Quant

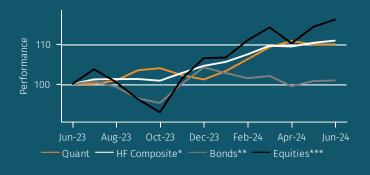
AURUM

Quant strategy analytics pack

Inside this report:

Master strategy performance	3
Sub-strategy performance	10
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MASTER STRATEGY vs INDICES NET RETURN (1 YR)



About Aurum

Aurum is an investment management firm focused on selecting hedge funds and managing fund of hedge fund portfolios for some of the world's most sophisticated investors.

Aurum conducts extensive research and analysis on hedge funds and hedge fund industry trends. This research paper is designed to provide data and insights with the objective of helping investors to better understand hedge funds and their benefits.

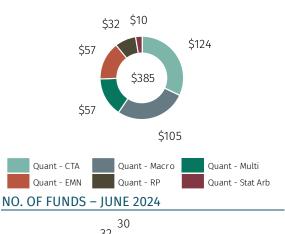
*HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index. **Bonds = Bloomberg Global Aggregate Bond Index. ***<u>Equities = S&P Glo</u>bal BMI.

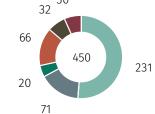
Risk Free Rate = period average of 3-month LIBOR-SOFR.

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 15 July 2024.

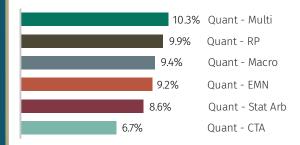
For definitions on how the Strategies and Sub-Strategies are defined please refer to <u>https://www.aurum.com/hedge-fund-strategy-definitions/</u>, and for information on index methodology, weighting and composition please refer to <u>https://www.aurum.com/aurum-strategy-engine/</u>

AUM (\$BN) – JUNE 2024

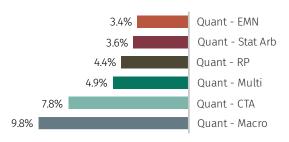




SUB-STRATEGY NET RETURN (H1)



STANDARD DEVIATION (1 YR)



AUM CHANGE \$BN (H1)



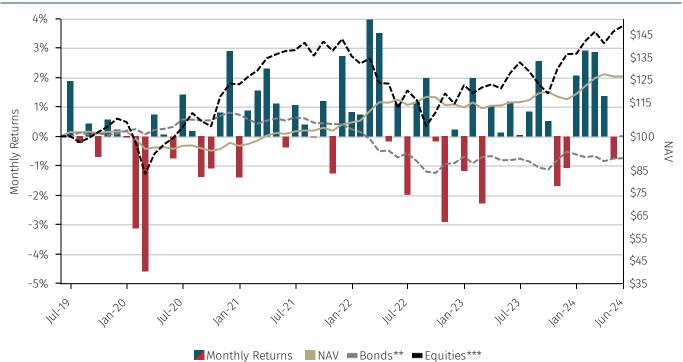
NET RETURN OF MASTER AND SUB STRATEGIES (1 YR)

	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	YTD	1 YR
Quant	0.05%	0.85%	2.56%	0.51%	-1.69%	-1.07%	2.07%	2.92%	2.87%	1.37%	-0.76%	0.03%	8.74%	10.01%
Quant - EMN	0.56%	1.45%	1.91%	1.50%	1.85%	-0.23%	3.32%	0.05%	1.37%	1.32%	0.64%	2.19%	9.19%	17.09%
Quant - Multi	-0.06%	1.38%	2.42%	1.48%	1.69%	-1.14%	3.06%	1.65%	2.63%	-0.13%	-0.38%	3.10%	10.28%	16.74%
Quant - RP	0.97%	0.72%	0.37%	-0.82%	2.25%	1.02%	2.45%	1.95%	3.40%	-0.93%	1.65%	1.06%	9.91%	14.95%
Quant - Stat Arb	0.59%	0.28%	1.63%	1.42%	1.56%	-1.17%	1.71%	0.74%	1.94%	0.03%	1.02%	2.86%	8.57%	13.31%
Quant - Macro	-0.01%	2.00%	3.11%	1.45%	-4.48%	-2.97%	2.13%	4.27%	3.15%	3.16%	-2.01%	-1.52%	9.36%	8.14%
Quant - CTA	-0.36%	-0.53%	3.06%	-0.82%	-3.34%	-0.39%	0.96%	4.13%	3.34%	1.31%	-1.26%	-1.83%	6.69%	4.06%
HF Composite*	1.19%	0.07%	0.02%	-0.42%	1.91%	1.76%	0.95%	1.81%	2.00%	-0.17%	0.85%	0.51%	6.08%	10.96%
Bonds**	0.69%	-1.37%	-2.92%	-1.20%	5.04%	4.16%	-1.38%	-1.26%	0.55%	-2.52%	1.31%	0.14%	-3.16%	0.93%
Equities***	3.72%	-3.08%	-4.29%	-3.44%	9.05%	5.16%	0.13%	4.10%	2.91%	-3.50%	3.76%	1.63%	9.15%	16.29%

NET RETURN (5 YR) PERIOD TO JUNE 2024

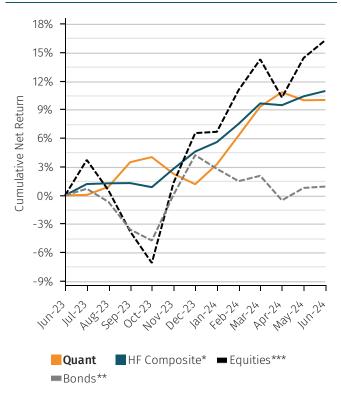
Performance	2024	2023	2022	2021	2020	5Yr CAR	5Yr Vol	5Yr Sharpe
Quant	8.74%	1.97%	8.40%	8.41%	-4.97%	4.82%	5.73%	0.43
Quant - Multi	10.28%	10.22%	12.19%	11.06%	-0.32%	9.18%	4.97%	1.31
Quant - Stat Arb	8.57%	9.67%	5.25%	6.60%	-0.46%	5.65%	4.11%	0.77
Quant - CTA	6.69%	-3.68%	14.93%	7.90%	0.80%	5.56%	8.12%	0.41
Quant - RP	9.91%	10.47%	-4.42%	13.57%	-7.28%	4.34%	6.82%	0.30
Quant - EMN	9.19%	8.72%	5.49%	12.93%	-14.99%	4.29%	7.75%	0.27
Quant - Macro	9.36%	-1.38%	6.96%	4.35%	-4.01%	3.48%	8.66%	0.16
HF Composite*	6.08%	8.26%	-2.37%	7.81%	9.06%	6.40%	5.84%	0.68
Bonds**	-3.16%	5.72%	-16.25%	-4.71%	9.20%	-2.02%	7.47%	-0.56
Equities***	9.15%	19.24%	-20.04%	16.02%	14.34%	8.29%	17.72%	0.40

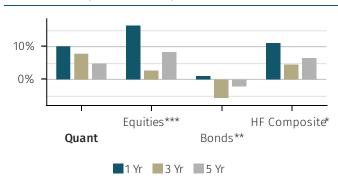
NET MONTHLY RETURN (5 YR)



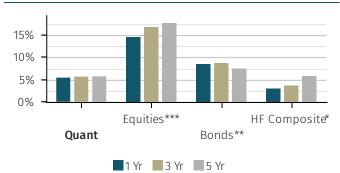
COMPARATIVE RETURN VS HF COMPOSITE (1 YR)

NET RETURN (ANNUALISED)

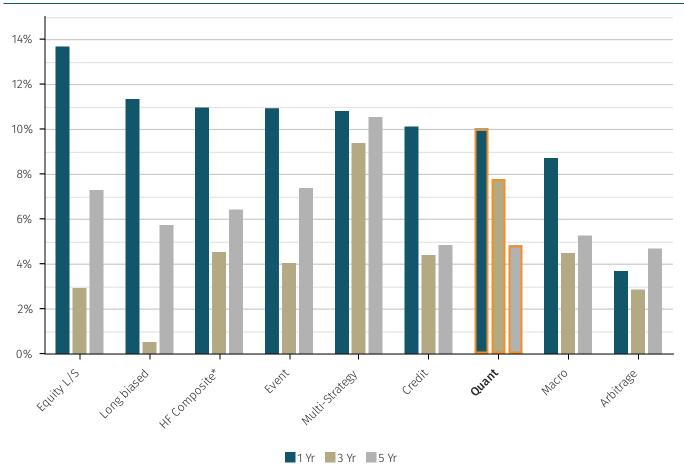




VOLATILITY (ANNUALISED)



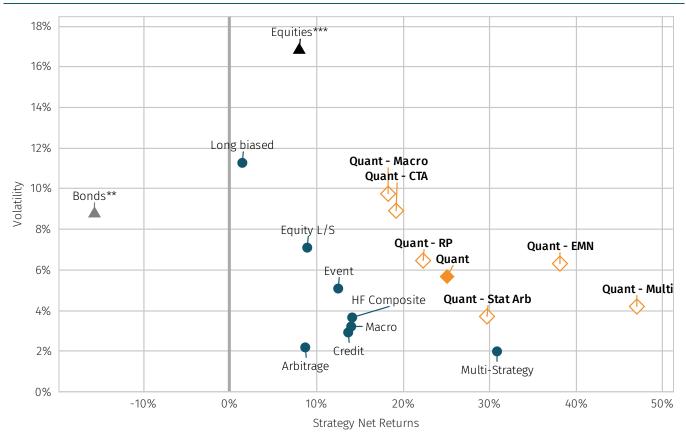
MASTER STRATEGY NET ANNUALISED RETURNS



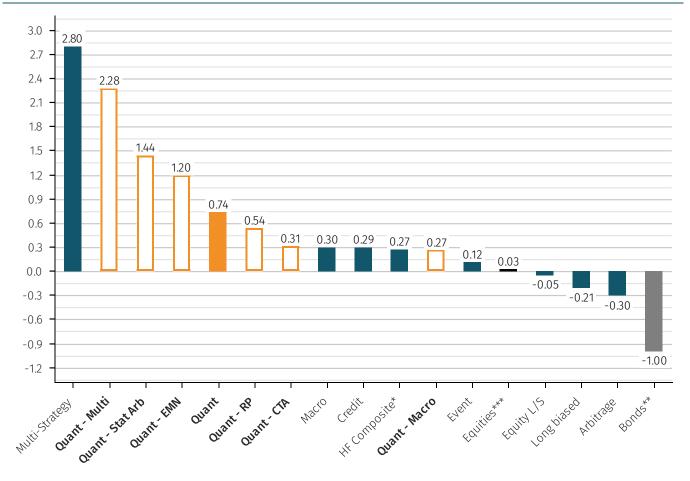
HIERARCHICAL ANNUALISED NET RETURN TO JUNE 2024

6 MONTHS	1 YEAR	3 YEAR	5 YEAR	10 YEAR
Quant	Equity L/S	Multi-Strategy	Multi-Strategy	Multi-Strategy
18.2%	13.7%	9.4%	10.5%	7.9%
Equity L/S	Long biased	Quant	Event	Equity L/S
17.0%	11.3%	7.8%	7.4%	5.3%
Multi-Strategy	HF Composite*	HF Composite*	Equity L/S	Event
12.6%	11.0%	4.5%	7.3%	5.1%
HF Composite*	Event	Macro	HF Composite*	HF Composite*
12.5%	10.9%	4.5%	6.4%	4.7%
Long biased	Multi-Strategy	Credit	Long biased	Long biased
11.3%	10.8%	4.4%	5.7%	4.3%
Credit	Credit	Event	Macro	Credit
10.0%	10.1%	4.0%	5.2%	4.0%
Event	Quant	Equity L/S	Credit	Quant
9.0%	10.0%	2.9%	4.8%	4.0%
Macro	Macro	Arbitrage	Quant	Macro
7.0%	8.7%	2.8%	4.8%	3.9%
Arbitrage	Arbitrage	Long biased	Arbitrage	Arbitrage
4.3%	3.7%	0.5%	4.7%	2.6%

STRATEGY NET TOTAL RETURN VS ANNUALISED VOL (3 YR)

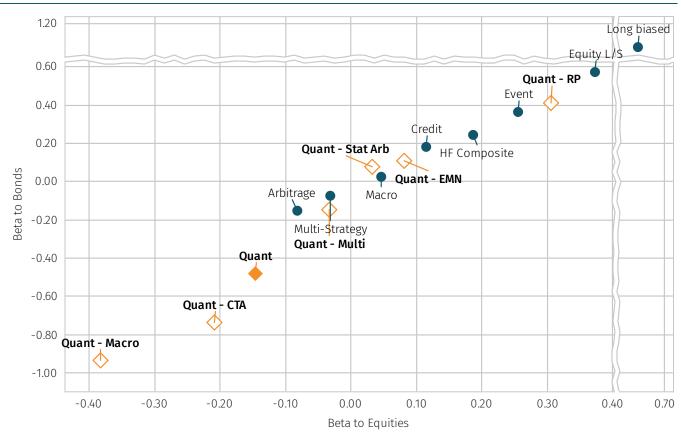


SHARPE RATIO BY HEDGE FUND STRATEGY (3 YR)



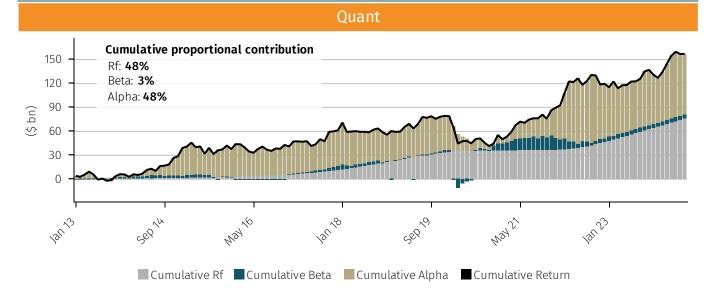
<u>Aurum</u>

⁵ Source: Aurum Hedge Fund Data Engine, Bloomberg. *HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index. "Equities = S&P Global BMI. "Bonds = Bloomberg Global Aggregate Bond Index."



BETA TO BONDS AND BETA TO EQUITIES (3 YR) PERIOD TO JUNE 2024

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



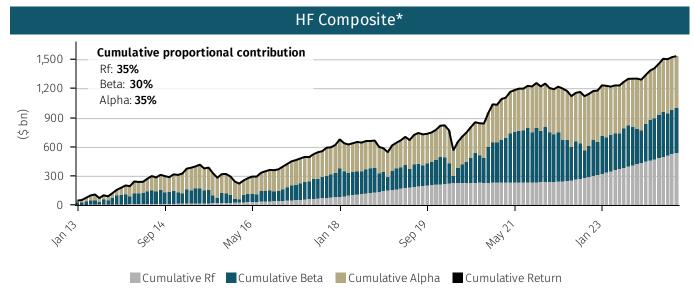
These charts decompose the Hedge Fund Composite dollar returns into beta, alpha and risk free ("Rf") components, as follows: alpha = actual return – Rf – beta * (market return – Rf).

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.

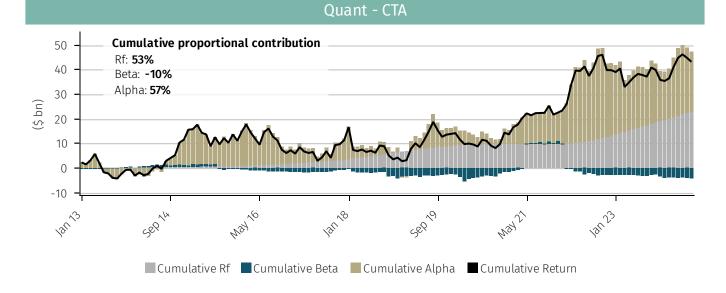
For note, beta can be negative in certain cases, creating negative dollar attributions. These are offset by corresponding positive alpha contributions.



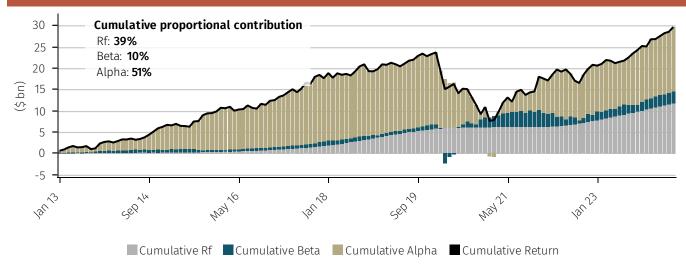
HF COMPOSITE* - DECOMPOSING DOLLAR PERF. INTO ALPHA, BETA AND RISK FREE (RF) COMPONENTS



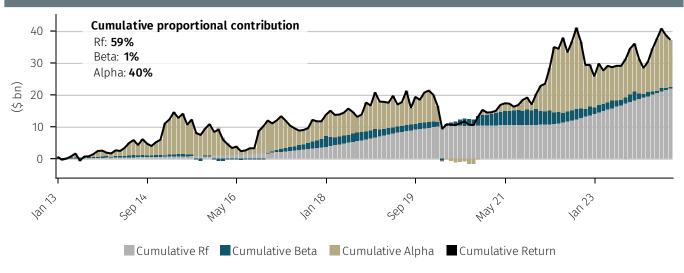
SUB-STRATEGY - DECOMPOSING DOLLAR PERF. INTO ALPHA, BETA AND RISK FREE (RF) COMPONENTS



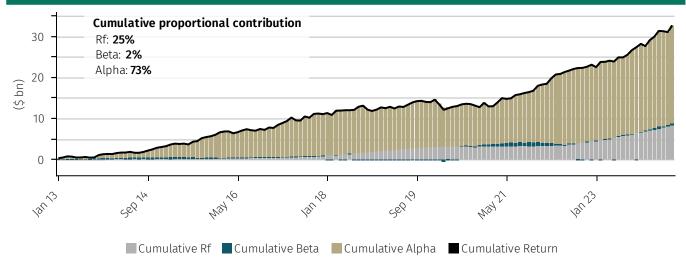
Quant - EMN



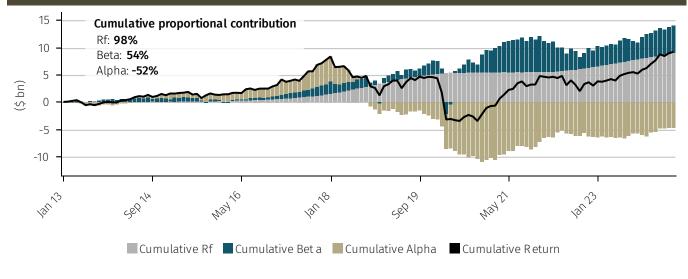
Quant - Macro

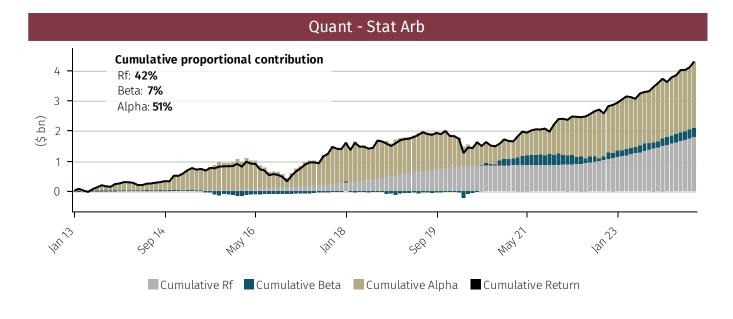


Quant - Multi

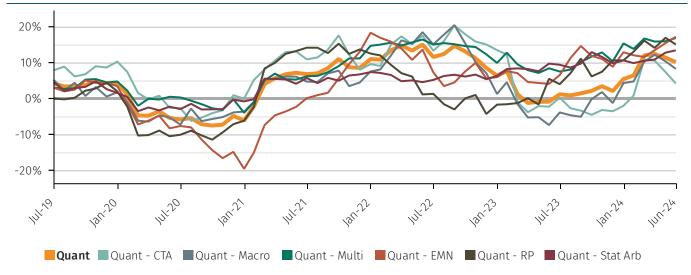


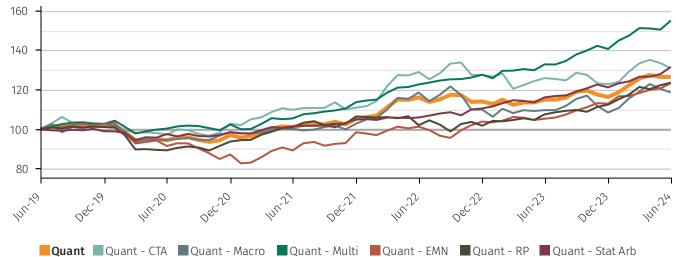
Quant - RP





ROLLING 12 MONTH NET RETURN (5 YR)



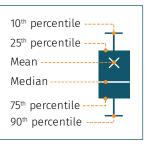


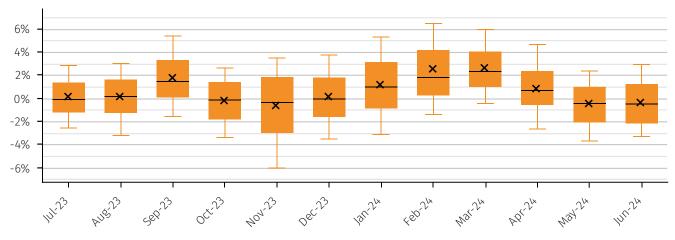




COMPOUND RETURN (ANNUALISED)

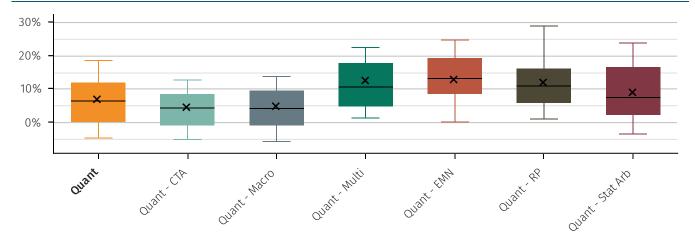
CUMULATIVE NET RETURN (5 YR)



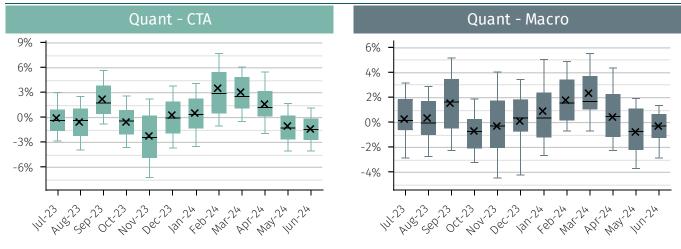


MASTER STRATEGY NET RETURN DISTRIBUTION

SUB-STRATEGY NET RETURN (H1)

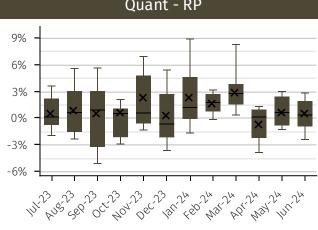


SUB-STRATEGIES NET MONTHLY RETURN DISTRIBUTION

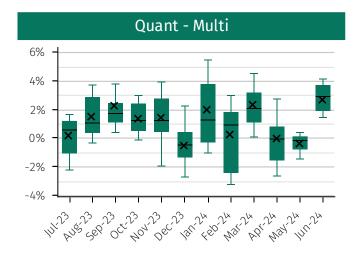


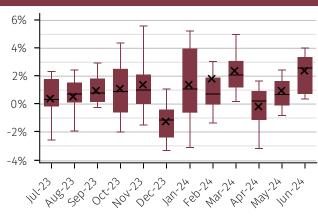


10th – 90th PERCENTILE 12M ROLLING PERFORMANCE SPREAD

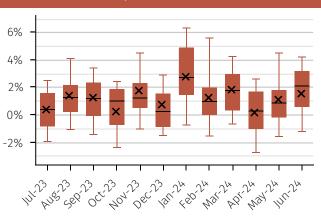


Quant - RP

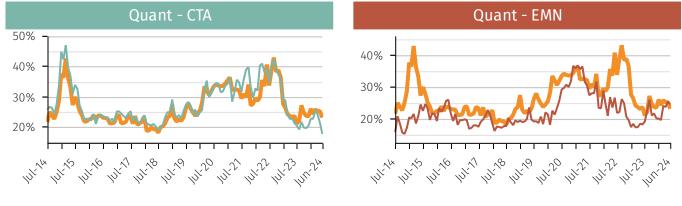




Quant - Stat Arb



Quant - EMN



40%

30%

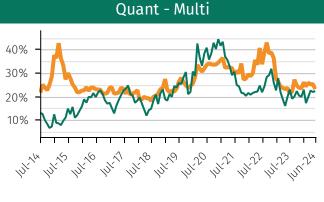
20%

10%

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



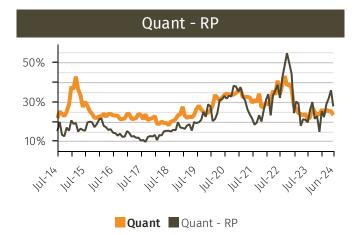




Quant Quant - EMN

📕 Quant 📕 Quant - Multi

Quant - Stat Arb

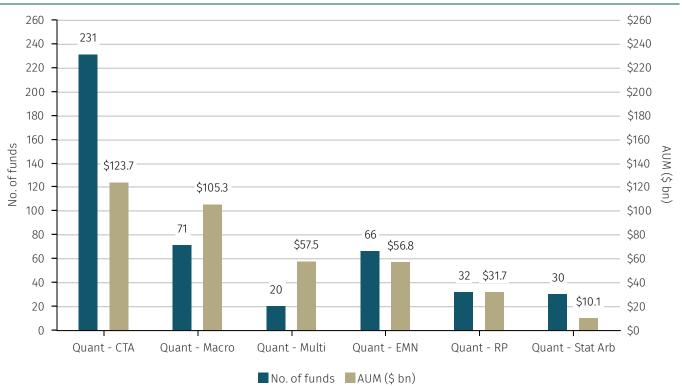




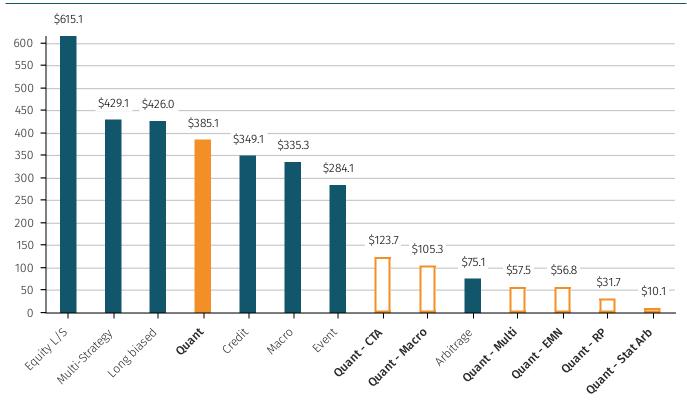
Quant Quant - Stat Arb

Assets and flows

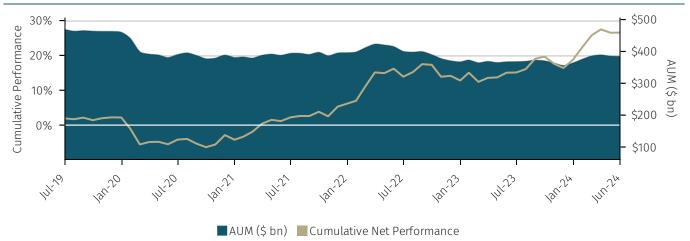
NUMBER OF FUNDS AND AUM BY SUB-STRATEGY



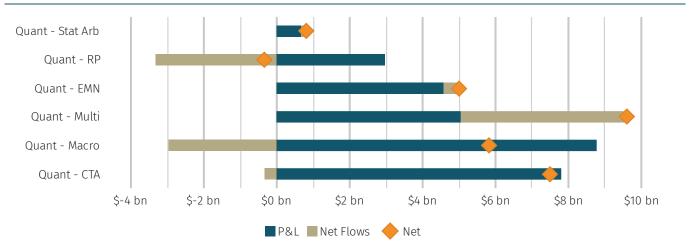
CURRENT AUM OF MASTER STRATEGY (\$ BN)



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	1.53%	18.23%
CTA (CTA)	5	Monthly	38	1.25%	17.06%
Equity MN (EMN)	30	Monthly	66	1.30%	15.58%
Macro/GAA (Macro)	5	Monthly	28	1.90%	19.12%
Risk premia (RP)	4	Weekly	27	0.65%	5.71%
Statistical arbitrage (Stat Arb)	30	Monthly	111	2.15%	25.22%

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.

Multi strategy (Quant - Multi)

A hedge fund where the capital is deployed across multiple sub-strategies and asset classes. The overwhelming driver of returns will come from quantitative sub-strategies typically falling into two or more of the following categories: Statistical arbitrage and/or quant equity market neutral; CTA and/or quant macro; volatility arbitrage; quantitative event-driven. Please refer to specific sub-strategy definitions for further detail. In some instances, quantitative multi-strategy funds may also trade discretionary elements, however, these will be a far smaller driver of overall P&L. Should non-quantitative strategies drive a large proportion of overall P&L the fund will be classified as a multi-strategy fund.

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.

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.

Bond Index

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Equity Index

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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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