AURUM

Macro deep dive

12-month review to September 2022

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In summary

- Macro funds generated an average return of 2.2% in the 12 months through September 2022.
- Strategy AUM has fallen by \$11.1bn, due to net outflows of \$16.3bn that were partly offset by net profits of \$5.2bn.
- Commodities was the strongest performing substrategy, generating an average return of 9.5%.
- FIRV had the lowest standard deviation among the substrategies and the highest 3-year Sharpe ratio at 1.67.

All figures and charts use asset weighted net 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 <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>

MASTER STRATEGY vs INDICES NET RETURN



STANDARD DEVIATION (1 YR)



<u>AUM (\$BN)</u>





^{*}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.

Performance

Macro funds have delivered positive performance over the 12 months through September 2022, with an average return of 2.2%. Macro returns have been driven by strong performance from commodities and global macro funds in particular, whilst poor performance from emerging markets macro ("EM macro") funds significantly detracted from overall aggregate performance. The master strategy was positive for 8 of the last 12 months, with the worst monthly drawdowns (both of - 1.6%) occurring in October 2021 and June 2022. The best monthly performance was 1.9% in August 2022, followed closely by 1.8% in March 2022. On a relative basis, performance has been strong given the extreme levels of volatility across global markets. The period under review includes 'the worst cross asset selloff since 1981'¹ in August 2022 with simultaneous declines across equities, commodities, corporate and government bonds.

On a relative basis, performance has been strong given the extreme levels of volatility across global markets

Macro is one of the smaller master strategies monitored by Aurum Hedge Fund Data Engine, as measured by AUM. Macro strategies account for \$316bn out of the \$3,010bn combined AUM monitored as at September 2022. The macro master strategy AUM over the period fell by \$11.1bn; the decline was primarily due to net outflows of \$16.3bn though was partially offset by net profits of \$5.2bn. The number of monitored macro funds fell by 47 over the last 12 months to September 2022, from 384 to 337. At a sub strategy level, the change in fund count was -7 across commodities, -4 in fixed income relative value ("FIRV"), -27 in global macro and -9 in EM macro.

Macro was the fourth best performing master strategy in the 12 months through September 2022 (<u>page 6</u>). All substrategies except for EM macro had positive performance over the period. The range in sub-strategy returns over the period was wide, from -13.5% for EM macro to +9.5% for commodities.

Commodities, global macro and FIRV sub-strategies outperformed the HF composite over the period

At the sub-strategy level, commodities, global macro and FIRV outperformed the HF composite over the period, whilst EM macro was a notable underperformer. Global inflationary pressures surged through most major asset classes, creating considerable disruption and subsequently led to increasing monetary policy divergence between countries. Key themes such as long positions in commodities and US dollar, along with short positions in fixed income and equities, have provided ample opportunity for macro funds. Many EM macro funds have been wrongfooted during the year by the Russian invasion of Ukraine, as well as heightened fears of a global economic slowdown.

	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	YTD	1 YR
Macro	-1.6%	-1.1%	0.9%	0.5%	-0.8%	1.8%	1.0%	0.3%	-1.6%	0.4%	1.9 %	0.6%	4.0 <mark>%</mark>	2.2%
Commods	2.9%	-1.8%	1.7%	1.6%	3.2%	5.9%	2.0%	1.1%	-4.0%	0.6%	-1.1%	-2.6%	6. 5%	9. <mark>5%</mark>
Global Macro	-2.1%	-1.2%	0.6%	0.8%	0.0%	2.4%	1.9%	0.4%	-0.8%	0.0%	3.1%	2.5%	10. <mark>6%</mark>	7.6%
FIRV	-2.2%	0.2%	1.1%	1.2%	0.1%	0.8%	0.9%	0.3%	-0.4%	1.3%	1.3%	-0.2%	5.4%	4. 5%
EM Macro	-0.8%	-1.8%	1.4%	-1.0%	-4.5%	0.2%	-1.6%	-0.3%	-4.1%	0.1%	0.8%	-2.6%	- <mark>12.</mark> 4%	-13. <mark>5</mark> %
HF Composite*	1.1%	-1.2%	0.9%	-1.6%	-0.4%	0.8%	-0.6%	-1.0%	-1.7%	1.2%	0.5%	-1.4%	-4 <mark>.</mark> 3%	-3. <mark>4</mark> %
Bonds**	-0.3%	-0.5%	-0.2%	-2.3%	-1.3%	-2.9%	-5.6%	0.2%	-3.3%	1.9%	-3.9%	-5.0%	<mark>-20.3</mark> %	<mark>-21.</mark> 1%
Equities***	4.6%	-2.9%	3.8%	-5.3%	-2.4%	1.7%	-8.1%	-0.2%	-8.7%	6.9%	-3.6%	-9.9%	-26.9%	<mark>-23.0</mark> %

NET RETURN OF MASTER AND SUB STRATEGIES (1 YR)

¹ Source: Bloomberg news 31st August, <u>https://www.bloomberg.com/news/articles/2022-08-31/bulls-starved-in-august-amid-worst-cross-asset-selloff-since-81</u>

Sub-strategy performance

Commodities was the best performing macro sub-strategy, generating an asset weighted average net return of 9.5%. The sub-strategy has performed very well over the last three years, breaking what was a persistent pattern of relative underperformance over the prior decade. The clear trend this year has been the rise in commodity prices across the board due to a plethora of reasons including: chronic underinvestment leading to very tight supply, demand acceleration post-COVID, supply chain disruptions and of course the war in Ukraine. The dispersions within commodity markets during the period is so high that it is difficult to generalise the key trades in this sub-strategy, but some key themes were long energy (particularly oil and natural gas, earlier in the year), metals and softs.

Commodities was the best performing sub-strategy. Over the past three years it has broken the pattern of relative under-performance over the prior decade.

Global macro funds returned 7.6% net of fees on average, weighted by assets. Global macro funds are often sought out by investors to provide 'crisis alpha'. Global macro funds have delivered strong performance amidst a market in which global equities** and bonds* fell by over 23% and 21% respectively over the last 12 months and are down 27% and 20% year to date as at 30 September. Performance also compares favourably to the broader hedge fund universe, which is down over 3% in the last 12 months and down 4% YTD as at 30 September. Most of the sub-strategy gains can be attributed to directional rates trades. These have most notably been in the US, where there has been one of the more aggressive hiking cycles on record as a response to the highest inflation figures seen in decades. Another area of focus has been in FX, where long US dollar and short Japanese yen have been very profitable trades.

FIRV funds generated an asset weighted average net return of 4.5%. The stand-out month in the period was October 2021, where volatility in government bonds and interest rate markets during the final days of the month caused large mark-tomarket losses and FIRV funds experienced negative performance of 2.2% on average. Whilst volatile, the subsequent environment has been fertile for the strategy as central banks have taken decisive actions this year to begin to reduce their balance sheets, creating supply/demand imbalances. Notable trades included Japanese cash-futures basis in the summer of 2022, as the Bank of Japan's yield curve control policy and commitment to ultra-low rates came under pressure from yields on government bonds reaching multi-year highs.

EM macro was the worst performing sub-strategy, averaging a net return of -13.5% over the period. In February, many funds were caught off-guard, having been long Russian and Ukrainian assets due to strong fundamentals and a positive outlook for commodities. Some of these assets have since been side-pocketed, lacking clarity on their trading status for the funds. Elsewhere, the typical net-long bias that EM macro funds carry due to both difficulty in shorting and a desire to capture EM growth, has meant negative performance as these markets have been roiled by fears of a global slowdown.

Longer-term performance

Looking at the performance of the sub-strategies over several time horizons, one can better observe their performance through the cycle. As shown below (page 12), FIRV has produced the highest compound annual returns over the last ten years, followed by global macro.

FIRV has produced the highest compound annual returns over the last ten years, followed by global macro.

Over the last three years, commodities have been the stand-out performer, with annualised returns of over 10%, compared to returns of 6% and 7% for FIRV and global macro, respectively. Over the last five years, FIRV is the only strategy to have always sustained a positive rolling 12-month net return. The three-year Sharpe ratio is greater than 1 for all sub-strategies except EM macro, and FIRV ranks highest with a Sharpe of 1.67.

Alpha extraction

FIRV has been the most alpha-centric sub-strategy since January 2013, with alpha contributing 65% of the sub-strategy's returns, versus just 11% beta (<u>page 10</u>). Global macro is a close second, with alpha contributing 53% of returns and beta just 17%.

EM macro has had the lowest alpha contribution since January 2013, contributing negatively to total return. The substrategy did have a period of stronger performance and positive alpha from late 2017 to March 2020 but has struggled since.

Performance dispersion

Rolling 12-month net inter-decile performance spread across macro funds has increased meaningfully in recent years, starting from March 2020. The spread had oscillated roughly between 20% and 30% (2012-2019), but since March 2020 has oscillated between 25% and 40%.

The sub-strategy with the largest dispersion over the last 12 months has been EM macro, which also has been the under-performer relative to the other sub-strategies and broader hedge fund universe. The sub-strategy with the tightest dispersion has been FIRV, which over a 10 year period ranged from 7% to 29%.

Dispersion has historically peaked during times of market stress, which is not surprising given the differing biases inherent in the substrategies and the somewhat heterogenous nature of managers across the macro strategy.

Assets and flows

Macro funds managed \$316bn at the end of September 2022 (page 17), representing 10% of the \$3,010bn in hedge fund assets monitored by Aurum. The largest sub-strategy by AUM was global macro, which managed \$156bn as of the end of September 2022. The most populous strategy was also global macro, which counted 170 funds. The sub-strategy with the fewest underlying managers was FIRV, which counted just 39 managers. The average AUM per manager ranged from \$1.9bn in FIRV to \$435m in commodities.

Terms

The median liquidity terms for macro funds is monthly with 30 days' notice, with a weighted average redemption total of 101 days (<u>page 19</u>). This implies that those funds with greater assets have more onerous liquidity terms than their smaller counterparts. FIRV has the least liquid terms, with a weighted average redemption total of 119 days. This is not surprising given the stable capital base required to implement the strategy effectively. Since Aurum's last <u>macro deep dive</u> in June 2020, the weighted average redemption total has increased at the master strategy level by 16 days, driven by a 27 day increase in FIRV and 21 day increase in global macro.

The weighted average management fee for macro funds is 1.50%, ranging between 1.16% for EM macro and 1.65% for FIRV. The weighted average performance fee is 18.41% for macro funds, and the lowest weighted average performance fee is 14.26% for EM macro. The highest average performance fee is also FIRV, at 22.78%. The level of sub-strategy fees are correlative to the proportion of alpha in each sub-strategy's returns.

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



NET MONTHLY RETURN (5 YR)





COMPARATIVE RETURN VS HF COMPOSITE (1 YR)



NET RETURN (ANNUALISED)



VOLATILITY (ANNUALISED)



MASTER STRATEGY NET ANNUALISED RETURNS



MULTIPLE PERIOD - HIERARCHICAL ANNUALISED NET RETURN

1 YEAR	3 YEAR	5 YEAR	10 YEAR
Quant	Multi-Strategy	Multi-Strategy	Multi-Strategy
15.2%	12.4%	9.3%	8.4%
Multi-Strategy	Arbitrage	Event	Event
9.0%	6.7%	5.5%	5.9%
Arbitrage	Event	Arbitrage	Equity L/S
4.2%	6.6%	4.7%	5.1%
Macro	Quant	Quant	HF Composite*
2.2%	5.1%	4.4%	4.6%
HF Composite*	HF Composite*	HF Composite*	Credit
-3.4%	5.0%	4.3%	4.1%
Credit	Macro	Macro	Quant
-4.8%	4.9%	3.7%	3.7%
Event	Equity L/S	Equity L/S	Long biased
-5.6%	4.3%	3.6%	3.4%
Equity L/S	Credit	Credit	Macro
-13.3%	2.5%	2.9%	3.2%
Long biased -17.8%	Long biased	Long biased	Arbitrage 2.5%

STRATEGY NET TOTAL RETURN VS ANNUALISED VOL (3 YR)



SHARPE RATIO BY HEDGE FUND STRATEGY (3 YR)*



Source: Aurum Hedge Fund Data Engine, Bloomberg. *Risk Free Rate = period average of 3-month US Libor 1.42% *HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index. ***Equities = S&P Global BMI. 7 **Bonds = S&P Global Developed Aggregate Ex Collateralized Bond (USD).

STRATEGY BETA TO **BONDS AND ***EQUITIES (3 YR)



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 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 up.

For note, alpha and beta can be positive or negative in certain cases, creating either positive or negative dollar attribution. These will change in regards to negative or positive market environments and these values can offset each other to arrive at the overall dollar contribution.



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



*HF Composite = Aurum Hedge Fund Data Engine Asset Weighted Composite Index. 9 Source: Aurum Hedge Fund Data Engine, Bloomberg.





ROLLING 12 MONTH NET RETURN (5 YR)





CUMULATIVE NET RETURN (5 YR)



COMPOUND RETURN (ANNUALISED)

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SUB-STRATEGIES NET MONTHLY RETURN DISTRIBUTION



MASTER STRATEGY NET RETURN DISTRIBUTION

Performance dispersion



SUB-STRATEGY NET RETURN (1 YR)



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





Macro FIRV

Global Macro



Macro Global Macro



Assets, flows and fees

NUMBER OF FUNDS AND AUM BY SUB-STRATEGY



AUM OF MASTER STRATEGY - SEPTEMBER 2022 (\$ BN)



SUB-STRATEGY FUND CONCENTRATION (\$ BN)



MASTER STRATEGY ASSETS (5 YR)*







12-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
Macro	30	Monthly	101	1.50%	18.41%
Commodities	30	Monthly	66	1.32%	18.84%
EM Macro	30	Monthly	88	1.16%	14.26%
FIRV	30	Monthly	119	1.65%	22.78%
Global Macro	30	Monthly	102	1.60%	17.93%

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

Definitions

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 – 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.

Macro – 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.

Macro – 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.

Macro – 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.

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 September 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 September 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 3,000 active hedge funds representing around \$3.1 trillion of assets as at June 2022. 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.

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