AURUM

2021 Review

Hedge Fund Industry Deep Dive

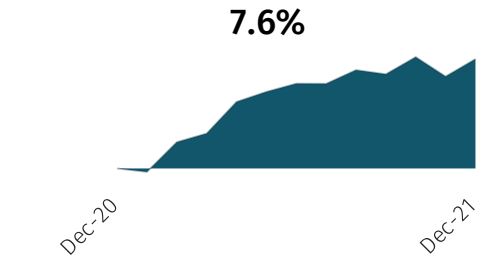
Inside this report:

In summary

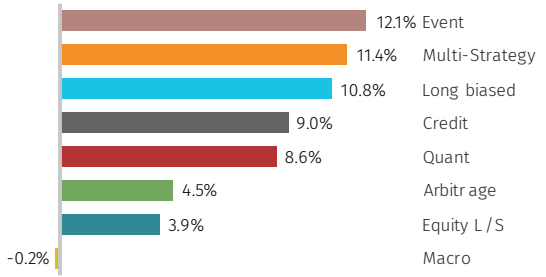
- A combination of positive performance and marginal net inflows saw industry assets grow over the year by just over $243bn. From a growth perspective, multi-strategy funds were the big winners, benefitting from a combination of significant net inflows as well as strong performance.
- The hedge fund industry continued its positive run of performance through 2021, finishing up 7.6%, having returned over 9% the previous year.
- Performance dispersion between the top and bottom decile performing segments of the hedge fund universe fell sharply in 2021, however, current dispersion remains elevated relative to the 2012-2020 period.
- The best performing strategies were event (+12.1%), multi-strategy (+11.4%), long biased (+10.8%), and credit (+9%).
- Coordinated activity by retail investors in January led to extreme levels of volatility in the equity long/short space. However, diversification contained the damage, ensuring that contagion from elevated equity long/short volatility did not spread across the whole hedge fund space, with strategies such as event, long biased, credit, arbitrage and macro sailing through January relatively unscathed.
- Overall hedge funds performed well in 2021 with the HF composite return comfortably above its 5yr CAR (6.59%)

**HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index. All figures and charts use asset weighted returns unless otherwise stated. All Hedge Fund data is sourced from Aurum Hedge Fund Data Engine.*
For definitions on how the Strategies and Sub-Strategies are defined please refer to https://www.aurum.com/hedge-fund-strategy-definitions/ , and for information on index methodology, weighting and composition please refer to https://www.aurum.com/aurum-strategy-engine/

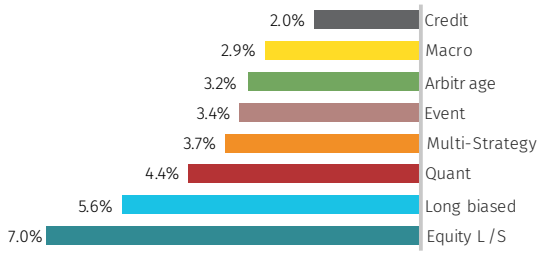
HF COMPOSITE* NET RETURN (1 YR)



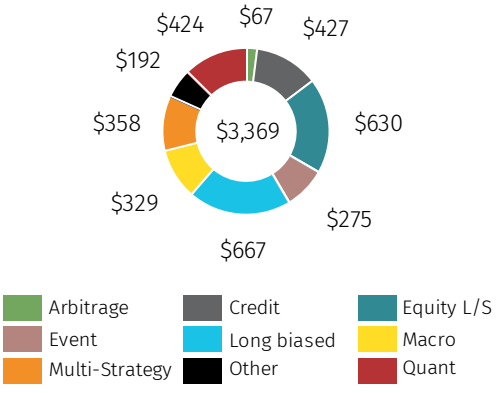
MASTER STRATEGY NET RETURN (1 YR)



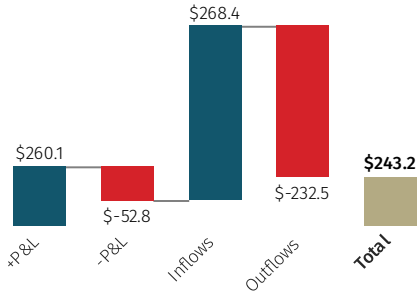
STANDARD DEVIATION (1 YR)



AUM ($BN)



AUM CHANGE $BN (1 YR)



2021 overview

Going into 2021, there was a sense of optimism linked to the vaccine rollout. Unfortunately, we have not been able to shake off the spectre of COVID-19, with the virus continuing to extract a heavy human toll as well as the persistent negative impact on economies and global markets. Since the initial onset of the pandemic, the WHO has identified multiple 'variants of concern'. Market volatility rose in May as the Delta variant became more widespread, posing a threat to the continuing economic recovery. Then towards the end of the year in November, the Omicron variant's emergence led to a fall in equities.

However, there was some optimism and a sharp reversal in fortunes as it was suggested that Omicron may be milder compared to previous strains. In addition, vaccination and booster program rollouts combined with advances in antiviral drug treatments give some hope that COVID-19's negative influence will continue to diminish.

January saw Joe Biden sworn in as US President, while Donald Trump became the first US President to be impeached twice. Runoff elections in the US on 5th January in Georgia saw control of the Senate handed to the Democrats. A $1.9 trillion stimulus package announcement on 14th January providing a significant boost for risk assets. This also contributed to rising inflationary pressures – which we discuss below – a theme that has persisted throughout the year.

> **A $1.9 trillion stimulus package announcement on 14th January provided a significant boost for risk assets. This also contributed to rising inflationary pressures – a theme that has persisted throughout the year**

At the end of January the focus shifted towards the impact of coordinated activity by retail investors in a number of stocks. The 'Reddit' retail investor-led phenomenon led to a massive short-squeeze and a period of hedge fund deleveraging, which led to significant losses across the industry. The week of 25th January saw the largest US single stock de-grossing on record[1], with a number of prime brokers reporting the worst monthly alpha they had ever observed. The first week of February saw a sharp 'snap-back' and outsized positive alpha; this manifested in significant P&L volatility for a number of hedge fund managers in equity strategies.

Regarding the situation with China, there was unrest in Hong Kong and international condemnation of the subsequent crackdown. Tensions between the US and China continued throughout the year. This included tit-for-tat allegations of hacking, the imposition of new SEC audit standards rules on foreign firms, and concerns over security and intellectual property. This has increased uncertainty around cross-border corporate transactions where regulatory approval is required, particularly in the tech and semiconductor space.

Within China, there was a regulatory clampdown on tech, education, gaming, commodity pricing, and the Internet as well as a ban on cryptocurrency mining. There was a liquidity crisis at Evergrande – a Chinese property developer on the brink of default. China's regulator's focus on capital adequacy rules led to liquidity issues across the China real estate sector, with further defaults and fall-out expected. All of these factors had ramifications for pricing and introduced heightened volatility across those sectors.

Quantitative easing and stimulus packages rolled out to combat the negative economic effects of COVID-19 during the downturn have had inflationary ramifications, particularly as economies have reopened. In the US and Europe, a number of key inflation metrics continued to rise though the year[2]. By November, inflation was reported to be at 40-year highs, driven by energy and food prices, increasing pressure on central banks.

> **We expect continuted uncertainty to lead to greater volatility across rates and FX, particularly impacting macro and fixed income relative value strategies**

Towards the end of the year, the US Federal Reserve changed its narrative, indicating that financial conditions are too loose and no longer in line with inflation and economic growth expectations. At the 30th of November meeting, Powell dropped the word 'transitory' completely, hinting that tapering may occur at a faster pace than previously expected. At the 15th of December Fed meeting, a majority of Federal Open Market Committee members projected three rate hikes in 2022. This is in contrast to Europe, where Christine Lagarde, largely downplayed a rate hike scenario in 2022. We expect more

[1] *Source: Goldman Sachs Prime Content (1st February 2021)*

[2] *PCE inflation figures hit 4%, the US CPI reached just under 7% year-on-year in November while in Europe the HICP was just under 5%, relative to a negative print the previous year (Source: Bloomberg)*

uncertainty to lead to greater volatility across rates and FX, particularly impacting macro and fixed income relative value strategies.

A final word in this overview relates to digital assets. There has been a dramatic rise in the participation by institutional investors in this sector, not just in allocation or trading cryptocurrencies, but also in other areas such as NFTs (non-fungible tokens). We have witnessed a number of large managers updating their offering documents and structures, such that they will be able to participate in this area, which is growing at an exponential rate.

Markets review

To put hedge fund industry performance in context it is helpful to recall what happened in major markets across the year. Global equities continued their strong performance from the previous year, supported by the continued rollout of the global COVID-19 vaccination programs as well as the announcement of several major stimulus packages.

Volatility levels were also impacted as rising bond yields and inflationary concerns weighed on investor sentiment. Bond yields rose globally, with the exception of Germany, where the 10y bond remains in negative territory. From a performance perspective, global bonds[3] had a torrid Q1, losing nearly 5%, before recovering some of the loss in Q2 and then fading in the second half of the year to finish down 5.6%.

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Global equity markets[4] exhibited exceptionally strong performance in H1 2021, up 11.7%. Volatility was higher in H2, although performance was still positive, finishing up over 16% for the year. The US markets outperformed, although performance was still very strong in Europe and to a lesser extent in the UK. Asian markets generally underperformed, with China down on the year while Hong Kong struggled in particular. EM markets were also negative on the year.

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The 'reflation trade' has been particularly strong in the commodity sector, with energy (natural gas, oil) and softs (corn, sugar) performing exceptionally well and helping drive strong returns from a number of hedge funds able to capture those moves. On the flip side, precious metals (gold and silver) were down on the year, irrespective of increasing inflationary concerns.

Credit performance was mixed. Lower grade (CCC) performed well, while some higher grade credits underperformed. EM credit was down for the year. In currencies there has been some volatility. The US dollar finished up for the year, with particularly strong appreciation vs the Japanese yen and euro.

[3] *S&P Global Developed Aggregate Ex Collateralized Bond (USD)*

[4] *S&P Global BMI*

Hedge fund industry performance review

Asset growth

A combination of positive performance and marginal net inflows saw industry assets grow over the year by just over $243bn. From a growth perspective, multi-strategy funds were the big winners, benefiting from a combination of significant net inflows as well as strong performance. Quant strategies, in spite of producing a solid return saw almost all the performance offset by investor outflows, a likely consequence of multiple previous years of poor performance.

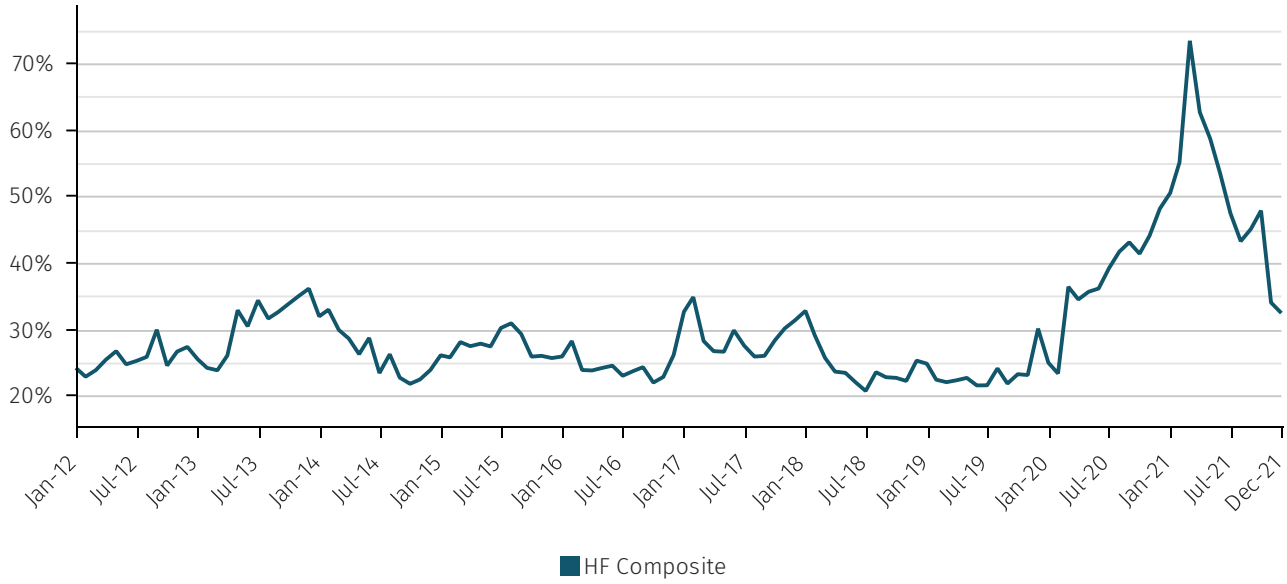
Headline performance

The hedge fund industry continued its positive run of performance through 2021, finishing up 7.6%, having returned over 9% the previous year. Most master strategies and sub-strategies had a reasonable year, supported by a tail wind of accommodative global monetary and fiscal policy. The exception was the macro strategy, who was the stand-out underperformer of the year.

Dispersion

In contrast to 2020, which was a story of a dramatic spike in hedge fund performance dispersion, 2021 saw dispersion between the top and bottom performing segments of the hedge fund universe tighten sharply. However, dispersion still remains at what would have been the 'high-end' of the 2012-2020 range as the chart below clearly illustrates.

10th – 90th PERCENTILE 12M ROLLING PERFORMANCE SPREAD*



Presented on an equally weighted basis

Strategy performance

The best performing strategies were event (+12.1%), multi-strategy (+11.4%), long biased (+10.8%), and credit (+9.0%). All of these strategies' performance (except multi-strategy) figures were heavily skewed towards positive performance produced in the first half of the year.

Multi-strategy funds had the most consistent returns and also outperformed in H2, with particular stand out performance in September and November, both of which were negative months for the hedge fund industry (-0.3% and -1.3%) and also where both equities and bonds sold off.

Quantitative strategies ended their dismal run of performance (+8.6%); they did particularly well in December driven by the risk premia and quant EMN sub-strategies.

Macro funds were the clear underperformers in 2021, down 20bps after a particularly challenging second half of the year, with many funds wrong-footed by rate moves in October and November.

Equity long/short (+4%) also underperformed relative to other strategies and longer-term averages. This underperformance is also surprising given continuing appreciation of equity markets.

Credit's performance was strong relative to its 5 year CAR (compound annual return) (+5.1%).

**HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index.*
Source: Aurum Hedge Fund Data Engine.

NET RETURN OF MASTER STRATEGIES (1 YR)

Net Performance†	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	12M
Event	0.75%	2.57%	1.60%	2.05%	0.69%	0.45%	-0.53%	1.23%	0.74%	1.21%	-0.82%	1.61%	12.12%
Multi-Strategy	-0.31%	3.44%	0.36%	1.48%	0.27%	0.22%	0.34%	0.98%	2.27%	0.15%	0.55%	1.12%	11.35%
Long biased	0.38%	1.51%	0.86%	3.52%	1.54%	0.97%	0.25%	1.31%	-2.30%	2.17%	-1.78%	1.97%	10.76%
Credit	1.68%	1.59%	0.70%	1.21%	1.02%	0.73%	0.18%	0.49%	0.54%	0.37%	-0.33%	0.52%	9.04%
Quant	-1.42%	0.80%	1.67%	2.26%	1.09%	-0.21%	1.01%	0.44%	0.07%	1.08%	-1.19%	2.74%	8.58%
Arbitrage	1.86%	2.16%	-1.11%	-0.59%	0.15%	0.24%	-0.25%	-0.10%	0.88%	0.44%	0.52%	0.21%	4.45%
Equity L/S	-2.02%	3.96%	-0.69%	2.72%	-0.25%	1.41%	-0.64%	1.26%	-0.93%	2.37%	-2.91%	-0.20%	3.92%
Macro	0.10%	0.35%	0.71%	0.83%	0.69%	-0.74%	-0.79%	0.57%	0.01%	-1.63%	-1.08%	0.81%	-0.20%
HF Composite*	**-0.23%**	**2.06%**	**0.59%**	**2.14%**	**0.66%**	**0.54%**	**-0.01%**	**0.90%**	**-0.27%**	**1.11%**	**-1.25%**	**1.13%**	**7.56%**
Bonds**	**-1.08%**	**-1.77%**	**-2.09%**	**1.28%**	**0.49%**	**-0.39%**	**1.31%**	**-0.50%**	**-1.95%**	**-0.26%**	**-0.48%**	**-0.23%**	**-5.59%**
Equities***	**-0.21%**	**2.64%**	**2.28%**	**4.15%**	**1.33%**	**1.04%**	**0.32%**	**2.35%**	**-4.08%**	**4.65%**	**-2.90%**	**3.79%**	**16.02%**

Alpha generated returns

A general observation that has been made in previous reviews is that those strategies that traditionally have exhibited a higher beta to equities or other risk-assets, have typically been the best performers since the March 2020 lows. 2021 saw a continuation of this theme to a point (explored further below in sub-strategy performance).

As is highlighted in the charts on page 12 one can see that when decomposing performance across the industry, the majority of it is attributable to 'beta' since the March 2020 lows. This 'beta heavy' contribution is largest (unsurprisingly) in long biased strategies, but is also consistently high across credit, equity l/s, and event, with the biggest driver of event outperformance coming from activist strategies. Distressed credit and risk premia strategies have also been beneficiaries of a broad 'rising tide' in risk assets.

> **Multi-strategy managers have not only performed well, but generated the majority of their performance through alpha. However, a number of the biggest multi-strategy managers are either at, or near capacity and now hard-closed.**

By contrast, multi-strategy managers have not only performed well, but generated the majority of their performance through alpha. As already highlighted, multi-strategy funds have also seen the lion's share of inflows – so allocators are voting with their feet.

However, a number of the biggest multi-strategy managers are either at, or near capacity and now hard-closed. Consequently, there is a noticeable trend for managers in the space to demand ever more onerous liquidity and fee terms, i.e. allowing less frequent redemptions or imposing longer lock-ups. In addition to this, we have seen the laws of supply and demand at work here, with fees also on the rise. Given the significant barriers to entry in setting up a complex multi-strategy business, it is not expected that growth in these groups will continue at the same pace as access to 'top funds' becomes ever more restrictive.

Within quant the relative contribution of beta vs alpha has risen over the last year, fuelled by a higher contribution from risk premia strategies as highlighted above.

Impact of retail traders

As covered in the Overview section above, the activities of retail traders led to a series of events that significantly impacted equity l/s strategies in Q1. In addition to a number of 'low-net' equity l/s funds there were a number of multi-strategy funds (with large allocations to low-net equity l/s PM teams) that experienced losses ranging from low single digits to significant losses of 30% and beyond.

A review of the monthly dispersion figures in the candlestick charts on page 17 shows that equity l/s bottom decile performance in January was slightly worse than -5%. A massive 'short-squeeze', leading to an escalating cycle of short-covering and risk reduction led to contagion across equity l/s.

The initial impact of losses was experienced by a handful of funds that had short exposure to the 'meme stocks', which saw a stratospheric rise in value. In February, as many of these short-term technical factors aggressively reversed, so did the fortunes of these managers, which one can see in the contrasting Jan/Feb figures in equity l/s, multi-strategy and quant in the table above (top decile equity long/short performance was up over 10% in February).

*HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index. **Bonds = S&P Global Developed Aggregate Ex Collateralized Bond (USD). *** Equities = S&P Global BMI. † = Returns net of all fees and expenses. Source: Aurum Hedge Fund Data Engine.*

Whilst the moves were unprecedented, what was interesting was that the contagion did not spread across the whole hedge fund space, with strategies such as event, long biased, credit, arbitrage and macro sailing through January relatively unscathed, which provided a positive demonstration of the benefits of diversification.

Another interesting observation is that the 'meme stocks' (e.g. GME, AMC, etc.) rose sharply once again towards the end of May and into early June. However, this time round there did not appear to be material losses in the hedge fund space. Managers certainly became much more cautious after January of involvement in stocks with a very high short-interest, reduced exposure to these 'headline-risk' stocks and there were less funds running concentrated exposure to these types of names.

Hedge funds struggle in November

Another clear stand out from the table above was the poor performance across the industry in November. While the HF Composite finished down 1.3%, the bottom decile suffered losses of 6% (see candlestick monthly dispersion chart on Page 17.

Equity markets finished down (-2.9%), bonds sold off (-0.5%) and the only two main hedge fund categories to be up on the month were arbitrage (+0.5%) and multi-strategy funds (+0.6%).

At the sub-strategy level there were a number of areas that were still able to make money, typically in the arbitrage or other relative value market neutral spaces. Inflationary concerns dominated the headlines for the first part of the month, but the emergence of the Omicron COVID-19 strain led to a volatility spike that impacted markets as well as challenging the economic recovery thematic.

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Performance

Sub-strategy performance

Event

Decomposing the event strategy's strong returns, we can see that the activist sub-strategy was also the top performing across the hedge fund sub-strategy classifications in the Aurum Hedge Fund Data Engine returning +20.3%. Activist funds typically run with a high net exposure and consequently historically exhibited high beta to equity markets. That said, it is worth highlighting September performance, where the strategy losses were barely negative during the worst month for global equities since March 2020. Multi-strategy and opportunistic event funds also outperformed the broader hedge fund composite returns driven by a strong corporate deal pipeline, attractive deal-spreads and less competition in the space after the events of March 2020.

> **Activist was the top performing sub-strategy across the hedge fund sub-strategy classifications in the Aurum Hedge Fund Data Engine returning +20.3%.**

Macro

Whilst Macro had a poor 2021 in aggregate, the commodity sub-strategy has enjoyed exceptional performance, driven by trading opportunities in the energy and soft commodity spaces in particular. On the flip side, traditional global macro, EM macro and fixed income RV are all among the worst performing hedge fund sub-strategies of 2021.

Fixed income RV, typically a very consistent but lower returning strategy, had a poor year (+0.56%) posting four negative months and suffering an outsized drawdown (relative to history) of over 2% in October, the worst performance since the 2008 financial crisis. The month saw some significant dislocations across both Europe and the US yield curves. In the US there was a flattening of the yield curve as the spread between near and long dated bonds narrowed. Then, on the 28th October, the 20 and 30-year US Treasury note yields temporarily inverted. At the same time in Europe, Christine Lagarde reaffirmed her view that while inflation appeared more persistent than originally thought, it was still considered transitory. The comments failed to prevent yields rising, particularly in European peripheral government bonds. Several central banks have moved to become more hawkish – going against trader expectations. October saw a number of funds stopped-out in curve and relative value/swap spread trades, with the worst losses occurring in US rates.

The issues in October also negatively impacted the global macro sub-strategy although that does not fully explain the poor yearly performance. Global macro struggled throughout 2021, being down in five out of twelve months where the average negative return during those months was over double the average positive return.

Only equity l/s – sector hedge funds and tail protection strategies performed worse than global macro, although given the buoyant market in risk-assets, declining levels of implied/realised volatility and credit spreads the performance of tail protection is in line with what one would expect. Equity l/s - sector hedge funds are discussed below.

Credit

Within credit, those funds more focused on distressed did well, capitalising on price dislocations from earlier in the pandemic and buoyed by the general rising valuations of risk assets, facilitated by stimulus and liquidity measures from global governments and central banks.

Multi-strategy

As highlighted above, multi-strategy funds performed well throughout the year, not just when benchmarked to the broader hedge fund universe and other core strategies, but also when benchmarked across all of the sub-strategies monitored by Aurum. January (-0.3%) was the only negative month, a consequence of the meme stock phenomenon and subsequent industry deleveraging in equity l/s. Funds were able to dynamically allocate capital to various opportunities, in particular commodity, credit, systematic, equity l/s and event driven.

Quant

The considerable improvement in quant strategy performance from their low points in the year was driven by outsized returns from risk premia (+13.5%) and quant EMN (+13%) sub-strategies. Both are areas that were among the worst performers of 2020. Statistical arbitrage has persistently been the most consistent of the quant sub-strategies and enjoyed another relatively strong year (+9.3%) having returned 9.8% the previous year. Statistical arbitrage traditionally has exhibited a higher alpha/low beta attribution relative to many of the other sub-strategies and also recorded positive performance in September and November, both challenging months for the equity space.

CTA performance (+8%) was marginally better than the hedge fund composite. Persistent trends in equity markets as well as the commodity energy sector would have provided a tail wind to the strategy, which is dominated by trend-following funds.

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Source: Aurum Hedge Fund Data Engine.

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Arbitrage

Arbitrage, which typically exhibits considerably less volatility than other strategies and a higher Sharpe, marginally outperformed its 5 year CAR in 2021 (4.5%). Tail protection strategies, as previously mentioned, were the worst performing sub-strategy and a drag on performance. The more benign volatility environment was a headwind for volatility arbitrage managers (+0.9%) while convertible arbitrage (+7.6%) and arb opportunistic funds (+10.5%) performed strongly; with both delivering an outsized proportion of 2021 returns in the first two months of the year. A number of arbitrage managers also benefitted from the opportunity in the SPAC space, before losing in the March pull-back. The rest of the year was less eventful.

Equity long short

Perhaps somewhat surprisingly given the continuing surge in equity markets, equity l/s underperformed relative to the broader hedge fund universe. As already covered, the meme stock moves in January certainly did not help, but when looking at the sub-strategy performance that clearly is not the key driver of the troubles. Equity l/s - sector funds finished the year down nearly 2%; they managed to contain losses in January to less than 2% but lost money in seven out of twelve months. Equity l/s - other funds were up less than 0.6% on the year having been up nearly 4% YTD in Jan/Feb, but proceeded to lose money by year end.

By contrast, fundamental EMN, equity l/s - global, Equity l/s - Europe and Equity l/s - US all suffered relatively poor Januarys, but were able to recover and deliver returns more in line with the hedge fund industry by year end.

Particular pain was witnessed in September and November, both negative months for equities. In addition to this, while equity markets were buoyant for much of the year, the sector specialist funds in particular struggled throughout, dragging the strategy down.

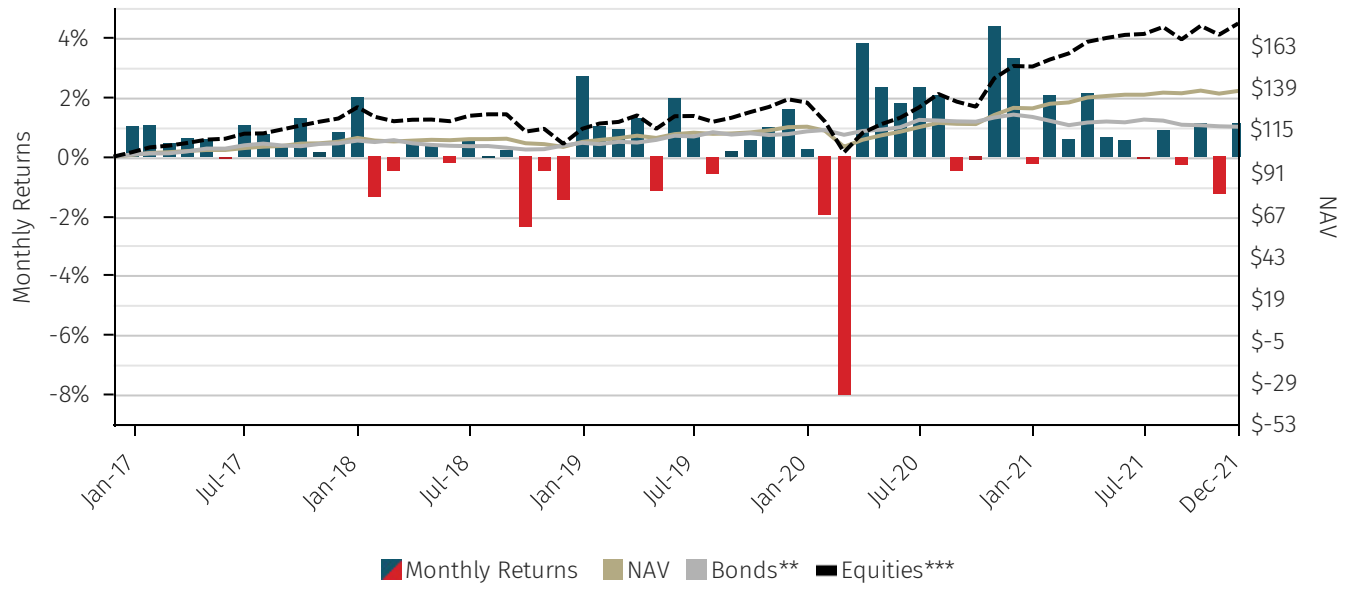
**HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index.*
Source: Aurum Hedge Fund Data Engine.

NET RETURN OF SUB-STRATEGIES (1 YR)

Net Performance†	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	12M
Event - Activist	0.33%	4.76%	3.82%	2.44%	0.63%	-0.03%	0.11%	0.67%	-0.08%	2.39%	-1.16%	5.02%	20.34%
Commodities	0.95%	4.50%	-0.15%	3.71%	1.77%	2.21%	0.50%	0.80%	2.29%	2.40%	-2.07%	1.45%	19.80%
Distressed Credit	2.30%	3.10%	1.59%	2.13%	2.18%	0.99%	-0.21%	0.74%	0.79%	0.76%	-0.79%	0.65%	15.12%
Risk Premia	0.84%	-0.04%	2.67%	1.58%	1.87%	0.44%	2.22%	0.74%	-2.02%	0.64%	0.07%	3.78%	13.45%
Quant EMN	-5.19%	0.27%	3.21%	3.82%	2.03%	-1.64%	4.20%	0.80%	-2.28%	1.03%	0.26%	6.30%	12.97%
Multi-Strategy	-0.31%	3.44%	0.36%	1.48%	0.27%	0.22%	0.34%	0.98%	2.27%	0.15%	0.55%	1.12%	11.35%
Long biased	0.38%	1.51%	0.86%	3.52%	1.54%	0.97%	0.25%	1.31%	-2.30%	2.17%	-1.78%	1.97%	10.76%
Event - Multi-Strategy	0.65%	2.00%	1.07%	1.22%	0.77%	0.73%	-0.67%	1.18%	1.30%	0.73%	0.24%	0.86%	10.55%
Arb Opportunistic	4.17%	4.16%	-2.58%	0.21%	-0.01%	1.08%	-0.19%	0.20%	1.39%	1.33%	0.15%	0.30%	10.49%
Event - Opportunistic	0.69%	2.24%	1.54%	2.69%	0.73%	0.71%	-0.41%	1.87%	0.58%	1.15%	-2.37%	0.46%	10.24%
Stat Arb	-1.25%	0.18%	2.07%	2.22%	-0.82%	0.78%	0.99%	0.43%	1.56%	0.05%	1.16%	1.59%	9.28%
ELS - Europe	-1.58%	2.59%	0.30%	2.42%	0.01%	0.99%	1.64%	1.12%	-1.07%	1.92%	-1.41%	1.08%	8.19%
CTA	-0.94%	2.63%	1.18%	2.73%	1.99%	-0.67%	0.87%	0.16%	-0.11%	2.62%	-3.16%	0.62%	8.03%
Convert Arb	2.44%	2.34%	-0.90%	-0.09%	0.27%	0.33%	0.18%	0.28%	1.03%	1.27%	-0.08%	0.36%	7.62%
ELS - Global	-4.16%	6.22%	0.90%	3.26%	0.77%	0.73%	0.08%	0.31%	0.41%	2.97%	-3.08%	-0.77%	7.49%
ELS - US	-2.66%	4.71%	1.08%	3.31%	-0.28%	1.01%	0.06%	0.65%	-2.03%	2.40%	-2.84%	1.59%	6.91%
Credit	1.46%	1.05%	0.38%	0.88%	0.60%	0.63%	0.31%	0.41%	0.46%	0.23%	-0.17%	0.47%	6.91%
Event - Merger Arb	2.39%	1.14%	-1.04%	2.41%	0.31%	-0.43%	-1.88%	0.74%	0.75%	0.74%	0.02%	0.55%	5.78%
Quant Macro/GAA	-0.55%	-0.07%	0.77%	1.26%	0.34%	0.25%	-0.63%	0.43%	1.45%	0.30%	-1.23%	2.92%	5.32%
Fundamental EMN	-1.99%	4.27%	-1.56%	1.59%	0.24%	-0.30%	0.92%	1.37%	0.07%	0.35%	-1.15%	0.27%	4.00%
ELS - APAC	1.85%	1.20%	-1.85%	3.00%	0.81%	0.37%	-3.76%	0.99%	0.60%	1.96%	-0.41%	-1.70%	2.91%
Vol Arb	-0.42%	0.88%	0.54%	-1.20%	0.46%	-0.21%	-0.36%	-0.08%	0.38%	-0.49%	0.80%	0.60%	0.88%
Fixed Income RV	1.34%	-0.77%	1.49%	0.02%	0.02%	-0.45%	-0.37%	0.15%	0.37%	-2.24%	0.12%	0.95%	0.56%
ELS - Other	1.62%	1.91%	-0.74%	2.11%	1.74%	0.87%	-3.54%	-0.52%	-2.06%	0.38%	-2.79%	1.80%	0.56%
EM Macro	-0.88%	-0.52%	-1.51%	1.72%	1.50%	-0.12%	-0.17%	1.74%	-1.46%	-0.92%	-1.85%	1.55%	-1.02%
Global Macro	-0.09%	0.82%	1.28%	0.60%	0.55%	-1.26%	-1.25%	0.31%	0.21%	-2.05%	-1.12%	0.50%	-1.54%
ELS - Sector	-1.91%	3.55%	-2.98%	2.14%	-1.74%	3.11%	-1.61%	2.69%	-1.66%	2.66%	-4.47%	-1.35%	-1.95%
Tail Protection	1.05%	-0.59%	-1.68%	-2.04%	-0.51%	-1.08%	-0.84%	-1.61%	0.77%	-0.54%	1.56%	-2.15%	-7.48%
HF Composite*	**-0.23%**	**2.06%**	**0.59%**	**2.14%**	**0.66%**	**0.54%**	**-0.01%**	**0.90%**	**-0.27%**	**1.11%**	**-1.25%**	**1.13%**	**7.56%**
Bonds**	**-1.08%**	**-1.77%**	**-2.09%**	**1.28%**	**0.49%**	**-0.39%**	**1.31%**	**-0.50%**	**-1.95%**	**-0.26%**	**-0.48%**	**-0.23%**	**-5.59%**
Equities***	**-0.21%**	**2.64%**	**2.28%**	**4.15%**	**1.33%**	**1.04%**	**0.32%**	**2.35%**	**-4.08%**	**4.65%**	**-2.90%**	**3.79%**	**16.02%**

*HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index. ** Bonds = S&P Global Developed Aggregate Ex Collateralized Bond (USD). *** Equities = S&P Global BMI. † = Returns net of all fees and expenses. Source: Aurum Hedge Fund Data Engine.

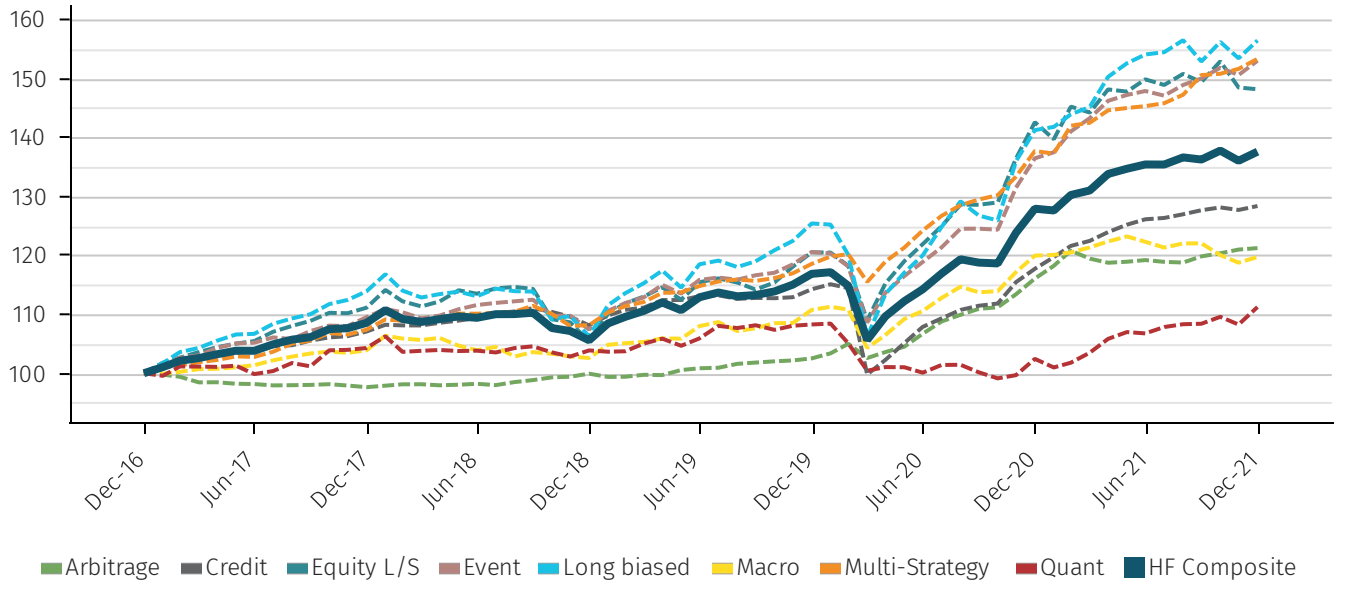
HEDGE FUND COMPOSITE* NET MONTHLY RETURN (5 YR)



NET RETURN OF MASTER STRATEGIES (5 YR)

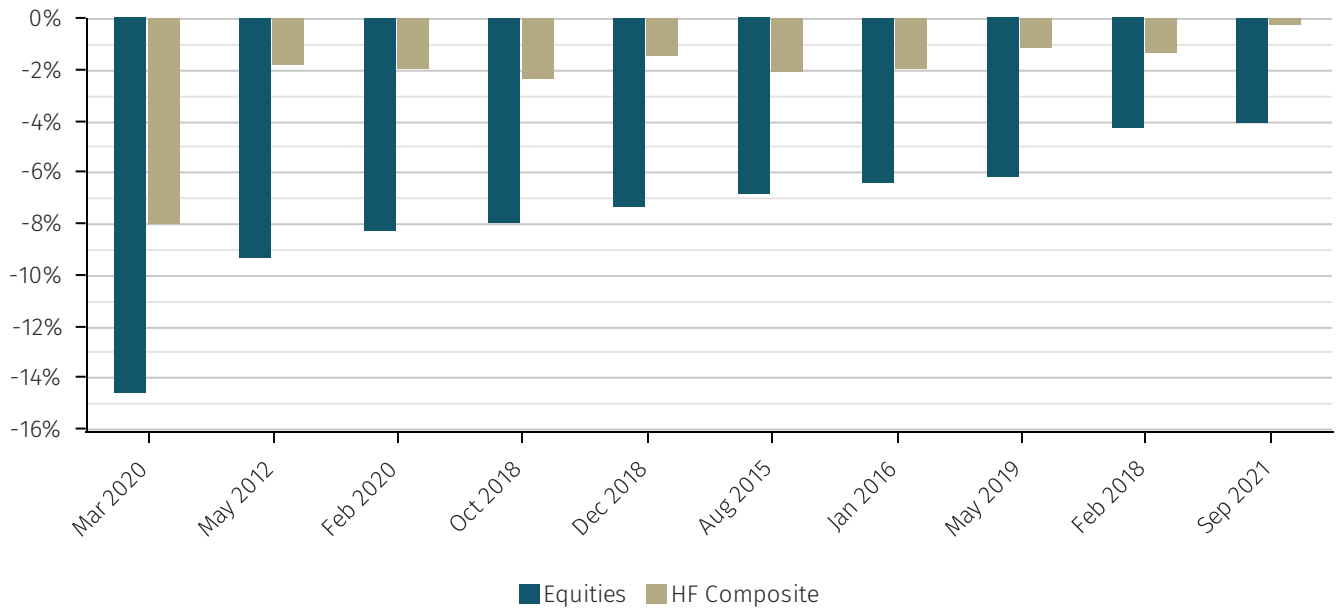
Annual Perf	2021	2020	2019	2018	2017	5Yr CAR	5Yr Vol	5Yr Sharpe
Arbitrage	4.45%	13.20%	2.59%	2.35%	-2.37%	3.92%	2.82%	0.91
Credit	9.04%	3.04%	5.67%	0.97%	7.07%	5.12%	6.68%	0.59
Equity L/S	3.92%	18.31%	14.38%	-5.18%	11.11%	8.18%	7.90%	0.87
Event	12.12%	13.19%	12.24%	-1.91%	9.50%	8.88%	6.38%	1.16
Long biased	10.76%	12.63%	18.02%	-6.71%	13.88%	9.36%	9.57%	0.85
Macro	-0.20%	8.32%	7.95%	-1.25%	3.88%	3.66%	4.54%	0.52
Multi-Strategy	11.35%	16.14%	9.61%	0.72%	7.37%	8.92%	3.94%	1.86
Quant	8.58%	-5.39%	4.23%	-0.39%	4.28%	2.15%	4.54%	0.20
HF Composite*	**7.56%**	**9.45%**	**10.67%**	**-2.72%**	**8.53%**	**6.59%**	**5.90%**	**0.89**
Bonds**	**-5.59%**	**9.84%**	**6.19%**	**-1.20%**	**7.63%**	**3.21%**	**4.26%**	**0.45**
Equities***	**16.02%**	**14.34%**	**23.65%**	**-11.84%**	**21.80%**	**11.99%**	**15.18%**	**0.74**

MASTER STRATEGY AND HEDGE FUND COMPOSITE* CUMULATIVE RETURN (5 YR)

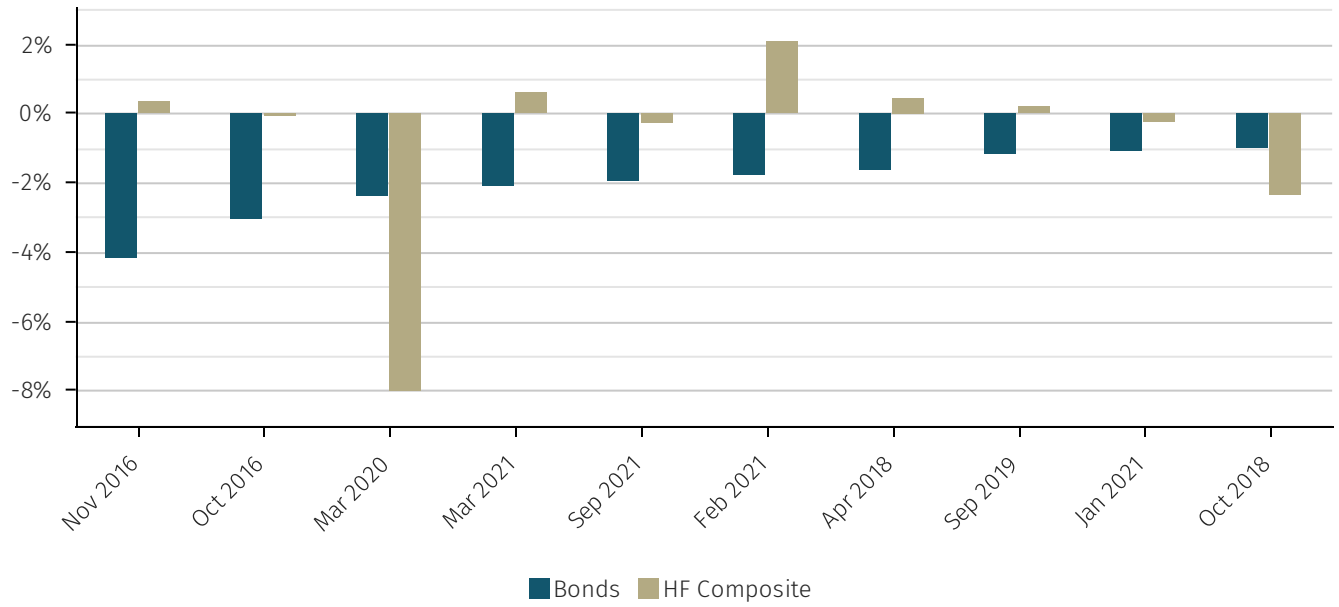


*HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index.
** Bonds = S&P Global Developed Aggregate Ex Collateralized Bond (USD). *** Equities = S&P Global BMI.
Source: Aurum Hedge Fund Data Engine.

PERFORMANCE OF HEDGE FUND COMPOSITE* DURING WORST 10 MONTHS FOR EQUITIES*** (10 YR)

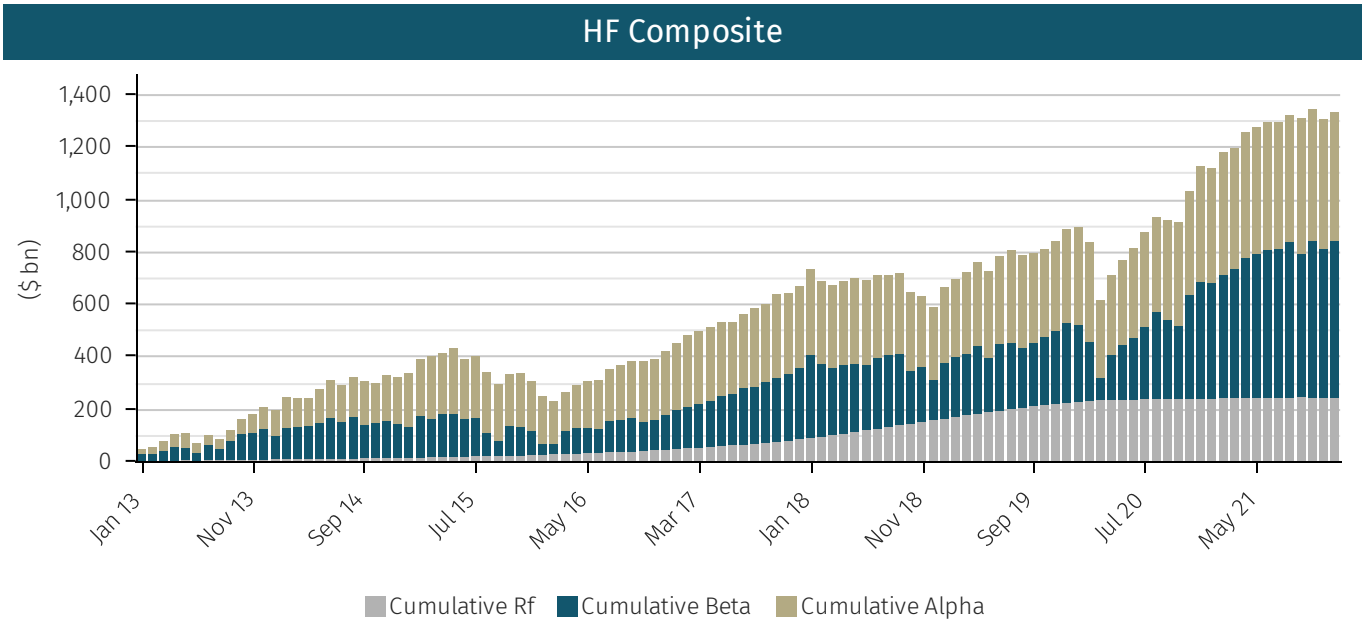


PERFORMANCE OF HEDGE FUND COMPOSITE* DURING WORST 10 MONTHS FOR BONDS** (10 YR)



*HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index.
** Bonds = S&P Global Developed Aggregate Ex Collateralized Bond (USD). *** Equities = S&P Global BMI.
Source: Aurum Hedge Fund Data Engine.

DECOMPOSING DOLLAR PERFORMANCE INTO ALPHA, BETA AND RISK FREE (RF) COMPONENTS

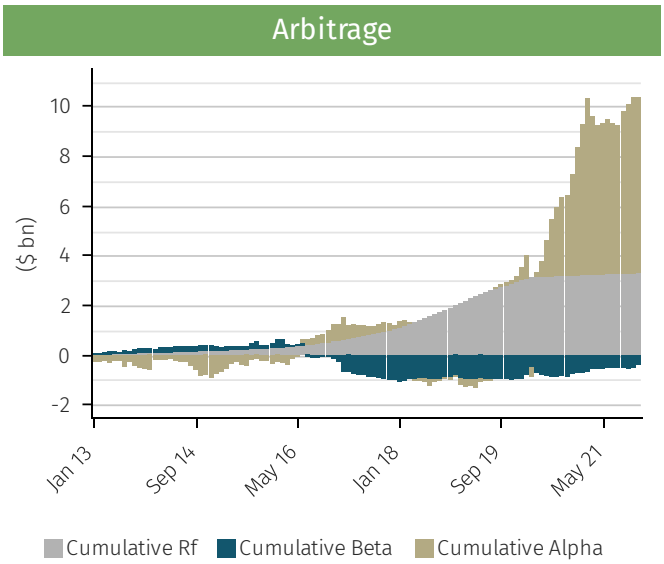


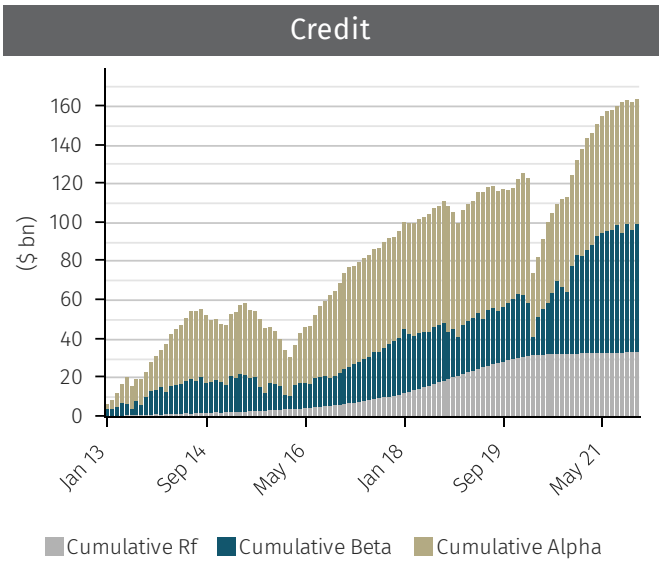
These charts decompose the Hedge Fund Composite dollar returns into Beta, Alpha and Risk free ("Rf") components, as follows: Alpha = Actual return – Rf – Beta * (Market return – Rf).

Where Rf is the Risk free rate as defined by a rolling 3m USD Libor, where market return is that of S&P Global BMI ('the market index') and where Beta has been calculated with respect to each underlying fund observed on a 24m rolling basis to the market index. The monthly Alpha, Beta and Rf components are then applied to each underlying fund's dollar performance for a particular month, and then at a master strategy or industry level the individual fund dollar contributions are aggregated.

By way of example since 2013 (to June 2021) at the HF Composite level we observe that hedge funds performance generated ~$1.23trillion dollars (net of fees) to the benefit of investors. Decomposed $394bn of this are classified as performance attributable to alpha, whilst $598bn are classified as performance attributable to beta, whilst $239bn would have been achieved from purely investing in Rf.

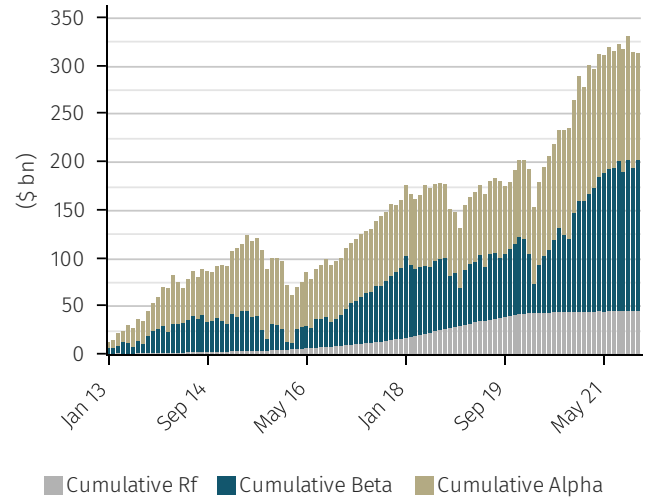
Note, Betas can be negative in certain cases, creating negative dollar attributions. These are offset by corresponding positive Alpha contributions.



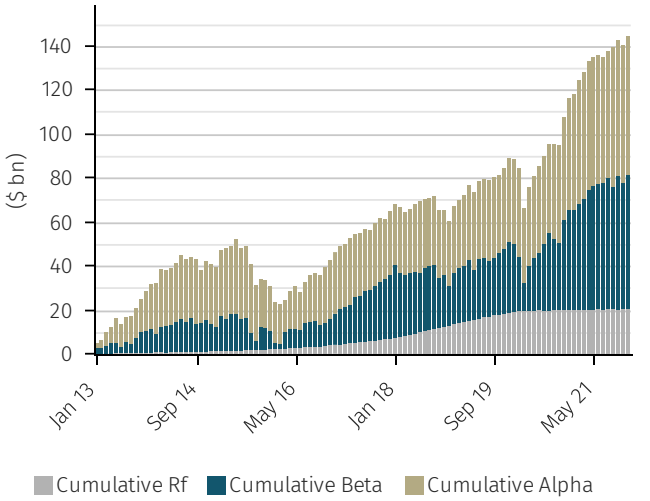


**Risk Free Rate = period average of 3-month US Libor 0.20%. Source: Bloomberg.*
**HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index.*
Source: Aurum Hedge Fund Data Engine.

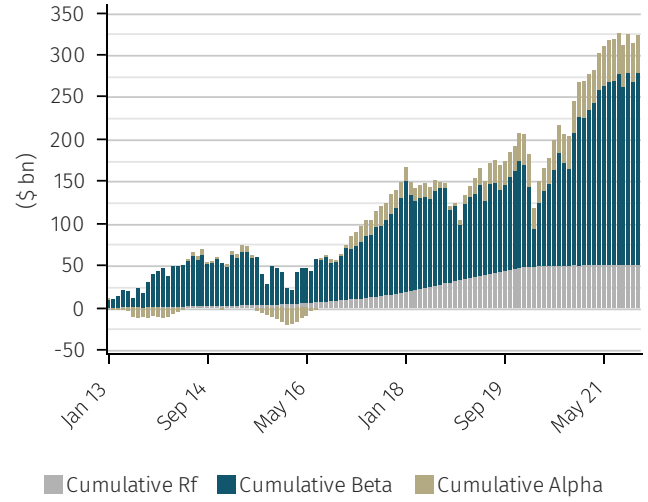
Equity L/S



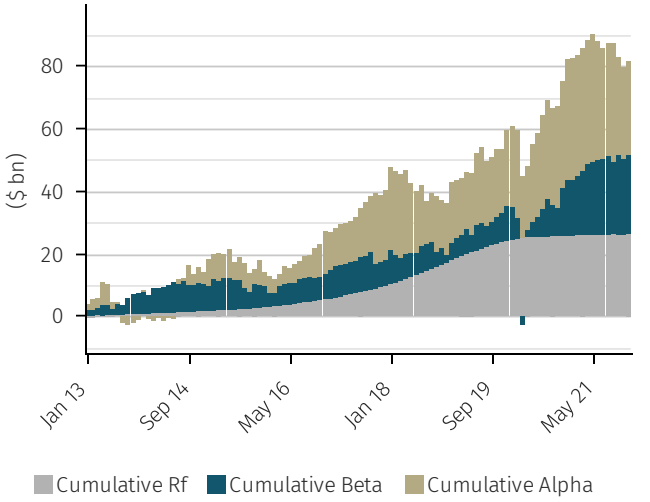
Event



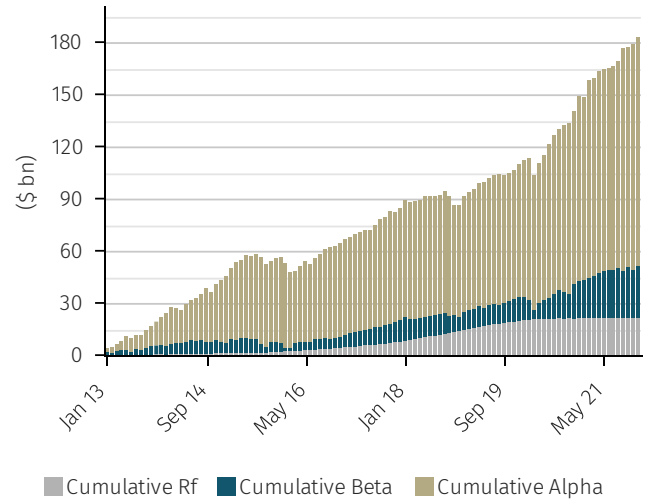
Long biased



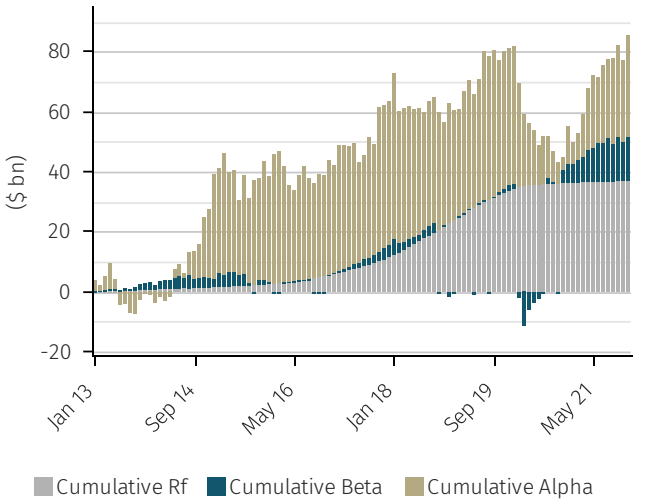
Macro



Multi-Strategy



Quant



**Risk Free Rate = period average of 3-month US Libor 0.20%. Source: Bloomberg.*
**HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index.*
Source: Aurum Hedge Fund Data Engine.

Performance dispersion and correlation

As the chart on page 4 and the table below illustrates, there has been a very large normalisation of the dispersion of strategy performance between top and bottom decile performing funds across all of the strategy groups. The middle of 2021 saw dispersion figures across the HF Composite peak at well over a 70% performance differential between top and bottom decile performing hedge funds. That figure has now dropped to just under 33%.

It should be noted that dispersion remains elevated – over 8.5% greater (or over a 2% differential on an absolute basis) than the 10y average of nearly 30%. This is driven predominantly by equity long/short (which still has a 39% differential between top and bottom decile) and long-biased strategies (a 39% spread). Equity long/short dispersion remains 21% above 10-year average (or absolute level of nearly 7%). On the other end of the spectrum: arbitrage, multi-strategy and quant funds show a much tighter dispersion in performance relative to their respective 10-year averages.

> **Dispersion is predominantly driven by equity long/short (which still has a 39% differential between top and bottom decile) and long-biased strategies (a 39% spread).**

Another interesting observation is how strong global equity performance has been in 2021 (over 16%); in order to outperform equities a hedge fund would have had to have been well inside the top quartile. It has been a fine time to be long risk-assets although it is worth highlighting some other observations.

Since June 1989 the S&P Global BMI has compounded at 6.2%. Since Jan 09 (as accommodative policy was starting to go into full swing and recover from the financial crisis) the return has been just under 10% compound. In the last three years the CAR has been 17.9%. It is fair to say that the markets are operating well above and beyond their long term historical norms and it is not unreasonable to expect – at the very least – normalisation to occur.

Whether this manifests in the form of a massive sudden repricing via a crash, or is a slower and steadier reversion to the mean is not the subject of this report. However, it is worth reiterating the points above relating to beta and correlation.

Certain strategies and sub-strategies have consistently exhibited a lower correlation to risk assets like equities and higher alpha, while others have been undoubted beneficiaries of these 'abnormal' conditions supporting risk assets. Allocators need to keep this in mind when assessing the risk of their portfolios and decision making when (and if) allocating to hedge funds.

STRATEGY DISPERSION – ROLLING SPREAD 10-90th PERCENTILE

Strategy	Average 10 year	Dec-21	Current elevation vs 10 year average
Equity L/S	32.13%	39.13%	21.81%
Long biased	34.95%	39.19%	12.11%
Credit	18.69%	20.51%	9.74%
HF Composite	**29.91%**	**32.44%**	**8.45%**
Macro	23.88%	25.24%	5.70%
Event	25.52%	25.73%	0.81%
Multi-Strategy	22.64%	22.32%	-1.40%
Quant	25.08%	24.30%	-3.08%
Arbitrage	26.04%	23.46%	-9.91%

The correlations between the main strategy buckets remains elevated (see correlation matrix on page 19) when viewed over a five-year window, however, there has been a distinct shift in correlations relative to previous year. Rolling 12-month cross strategy correlations declined across the board relative to the same point last year as markets continue their normalisation from March 2020 lows.

> **Perhaps unsurprisingly, those strategies that typically purport to be more relative value/non-directional in nature such as multi-strategy funds and arbitrage funds have exhibited much lower cross correlation with other strategy areas and risk assets.**

Equally weighted returns.
HF Composite = Aurum Hedge Fund Data Engine Equally Weighted Composite Index
Source: Aurum Hedge Fund Data Engine.

For some strategies, higher correlation figures have persisted. As alluded to above, some of the best performance has occurred where there has been a high beta to risk assets and one can see that long biased, equity l/s, event, and equity markets have continued to behave in a highly correlated fashion. Quant strategies have also exhibited a much higher correlation to this grouping as well – as already mentioned this is largely explained by much stronger performance by the risk-premia sub-strategy within quant in these buoyant markets. Perhaps unsurprisingly, those strategies that typically purport to be more relative value/non-directional in nature such as multi-strategy funds and arbitrage funds have exhibited much lower cross correlation with other strategy areas and risk assets.

The average intra-strategy correlation chart on page 19 is also important for any direct allocator to hedge funds to note. For example: on the left-hand-side it shows that the average correlation of volatility arbitrage managers to other volatility arbitrage managers is just 0.1 (over a rolling five-year period); but at the other extreme, it shows that the average long-biased fund is over 0.5 correlated to other long biased funds.

Intra-strategy correlation is important to look at because it can give an indication of the extent of homogeneity of funds within a certain strategy bucket. So while long biased managers may be top performers in recent months, as a group they exhibit a high degree of cross correlation – which is unsurprising given they are highly likely to carry a lot of common factor risk or beta to the market; as such they are likely to move together.

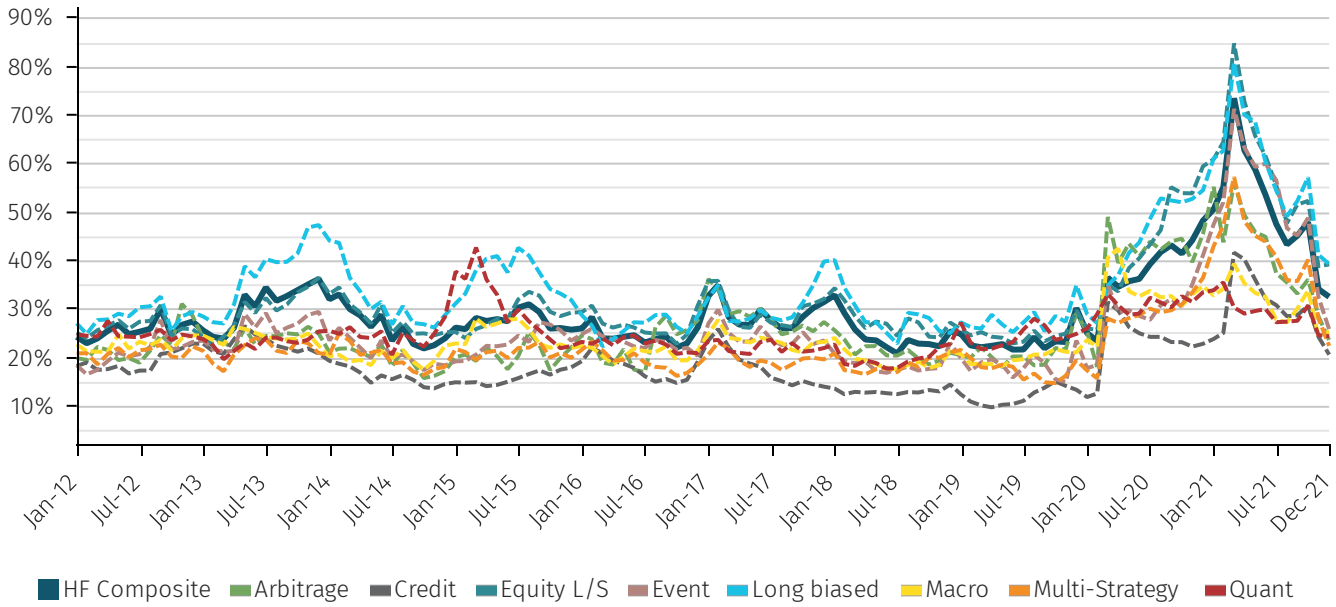
The areas where Aurum typically focuses are more towards the left-hand-side, i.e. statistical arbitrage, macro (including commodities, fixed income RV and global macro), managers that run low net market exposure equity strategies (including multi-strategy), etc. These are areas that are more heterogeneous and where one can potentially add a lot more value from manager selection. These are also the areas that tend to exhibit lower beta to bonds and equities, as described above.

Equally weighted returns.
HF Composite = Aurum Hedge Fund Data Engine Equally Weighted Composite Index
Source: Aurum Hedge Fund Data Engine.

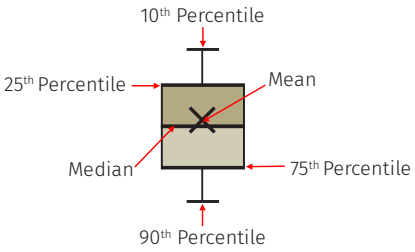
Performance dispersion

HEDGE FUND INDUSTRY DISPERSION – 12M ROLLING RETURN

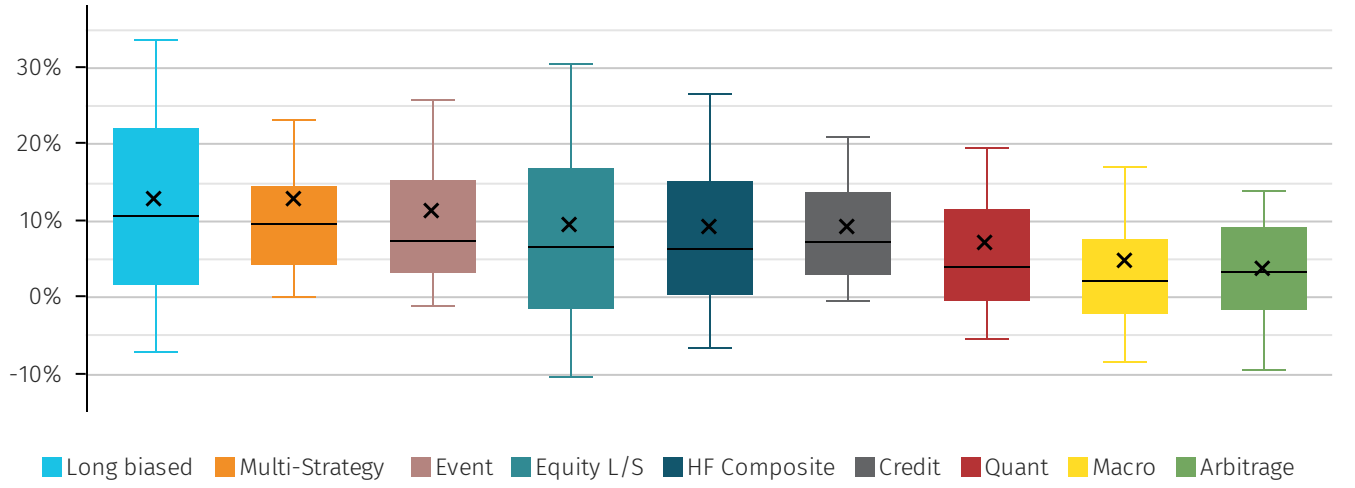
MASTER STRATEGY 10th – 90th PERCENTILE 12M ROLLING PERFORMANCE SPREAD



Equally weighted returns.
HF Composite = Aurum Hedge Fund Data Engine Equally Weighted Composite Index
Source: Aurum Hedge Fund Data Engine.



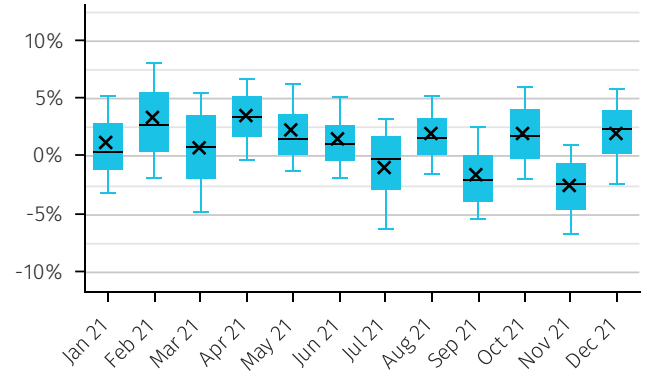
2021 MASTER STRATEGY PERFORMANCE DISPERSION (12M)



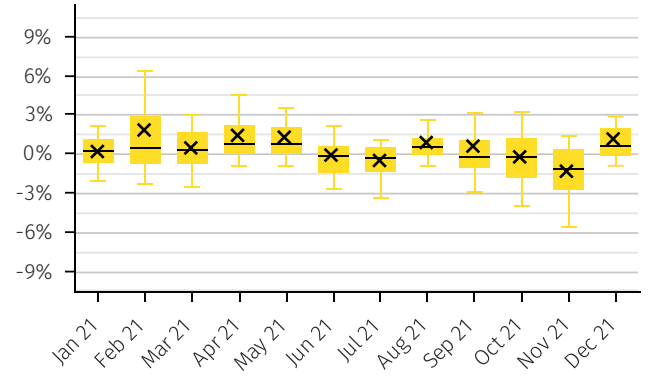
MASTER STRATEGIES NET MONTHLY RETURN DISTRIBUTION

Equally weighted returns.
HF Composite = Aurum Hedge Fund Data Engine Equally Weighted Composite Index
Source: Aurum Hedge Fund Data Engine.

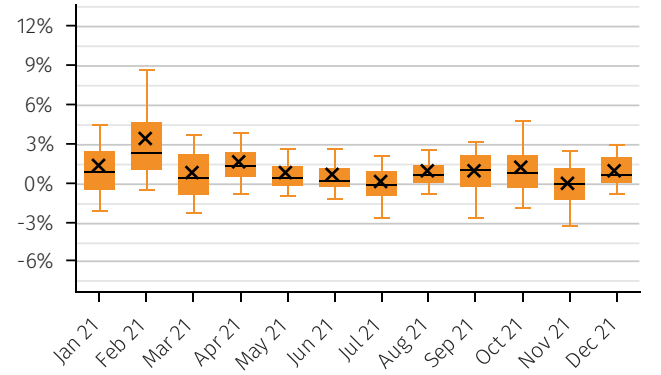
Long biased



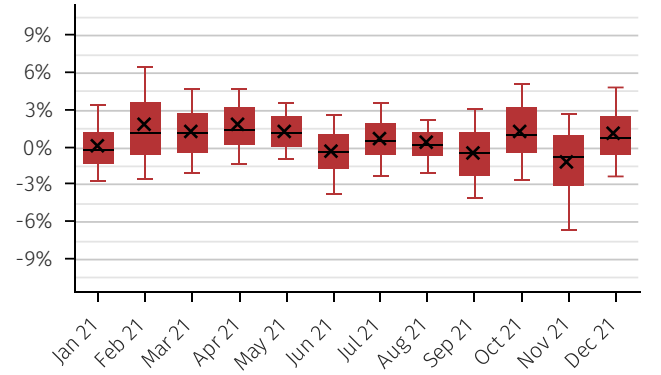
Macro



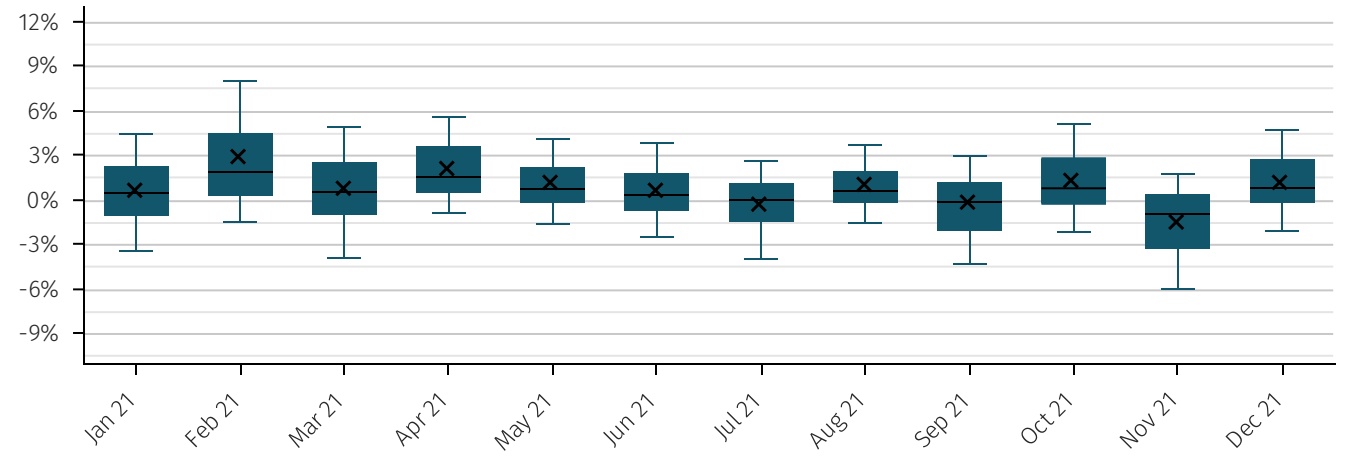
Multi-Strategy



Quant



HF Composite



Equally weighted returns.
HF Composite = Aurum Hedge Fund Data Engine Equally Weighted Composite Index
Source: Aurum Hedge Fund Data Engine.

Correlation

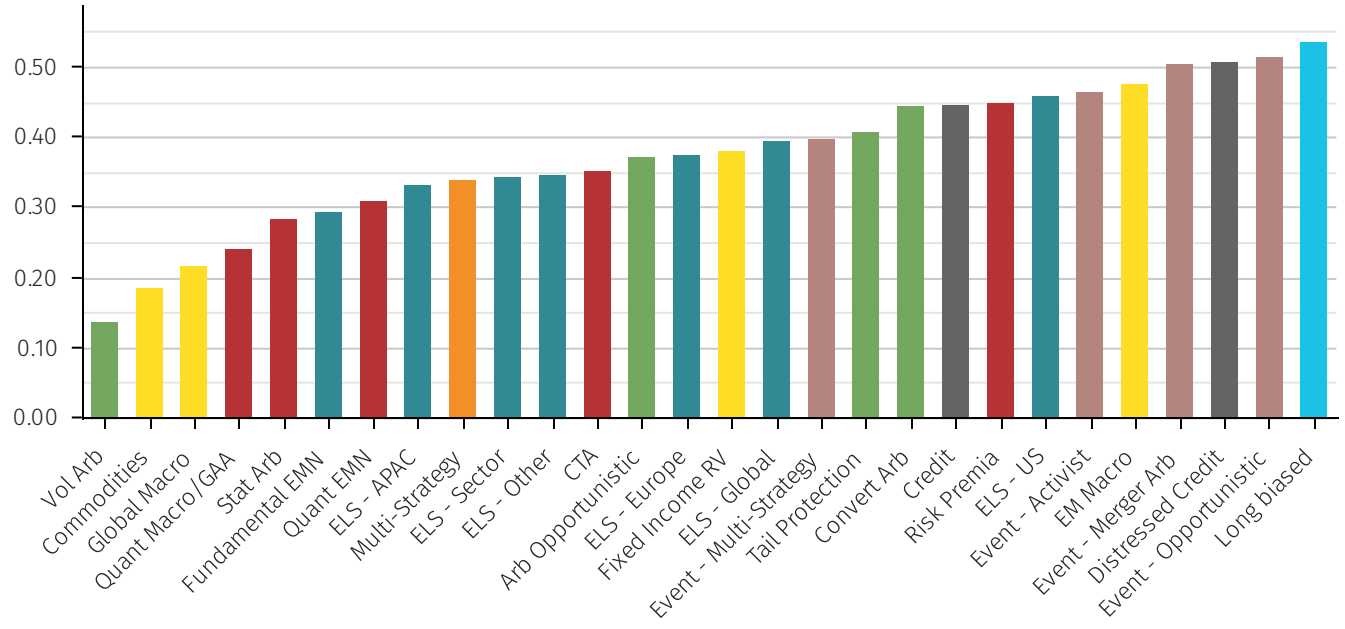
MASTER STRATEGY CORRELATION MATRIX (5 YR)

	Arbitrage	Credit	Equity L/S	Event	Long biased	Macro	Multi-Strategy	Quant	HF Composite	Bonds	Equities
Arbitrage		0.54	0.37	0.45	0.34	0.43	0.58	0.09	0.43	0.27	0.23
Credit			0.73	0.86	0.80	0.79	0.75	0.50	0.87	0.33	0.71
Equity L/S				0.91	0.92	0.74	0.81	0.53	0.94	0.39	0.90
Event					0.95	0.81	0.82	0.57	0.97	0.30	0.92
Long biased						0.82	0.73	0.62	0.97	0.45	0.97
Macro							0.75	0.52	0.86	0.44	0.75
Multi-Strategy								0.53	0.84	0.33	0.66
Quant									0.67	0.27	0.59
HF Composite*										0.42	0.93
Bonds**											0.35
Equities***											

MASTER STRATEGY CORRELATION MATRIX (1 YR)

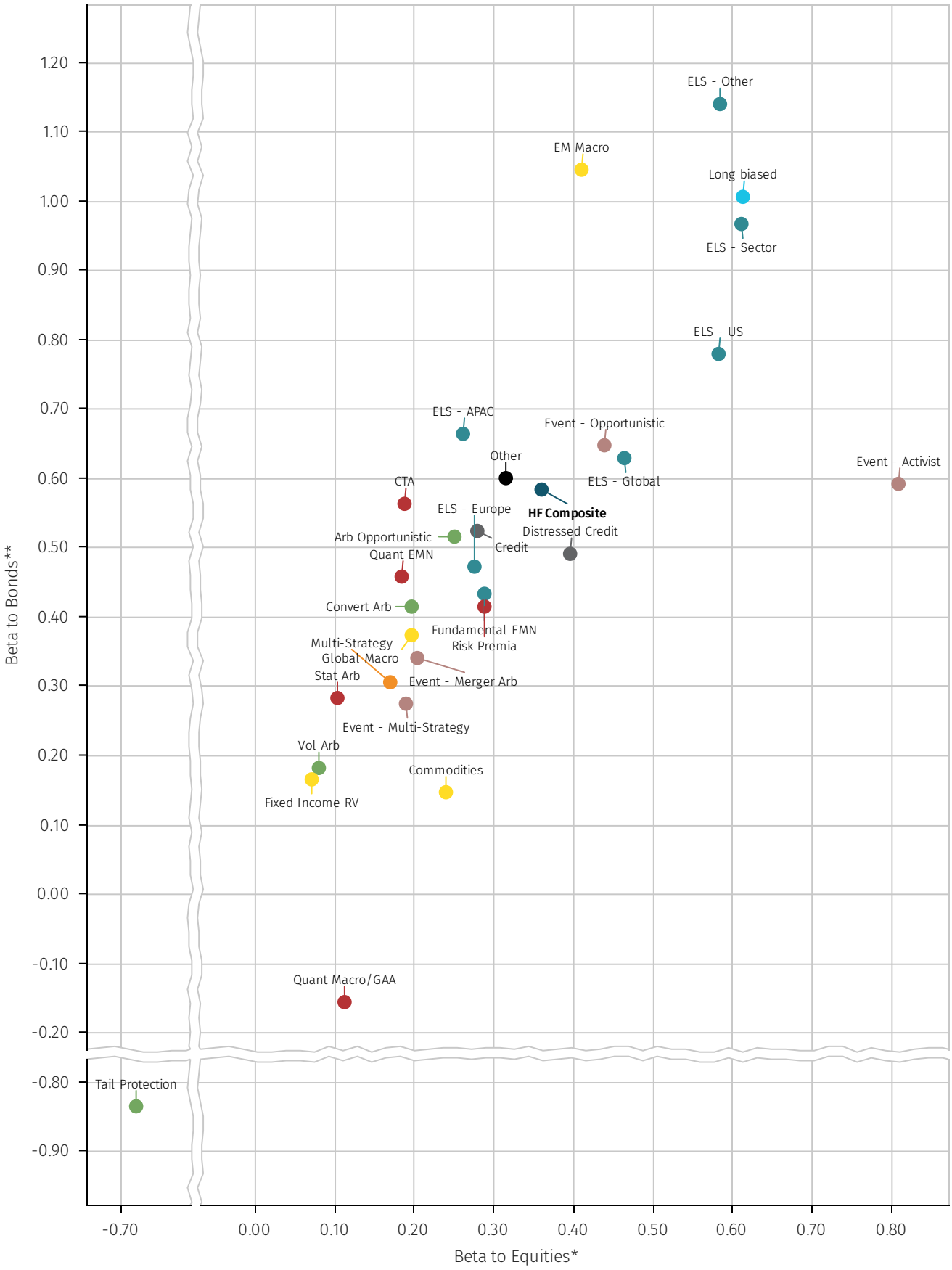
	Arbitrage	Credit	Equity L/S	Event	Long biased	Macro	Multi-Strategy	Quant	HF Composite	Bonds	Equities
Arbitrage		0.45	0.07	0.10	-0.26	-0.15	0.38	-0.53	-0.06	-0.40	-0.27
Credit			0.41	0.65	0.44	0.53	0.26	0.05	0.54	-0.18	0.30
Equity L/S				0.72	0.70	0.11	0.51	0.46	0.90	0.10	0.70
Event					0.65	0.60	0.55	0.57	0.87	-0.29	0.66
Long biased						0.34	-0.03	0.67	0.86	0.44	0.95
Macro							0.33	0.47	0.45	-0.11	0.24
Multi-Strategy								0.23	0.46	-0.34	-0.02
Quant									0.71	0.30	0.70
HF Composite*										0.15	0.84
Bonds**											0.30
Equities***											

AVERAGE INTRA-STRATEGY CORRELATION (5 YR)[1]



*HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index.
* Bonds = S&P Global Developed Aggregate Ex Collateralized Bond (USD). * Equities = S&P Global BMI.
[1] Equally Weighted returns. The average correlation of underlying funds within the strategy classification to all other funds within that classification. Source: Aurum Hedge Fund Data Engine.

SUB-STRATEGY BETA TO BONDS AND BETA TO EQUITIES



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Source: Aurum Hedge Fund Data Engine.

Hedge funds vs alt UCITS

The table below presents returns of hedge funds relative to their alternative UCITS ("alt UCITS") counterparts. As can be clearly seen, hedge funds, on average, significantly outperformed their newer, cheaper cousins in 2021 and over a five-year period. The exceptions to this has been a tiny outperformance of around one percent in the equity long/short space, which is itself interesting as it is arguably the hedge fund strategy easiest to reproduce in a UCITS format without compromise.

Macro strategies too have underperformed in 2021 versus their alternative UCITS counterparts, again by a relatively small amount. Macro funds of course are a highly heterogeneous mix of funds, some of which operate relatively simple and easy to execute strategies (which may also lend themselves to a UCITS format), while others are highly complex from an operational perspective or have significant barriers from a structural perspective, making them impossible to recreate in a UCITS format.

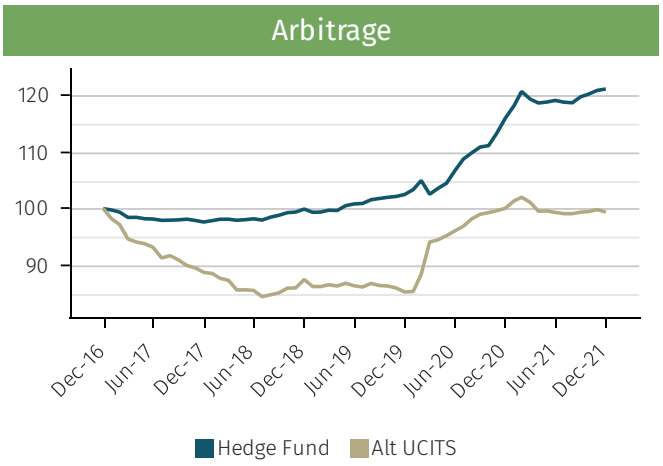
Either way – from an aggregate perspective – being a hedge fund didn't allow you to outperform your UCITS counterparts in the macro space last year.

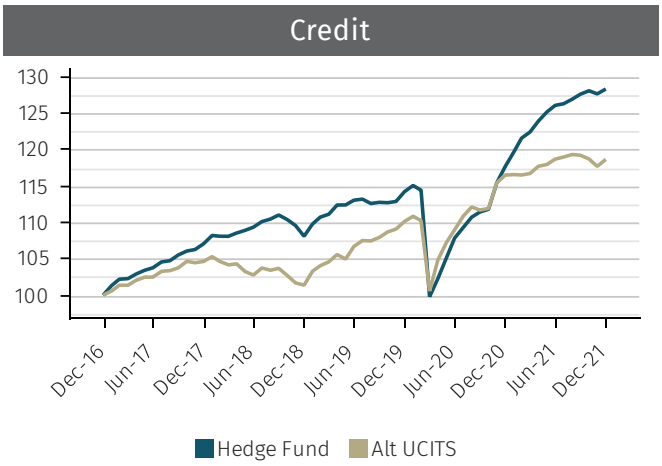
Overall however, it is pretty conclusive from this data that while a significant driver of interest in alt UCITS has been the low fees and promise of comparable returns to hedge funds, the reality has been disappointing.

HEDGE FUNDS VS ALT UCITS RETURNS

	2021 Returns		5Y Returns		5Y Vol		5Y Sharpe		AUM ($bn)		Fund Count	
	Hedge Fund	Alt UCITS	Hedge Fund	Alt UCITS	Hedge Fund	Alt UCITS	Hedge Fund	Alt UCITS	Hedge Fund	Alt UCITS	Hedge Fund	Alt UCITS
Arbitrage	4.45%	-0.68%	3.92%	-0.12%	2.82%	4.53%	0.91	-0.30	67.2	5.9	107	14
Credit	9.04%	1.85%	5.12%	3.48%	6.68%	5.25%	0.59	0.43	427.4	40.0	487	38
Equity L/S	3.92%	4.80%	8.18%	2.72%	7.90%	3.79%	0.87	0.38	630.4	49.9	1,120	128
Event	12.12%	3.95%	8.88%	3.00%	6.38%	4.28%	1.16	0.40	274.9	19.3	224	31
Long biased	10.76%	4.10%	9.36%	4.33%	9.57%	4.93%	0.85	0.62	666.8	144.8	599	85
Macro	-0.20%	0.90%	3.66%	2.60%	4.54%	7.04%	0.52	0.21	328.7	28.4	354	53
Multi-Strategy	11.35%	5.86%	8.92%	4.33%	3.94%	4.08%	1.86	0.74	358.4	20.4	172	15
Quant	8.58%	4.33%	2.15%	-0.60%	4.54%	3.63%	0.20	-0.51	424.2	18.5	485	78
HF Composite	**7.56%**	**3.88%**	**6.59%**	**3.26%**	**5.90%**	**4.32%**	**0.89**	**0.46**	**3369.5**	**336.7**	**3,825**	**466**
Bonds	**-5.59%**	**-5.59%**	**3.21%**	**3.21%**	**4.26%**	**4.26%**	**0.45**	**0.45**	**0.0**	**0.0**	**0**	**0**
Equities	**16.02%**	**16.02%**	**11.99%**	**11.99%**	**15.18%**	**15.18%**	**0.74**	**0.74**	**0.0**	**0.0**	**0**	**0**

HEDGE FUNDS VS ALT UCITS





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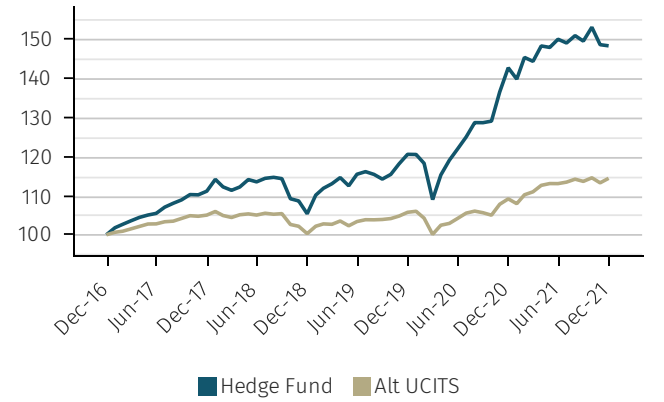
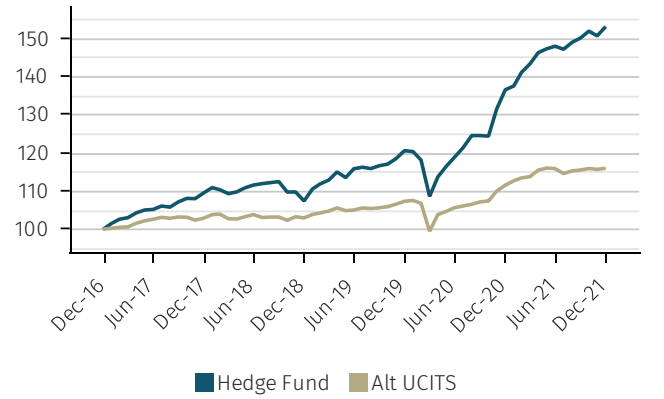
Source: Aurum Hedge Fund Data Engine.

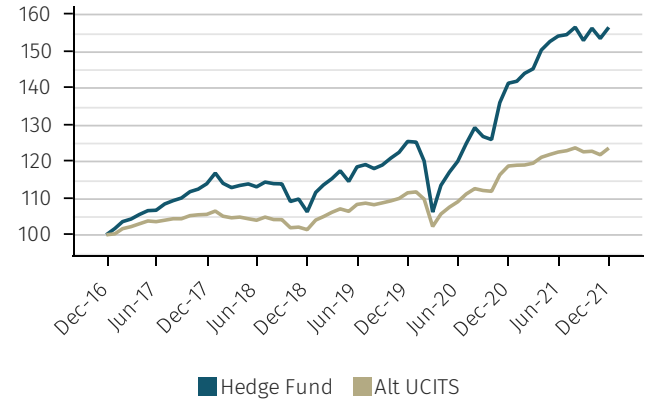
Equity L/S



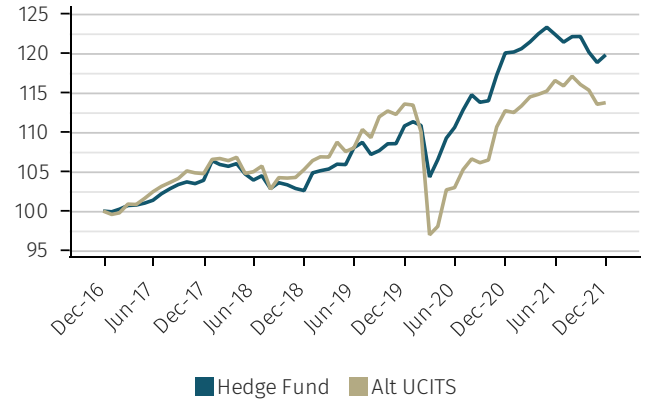
Event



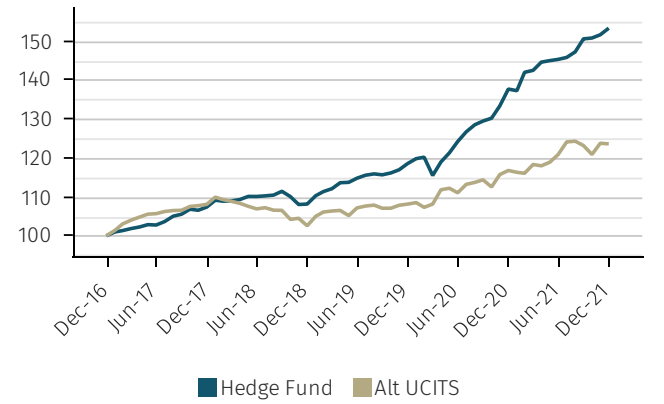
Long biased



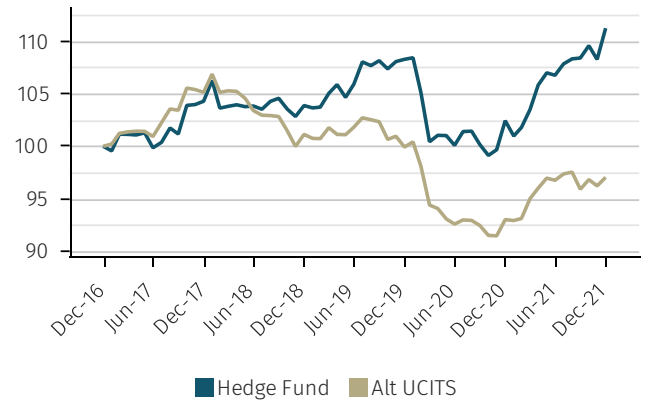
Macro



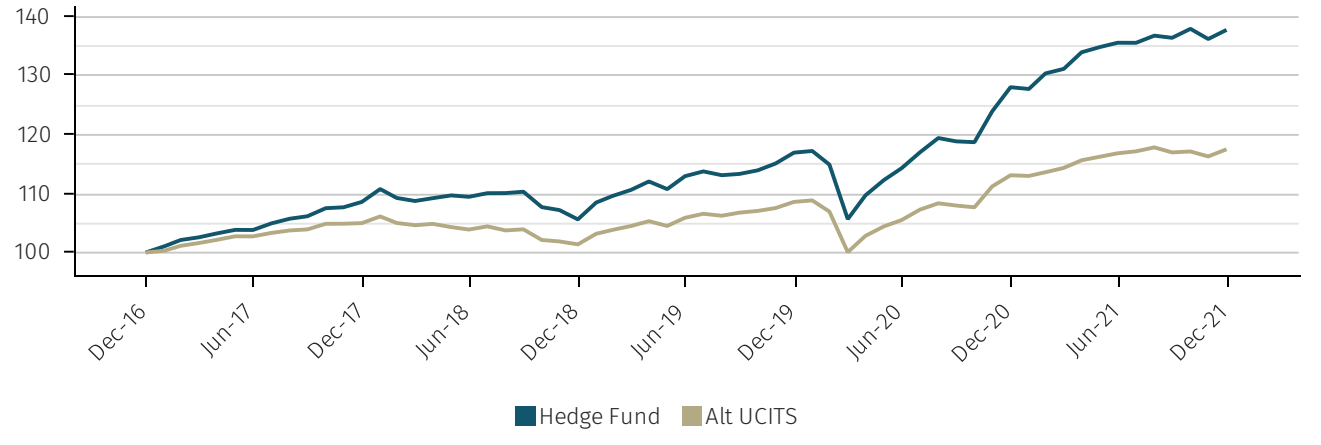
Multi-Strategy



Quant



HF Composite



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Source: Aurum Hedge Fund Data Engine.

Dollar extraction

This part of the report describes, in dollar terms, how much as a result of performance has been generated or lost by particular strategies and the hedge fund industry as a whole. There was significant negative performance in January from the 'meme-stock' short squeeze and equity deleveraging, which cost the industry not far off $20bn. But this was more than recouped in February, with equity long/short and multi-strategy funds in particular doing well, generating around $30bn between them.

Continuing a theme from the 2020 report, a large proportion of 2021 industry P&L is attributable to those strategies more exposed to broad risk asset appreciation. Long biased generated nearly $55bn, multi-strategy and credit over $30bn, event and quant both just under $30bn, equity l/s $25bn.

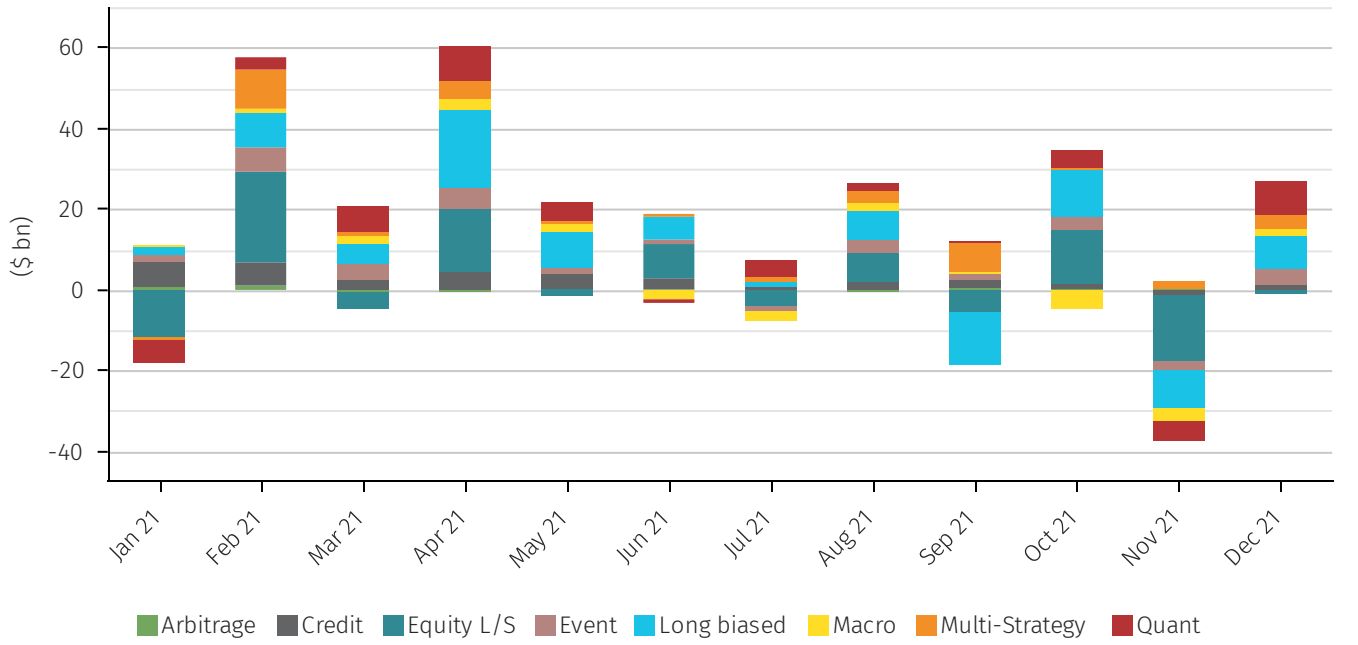
As already highlighted previously in the report, by far and away the biggest driver of the event driven strategy's P&L during 2021 has been from activist managers – which have historically been highly correlated with equity markets. The only net dollar losses came from macro managers.

> **Long biased generated nearly $55bn, Multi-strategy and Credit over $30bn, Event and quant both just under $30bn, equity l/s $25bn.**

Long biased strategies were the second largest strategy grouping accounting for just under 20% of industry assets, but well over 25% of industry net gains. Equity l/s accounted for over 20% of AUM but underperformed relative to their size contributing under 13% of the gains. Event driven outperformed, as did multi-strategy funds, while quant's contribution to industry returns was in line with its size relative to the rest of the industry.

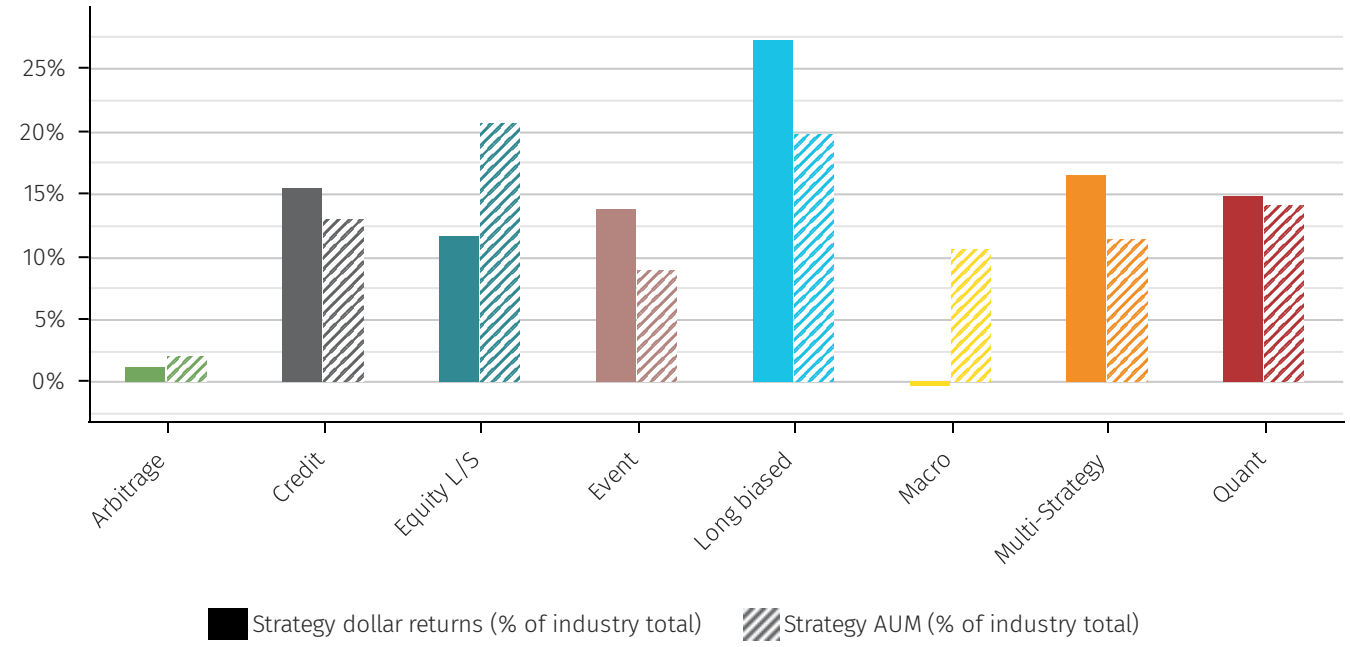
Once again, the big disappointment was from macro, standing at 10% of the industry and detracting from overall returns. Arbitrage strategies remains a very small component and contributor on a relative basis.

NET DOLLAR PERFORMANCE BY MASTER STRATEGY (1 YR)



** Includes funds which are active but have not reported to Aurum within the last 12 months*
Source: Aurum Hedge Fund Data Engine

STRATEGY DOLLAR RETURNS AND AUM RELATIVE TO THE INDUSTRY (1 YR)



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Source: Aurum Hedge Fund Data Engine.

Industry assets, flows and fees

Equity l/s, long biased and credit and quant were the largest strategies, with credit having overtaken quant since 2020 year-end. These four strategies account for $2.2tn of AUM, or 64% of the $3.2tn hedge fund industry covered by the Aurum Hedge Fund Data Engine as at the beginning of 2021. They also account for 2,691 funds out of the 3,825 covered in this report.

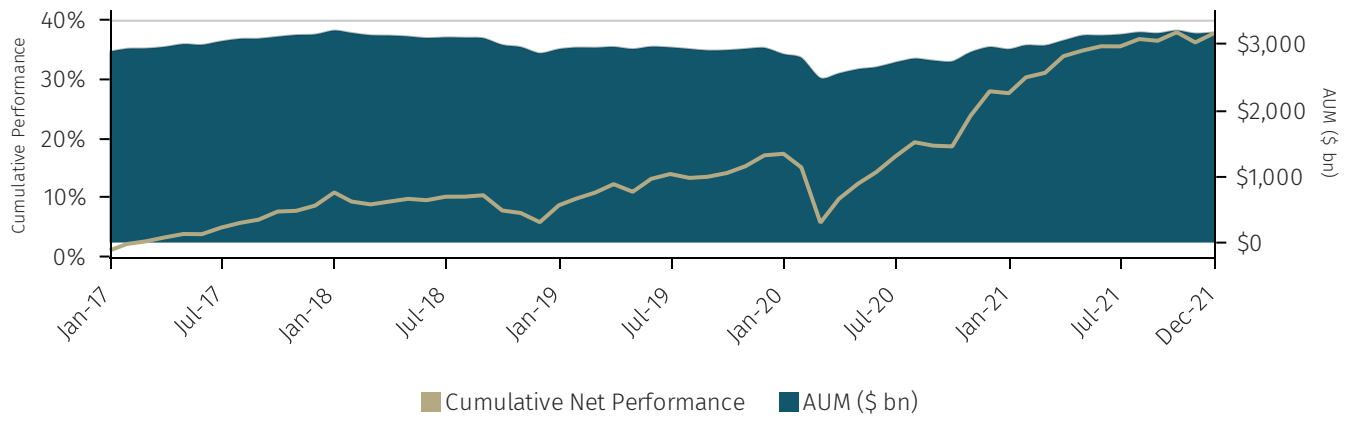
> **Multi-strategy funds not only generated significant net performance gains, but also significant net new inflows of well over $25bn!**

In terms of overall growth, the main story is from multi-strategy funds, that not only generated significant net performance gains, but also significant net new inflows (well over $25bn) – dwarfing net investment flows into any other strategy. Modest net new investment flows were seen in all other strategy areas (with arbitrage funds in particular growing significantly in proportion to the start of year AUM). The big 'loser' from a net investment flows perspective was in the quant space. Although it had been a profitable year, the vast majority of these gains were offset by outflows, leading to only a marginal aggregate increase in AUM.

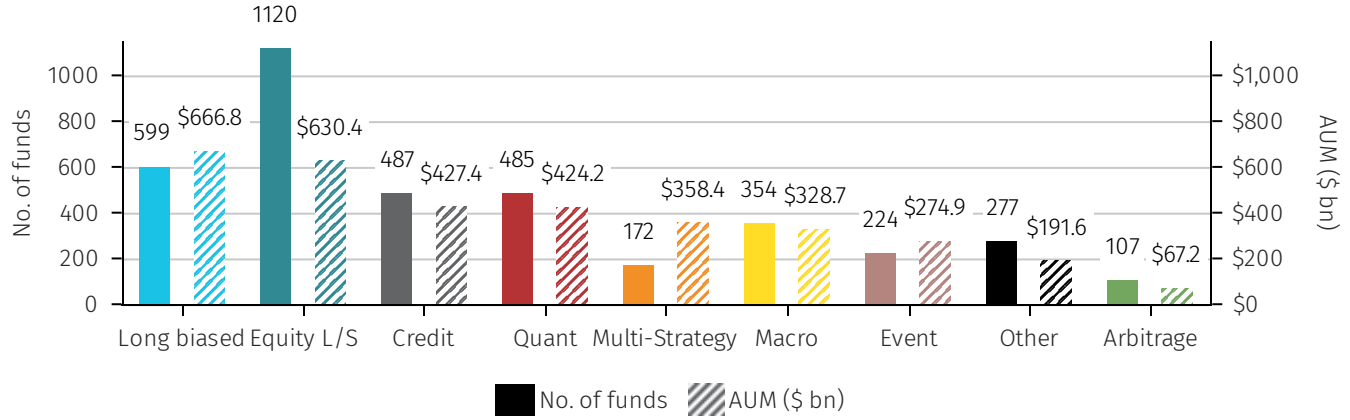
In terms of concentration, multi-strategy, event and long biased have significant exposure to a handful of very large funds. In multi-strategy in particular we are aware that many of these large funds are now either closed to new investment and returning profits to investors or changing their liquidity terms to become more onerous. As highlighted earlier in the report, while multi-strategy funds have seen very significant growth, it will be interesting to see if this is sustained.

We would not expect the supply of new multi-strategy funds to be able to easily accommodate this massive demand to come 'on-line' quickly given the barriers to entry in setting up a complex multi-strategy operation. As such, if there continues to be growth into the 'established players', it is likely to come with an ever increasing fee and liquidity cost.

HF COMPOSITE ASSETS (5 YR)*



NUMBER OF FUNDS AND AUM BY MASTER STRATEGY



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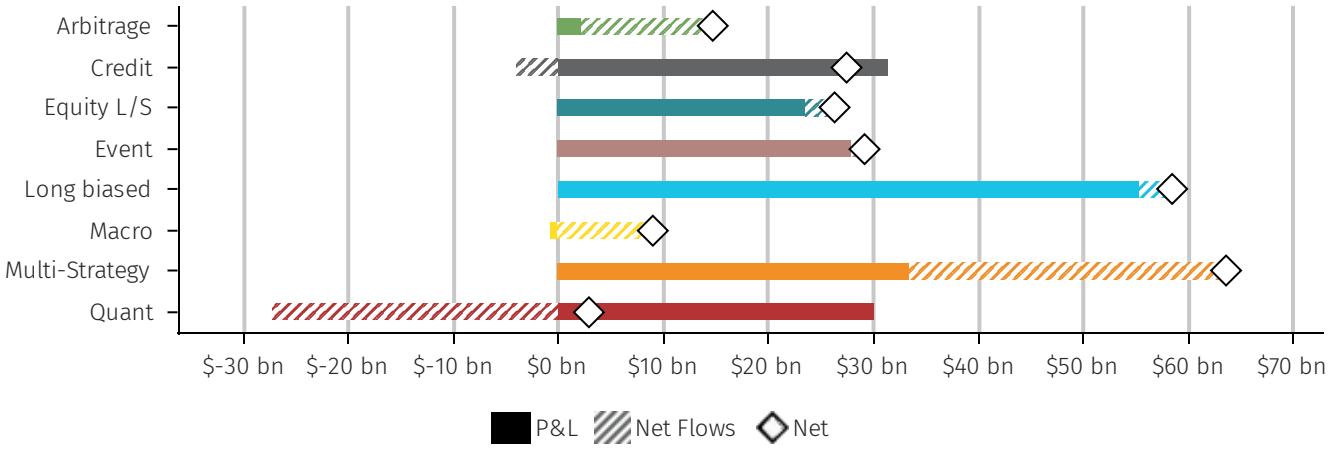
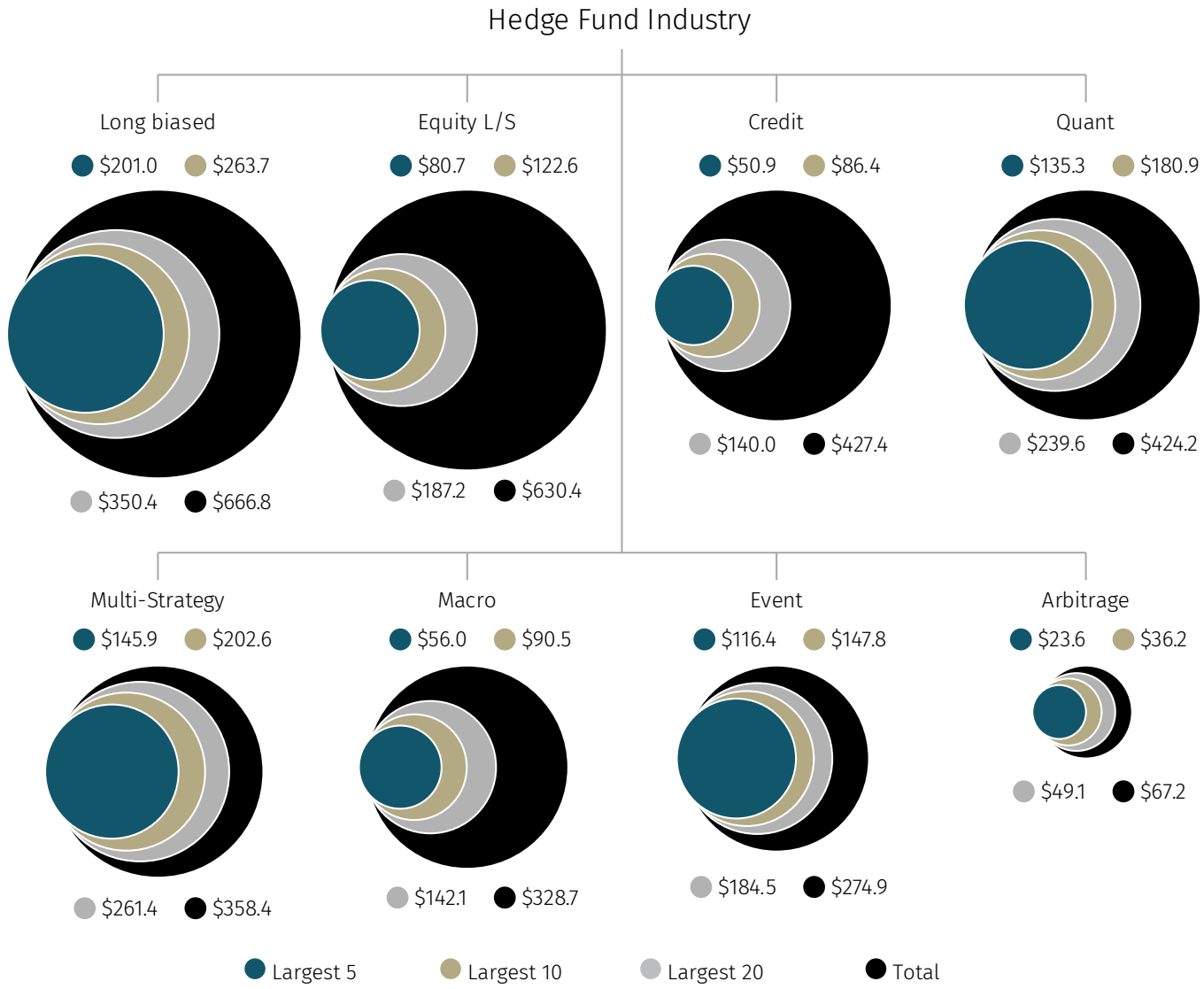
CHANGE IN AUM BY MASTER-STRATEGY (1 YR)



SUB-STRATEGY FUND CONCENTRATION ($ BN)



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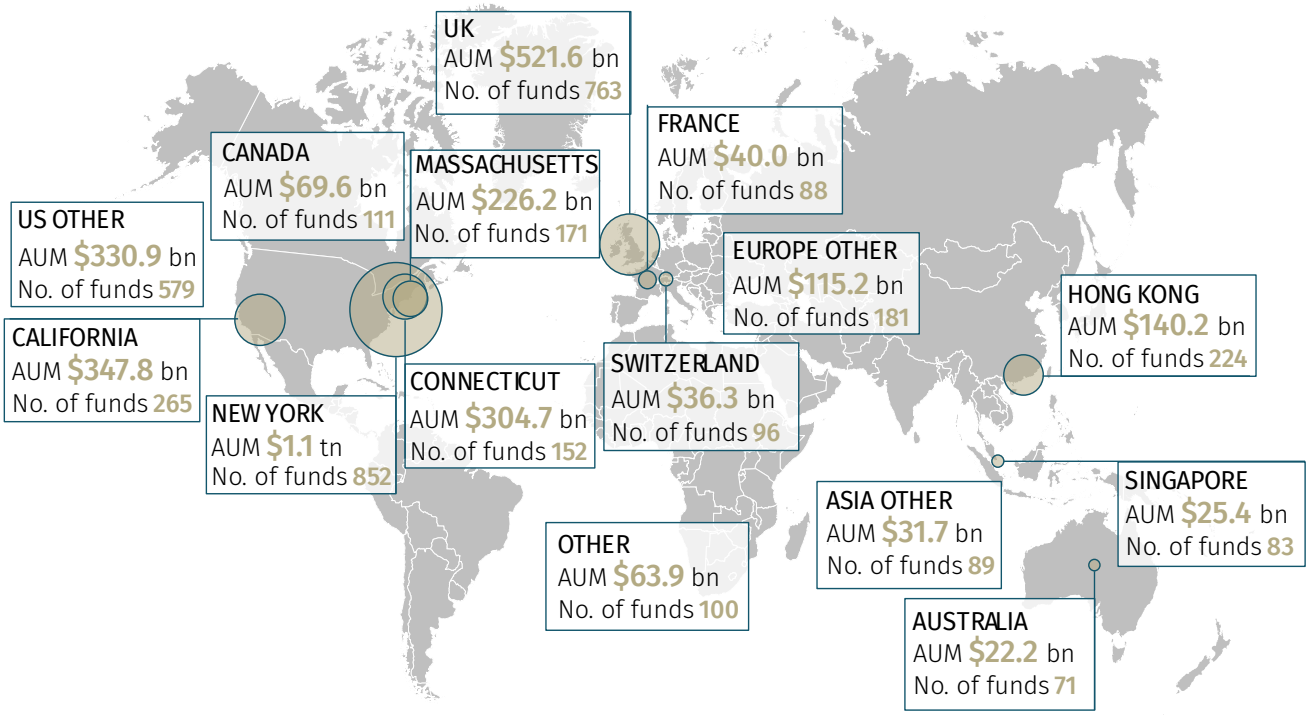
ASSETS UNDER MANAGEMENT BY LOCATION*



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Source: Aurum Hedge Fund Data Engine

TERMS AND CONDITIONS

	Median Redemption Notice (Days)	Median Redemption Frequency	Weighted Avg. Redemption Total (Days)[1]	Weighted Avg. Management Fee	Weighted Avg. Performance Fee
Arbitrage	**30**	**Monthly**	**110**	**1.46%**	**19.74%**
Convertible Bond	45	Quarterly	114	1.28%	17.35%
Opportunistic	60	Quarterly	145	1.34%	21.15%
Tail Protection	30	Monthly	58	1.59%	16.49%
Volatility Arbitrage	30	Monthly	90	1.64%	20.67%
Credit	**60**	**Quarterly**	**156**	**1.20%**	**17.00%**
Credit	60	Quarterly	128	1.06%	15.44%
Distressed	90	Quarterly	221	1.55%	19.73%
Equity l/s	**45**	**Monthly**	**136**	**1.46%**	**19.08%**
Asia Pacific Long / Short	30	Monthly	135	1.56%	20.59%
European Long / Short	30	Monthly	72	1.32%	19.34%
Fundamental Equity MN	30	Monthly	97	1.56%	18.28%
Global Long/Short	45	Monthly	168	1.47%	18.67%
Other L/S	30	Monthly	80	1.34%	16.15%
Sector	45	Quarterly	144	1.60%	19.14%
US Long / Short	45	Quarterly	144	1.27%	19.01%
Event	**60**	**Quarterly**	**181**	**1.48%**	**19.28%**
Activist	90	Quarterly	157	1.50%	18.87%
Merger Arbitrage	30	Monthly	60	1.23%	16.80%
Multi-strategy	60	Quarterly	226	1.49%	19.87%
Opportunistic	60	Quarterly	165	1.54%	19.52%
Long biased	**30**	**Monthly**	**64**	**0.85%**	**10.72%**
Macro	**30**	**Monthly**	**97**	**1.42%**	**17.42%**
Commodities	30	Monthly	64	1.28%	17.62%
Emerging Markets	30	Monthly	99	1.28%	16.60%
FIRV	30	Monthly	107	1.53%	20.23%
Global Macro	30	Monthly	94	1.45%	16.72%
Multi-Strategy	**45**	**Monthly**	**146**	**1.88%**	**20.75%**
Quant	**5**	**Monthly**	**37**	**1.50%**	**16.84%**
CTA	3	Weekly	28	1.33%	15.70%
Quantitative Equity MN	30	Monthly	47	1.29%	14.54%
Quant Macro/GAA	7	Monthly	26	1.93%	19.41%
Risk Premia	2	Daily	28	0.65%	6.32%
Statistical Arbitrage	30	Monthly	90	2.20%	23.33%

1. Weighted Avg. Redemption Total (Days) is the weighted Avg. of both redemptions notice days and redemption frequency days.
2. Some funds operate a pass through fee structure in addition to, or instead of, a traditional management fee. Aurum does not currently include funds which operate a pass through structure within this management fee calculation (even if they also separately charge a management fee), accordingly the weighted average management fee above excludes funds with this fee structure.

Definitions

ARBITRAGE

Strategies that look to benefit from mispricing's of the same instrument/asset or extremely closely related instrument. The strategy covers the following areas: convertible bond arbitrage, tail protection, volatility or opportunistic trades in this area, including but not limited to other areas such as capital structure arbitrage, ETF arbitrage or arbitrage of other closely related instruments.

Convertible bond:
Traditionally the strategy looks to isolate mispriced components of convertible securities in order to capture a return to fair value. CB's essentially consist of a bond plus an embedded call option on the equity. Key valuation components relate to the credit (bond component) and the volatility (option and equity component). Those components other than the component believed to be mispriced are typically hedged in order to isolate the mispricing.

Tail protection:
Strategy that explicitly look to benefit from large market moves, typically either in the form of large spikes in volatility (either from implied or realised volatility), or from significant moves in the underlying spot price (long gamma) or a particular asset or assets. Some tail protection strategies also look to benefit from sudden/large moves in spread relationships, which are typically tight, but which can move to extremes during periods of stress.

Volatility arbitrage:
Traditionally the strategy looks to identify the mispricing of volatility. Funds may incorporate exposure to factors such as implied volatility, realised volatility, dividends, skew, term structure and correlation. Funds may be biased short, long or neutral to Greek exposures such as delta, vega and gamma.

Opportunistic:
Strategy that look to benefit from inconsistent/mis-pricing of the same instrument/asset or extremely closely related instruments/assets. Opportunistic arbitrage strategies typically have the flexibility to trade across multiple areas, but tend to specialise in a combination of volatility trading, convertible bonds and capital structure arbitrage trades. But they may also focus on other niche areas in order to capitalise upon perceived mis-pricing. The narrow arbitrage focus is why they are better considered as part of arbitrage, rather than in the broader multi-strategy classification.

CREDIT

Strategies that focus the vast majority of their trading on debt instruments, or instruments that are far more 'debt-like' in nature.

Credit:
Typically focusing upon investments in higher yielding (but still performing) non-investment grade securities, primarily corporate - and sometimes sovereign - debt. The strategy is typically expressed with a net long bias. More relative value-oriented credit funds take a more balanced long/short approach (although still typically have a net long bias). Relative to longs, the short positions may be outright, related by sector, and/or within the same capital structures. Whilst not heavily trading oriented (given the associated costs) the strategy is more event-focused than passive and as such tends to have shorter investment horizons than something like the Distressed category. Returns are generated from a blend of coupon income and capital appreciation due to spread tightening (or widening on shorts).

Distressed:
Strategy typically invests in non-investment grade corporate - and sometimes sovereign - debt, which is frequently stressed (e.g., performing, but priced at a significant discount to par) or defaulted (e.g., where a balance sheet restructuring will occur). Some also invest in deeply discounted and/or subordinate structured product. Time horizon is typically longer dated.

EQUITY LONG/SHORT

Investing in global stocks, both on the long and short side. Most funds have a fundamental bias, value and/or growth-oriented investment theses. Some managers may also be more tactical/technical in their approach, taking into account flows, positioning on the street and market dynamics as part of the investment decision making process.

US equity long/short:
Investing the all or the vast majority of their portfolio into US stocks, both on the long and short side. Most funds have a fundamental bias, value and/or growth-oriented investment theses. Some managers may also be more tactical/technical in their approach, taking into account flows, positioning on the street and market dynamics as part of the investment decision making process.

Asia pacific equity long/short:
Investing the all or the vast majority of their portfolio into Asian Pacific stocks, both on the long and short side. Most funds have a fundamental bias, value and/or growth-oriented investment theses. Some managers may also be more

tactical/technical in their approach, taking into account flows, positioning on the street and market dynamics as part of the investment decision making process.

European equity long/short:
Investing all or the vast majority of the portfolio in European stocks, both on the long and short side. Most funds have a fundamental bias, value and/or growth-oriented investment theses. Some managers may also be more tactical/technical in their approach, taking into account flows, positioning on the street and market dynamics as part of the investment decision making process.

Global Equity Long/Short:
Investing the portfolio in global stocks, both on the long and short side. The fund is agnostic to country/region to maintain flexibility. Most funds have a fundamental bias, value and/or growth-oriented investment theses. Some managers may also be more tactical/technical in their approach, taking into account flows, positioning on the street and market dynamics as part of the investment decision making process.

Fundamental equity market neutral:
Investing the portfolio in stocks, both on the long and short side. To classify as 'equity market neutral' funds are expected to run with a very tight net exposure bias, which over the longer term should be close to zero. Note, different funds use different methodologies, e.g., some may run to be 'beta neutral', while others may be cash neutral (with a tolerance band around the zero level). The distinguishing characteristic is that such funds are typically very low net at all times, but some may run with varying degrees of factor or industry exposure, while others may have more stringent risk parameters around such exposures. Most funds have a fundamental bias, value and/or growth-oriented investment theses. Some managers may also be more tactical/technical in their approach, taking into account flows, positioning on the street and market dynamics as part of the investment decision making process.

Sector:
Investing the portfolio in a specific sector, both on the long and short side. The funds may or may not be agnostic to country/region to maintain flexibility, however sector specialist funds tend to be US focused given that it is a very deep/broad market with sectors that are large enough to accommodate diversified sector specific portfolios. Most funds have a fundamental bias, value and/or growth-oriented investment theses. Some managers may also be more tactical/technical in their approach, taking into account flows, positioning on the street and market dynamics as part of the investment decision making process.

Other l/s:
Long short equity investing, which does not readily fit into the other classification taxonomy.

EVENT DRIVEN

Broad strategy category covering funds that invest in securities of companies facing announced and anticipated corporate events. This includes, but is not limited to: M&A, Spin-offs, Company restructurings, some distressed situations (although if this is the dominating part of the strategy it will be classified as 'credit-distressed'). The strategy identifies mispriced securities with favourable risk/reward characteristics based upon differentiated views of value-unlocking catalysts, event-probabilities and post-event valuations.

Activist:
Activist hedge funds invest in companies that they feel are undervalued and the managers then attempt to drive the value creation process by influencing corporate management to undertake initiatives that they feel will benefit shareholders. This can include a number of activities, including but not limited to: capital structure restructuring, change in operating strategy/capital allocation, change in the board/management, change in corporate governance or the outright sale of the enterprise. Funds typically own large stakes in the companies they invest in as investors need to be a large enough shareholder to influence management.

Merger arbitrage:
Strategy typically involves taking positions in the securities of a company being acquired in a merger or acquisition. Due to the risk of a deal-break as well as time value of money, the securities typically trade at a discount to the deal-price/value (deal-spread). Primary risk is when deals break, which can lead to asymmetric losses to the downside. Funds will typically trade cash deals and also share-for-share deals, where the fund will short the securities they expect to receive upon deal closure (locking in the deal spread). In addition to M&A, managers may also invest in other situations that involve process driven catalysts.

Multi-strategy:
Whilst these are funds investing across multiple strategies, they are characterised by their overwhelming focus on the broad event-driven space and therefore placed in their own category. Such funds consistently generate a significant portion of their P&L from the primary event-driven investing categories: merger arbitrage, soft-catalyst event-driven situations (spin-offs, spin-outs, share- class arbitrage, non-mandatory shareholder elections, index-rebalancing, holdco/subsidiary relative value trade, high probability potential merger 'targets', etc.) and/or activist investing. Some funds may also allocate a portion of their capital to Distressed (which can fall under the category of event- driven investing), however, if the majority of the risk is in consistently in the distressed arena, it falls under the 'credit/distressed' categorisation.

Opportunistic:
Has some similarities to the event-driven 'multi-strategy' classification however, as the name suggests, these funds tend to be very opportunistic and dynamically adjust their capital allocation between various event-driven trades. These funds tend to also be more value and soft catalyst oriented. Such funds may also place 'special situations' trades, looking to unlock value taking various positions in the capital structure (i.e., could be debt or equity). Opportunistic funds have the flexibility to trade all areas of the event space (M&A, Activist, soft catalyst and distressed investing) but will do so on an opportunistic basis, they also may concentrate a large portion (or even at times all) of the risk in a specific area, unlike event driven - multi-strategy funds, which are typically always allocated across multiple sub-strategies at all times.

LONG BIASED

Long only or overwhelmingly long-biased strategies. Covers multiple asset classes.

MACRO

Macro funds take positions (can be either directional or relative-value) in currencies, bonds, equities and commodities, based on fundamental and qualitative judgements. Investment decisions can be based on a manager's top-down views of the world (e.g., views on economy, interest rates, inflation, government policy or geopolitical factors). Relative valuations of financial instruments within or between asset classes can also play a role (or be the dominant part) in the investment process. Primary areas of focus are the liquid instruments of G10 countries, although they may also include emerging markets.

Fixed income relative value:
Fund generates all or a substantial majority of the P&L/risk from relative movements across fixed income assets and their derivatives. Funds are typically looking to profit from arbitrage, mean-reversion or positive carry. Most traders aim to be either duration neutral or 'risk neutral' (i.e., matching DV01 across long and short positions). Most managers incorporate some use of leverage as an integral part of the strategy. Note - that some managers in the space may also trade a smaller portion of the book in more 'classic' directional macro trades, but funds in the FIRV category are generating a minority of the risk from this area.

Commodities:
These funds are primarily focused on trading commodity futures and options from both the long and short side. They can occasionally include the tactical use of equities, currencies, or fixed income instruments, but commodity futures/options should make up the bulk of the risk. The manager is typically looking for longer term trends and supply/demand imbalances within and between commodity markets.

Global macro:
Macro funds take positions (can be either directional or relative-value) in currencies, bonds, equities and commodities, based on fundamental and qualitative judgements. Investment decisions can be based on a manager's top-down views of the world (e.g., views on economy, interest rates, inflation, government policy or geopolitical factors). Relative valuations of financial instruments within or between asset classes can also play a role (or be the dominant part) in the investment process. Primary areas of focus are the liquid instruments of G10 countries, although they may also include emerging markets. Macro managers that do not have a particular specialisation in areas such as commodities, emerging markets or fixed income relative value fall under this more general classification.

Emerging markets:
Macro funds take positions (can be either directional or relative-value) in currencies, bonds, equities and commodities, based on fundamental and qualitative judgements. Investment decisions can be based on a manager's top-down views of the world (e.g., views on economy, interest rates, inflation, government policy or geopolitical factors). Relative valuations of financial instruments within or between asset classes can also play a role (or be the dominant part) in the investment process. Primary areas of focus are the emerging markets.

MULTI-STRATEGY

A hedge fund where the capital is deployed across multiple strategies and asset classes. Funds are typically extremely diversified and employ multiple PMs/risk taking groups.

QUANT

Systematic strategies: Funds trade securities based strictly on the buy/sell decisions of computer algorithms. Quant strategies primarily fall into the following categories: Quantitative Equity Market Neutral, Statistical Arbitrage, Quant macro/GAA (Global Asset Allocation), CTA, and risk-premia.

CTA:
CTAs (Commodity Trading Advisors) take primarily directional positions in index level or macro instruments, such as futures or FX contracts, in a systematic fashion. Technically, a CTA is a trader of futures contracts as defined by the CFTC and historically, there were many CTAs who were not systematic; such traders are more likely to be classified as 'Global Macro'. CTAs are

typically extremely systematised with straight through processing from signal generation to execution. Many, but by no means all, CTAs are trend following (using historical prices to determine predictable 'trending patterns') buying into markets where prices are rising and selling where markets are falling. When rising markets slow down/stop rising, trend-followers typically reduce its position and will eventually reverse its position into a short position, which it will hold until the market starts to rally again. The strategy is known for running with profits and cutting losses. Other models used in CTAs may include carry, seasonality, mean reverting or pattern recognition systems, models driven by fundamental data or non-traditional data sources. Some CTAs can also trade very short-term signals driven by market microstructure anomalies and patterns.

Quant macro / GAA:
GAA (Global Asset Allocation) is a systematic approach to Global Macro, with managers taking positions in global markets based on quantitative analysis, taking in information based primarily on economic data, but also incorporating price related information. The strategy is highly data and technology intensive. The positions tend to be relative value based, but they may also take directional positions in instruments such as futures, FX and baskets of equities, ETFs, swaps and other instruments. Signals may be arranged into relative value asset class models, cross asset class models / directional trades. Signals are also often classified under a number of factor headings: value, carry, momentum etc.

Statistical arbitrage:
Statistical arbitrage funds typically take price data and its derivatives, such as correlation, volatility and other forms of market data, such as volume and order-book information to determine the existence of patterns. These patterns can help the manager forecast the future return of a stock, often over a relatively short timeframe. Typical signal types are: mean-reversion, momentum and event-driven. Mean- reversion looks to take advantage of the phenomenon of short-term price movements occurring due to supply/demand imbalances then moving back to an equilibrium level. Momentum models look for patterns in price data that suggest that price movements will be more persistent (i.e., trend). Other statistical arbitrage funds will look to incorporate more discrete information into their process from events (e.g., publishing of analyst earnings estimates, news flow, etc.). Whilst statistical arbitrage funds tend to focus more on 'technical' models, some may also incorporate some longer-term models that are driven by fundamental data (e.g., stock value models, growth, etc.), however, if these models are the more dominant driver of risk, then the fund is likely to be classified as Quantitative Equity Market Neutral. Statistical arbitrage funds are typically run with a very low level of beta and are market neutral, however, this may not always be the case, with some funds able to take significant directional risk; however, given the higher frequency trading nature of such funds, they are not expected to have significant correlation to markets over time.

Quant equity market neutral:
Traditional QEMN strategies take fundamental data, such as analyst earnings estimates, balance sheet information and cash flow statement statistics, and systematically rank/score stocks against these metrics in varying proportions. The weights of the scores of the different fundamental data sources may be fixed or dynamic. Managers may construct a portfolio using an optimisation process or by applying simpler rules combined with risk constraints so as to create a portfolio that is dollar and/or beta neutral, and typically with minimal sector exposure. Traditional QEMN portfolios consists of exposure to: Value (looking for stocks mispriced relative to their fundamental value, e.g. based on P/E, P/B, cash flow, etc.); Quality (looking at metrics such as levels of debt, stability of earnings growth, balance sheet strength); momentum (looking at past returns over a preset timeframe ranging from days to months); however, these are common factors that are relatively easy to exploit/replicate - hence the proliferation of risk-premia products that operate in this space.

Risk premia:
Hedge fund risk premia products typically seek to capture the fundamental insights of a class of hedge fund strategies (hedge fund risk premia / alternative risk premia) along with a meaningful proportion of the expected returns those strategies can earn - using a dynamic but clearly defined process. Funds typically have exposure to a well-diversified portfolio of hedge-fund premia. Premia can cover everything from equity premia (Equity market neutral - trading across value, quality, growth and momentum factors, as well as EM premia), macro premia (e.g., trend following, or EM premia), to arbitrage strategies (e.g., risk arbitrage - holding a portfolio of merger targets diversified by sector and deal type; convertible arbitrage, etc.). The strategies are typically very well understood, backed up by academic research and implemented systematically.

Bond and equity indices

AURUM

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