Quant

AURUM

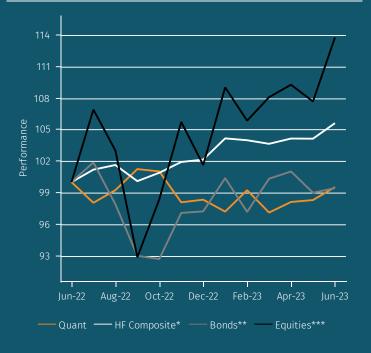
Quant strategy analytics pack

H1 2023

Inside this report:

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MASTER STRATEGY vs INDICES NET RETURN (1 YR)

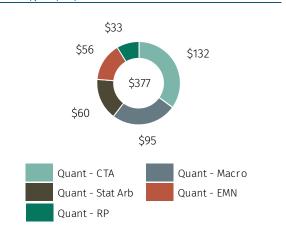


*HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index. **Bonds = S&P Global Developed Aggregate Ex Collateralized Bond (USD). ***Equities = S&P Global BMI.

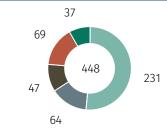
All figures and charts use asset weighted net returns unless otherwise stated. All Hedge Fund data is sourced from Aurum Hedge Fund Data Engine. Data included in this report is dated as at 21st July 2023.

For definitions on how the Strategies and Sub-Strategies are defined please refer to <u>https://www.aurum.com/hedge-fund-strategy-definitions/</u>, and for information on index methodology, weighting and composition please refer to <u>https://www.aurum.com/aurum-strategy-engine/</u>

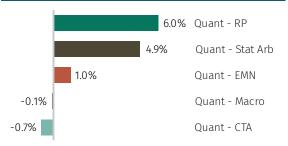
AUM (\$BN) – JUNE 2023



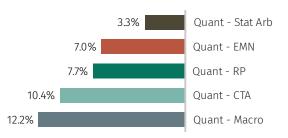
NO. OF FUNDS – JUNE 2023



SUB-STRATEGY NET RETURN (H1)



STANDARD DEVIATION (1 YR)



AUM CHANGE \$BN (H1)



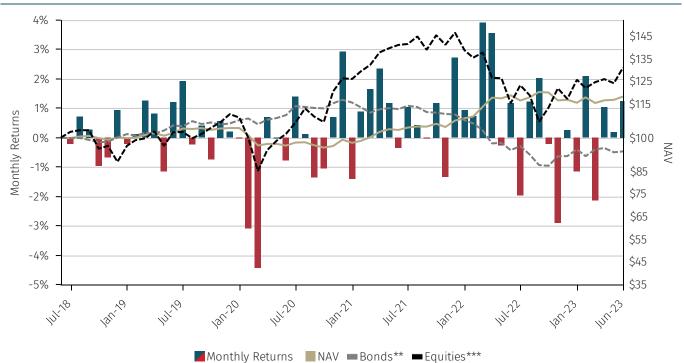
NET RETURN OF MASTER AND SUB STRATEGIES (1 YR)

	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	YTD	1 YR
Quant	-1.97%	1.23%	2.02%	-0.22%	-2.91%	0.26%	-1.15%	2.09%	-2.14%	1.04%	0.18%	1.25%	1.21%	- 0 .48%
Quant - Stat Arb	1.20%	1.26%	0.64%	-0.28%	0.31%	0.94%	-0.63%	2.73%	0.34%	0.15%	0.20%	2.10%	4 <mark>.9</mark> 4%	9.27%
Quant - RP	2.42%	-2.14%	-3.31%	3.83%	1.00%	-1.84%	2.41%	-0.21%	0.65%	0.83%	-0.73%	2.95%	5 <mark>.98</mark> %	5.72%
Quant - EMN	-1.74%	-3.03%	-1.15%	3.73%	2.79%	1.96%	-0.57%	0.91%	1.86%	-0.26%	-1.40%	0.48%	0.99%	3.41%
Quant - CTA	-2.82%	2.67%	3.79%	0.32%	-4.62%	-0.06%	-0.59%	1.34%	-6.17%	1.84%	1.68%	1.43%	- 0 .70%	1.67%
Quant - Macro	-4.06%	3.02%	3.98%	-4.09%	-6.82%	0.00%	-3.76%	4.17%	-1.89%	1.43%	-0.38%	0.54%	-0.07%	-8.23%
HF Composite*	1.19%	0.44%	-1.51%	0.79%	1.02%	0.22%	1.98%	-0.17%	-0.33%	0.48%	-0.01%	1.42%	3.39%	5 <mark>.6</mark> 0%
Bonds**	1.88%	-3.91%	-5.00%	-0.34%	4.73%	0.16%	3.25%	-3.20%	3.25%	0.68%	-1.99%	0.44%	2.27%	-0.57%
Equities***	6.89%	-3.63%	-9.86%	5.93%	7.48%	-3.87%	7.26%	-2.90%	2.11%	1.09%	-1.46%	5.64%	11. <mark>92%</mark>	13 <mark>.74%</mark>

NET RETURN OF MASTER AND SUB STRATEGIES (5 YR)

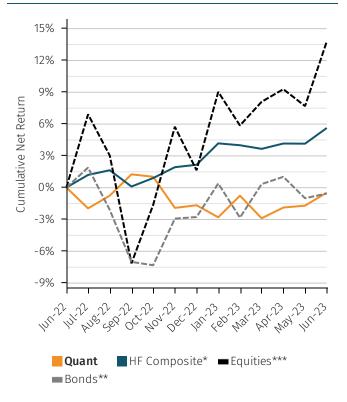
Performance	2023	2022	2021	2020	2019	5Yr CAR	5Yr Vol	5Yr Sharpe
Quant	1.21%	8.57%	8.54%	-4.94%	4.19%	3.40%	5.30%	0.31
Quant - Stat Arb	4.94%	11.77%	9.61%	10.12%	3.61%	8.01%	3.66%	1.62
Quant - CTA	-0.70%	15.05%	8.25%	0.71%	8.61%	5.70%	8.03%	0.50
Quant - Macro	-0.07%	6.62%	4.45%	-4.25%	0.36%	2.13%	8.35%	0.07
Quant - RP	5.98%	-4.41%	13.57%	-7.29%	4.30%	1.35%	6.72%	-0.04
Quant - EMN	0.99%	5.18%	12.60%	-17.28%	4.21%	0.94%	7.84%	-0.08
HF Composite*	3.39%	-2.25%	7.57%	8.97%	10.06%	4.74%	5.91%	0.50
Bonds**	2.27%	-16.69%	-5.59%	9.84%	6.19%	-1.25%	6.89%	-0.42
Equities***	11.92%	-20.04%	16.02%	14.34%	23.65%	5.56%	18.20%	0.29

NET MONTHLY RETURN (5 YR)



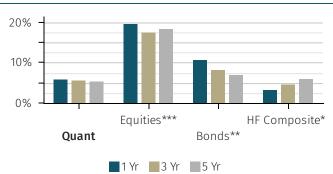
COMPARATIVE RETURN VS HF COMPOSITE (1 YR)

NET RETURN (ANNUALISED)



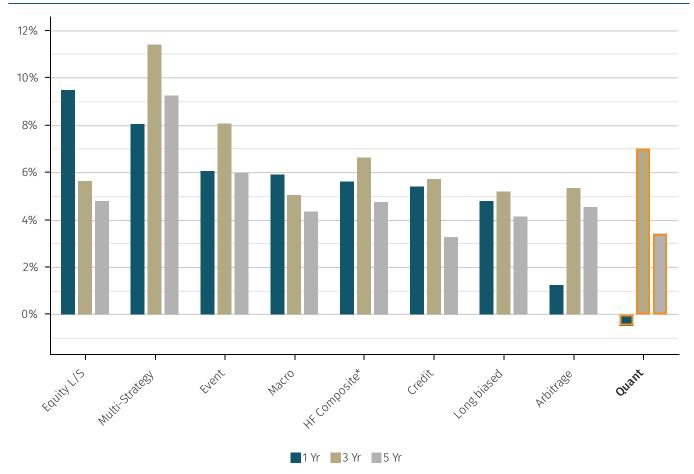


VOLATILITY (ANNUALISED)



<u>Aurum</u>

MASTER STRATEGY NET ANNUALISED RETURNS



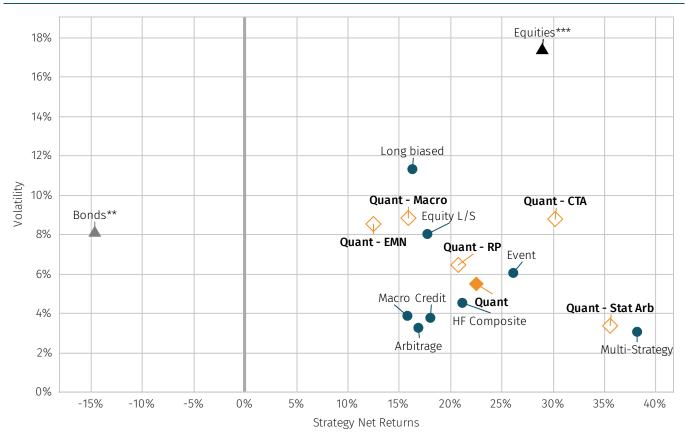
HIERARCHICAL ANNUALISED NET RETURN TO JUNE 2023

6 MONTHS	1 YEAR	3 YEAR	5 YEAR	10 YEAR
Equity L/S	Equity L/S	Multi-Strategy	Multi-Strategy	Multi-Strategy
12.6%	9.5%	11.4%	9.2%	7.9%
Long biased	Multi-Strategy	Event	Event	Event
8.2%	8.0%	8.0%	6.0%	5.4%
Credit	Event	Quant	Equity L/S	Equity L/S
7.9%	6.0%	7.0%	4.8%	5.3%
HF Composite*	Macro	HF Composite*	HF Composite*	HF Composite*
6.9%	5.9%	6.6%	4.7%	4.6%
Event	HF Composite*	Credit	Arbitrage	Long biased
6.5%	5.6%	5.7%	4.5%	4.5%
Multi-Strategy	Credit	Equity L/S	Macro	Credit
5.9%	5.4%	5.6%	4.3%	3.9%
Quant	Long biased	Arbitrage	Long biased	Quant
2.4%	4.8%	5.3%	4.1%	3.6%
Macro	Arbitrage	Long biased	Quant	Macro
1.4%	1.2%	5.2%	3.4%	3.1%
Arbitrage	Quant	Macro	Credit	Arbitrage
1.1%	-0.5%	5.0%	3.3%	2.3%

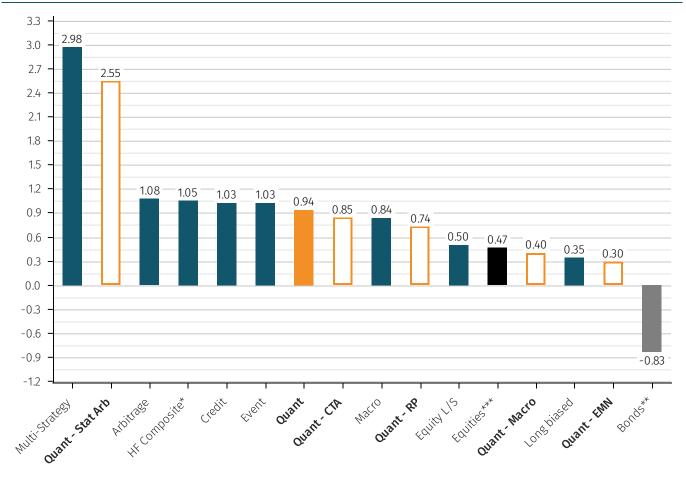
Aurum

*HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index. 4 Source: Aurum Hedge Fund Data Engine.

STRATEGY NET TOTAL RETURN VS ANNUALISED VOL (3 YR)



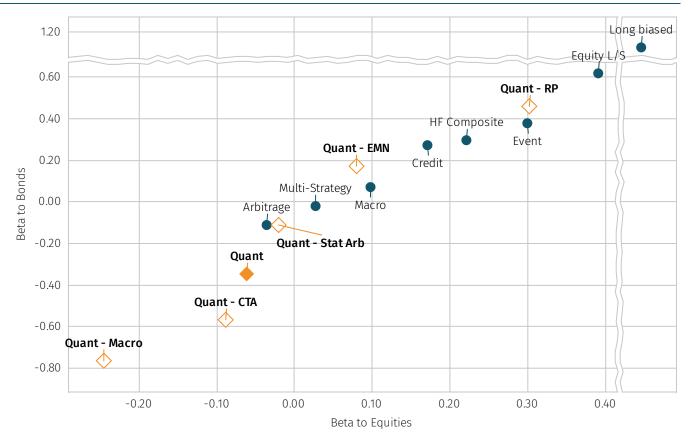
SHARPE RATIO BY HEDGE FUND STRATEGY (3 YR)⁺



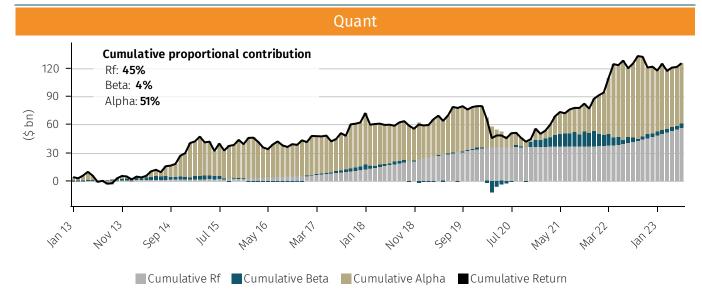
Aurum

Source: Aurum Hedge Fund Data Engine, Bloomberg. 'Risk Free Rate = period average of 3-month LIBOR-SOFR Risk Free Rate 4.55% *HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index. ""Equities = S&P Global BMI. "Bonds = S&P Global Developed Aggregate Ex Collateralized Bond (USD).

BETA TO BONDS AND BETA TO EQUITIES (3 YR) PERIOD TO JUNE 2023



MASTER STRATEGY - DECOMPOSING DOLLAR PERF. INTO ALPHA, BETA AND RISK FREE (RF) COMPONENTS



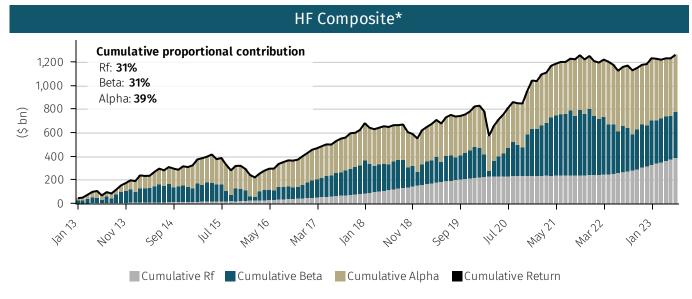
These charts decompose the Hedge Fund Composite dollar returns into beta, alpha and risk free ("Rf") components, as follows: alpha = actual return – Rf – beta * (market return – Rf).

Where Rf is the risk free rate as defined by a rolling 3-month LIBOR-SOFR, 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 60m 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 up.

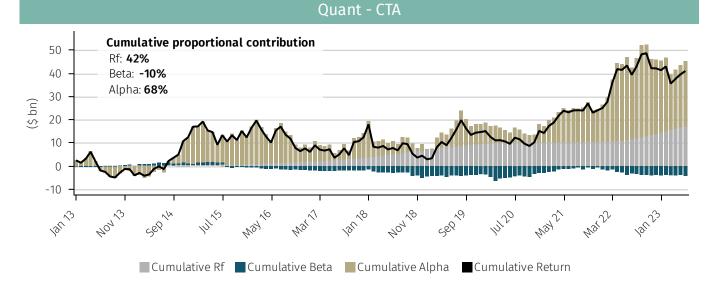
For note, beta can be negative in certain cases, creating negative dollar attributions. These are offset by corresponding positive alpha contributions.

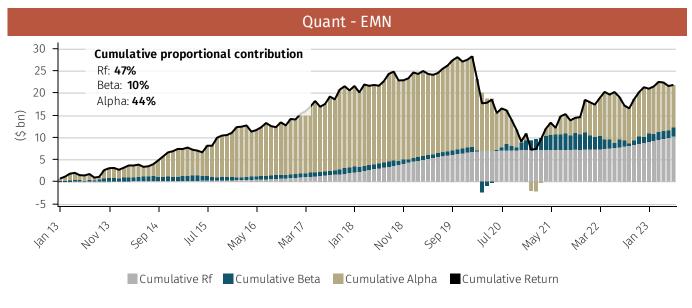


HF COMPOSITE* - DECOMPOSING DOLLAR PERF. INTO ALPHA, BETA AND RISK FREE (RF) COMPONENTS



SUB-STRATEGY - DECOMPOSING DOLLAR PERF. INTO ALPHA, BETA AND RISK FREE (RF) COMPONENTS

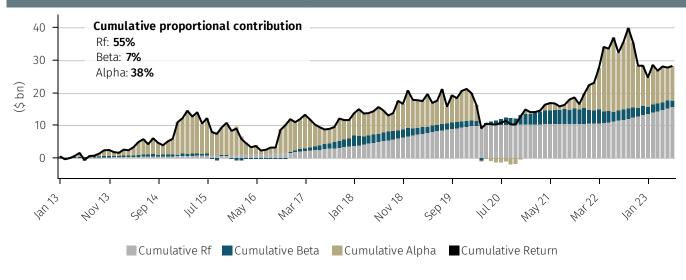


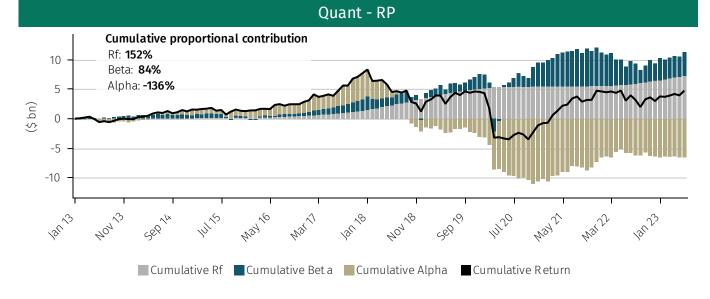


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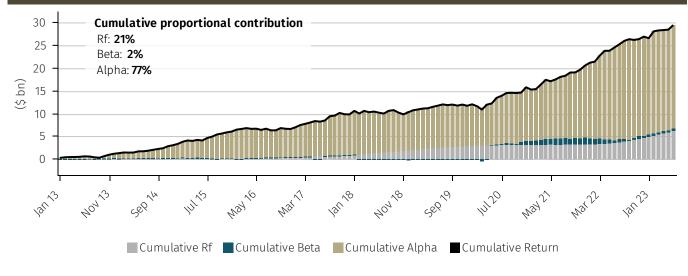
Source: Aurum Hedge Fund Data Engine, Bloomberg. Risk Free Rate = period average of 3-month LIBOR-SOFR Risk Free Rate 4.55% * HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index.

Quant - Macro





Quant - Stat Arb

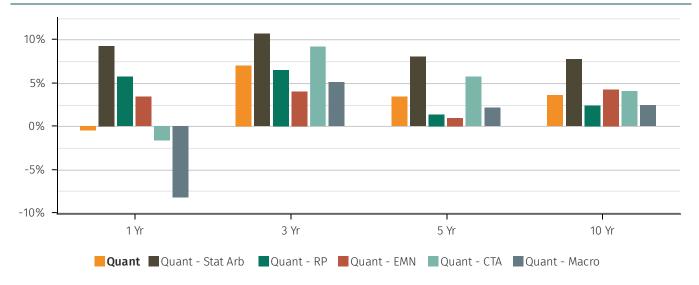


ROLLING 12 MONTH NET RETURN (5 YR)

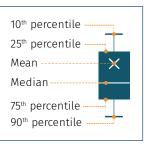


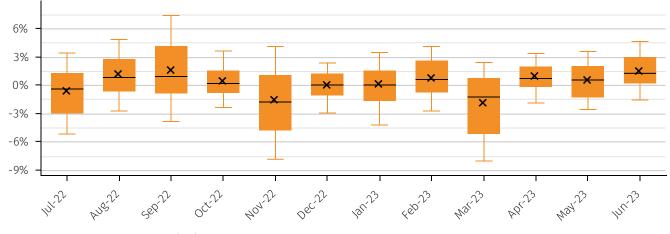






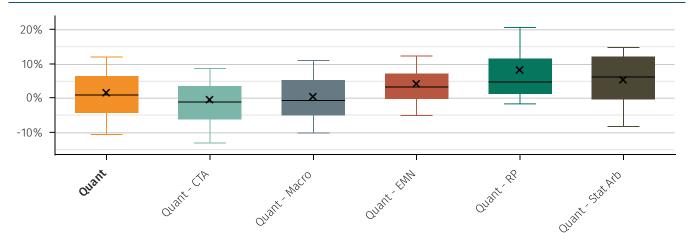




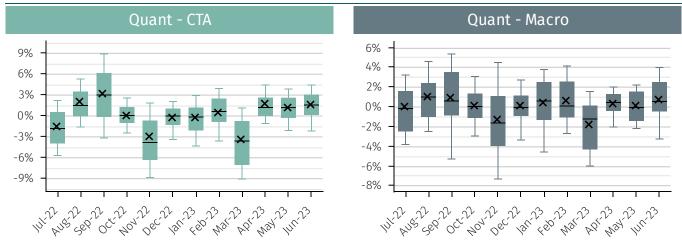


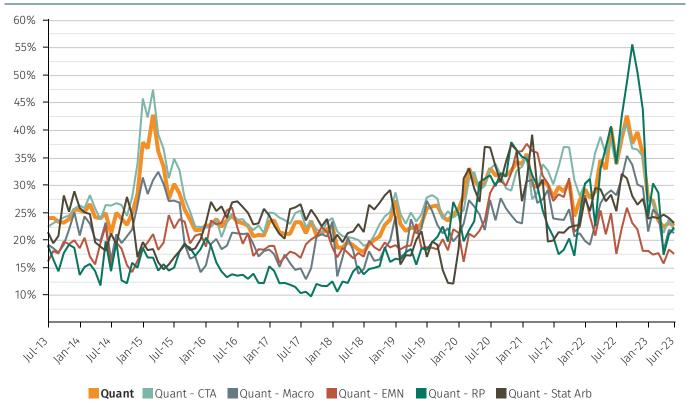
MASTER STRATEGY NET RETURN DISTRIBUTION

SUB-STRATEGY NET RETURN (H1)

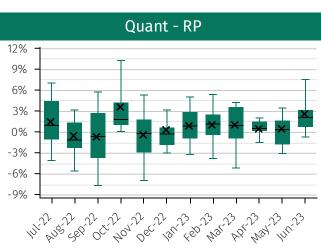


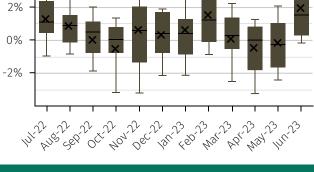
SUB-STRATEGIES NET MONTHLY RETURN DISTRIBUTION





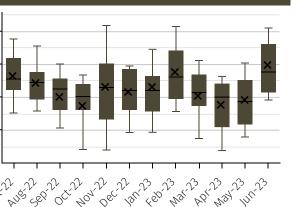
10th – 90th PERCENTILE 12M ROLLING PERFORMANCE SPREAD

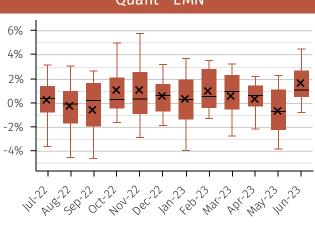




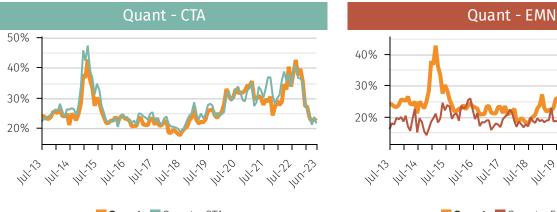
Quant - Stat Arb

4%



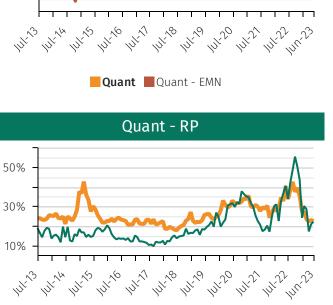


Quant - EMN



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

Quant Quant - CTA



Quant Quant - RP



Quant Quant - Macro

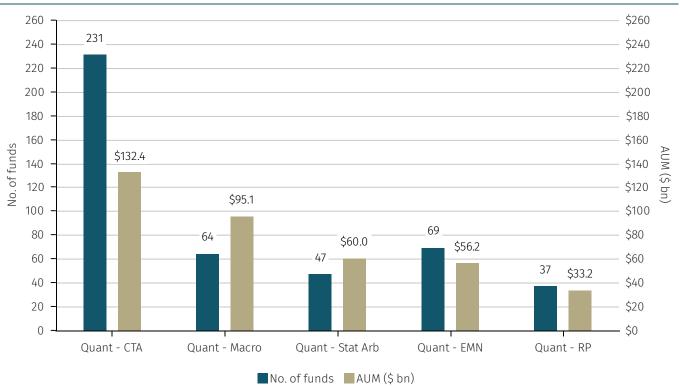




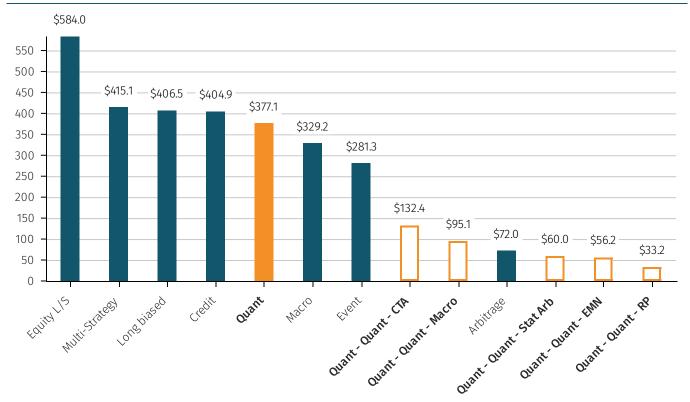
Quant Quant - Stat Arb

Assets and flows

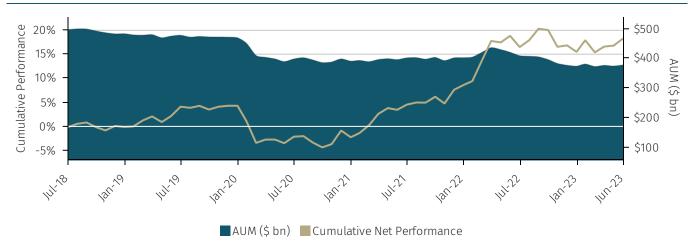
NUMBER OF FUNDS AND AUM BY SUB-STRATEGY



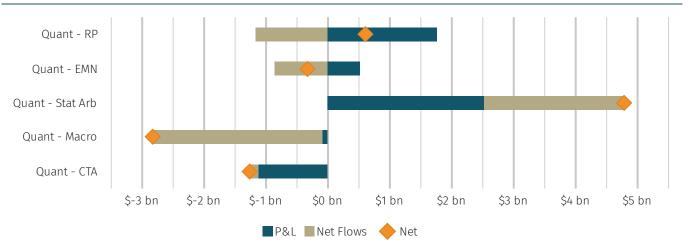
CURRENT AUM OF MASTER STRATEGY (\$ BN)



MASTER STRATEGY ASSETS (5 YR)*



6-MONTH CHANGE IN AUM BY SUB-STRATEGY



Terms and conditions

	Median redemption notice (days)	Median redemption frequency	Weighted avg. redemption total (days) ¹	Weighted avg. management fee	Weighted avg. performance fee
Quant	5	Monthly	52	1.62%	17.69%
Quant – CTA (CTA)	3	Weekly	34	1.33%	15.24%
Quant - Equity MN (EMN)	30	Monthly	71	1.36%	15.00%
Quant - Macro/GAA (Macro)	6	Monthly	29	1.95%	19.33%
Quant - Risk Premia (RP)	4	Weekly	27	0.67%	5.70%
Quant - Statistical Arbitrage (Stat Arb)	30	Monthly	111	2.43%	25.09%

1. Weighted Avg. Redemption Total (Days) is the weighted Avg. of both redemptions notice days and redemption frequency days.

Definitions

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 (Quant – 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 (Quant - Macro)

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.

Quant equity market neutral (Quant EMN)

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 (Quant - RP)

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.

Statistical arbitrage (Stat Arb)

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.



Bond and equity indices

The S&P Global BMI and S&P Global Developed Aggregate Ex Collateralized Bond (USD) Total Return Index (the "S&P Indices") are products of S&P Dow Jones Indices LLC, its affiliates and/or their licensors and has been licensed for use by Aurum Research Limited. Copyright © 2021 S&P Dow Jones Indices LLC, its affiliates and/or their licensors. All rights reserved. Redistribution or reproduction in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. For more information on any of S&P Dow Jones Indices LLC's indices please visit www.spdji.com. S&P® is a registered trademark of Standard & Poor's Financial Services LLC and Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC. Neither S&P Dow Jones Indices LLC, Dow Jones Trademark Holdings LLC, their affiliates nor their third party licensors make any representation or warranty, express or implied, as to the ability of any index to accurately represent the asset class or market sector that it purports to represent and neither S&P Dow Jones Indices LLC, their affiliates nor their third party licensors make any representation or warranty, express or implied, as to the ability of any index to accurately represent the asset class or market sector that it purports to represent and neither S&P Dow Jones Indices LLC, Dow Jones Trademark Holdings LLC, their affiliates nor their third party licensors shall have any liability for any errors, omissions, or interruptions of any index or the data included therein.

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Note regarding decomposition returns

Please note that the charts and figures which reference the decomposition of dollar performance into alpha, beta and risk free components only use data from January 2013, unlike other charts and figures which use data for the full 10 year period, namely August 2012. This variance in time period used to present data is due to there being insufficient data to accurately construct a decomposition for the period of August 2012 to December 2012.

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References to Aurum Hedge Fund Data Engine refer to Aurum's proprietary Hedge Fund Data Engine database maintained by Aurum Research Limited ("ARL") containing data on around 3,500 active hedge funds representing around \$3 trillion of assets as at June 2023. Information in the database is derived from multiple sources including Aurum's own research, regulatory filings, public registers and other database providers. Performance in the charts using Aurum Hedge Fund Data Engine data are asset weighted unless otherwise stated.

An investment in a hedge fund should be considered a speculative investment. Past performance is no guarantee of future returns.

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