2021 SURVEY RESULTS

HEDGE FUND
OPERATIONAL DUE DILIGENCE

February 2022
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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 hedge funds**
  - Identifies key operational issues
    - Changes to a 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
  - 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 6/30/2020 – 6/30/2021
- **NEPC services over 400 retainer clients with approximately $1.4 trillion[1] in assets and approximately $100 billion[2] in alternative assets**

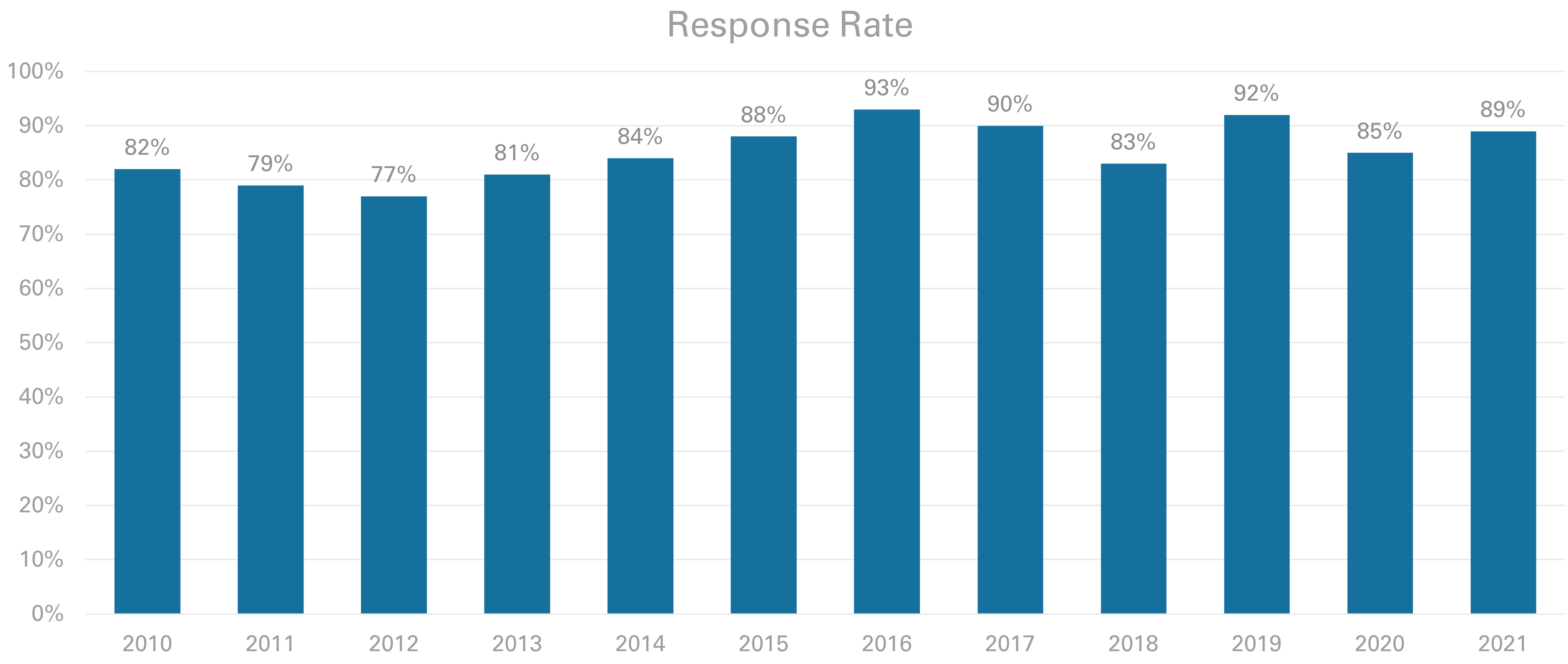
[1]as of 7/1/2021 [2]as of 12/31/2020

SURVEY RESULTS

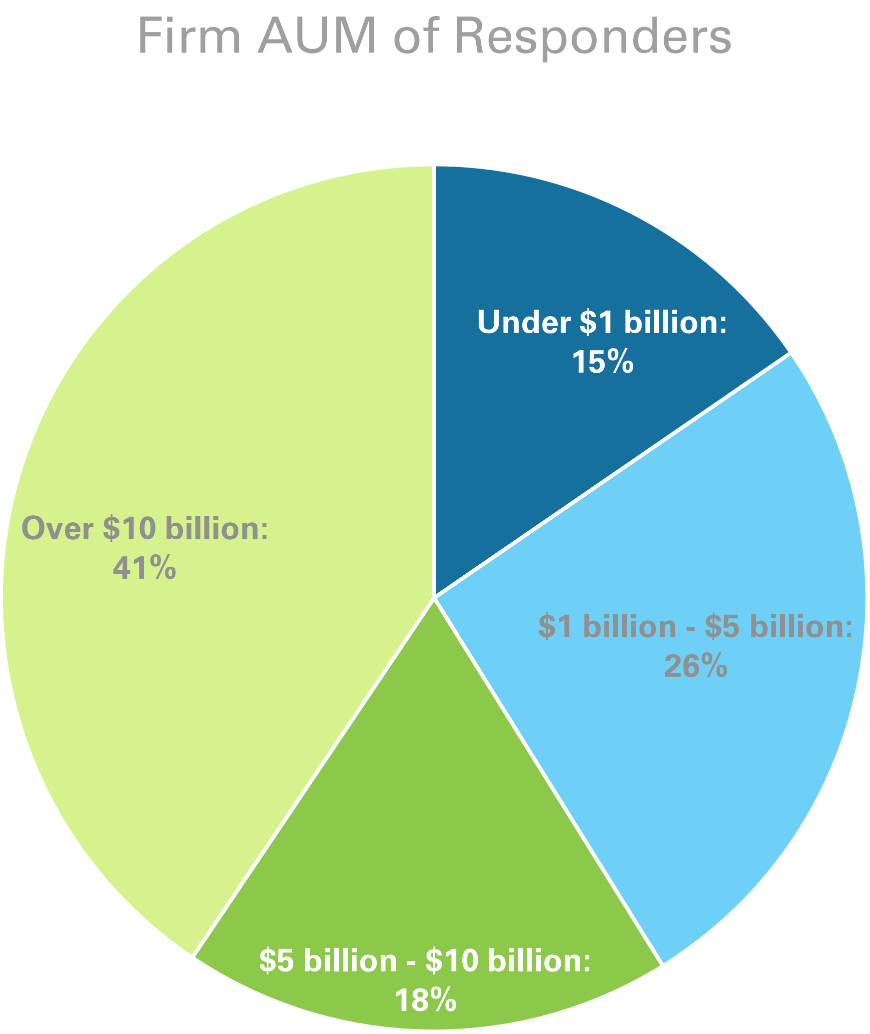
SURVEY RESULTS

- **Each year we survey all hedge funds in place across all clients for whom NEPC provides advice on hedge funds**
- **Like last year, we used a service called DiligenceVault to administer the survey**
  - DiligenceVault collects data from Form ADV submissions and was used to identify fund service providers (auditor, administrator, and prime brokers) and changes thereto
- **The 2021 survey went to 195 managers and 174 responded (response rate: 89%)**
- **Information on 231 funds was provided**
  - Fund Administrator, Auditor, and Prime Broker information was collected using Form ADV data
  - Audited Financial Statements are being reviewed
- **21 firms were non-responders**
  - Per NEPC policy, non-responders cannot be included in future searches for clients until they provide the information requested

SURVEY RESULTS



SURVEY RESULTS



SURVEY RESULTS – HIGHLIGHTS

- **Firm-level data**
  - 99% are registered with the SEC
  - 28% reported receiving an inquiry from a regulator during the survey period
  - 18% had a change in ownership
  - 7% are involved in some form of litigation
    - Litigation brought against the management company or fund could indicate greater operational risk
  - 32% had senior personnel departures
    - 18% reported turnover in the Operations department
    - 16% reported turnover in the Finance department
    - 17% reported turnover in the Legal/Compliance area
    - 8% reported turnover in the IT area
- **Fund-level data**
  - Nine different audit firms are used, with the top two being PwC (30%) and Ernst & Young (24%)
  - 21 different administrators are used, with the most-used being Citco (21%)
  - 2% of the funds are self-administered
  - 4% have changed a service provider
  - 1% put up gates or restricted liquidity during the survey period
  - 47% reported using an external valuation provider
  - 8% reported a change in the Board of Directors
  - 81% reported using a compliance consultant

SURVEY RESULTS

- **Auditors**
  - Just nine audit firms are utilized by 219 funds
    - 13 funds were reported to be separately managed accounts which could not be verified using Form ADV data
  - This service is highly concentrated: 89% is with the Big Four audit firms

	Provider	
1	PwC	30%
2	Ernst & Young	24%
3	KPMG	19%
4	Deloitte	16%
	All other providers (5)	11%

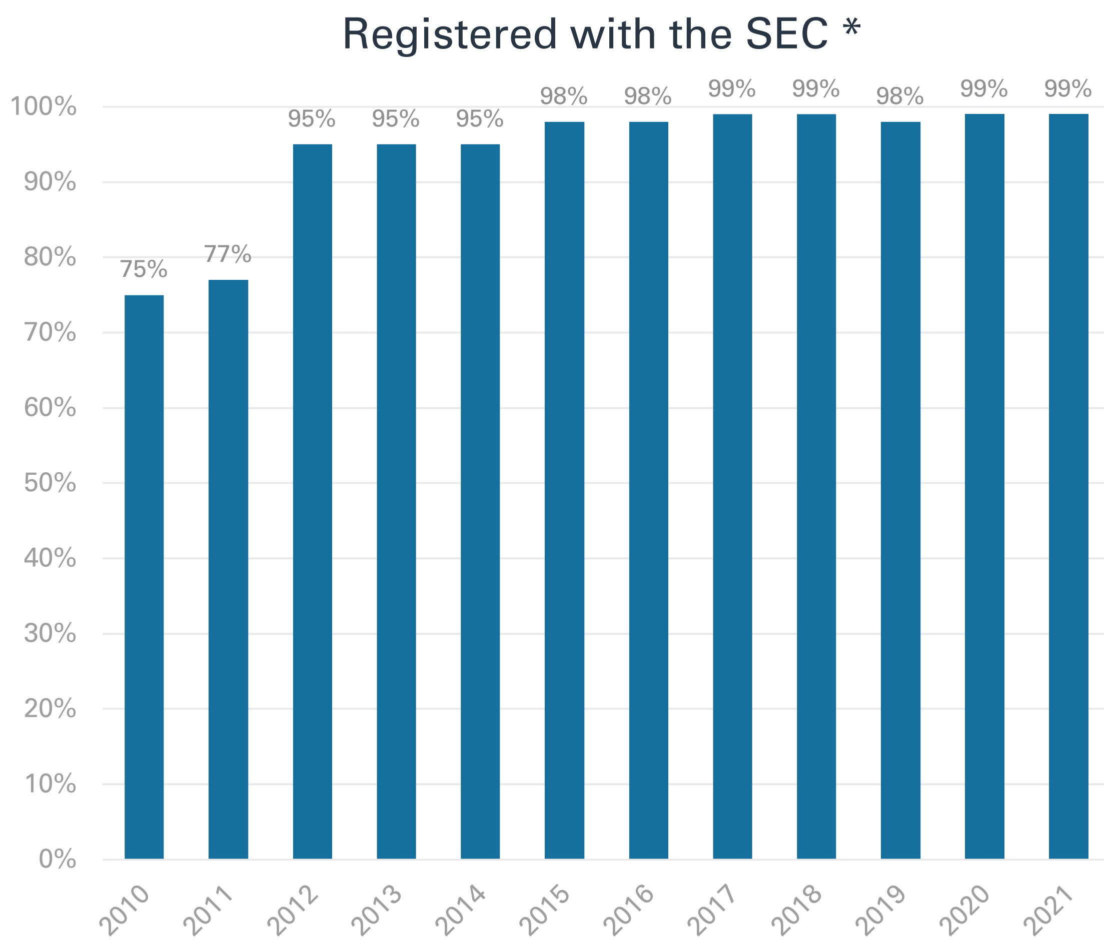
89%

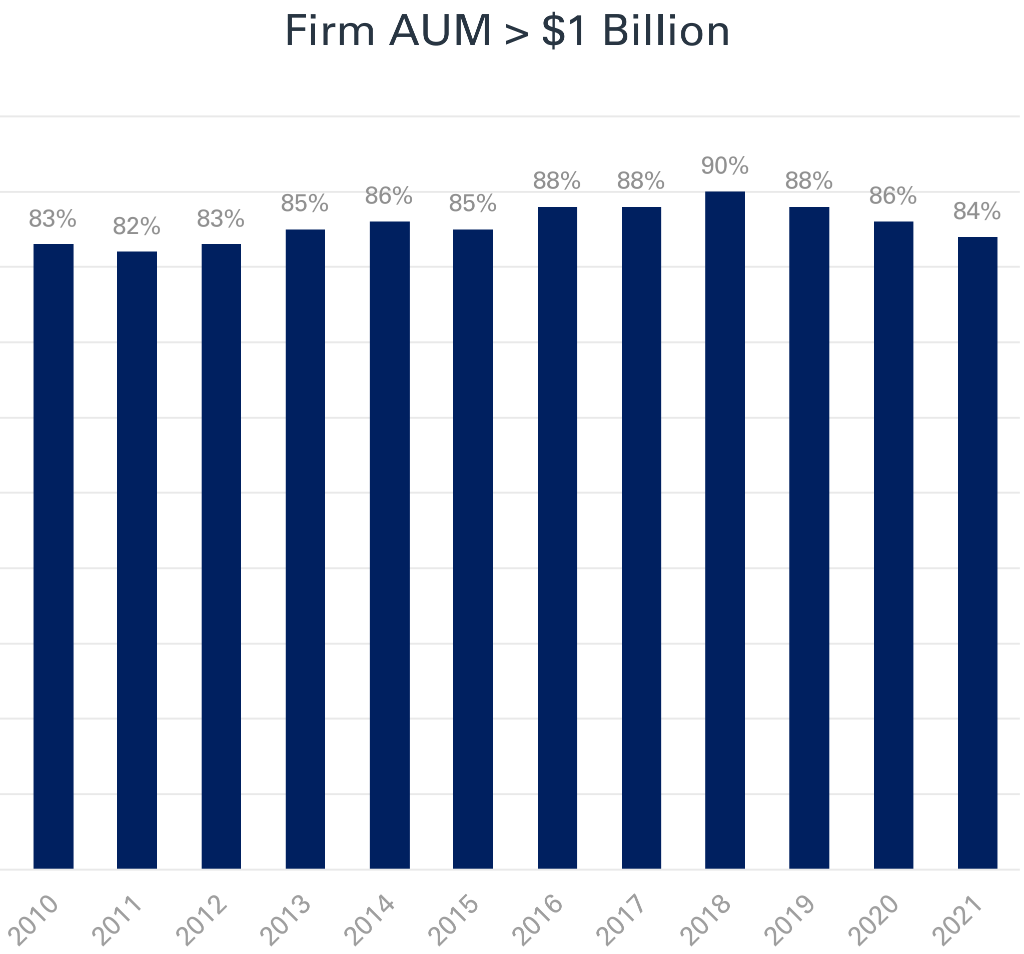
SURVEY RESULTS

- **Administrators**
  - A diverse, but shrinking, group of providers: 21 firms across 214 funds (2020: 25 firms)
  - A large concentration in the top ten (86%)

	Provider		
1	Citco Fund Services	21%	86%
2	SS&C Technologies Inc.	15%	
3	International Fund Services (IFS) Ltd.	12%	
4	BNY Mellon Fund Services	9%	
5	MUFG Alternative Fund Services	8%	
6	Morgan Stanley Fund Services	5%	
7	HedgeServ	4%	
8	State Street Bank & Trust	4%	
9	Northern Trust Global Fund Services	4%	
10	U.S. Bank Global Fund Services	3%	
	Self-Administered	2%	
	All other providers (11)	13%	

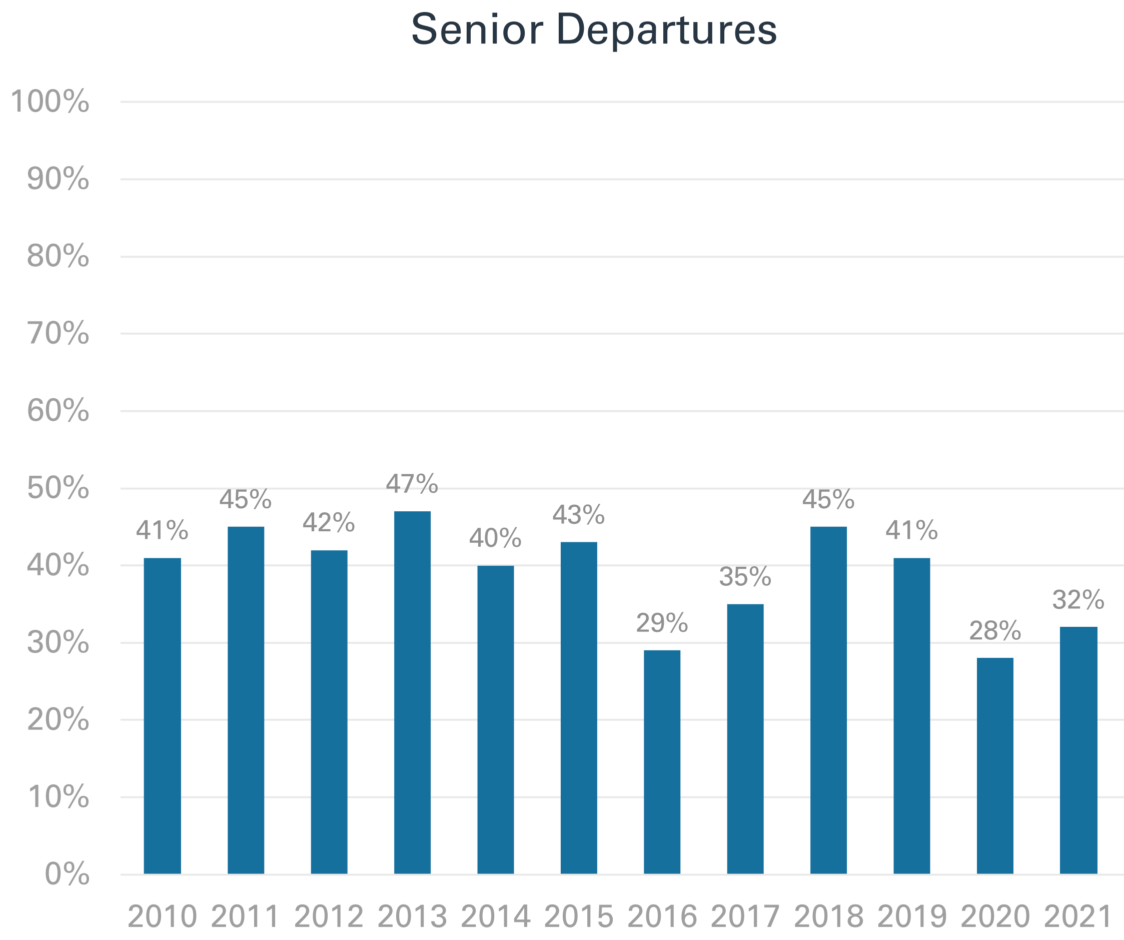
SURVEY RESULTS

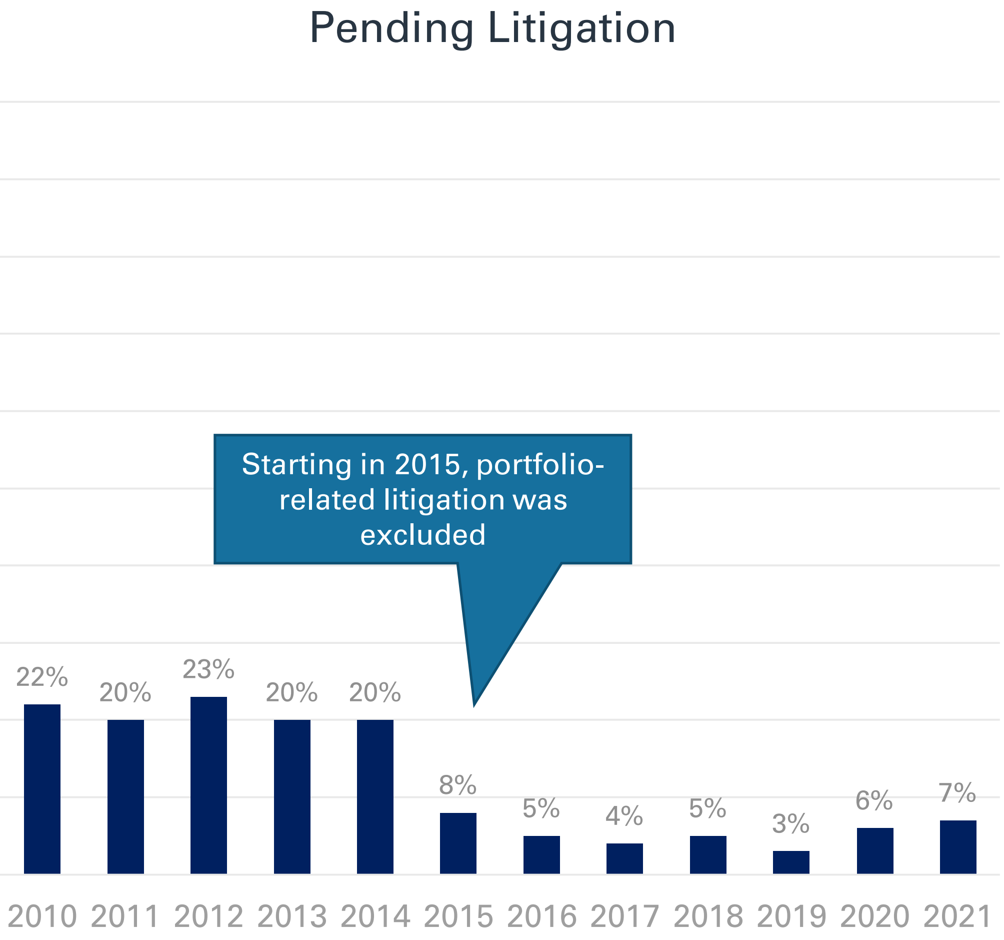




* Includes Exempt Reporting Advisors

SURVEY RESULTS





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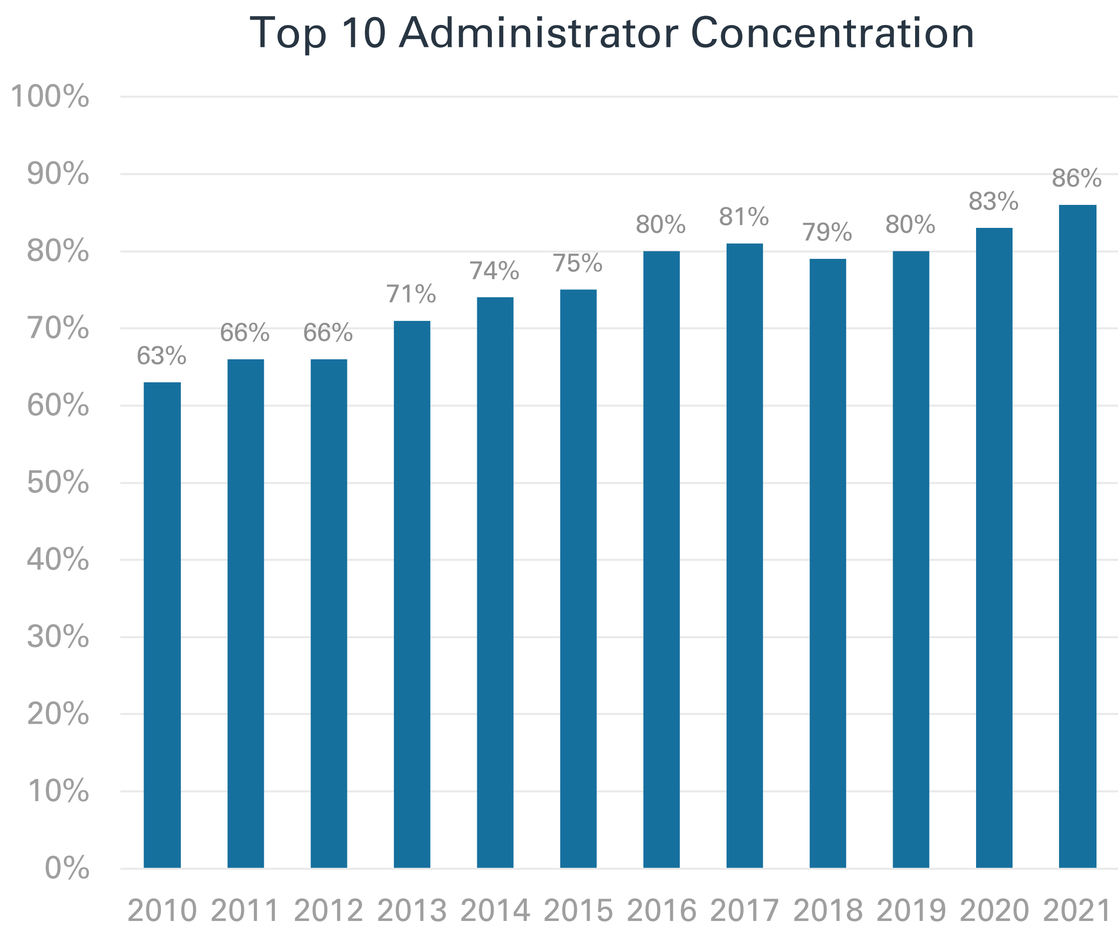

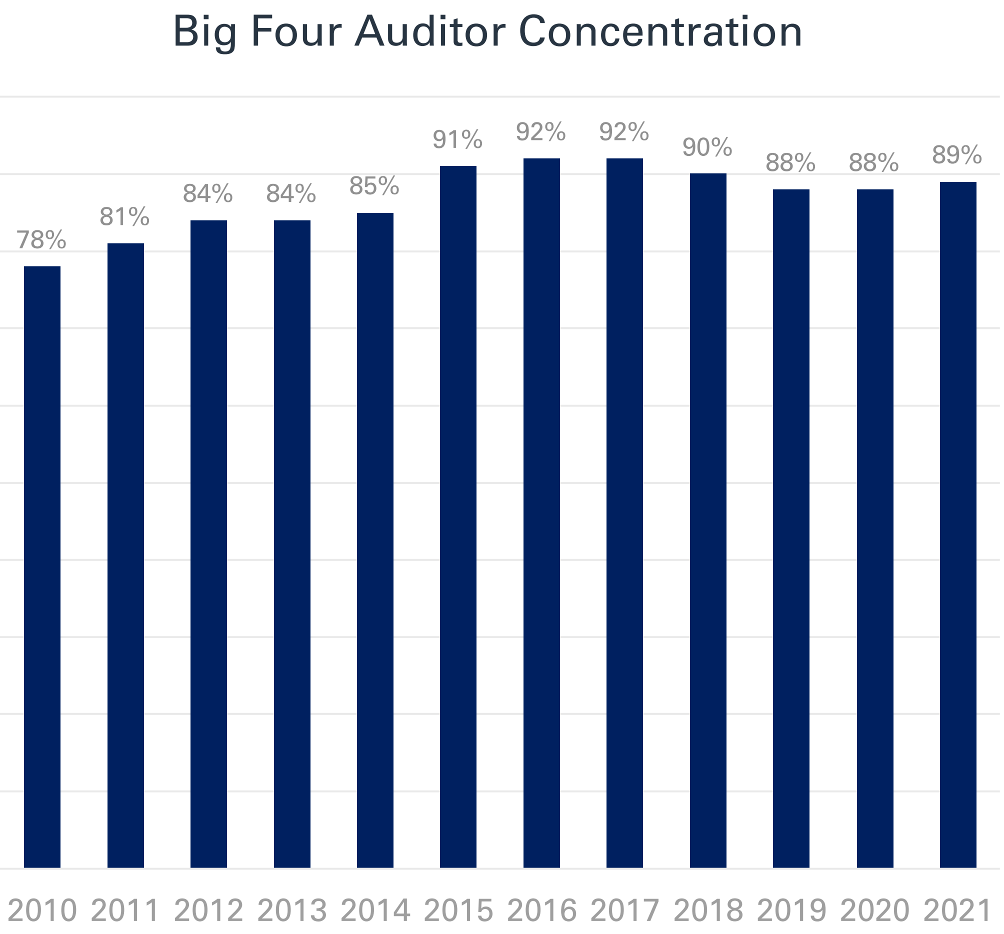

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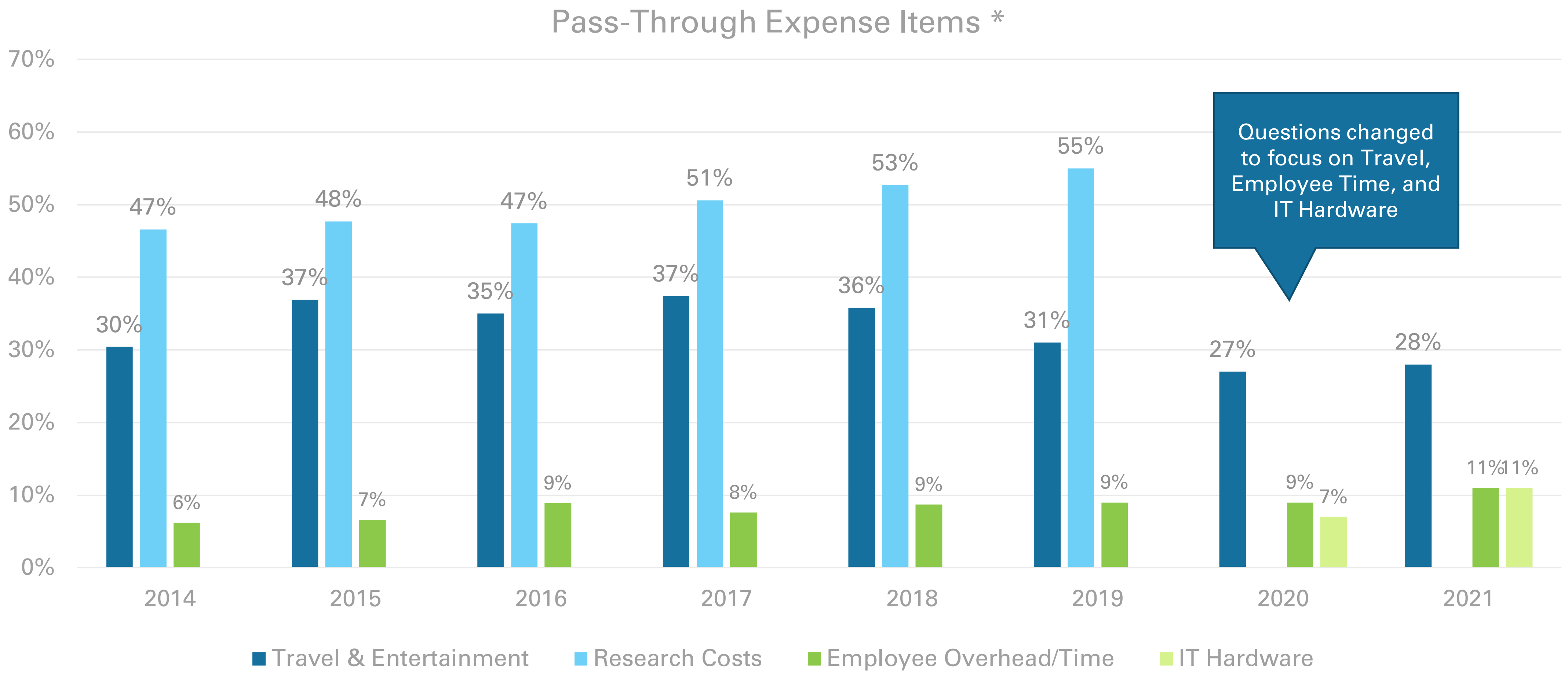
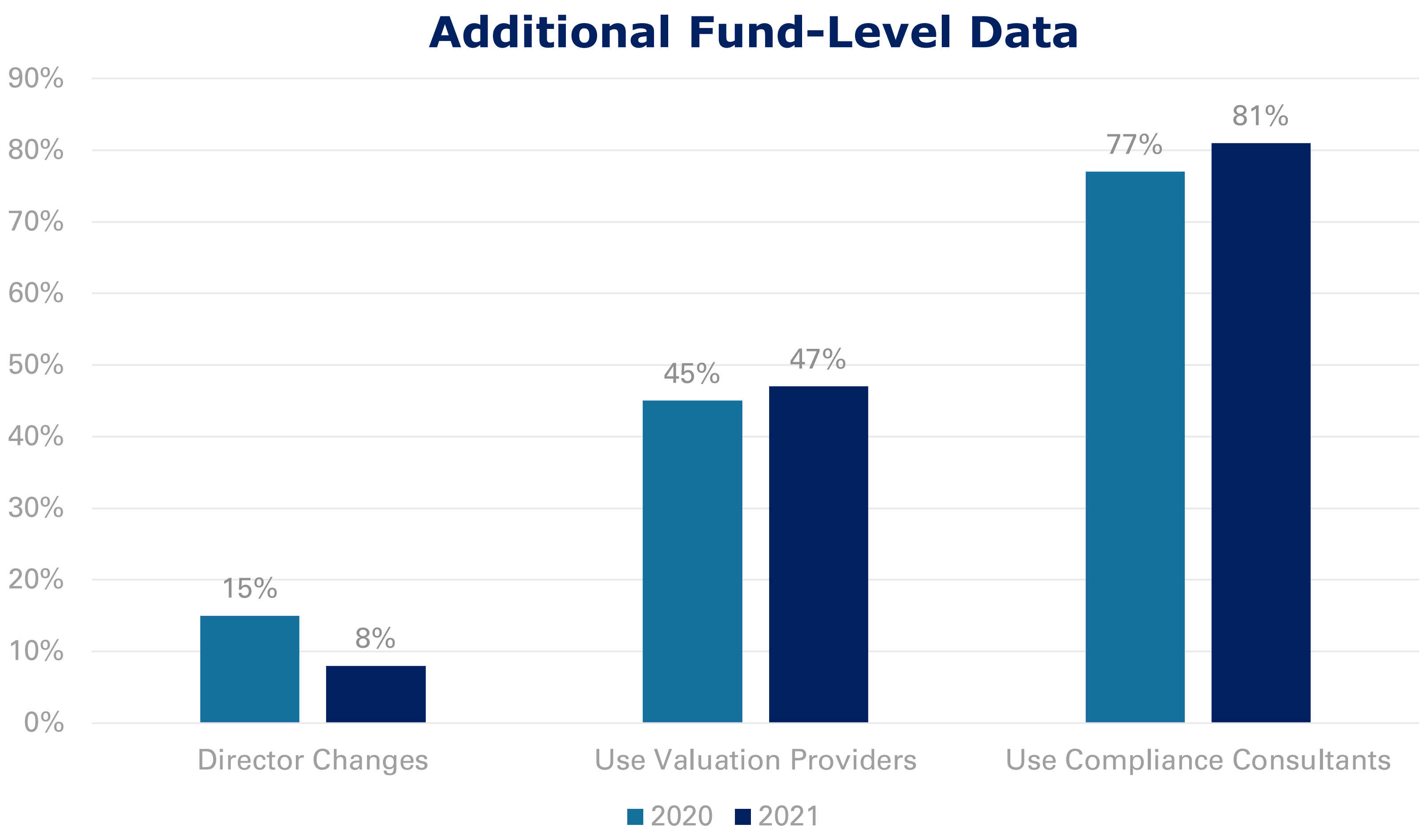


* Represents the percentage of funds surveyed that charge the specified expense types to investors

SURVEY RESULTS



- Director changes were primarily due to directors retiring from the industry and needing replacement.
- The 47% of funds that use valuation providers do not necessarily have more accurate NAVs as in many cases the other 53% of funds trade more liquid assets and may not need external valuation providers.
- Many firms do not exclusively rely on a single compliance consultant as they have internal compliance staff and/or utilize external counsel. Some consultants are only engaged for specific projects such as mock audits or email surveillance, thus a Yes answer does not necessarily indicate that the whole compliance function is outsourced.

APPENDIX

SURVEY QUESTIONS

- **Firm Questions**
  - Firm AUM
  - Did your firm receive an onsite visit, deficiency letter, or sanctions from the SEC or another regulator 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)
  - Was there a material change to the firm's ownership during the survey period?
  - Did any personnel responsible for managing the Operations function leave the firm during the survey period?
  - Did any personnel responsible for managing the Finance function leave the firm during the survey period?
  - Did any personnel responsible for managing the Legal/Compliance functions leave the firm during the survey period?
  - Did any personnel responsible for managing the IT/Technology functions leave the firm during the survey period?

SURVEY QUESTIONS

- **Strategy Questions**
  - Strategy Net Assets
  - Are there independent directors that sit on the boards or advisory committees of any of the fund vehicles in the strategy?
    - If yes, did any of the independent directors change during the survey period?
  - Were any of the strategy's assets side-pocketed during the survey period?
  - Did the fund create new gates to reduce liquidity for current investors during the survey period?
  - Did you use a third-party valuation provider during the survey period to price hard-to-value positions?
  - Were travel costs (including research-related travel) charged to the fund during the survey period?
  - Was any employee time charged to the fund during the survey period?
  - Were any costs related to IT hardware charged to the fund during the survey period?

- **Form ADV Data**
  - Administrator
  - Auditor
  - Prime Brokers and/or Custodians
  - Changes in Administrator or Auditor

INDUSTRY NEWS – GROWTH IN ASSETS AND FUNDS

A hedge fund revival? Industry hopes a dismal decade is over *

- Despite a smattering of mishaps and debacles, the hedge fund industry on the whole acquitted itself well in the market turmoil of 2020 … and the mood has only improved since then.
- Investors are certainly taking notice of the hedge fund industry's renaissance. After withdrawing more than $170bn during the previous five years, they invested a net $18.4bn in the first half of 2021, according to HFR. As a result, the global hedge fund industry's overall assets under management have swelled to a record $4 trillion this year.
- The gloomy outlook for bond market returns in the coming decade has led to a scramble for plausible alternatives, and hedge funds are some of the biggest beneficiaries. Moreover, the fundraising environment for private equity and venture capital firms is so red hot that surplus investor money almost inevitably has to slosh over into hedge funds.

* Source: *Financial Times,* August 15, 2021

Hedge fund AUM increases on disruptions **

- Hedge fund managers took advantage of plentiful disruption in the wake of the COVID-19 pandemic to find investment opportunities across stocks, bonds, sectors and geographies, producing strong returns in the year ended June 30.
- Returns of nearly every hedge fund strategy category were positive over the 12- month period, buoying worldwide assets under management in hedge funds to $1.31 trillion, data from *Pensions & Investments'* 12th annual hedge fund survey of 107 institutionally oriented hedge fund managers showed.
- The high degree of dispersion in stock prices globally in the year ended June 30 created good investment opportunities that hedge fund managers took advantage of, especially outside the U.S. in European and emerging markets.
- Global hedge fund industry assets reached a new aggregate peak of $3.96 trillion as of June 30, 2021.

** Source: *Pensions & Investments,* September 20, 2021

INDUSTRY NEWS – PERFORMANCE

Hedge fund business closes out 2021 with majority of funds reporting positive returns *

- The global hedge fund business returned +1.58% in December, bringing the aggregate return for the industry for 2021 to +10.00%, according to the just-released December and year-end 2021 eVestment hedge fund performance data. Almost 80% of funds reporting to eVestment posted positive results for the year, with the average positive return coming in at +15.55%. For the small minority of funds that landed in the red for performance in 2021, the average return was -7.32%.Investors rewarded the hedge fund industry's strong performance in 2021 with significant inflows. Through November of 2021, eVestment data shows investors plowing $34.77 billion into the business. That new money and positive performance brought overall hedge fund industry AUM to $3.57 trillion through November (the latest data available).

- "It's easier to talk about the fund types that underperformed in 2021 since positive performance was so widespread last year," said eVestment Global Head of Research Peter Laurelli. "Brazil-focused funds posted the largest aggregate negative return in 2021 at -18.64%. China-focused funds also posted aggregate negative return in 2021 at -7.11%. Insurance-Linked funds and FX/Currency funds also ended the year in the red, but just barely. Generally though, it was a good year for the business."

- India-focused funds were the biggest performance winners in 2021, with an aggregate return of +44.62%. These funds returned +3.89% in December.

- At +5.15% average returns in December, Event Driven - Activist funds posted among the strongest monthly returns among all the fund types eVestment tracks. And at +27.28% for the full year, Event Driven - Activist funds were also among the biggest performance winners for 2021.

* Source: *Opalesque*, January 12, 2022

INDUSTRY NEWS – ALLOCATOR TRENDS

The Window is Opening for Smaller, Newer Managers *

- With elite multi- manager firms closing to new investors, some investors are moving to new or smaller managers to fill the void.
- “We had seen bifurcation between larger and smaller managers due in part to the pandemic and the inability of investors to do on-site due diligence. That made it more difficult for new managers to meet new people and attend conferences. Once investors became accustomed to online conferences and Zoom manager meetings, it changed. But it took a long time for people to accept this way to conduct due diligence,” observes Amy Hirsch, chief executive officer of Paradigm Consulting Services.
- The pandemic put a big strain on investors and how they could allocate and rebalance assets. Because they couldn’t travel, they tended to reallocate or re-up to existing managers. It was very difficult for very small managers to raise money.
- Susan Waterfall, director of marketing and investor relations at Morgens, Waterfall, Vintiadis & Company, a firm with about $200 million under management, is seeing more interest for funds between $100 million and $300 million. She feels smaller managers have a slight advantage now. “Institutions tend to have a larger need for managed accounts. They’re willing to go to smaller or second tier managers because they can get a managed account set up easily, transparency is more readily available as are the terms they need in exchange for larger allocations. In addition, trading strategies are getting attention now because of the pick-up in volatility and the current shift in policies.”
- Others feel, however, that the field for emerging managers is much smaller today. One industry expert, who wished to remain anonymous, says the top emerging managers are already picked over and have joined the multi-strategy funds. “Each large multi-manager firm often has more than 100 portfolio managers. Because of their compensation structure, the top 1000 portfolio managers are working at large multi-manager firms. It’s about economies of scale. Portfolio managers at a multi-manager fund are typically paid about 13-15% if the fund charges 2/20. If the portfolio manager manages $100 million and makes 100%, the portfolio manager gets paid $13-15 million. Millennium reportedly can pay a full 20% which is what they’re doing with their best portfolio managers. So, you can’t be a small emerging manager like you could in 2005. It is difficult for a smaller manager today to comply with regulatory requirements, hire people, answer investors, and write monthly reports. It is too time- and resource-consuming.”

* Source: *Peltz International (via LinkedIn)*, 9/30/2021

INDUSTRY NEWS – ALLOCATOR TRENDS

Investors Plan To Boost Their Hedge Fund Allocations, But Not Because They Expect Strong Returns *

- After two years of investor outflows, hedge funds finally turned the corner in 2021, recording a commanding $25 billion in net investor inflows. The industry hasn't yet recouped the outflows it recorded over the previous two years, but it does look like things are looking up for hedge funds based on investor intentions for the first half of 2022.
- In partnership with the Alternative Investment Management Association (AIMA), With Intelligence surveyed more than 200 allocators in the U.S. to try to determine what lies ahead for hedge funds in the coming year. It found that investor interest in hedge funds has recovered to where it stood in December 2020.
- With Intelligence believes that growth could be seen more as looking ahead to 2022 instead of being a ringing endorsement of recent returns. However, hedge funds are better positioned now than they have been in years, as they just completed their third straight year of double-digit returns, leaving investors with a more favorable view of them.
- About half of U.S. allocators are planning to boost their investments in hedge funds in the next 12 months, including 62% of family officers, 55% of foundations and endowments, and half of corporate pensions. However, only 26% of public pensions planned to increase their hedge fund allocations.
- That marks a significant change from June 2021, when only 32% of allocators planned to boost their hedge fund investments. However, it's roughly flat from December 2020, when 52% of investors planned to invest more in hedge funds.

* Source: *Forbes*, 2/25/2022

INDUSTRY NEWS – HEDGE FUND EVOLUTION

How The Hedge Fund Industry Has Changed Over The Last 20 Years *

- **What hasn't changed:** Although much has changed in the hedge fund industry, not everything has. The process that hedge fund managers follow is still the same despite the new environment. "I think that's one of the reasons why it's become very difficult for hedge funds to outperform because the job has remained by and large the same with the same tools, meaning poring over financials, talking to companies, management, companies' vendors, other investors. And that was pretty much the same thing 20 years ago." [said Dominique Mielle, formerly with Canyon Partners]

- **Going forward:** Mielle explains that the hedge fund industry might change through two avenues: pushing and pulling. Pushing is when investors demand something like diversity, and hedge funds follow through. She added that this is already happening to some degree, although diversity is still lacking at hedge funds. "I think as long as the business worked, and it worked tremendously for decades, there was little propensity to change," Mielle opines. "Inside hedge funds, partners have got to be convinced that it would benefit their firm to have a better make-up of investment teams. Whether it's reading research or understanding what investors want, they need to believe in hiring and promoting women and minorities."

- **Why buy hedge funds if they've lost their edge?** "There are good reasons and less good reasons," she said. "I think diversification is a good reason. Now the question is how much should one pay in terms of fees for diversification and how good the diversification is. This is a very valid reason but a very valid question, and there's actually a study that came out very recently that looks at a traditional portfolio, 50 stocks [S&P 500] and 50% bonds [VBITX], versus an alternative portfolio that has a hedge fund allocation of 20%." The study found no return outperformance when introducing hedge funds. However, it improves the portfolio's Sharpe ratio and volatility, mainly before 2008, so there is some benefit in the risk area. It's a matter of how much investors should pay for that improved risk profile.

* Source: *Forbes,* October 11, 2021

INDUSTRY NEWS – OTHER ISSUES

How Traditional Hedge Funds Are Coping With Cryptocurrencies *

- Based on a recent study, traditional hedge funds have started to dip their toe into the water of cryptocurrencies. However, they're keeping their investments small for the time being despite the crypto surge that's been sweeping the market.
- PricewaterhouseCoopers partnered with the Alternative Investment Management Association and Elwood Asset Management to survey traditional hedge funds on what they plan to do about cryptocurrencies.
- The firms estimate that global crypto hedge funds had about $3.8 billion in assets under management last year, up from $2 billion in 2019. The percentage of crypto hedge funds with more than $20 million in assets under management rose from 35% to 46%. The average assets under management this year rose to $42.8 million from $12.8 million.
- PwC, AIMA and Elwood found that 54% of investors in crypto hedge funds are high-net-worth individuals, while 30% are family offices. The most common strategy used by crypto hedge funds is quantitative at 37%, followed by discretionary long/short at 38%, discretionary long-only at 20% and multi-strategy at 11%.
- The most commonly traded cryptocurrency among hedge funds was bitcoin at 92%, followed by Ethereum at 67%, Litecoin at 34%, Chainlink at 30%, and Polkadot at 28%. Approximately half of crypto hedge funds trade derivatives, while short-selling has been significantly reduced, falling from 48% to 28% last year. Hedge funds are also involved in staking, lending and borrowing.
- The firms found that about 20% of traditional hedge funds are investing in digital assets, although they're keeping their positions small for now. The average percentage of total assets under management invested in digital assets is only 3%.
- Traditional hedge funds deal with some barriers to investing in cryptocurrencies, with regulatory uncertainty being named as the biggest barrier at 82% of funds. Even half of the traditional hedge funds that do invest in crypto assets say it is a significant challenge.
- Of the funds surveyed, 77% said client reaction or reputational risk is high. Sixty-eight percent of the funds also said that crypto assets are outside the scope of their current investment mandates. More than half of the fund managers surveyed said they don't know enough about digital assets to invest in them.

* Source: *Forbes,* August 31, 2021

INDUSTRY NEWS – FUND TERMS

Hedge Fund fee models in a post-'Two and Twenty' world *

- The traditional 'Two and Twenty' fee model – for years a cornerstone of the hedge fund industry – largely does not exist today for most managers, though that does not mean certain well-established managers aren't still able to charge such fees, according to Stephane Berthet, founder of Hyphen Alternative Advisors, and moderator of the fees-focused panel at this year's hedgeweekLIVE European Emerging Managers Summit.
- Overall, average fees have come down to somewhere in the region of between 1-1.5 per cent for management, and anywhere between 10-15 per cent and 20 per cent for performance, the session heard, with speakers noting that emerging managers will increasingly often offer lower fees during the start-up phase in order to attract investor capital.
- The discussion heard how fee models are increasingly shaped by a broad sweep of factors including business model, investment strategy, the amount of working capital required, and the level of liquidity. Speakers also mulled the merits of fee negotiation, founders' share classes, lock-ups and other terms and structures.
- Investors now have different needs and desires, and value different things in different ways, [Richard] Lamplough said, adding fee models should be built around alignment and a sense of fairness. He also suggested the industry has become increasingly skewed, in which large multi-manager, multi-PM shops can charge investors "huge fees with little or no liquidity."
- Alyx Wood, chief investment officer at Kernow Asset Management … recalled one early discussion with a client who observed of fee structures: "You want to be embarrassingly cheap at the beginning, and reassuringly expensive afterwards."
- "It's all about trust. It's a people business – you've got to take people on a five-year journey," Wood remarked. "Hopefully you get the clients you deserve."
- Patrick Ghali, managing partner and co-founder of global institutional investment advisor Sussex Partners, believes that fees have to be in line with the strategy. "If you have something that is incredibly scarce, then you can charge for that; something which annualises at a crazy number, on a risk-adjusted basis it's fantastic, and is incredibly consistent and is hard to replicate – that's going to cost money," Ghali explained. "But if you have something that's commodity, you cannot charge for that – something you can get from 500 people, [investors] are not going to be paying for that."
- Reflecting more broadly … he noted that while fees in general fees have come down, investors want to ensure the business is stable. "Investors don't want business risk; they're not venture capitalists."

* Source: *Hedgeweek*, November 19, 2021

DISCLAIMERS AND DISCLOSURES

Data used to prepare this report was obtained directly from the investment manager(s). While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.

The "Industry News" items contain excerpts from published articles. Some content has been excluded due to space limitations.

Investors should be aware that 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

THANK YOU

Please reach out to
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with any questions