

Survey statistics

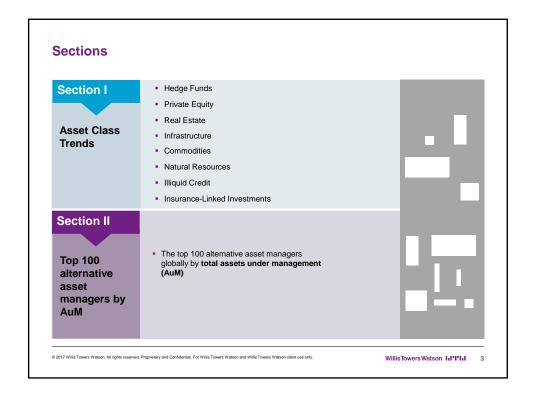
 562 entries are included in the survey. The majority of the data (532 entries) comes directly from investment managers with the remainder coming from publicly available sources. This includes the Global Billion Dollar Club list, published by HedgeFund Intelligence.

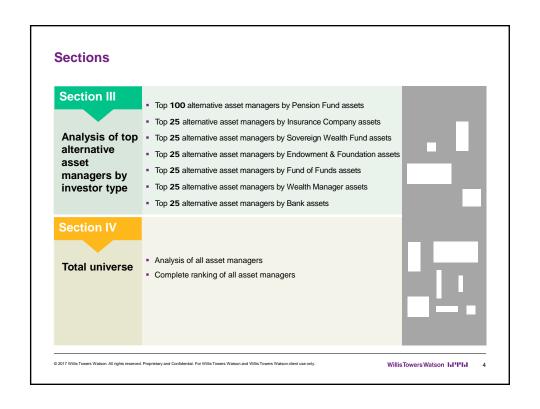
Manager Type Investor	FoHF*	Direct Hedge Funds*	Private Equity FoF*	Direct Private Equity Funds*	Real Estate Strategies	Direct Commodities Funds	Direct Infrastructure Funds	Natural Resources	Illiquid Credit	Insurance Linked Investments	Total	
Type						USD billion	,					
Top 100 total assets	227.7	674.6	492.1	695.0	1,427.7	21.5	161.2		359.9	-	4,059.7	110%
Top 100 Pension Fund assets	79.0	187.5	293.1	113.3	665.7	-	125.7	15.4	122.8	9.4	1,611.9	1 9%
Top 25 Insurance Company assets	6.7		28.1		237.2		30.7	-	163.6	-	466.3	132%
Top 25 Sovereign Wealth Fund assets	28.7	39.1	6.1	26.8	56.2		15.9	-	7.4		180.1	1 7%
Top 25 Endowment & Foundation assets	12.8	32.0	14.0	15.0	8.4				4.3		86.5	1 3%
Top 25 Fund of Funds assets	٠	40.6		42.8	5.9	-	3.1		2.2		94.6	1 8%
Top 25 Wealth Manager assets	24.4	106.4	16.8	16.1	245.1	-	28.8	-	12.2		449.8	↓ 5%
Top 25 Bank assets	22.2	8.2	9.2	5.8	36.9	-	7.3		10.7		97.9	1 6%

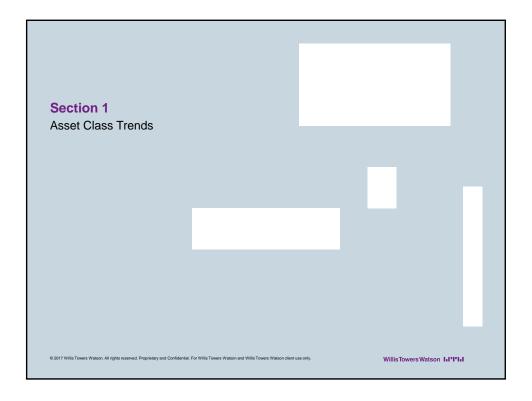
* Figures for some of these managers were obtained from publicly available sources and using data derived from the Global Billion Dollar Club, published by HedgeFund Intelligence

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WillisTowers Watson III'III 2







Asset Class Trends

Hedge Funds - Key Trends

The evolving HF landscape

Recent returns have been disappointing leading to a greater focus by investors on differentiated higher return mandates and value for money. Facilitating this effort is the recognition that "hedge funds" are not an asset class. Designing a mandate that concentrates on capturing a manager's competitive advantage is becoming a popular way for investors to try and move up the return/risk spectrum. There are also diversifying return drivers that are best sourced outside of the traditional hedge fund structure and for fees that are much lower – commonly referred to as alternative beta strategies and include strategies such as reinsurance, trend, carry, value, and merger arbitrage.

However, given the rapid growth in this emerging space, there is some risk of crowding, and investors who don't fully understand the risks of investing here should work with an advisor or outsource. This is especially important among the quantitative and factor-based strategies, many of which carry left-tail risks and are managed using an antiquated or less differentiated approach.

Further, while they are called alternative "beta" strategies, there usually is some element of manager skill necessary despite the mechanical approach to implementation – for instance in screening, sourcing, modelling, risk management and execution. In terms of alpha seeking managers - that bar is high but there are definitely good opportunities for skillful managers to prove they can add both diversity and incremental returns.

Future outlook

While there have been performance headwinds for some hedge fund strategies, the need for diversity away from traditional equities and credit markets continues to be important. Hedge funds and alternative beta strategies are uniquely equipped to deliver returns while helping investors mitigate downside risks.

While we anticipate that some capital will be withdrawn from the industry, especially the hedge fund of funds industry given the high fees traditionally charged by these organizations, overall we continue to see value to be had if done correctly and when the fees and expenses represent a fair split of the value added by the hedge fund manager. Industry wide, we anticipate continued growth in alternative beta strategies and assets, but would also expect more traditional hedge fund managers willing to offer better customized solutions at more reasonable fees to attract and retain more long-term institutional capital.

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Private Equity - Key Trends

The evolving private equity landscape

Last year we noted that fundraising had been buoyant because of strong distributions and with investors looking for alpha after other asset classes struggled to deliver. This story remains the same with investors flocking to private equity and the largest managers being the greatest beneficiaries. Similar to previous years, with inexpensive debt packages that have little in the way of covenants and increasing competition from trade buyers, pricing increased again and is on par with levels not seen since right before the last financial crisis. It is very much a sellers' market though we note there was a drop in the number of deals done last year suggesting we are seeing some price discipline by participants and some weariness of transacting brought on by political events such as Brexit.

One recent development that has gained popularity is subscription line financing. With cheap and abundantly available credit, private equity managers are extending the timeframe in which they use subscription line financing to purchase assets. While these have the benefit of delivering higher IRRs on investments, interest expense can add up over time and there is high systematic risk if the fund and markets fall at once and investors cannot repay the subscription line if called. The SEC is looking closer at these lines from a

The secondary market stabilized last year and continues to be a sellers' one as seen with increasing pricing and buyers of secondary interests raising funds easily

Future outlook

In the short-term, we expect returns in the upper end of the market to decrease as pricing is incredibly rich and there are too many deals that have been priced and levered to perfection to withstand a downturn. We also would expect managers to find ways of adding value after purchase through "buy-and-build" strategies and focusing on operational improvements to justify lofty purchase price multiples. We would not be surprised to see more managers look to offer longer terms funds as a way to navigate the current market and as we noted last year we are seeing asset owners doing deals themselves and dis-intermediating private equity managers and we expect that trend to continue. In the long term, the secondary market will mature thus making the as transactional and less relationship based, and the largest private equity managers will finish their transformation into full fledge asset management firms.

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Asset Class Trends

Real Estate - Key Trends

The evolving real estate landscape

Real estate markets have cooled in many markets around the world. In the US rising rate expectations and an increasingly narrow property yield gap versus government bonds have subdued returns relative to previous years. Property fundamentals in Canada have been property yield gap versus government conds have subouch elurins relative to previous years. Property Indiamentais in Carlada have been relatively weak especially in the more commodity driven regions. In Europe, the UK's EU referendum and various elections in European countries have increased macro and political concerns. However, in Europe, despite some rising inflation expectations, bond yields have remained low which has provided support for real estate with a stable lease profile. In Australia commercial real estate has been a reasonably strong performer on the back of declining bond yields and robust property fundamentals.

Listed property companies in aggregate broadly trade at long run average levels relative to book value. However, there are some notable exceptions such as the UK, where the listed market appears to be more pessimistic relative to the unlisted market around potential Brexit-impacts and continental Europe where stocks trade at premiums. One particular dynamic worth noting is the large underperformance from US retail stocks this year driven by a weak occupier market from retailers, in particular department stores, in light of continued online retailing challenges and the consequential scaling back of stores.

Long lease property strategies in Europe have continued to see interest from de-risking pension funds given the expected return differential relative to bonds and the higher inflation expectations. In many regions around the world we are seeing growing interest in alternative property sectors such as healthcare, storage, student assets or the Private Rented Sector (PRS) in the UK. Strategically, the addition of these alternative sectors generally helps diversify against the cyclicality of offices which can often be a disproportional contributor to risk in portfolios.

Future outlook

We continue to believe that, despite real estate in many regions looking attractive relative to bonds, investors should be patient and selective when investing new real estate allocations at the current time. We believe US and UK markets are at higher points in their real estate cycles, meaning one needs to be increasingly cautious of higher risk property strategies, particularly those using high levels of debt. The continental European market appears further away from peak cycle. Despite its economic issues, with low interest rates, property looks reasonably supported as long as prolonged deflation can be avoided.

We believe future demand for long lease property strategy is likely to persist as long as bond yields remain low. The ability to source attractive assets however is becoming more difficult and so subscription queues for such strategies are likely to remain long.

We expect greater defensiveness from certain property sectors more aligned with thematic tailwinds such as student assets (growing emerging market wealth), property healthcare (demographics), logistics (e-commerce) and residential/storage (urbanization).

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Asset Class Trends

Infrastructure - Key Trends

The evolving infrastructure landscape

Deployment by institutional investors into the infrastructure asset class has increased again, in fact 2016 saw a number of records set in the unlisted infrastructure fundraising industry. There is also a record number of funds in the market now seeking capital. However, we see some decline in the number of funds managing to reach a final close annually. There is an ongoing trend of capital concentration, with large funds raising larger funds than before. A significant number of funds who were among the early closed-ended fund offerings are reaching the end of their lives and are finding that the future looks uncertain. This is driving activity around extensions, stapled offerings, etc.

The number of deals completed in 2016 has remained similar to recent years, while aggregate capital invested in 2016 increased. Strong fundraising environment together with increased level of dry powder and increased availability of debt as well as increased demand from investors have led to increasing competition which has driven up the price of infrastructure assets globally. It is becoming more challenging to find and source assets at attractive valuations now than it was 12 months ago. Plus the average size of infrastructure deals increased as well which adds to the challenge. This situation also impacts the terms of the funds being raised, in particular large funds, and we see the terms becoming less aligned with investors in the funds. Some large asset owners and institutional investors are looking to invest directly in infrastructure by forming club deals and JVs which allows them to structure it in a more cost-efficient way and have more control over the strategy. In some countries, like Australia, we see the government being more proactive in attempting to encourage institutional investors to invest in infrastructure.

Future outlook

The increased institutional investor interest in infrastructure investments has both cyclical and structural aspects. Cyclically investors are facing an uncertain economic outlook and are seeking opportunities to diversify risks and return drivers. Structurally almost all institutions are either not yet invested in infrastructure or are below their target allocation. Despite the headlines which suggest that investor demand is outpacing supply and therefore driving up asset prices, the reality is that the requirement for private investment in infrastructure is immense in all geographic regions.

We will continue to see managers develop in order to capture these opportunities through more engagement with stakeholders (governments, regulators, communities), possibly more specialisation and definitely a higher appreciation of the asset management skills required to manage the risks inherent in an infrastructure portfolio. We will also continue to see the range of implementation options for investors increase beyond the traditional private equity-like pooled fund model and the in-house direct investment model.

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Asset Class Trends

Commodities - Key Trends

The evolving commodities landscape

Although investors do still seek commodity exposure within their diversifying portfolios, the asset class has been de-emphasised relative to its heightened popularity in the early 2000s when strong performance attracted investors into the space. While we do not encourage investors to chase returns, it remains that commodities face an uncertain outlook over the coming years and this is being reflected in investor preference.

Future outlook

Our medium-term view on commodities remains neutral. Our outlook is primarily driven by energy, due to its high weighting in the major commodities indices, DJ UBS and S&P GSC. Commodities are expected to broadly benefit from rising prices in 2017 after many cycle-lows in 2016.

A few trends may influence the shape of oil market globally: OPEC member compliance, the strength and pace of the US shale patch's rebound and the persistence of global demand on growth. Base metals are expected to gain from a more active global economy and rising manufacturing activities. Copper saw a positive outlook adjustment as stronger-than-anticipated Chinese demand outpaces weaker supply growth. Zinc remains the metal with strong supporting fundamentals. The outlook for gold is slightly weaker on the back of a stronger macroeconomic outlook, rising inflation and interest rate expectations and muted market response to political uncertainty.

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Natural Resources - Key Trends

The evolving natural resources landscape

Natural resources are experiencing increased investor interest for their diversification benefits and strong links to various thematic trends (e.g. growing global population, changing demographic, changing dietary requirements, etc.) in a world where the economic outlook is mostly uninspiring. New managers and strategies continue to appear on a regular basis. In agriculture, substantial allocations have been made by a range of institutional investors. Managers are beginning to look beyond land-only strategies to also focus on how supply chain initiatives can help boost returns and dampen volatility.

We have also seen the appearance of a few water strategies which is a popular theme with investors. However, the global opportunity set is still small compared to other areas. The timberland market seems to have flattened somewhat which may not be surprising given that it is the most mature area of real assets and we still expect to see some correction in valuations in US timberland. And finally, there are a large number of managers seeking to exploit the opportunity in the mining sector caused by the lack of access to traditional sources of finance, banks and the public equity markets.

Future outlook

Investments by institutional investors in natural resources are still at a very nascent stage despite the ever increasing amount of interest. In terms of investors appetite, energy is still a preferred strategy followed by timberland, metals & mining, agriculture and water. As the asset class matures, we expect it to follow the trajectories of the real estate and infrastructure sectors. We are seeing a wider range of strategies, vehicles and alignment structures being introduced into the market. This is a natural part of the development of the asset class and should enable more institutions to find implementation routes which suit them.

In the key agricultural markets of the US and Brazil, dampening prices and a more attractive entry level from a currency perspective could drive an uptick in interest in those two regions respectively. There are also some discussions about potential change in the Brazilian law which is currently quite restrictive in terms of the foreign ownership of land. If the new law is approved then it may trigger additional interest from foreign investors. However, in the short term the pressure on US farmland prices seems to be causing a certain amount of nervousness in the market. Timberland managers will continue to develop their capabilities outside of the US which will enable investors to access an opportunity set which is at a more interesting stage of development than the one in the US. We are likely to continue to see new strategies emerge which are related to water and other environmental, or sustainability and technology themes.

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Asset Class Trends

Illiquid Credit & Insurance-Linked Investments - Key Trends

The evolving illiquid credit landscape

The illiquid credit category is inclusive of all closed-end funds with a predominant focus on credit, with the most common being private debt (e.g. direct lending, commercial real estate debt, mezzanine, etc.) and distressed debt.

The key trend has been the continued growth of the institutional lending landscape, with numerous new funds being raised globally, and increasing interest in private debt strategies by investors globally. We expect this trend to continue. Investor appetite also continues apace as investors consider taking on both greater illiquidity and risk in their credit portfolios to compensate for lower yields in public markets. Additionally, investors appear ever more comfortable allocating to specialist strategies, recognizing that the private debt space is becoming a much more varied marketplace.

There are some concerns that as competition has increased in some markets that yields are not always offering sufficient compensation for the illiquidity and risk being assumed, so we would urge caution when reviewing private debt strategies today

Future outlook

We expect that demand for private debt strategies will remain high, particularly for those asset classes offering floating rate yields. Some asset classes will, however, become less attractive as ever more institutional capital flows into the asset class. We would also expect that more specialist strategies will attract greater interest.

The evolving insurance-linked investments landscape

Insurance-Linked Investments (ILI) are seen as great diversifiers for institutional investors' portfolios. The greater acceptance of ILI by pension funds in particular has led to increasing inflows into the asset class over recent years.

Future outlook

The premiums for catastrophe reinsurance have been coming down in recent years. This has been a result of not just the inflow of institutional capital, but moreover as a result of the limited natural catastrophe losses in recent years which has led to reinsurance companies having stronger balance sheets and having less need to transfer certain risks as a result.

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Section 2 Willis Towers Watson / Financial Times Top 100 Alternative Asset Managers by Total AuM
How to read this section This section shows the top 100 managers ranked by total AuM. Each manager is counted separately in each individual asset class, so they may appear multiple times if their AuM are large in more than one asset class. These top 100 are analysed in relation to the regions they invest in and in relation to assets managed by investor type.
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Top 100 Alternative Asset Managers

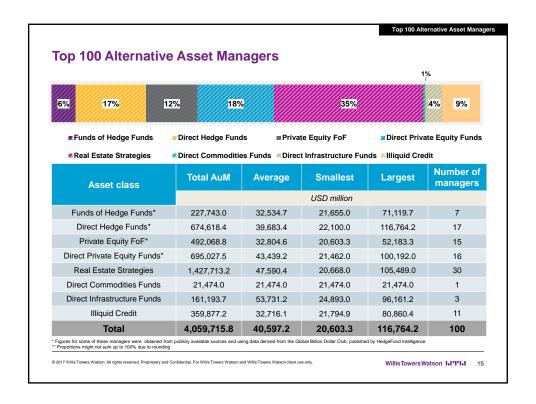
Executive summary

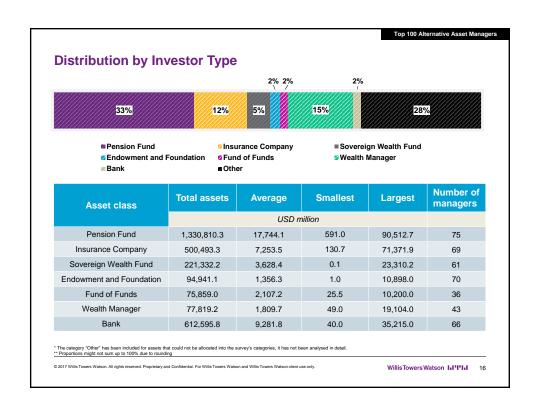
Top 100 Alternative Asset Managers

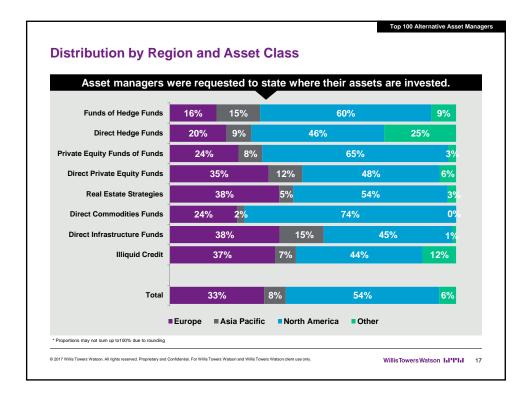
- The top 100 alternative asset managers, ranked by total AuM, managed USD 4,059.7 bn on behalf of their investors in 2016 compared to USD 3,676.3 bn in 2015, a 10% increase.
- The largest block of alternative assets is managed in Real Estate Strategies followed by Direct Private Equity Funds, Direct Hedge Funds, Private Equity Funds of Funds, Illiquid Credit, Funds of Hedge Funds, Direct Infrastructure Funds and Direct Commodities Funds. There were no Natural Resources or Insurance-Linked Investments Fund managers among the top 100 ranking by total AuM.
- Pension Funds are the largest investors in alternative assets (33%) among the top 100 alternative asset managers, followed by Wealth Managers, Insurance Companies, Sovereign Wealth Funds, Endowments and Foundations, Banks and Fund of Funds.
- In terms of where the assets are invested, North America (51%) accounts for the largest amount of alternative assets, followed by Europe (32%) and Asia Pacific (7%).

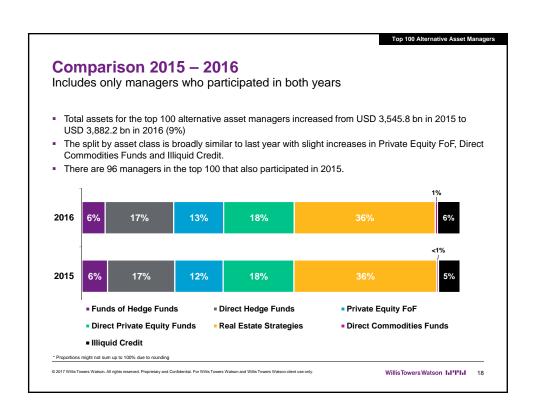
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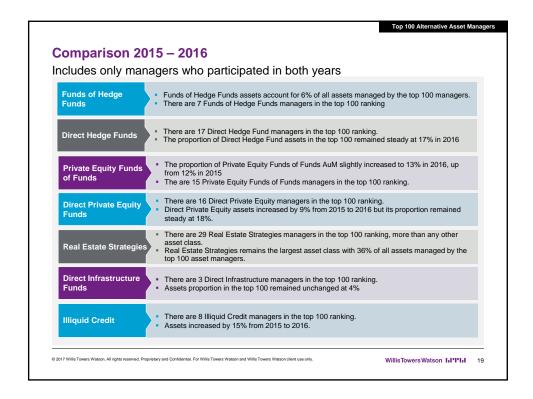
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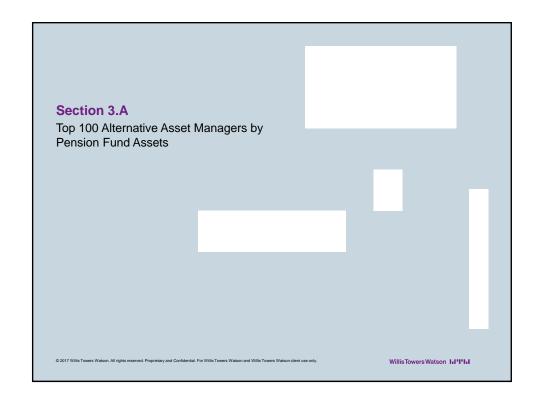


ata derived from the Globi Igures show total assets u	al Billion Dollar Club, published by HedgeFund Intelligence under management, obtained from publicly available sources			
Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
1	Bridgewater Associates	United States	116,764.20	Direct Hedge Funds
2	TH Real Estate (1)	United States	105,488.98	Real Estate Strategies
3	Blackstone	United States	101,963.00	Real Estate Strategies
4	Blackstone	United States	100,192.00	Direct Private Equity Funds
5	Macquarie Group	Australia	96,161.72	Direct Infrastructure Funds
6	PGIM (2)	United States	94,583.99	Real Estate Strategies
7	Prudential Private Placement Investors	United States	80,860.40	Illiquid Credit
8	CBRE Global Investors	United States	78,200.00	Real Estate Strategies
9	UBS Asset Management	Switzerland	78,031.00	Real Estate Strategies
10	TPG Capital**	United States	72,000.00	Direct Private Equity Funds
11	Blackstone	United States	71,119.70	Funds of Hedge Funds
12	AQR Capital Management	United States	69,175.00	Direct Hedge Funds
13	J.P. Morgan Asset Management	United States	61,346.40	Real Estate Strategies
14	Principal Global Investors	United States	60,640.00	Real Estate Strategies
15	Kohlberg Kravis Roberts & Co.	United States	58,398.80	Direct Private Equity Funds
16	AXA Investment Managers	France	56,506.60	Real Estate Strategies
17	Man Group	United Kingdom	54,668.00	Direct Hedge Funds
18	Brookfield Asset Management	Canada	54,642.00	Real Estate Strategies
19	Hines	United States	54,004.00	Real Estate Strategies
20	LaSalle Investment Management	United States	53,160.00	Real Estate Strategies
21	Goldman Sachs Asset Management	United States	52,183.34	Private Equity FoF
22	AEW (3)	United States	50,996.00	Real Estate Strategies
23	The Carlyle Group**	United States	50,864.00	Direct Private Equity Funds
24	Providence Equity Partners**	United States	50,000.00	Direct Private Equity Funds
25	Advent International	United Kingdom	48,932.00	Direct Private Equity Funds

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derived from the Glo ures show total asset	abal Billion Dollar Club, published by HedgeFund Intelligence s under management, obtained from publicly available sources			
Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
26	HarbourVest Partners	United States	47,333.00	Private Equity FoF
27	Aviva Investors	United Kingdom	46,249.00	Real Estate Strategies
28	Deutsche Asset Management	Germany	46,193.00	Real Estate Strategies
29	J. P. Morgan Asset Management*	United States	45,000.00	Direct Hedge Funds
30	Barings	United Kingdom	44,824.94	Real Estate Strategies
31	Pathway Capital Management	United States	44,636.00	Private Equity FoF
32	Warburg Pincus**	United States	44,000.00	Direct Private Equity Funds
33	Apollo Global Management	United States	43,628.00	Direct Private Equity Funds
34	Credit Suisse Asset Management	Switzerland	43,199.82	Real Estate Strategies
35	AlpInvest Partners	Netherlands	41,434.00	Private Equity FoF
36	Hamilton Lane Advisors	United States	40,366.80	Private Equity FoF
37	Brookfield Asset Management	Canada	40,139.00	Direct Infrastructure Funds
38	Cohen & Steers Capital Management	United States	38,920.00	Real Estate Strategies
39	Renaissance Technologies	United States	38,795.20	Direct Hedge Funds
40	Union Investment	Germany	36,494.35	Real Estate Strategies
41	Ardian	France	35,715.00	Private Equity FoF
42	Pantheon	United Kingdom	35,190.00	Private Equity FoF
43	Goldman Sachs Merchant Banking Division	United States	35,100.00	Direct Private Equity Funds
44	M&G Investments	United Kingdom	34,838.20	Real Estate Strategies
45	Millennium Management	United States	34,090.00	Direct Hedge Funds
46	BlackRock	United States	33,804.00	Direct Hedge Funds
47	Och-Ziff Capital Management Group	United States	33,700.00	Direct Hedge Funds
48	UBS Asset Management	Switzerland	33,630.00	Funds of Hedge Funds
49	Two Sigma Advisers	United States	33,300.00	Direct Hedge Funds
50	Permira	United Kingdom	32,942.00	Direct Private Equity Funds

-	O ranking ranked by al Billion Dollar Club, published by HedgeFund Intelligence under management, obtained from publicly available sources	Total / talli		
Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
51	Vista Equity Partners**	United States	32,374.42	Direct Private Equity Funds
52	Bain Capital Private Equity	United States	32,200.00	Direct Private Equity Funds
53	Elliot Management*	United States	31,800.00	Direct Hedge Funds
54	Alcentra	United Kingdom	31,374.50	Illiquid Credit
55	Baupost Group*	United States	30,300.00	Direct Hedge Funds
56	Bentall Kennedy	Canada	30,269.00	Real Estate Strategies
57	M&G Investments	United Kingdom	30,019.48	Illiquid Credit
58	Nuveen (1)	United States	29,936.37	Illiquid Credit
59	Prologis	United States	29,753.20	Real Estate Strategies
60	Neuberger Berman	United States	29,194.10	Private Equity FoF
61	AXA Investment Managers	France	28,824.38	Illiquid Credit
62	Heitman	United States	28,811.00	Real Estate Strategies
63	Goldman Sachs Merchant Banking Division	United States	28,800.00	Illiquid Credit
64	Barings	United Kingdom	28,735.00	Illiquid Credit
65	Clarion Partners	United States	28,565.00	Real Estate Strategies
66	Invesco	United States	28,090.00	Real Estate Strategies
67	Goldman Sachs Asset Management	United States	27,952.00	Funds of Hedge Funds
68	D. E. Shaw Group	United States	27,852.00	Direct Hedge Funds
69	Oaktree Capital Management	United States	27,788.29	Illiquid Credit
70	Adage Capital Management*	United States	27,700.00	Direct Hedge Funds
71	Lexington Partners**	United States	27,467.91	Private Equity FoF
72	LGT Capital Partners	Switzerland	27,090.53	Private Equity FoF
73	Davidson Kempner Capital Management*	United States	26,500.00	Direct Hedge Funds
74	Morgan Stanley Investment Management	United States	26,424.00	Real Estate Strategies
75	Citadel (2)	United States	26,200.00	Direct Hedge Funds
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res show total ass Position	es under management, obtained from publicly available sources Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
76	HPS Investment Partners	United States	26,070.88	Illiquid Credit
77	GCM Grosvenor	United States	25,886.30	Funds of Hedge Funds
78	GSO Capital Partners	United States	25,673.00	Illiquid Credit
79	Hellman & Friedman**	United States	25,430.30	Direct Private Equity Funds
80	BNP Paribas REIM	France	25,267.00	Real Estate Strategies
81	EnTrustPermal*	United States	25,200.00	Funds of Hedge Funds
82	IFM Investors	Australia	24,893.00	Direct Infrastructure Funds
83	J.P. Morgan Asset Management – Private Equity	United States	24,463.00	Private Equity FoF
84	Aberdeen Asset Management	United Kingdom	24,154.19	Real Estate Strategies
85	Silver Lake**	United States	24,000.00	Direct Private Equity Funds
86	Legal & General	United Kingdom	23,750.00	Real Estate Strategies
87	Leonard Green**	United States	23,503.99	Direct Private Equity Funds
88	Mashall Wace*	United Kingdom	22,870.00	Direct Hedge Funds
89	GCM Grosvenor	United States	22,744.60	Private Equity FoF
90	Adams Street Partners	United States	22,618.25	Private Equity FoF
91	Morgan Stanley Investment Management	United States	22,300.00	Funds of Hedge Funds
92	Farallon Capital Management*	United States	22,100.00	Direct Hedge Funds
93	Oak Hill Advisors	United States	21,794.90	Illiquid Credit
94	Starwood Capital Group	United States	21,680.51	Real Estate Strategies
95	BlackRock	United States	21,655.00	Funds of Hedge Funds
96	BlackRock	United States	21,474.00	Direct Commodities Funds
97	Riverstone Holdings	United States	21,462.00	Direct Private Equity Funds
98	Coller Capital	United Kingdom	21,029.00	Private Equity FoF
99	Standard Life Investments	United Kingdom	20,668.00	Real Estate Strategies
100	Partners Group	Switzerland	20,603.30	Private Equity FoF
		Total	4,059,715.84	



Top 100 Alternative Asset Managers by Pension Fund Assets

Executive summary

Top 100 Alternative Asset Managers

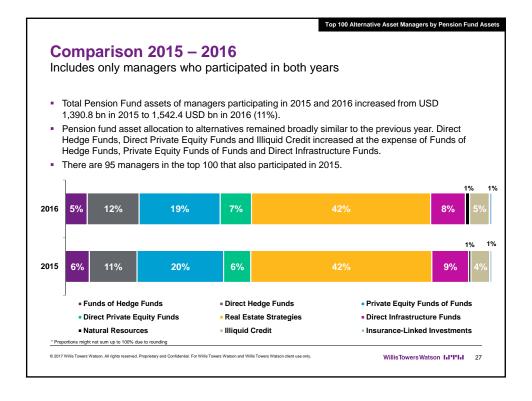
- Pension fund assets managed by the top 100 alternative asset managers in the sector amount to USD 1,611.9 bn in 2016. This represents 51% of their total AuM (USD 3,164.0 bn).
- Real Estate Strategies remain the most popular alternative asset for Pension Funds (41% of assets)
 with six managers in the top ten. They are followed in popularity by Private Equity Funds of Funds,
 Direct Hedge Funds, Direct Infrastructure Funds, Illiquid Credit, Direct Private Equity Funds and
 Funds of Hedge Funds.
- Natural Resources and Insurance-Linked Investments have smaller allocations relative to the other asset classes, while there are no Direct Commodities among the top 100 ranking.

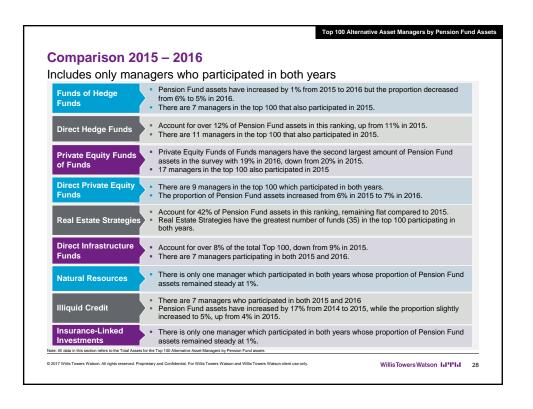
Top 100	Average	Smallest	Largest
		USD milli	on
Pension fund assets	16,118.9	6,400.0	90,512.7
Total assets	31,640.4	6,941.0	116,764.2
Overall Ranking	Average	Total AuM	No. of Managers
Pension fund assets	4,733.9	2,210,734.5	471

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Top 100 Alternative Asset Managers by Pension Fund Assets **Distribution by Asset Class** 1% 18% 7% 41% 8% 12% ■Funds of Hedge Funds Direct Hedge Funds ■ Private Equity Funds of Funds ■ Direct Private Equity Funds Real Estate Strategies Direct Infrastructure Funds Natural Resources ■Illiquid Credit Insurance-Linked Investments **Number of Total AuM Average Smallest** Largest managers Asset class USD million Funds of Hedge Funds 79,044.8 11,292.1 6,819.2 29,274.0 Direct Hedge Funds 187,536.7 17,048.8 6,847.0 70,037.0 Private Equity Funds of Funds 293,106.3 17.241.5 6,882.6 38,233.7 Direct Private Equity Funds 113,265.2 12,585.0 7,267.7 23,821.4 Real Estate Strategies 665,654.9 17,990.7 6,453.0 90,512.7 37 Direct Infrastructure Funds 125,706.8 17,958.1 6,400.0 59,216.0 Natural Resources 15,409.7 15,409.7 15,409.7 15,409.7 122,761.0 Illiquid Credit 12,276.1 6,693.0 29,649.4 10 Insurance-Linked Investments 9,408.0 9,408.0 9,408.0 9,408.0 1,611,893.3 16.118.9 6,400.0 90,512.7 100 Total * Proportions might not sum up to 100% due to rounding Willis Towers Watson In 1911 26





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Position	Name of parent organisation	Main country of domicile	Pension AUM (USD million)	Total AuM (USD million)	Asset Class
1	TH Real Estate (1)	United States	90,512.66	105,488.98	Real Estate Strategies
2	Bridgewater Associates	United States	70,037.00	116,764.20	Direct Hedge Funds
3	Macquarie Group	Australia	59,216.05	96,161.72	Direct Infrastructure Funds
4	CBRE Global Investors	United States	45,100.00	78,200.00	Real Estate Strategies
5	J.P. Morgan Asset Management	United States	40,005.40	61,346.40	Real Estate Strategies
6	UBS Asset Management	Switzerland	38,309.00	78,031.00	Real Estate Strategies
7	AlpInvest Partners	Netherlands	38,233.70	41,434.00	Private Equity FoF
8	PGIM (2)	United States	35,965.61	94,583.99	Real Estate Strategies
9	Principal Global Investors	United States	32,600.00	60,640.00	Real Estate Strategies
10	HarbourVest Partners	United States	29,719.00	47,333.00	Private Equity FoF
11	Nuveen (3)	United States	29,649.36	29,936.37	Illiquid Credit
12	Blackstone	United States	29,273.98	71,119.70	Funds of Hedge Funds
13	Pathway Capital Management	United States	26,186.00	44,636.00	Private Equity FoF
14	Hamilton Lane Advisors	United States	25,732.90	40,366.80	Private Equity FoF
15	Pantheon	United Kingdom	24,371.00	35,190.00	Private Equity FoF
16	LaSalle Investment Management	United States	24,310.00	53,160.00	Real Estate Strategies
17	AEW (4)	United States	23,955.00	50,996.00	Real Estate Strategies
18	Kohlberg Kravis Roberts & Co.	United States	23,821.36	58,398.80	Direct Private Equity Funds
19	IFM Investors	Australia	23,287.00	24,893.00	Direct Infrastructure Funds
20	AQR Capital Management	United States	22,584.00	69,175.00	Direct Hedge Funds
21	Advent International	United Kingdom	21,226.00	48,932.00	Direct Private Equity Funds
22	Aviva Investors	United Kingdom	19,718.00	46,249.00	Real Estate Strategies
23	GCM Grosvenor	United States	19,694.30	22,744.60	Private Equity FoF
24	Clarion Partners	United States	19,621.00	28,565.00	Real Estate Strategies
25 (Real Estate is an affiliate of	Invesco In Mouse: (the investment management arm of TMA) or house, the investment management arm of TMA) or house, and TMA, and Econis and POM Real Econis Pronce divisions against arm of TMA, and Econis Pomore divisions or affiliated variationary management from of Malais, Edited Asset Management, flux contri	United States	19,557.00	28,090.00	Real Estate Strategies

op 100 Alternative Asset Managers ranked by Total Pension Fund							
Position	Name of parent organisation	Main country of domicile	Pension AUM (USD million)	Total AuM (USD million)	Asset Class		
26	Man Group	United Kingdom	19,439.00	54,668.00	Direct Hedge Funds		
27	Credit Suisse Asset Management	Switzerland	19,123.82	43,199.82	Real Estate Strategies		
28	Deutsche Asset Management	Germany	18,281.00	46,193.00	Real Estate Strategies		
29	Heitman	United States	18,009.00	28,811.00	Real Estate Strategies		
30	M&G Investments	United Kingdom	16,959.23	30,019.48	Illiquid Credit		
31	LGT Capital Partners	Switzerland	16,171.68	27,090.53	Private Equity FoF		
32	Brookfield Asset Management	Canada	15,743.00	54,642.00	Real Estate Strategies		
33	Nuveen (1)	United States	15,409.66	15,514.12	Natural Resources		
34	Permira	United Kingdom	15,222.00	32,942.00	Direct Private Equity Funds		
35	J.P. Morgan Asset Management – Private Equity	United States	14,677.00	24,463.00	Private Equity FoF		
36	Goldman Sachs Asset Management	United States	14,304.96	52,183.34	Private Equity FoF		
37	BlackRock	United States	14,159.00	33,804.00	Direct Hedge Funds		
38	Oak Hill Advisors	United States	14,057.60	21,794.90	Illiquid Credit		
39	AMP Capital	Australia	13,809.00	16,068.00	Real Estate Strategies		
40	Ardian	France	13,374.00	35,715.00	Private Equity FoF		
41	BlackRock	United States	13,183.00	20,492.00	Real Estate Strategies		
42	Oaktree Capital Management	United States	13,078.76	27,788.29	Illiquid Credit		
43	Adams Street Partners	United States	12,947.87	22,618.25	Private Equity FoF		
44	GCM Grosvenor	United States	12,696.10	25,886.30	Funds of Hedge Funds		
45	Ares Management	United States	12,508.74	19,897.87	Direct Private Equity Funds		
46	Aberdeen Asset Management	United Kingdom	12,272.19	24,154.19	Real Estate Strategies		
47	Legal & General	United Kingdom	11,914.00	23,750.00	Real Estate Strategies		
48	Brookfield Asset Management	Canada	11,907.00	40,139.00	Direct Infrastructure Funds		
49	Morgan Stanley Investment Management	United States	11,834.00	26,424.00	Real Estate Strategies		
50	Portfolio Advisors	United States	11,641.82	14,833.58	Private Equity FoF		

Top 100 Alternative Asset Managers ranked by Total Pension Fund **Assets**

Position	Name of parent organisation	Main country of domicile	Pension AUM (USD million)	Total AuM (USD million)	Asset Class
51	Neuberger Berman	United States	11,415.40	29,194.10	Private Equity FoF
52	Bentall Kennedy	Canada	11,324.00	30,269.00	Real Estate Strategies
53	Standard Life Investments	United Kingdom	11,229.70	20,668.00	Real Estate Strategies
54	PIMCO	United States	11,128.00	16,943.00	Direct Hedge Funds
55	Partners Group	Switzerland	10,132.10	20,603.30	Private Equity FoF
56	Two Sigma Advisers	United States	9,820.00	33,300.00	Direct Hedge Funds
57	First State Investments	Australia	9,750.26	12,780.52	Direct Infrastructure Funds
58	Brigade Capital	United States	9,598.00	18,380.00	Direct Hedge Funds
59	ISPT	Australia	9,582.00	9,582.00	Real Estate Strategies
60	Och-Ziff Capital Management Group	United States	9,575.00	33,700.00	Direct Hedge Funds
61	QIC	Australia	9,471.64	10,495.09	Real Estate Strategies
62	Schroders Investment Management	United Kingdom	9,434.00	14,942.00	Real Estate Strategies
63	Nephila Capital	Bermuda	9,408.00	10,157.00	Insurance-Linked Investments
64	Alcentra	United Kingdom	9,288.50	31,374.50	Illiquid Credit
65	Hermes Investment Management	United Kingdom	9,085.00	9,359.00	Real Estate Strategies
66	SL Capital Partners	United Kingdom	9,026.00	11,360.00	Private Equity FoF
67	Beach Point Capital Management	United States	9,016.00	12,146.00	Illiquid Credit
68	Bouwinvest REIM	Netherlands	8,915.00	8,926.00	Real Estate Strategies
69	Cinven	United Kingdom	8,896.00	16,386.99	Direct Private Equity Funds
70	Aberdeen Asset Management	United Kingdom	8,739.47	10,707.07	Funds of Hedge Funds
71	Bridgepoint	United Kingdom	8,657.00	12,993.00	Direct Private Equity Funds
72	PATRIZIA Immobilien	Germany	8,600.00	19,650.00	Real Estate Strategies
73	Coller Capital	United Kingdom	8,596.00	21,029.00	Private Equity FoF
74	Prudential Private Placement Investors	United States	8,533.50	80,860.40	Illiquid Credit
75	HPS Investment Partners	United States	8,522.01	26,070.88	Illiquid Credit

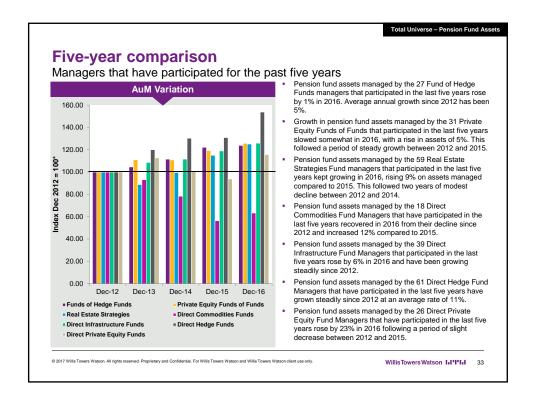
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Top 100 Alternative Asset Managers by Pension Fund Assets

Top 100 Alternative Asset Managers ranked by Total Pension Fund **Assets**

Position	Name of parent organisation	Main country of domicile	Pension AUM (USD million)	Total AuM (USD million)	Asset Class
76	Alinda Capital Partners	United States	8,251.00	9,383.00	Direct Infrastructure Funds
77	Neuberger Berman	United States	7,984.40	17,600.00	Direct Private Equity Funds
78	Hines	United States	7,973.00	54,004.00	Real Estate Strategies
79	Starwood Capital Group	United States	7,863.03	21,680.51	Real Estate Strategies
80	Riverstone Holdings	United States	7,682.00	21,462.00	Direct Private Equity Funds
81	BlackRock	United States	7,498.00	21,655.00	Funds of Hedge Funds
82	Nuveen (1)	United States	7,267.74	7,341.15	Direct Private Equity Funds
83	Greystone Managed Investments	Canada	7,254.94	9,832.90	Real Estate Strategies
84	Credit Suisse Asset Management	Switzerland	7,212.72	18,355.37	Direct Hedge Funds
85	Man Group	United Kingdom	7,190.00	12,841.00	Funds of Hedge Funds
86	D. E. Shaw Group	United States	7,137.00	27,852.00	Direct Hedge Funds
87	AXA Investment Managers	France	7,135.90	56,506.60	Real Estate Strategies
88	Lendlease	Australia	7,100.70	13,017.00	Real Estate Strategies
89	Intermediate Capital Group	United Kingdom	6,963.00	14,491.00	Illiquid Credit
90	J.P. Morgan Asset Management	United States	6,895.50	11,335.00	Direct Infrastructure Funds
91	Abbott Capital Management	United States	6,882.60	7,761.50	Private Equity FoF
92	Partners Group	Switzerland	6,871.20	11,106.80	Real Estate Strategies
93	Brevan Howard Capital Management	United Kingdom	6,847.00	15,561.00	Direct Hedge Funds
94	M&G Investments	United Kingdom	6,830.06	34,838.20	Real Estate Strategies
95	Pacific Alternative Asset Management Company	United States	6,828.00	8,324.00	Funds of Hedge Funds
96	Mesirow Financial Holdings	United States	6,819.20	10,524.40	Funds of Hedge Funds
97	Orchard Street Investment Management	United Kingdom	6,709.00	6,941.00	Real Estate Strategies
98	Partners Group	Switzerland	6,693.00	12,037.10	Illiquid Credit
99	DTZ Investors	United Kingdom	6,453.00	10,087.00	Real Estate Strategies
100	Goldman Sachs Merchant Banking Division	United States	6,400.00	12,100.00	Direct Infrastructure Funds
		Total	1,611,893.32	3,164,041.60	

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Section 3.B Top 25 Alternative Asset Managers by Insurance Company Assets O 2017 Wills Towers Wasson. All rights reserved. Proprietary and Confidential. For Wills Towers Wasson and Wills Towers Wasson offers use only. Willis Towers Wasson. All rights reserved. Proprietary and Confidential. For Wills Towers Wasson and Wills Towers Wasson offers use only. Willis Towers Wasson. In 1914 In 1915 Towers Wasson. In 1914 In 1915 Towers Wasson and Wills Towers Wasson offers use only.

Top 25 Alternative Asset Managers by Insurance Company Assets

Executive summary

Top 25 Alternative Asset Managers

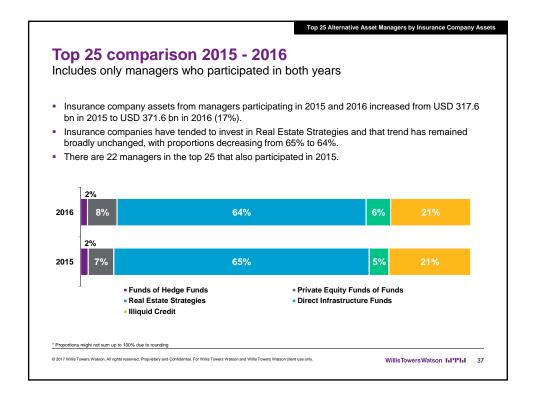
- Insurance company assets managed by the top 25 managers in the sector amounted to USD 466.3 bn in 2016.
- Real Estate Strategies represent the largest block of alternative assets for Insurance companies (nearly 51%) followed by Illiquid Credit (35%), Direct Infrastructure Funds, Private Equity Funds of Funds and Funds of Hedge Funds.
- In this dataset, there were no investments in Direct Commodities Funds, Natural Resources, Direct Hedge Funds, Direct Private Equity Funds and Insurance-Linked Investments by Insurance companies.

Top 25	Average	Smallest	Largest
		USD million	
Insurance Company assets	18,652.6	5,897.0	71,371.9
Total assets	41,894.1	9,494.1	96,161.7
Overall Ranking	Average	Total AuM	No. of Managers
Insurance Company assets	2,013.5	738,942.5	367

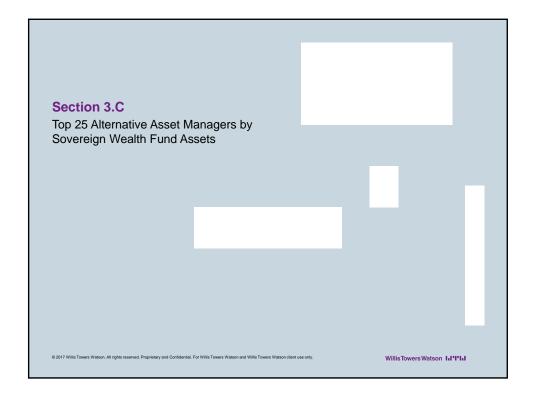
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Top 25 Alternative Asset Managers by Insurance Company Assets **Distribution by Asset Class** 1% 51% 7% 35% ■Funds of Hedge Funds Private Equity Funds of Funds ■ Real Estate Strategies ■ Illiquid Credit Direct Infrastructure Funds Insurance **Number of** Company **Average Smallest** Largest managers **Asset class** USD million Funds of Hedge Funds 6,658.5 6.658.5 6,658.5 6.658.5 Private Equity Funds of Funds 28,137.0 9,379.0 6,115.0 12,743.0 Real Estate Strategies 237,171.3 23,717.1 6,500.0 52,958.7 Direct Infrastructure Funds 5,897.0 9,034.7 4 30.743.0 7.685.7 Illiquid Credit 163,605.3 23.372.2 10,136.6 71,371.9 466,315.1 18,652.6 5,897.0 71,371.9 * Proportions might not sum up to 100% due to rounding ers Watson. All rights reserved. Proprietary and Confidential. For Willis Towers Watson and Willis Towers Watson client use only Willis Towers Watson In 1911 36



Position	Name of parent organisation	Main country of domicile	Insurance AUM (USD million)	Total AUM (USD million)	Asset Class
1	Prudential Private Placement Investors	United States	71,371.90	80,860.40	Illiquid Credit
2	PGIM (1)	United States	52,958.68	94,583.99	Real Estate Strategies
3	AXA Investment Managers	France	41,268.90	56,506.60	Real Estate Strategies
4	Barings	United Kingdom	33,816.58	44,824.94	Real Estate Strategies
5	Aviva Investors	United Kingdom	26,276.00	46,249.00	Real Estate Strategies
6	Barings	United Kingdom	22,335.00	28,735.00	Illiquid Credit
7	AXA Investment Managers	France	20,708.00	28,824.38	Illiquid Credit
8	M&G Investments	United Kingdom	19,636.10	34,838.20	Real Estate Strategies
9	Bentall Kennedy	Canada	17,626.00	30,269.00	Real Estate Strategies
10	Principal Global Investors	United States	16,122.00	60,640.00	Real Estate Strategies
11	Aviva Investors	United Kingdom	15,994.00	16,451.00	Illiquid Credit
12	Ardian	France	12,743.00	35,715.00	Private Equity FoF
13	Allianz Global Investors	Germany	12,274.00	14,606.00	Illiquid Credit
14	CBRE Global Investors	United States	11,700.00	78,200.00	Real Estate Strategies
15	AEW (2)	United States	11,267.00	50,996.00	Real Estate Strategies
16	M&G Investments	United Kingdom	10,785.79	30,019.48	Illiquid Credit
17	HPS Investment Partners	United States	10,136.61	26,070.88	Illiquid Credit
18	HarbourVest Partners	United States	9,279.00	47,333.00	Private Equity FoF
19	Macquarie Group	Australia	9,034.69	96,161.72	Direct Infrastructure Funds
20	Allianz Global Investors	Germany	8,452.00	10,271.00	Direct Infrastructure Funds
21	Barings	United Kingdom	7,359.27	9,494.09	Direct Infrastructure Funds
22	Blackstone	United States	6,658.52	71,119.70	Funds of Hedge Funds
23	Amundi	France	6,500.00	20,500.00	Real Estate Strategies
24	J.P. Morgan Asset Management – Private Equity	United States	6,115.00	24,463.00	Private Equity FoF
25	BlackRock	United States	5,897.00	9,620.00	Direct Infrastructure Funds
		Total	466,315.06	1,047,352.39	



Top 25 Alternative Asset Managers by Sovereign Wealth Fund Assets

Executive summary

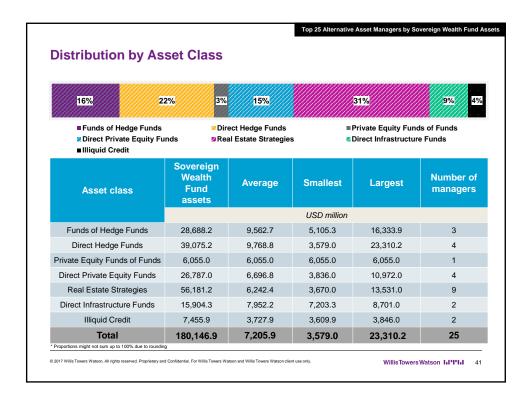
Top 25 Alternative Asset Managers

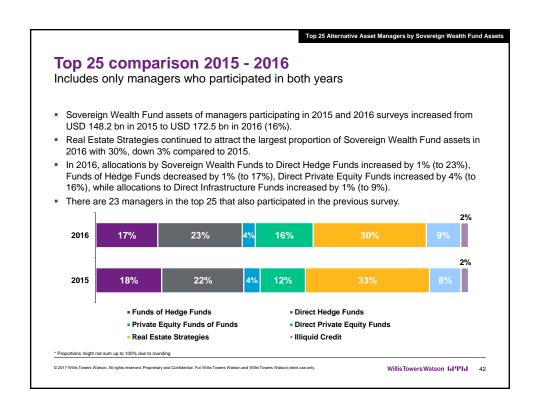
- Sovereign Wealth Fund assets managed by the top 25 alternative asset managers amounted to USD 180 1 bp in 2016
- Real Estate Strategies and Direct Hedge Funds have the largest share of Sovereign Wealth Fund assets with 31% and 22% respectively, followed by Funds of Hedge Funds, Direct Private Equity Funds, Direct Infrastructure Funds, Illiquid Credit and Private Equity Fund of Funds.
- Sovereign Wealth Funds continued to shun Direct Commodities Funds, Natural Resources and Insurance-Linked Investments in our sample.

Top 25	Average	Smallest	Largest
		USD million	
Sovereign Wealth Fund assets	7,205.9	3,579.0	23,310.2
Total assets	44,395.9	11,684.0	111,764.2
Overall Ranking	Average	Total AuM	No. of Managers
Sovereign Wealth Fund assets	1,393.9	344,282.2	247

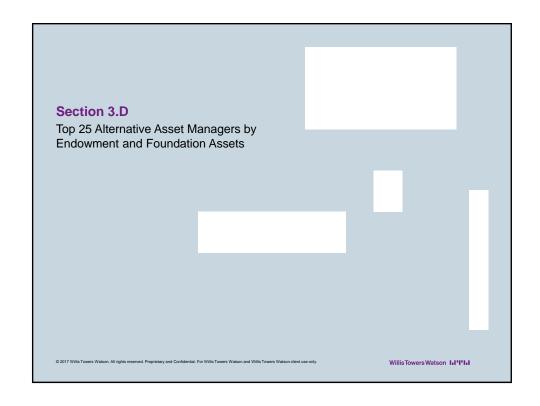
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-	SAlternative Asse Assets	indiagoro it	arrice by	OOVERE	gii Wealtii
Position	Name of parent organisation	Main country of domicile	Sovereign AUM (USD million)	Total AUM (USD million)	Asset Class
1	Bridgewater Associates	United States	23,310.20	116,764.20	Direct Hedge Funds
2	Blackstone	United States	16,333.90	71,119.70	Funds of Hedge Funds
3	Brookfield Asset Management	Canada	13,531.00	54,642.00	Real Estate Strategies
4	Kohlberg Kravis Roberts & Co.	United States	10,972.04	58,398.80	Direct Private Equity Funds
5	Brookfield Asset Management	Canada	8,701.00	40,139.00	Direct Infrastructure Funds
6	Man Group	United Kingdom	8,536.00	54,668.00	Direct Hedge Funds
7	Prologis	United States	8,340.60	29,753.20	Real Estate Strategies
8	Advent International	United Kingdom	7,779.00	48,932.00	Direct Private Equity Funds
9	BlackRock	United States	7,249.00	21,655.00	Funds of Hedge Funds
10	Macquarie Group	Australia	7,203.31	96,161.72	Direct Infrastructure Funds
11	Ardian	France	6,055.00	35,715.00	Private Equity FoF
12	Hines	United States	5,804.00	54,004.00	Real Estate Strategies
13	AXA Investment Managers	France	5,633.40	56,506.60	Real Estate Strategies
14	Starwood Capital Group	United States	5,263.24	21,680.51	Real Estate Strategies
15	GCM Grosvenor	United States	5,105.30	25,886.30	Funds of Hedge Funds
16	CBRE Global Investors	United States	5,100.00	78,200.00	Real Estate Strategies
17	LaSalle Investment Management	United States	5,039.00	53,160.00	Real Estate Strategies
18	Bain Capital Private Equity	United States	4,200.00	32,200.00	Direct Private Equity Funds
19	Oaktree Capital Management	United States	3,845.99	27,788.29	Illiquid Credit
20	Permira	United Kingdom	3,836.00	32,942.00	Direct Private Equity Funds
21	DEXUS Property Group	Australia	3,800.00	12,309.17	Real Estate Strategies
22	BlackRock	United States	3,670.00	20,492.00	Real Estate Strategies
23	Two Sigma Advisers	United States	3,650.00	33,300.00	Direct Hedge Funds
24	Oak Hill Advisors	United States	3,609.90	21,794.90	Illiquid Credit
25	Trian Fund Management	United States	3,579.00	11,684.00	Direct Hedge Funds
		Total	180,146.89	1,109,896.39	



Executive summary

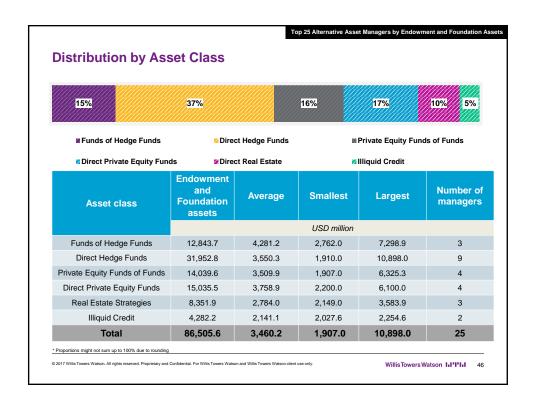
Top 25 Alternative Asset Managers

- Endowment and Foundation assets managed by the top 25 managers amounted to USD 86.5 bn in
- Of the alternative asset classes surveyed, Endowment and Foundation assets are the most evenly distributed: Direct Hedge Funds have the largest allocation, followed by Direct Private Equity Funds. Next in order are Private Equity Funds of Funds, Funds of Hedge Funds and Real Estate Strategies.
- Illiquid credit have the lowest allocation from Endowments and Foundations, and there are no allocations to Direct Commodities Funds, Direct Infrastructure Funds, Natural Resources or Insurance-Linked Investments in this sample.

Top 25	Average	Smallest	Largest
		USD million	
Endowment & Foundation assets	3,460.2	1,907.0	10,898.0
Total assets	36,229.0	4,622.0	116,764.2
Overall Ranking	Average	Total AuM	No. of Managers
Endowment & Foundation assets	545.7	191,541.7	351

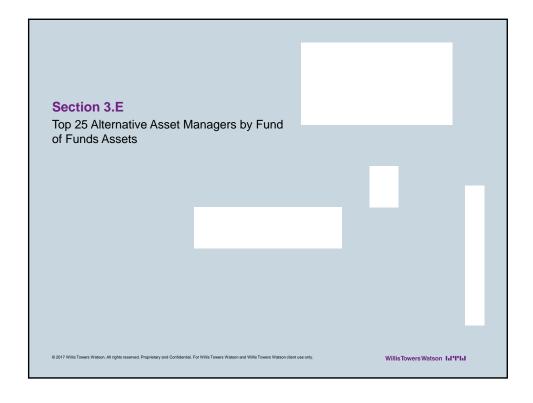
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Top 25 comparison 2015 - 2016 Includes only managers who participated in both years Endowment and Foundation assets for managers in the top 25 participating in 2015 and 2016 increased from USD 74.2 bn in 2015 to USD 84.5 bn in 2016 (14%). Direct Hedge Funds and Private Equity Funds of Funds increased their proportions in 2016, from 35% to 38% and 12% to 17% respectively, at the expense of Direct Private Equity Funds which decreased from 23% to 18%. There are 24 Endowment and Foundation managers that also participated in 2015. 38% 2016 15% 17% 18% 2015 35% 23% 16% Funds of Hedge Funds Private Equity Funds of Funds Direct Hedge Funds Direct Private Equity Funds - Real Estate Strategies Illiquid Credit * Proportions might not sum up to 100% due to rounding © 2017 Willis Towers Watson. All rights reserved. Proprietary and Confidential. For Willis Towers Watson and Willis Towers Watson client use only WillisTowers Watson I.I 111 47

	5 Alternative Asset dation Assets	i wanagers ra	inked by	Endowr	nent and
Position	Name of parent organisation	Main country of domicile	E&F AUM (USD million)	Total AUM (USD million)	Asset Class
1	Bridgewater Associates	United States	10,898.00	116,764.20	Direct Hedge Funds
2	Blackstone	United States	7,298.85	71,119.70	Funds of Hedge Funds
3	Neuberger Berman	United States	6,325.30	29,194.10	Private Equity FoF
4	Bain Capital Private Equity	United States	6,100.00	32,200.00	Direct Private Equity Funds
5	Advent International	United Kingdom	3,913.00	48,932.00	Direct Private Equity Funds
6	Two Sigma Advisers	United States	3,710.00	33,300.00	Direct Hedge Funds
7	J.P. Morgan Asset Management – Private Equity	United States	3,671.00	24,463.00	Private Equity FoF
8	Credit Suisse Asset Management	Switzerland	3,583.93	43,199.82	Real Estate Strategies
9	AQR Capital Management	United States	3,379.39	69,175.00	Direct Hedge Funds
10	Fir Tree Partners	United States	3,089.00	10,262.00	Direct Hedge Funds
11	Clayton, Dubilier & Rice	United States	2,822.47	18,816.48	Direct Private Equity Funds
12	LGT Capital Partners	Switzerland	2,782.83	10,123.26	Funds of Hedge Funds
13	Evanston Capital Management	United States	2,762.00	4,622.00	Funds of Hedge Funds
14	Hines	United States	2,619.00	54,004.00	Real Estate Strategies
15	Wellington Management	United States	2,454.00	10,278.00	Direct Hedge Funds
16	Millennium Management	United States	2,320.00	34,090.00	Direct Hedge Funds
17	Värde Partners	United States	2,254.61	8,457.61	Illiquid Credit
18	Renaissance Technologies	United States	2,207.40	38,795.20	Direct Hedge Funds
19	Energy Capital Partners	United States	2,200.00	12,200.00	Direct Private Equity Funds
20	AEW (1)	United States	2,149.00	50,996.00	Real Estate Strategies
21	LGT Capital Partners	Switzerland	2,136.27	27,090.53	Private Equity FoF
22	Oaktree Capital Management	United States	2,027.55	27,788.29	Illiquid Credit
23	D. E. Shaw Group	United States	1,985.00	27,852.00	Direct Hedge Funds
24	Man Group	United Kingdom	1,910.00	54,668.00	Direct Hedge Funds
25	HarbourVest Partners	United States	1,907.00	47,333.00	Private Equity FoF
		Total	86,505.60	905,724.18	



Top 25 Alternative Asset Managers by Fund of Funds Assets

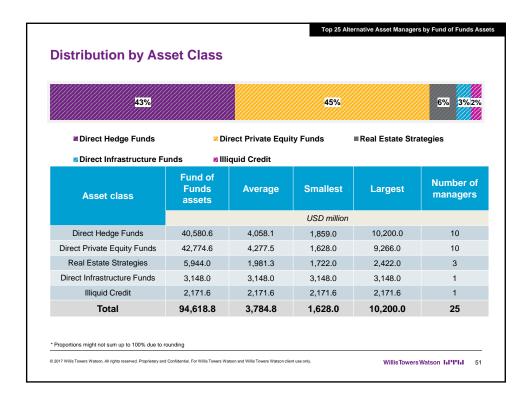
Executive summaryTop 25 Alternative Asset Managers

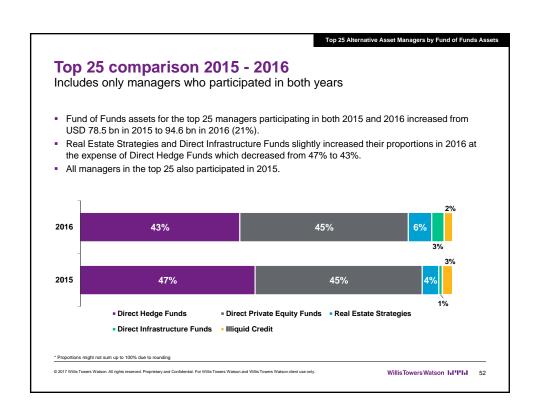
- Fund of Funds assets managed by the top 25 fund managers amounted to USD 94.6 bn in 2016.
- Direct Private Equity Funds and Direct Hedge Funds made up the majority of Fund of Funds assets.
 Fund of Funds also allocated to Real Estate Strategies, Direct Infrastructure Funds and Illiquid Credit
- There were no allocations to Direct Commodities Funds, Natural Resources and Insurance-Linked Investments in this sample.

Top 25	Average	Smallest	Largest
		USD million	
Fund of Funds assets	3,784.8	1,628.0	10,200.0
Total assets	26,962.4	6,175.0	116,764.2
Overall Ranking	Average	Total AuM	No. of Managers
Fund of Funds assets	756.1	179,186.9	237

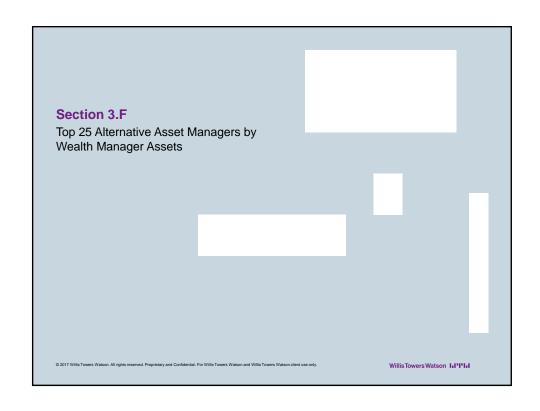
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		indinagoro i	annou by	i dila oi	Funds Assets
Position	Name of parent organisation	Main country of domicile	Fund of Funds AUM (USD million)	Total AUM (USD million)	Asset Class
1	Two Sigma Advisers	United States	10,200.00	33,300.00	Direct Hedge Funds
2	Advent International	United Kingdom	9,266.00	48,932.00	Direct Private Equity Funds
3	Permira	United Kingdom	8,841.00	32,942.00	Direct Private Equity Funds
4	Bridgewater Associates	United States	5,803.90	116,764.20	Direct Hedge Funds
5	D. E. Shaw Group	United States	5,659.00	27,852.00	Direct Hedge Funds
6	Bain Capital Private Equity	United States	5,400.00	32,200.00	Direct Private Equity Funds
7	Clayton, Dubilier & Rice	United States	4,139.62	18,816.48	Direct Private Equity Funds
8	Millennium Management	United States	4,090.00	34,090.00	Direct Hedge Funds
9	EQT	United Kingdom	3,590.00	16,237.00	Direct Private Equity Funds
10	Kohlberg Kravis Roberts & Co.	United States	3,304.00	58,398.80	Direct Private Equity Funds
11	UBS Asset Management	Switzerland	3,148.00	6,175.00	Direct Infrastructure Funds
12	Credit Suisse Asset Management	Switzerland	2,981.21	18,355.37	Direct Hedge Funds
13	Capital Fund Management	France	2,812.49	7,431.46	Direct Hedge Funds
14	GSA Capital	United Kingdom	2,694.00	6,674.00	Direct Hedge Funds
15	La Française Group	France	2,422.00	15,257.00	Real Estate Strategies
16	CDH Investment	China	2,383.00	6,849.00	Direct Private Equity Funds
17	Allianz Global Investors	Germany	2,297.00	12,188.00	Direct Hedge Funds
18	Balyasny Asset Management	United States	2,184.00	13,000.00	Direct Hedge Funds
19	CarVal Investors	United States	2,171.55	12,200.74	Illiquid Credit
20	Nordic Capital	United Kingdom	2,127.00	11,818.00	Direct Private Equity Funds
21	PAI Partners	France	2,096.00	7,683.00	Direct Private Equity Funds
22	Henderson Global Investors	United Kingdom	1,859.00	13,485.00	Direct Hedge Funds
23	CBRE Global Investors	United States	1,800.00	78,200.00	Real Estate Strategies
24	Legal & General	United Kingdom	1,722.00	23,750.00	Real Estate Strategies
25	Riverstone Holdings	United States	1,628.00	21,462.00	Direct Private Equity Funds
		Total	94,618.77	674.061.04	



Top 25 Alternative Asset Managers by Wealth Manager Asset

Executive summary

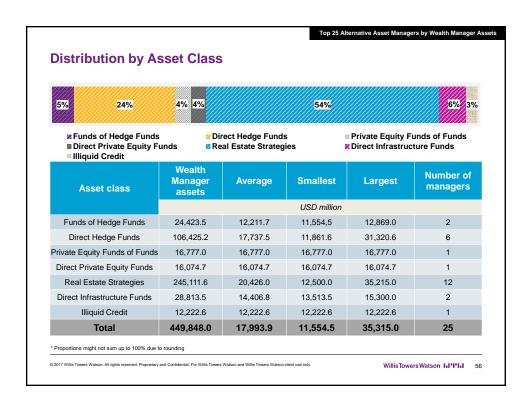
Top 25 Alternative Asset Managers

- Wealth Management assets managed by the top 25 fund managers amounted to USD 449.8 bn in
- Real Estate Strategies are the most popular alternative assets for Wealth Management firms followed by Direct Hedge Funds, Direct Infrastructure Funds, Funds of Hedge Funds, Private Equity Funds of Funds, Direct Private Equity Funds and Illiquid Credit.
- There were no Wealth Manager investments in Direct Commodities Funds, Natural Resources and Insurance-Linked Investments in this sample.

Top 25	Average	Smallest	Largest
		USD million	
Wealth Manager assets	17,993.9	11,554.5	35,215.0
Total assets	44,117.8	12,882.3	96,161.7
Overall Ranking	Average	Total AuM	No. of Managers
Wealth Manager assets	2,552.9	1,087,527.6	426

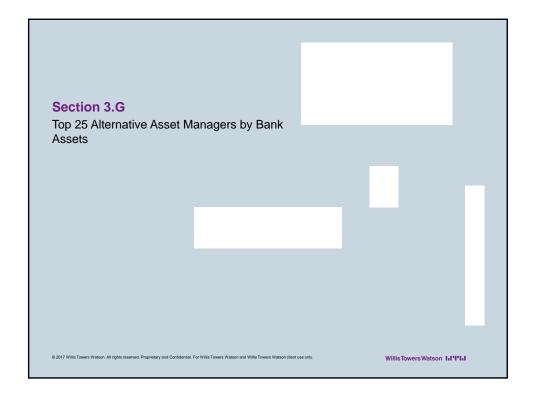
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Top 25 Alternative Asset Managers by Wealth Manager Ass Top 25 comparison 2015 - 2016 Includes only managers who participated in both years Wealth Manager assets for the top 25 managers participating in both 2015 and 2016 increased from USD 370.4 bn in 2015 to USD 419.8 bn in 2016 (13%). Real Estate Strategies attracted the largest amount of Wealth Manager assets in 2015 and 2016, with allocations in the top 25 with a steady 54%. Proportions remained broadly unchanged for the remaining asset classes with a slight increase in Private Equity Funds of Funds at the expense of Direct Hedge Funds. There are 23 managers in the top 25 that also participated in 2015. 2016 22% 6% 2% 2015 7% 23% 54% Funds of Hedge Funds Direct Hedge Funds Private Equity Funds of Funds Direct Private Equity Funds Real Estate Strategies Direct Infrastructure Funds Illiquid Credit ions might not sum up to 100% due to rounding © 2017 Willis Towers Watson. All rights reserved. Proprietary and Confidential. For Willis Towers Watson and Willis Towers Watson client use only WillisTowersWatson III'III 57

Top 25 Alternative Asset Managers by Wealth Manager Assets Top 25 Alternative Asset Managers ranked by Wealth Manager **Assets** UBS Asset Management Real Estate Strategies United States 31,320.60 Hines United States 30.214.00 54.004.00 Real Estate Strategies Deutsche Asset Management 22,286.00 46,193.00 Real Estate Strategies Brookfield Asset Management 22 081 00 54 642 00 Real Estate Strategies Millennium Management United States Direct Hedge Funds 18,140.00 34,090.00 Man Group J.P. Morgan Asset Management United States 17,271.00 61,346.40 Real Estate Strategies Cohen & Steers Capital Management 16.885.00 38.920.00 Real Estate Strategies 11 Pathway Capital Management United States 16,777.00 44,636.00 Private Equity FoF 13 LaSalle Investment Management United States 15,853.00 53,160.00 Real Estate Strategies **Brookfield Asset Management** Canada 15,300.00 40,139.00 Direct Infrastructure Funds 14,473.76 15 Fidelity International Bermuda 15,433.47 Real Estate Strategies Real Estate Strategies 17 Platinum Asset Management Australia 14,400.00 18,000.00 Direct Hedge Funds 18 CBRE Global Investors United States Real Estate Strategies 13,513.51 19 Macquarie Group Australia 96,161.72 Direct Infrastructure Funds HSBC Alternative Invest United Kingdom 13.183.00 Direct Hedge Fund Funds of Hedge Funds 21 Morgan Stanley Investment Management United States 12,869.00 22,300.00 20,500.00 Amundi 12,500.00 Real Estate Strategies Alcentra 12,222.60 31,374.50 Illiquid Credit Goldman Sachs Asset Management Direct Hedge Funds Blackstone United States 11.554.45 71,119,70 Funds of Hedge Funds Total 449,848.04 1,102,944.64 WillisTowers Watson In 1911 58



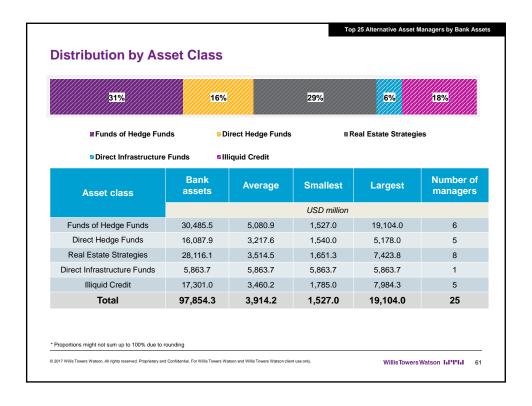
Top 25 Alternative Asset Managers by Bank Assets

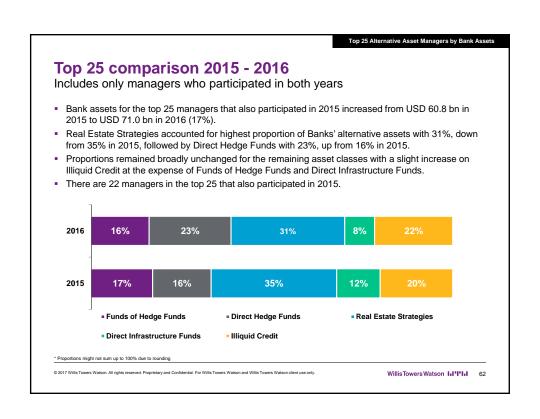
Executive summaryTop 25 Alternative Asset Managers

- Bank assets managed by the top 25 managers amounted to USD 97.9 bn in 2016.
- Bank assets are mostly allocated to Funds of Hedge Funds and Real Estate Strategies, thereafter followed by Illiquid Credit, Direct Hedge Funds and Direct Infrastructure Funds.
- There were no Private Equity Funds of Funds, Direct Private Equity Funds, Direct Commodities Funds, Natural Resources, nor Insurance-Linked Investments managers in this sample.

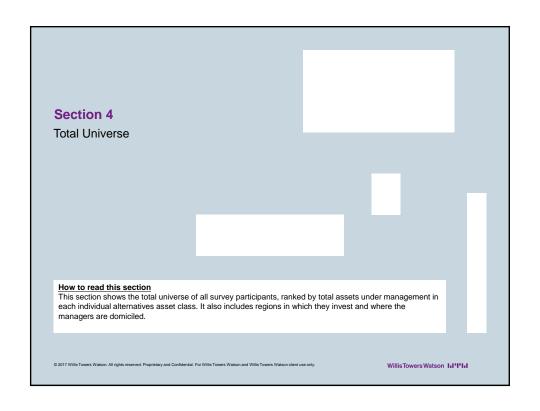
Top 25	Average	Smallest	Largest
		USD million	
Bank assets	3,914.2	1,527.0	19,104.0
Total assets	28,720.6	3,074.0	96,161.7
Overall Ranking	Average	Total AuM	No. of Managers
Bank assets	618.0	147,084.4	238

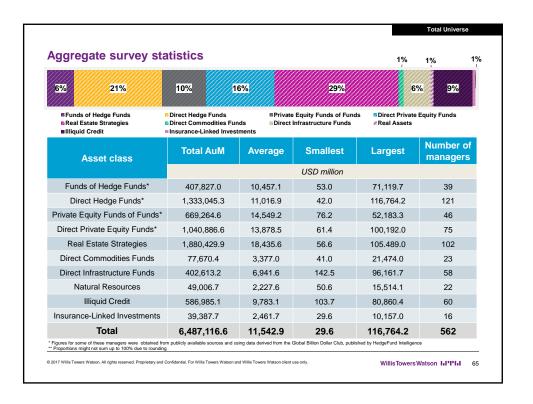
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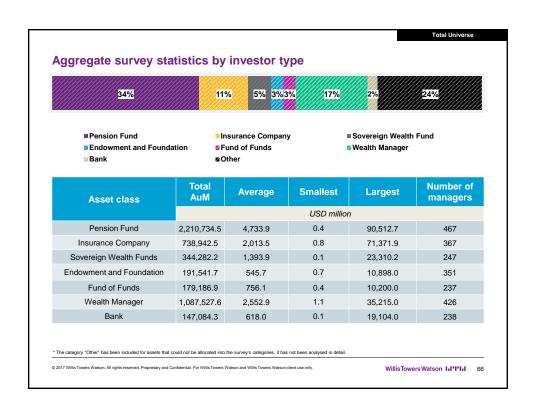


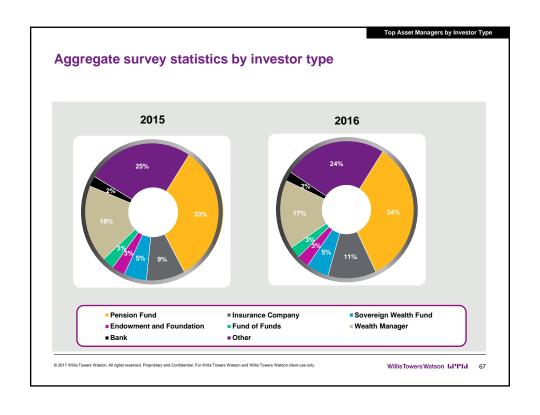


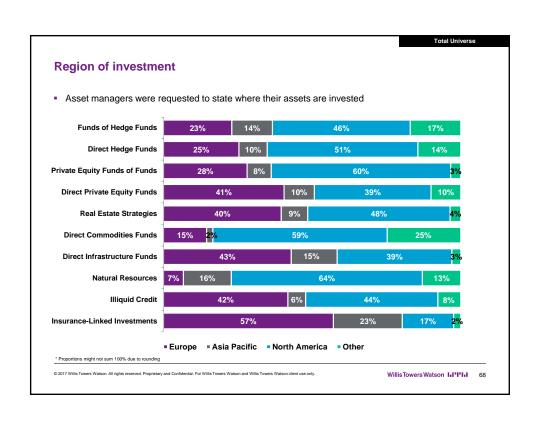
	5 Alternative Asse	J			
osition	Name of parent organisation	Main country of domicile	Banks AUM (USD million)	Total AUM (USD million)	Asset Class
1	UBS Asset Management	Switzerland	19,104.00	33,630.00	Funds of Hedge Funds
2	Alcentra	United Kingdom	7,984.30	31,374.50	Illiquid Credit
3	Credit Suisse Asset Management	Switzerland	7,423.78	43,199.82	Real Estate Strategies
4	Macquarie Group	Australia	5,863.74	96,161.72	Direct Infrastructure Funds
5	PATRIZIA Immobilien	Germany	5,800.00	19,650.00	Real Estate Strategies
6	Man Group	United Kingdom	5,178.00	54,668.00	Direct Hedge Funds
7	Balyasny Asset Management	United States	4,953.00	13,000.00	Direct Hedge Funds
8	Union Investment	Germnay	3,922.93	36,494.35	Real Estate Strategies
9	Ares Management	United States	3,687.24	14,283.55	Illiquid Credit
10	Hines	United States	2,805.00	54,004.00	Real Estate Strategies
11	LGT Capital Partners	Switzerland	2,738.03	10,123.26	Funds of Hedge Funds
12	Allianz Global Investors	Germany	2,727.00	3,074.00	Funds of Hedge Funds
13	Credit Suisse Asset Management	Switzerland	2,606.94	18,355.37	Direct Hedge Funds
14	UBS Asset Management	Switzerland	2,584.00	78,031.00	Real Estate Strategies
15	GCM Grosvenor	United States	2,470.80	25,886.30	Funds of Hedge Funds
16	Berkshire Group	United States	2,203.45	4,176.95	Real Estate Strategies
17	BNP Paribas Investment Partners	France	1,958.77	5,036.42	Illiquid Credit
18	Abbey Capital	Ireland	1,918.69	3,577.63	Funds of Hedge Funds
19	AXA Investment Managers	France	1,885.70	28,824.38	Illiquid Credit
20	Brigade Capital	United States	1,810.00	18,380.00	Direct Hedge Funds
21	Allianz Global Investors	Germany	1,785.00	14,606.00	Illiquid Credit
22	AXA Investment Managers	France	1,725.60	56,506.60	Real Estate Strategies
23	Columbia Threadneedle Investments	United States	1,651.30	8,830.10	Real Estate Strategies
24	Two Sigma Advisers	United States	1,540.00	33,300.00	Direct Hedge Funds
25	Man Group	United Kingdom	1,527.00	12,841.00	Funds of Hedge Funds
		Total	97.854.27	718.014.95	

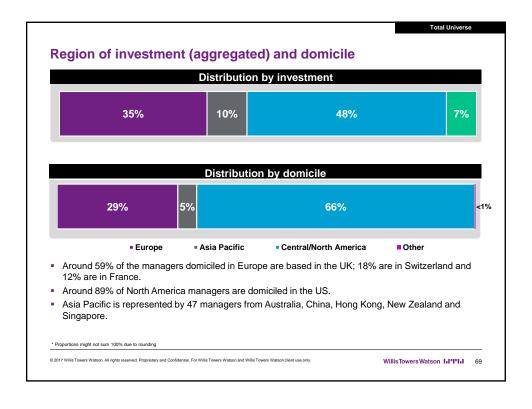


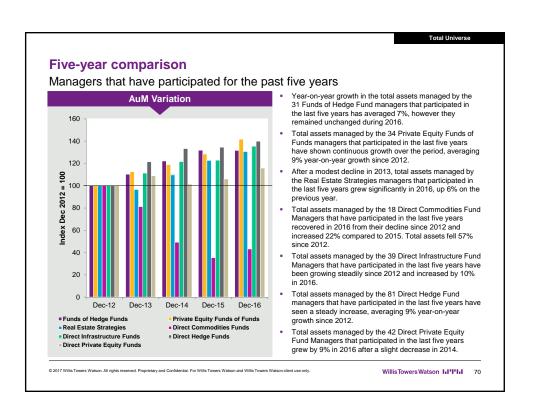












Total ass	ttive Asset Manager sets by asset class al Billio Distr Duly, published by Hedge Furd Intelligence under management, variables knowes	•		
Position	under management, obtained from publicly available sources Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
1	Bridgewater Associates	United States	116,764.20	Direct Hedge Funds
2	TH Real Estate (1)	United States	105,488.98	Real Estate Strategies
3	Blackstone	United States	101,963.00	Real Estate Strategies
4	Blackstone	United States	100,192.00	Direct Private Equity Funds
5	Macquarie Group	Australia	96,161.72	Direct Infrastructure Funds
6	PGIM (2)	United States	94,583.99	Real Estate Strategies
7	Prudential Private Placement Investors	United States	80,860.40	Illiquid Credit
8	CBRE Global Investors	United States	78,200.00	Real Estate Strategies
9	UBS Asset Management	Switzerland	78,031.00	Real Estate Strategies
10	TPG Capital**	United States	72,000.00	Direct Private Equity Funds
11	Blackstone	United States	71,119.70	Funds of Hedge Funds
12	AQR Capital Management	United States	69,175.00	Direct Hedge Funds
13	J.P. Morgan Asset Management	United States	61,346.40	Real Estate Strategies
14	Principal Global Investors	United States	60,640.00	Real Estate Strategies
15	Kohlberg Kravis Roberts & Co.	United States	58,398.80	Direct Private Equity Funds
16	AXA Investment Managers	France	56,506.60	Real Estate Strategies
17	Man Group	United Kingdom	54,668.00	Direct Hedge Funds
18	Brookfield Asset Management	Canada	54,642.00	Real Estate Strategies
19	Hines	United States	54,004.00	Real Estate Strategies
20	LaSalle Investment Management	United States	53,160.00	Real Estate Strategies
21	Goldman Sachs Asset Management	United States	52,183.34	Private Equity FoF
22	AEW (3)	United States	50,996.00	Real Estate Strategies
23	The Carlyle Group**	United States	50,864.00	Direct Private Equity Funds
24	Providence Equity Partners**	United States	50,000.00	Direct Private Equity Funds
25	Advent International	United Kingdom	48,932.00	Direct Private Equity Funds
TH Real Estate is an affilia	ate of Nuveen (the investment management arm of TIAA) reflect those of the PGIM Real Estate and PGIM Real Estate Finance divisions			

Iterna	ative Asset Managers	s Ranking		
	sets by asset class			
	chal Billion Dollar Club, published by HedgeFund Intelligence s under management, obtained from publicly available sources			
Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
26	HarbourVest Partners	United States	47,333.00	Private Equity FoF
27	Aviva Investors	United Kingdom	46,249.00	Real Estate Strategies
28	Deutsche Asset Management	Germany	46,193.00	Real Estate Strategies
29	J. P. Morgan Asset Management*	United States	45,000.00	Direct Hedge Funds
30	Barings	United Kingdom	44,824.94	Real Estate Strategies
31	Pathway Capital Management	United States	44,636.00	Private Equity FoF
32	Warburg Pincus**	United States	44,000.00	Direct Private Equity Funds
33	Apollo Global Management	United States	43,628.00	Direct Private Equity Funds
34	Credit Suisse Asset Management	Switzerland	43,199.82	Real Estate Strategies
35	Alpinvest Partners	Netherlands	41,434.00	Private Equity FoF
36	Hamilton Lane Advisors	United States	40,366.80	Private Equity FoF
37	Brookfield Asset Management	Canada	40,139.00	Direct Infrastructure Funds
38	Cohen & Steers Capital Management	United States	38,920.00	Real Estate Strategies
39	Renaissance Technologies	United States	38,795.20	Direct Hedge Funds
40	Union Investment	Germany	36,494.35	Real Estate Strategies
41	Ardian	France	35,715.00	Private Equity FoF
42	Pantheon	United Kingdom	35,190.00	Private Equity FoF
43	Goldman Sachs Merchant Banking Division	United States	35,100.00	Direct Private Equity Funds
44	M&G Investments	United Kingdom	34,838.20	Real Estate Strategies
45	Millennium Management	United States	34,090.00	Direct Hedge Funds
46	BlackRock	United States	33,804.00	Direct Hedge Funds
47	Och-Ziff Capital Management Group	United States	33,700.00	Direct Hedge Funds
48	UBS Asset Management	Switzerland	33,630.00	Funds of Hedge Funds
49	Two Sigma Advisers	United States	33,300.00	Direct Hedge Funds
50	Permira	United Kingdom	32,942.00	Direct Private Equity Funds

otal ass	sets by asset class bild Bild Dollar Club, published by Hedgeff-und Intelligence under management, detained from publicity available sources	Ranking		
Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
51	Vista Equity Partners**	United States	32,374.42	Direct Private Equity Funds
52	Bain Capital Private Equity	United States	32,200.00	Direct Private Equity Funds
53	Elliot Management*	United States	31,800.00	Direct Hedge Funds
54	Alcentra	United Kingdom	31,374.50	Illiquid Credit
55	Baupost Group*	United States	30,300.00	Direct Hedge Funds
56	Bentall Kennedy	Canada	30,269.00	Real Estate Strategies
57	M&G Investments	United Kingdom	30,019.48	Illiquid Credit
58	Nuveen (1)	United States	29,936.37	Illiquid Credit
59	Prologis	United States	29,753.20	Real Estate Strategies
60	Neuberger Berman	United States	29,194.10	Private Equity FoF
61	AXA Investment Managers	France	28,824.38	Illiquid Credit
62	Heitman	United States	28,811.00	Real Estate Strategies
63	Goldman Sachs Merchant Banking Division	United States	28,800.00	Illiquid Credit
64	Barings	United Kingdom	28,735.00	Illiquid Credit
65	Clarion Partners	United States	28,565.00	Real Estate Strategies
66	Invesco	United States	28,090.00	Real Estate Strategies
67	Goldman Sachs Asset Management	United States	27,952.00	Funds of Hedge Funds
68	D. E. Shaw Group	United States	27,852.00	Direct Hedge Funds
69	Oaktree Capital Management	United States	27,788.29	Illiquid Credit
70	Adage Capital Management*	United States	27,700.00	Direct Hedge Funds
71	Lexington Partners**	United States	27,467.91	Private Equity FoF
72	LGT Capital Partners	Switzerland	27,090.53	Private Equity FoF
73	Davidson Kempner Capital Management*	United States	26,500.00	Direct Hedge Funds
74	Morgan Stanley Investment Management	United States	26,424.00	Real Estate Strategies
75	Citadel (2)	United States	26,200.00	Direct Hedge Funds

	ative Asset Managers	Nanking		
ata derived from the	ssets by asset class Global Billion Dollar Club, published by HedgeFund Intelligence als under management, obtained from publicly available sources			
Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
76	HPS Investment Partners	United States	26,070.88	Illiquid Credit
77	GCM Grosvenor	United States	25,886.30	Funds of Hedge Funds
78	GSO Capital Partners	United States	25,673.00	Illiquid Credit
79	Hellman & Friedman**	United States	25,430.30	Direct Private Equity Funds
80	BNP Paribas REIM	France	25,267.00	Real Estate Strategies
81	EnTrustPermal*	United States	25,200.00	Funds of Hedge Funds
82	IFM Investors	Australia	24,893.00	Direct Infrastructure Funds
83	J.P. Morgan Asset Management - Private Equity	United States	24,463.00	Private Equity FoF
84	Aberdeen Asset Management	United Kingdom	24,154.19	Real Estate Strategies
85	Silver Lake**	United States	24,000.00	Direct Private Equity Funds
86	Legal & General	United Kingdom	23,750.00	Real Estate Strategies
87	Leonard Green**	United States	23,503.99	Direct Private Equity Funds
88	Mashall Wace*	United Kingdom	22,870.00	Direct Hedge Funds
89	GCM Grosvenor	United States	22,744.60	Private Equity FoF
90	Adams Street Partners	United States	22,618.25	Private Equity FoF
91	Morgan Stanley Investment Management	United States	22,300.00	Funds of Hedge Funds
92	Farallon Capital Management*	United States	22,100.00	Direct Hedge Funds
93	Oak Hill Advisors	United States	21,794.90	Illiquid Credit
94	Starwood Capital Group	United States	21,680.51	Real Estate Strategies
95	BlackRock	United States	21,655.00	Funds of Hedge Funds
96	BlackRock	United States	21,474.00	Direct Commodities Funds
97	Riverstone Holdings	United States	21,462.00	Direct Private Equity Funds
98	Coller Capital	United Kingdom	21,029.00	Private Equity FoF
99	Standard Life Investments	United Kingdom	20,668.00	Real Estate Strategies
100	Partners Group	Switzerland	20,603.30	Private Equity FoF

iterna	tive Asset Manageı	's Ranking			
otal assets by asset class us asvertism the Guidal Billion Coller Card, publicated by HeggeFurd Intelligence					
Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class	
101	Amundi	France	20,500.00	Real Estate Strategies	
102	Hillhouse*	China	20,500.00	Direct Hedge Funds	
103	BlackRock	United States	20,492.00	Real Estate Strategies	
104	General Atlantic	United States	20,000.00	Direct Private Equity Funds	
105	Ares Management	United States	19,897.87	Direct Private Equity Funds	
106	PATRIZIA Immobilien	Germany	19,650.00	Real Estate Strategies	
107	Viking Global Investors*	United States	19,000.00	Direct Hedge Funds	
108	King Street Capital Management	United States	18,900.00	Direct Hedge Funds	
109	Clayton, Dubilier & Rice	United States	18,816.48	Direct Private Equity Funds	
110	Brigade Capital	United States	18,380.00	Direct Hedge Funds	
111	Credit Suisse Asset Management	Switzerland	18,355.37	Direct Hedge Funds	
112	Platinum Asset Management	Australia	18,000.00	Direct Hedge Funds	
113	Neuberger Berman	United States	17,600.00	Direct Private Equity Funds	
114	Thoma Bravo**	United States	17,000.00	Direct Private Equity Funds	
115	PIMCO	United States	16,943.00	Direct Hedge Funds	
116	Landmark Partners	United States	16,532.20	Private Equity FoF	
117	Aviva Investors	United Kingdom	16,451.00	Illiquid Credit	
118	Cinven	United Kingdom	16,386.99	Direct Private Equity Funds	
119	EQT	United Kingdom	16,237.00	Direct Private Equity Funds	
120	York Capital Management*	United States	16,200.00	Direct Hedge Funds	
121	AMP Capital	Australia	16,068.00	Real Estate Strategies	
122	GAM	United Kingdom	16,059.00	Direct Hedge Funds	
123	The Energy & Minerals Group**	United States	16,000.00	Direct Private Equity Funds	
124	Appaloosa Management*	United States	16,000.00	Direct Hedge Funds	
125	ValueAct Capital Management*	United States	15,890.00	Direct Hedge Funds	

	native Asset Managers	Kalikiliy		
otal a	ssets by asset class			
ata derived from the igures show total as	a Global Billion Dollar Club, published by HedgeFund Intelligence sees under management, obtained from publicly available sources Name of parent organisation	Main country of domicile	Total AuM	Asset Class
			(USD million)	
126	BlackRock	United States	15,678.00	Private Equity FoF
127	Brevan Howard Capital Management	United Kingdom	15,561.00	Direct Hedge Funds
128	Nuveen (1)	United States	15,514.12	Natural Resources
129	Fidelity International	Bermuda	15,433.47	Real Estate Strategies
130	Cheyne Capital	United Kingdom	15,289.30	Direct Hedge Funds
131	La Française Group	France	15,257.00	Real Estate Strategies
132	Centerbridge Partners*	United States	15,250.00	Direct Hedge Funds
133	Canyon Partners	United States	15,100.00	Direct Hedge Funds
134	Savills Investment Management	United Kingdom	15,019.00	Real Estate Strategies
135	Third Point*	United States	15,000.00	Direct Hedge Funds
136	Schroders Investment Management	United Kingdom	14,942.00	Real Estate Strategies
137	Portfolio Advisors	United States	14,833.58	Private Equity FoF
138	Anchorage Capital Group	United States	14,800.00	Direct Hedge Funds
139	Allianz Global Investors	Germany	14,606.00	Illiquid Credit
140	Intermediate Capital Group	United Kingdom	14,491.00	Illiquid Credit
141	Ares Management	United States	14,283.55	Illiquid Credit
142	HSBC Alternative Investment Group	United Kingdom	13,702.00	Direct Hedge Funds
143	Winton Capital Management	United Kingdom	13,615.00	Direct Hedge Funds
144	Magnetar Capital	United States	13,500.00	Direct Hedge Funds
145	Henderson Global Investors	United Kingdom	13,485.00	Direct Hedge Funds
146	Ardian	France	13,414.00	Direct Private Equity Funds
147	Kohlberg Kravis Roberts & Co.	United States	13,316.81	Illiquid Credit
148	Crescent Capital Group	United States	13,160.00	Illiquid Credit
149	J.P. Morgan Alternative Asset Management: Hedge Fund Solutions	United States	13,040.61	Funds of Hedge Funds
150	Lendlease	Australia	13,017.00	Real Estate Strategies

Aiterna	ative Asset Managers	s Ranking		
Total as	sets by asset class total Billion Dollar Club, published by HodgeFund Intelligence us durier management, defained from publicly available sources			
Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
151	Balyasny Asset Management	United States	13,000.00	Direct Hedge Funds
152	PIMCO	United States	12,998.00	Direct Commodities Funds
153	Bridgepoint	United Kingdom	12,993.00	Direct Private Equity Funds
154	Graham Capital Management	United States	12,921.00	Direct Hedge Funds
155	Goldman Sachs Asset Management	United States	12,882.30	Direct Hedge Funds
156	Oaktree Capital Management	United States	12,865.42	Direct Private Equity Funds
157	Man Group	United Kingdom	12,841.00	Funds of Hedge Funds
158	First State Investments	Australia	12,780.52	Direct Infrastructure Funds
159	DEXUS Property Group	Australia	12,309.17	Real Estate Strategies
160	Kayne Anderson Capital Advisors	United States	12,216.80	Direct Infrastructure Funds
161	CarVal Investors	United States	12,200.74	Illiquid Credit
162	Energy Capital Partners	United States	12,200.00	Direct Private Equity Funds
163	Angelo, Gordon & Co.	United States	12,198.00	Direct Hedge Funds
164	Allianz Global Investors	Germany	12,188.00	Direct Hedge Funds
165	Beach Point Capital Management	United States	12,146.00	Illiquid Credit
166	Goldman Sachs Merchant Banking Division	United States	12,100.00	Direct Infrastructure Funds
167	Partners Group	Switzerland	12,037.10	Illiquid Credit
168	Kennedy Wilson	United States	12,004.00	Real Estate Strategies
169	Nordic Capital	United Kingdom	11,818.00	Direct Private Equity Funds
170	Partners Group	Switzerland	11,801.30	Direct Private Equity Funds
171	Trian Fund Management	United States	11,684.00	Direct Hedge Funds
172	The Rock Creek Group*	United States	11,500.00	Funds of Hedge Funds
173	Apollo Global Management	United States	11,453.00	Real Estate Strategies
174	Lansdowne Partners	United Kingdom	11,418.00	Direct Hedge Funds
175	Aberdeen Asset Management	United Kingdom	11,395.06	Private Equity FoF

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	sets by asset class chal Billion Dollar Club, published by HedgeFund Intelligence s under management, obtained from publicly available sources			
Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
176	SL Capital Partners	United Kingdom	11,360.00	Private Equity FoF
177	J.P. Morgan Asset Management	United States	11,335.00	Direct Infrastructure Funds
178	Goldman Sachs Merchant Banking Division	United States	11,183.10	Real Estate Strategies
179	Partners Group	Switzerland	11,106.80	Real Estate Strategies
180	SkyBridge Capital	United States	10,900.00	Funds of Hedge Funds
181	Aberdeen Asset Management	United Kingdom	10,707.07	Funds of Hedge Funds
182	Mesirow Financial Holdings	United States	10,524.40	Funds of Hedge Funds
183	Aetos Capital*	United States	10,520.00	Funds of Hedge Funds
184	QIC	Australia	10,495.09	Real Estate Strategies
185	Bain Capital Credit	United States	10,470.53	Illiquid Credit
186	Avenue Capital Group	United States	10,373.00	Direct Hedge Funds
187	The Abraaj Group	United Arab Emirates	10,340.00	Direct Private Equity Funds
188	Wellington Management	United States	10,278.00	Direct Hedge Funds
189	Allianz Global Investors	Germany	10,271.00	Direct Infrastructure Funds
190	Fir Tree Partners	United States	10,262.00	Direct Hedge Funds
191	Nephila Capital	Bermuda	10,157.00	Insurance-Linked Investments
192	LGT Capital Partners	Switzerland	10,123.26	Funds of Hedge Funds
193	Boston Partners	United States	10,088.60	Direct Hedge Funds
194	HBK Capital Management	United States	10,088.00	Direct Hedge Funds
195	DTZ Investors	United Kingdom	10,087.00	Real Estate Strategies
196	Kohlberg Kravis Roberts & Co.	United States	9,990.00	Funds of Hedge Funds
197	K2 Advisors*	United States	9,850.00	Funds of Hedge Funds
198	Franklin Templeton	United States	9,849.00	Funds of Hedge Funds
199	Greystone Managed Investments	Canada	9,832.90	Real Estate Strategies
200	Morgan Stanley Investment Management	United States	9,738.00	Private Equity FoF

	ative Asset Managers			
otal as	ssets by asset class Global Billion Dollar Club, published by HodgeFund Intelligence ats under management, obtained from publishy available sources			
ires show total ass	ets under management, obtained from publicly available sources		Total AuM	
Position	Name of parent organisation	Main country of domicile	(USD million)	Asset Class
201	BlackRock	United States	9,620.00	Direct Infrastructure Funds
202	ISPT	Australia	9,582.00	Real Estate Strategies
203	Barings	United Kingdom	9,494.09	Direct Infrastructure Funds
204	Pictet Asset Management*	Switzerland	9,440.00	Funds of Hedge Funds
205	Alinda Capital Partners	United States	9,383.00	Direct Infrastructure Funds
206	Hermes Investment Management	United Kingdom	9,359.00	Real Estate Strategies
207	AMP Capital	Australia	9,321.88	Direct Infrastructure Funds
208	UBS Asset Management	Switzerland	9,027.00	Private Equity FoF
209	PIMCO	United States	9,026.00	Real Estate Strategies
210	Credit Suisse Asset Management	Switzerland	8,963.48	Direct Commodities Funds
211	Bouwinvest REIM	Netherlands	8,926.00	Real Estate Strategies
212	CenterSquare Investment Management	United States	8,842.00	Real Estate Strategies
213	Columbia Threadneedle Investments	United States	8,830.10	Real Estate Strategies
214	Tristan Capital Partners	United Kingdom	8,461.70	Real Estate Strategies
215	Värde Partners	United States	8,457.61	Illiquid Credit
216	HgCapital	United Kingdom	8,400.00	Direct Private Equity Funds
217	Angelo, Gordon & Co.	United States	8,360.00	Real Estate Strategies
218	Pacific Alternative Asset Management Company	United States	8,324.00	Funds of Hedge Funds
219	Access Capital Partners	France	8,174.00	Private Equity FoF
220	Vontobel Asset Management	Switzerland	8,081.00	Real Estate Strategies
221	Morgan Stanley Investment Management	United States	8,025.00	Direct Private Equity Funds
222	TA Realty	United States	7,941.20	Real Estate Strategies
223	Kayne Anderson Capital Advisors	United States	7,940.23	Direct Private Equity Funds
224	Ares Management	United States	7,931.08	Real Estate Strategies
225	BMO Real Estate Partners	United Kingdom	7,867.00	Real Estate Strategies

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Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
226	Abbott Capital Management	United States	7,761.50	Private Equity FoF
227	Nuveen (1)	United States	7,757.78	Direct Commodities Funds
228	PAI Partners	France	7,683.00	Direct Private Equity Funds
229	Ardian	France	7,643.00	Direct Infrastructure Funds
230	Capital Fund Management	France	7,431.46	Direct Hedge Funds
231	Partners Group	Switzerland	7,422.20	Direct Infrastructure Funds
232	Nuveen (1)	United States	7,341.15	Direct Private Equity Funds
233	Stonepeak Partners	United States	7,285.50	Direct Infrastructure Funds
234	Hastings Funds Management	Australia	7,277.13	Direct Infrastructure Funds
235	BlackRock	United States	7,205.00	Illiquid Credit
236	Oaktree Capital Management	United States	7,172.11	Real Estate Strategies
237	Harrison Street Real Estate Capital	United States	7,160.00	Real Estate Strategies
238	Marathon Asset Management	United States	7,126.00	Direct Hedge Funds
239	Antin Infrastructure Partners	France	7,054.70	Direct Infrastructure Funds
240	Credit Suisse Asset Management	Switzerland	7,023.40	Insurance-Linked Investments
241	Orchard Street Investment Management	United Kingdom	6,941.00	Real Estate Strategies
242	CDH Investment	China	6,849.00	Direct Private Equity Funds
243	Morgan Stanley Investment Management	United States	6,766.00	Direct Infrastructure Funds
244	GSA Capital	United Kingdom	6,674.00	Direct Hedge Funds
245	QIC	Australia	6,594.84	Direct Infrastructure Funds
246	ASB Real Estate Investments	United States	6,552.00	Real Estate Strategies
247	Deutsche Asset Management	Germany	6,420.00	Private Equity FoF
248	Waterfall Asset Management	United States	6,275.00	Direct Hedge Funds
249	The GPT Group	Australia	6,229.34	Real Estate Strategies
250	Arrowgrass Capital Partners	United Kingdom	6,226.00	Direct Hedge Funds
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Alternative Asset Managers Ranking Total assets by asset class				
osition	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
251	Adveq Management	Switzerland	6,224.00	Private Equity FoF
252	Nuveen (1)	United States	6,214.45	Direct Infrastructure Funds
253	H.R.L. Morrison & Co	New Zealand	6,188.40	Direct Infrastructure Funds
254	UBS Asset Management	Switzerland	6,175.00	Direct Infrastructure Funds
255	MKP Capital Management	United States	6,146.00	Direct Hedge Funds
256	Angelo, Gordon & Co.	United States	6,124.00	Illiquid Credit
257	HQ Capital Private Equity	United States	6,040.00	Private Equity FoF
258	CCMP Capital Advisors	United States	6,018.00	Direct Private Equity Funds
259	Aspect Capital	United Kingdom	5,869.74	Direct Hedge Funds
260	Terra Firma Capital Partners	United Kingdom	5,834.00	Direct Private Equity Funds
261	Aviva Investors	United Kingdom	5,818.00	Direct Infrastructure Funds
262	Lynx Asset Management	Sweden	5,729.00	Direct Hedge Funds
263	CoreCommodity Management	United States	5,600.00	Direct Commodities Funds
264	Lazard Asset Management	United States	5,561.91	Direct Hedge Funds
265	Taconic Capital Advisors	United States	5,524.00	Direct Hedge Funds
266	RCP Advisors	United States	5,522.89	Private Equity FoF
267	Transtrend	Netherlands	5,500.00	Direct Hedge Funds
268	Amundi	France	5,479.39	Private Equity FoF
269	Campbell Global	United States	5,404.00	Natural Resources
270	Park Square Capital	United Kingdom	5,397.50	Illiquid Credit
271	Brookfield Asset Management	Canada	5,336.00	Direct Private Equity Funds
272	UBS Asset Management	Switzerland	5,292.00	Direct Hedge Funds
273	Audax Group	United States	5,213.30	Direct Private Equity Funds
274	Ares Management	United States	5,143.04	Direct Infrastructure Funds
275	Magellan Asset Management	Australia	5,071.30	Direct Infrastructure Funds

lterna	tive Asset Manageı	rs Ranking		
	sets by asset class			
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Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
276	BNP Paribas Investment Partners	France	5,036.42	Illiquid Credit
277	Värde Partners	United States	5,024.92	Direct Hedge Funds
278	Equistone Partners Europe	United Kingdom	4,888.24	Direct Private Equity Funds
279	Amundi	France	4,885.73	Illiquid Credit
280	Deutsche Asset Management	Germany	4,872.00	Direct Infrastructure Funds
281	Kohlberg Kravis Roberts & Co.	United States	4,851.28	Direct Infrastructure Funds
282	GMT Capital Corp.	United States	4,800.00	Direct Hedge Funds
283	Wellington Management	United States	4,728.00	Direct Commodities Funds
284	PineBridge Investments	United States	4,724.40	Private Equity FoF
285	Evanston Capital Management	United States	4,622.00	Funds of Hedge Funds
286	Credit Suisse Asset Management	Switzerland	4,598.91	Funds of Hedge Funds
287	LGT Capital Partners	Switzerland	4,575.67	Insurance-Linked Investments
288	Audax Group	United States	4,555.95	Illiquid Credit
289	IK Investment Partners	United Kingdom	4,515.00	Direct Private Equity Funds
290	Timbercreek Asset Management	Canada	4,401.79	Real Estate Strategies
291	Lion Capital	United Kingdom	4,372.00	Direct Private Equity Funds
292	Tikehau Investment Management	France	4,332.67	Illiquid Credit
293	Pantheon	United Kingdom	4,317.00	Natural Resources
294	Forum Partners	United Kingdom	4,285.46	Real Estate Strategies
295	III Capital Management	United States	4,226.86	Direct Hedge Funds
296	Berkshire Group	United States	4,176.95	Real Estate Strategies
297	Wellington Management	United States	4,154.00	Natural Resources
298	BlueBay Asset Management	United Kingdom	4,132.04	Illiquid Credit
299	M3 Capital Partners	United States	4,100.00	Direct Private Equity Funds
300	Securis Investment Partners	United Kingdom	4,053.00	Insurance-Linked Investments

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Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
301	HSBC Alternative Investment Group	United Kingdom	4,046.00	Real Estate Strategies
302	Arcus Infrastructure Partners	United Kingdom	4,040.00	Direct Infrastructure Funds
303	Henderson Global Investors	United Kingdom	3,992.00	Real Estate Strategies
304	Magnitude Capital	United States	3,987.00	Funds of Hedge Funds
305	Campbell & Company	United States	3,978.00	Direct Hedge Funds
306	Danske Private Equity	Denmark	3,975.00	Private Equity FoF
307	Capital Dynamics	Switzerland	3,944.00	Private Equity FoF
308	Fairview Capital	United States	3,833.32	Private Equity FoF
309	Fairview Capital	United States	3,733.20	Natural Resources
310	Macquarie Group	Australia	3,711.98	Real Estate Strategies
311	Cantab, part of GAM Systematic	United Kingdom	3,700.00	Direct Hedge Funds
312	HSBC Alternative Investment Group	United Kingdom	3,670.00	Private Equity FoF
313	BlackRock	United States	3,650.00	Direct Private Equity Funds
314	Neuberger Berman	United States	3,639.70	Funds of Hedge Funds
315	PCCP	United States	3,614.28	Real Estate Strategies
316	Chenavari Investment Managers	United Kingdom	3,598.00	Direct Hedge Funds
317	Abbey Capital	Ireland	3,577.63	Funds of Hedge Funds
318	Mesa West Capital	United States	3,538.23	Real Estate Strategies
319	Northleaf Capital Partners	Canada	3,518.58	Private Equity FoF
320	Kayne Anderson Capital Advisors	United States	3,502.68	Real Estate Strategies
321	Blue Harbour Group	United States	3,488.00	Direct Hedge Funds
322	Patron Capital	United Kingdom	3,486.00	Real Estate Strategies
323	Mesirow Financial Holdings	United States	3,435.00	Private Equity FoF
324	Highbridge Capital Management	United States	3,414.00	Direct Hedge Funds
325	Leadenhall	United Kingdom	3,410.95	Insurance-Linked Investments

lterna	tive Asset Manageı	rs Ranking		
	ets by asset class			
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Position	Name of parent organisation	Main country of domicile	Total AuM	Asset Class
		<u> </u>	(USD million)	
326	Hermes Investment Management	United Kingdom	3,374.35	Private Equity FoF
327	GSO Capital Partners	United States	3,350.40	Direct Hedge Funds
328	Hermes Investment Management	United Kingdom	3,295.00	Direct Infrastructure Funds
329	Aberdeen Asset Management	United Kingdom	3,291.72	Direct Infrastructure Funds
330	Ardian	France	3,239.00	Illiquid Credit
331	Capstone Investment Advisors	United States	3,231.93	Direct Hedge Funds
332	Principal Global Investors	United States	3,215.00	Direct Hedge Funds
333	Infracapital	United Kingdom	3,205.00	Direct Infrastructure Funds
334	Crestline Investors	United States	3,173.00	Direct Private Equity Funds
335	Beacon Capital Partners	United States	3,146.00	Real Estate Strategies
336	MetLife Investment Advisors	United States	3,117.40	Real Estate Strategies
337	Neuberger Berman	United States	3,088.90	Direct Hedge Funds
338	Allianz Global Investors	Germany	3,074.00	Funds of Hedge Funds
339	Macquarie Group	Australia	3,074.00	Illiquid Credit
340	Meyer Bergman	United Kingdom	3,047.00	Real Estate Strategies
341	EQT	United Kingdom	3,034.00	Illiquid Credit
342	Macquarie Group	Australia	3,031.46	Direct Hedge Funds
343	Odey Asset Management	United Kingdom	2,968.00	Direct Hedge Funds
344	UBS Asset Management	Switzerland	2,954.00	Direct Commodities Funds
345	Marathon Asset Management	United States	2,915.00	Illiquid Credit
346	Gramercy Funds Management	United States	2,849.60	Direct Hedge Funds
347	Kohlberg Kravis Roberts & Co.	United States	2,824.72	Natural Resources
348	3i Group	United Kingdom	2,773.00	Direct Private Equity Funds
349	Oaktree Capital Management	United States	2,762.20	Direct Infrastructure Funds
350	Ivory Investment Management	United States	2.755.00	Direct Hedge Funds

Iternative Asset Managers Ranking tal assets by asset class					
osition	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class	
351	AlphaCat Managers	Bermuda	2,740.00	Insurance-Linked Investments	
352	Whitehelm Capital	Australia	2,737.06	Direct Infrastructure Funds	
353	Europa Capital	United Kingdom	2,716.00	Real Estate Strategies	
354	Navis Capital Partners	Cayman Islands	2,708.40	Direct Private Equity Funds	
355	Crestline Investors	United States	2,664.00	Funds of Hedge Funds	
356	Legal & General	United Kingdom	2,645.00	Illiquid Credit	
357	Barings	United Kingdom	2,638.18	Private Equity FoF	
358	Investa Property Group	Australia	2,532.85	Real Estate Strategies	
359	One William Street Capital Management	United States	2,517.00	Direct Hedge Funds	
360	Neuberger Berman	United States	2,500.20	Illiquid Credit	
361	Greystone Managed Investments	Canada	2,436.11	Illiquid Credit	
362	Legal & General	United Kingdom	2,430.00	Direct Infrastructure Funds	
363	Equitix Investment Management	United Kingdom	2,408.28	Direct Infrastructure Funds	
364	Kohlberg Kravis Roberts & Co.	United States	2,383.16	Real Estate Strategies	
365	QIC	Australia	2,351.46	Private Equity FoF	
366	LibreMax Capital	United States	2,348.00	Direct Hedge Funds	
367	Aristeia Capital	United States	2,326.00	Direct Hedge Funds	
368	Dalmore Capital	United Kingdom	2,307.00	Direct Infrastructure Funds	
369	HSBC Alternative Investment Group	United Kingdom	2,283.00	Funds of Hedge Funds	
370	Lothbury Investment Management	United Kingdom	2,252.00	Real Estate Strategies	
371	Chilton Investment Company	United States	2,250.00	Direct Hedge Funds	
372	Brookfield Asset Management	Canada	2,248.00	Natural Resources	
373	Amundi	France	2,242.99	Funds of Hedge Funds	
374	Monarch Alternative Capital	United States	2,240.00	Direct Hedge Funds	
375	Amber Infrastructure Group	United Kingdom	2,221.80	Direct Infrastructure Funds	

Iterna	itive Asset Manager	s Ranking		
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บเลเ สรร	sets by asset class			
			Total AuM	
Position	Name of parent organisation	Main country of domicile	(USD million)	Asset Class
376	SteelRiver Infrastructure Partners	United States	2,203.00	Direct Infrastructure Funds
377	KLS Diversified Asset Management	United States	2,195.00	Direct Hedge Funds
378	EQT	United Kingdom	2,136.00	Direct Infrastructure Funds
379	Innisfree	United Kingdom	2,122.00	Direct Infrastructure Funds
380	Pradera	United Kingdom	2,111.00	Real Estate Strategies
381	La Française Group	France	2,109.00	Funds of Hedge Funds
382	Robeco Group	Netherlands	2,062.00	Private Equity FoF
383	Boussard & Gavaudan	France	2,057.10	Direct Hedge Funds
384	Permira	United Kingdom	2,031.00	Illiquid Credit
385	Aurum Fund Management	Bermuda	2,015.88	Funds of Hedge Funds
386	Stafford Capital Partners	Australia	2,006.20	Natural Resources
387	Investec Asset Management	United Kingdom	1,999.70	Direct Commodities Funds
388	New Forests Asset Management	Australia	1,981.90	Natural Resources
389	Hastings Funds Management	Australia	1,980.46	Illiquid Credit
390	Schroders Investment Management	United Kingdom	1,964.00	Insurance-Linked Investments
391	Kingdon Capital Management	United States	1,950.00	Direct Hedge Funds
392	Equis	Singapore	1,930.80	Direct Private Equity Funds
393	Equilibrium	United States	1,900.00	Natural Resources
394	Anchorage Capital Group	United States	1,900.00	Illiquid Credit
395	Investcorp	United States	1,890.00	Funds of Hedge Funds
396	Vontobel Asset Management	Switzerland	1,889.00	Funds of Hedge Funds
397	Crestline Investors	United States	1,887.00	Illiquid Credit
398	Amundi	France	1,874.86	Direct Hedge Funds
399	Oaktree Capital Management	United States	1,842.52	Direct Hedge Funds
400	Optima Fund Management	United States	1,824.00	Funds of Hedge Funds

Iternative Asset Managers Ranking otal assets by asset class					
Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class	
401	Goldman Sachs Asset Management	United States	1,821.00	Direct Commodities Funds	
402	Kayne Anderson Capital Advisors	United States	1,801.51	Illiquid Credit	
403	Wexford Capital	United States	1,775.00	Direct Hedge Funds	
404	Wolverine Asset Management	United States	1,775.00	Direct Hedge Funds	
405	Northleaf Capital Partners	Canada	1,770.00	Direct Infrastructure Funds	
406	PIMCO	United States	1,723.00	Illiquid Credit	
407	Invesco	United States	1,703.00	Direct Commodities Funds	
408	Equilibrium	United States	1,700.00	Real Estate Strategies	
409	Fulcrum Asset Management	United Kingdom	1,696.00	Direct Hedge Funds	
410	Mirova (1)	France	1,694.70	Direct Infrastructure Funds	
411	Deutsche Asset Management	Germany	1,691.00	Direct Private Equity Funds	
412	Monarch Alternative Capital	United States	1,685.00	Direct Private Equity Funds	
413	Palisade Investment Partners	Australia	1,676.00	Direct Infrastructure Funds	
414	Voya Alternative Asset Management	Ireland	1,632.90	Direct Hedge Funds	
415	SC Capital Partners	Singapore	1,623.00	Real Estate Strategies	
416	Spinnaker Capital	United Kingdom	1,621.97	Direct Hedge Funds	
417	Tremblant Capital	United States	1,555.00	Direct Hedge Funds	
418	Chenavari Investment Managers	United Kingdom	1,526.00	Illiquid Credit	
419	Amplitude Capital	Switzerland	1,500.00	Direct Hedge Funds	
420	JHL Capital Group	United States	1,485.50	Direct Hedge Funds	
421	Fengate Real Asset Investments	Canada	1,480.00	Real Estate Strategies	
422	Edesia Asset Management	Switzerland	1,478.00	Direct Commodities Funds	
423	First Quadrant	United States	1,462.00	Direct Hedge Funds	
424	Clessidra SGR	Italy	1,430.65	Direct Private Equity Funds	
425	Blue Sky Alternative Investments	Australia	1,416.75	Real Estate Strategies	

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	sets by asset class	•		
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Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
426	Northleaf Capital Partners	Canada	1,409.70	Illiquid Credit
427	Schroders Investment Management	United Kingdom	1,405.00	Direct Commodities Funds
428	Investcorp	United States	1,382.00	Direct Hedge Funds
429	Axium Infrastructure	Canada	1,381.00	Direct Infrastructure Funds
430	Lombard Odier Investment Managers	Switzerland	1,368.77	Direct Hedge Funds
431	Capital Dynamics	Switzerland	1,364.00	Direct Infrastructure Funds
432	Morgan Stanley Investment Management	United States	1,344.00	Illiquid Credit
433	Lombard Odier Investment Managers	Switzerland	1,336.86	Direct Private Equity Funds
434	Intermediate Capital Group	United Kingdom	1,335.00	Private Equity FoF
435	Presima	Canada	1,319.37	Real Estate Strategies
436	Picton Mahoney Asset Management	Canada	1,297.30	Direct Hedge Funds
437	IFM Investors	Australia	1,290.00	Private Equity FoF
438	Twelve Capital	Switzerland	1,276.39	Insurance-Linked Investments
439	Columbia Threadneedle Investments	United States	1,251.60	Direct Commodities Funds
440	Sloane Robinson	United Kingdom	1,233.00	Direct Hedge Funds
441	BMO Global Asset Management	United Kingdom	1,231.00	Private Equity FoF
442	Hiscox	Bermuda	1,217.00	Insurance-Linked Investments
443	Hermes Investment Management	United Kingdom	1,216.78	Direct Private Equity Funds
444	Brockton Capital	United Kingdom	1,158.70	Real Estate Strategies
445	Kempen Capital Management	Netherlands	1,156.90	Funds of Hedge Funds
446	PineBridge Investments	United States	1,120.20	Direct Private Equity Funds
447	Wellington Management	United States	1,111.00	Direct Infrastructure Funds
448	Macquarie Group	Australia	1,081.29	Direct Private Equity Funds
449	Investec Asset Management	United Kingdom	1,080.00	Real Estate Strategies
450	Franklin Templeton	United States	1,077.75	Direct Infrastructure Funds

Iternative Asset Managers Ranking otal assets by asset class					
osition	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class	
451	Amundi	France	1,073.32	Direct Private Equity Funds	
452	Fengate Real Asset Investments	Canada	1,068.00	Direct Infrastructure Funds	
453	Macquarie Group	Australia	1,067.88	Natural Resources	
454	Aalto Invest	United Kingdom	1,060.63	Illiquid Credit	
455	Colliers Capital	United Kingdom	1,033.00	Real Estate Strategies	
456	PineBridge Investments	United States	1,003.90	Illiquid Credit	
457	Greylock Capital Management	United States	989.00	Direct Hedge Funds	
458	Greylock Capital Management	United States	989.00	Illiquid Credit	
459	Mesirow Financial Holdings	United States	982.88	Real Estate Strategies	
460	West Face Capital	Canada	955.30	Direct Hedge Funds	
461	BMO Global Asset Management	United Kingdom	955.10	Direct Hedge Funds	
462	Wellington Management	United States	953.00	Direct Private Equity Funds	
463	Mt. Logan Re	Bermuda	932.24	Insurance-Linked Investments	
464	D. E. Shaw Group	United States	918.00	Illiquid Credit	
465	Schroders Investment Management	United Kingdom	882.00	Illiquid Credit	
466	RWC Asset Management	United Kingdom	870.35	Direct Hedge Funds	
467	Stafford Capital Partners	Australia	848.70	Private Equity FoF	
468	Optima Fund Management	United States	826.00	Direct Hedge Funds	
469	Lombard Odier Investment Managers	Switzerland	812.94	Direct Infrastructure Funds	
470	Ethos Private Equity	South Africa	785.45	Direct Private Equity Funds	
471	Palmer Capital	United Kingdom	750.00	Real Estate Strategies	
472	Corpfinance International	Canada	750.00	Direct Infrastructure Funds	
473	Corpfinance International	Canada	750.00	Illiquid Credit	
474	Orchard Global Asset Management	Singapore	741.00	Illiquid Credit	
475	Deutsche Asset Management	Germany	737.00	Direct Commodities Funds	

literna	ıtive Asset Manager	's Ranking		
otal ass	sets by asset class			
Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
476	OFI Global Asset Management	United States	736.89	Real Estate Strategies
477	Schroders Investment Management	United Kingdom	703.00	Private Equity FoF
478	AXA Investment Managers	France	697.63	Insurance-Linked Investments
479	CarVal Investors	United States	696.55	Real Estate Strategies
480	Aalto Invest	United Kingdom	676.52	Real Estate Strategies
481	Wexford Capital	United States	675.00	Direct Private Equity Funds
482	Orchard Global Asset Management	Singapore	668.40	Direct Hedge Funds
483	Vontobel Asset Management	Switzerland	668.00	Direct Commodities Funds
484	Investec Asset Management	United Kingdom	667.00	Direct Infrastructure Funds
485	SCOR Investment Partners	France	661.00	Insurance-Linked Investments
486	Credit Suisse Asset Management	Switzerland	659.15	Direct Infrastructure Funds
487	Henderson Global Investors	United Kingdom	650.00	Natural Resources
488	Aberdeen Asset Management	United Kingdom	645.72	Natural Resources
489	Vontobel Asset Management	Switzerland	637.00	Natural Resources
490	AMP Capital	Australia	633.20	Direct Private Equity Funds
491	Allianz Global Investors	Germany	611.00	Real Estate Strategies
492	Loomis, Sayles & Company	United States	610.60	Direct Hedge Funds
493	QIC	Australia	595.13	Direct Private Equity Funds
494	Henderson Global Investors	United Kingdom	595.00	Direct Commodities Funds
495	Investec Asset Management	United Kingdom	563.30	Natural Resources
496	Blue Road Capital	United States	558.86	Direct Private Equity Funds
497	BlueBay Asset Management	United Kingdom	547.74	Direct Hedge Funds
498	Blue Capital Management	Bermuda	537.00	Insurance-Linked Investments
499	Riverstone Holdings	United States	518.65	Illiquid Credit
500	Cygnus Asset Management	Spain	518.00	Direct Hedge Funds

Iternative Asset Managers Ranking stal assets by asset class					
Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class	
501	Angelo, Gordon & Co.	United States	512.00	Direct Private Equity Funds	
502	Cohen & Steers Capital Management	United States	498.00	Direct Commodities Funds	
503	ZAIS Group	United States	474.18	Direct Hedge Funds	
504	Visio Capital Management	South Africa	473.00	Direct Hedge Funds	
505	OFI Global Asset Management	United States	470.98	Direct Commodities Funds	
506	Senrigan Capital	Hong Kong	453.49	Direct Hedge Funds	
507	Franklin Templeton	United States	452.67	Direct Private Equity Funds	
508	Aetos Capital Real Estate	United States	440.00	Real Estate Strategies	
509	Investec Asset Management	United Kingdom	435.20	Direct Private Equity Funds	
510	Twelve Capital	Switzerland	433.93	Illiquid Credit	
511	Meridian Capital Partners	United States	420.00	Funds of Hedge Funds	
512	Barings	United Kingdom	402.01	Natural Resources	
513	OFI Global Asset Management	United States	398.79	Direct Infrastructure Funds	
514	Blue Sky Alternative Investments	Australia	390.00	Natural Resources	
515	D. E. Shaw Group	United States	374.00	Direct Private Equity Funds	
516	Crestline Investors	United States	373.00	Direct Hedge Funds	
517	CZ Capital	United Kingdom	341.00	Direct Hedge Funds	
518	Brookfield Asset Management	Canada	335.00	Direct Hedge Funds	
519	Taconic Capital Advisors	United States	331.00	Illiquid Credit	
520	Lombard Odier Investment Managers	Switzerland	301.87	Direct Commodities Funds	
521	Franklin Templeton	United States	292.81	Real Estate Strategies	
522	Blue Sky Alternative Investments	Australia	276.41	Direct Private Equity Funds	
523	Capital Dynamics	Switzerland	268.00	Direct Private Equity Funds	
524	Greystone Managed Investments	Canada	267.84	Direct Infrastructure Funds	
525	The Forest Company	United Kingdom	256.00	Natural Resources	

	tive Asset Manager	S Ivalikiliy		
otal ass	sets by asset class			
Position	Name of parent organisation	Main country of domicile	Total AuM	Asset Class
526	Europa Capital		(USD million) 254.67	Illiquid Credit
527	BMO Global Asset Management	United Kingdom United Kingdom	254.67	Funds of Hedge Funds
528	West Face Capital	Canada	248.00	Illiquid Credit
529	Credit Suisse Asset Management	Switzerland	242.54	Direct Private Equity Funds
530	Nuveen (1)	United States	229.57	Direct Hedge Funds
531	Equilibrium	United States	200.00	Direct Infrastructure Funds
532	Wellington Management	United States	196.00	Real Estate Strategies
533	Deutsche Asset Management	Germany	179.00	Funds of Hedge Funds
534	OIC	Australia	174.13	Direct Hedge Funds
535	Ardian	France	166.00	Real Estate Strategies
536	Impax Asset Management	United Kingdom	161.00	Direct Infrastructure Funds
537	Stafford Capital Partners	Australia	159.60	Direct Infrastructure Funds
538	Union Investment	Germany	142.50	Direct Infrastructure Funds
539	Intermediate Capital Group	United Kingdom	139.00	Direct Hedge Funds
540	DDJ Capital Management	United States	137.79	Illiquid Credit
541	Whitehelm Capital	Australia	128.84	Real Estate Strategies
542	Neuberger Berman	United States	105.00	Direct Commodities Funds
543	Fengate Real Asset Investments	Canada	104.00	Direct Private Equity Funds
544	Spinnaker Capital	United Kingdom	103.72	Illiquid Credit
545	Schroders Investment Management	United Kingdom	98.00	Natural Resources
546	IFM Investors	Australia	93.00	Direct Private Equity Funds
547	Henderson Global Investors	United Kingdom	84.00	Direct Private Equity Funds
548	Cohen & Steers Capital Management	United States	83.00	Natural Resources
549	Aalto Invest	United Kingdom	81.40	Direct Hedge Funds
550	Gunn Agri Partners	Australia	80.00	Natural Resources

nai ass	sets by asset class			
Position	Name of parent organisation	Main country of domicile	Total AuM (USD million)	Asset Class
551	Lombard Odier Investment Managers	Switzerland	79.90	Insurance-Linked Investments
552	Whitehelm Capital	Australia	76.19	Private Equity FoF
553	Allianz Global Investors	Germany	67.00	Direct Commodities Funds
554	Whitehelm Capital	Australia	61.41	Direct Private Equity Funds
555	Impax Asset Management	United Kingdom	56.55	Real Estate Strategies
556	Henderson Global Investors	United Kingdom	53.00	Funds of Hedge Funds
557	Fulcrum Asset Management	United Kingdom	53.00	Direct Commodities Funds
558	BMO Global Asset Management	United Kingdom	50.60	Natural Resources
559	Blue Sky Alternative Investments	Australia	42.00	Direct Hedge Funds
560	First Quadrant	United States	41.00	Direct Commodities Funds
561	OFI Global Asset Management	United States	32.92	Insurance-Linked Investments
562	Barings	United Kingdom	29.59	Insurance-Linked Investments
		Total	6,487,116.59	

Survey statistics

- Manager participation varies from year to year, and one data point from a large asset manager may significantly affect the survey results.
- We have not accounted for the potential overlap between Fund of Funds and Direct Funds, particularly for the Hedge Funds and Private Equity categories, which may affect AuM figures.

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Glossary

Funds of Hedge Funds: A Hedge Fund of Funds is an investment structure that pools capital from investors within a commingled vehicle that allocates it to Hedge Funds, instead of investing directly into opportunities.

Direct Hedge Funds: Hedge Funds are private, offshore domiciled investment vehicles seeking to generate absolute returns regardless of the performance of overall markets. To achieve that, hedge funds can take advantage of a broad spectrum of tools including leverage and short selling and they are typically not subject to any formal investment restrictions. Hedge Funds are usually at the more liquid end of the investment spectrum.

Private Equity Funds of Funds: A Private Equity Fund of Funds is an investment structure that pools capital from investors and commits it to direct private equity funds, this includes secondary managers.

Direct Private Equity Funds: Private Equity is equity capital that is not quoted on a public exchange. It consist directly into private companies or conduct buyouts of public companies that result in a delisting of public equity. ists of investors and funds that make investments

Real Estate Strategies: Real estate strategies are those targeting investment directly or indirectly in buildings or land. This would include both listed and unlisted real estate securities, and unlisted real estate debt investments in real estate. We would exclude securities debt from our definition (e.g. RMBS or CMBS).

Direct Commodities Funds: Commodities are a distinct asset used in the production of good and services. Price is determined by supply and demand dynamics trafter than future cash flows. Ominionines are a disassessuation methods do production to apply. Participants in this market include commodity production and ynamic rather than future cash flows, which implies that traditional valuation methods do napply. Participants in this market include commodity producers and speculators. Producers trade mostly physical assets, but use derivatives to hedge against price movement, whilst speculators trade mostly derivatives given the costs associated with storage. Some examples of commodifies include coffee, oil and gold.

Direct Infrastructure Funds: Infrastructure assets are the facilities and structures essential for the orderly operations of an economy. Infrastructure assets generally also demonstrate monopolistic characteristics and high barriers to entry for competitors. Examples of infrastructure assets include transportation networks, health and education facilities, communications networks, water and energy distribution systems provide essential services to communities.

Natural Resources (eg agriculture, timber, water): Natural Resources strategies include a wide range of investment opportunities, ie in agriculture/farmland, timberland, water (including water rights), natural resources, etc. The distinctive characteristic of real asset is tangible underlying asset and its connection to food and resource scarcily theme. The strategies may be focused either on delivering cash yield to investors (limited exposure to operational business) or on capital appreciation (significant exposure to operational business).

Illiquid Credit: Illiquid credit strategies encompass private debt opportunities, for example real estate debt, infrastructure debt, direct lending, mezzanine etc, as well as other private equity style funds with a predominant focus on illiquid and/or distressed debt-biased strategies (for example non-performing loans). CLOs are excluded from this definition.

Insurance-Linked Investments: An Insurance-Linked Investment product is an investment fund that offers investors exposure to insurance-related premium, predominantly related to P&C risk (mainly property catastrophe risk)

Pension funds: Includes public pension funds, private sector pension funds and superannuation schemes

Wealth managers: Includes high net worth individuals, family offices, asset managers, corporate investors, private companies and investment companies.

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