2019 SURVEY RESULTS

HEDGE FUND OPERATIONAL DUE DILIGENCE

October 2019

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BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

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NEPC

BACKGROUND

- **NEPC's hedge fund research team consists of both investment specialists and a separate team focused on Operational Due Diligence ("ODD")**
- **Ongoing oversight includes an annual ODD survey, sent to all hedge funds utilized by NEPC clients and to any 1-rated funds**
  - Identifies key operational issues
    - Changes to the firm's ownership structure
    - Senior staff departures
    - Litigation or regulatory action
    - Dramatic decline in assets
    - Service provider changes
  - Allows NEPC to aggregate service providers used across all funds
    - Verify external service providers directly
    - Helps to flag any inaccurate responses
  - Highlights funds with operational "red flags" worthy of further investigation
- **Survey is sent annually in June, and the responses are compiled through the summer and fall**
  - This year, the survey period spanned from 5/31/2018 – 5/31/2019
- **NEPC services 380 retainer clients with approximately $1.1 trillion in assets across 932 separate portfolios, including 62 clients with discretionary assets of $29.5 billion ***

* as of 9/30/2019

SURVEY RESULTS

SURVEY RESULTS

- **Each year we survey all hedge funds in place across all clients for whom NEPC advises on hedge funds**

- **The 2019 survey went to 196 managers and 180 responded (Response rate: 92%)**

- **Information on 277 funds was provided**
  - Highlights and trends are summarized herein
  - Each fund Administrator was contacted independently by NEPC to verify the relationship reported by each manager
  - Audited Financial Statements are being reviewed

- **16 firms were non-responders**
  - Per NEPC policy, non-responders cannot be included in future searches for clients

SURVEY RESULTS

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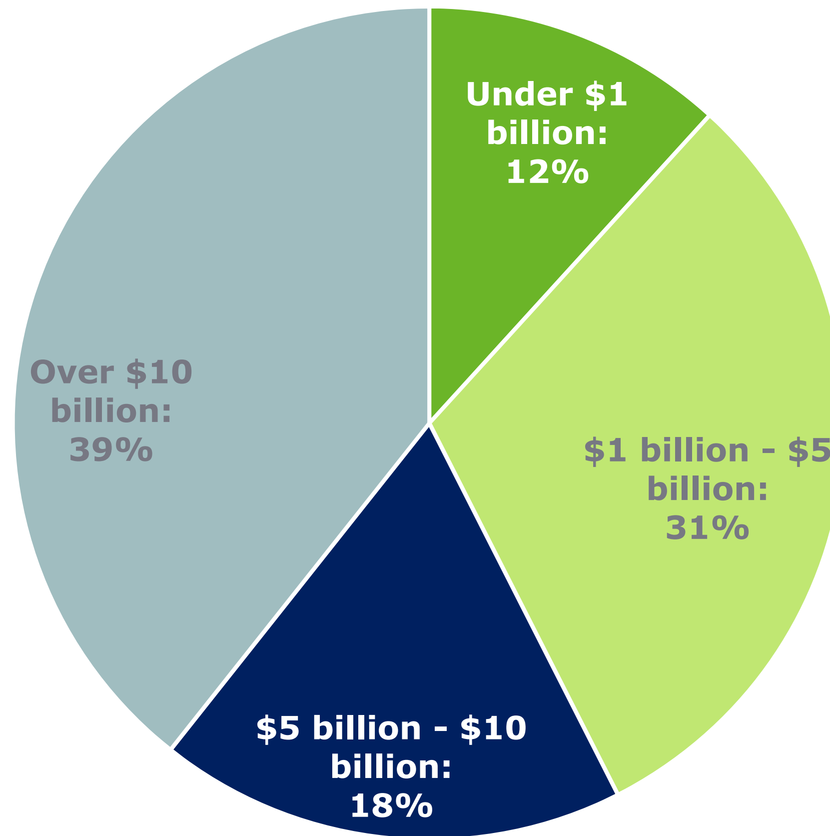
SURVEY RESULTS



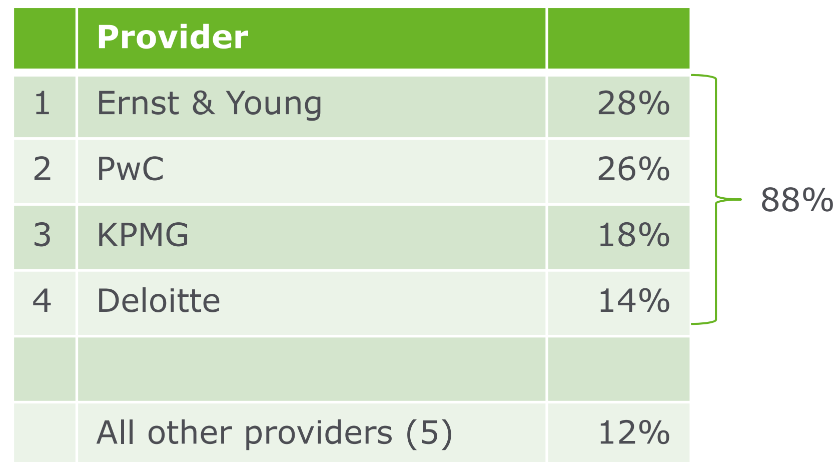
SURVEY RESULTS – HIGHLIGHTS

- **Firm-level data**
  - 91% are fully registered with the SEC. An additional 8% are registered as "Exempt Reporting Advisors."
  - 32% reported receiving an inquiry from a regulator during the survey period.
  - 22% had a change in ownership.
  - 3% are involved in some form of litigation.
    - Litigation brought against the management company or fund could indicate greater operational risk.
  - 41% had senior personnel departures.
  - 17% have an affiliated broker/dealer.
    - Affiliated broker/dealers could present a conflict of interest; however, many broker/dealer affiliates of hedge fund managers exist primarily for marketing purposes and are not involved in trading.

- **Fund-level data**
  - Nine different audit firms are used, with the top two being Ernst & Young (28%) and PwC (26%).
  - 25 different administrators are used, with the most-used being Citco (15%).
  - 2% of the funds are self-administered.
  - 6% have changed a service provider.
  - 1% put up gates or restricted liquidity.

SURVEY RESULTS

- **Auditors**
  - Just nine audit firms are utilized by 273 funds
    - Four funds were reported to be separately managed accounts which did not have audit relationships directed by the manager
  - This service is highly concentrated: 88% is with the Big Four audit firms



	Provider	
1	Ernst & Young	28%
2	PwC	26%
3	KPMG	18%
4	Deloitte	14%
	All other providers (5)	12%

SURVEY RESULTS

- **Administrators**
  - A diverse group of providers: 25 firms across 276 funds; however, 25 providers is the lowest number reported in our 10-year history and reflects significant industry consolidation
  - A large concentration in the top 10 (80%)

	Provider	
1	Citco Fund Services	15%
2	IFS (International Fund Services)	14%
3	SS&C GlobeOp	14%
4	BNY Mellon	12%
5	Mitsubishi UFJ Fund Services	5%
6	State Street AIS	4%
7	HedgeServ	4%
8	Morgan Stanley Fund Services	4%
9	JPMorgan Hedge Fund Services	4%
10	Northern Trust Hedge Fund Services	3%
	Self-Administered	2%
	All other providers (15)	18%

80%

SURVEY RESULTS

Registered with the SEC *

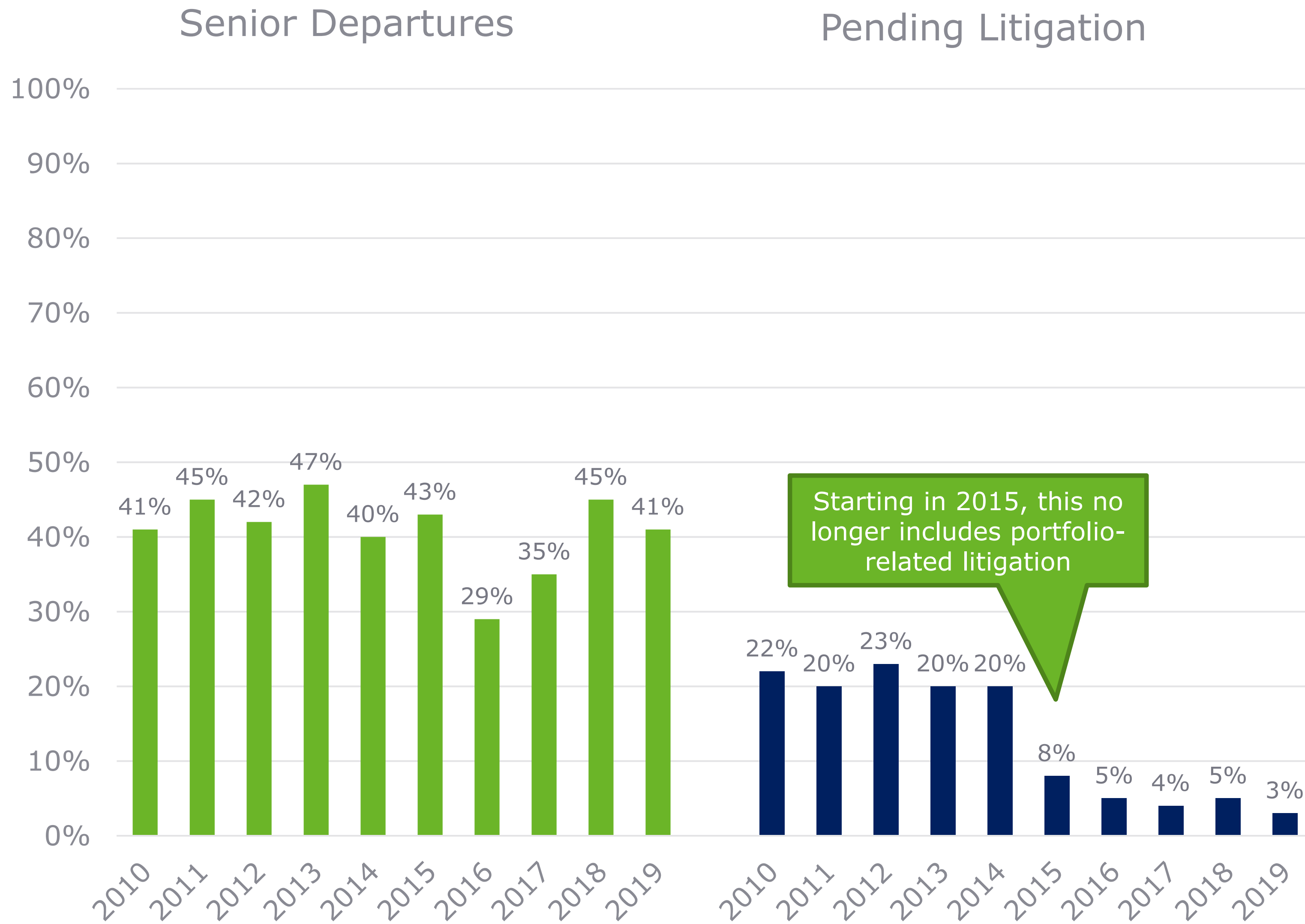
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
75%	77%	95%	95%	95%	98%	98%	99%	99%	98%

Firm AUM > $1 Billion

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
83%	82%	83%	85%	86%	85%	88%	88%	90%	88%

* Includes Exempt Reporting Advisors

SURVEY RESULTS



SURVEY RESULTS

Top 10 Administrator Concentration

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Concentration	63%	66%	66%	71%	74%	75%	80%	81%	79%	80%

Big Four Auditor Concentration

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Concentration	78%	81%	84%	84%	85%	91%	92%	92%	90%	88%

SURVEY RESULTS

Pass-Through Expense Items *

	2014	2015	2016	2017	2018	2019
Travel & Entertainment	30%	37%	35%	37%	36%	31%
Research Costs	47%	48%	47%	51%	53%	55%
Employee Overhead	6%	7%	9%	8%	9%	9%

* Represents the percentage of funds surveyed that charge the specified expense types to investors

APPENDIX

SURVEY QUESTIONS

- **Firm Questions**
  - Firm AUM
  - Is the firm registered with the SEC?
  - Did the firm receive any inquiries from the SEC or another regulator during the survey period?
  - Did the firm's ownership change during the survey period?
  - Did any key management personnel leave the firm during the survey period?
  - Is there any pending material litigation related to the firm or current members of the firm brought by any current/former investors or employees? (not including portfolio-related litigation)
  - Do you operate or are affiliated with a broker/dealer?

- **Fund Questions**
  - Fund Net Assets
  - Fund Auditor
  - Fund Administrator and service location(s)
  - Did the auditor or administrator change during the survey period?
  - Prime Brokers and/or Custodians
  - Were any of the fund's assets held in a side pocket during the survey period?
  - Did you use a third party valuation provider during the survey period to price hard-to-value positions?
  - Did you use an expert network during the survey period?
  - Did the Fund create new gates to reduce liquidity for current investors during the survey period?
  - Are Travel & Entertainment, Research Costs, and/or Employee Overhead charged to the Fund?

INDUSTRY NEWS – GROWTH IN ASSETS AND FUNDS

The HF industry stopped growing in 2018, but it continues to evolve *

- 2018 saw the first year of AUM decline since 2008, which was driven by a combination of both negative returns and investor outflows.
- Investor flows turned negative for the second year in the past three, bringing the total outflows to ~$100bn since the start of 2016.
- Underneath the surface, there are powerful trends that are reshaping the industry:
  - Strategy-wise there has been a massive rotation over the past three years away from discretionary strategies and into quantitative ones.
  - Also, while equity long short, equity event and macro have had over $100bn on outflows, other pockets of the industry like FIRV, merger arbitrage, and market neutral equity have been showing healthy growth.
- Assets have been concentrating in a small number of highly successful managers (most of them quant or hybrid) that have been able to break away from the group.

* Source: *Barclays Global Hedge Fund Industry Outlook*, February 2019

Hedge fund launch total at lowest level since 2000 **

- An estimated 561 hedge funds were launched in 2018 while 659 were liquidated over the course of the year, representing the lowest launch total since 2000, data from Hedge Fund Research showed.
- The total number of fund closures represented a decline from the 784 funds that closed in 2017. The calendar-year liquidation total also represents the lowest closure total since an estimated 563 funds shut down in 2007.
- "While investor risk appetite has returned in early 2019, the environment remains challenging for new fund launches, with increasingly institutional capital sources indicating preference for established funds, new launches by established firms or demonstrated performance track record combined with rising investor capital bases," [said HFR President] Kenneth Heinz.

** Source: *Pensions & Investments*, March 22, 2019

INDUSTRY NEWS – ALLOCATOR TRENDS

Family Offices increasing hedge fund allocations in 2019 *

- According to the network of 10,000 global family offices with USD 15 trillion in assets, the appetite for various hedge fund strategies is increasing, with more capital being allocated to traditional Long/Short, Global Macro and Managed Futures strategies as a hedge against recent volatility in the marketplace. In addition, FON is seeing newer strategies grow in popularity for investment such as blockchain, artificial intelligence and cannabis funds.
- "Roughly 30 per cent of the family offices that we have surveyed over the past few months have mentioned that they plan on increasing their allocation into hedge fund products," says Andrew Schneider, Founder and CEO of Family Office Networks. "With the broader capital markets being down last year, family offices are looking for preservation of capital."

* Source: *HedgeWeek*, January 31, 2019

Hedge Fund Demand Is on Its Way Up, JPMorgan Survey Finds **

- Institutional investors are flocking to hedge funds this year, even after a turbulent 2018 marked by poor performance and market volatility.
- Demand for hedge funds is rising as investors such as endowments and pensions search for market-beating returns and diversification, a JPMorgan Chase & Co. survey found. About a third of respondents plan to boost allocations, up from 15 percent in 2018. Just 13 percent expect a decrease while 55 percent said they plan to maintain current allocations.
- Investors remain concerned about hedge fund crowding, style drift and transparency, according to the survey. JPMorgan said it polled 227 investors with about $706 billion in hedge fund assets for its annual Institutional Investor Survey.
- Almost half of the investors surveyed by JPMorgan plan to increase exposure to Asia.
- Macroeconomic and credit strategies are also poised to draw client allocations this year. Fundamental long-short equity, event-driven and managed-futures strategies are expected to see outflows, the survey found.

** Source: *Bloomberg*, March 31, 2019

INDUSTRY NEWS – ALLOCATOR TRENDS

Hedge Fund Co-Investing Quickens as Investors Chase Bigger Gains *

- Hedge fund co-investments are becoming increasingly popular as allocators including pensions and endowments seek bigger gains and lower fees.
- About 41 percent of investors said they plan to put money to work alongside hedge funds this year, according to a Credit Suisse AG report. That compares with 33 percent in 2016. Almost 30 percent of hedge funds are planning to employ or increase the use of the strategy.
- Co-investing – which allows investors to put money in individual deals alongside managers rather than invest directly into funds – began gaining traction after 2008 as client sought more illiquid assets. Such allocations are becoming more popular as capital continues to flow into non-traditional products and customized mandates.
- Higher returns, clients and managers with common goals and increased transparency are the top drivers for co-investment allocations. Credit Suisse polled 311 institutional investors with about $1.12 trillion in hedge fund investments for the 2019 investor survey.
- More than half of allocators that co-invest don't pay a management fee, though 78 percent pay a performance fee of some kind.

* Source: *Bloomberg*, May 1, 2019

INDUSTRY NEWS – CUSTOMIZATION

Customization key in investor search for better returns *

- Institutional investors increasingly are asking for — and receiving — customized versions of flagship hedge fund strategies that better meet their investment needs at a significant discount.
- Because custom hedge fund and hedge funds-of-funds strategies generally are offered as separately managed accounts, the investor has complete control and transparency within its account, including access to managers' real-time portfolio holdings, industry sources said.
- Hedge fund managers are creating a wide range of customized strategies at the request of asset owners. Variations include tweaking standard flagship strategies, isolating and investing in a particular strategy from within a multi-strategy portfolio approach and building a specific solution to a portfolio issue, interviews with large asset owners showed.
- "Customization is the new normal for institutional hedge fund investors," said Michelle Noyes, the New York-based managing director and head of Americas for the Alternative Investment Management Association Inc., an international industry group. "The hedge fund industry has become more institutionally oriented, and asset owners are becoming more demanding. With customization, asset owners can get more of what they want in hedge fund strategies," Ms. Noyes said.
- An AIMA survey of 118 hedge fund managers conducted in the first quarter this year found that 53% of respondents agreed that offering customized solutions to asset owners is important to aligning their interests with the investor, compared with just 14% in 2016.
- For now, only large asset owners are able to command customized portfolios, having the heft to meet minimum mandate sizes of at least $100 million. That's enough to convince a hedge fund manager to custom craft a strategy, set up a separately managed account and deal with compliance and operational issues, said Steven B. Nadel, a partner in the asset management practice of Seward & Kissel LLP, a New York law firm.

* Source: *Pensions & Investments*, 9/16/2019

INDUSTRY NEWS – FUND LAUNCHES

New hedge fund study shows funds placing premium on strong start *

- Hedge funds established in 2018 undertook concerted efforts to launch their enterprises on a stable foundation, including raising minimum investment levels significantly over prior years, according to The Seward & Kissel 2018 New Hedge Fund Study.
- In 2018, higher asset levels were sought in order to manage increasing costs and better attract institutional capital. From 2017 to 2018, the minimum investment accepted by new hedge funds shot up dramatically.
- In further evidence of the industry's emphasis on day-one capital, study data and market intelligence gathered by Seward & Kissel indicates that the number of seed deals rose by 20 per cent in 2018. The increase in seed deals demonstrates new fund managers' desire to get substantial – and patient – dollars in the door, with typical seed lock-ups in the two- to three-year range. The higher end of seed deals remained in the USD100-USD200 million range.
- The market is increasingly treating equity and non-equity funds distinctly. The numbers suggest a continuing demand for non-equity funds which often require more resources to manage and thus have higher minimums.

* Source: *HedgeWeek*, 4/3/2019

What does it take for a new Hedge Fund to make it? $250 Million **

- Only the fittest survive in the fund business -- and that means starting up with at least $250 million, according to a report from Goldman Sachs. It's a tough bar, made all the more challenging by today's volatile markets, mounting set-up costs and [cost-conscious] investors.
- Of the 468 U.S. hedge funds that have used Goldman's prime brokerage services since 2009, almost half are out of business. The majority of those funds shuttered in the first three years.
- A fund's prospects improve considerably if it begins trading with more than $250 million, according to Goldman, which primarily works with long-short equity managers. Anything below that threshold, funds have a less than 1 in 2 chance.
- The odds improve to 62% for funds that start with between $250 million to $500 million, and jump to 84% for those that open with more than $1 billion. This year, only a few funds are expected to start trading at that $1 billion-plus level.

** Source: *Bloomberg*, 6/19/2019

INDUSTRY NEWS – FUND TERMS

Hedge Funds still Winning the Fee Battle with Investors *

- Hedge fund managers are yielding to pressure from investors to lower their fees — but many still don't offer investor protections like hurdle rates and clawbacks, new research shows.
- The standard structure of 2 percent management fees and 20 percent performance fees that hedge fund managers historically charged continues to evolve, according to a paper from the Alternative Investment Management Association, with managers exploring new and nontraditional fee arrangements. And some fees are falling, with the average hedge fund management fee dropping to 1.3 percent, according to AIMA's findings.
- In addition, almost 80 percent of managers said they would cut management fees in exchange for keeping a larger cut of performance if they outperform. This suggests that managers are willing to earn less simply for managing assets.
- But only 37 percent of the 118 global hedge fund managers that responded to the survey use hurdle rates, which require returns to hit a benchmark before performance fees kick in, according to AIMA.
- Global hedge fund managers with combined assets under management of $440 billion participated in the study. The alternative investments organization also included input from a committee of global investors with $100 billion allocated to hedge funds.
- In spite of the limited use of hurdle rates and clawbacks, AIMA determined that hedge funds are becoming more investor-friendly.
- More than half of the hedge funds surveyed think it's important to offer customized mandates and co-investments in an effort to be better aligned with investors. That figure is up from only 14 percent in 2016. Approximately one in five hedge funds now offer co-investments, a practice common in the private equity world.
- In a positive move for investors, 92 percent of hedge fund manager respondents use high-water marks, which ensure that investors only pay incentive fees on net new increases in a fund's value.

* Source: *Institutional Investor*, July 9, 2019

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INDUSTRY NEWS – FUND TERMS

Hedge Fund Fees Continue to Shrink, but that's not the Whole Story *

- Since the Global Financial Crisis, hedge fund fee structures have been changing dramatically. Performance hasn't been what it was leading up to the financial crisis, so many managers have been forced to slash their fees in order to attract capital. However, hedge fund fees aren't the primary concern of investors because managers who continue to outperform their peers aren't having much trouble attracting capital.
- Eurekahedge notes that the traditional 2 and 20 hedge fund fee structure was called into question by the mediocre returns many funds have posted since the financial crisis. Before 2008, most hedge funds managed double-digit annual returns, but since then, management and performance fees have been declining. The publication also said increasing competition and tighter regulations over alternative investment vehicles also contributed to the declining hedge fund fees. Despite the overall trend of declining fees, some managers have been able to retain leverage over fees by delivering strong returns.
- The publication noted that since the 2008 financial crisis, there has been a dramatic increase in assets under management by hedge fund managers charging management fees of less than 1%. This reflects increasing demand for hedge fund fee structures with lower fees. As of June, 28.3% of assets in the industry, or about $648.8 billion, were in funds which charge a 2% or higher management fee. Fund managers charging less than 1% in management fees were handling 28.6% or $656.5 billion of assets in the hedge fund industry.
- Even though the number of funds charging less than a 1% management fee has risen dramatically, the proportion of assets managed by funds with management fees of at least 2% has remained strong, refusing to bend to the pressure of the last 15 years.
- Interestingly, hedge fund fee structure trends are slightly different when it comes to performance fees. Even though managers have been pressured to cut their fees since the global financial crisis, more than half of the industry's assets are still held by funds with at least a 20% performance fee. The last two years in particular have brought an increase in market share for funds with a 20% or higher performance fee.

* Source: *ValueWalk*, August 17, 2019

INDUSTRY NEWS – FUND ADMINISTRATION

Alternative Assets under Administration jump 18.8% in 2018 *

- Alternative assets under administration as of December 31 totaled $10 trillion, up 18.8% from the prior year, according to a new survey from eVestment.
- SS&C Technologies ranked first among firms with total alternative assets under administration of $1.69 trillion as of December 31. State Street Alternative Investment Solutions was second with $1.202 trillion, followed by Citco Fund Services at $1.2 trillion, and Bank of New York Mellon's alternative investment services business at $963.2 billion.
- The rankings were identical as the previous year, as of December 31, 2017.
- Among different asset classes, which included private equity, hedge fund, real assets, fund of funds and liquid alternatives, a news release announcing survey results pointed to the hedge fund-of-funds segment as seeing a particular resurgence.
- While hedge fund assets under administration totaled $4.468 trillion compared with total hedge fund-of-funds assets under administration of $934 billion, median participant AUA for funds of funds grew 10.99% for the year ended December 31 compared with median hedge fund AUA growth of 4.13%, which the news release said was "one of the lowest readings in recent memory."

* Source: *Pensions & Investments*, July 1, 2019

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Non-traditional investment strategies including hedge funds and private equity have the following characteristics:

1. Performance can be volatile and investors could lose all or a substantial portion of their investment
2. Leverage and other speculative practices may increase the risk of loss
3. Past performance may be revised due to the revaluation of investments
4. These investments can be illiquid, and investors may be subject to lock-ups or lengthy redemption terms
5. A secondary market may not be available for all funds, and any sales that occur may take place at a discount to value
6. These funds are not subject to the same regulatory requirements as registered investment vehicles
7. Managers may not be required to provide periodic pricing or valuation information to investors
8. These funds may have complex tax structures and delays in distributing important tax information
9. These funds often charge high fees
10. Investment agreements often give the manager authority to trade in securities, markets or currencies that are not within the manager’s realm of expertise or contemplated investment strategy