unregulated Financial Entities (the 'Task Force'). ASIC is a member of the Task Force.

44 In June 2009 IOSCO published its report *Hedge funds oversight*,[15] which sets out six broad principles for the regulation of hedge funds. These include Principle 4, which states that hedge fund managers (and prime brokers) should provide relevant information to regulators for assessment of potential sector systemic risk. Principle 6 calls for regulators to share information to allow cross-border systemic risk to be assessed and mitigated.

IOSCO hedge funds survey

45 In 2010 the Task Force called on members to conduct a survey of their respective hedge fund sectors to determine the potential systemic risk posed nationally, and to share that information with other members to allow a global sector risk assessment to be made. Task Force members agreed to a template questionnaire (based on a questionnaire used by the FSA in its semi-annual systemic risk survey of its hedge fund managers).

46 The IOSCO survey was in two parts. The first asked managers to provide basic information on all hedge fund assets under their management and the second part asked for more detailed data, including holdings in various asset classes, of larger 'qualifying hedge funds'. It was left to each member to determine the assets under management thresholds above which their managers would be asked to complete each part of the survey. The Task Force agreed a common reference date for the survey (30 September 2010) and to use a common currency (the US dollar). To avoid double counting, the Task Force agreed not to survey funds of hedge funds.

ASIC hedge funds surveys

Our 2010 hedge fund survey

47 After consultations with members of the Council of Financial Regulators (CFR) and the local chapter of the Alternative Investment Managers Association (AIMA), we settled on a local version of the survey questionnaire. As the largest hedge fund managers globally manage a disproportionate share of sector assets under management, it was decided

[15] IOSCO, *Hedge funds oversight* (IOSCOPD288), report, June 2009.

that only managers of more than US$500 million in assets under management across all their hedge funds would need to complete the first part of the survey and that they would only have to complete the second part of the survey for individual hedge funds with assets under management over US$500 million. The data was collected in the last quarter of 2010 and was aggregated and analysed in early 2011. A report of findings was distributed to CFR agencies in March 2011. The findings were not reported to the public at that time.

Our 2012 hedge funds survey

48 Task Force members agreed to conduct a second systemic risk survey in 2012 of single-strategy hedge funds, again using 30 September as the reference date. The IOSCO survey template was adjusted to take account of manager reporting pro formas developed under the *Dodd–Frank Wall Street Reform and Consumer Protection Act 2010* in the United States and the Alternative Investment Fund Managers Directive in the European Union. Other adjustments included the adoption of an agreed categorisation of hedge fund strategies, a common designation of counterparties, and questions on high-frequency trading, collateral and currency exposures.

49 After receiving the final IOSCO template in September 2012, we added some additional questions (e.g. whether investors are wholesale or retail, details about the licensee, details about service providers), and customised a number of definitions to more closely follow terminology used in the Australian market. We again invited comments from other CFR agencies and AIMA on our draft questionnaire before the local template was settled.

50 We decided to adopt the same qualifying thresholds used in 2010 to identify survey participants—that is, managers of US$500 million in hedge fund assets under management across all of their hedge funds must provide basic data on their funds, while managers of individual single-strategy hedge funds with more than US$500 million in assets under management (qualifying hedge funds) must provide more detailed asset-class level data on each such fund. For the 2012 survey, this qualifying hedge fund threshold became common for all Task Force members.

51 We sent fund managers compulsory notices to supply information in early November 2012 and received their responses in December. We aggregated the answers to the questions in the IOSCO template and sent them to the compiling Task Force members.

Notes on the survey data

52 Of the 13 large fund managers that received our 2010 hedge funds survey:

- nine managers reported holding over US$500 million in assets under management; and

- nine single-strategy hedge funds were reported as holding over US$500 million in assets under management.

The data sample for our 2010 survey was therefore nine hedge fund managers and nine single-strategy hedge funds.

53 We sent our 2012 hedge funds survey to 23 large fund managers and:

- 16 managers reported holding over US$500 million in assets under management;[16] and
- 12 single-strategy hedge funds were reported as holding over US$500 million in assets under management.

Therefore, the data sample for our 2012 survey consisted of 16 hedge fund managers and 12 single-strategy hedge funds.[17]

54 Table 4 details the number of funds and size of the assets under management of the 16 responding investment managers and compares it to those of hedge funds and all funds in general.

Table 4: Number and size of assets under management (at 30 September 2012)

Fund	Number of funds	Assets under management (US$)
Qualifying hedge funds	12	21.1 bn
Hedge funds	73	33.1 bn
All funds	394	2,643.6 bn

55 The majority of these funds are domiciled in Australia (10 funds). The other two funds are domiciled in the Cayman Islands. This is broadly consistent with the sector: see Table 1.

56 We estimate that the assets under management of the 12 surveyed hedge funds represent approximately 42% of the identified Australian hedge funds sector, in terms of assets under management, at 30 September 2012. This is consistent with our finding in Section A (based on aggregated information from various commercial data providers) that the sector has many small funds.

[16] The discrepancy in the number of managers approached and those qualifying is because of:
(a) out-of-date (or incorrect) data on fund assets under management supplied by data providers;
(b) differences in the definition of what constitutes a hedge fund between the tests and classifications applied by the various data providers used in this report and the definition used in [CO 12/749] applied by ASIC; or
(c) potential differences in calculating fund assets used by ASIC (which used NAV) and each of the data providers.

[17] There are two separate data samples because some survey questions were asked at the hedge fund manager level while others were asked about the individual hedge funds.

Gaps in the survey

57 The survey only covers identified single-strategy hedge funds that operate in Australia and have over US$500 million in NAV. This means that it does not cover (at least) another 430 identified active single-strategy hedge funds, which together manage around US$30 billion of assets. The risk profile of these excluded funds may be different and they may have different profiles in terms of assets invested in, levels of leverage, and other factors. The survey also isn't able to cover the local activities of international funds that are not offered here but that may take significant positions in Australian markets.

58 The survey only collects high-level information on single-strategy hedge fund managers' positions by asset class, and doesn't show the concentrations of holdings of particular issuers or subcategories of assets, even though this sort of concentration tends to be associated with hedge fund failures and systemic risk.[18]

59 The survey does not ask about margining requirements or requests by prime brokers for excess collateral. As described above, margins are useful for understanding how much protection creditors have. Further, collateral can be measured against margin requirements to provide a relative measure of protection.

60 The two years between surveys, and the between the date of the data and when those responses are compiled and analysed, allow time for numerous developments to occur both in the hedge fund space and in the financial system. For example, sudden shifts in prime brokers' excess collateral requirements can cause swift and significant disallocations by hedge funds, which a survey every two years or even annually may not detect.

61 As there are no definitive objective benchmarks against which to assess the systemic risk posed by hedge funds, much of the value of the survey will only emerge over time as the number of data sets grows and trends in sector risk appetite can be discerned.

International comparisons

62 The FSA in the United Kingdom and the Securities and Futures Commission (SFC) in Hong Kong have previously published reports reviewing the risk of hedge funds in their respective countries.

[18] For example, LTCM's significant exposure to Russian sovereign debt, JP Morgan's 'London Whale' trading loss, and Basis Capital's investment in credit default swap contracts referencing Timberwolf subprime-related securities.

FSA

63 The FSA published its report *Assessing the possible sources of systemic risk from hedge funds: A report on the findings of the Hedge Fund Survey and Hedge Fund as Counterparty Survey* every six months. The report outlined the sector's performance and current conditions, hedge funds' market footprint, sources and extent of borrowings, maturity transformation, counterparty (credit) exposures, and funds' portfolio concentration.

64 The most recent report was published in August 2012.[19] The report found that:

- hedge funds operating in the United Kingdom concentrate most of their investments in listed equities, G10 sovereign bonds, credit default swaps and structured/securitised products. However, their total exposures relative to market size are largest in convertible bonds, interest rate derivatives and commodity derivatives;
- most hedge funds' borrowing is via repurchase agreements (around half) or is synthetic (30%), with only 20% coming from their prime brokers. Leverage tends to be quite high, averaging around four times NAV across all funds, with 'fixed-income arbitrage', 'multi–strategy', 'global macro' and 'credit long/short' funds having the highest leverage;
- large investors tend to be 'other investment funds' (25%), pension funds (23%), financial institutions such as banks and insurance companies (14%), and individuals and families (12%); and
- banks' exposure to hedge funds is mostly in the range of US$1–50 million, with very little above this. Prime brokers' margin requirements are around 35% of hedge funds' long market value (LMV), and they hold average excess collateral of around 100% of base margin.

SFC

65 The SFC's *Report of the survey on hedge fund activities of SFC-licensed managers/advisers* outlines the size of the hedge fund sector, the investment strategies employed by funds, the sources of their funds, and the locations and classes of their assets.

66 The latest report, published in March 2013,[20] found:

- Hong Kong's hedge fund sector grew strongly between 2004 and 2012, from 112 funds managing US$9.1 billion to 676 funds managing US$87.1 billion. However, this value is still lower than the

[19] FSA, *Assessing the possible sources of systemic risk from hedge funds: A report on the findings of the Hedge Fund Survey and Hedge Fund as Counterparty Survey*, report, August 2012, www.fsa.gov.uk/static/pubs/other/hedge-fund-report-aug2012.pdf.
[20] SFC, *Report of the survey on hedge fund activities of SFC-licensed managers/advisers*, report, March 2013, www.sfc.hk/web/EN/files/IS/publications/Hedge%20Fund%20Report%202012.pdf.

US$90.1 billion that was under management in March 2008, before the financial crisis;

- investment strategies used by HK hedge funds are mainly ‘equity long/short’ and ‘multi-strategy’ (mostly ‘equity long/short’, ‘credit long/short’ and ‘event-driven’), followed by ‘fund of hedge funds’ and ‘global macro’. Other strategies have only small representation;
- over 90% of investment comes from outside Hong Kong, mostly from the United States and Europe. HK hedge funds’ investments are mainly made in the Asia–Pacific region—65.4% of assets were located in this region (which includes Hong Kong, China, Japan, Australia and New Zealand), with 18.1% going to North America and Europe; and
- around 60% of funds managed US$100 million or less, while around 27% managed between US$101–500 million.

67 The report did not look into the possible systemic risks posed by hedge funds operating in, and out of, Hong Kong.

C Analysis of our 2012 hedge funds survey

Key points

Results from our 2012 hedge funds survey indicate that Australian hedge funds do not appear to pose a significant systemic risk.

Investors in the surveyed qualifying hedge funds are predominantly wholesale investors, particularly superannuation funds.

The number of Australian investors invested with the surveyed hedge fund managers has increased significantly between the two surveys, up from 55% of NAV in 2010 to over 93% in 2012.

The surveyed hedge fund managers' greatest asset exposure is to listed equities; however, only 32% of this exposure is in Australian-listed equities. Surveyed qualifying hedge funds also use low levels of leverage and appear to have adequate liquidity.

The surveyed qualifying hedge funds performed relatively well in the 12 months to September 2012, averaging a net return of nearly 8%.

Summary of results

68 The results of the survey indicate that hedge funds do not appear to pose a systemic risk to the Australian economy.

69 The surveyed qualifying hedge funds represent approximately 42% of the known single-strategy hedge funds in terms of assets under management. However, these funds only represented 3% of the number of single-strategy funds in the sector. Aggregated information sourced from commercial data providers indicates that the Australian hedge funds sector is mainly made up of funds with less than $50 million assets under management. Therefore, while the survey is representative of a substantial proportion of assets controlled by single-strategy hedge funds, a great majority of smaller funds are not represented by the survey.

70 We may consider lowering the assets under management threshold for qualifying hedge funds in our next survey to capture more funds.

71 The assets under management of single-strategy hedge funds make up only a small share (2.4%) of all managed funds, and their exposures tend to be in asset classes that are sufficiently liquid to allow for efficient pricing. However, the asset–liability liquidity profile suggests that some funds could suspend redemptions should some or all creditors choose to redeem a substantial proportion of their investments at short notice. This could result in liquidity pressure for investors in these funds. This indicates a low but still appreciable degree of market channel risk.

72 Moderate levels of returns during a time of broad market stability indicate that no one fund or group of funds is taking immoderate risks.

73 The level of synthetic borrowing is quite high; however, as the source of borrowing is offshore it poses no credit channel risk to Australian institutions. Sensible diversification of counterparty exposures also tends to dampen this risk.

74 Differences between our 2010 and 2012 surveys make it difficult to estimate changes across all indicators of systemic risk. Bearing this in mind, the survey findings show an increase in reported synthetic leverage, 'close' asset–liability liquidity profiles, and some increase in both surveyed qualifying hedge fund size and asset concentration. On the other hand, the survey responses demonstrate increased holdings of more conservative assets (such as cash and G10 sovereign bonds), a lack of liquidity pressures, and diversified counterparty exposures. These findings suggest that, overall, fund managers took less risk with their investment strategies in 2012 compared to 2010.

Disclaimers

75 The analysis in this section should be read in the context of the objective of the survey, which is to determine whether hedge funds pose a systemic risk to Australian financial markets.[21] The activities of these larger funds may not be an accurate reflection of how the wider sector operates in Australia.

76 All references to 'surveyed qualifying hedge funds' are references only to the 12 funds included in our 2012 hedge funds survey. References to 'surveyed hedge fund managers' refer to the 16 hedge fund managers included in this survey and their total portfolios of qualifying and non-qualifying hedge funds.

77 Where possible, comparisons are made between the data from our 2010 and 2012 hedge funds surveys. However, different methodologies and new questions have made it difficult to make comparisons in some areas.

78 We reviewed the survey results at a high level and reconfirmed data anomalies with the fund managers where possible. Nonetheless, some questions were open to varying interpretation which may affect the aggregation and/or comparison of responses.

Hedge fund investors

79 The main investors in the surveyed qualifying hedge funds are Australian wholesale investors. The scale of their investment in hedge funds relative to their total investments is minimal, which will tend to reduce the likely systemic impact of any problems in the sector. For example, research in

[21] The results should not be assumed to be representative of the entire sector, as only 12 single-strategy hedge funds qualified as being sufficiently large for inclusion in 2012 and only nine in 2010.

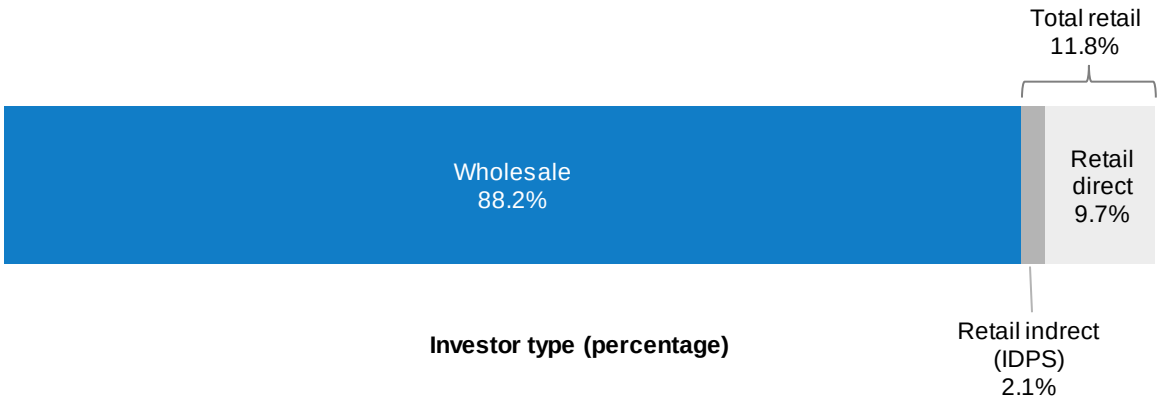
2010 found that on average Australian superannuation funds allocate 3% of their assets to hedge funds.[22] This was forecast to increase to 3.6% by 2012. Similarly, as at December 2012, self-managed superannuation funds (SMSFs) had allocated $13.5 billion (or 2.8% of their combined assets of $474 billion) into the category of 'other assets'.[23]

80 Another mitigating factor is that a broad variety of investors classify as wholesale investors, ranging from superannuation funds and financial institutions to high net-worth investors. On average, approximately 55% of surveyed qualifying hedge funds' NAV was invested by the top five investors. This question was not included in our 2010 hedge funds survey.

Investor type

81 Nearly 90% of investors in surveyed qualifying hedge funds are wholesale investors (see Figure 9), with retail investors accounting for slightly over 10%. Approximately 82% of retail investors invested in these funds directly, rather than through an investor directed portfolio service (IDPS).

Figure 9: Retail versus wholesale investors, weighted by assets under management (at 30 September 2012)

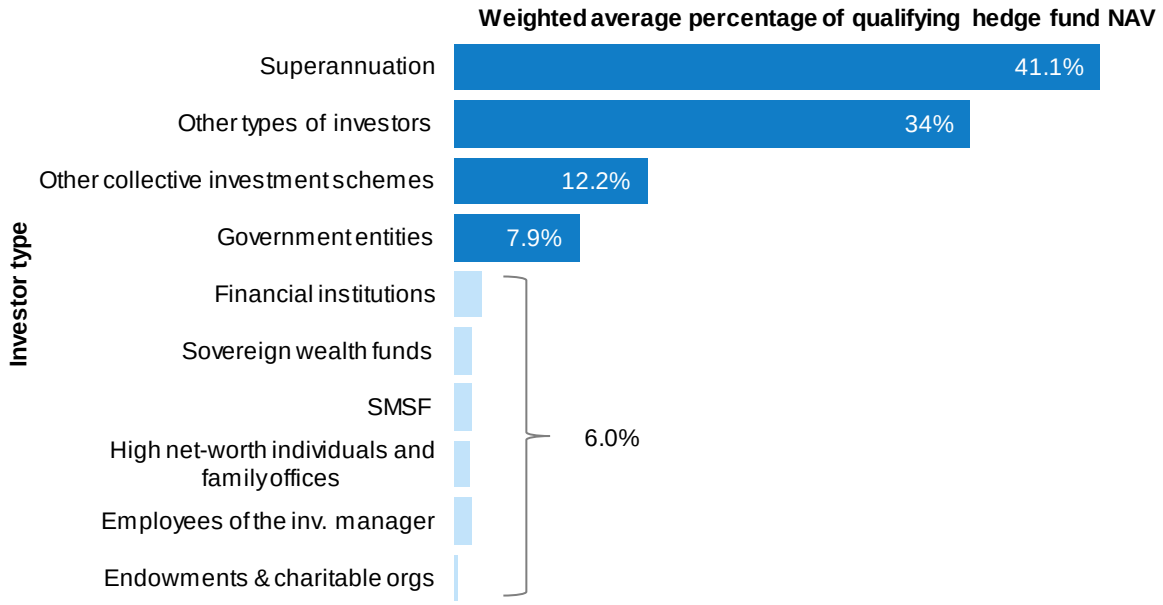


Note: Figure 9 is based on 11 out of the 12 surveyed qualifying hedge funds, as one fund manager did not report this.

82 Australian Prudential Regulation Authority regulated superannuation funds (i.e. excluding SMSFs) were the largest type of investor, with 41.1%. No comparison could be made to 2010 data because this question was not included in our 2010 survey: see Figure 10.

[22] J Evans, *Hedge fund survey of Australian superfunds*, report, AIMA, March 2010, www.aima-australia.org/forms/AIMAAUST2010SuperannuationHedgeFundSurvey.pdf.
[23] Offshore and local single-strategy hedge funds and funds of hedge funds would be a subset of this asset category; however, we do not know the breakdown of funds invested in these funds: Australian Taxation Office, *Self-managed super fund statistical report*, report, December 2012, www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Super-statistics/SMSF/Self-managed-super-fund-statistical-report---December-2012/?default=.

Figure 10: Investor type weighted by assets under management (at 30 September 2012)

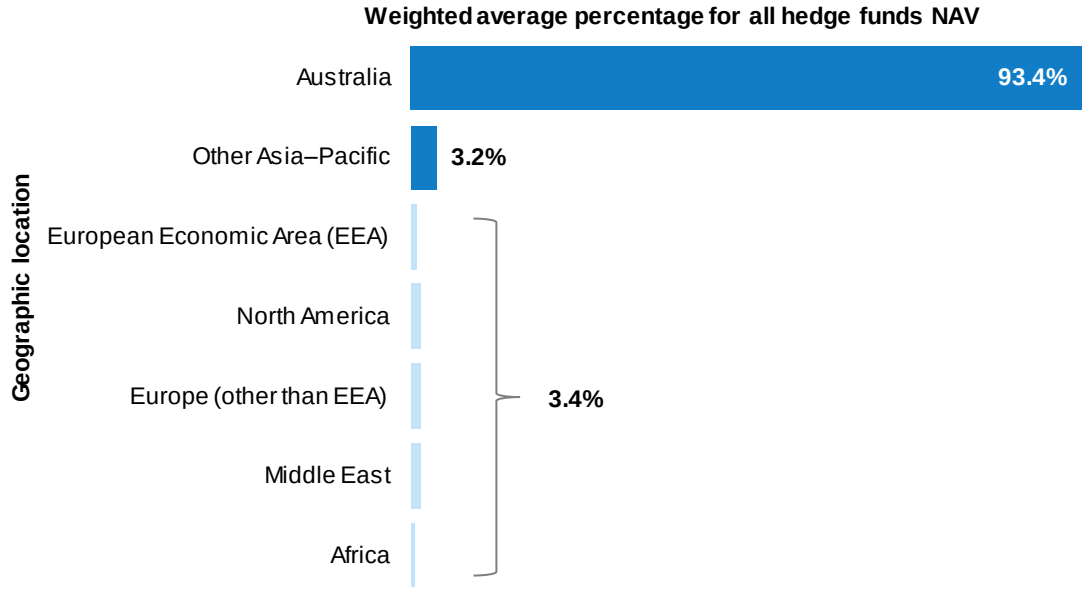


Note: Figure 10 is based on 11 out of the 12 surveyed qualifying hedge funds, as one fund manager did not report this.

Investor location

83 Figure 11 shows that the most of the funds invested with the surveyed hedge fund managers came from Australian investors (93.4%). This is a significant increase from 2010, when it was reported that 55% of investors with surveyed hedge fund managers (when measured by NAV) were Australian.[24]

Figure 11: Geographic location of investors weighted by NAV (at 30 September 2012)



Note: Figure 11 is based on the 16 surveyed hedge fund managers' total hedge fund assets.

[24] Seven of the nine surveyed fund managers reported the location of investors in our 2010 hedge funds survey.

Hedge fund investments

84 The surveyed qualifying hedge funds appear to invest in a diverse range of assets that align with their indicated investment strategies. Increased holdings of G10 sovereign bonds and substantial cash holdings may suggest that these funds are holding more conservative positions in 2012 than they were in 2010. Not surprisingly, geographic and currency exposure of those surveyed are predominantly Australian.

Strategies

85 The 'equity long/short' strategy was the dominant strategy, both in terms of number of surveyed qualifying hedge funds and assets under management: see Table 5. This is broadly consistent with the Australian hedge funds sector as a whole, where the 'equity long/short' strategy is the dominant strategy: see Figure 7.

86 By contrast, in 2010 the dominant strategy by number of funds was 'managed futures' and the dominant strategy by assets under management was 'other'. However, this was not consistent with the hedge funds sector as a whole; in 2010, as in 2012, the dominant strategy for the sector was 'equity long/short'.

Table 5: Strategies of surveyed qualifying hedge funds (at 30 September 2012)

	Number of funds		Assets under management	
Strategy	**Number**	**Percentage**	**Amount (US$)**	**Percentage**
Equity long/short	6	50%	13.7 bn	65.2%
Other	6	50%	7.3 bn	34.8%
Total	12	100%	21.1 bn	100.0%

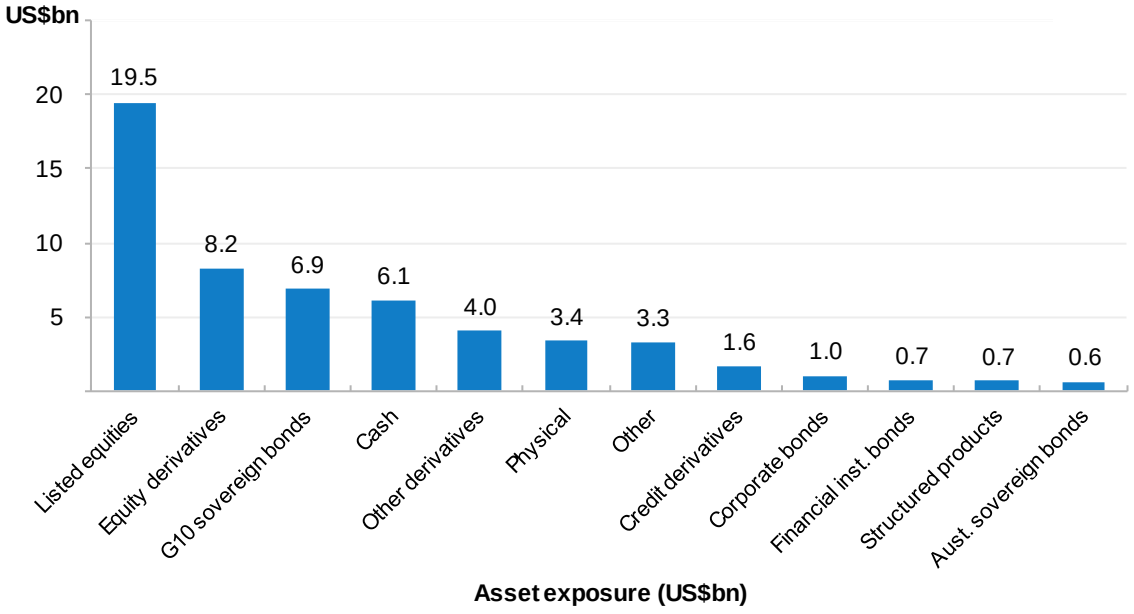
Note: Various strategies have been included in the category of 'Other' to maintain anonymity of reporting funds.

Asset exposure

87 The greatest gross market value for the 73 hedge funds operated by the surveyed managers is to listed equities (over US$19 billion GMV), with almost one-third (32%) of this exposure comprising Australian-listed equities. Equity derivatives and G10 sovereign bonds are the next two most significant asset classes, with US$8.2 billion and US$6.9 billion GMV respectively: see Figure 12.

88 The surveyed hedge fund managers' reported NAV in 2012 was $US33.1 billion—30% higher than in 2010.[25] However, the Australian dollar appreciated between the two surveys from US$0.94 to US$1.04. This caused an increase in the US dollar valuation of Australian dollar assets, which make up the majority of these funds' assets.[26] Asset exposures were relatively similar in 2010 and 2012, with gross exposure to equities[27] also being the largest exposure for the surveyed hedge fund managers in 2010 (nearly US$21 billion).

Figure 12: Gross market value (long market value + short market value) (at 30 September 2012)



Note 1: Figure 12 is based on the 16 surveyed hedge fund managers' total hedge fund assets.

Note 2: Interest rate and foreign exchange derivatives have been excluded from this figure as they tend to have significantly larger gross notional values.

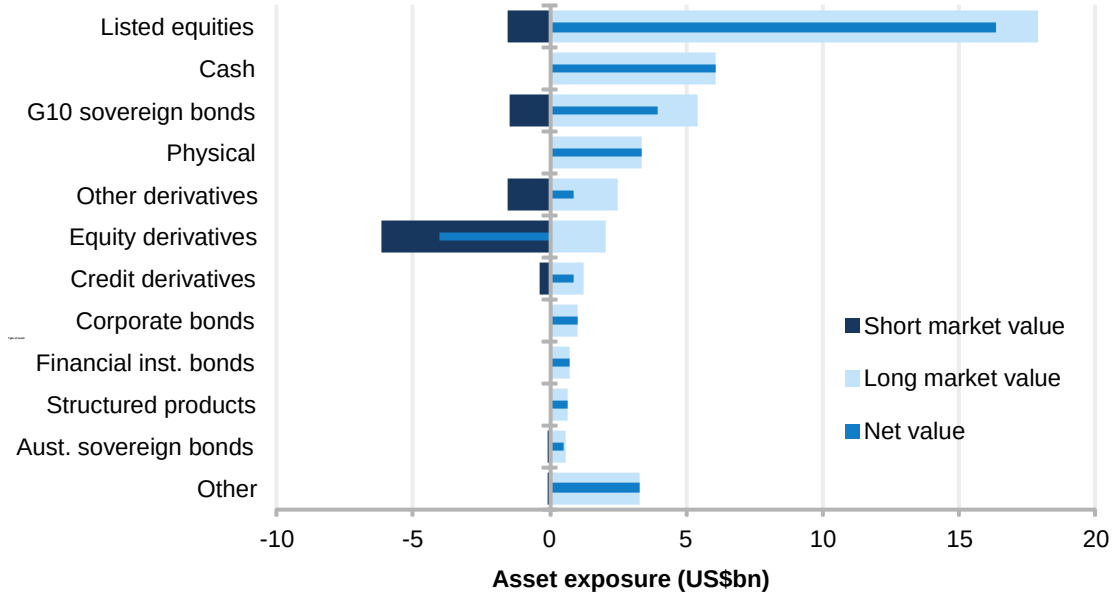
89 Equity derivatives are the only asset type that the surveyed hedge fund managers have a negative net exposure to, which suggests that 'equity long/short' funds may use short equity derivatives to hedge their long exposures to listed equities: see Figure 13.

90 The increase in short market value of equities over the period was significant, up from just over US$0.5 billion in 2010 to nearly US$8 billion in 2012.[28] This could mean that the surveyed hedge fund managers are more 'bearish' about the equity markets, or perhaps they have taken more conservative positions through higher levels of hedging.

[25] This may be explained by the increase in our sample size, from 12 to 16 hedge fund managers.
[26] As we did not ask for currency exposures in our 2010 hedge funds survey it is not possible to calculate the magnitude of this change.
[27] We have grouped asset classes into broader categories to overcome the different asset classes used in the two surveys.
[28] We have grouped asset classes into broader categories to overcome the different asset classes used in the two surveys.

91 Another significant shift is from financial institution bonds to sovereign bonds between the two surveys. In 2010, bonds issued by financial institutions made up 18% of the surveyed hedge fund managers' LMV, while G10 sovereign bonds contributed 9%. In 2012, holdings of financial bonds had fallen to only 2% of LMV and G10 sovereign bond holdings had increased to over 14%. This change suggests that hedge fund managers are holding more conservative assets.

Figure 13: Surveyed hedge fund managers' exposures (at 30 September 2012)



Note: Figure 13 is based on the 16 surveyed hedge fund managers' total hedge fund assets.

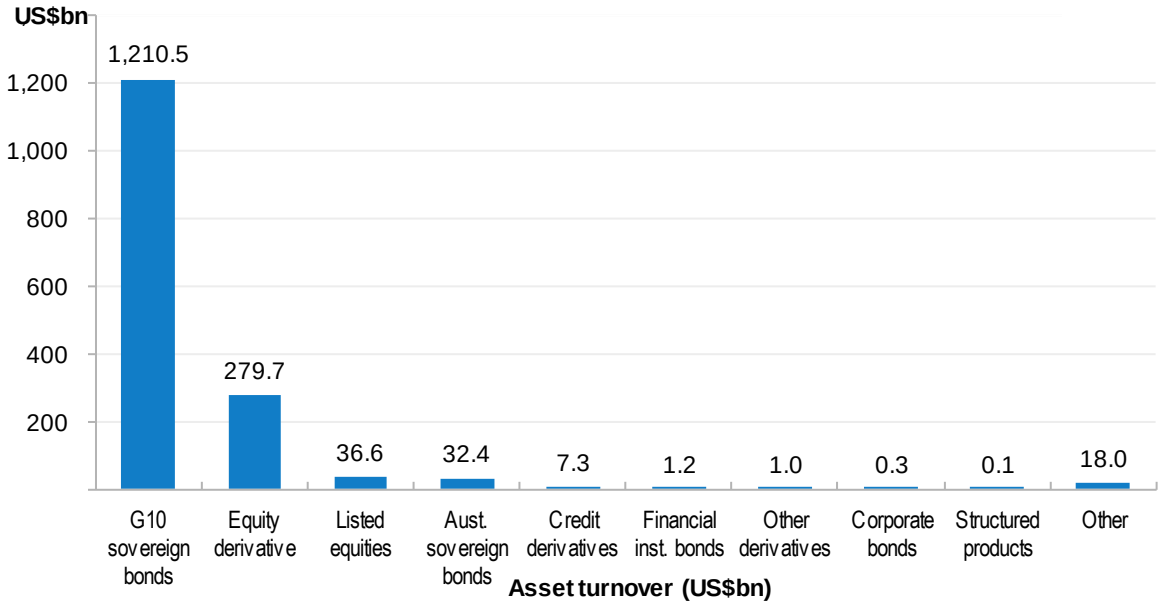
92 The survey does not capture LMV and short market value (SMV) for foreign exchange derivatives and interest rate derivatives. The nature of these instruments means they can have very large notional exposures, making it difficult to compare with the other asset classes. In terms of these derivatives, interest rate derivatives have the largest gross exposure of over US$30 billion. It does not appear that the surveyed hedge fund managers' exposure in any one of these asset classes comprises a significant proportion of its total market size in Australia. For example, the LMV of Australian-listed equities held by the surveyed hedge fund managers is 0.4% of the market capitalisation of the All Ordinaries Index. This was higher than 2010, when the surveyed hedge fund managers' holdings of Australian-listed equities were 0.2% of the market capitalisation of the Australian share market. This increase may be explained by the larger sample size in the 2012 survey. Another example of these hedge funds' small market footprint is interest rate derivatives, where the surveyed hedge fund managers hold a similarly insignificant proportion of the interest rate derivative market (approximately 0.15%).

Turnover

93 G10 sovereign bonds had significantly higher turnover than other asset classes in the 12 months to September 2012, with over US$1.2 trillion: see Figure 14. However, this was slightly lower than the turnover in G10 sovereign bonds in 2010, when turnover was over US$1.3 trillion. This high level of turnover is likely to be as a result of funds rolling over their positions as opposed to significant trading activity.

94 It is interesting to note that the lower turnover of G10 sovereign bonds in 2012 is relative to increased holdings of these bonds: see paragraph 91. In spite of this, G10 sovereign bonds turnover was 224 times its LMV. This asset class had the highest ratio of turnover to LMV.[29] This was considerably higher than the ratio for listed equities, where turnover was around two times its LMV. Turnover in equities has decreased by nearly 20% since 2010, falling from US$391 billion to US$316 billion.

Figure 14: Asset turnover for the 12 months to 30 September 2012



Note: Figure 14 is based on the 16 surveyed hedge fund managers' total hedge fund assets.

95 The surveyed hedge fund managers do not appear to make up a significant proportion of trade volumes in Australian-listed equities (approximately 1%).

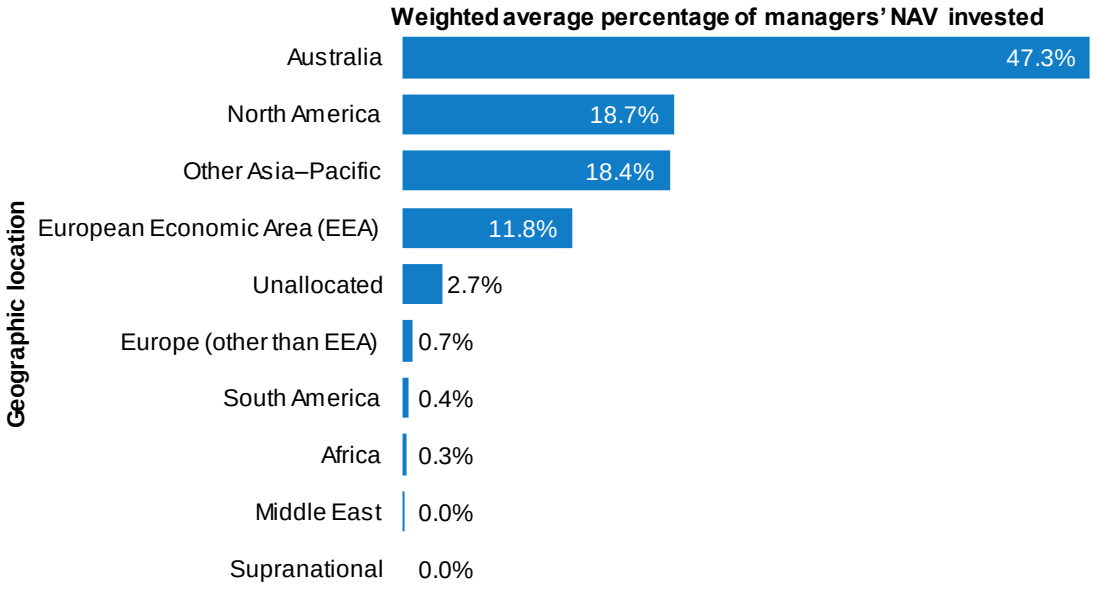
[29] There is a potential bias in measuring the ratio of turnover to LMV because the survey asked for the funds' LMV of asset holdings at the reporting date, while turnover is calculated over the 12 months before the reporting date. Therefore, if an asset class' holdings decreased over the period, the ratio will be larger, skewed by the lower LMV. The ratio will appear to be smaller if funds have accumulated larger LMV for an asset class over the period.

96 No surveyed hedge fund manager reported having any assets that were managed using a high-frequency trading strategy.[30] No comparison can be made to 2010 because this question was not asked in the 2010 survey.

Geographic exposure

97 Nearly half (47.3%) of the surveyed hedge fund managers' NAV is invested in Australian assets: see Figure 15. While this is larger than the surveyed hedge fund managers' other large geographic exposures, there is still substantial diversification of asset exposures across geographic locations, which should reduce systemic risk in the Australian financial system. No comparison can be made between 2010 and 2012 as this question was not included in the 2010 survey.

Figure 15: Geographic location of investments weighted by NAV



Note: Figure 15 is based on the 16 surveyed hedge fund managers' total hedge fund assets.

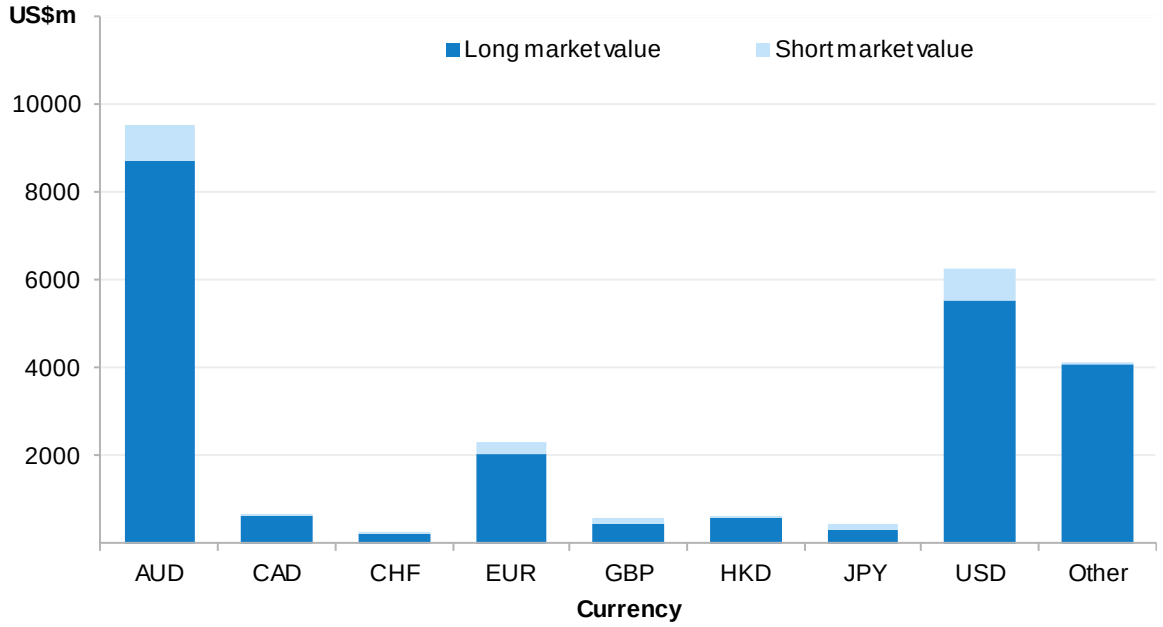
Currency exposure

98 Figure 16 provides a breakdown of the currency exposures (ignoring hedging of those exposures) of the 12 surveyed qualifying hedge funds' investments. Currency exposures can be used as a proxy for the location of hedge fund investments and the findings are broadly consistent with Figure 15.

[30] A 'high-frequency trading strategy' is defined in our 2012 hedge funds survey as a strategy that is primarily computer driven, with decisions to place bids and offers, and to buy and sell, based on algorithmic responses to intra-day price movements. It excludes strategies that only use algorithms for trade execution.

99 For long exposures, Australian dollars are the most significant currency (US$8.7 billion), followed by US dollars (US$5.5 billion). However, the Australian dollar and US dollar short exposures are much more comparable, at US$833 million and US$725 million respectively.

Figure 16: Hedge funds currency exposures (at 30 September 2012)



Note: Figure 16 is based on 11 out of the 12 surveyed qualifying hedge funds, as one fund manager did not report this.

Performance of qualifying hedge funds

100 The surveyed qualifying hedge funds performed relatively well over the period. Net investment returns were comparable with market benchmarks and significantly higher than their peers: see Section A.

101 Of the seven funds that were reported as having a high-water mark, the assets of five were below their high-water mark as at September 2012.

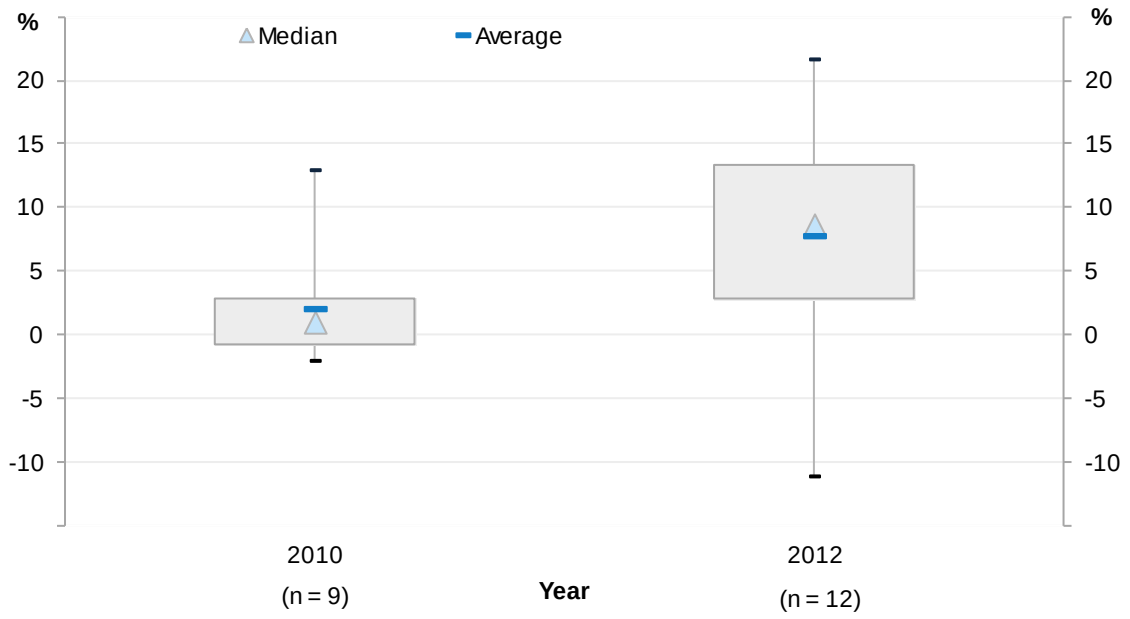
Annual net investment returns

102 On average, returns for the surveyed qualifying hedge funds improved for the 12 months to September 2012. Annual net investment returns average 7.8%, compared to 2.1% reported in the 2010 survey. This was slightly lower than the return of the S&P/ASX 200 Index over the same period, which increased 9.4%. Only two of the 12 funds were reported as having negative return for the 12 months to September 2012: see Figure 17.

103 The average net return for surveyed qualifying hedge funds in the 12 months to September 2012 was significantly higher than the average for the all

reporting hedge funds in the sector over the same period (4.12%). As empirical studies have found evidence that large funds tend to underperform smaller funds,[31] this may be due to the small sample size of the survey.

Figure 17: Comparison of annual net investment returns for 2010 and 2012

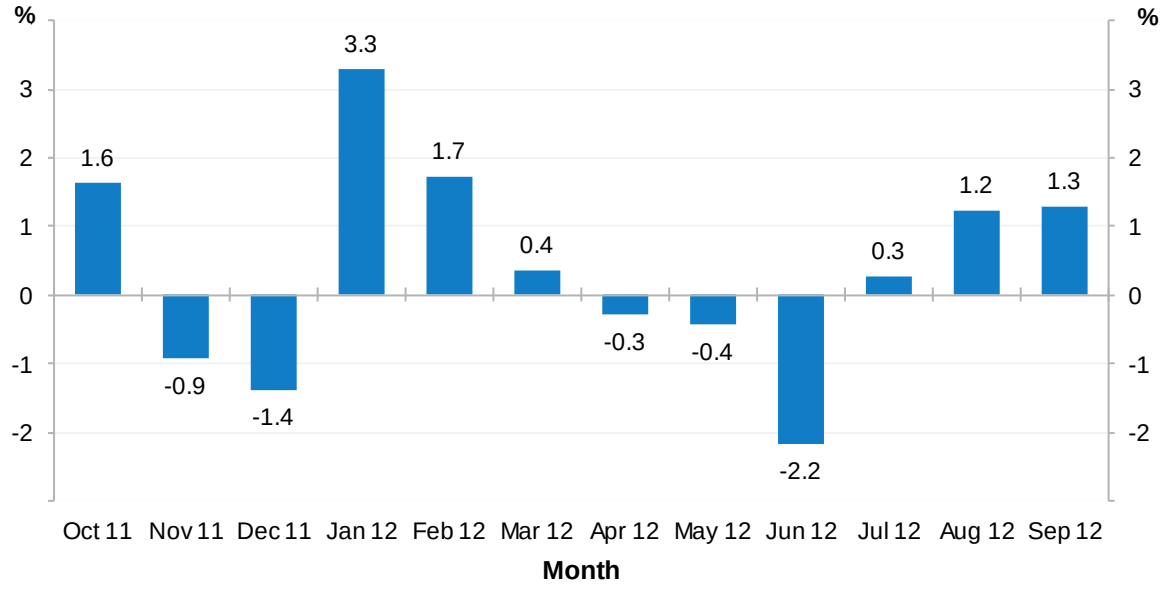


104 Gross investment returns were marginally higher than net investment returns over the 12 months to September 2012. This is to be expected because of fees charged by the hedge fund managers.

105 On average, the NAV of the surveyed qualifying hedge funds increased over the 12 months to September 2012. This is in contrast to the sector as a whole, the NAV of which continued its downward trend in 2012. While there are some fluctuations in the average monthly change in NAV, the observed variation does not appear to be extreme.

[31] M Ammann and P Moerth, 'Impact of fund size on hedge fund performance', *CFA Digest*, vol. 36, 2006; H Shawky and Y Wang, *Can liquidity risk explain the size-performance relationship for hedge funds?*, working paper, March 2011.

Figure 18: Average percentage change in NAV (12 months to 30 September 2012)



Note: Figure 18 is based on the 12 surveyed qualifying hedge funds.

Net applications

106 The surveyed qualifying hedge funds had small negative net applications.[32] However, given their insignificant size, these net withdrawals are unlikely to affect funds' liquidity and therefore should not contribute to the sectors' systemic risk.

107 The value of redemptions from the surveyed qualifying hedge funds exceeded the value of applications in 2012. Net applications averaged −US$35 million per hedge fund, resulting in an outflow of US$422 million from these hedge funds in 2012. By comparison, 2010 saw substantial inflows of funds, with net applications averaging US$204 million per fund. However, the redemptions in 2012 are unlikely to result in any funding pressures for most hedge funds because the average size of net applications is relatively small as a percentage of the funds' average NAV (0.3%).

Leverage

108 In general, surveyed qualifying hedge funds appear to use low levels of borrowing, implying that hedge funds' leverage is unlikely to generate or contribute to systemic risk issues

[32] There is a bias in calculating the net applications as a percentage of NAV because we only collected data for the hedge funds' NAV at September 2012. This bias skews negative net applications to appear larger as a proportion of NAV while skewing positive net applications to appear smaller as a proportion of NAV.

Sources of leverage

109 Synthetic leverage[33] is the largest source of leverage for the surveyed qualifying hedge funds, accounting for nearly US$10 billion of leverage in 2012: see Table 6. The bulk of this synthetic leverage is in interest rate derivatives. Interest rate derivatives have large notional values from which interest rate payments are calculated. The other large source of leverage is collateralised borrowing from prime brokers.

Table 6: Sources of leverage for 2010 and 2012

Source	2010 (US$)	2012 (US$)
Unsecured cash borrowing	109 m	0
Collateralised borrowing via prime brokerage	101 m	625 m
Collateralised borrowing via repurchase agreements	0	0
Collateralised borrowing via other	0	147 m
Synthetic leverage	0	9,972 m

Note: Table 6 is based on 11 of the 12 surveyed qualifying hedge funds, as one fund did not report this.

110 The sum of leverage, with derivatives values calculated on a notional basis as shown in Table 6, looks quite high. Also, it gives the impression of a significant increase in the use of leverage between 2010 and 2012 (although possibly because only one of the nine respondents in the 2010 survey reported using leverage).

111 However, as the notional amounts are not usually delivered, looking only at the notional value of these positions can overstate their leverage. Other problems arise from some derivatives being difficult to value and because this approach cannot account for hedging, offsetting and other arrangements that reduce exposure.

112 Another measure of leverage is gross market value as a multiple of NAV.[34] This measure is useful because it accounts for all sources of leverage, including indirect borrowings from derivatives. Average leverage, as measured by gross market value as a multiple of NAV, has increased since 2010, from 1.25 to 1.51 across the surveyed qualifying hedge funds.[35]

[33] Synthetic leverage is present where leverage is embedded in the financial instruments.
[34] Total leverage to NAV is another form of measuring leverage; however, due to data quality issues this metric was not used as part of the analysis.
[35] This measure does not take into account the increase in synthetic leverage because it was reported as notional exposure rather than gross market value.

Liquidity

Levels of unencumbered cash

113 The level of cash held by hedge funds is important for their ability to meet margin calls and redemptions without needing to liquidate positions or find additional financing. The findings from the survey show that surveyed qualifying hedge funds do not appear to face potential liquidity pressures, mitigating their systemic risk.

114 On average, the surveyed qualifying hedge funds hold 12% of their gross exposure in unencumbered cash. This is significantly higher than in 2010, when unencumbered cash was reported to be 0.8% of GMV.[36]

Portfolio and liquidity profile

115 The scale of the surveyed qualifying hedge funds' reported asset–liability mismatches is a potential source of concern. Several funds reported that their creditors can request repayment of liabilities in a shorter time period than the period required to liquidate the portfolio funded by these liabilities.

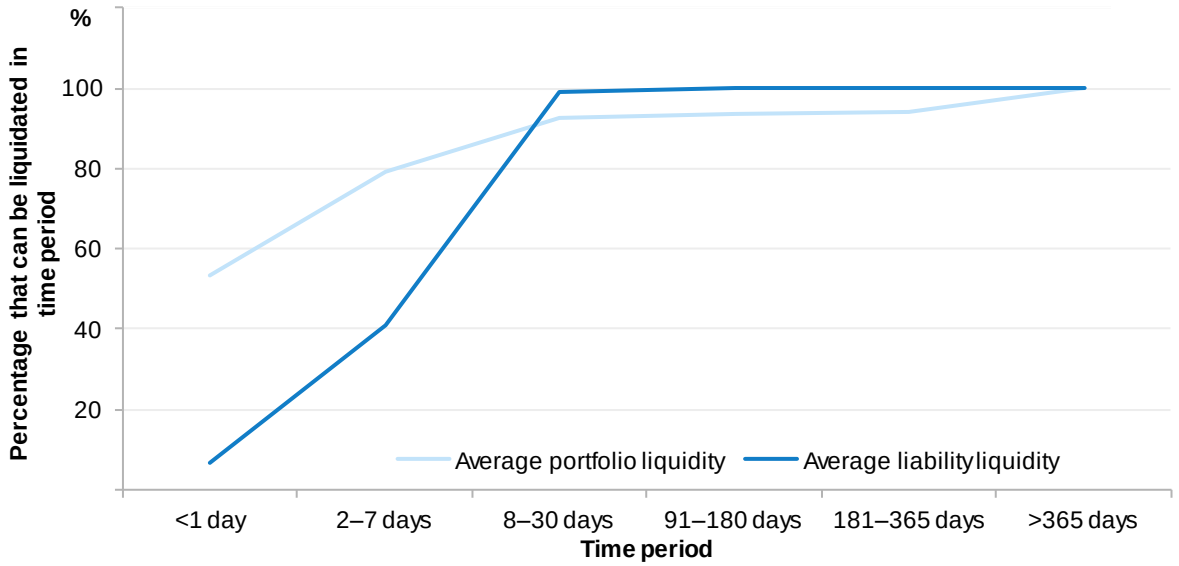
116 On average, the surveyed qualifying hedge funds can liquidate 92% of their portfolio in less than 30 days; however, repayment of 99% of fund liabilities can be demanded in less than 30 days: see Figure 19.

117 This asset–liability mismatch could leave affected funds vulnerable to having to liquidate their portfolios through a 'fire sale' to meet a sudden increase in obligations; however, all of the surveyed qualifying hedge funds have the ability to suspend investor redemptions. This ability to suspend redemptions lowers the risk of funds experiencing grave liquidity problems, but at the cost of passing liquidity problems on to investors in the funds.

118 The responses indicated that, at the time of reporting, no surveyed hedge fund manager reported implementing gate provisions on any funds (i.e. a restriction limiting the number of withdrawals in a redemption period), placing any assets in side pockets (i.e. an account for illiquid assets, the revenue of which only present members of the hedge fund will have access to), or having implemented other measures to restrict redemptions. This further suggests that most of these funds were not subject to any redemption or liquidity pressures at that time.

[36] Some caution is advised when using this figure as only three respondents to our 2010 hedge funds survey provided a figure for unencumbered cash.

Figure 19: Estimated average portfolio and liability liquidity profile (at 30 September 2012)



Note: Figure 19 is based on the 12 surveyed qualifying hedge funds.

Counterparty exposures and collateral

119 The majority of surveyed qualifying hedge funds use multiple prime brokers, diversifying their counterparty exposure among generally large financial institutions. Further, survey responses suggest that counterparty exposures and collateral practices are unlikely to contribute to any concerns of systemic risk.

120 The surveyed qualifying hedge funds also provided the exposure counterparties have to the hedge funds. The size of the exposures is insignificant given the size of the counterparties. Therefore these hedge funds have very little exposure across the financial sector through their counterparties.

Collateral

121 While no information was collected in the survey about the amount of margin posted, fund managers were asked about the amount of collateral that they had posted for their qualifying funds. By 30 September 2012, US$1.3 billion in collateral had been posted by the surveyed qualifying hedge funds (approximately 12% of the funds' total borrowing). The survey also asked about the ability for collateral to be rehypothecated. Collateral could be rehypothecated by half of these funds, while only one fund was reported as having its collateral used in this way on the survey reference date. These results indicate only a low level of systemic risk from this source.

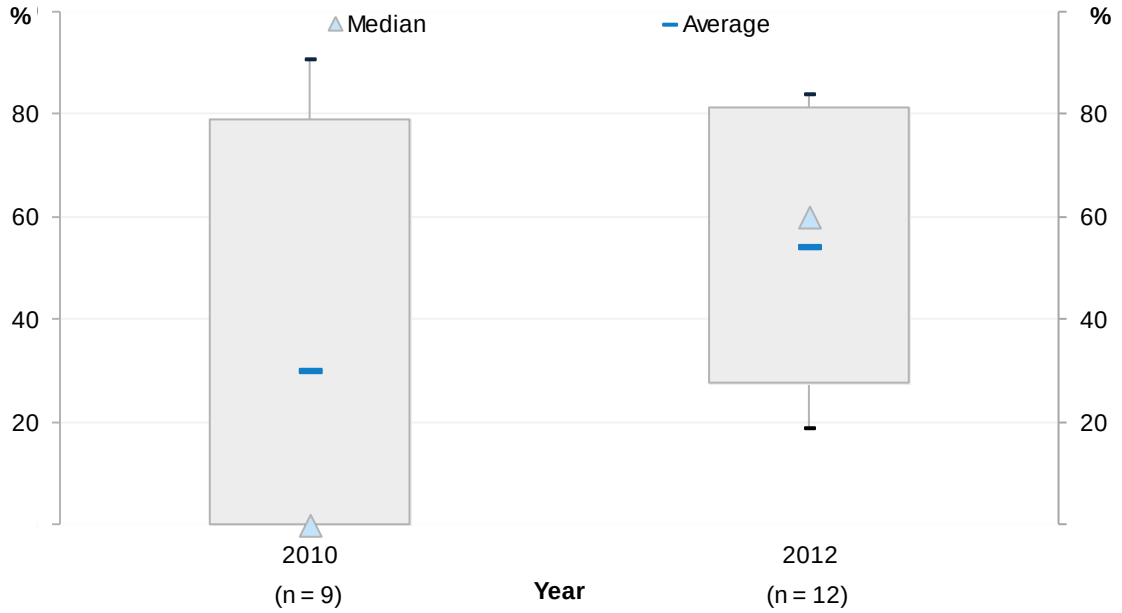
122 No comparison can be made to the levels of collateral held in 2010 because the 2010 survey did not include questions about collateral.

Portfolio concentration

123 The data quality for portfolio concentration was poor.

124 On average, portfolio concentration for the surveyed qualifying hedge funds has increased since 2010, from 30% to 54%: see Figure 20. It should be noted that in 2010, five of the nine respondents reported zero for their top 10 positions as a percentage of GMV, which may skew the findings.

Figure 20: Top 10 positions as a percentage of GMV for 2010 and 2012



125 The average number of open positions has increased since 2010, from 33 in 2010 to 213 in 2012. However, only five of the nine respondents stated that their open positions were higher than zero in 2010.

Key terms

Term	Meaning in this document
2010 hedge funds survey	A survey issued in 2010 by ASIC to large hedge fund managers that operate in Australia
2012 hedge funds survey	A survey issued in 2012 by ASIC to large hedge fund managers that operate in Australia
AIMA	Alternative Investment Managers Association
CFR	Council of Financial Regulators
credit channel risk	The risk that creditor losses may cause the debtor to also default. This risk contributes to systemic risk
FSA	Financial Services Authority (United Kingdom). Recently replaced by Prudential Regulation Authority and Financial Conduct Authority
fund of hedge funds	A managed investment scheme that invests most, or all, of the fund's assets in one or more hedge fund
high-frequency trading strategy	A strategy that is primarily computer driven, with decisions to place bids and offers, and to buy and sell, based on algorithmic responses to intra-day price movements. This does not include strategies that only use algorithms for trade execution
G10	Group of Ten
G10 sovereign bond	A bond issued by one of the 11 nations of the G10
G20	Group of Twenty
GMV	Gross market value
IDPS	Investor directed portfolio service
IOSCO	International Organization of Securities Commissions
LMV	Long market value
LTCM	Long-Term Capital Management
market channel risk	The risk that an adverse movement in market pricing or liquidity disrupts the orderliness of the market. This risk is an element of systemic risk
NAV	Net asset value
rehypothecation	The practice where collateral can be used by the recipient for their own purposes

Term	Meaning in this document
S&P/ASX 200 Index	An index of the largest 200 shares listed on ASX by market capitalisation
SFC	Securities and Futures Commission (Hong Kong)
single-strategy hedge fund	A hedge fund that invests directly in the assets related to the fund's strategy. This is opposed to a fund of hedge funds
SMV	Short market value
surveyed qualifying hedge fund	A single-strategy Australian hedge fund with more than US$500 million in assets under management that took part in our 2012 hedge funds survey
Task Force	IOSCO Task Force on Unregulated Financial Entities

Related information

Headnotes

credit channel risk, fund of hedge funds, hedge funds, International Organization of Securities Commissions, IOSCO, market channel risk, single-strategy hedge fund, survey, systemic risk

Class orders

[CO 12/749] *Relief from the shorter PDS regime*

Legislation

Dodd–Frank Wall Street Reform and Consumer Protection Act 2010 (US)

Alternative Investment Fund Managers Directive (EU)

Reports and articles

Ammann, M and Moerth, P, 'Impact of fund size on hedge fund performance', *CFA Digest*, vol. 36, 2006

Australian Bureau of Statistics, *Managed funds*, August 2013

Australian Taxation Office, *Self-managed super fund statistical report*, December 2012

Evans, J, *Hedge fund survey of Australian superfunds*, March 2010

FSA, *Assessing the possible sources of systemic risk from hedge funds: A report on the findings of the Hedge Fund Survey and Hedge Fund as Counterparty Survey*, August 2012

IOSCO, *Hedge funds oversight*, June 2009

Prequin, *Prequin Special Report: Hedge funds*, October 2012

PerTrac, *Sizing the hedge fund universe: First half 2012*, August 2012

SFC, *Report of the survey on hedge fund activities of SFC-licensed managers/advisers*, March 2013

Shawky, H and Wang, Y, 'Can liquidity risk explain the size-performance relationship for hedge funds?', March 2011