Global Macro: Portfolio Diversification for Turbulent Times

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Firm Overview

ARP Investments ("ARP") was established in early 2014 and focuses exclusively on providing alternative risk premia products to investors globally. ARP's core investment objective is to generate superior risk-adjusted returns that are uncorrelated with equities and bonds. ARP portfolios are designed to have large capacity through investments in liquid markets. Since inception of live trading in 2014, ARP's products have outperformed hedge funds pursuing related strategies while offering appropriate liquidity, high transparency, and lower fees.

ARP employs a systematic investment process to implement alternative risk premia strategies in futures, currency forwards, and single name equities globally.

ARP chooses alternative risk premia signals based on over 20 years of research and investment experience of its founding partners. Currently, ARP invests in a number of market selection (momentum, valuation, carry, volatility, and others) and security selection (valuation, momentum, event, volatility, and others) risk premia. ARP groups and trades these risk premia in the following strategies: Trend Following, Stock Selection, Equity Event, and Global Macro. To best meet client needs, ARP offers combined Multi-Strategy exposures, individual exposures to underlying strategies, and customized strategy combinations.

ARP's founding partners have been pioneers in alternative risk premia investing. ARP has spent 100+ human work years developing a world-class risk premia research and electronic trade execution capability. ARP has developed proprietary models for forecasting factor returns, implementing tactical tilts across factors, and quantifying risks in alternative risk premia portfolios. ARP emphasizes diversified risk and return contributions across signals, asset classes, regions, and securities.

ARP focuses exclusively on risk premia products to avoid internal conflicts with competing products at different fee levels.

Global Macro

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Executive Summary

Following a decade of global monetary expansion, investors are concerned that global bond and equity values may be stretched. In such an environment, alternative investments uncorrelated with bonds and stocks can offer attractive opportunities for portfolio diversification. Within alternative investment strategies, Global Macro strategies seem especially well positioned to benefit from the asset return dispersion that may come with a delinking of international monetary policy.

Global Macro strategies can be classified into discretionary and systematic styles. Systematic Global Macro implements a consistent investment style that trades equity, fixed income, currency, commodities, and futures markets using investment rules based on large volumes of market and economic data. The rules are determined by a combination of the managers' insights and historical patterns in the data.

For the systematic Global Macro hedge funds in the SG Macro Trading – Quantitative index, we show that trend-following strategies dominate their portfolios. While trend-following strategies are attractive, they are quite distinct from systematic, cross-sectional value, carry, and momentum strategies. Hence, investors interested in value, carry, and momentum strategies within systematic Global Macro strategies must carefully select managers offering such investments.

Simulated returns for our Global Macro strategy based on value, carry, and momentum confirm that the strategy has historically done well during periods of equity market declines and high return dispersion.

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Table of Contents

1. Introduction

Following several years of strong market gains on the back of international monetary expansion, investors are concerned that global equity and bond valuations may now be stretched and present significant downside risks. In such an environment, alternative investment strategies truly uncorrelated with equity and bond markets offer attractive opportunities for portfolio diversification. Within alternative investment strategies, Global Macro strategies seem especially well positioned to benefit from the asset return dispersion that may come with a delinking of international monetary policy.

For at least 10 years, the world's major central banks have jointly exercised extraordinarily lenient monetary policy in the extended aftermath of the global financial crisis. This monetary expansion has produced record-low bond yields and contributed to record-high equity prices. A long stretch of low market volatility and asset return dispersion likely has been a collateral effect.

There are signs that these coordinated efforts may finally diverge again as different central banks are setting policy to suit their respective economies at different points in the generally slow but extended post-crisis expansion.

Investors are rightfully concerned that less expansionary monetary policy may contribute to material increases in bond yields and declines in equity prices. However, differences in economic cycles and monetary policy may also lead to significant differences in the timing of such market declines across regions and countries.

If market declines are accompanied by increases in inflation, such a scenario could be even more challenging for pension plans. In such a scenario, higher inflation would lead to an increase in inflation-indexed liabilities, market declines would lead to a decrease in assets, and the net effect could be a marked deterioration in funding ratios.

While there may be differences in equity and bond returns, if both are negative they do not offer much diversification in this scenario. An attractive investment strategy in this scenario would be uncorrelated with stocks and bonds and would be able to profit from increased volatility and dispersion in asset prices. Global Macro fits this description and is one of the most liquid and scalable alternative investment strategies.

2. Global Macro

Global Macro strategies can be broadly divided into discretionary and systematic styles.

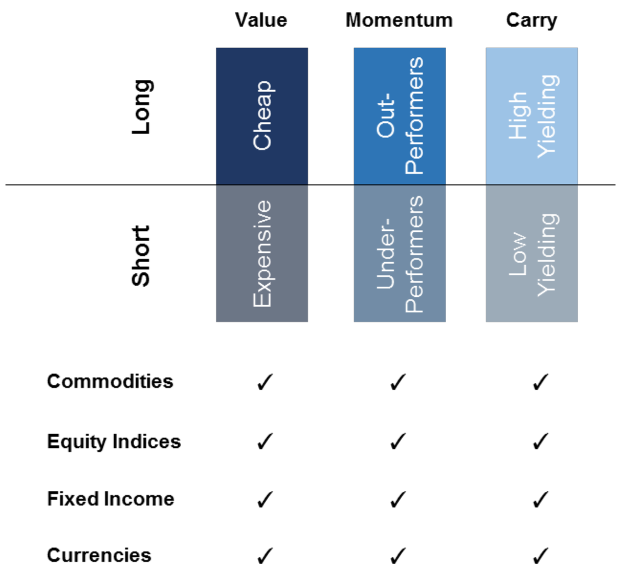
Discretionary

Discretionary global macro managers trade equity, fixed income, currency, commodities, and futures markets primarily based on the managers' economic views of various markets and instruments.

Systematic

Systematic global macro managers trade equity, fixed income, currency, commodities, and futures markets using systematic investment rules based on large volumes of market and economic data. The rules are determined by a combination of the managers' insights and historical patterns in the data.

Figure 1: ARP Global Macro Signals and Universe



The figure shows a high-level summary of the signals used by the ARP Global Macro strategy to construct long-short portfolios in futures and currency forwards.

3. ARP Global Macro

ARP Investments implements a fully systematic Global Macro strategy that trades 3 themes, value, carry, and momentum, in 4 asset classes, equities, fixed income, commodities, and currencies. The portfolio trades liquid futures and currency forwards. Figure 1 summarizes the signals and asset classes. In each asset class, the portfolio is long the most attractive assets and short the least attractive assets. This disciplined long-short portfolio construction means that the portfolio has no net exposure to any of the asset classes. In particular, the portfolio has no net exposure to equity markets or bond markets.

Value

Value signals look for price differences within an asset class that should revert to more normal relationships. These signals then identify relatively cheap assets for long positions and relatively expensive assets for short positions. The signals include fundamental bottom-up valuation metrics for equity indexes, macroeconomic indicators for fixed income and currencies, and inventory levels for commodities. These trades generally profit when unusual or extreme valuations return to more normal levels.

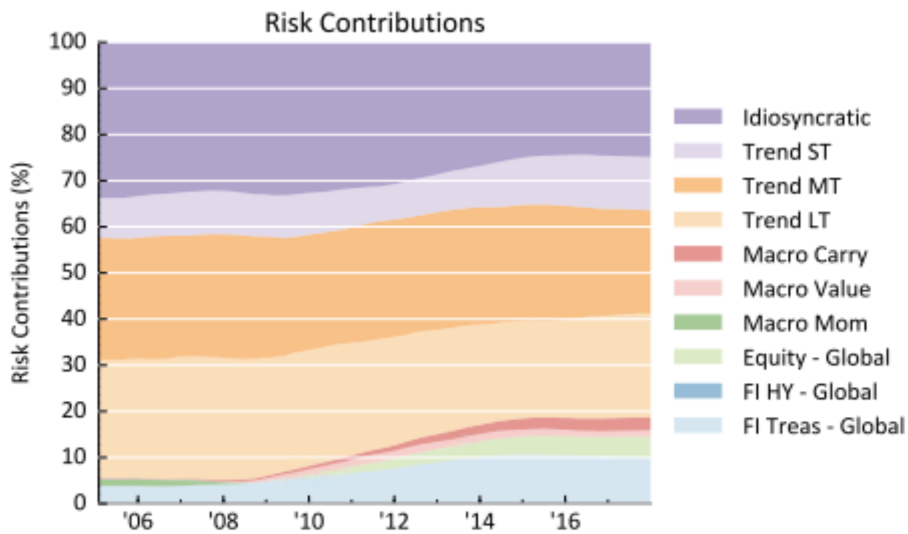
Carry

Carry signals look for yield spreads among assets within the same asset class and go long higher-yielding assets and short lower-yielding assets. Importantly, such yield spreads exist for all asset classes, not just fixed income and currencies. These trades generally profit when the yield spreads are large relative to return volatility.

Momentum

Momentum signals establish long positions in assets with higher returns over the recent past and short positions in assets with lower returns over the recent past.

Figure 2: Value, Carry, and Momentum in SG Macro Trading – Quantitative



The figure shows the estimated risk contributions from several factors to the SG Macro Trading – Quantitative index. The risk contributions are derived from returns-based style analysis with time-varying exposures. The factors are short-term, medium-term, and long-term Trend, cross-sectional Carry, Value, and Momentum, as well as MSCI World equity, Barclays High Yield global fixed income, and Barclays Treasuries global fixed income. The estimation uses monthly data from January 2005 to December 2017.

Past performance is not indicative of future results. Commodity interest trading involves substantial risk of loss.

Importantly, such cross-sectional momentum signals are different from time-series Trend signals. Trend signals generally are net long equity instruments following market rallies and net short equity instruments following market declines. In contrast, cross-sectional momentum signals always construct market neutral long and short portfolios, regardless of recent market movements. [1] As a result, the returns from Trend and cross-sectional Global Macro strategies only have low correlation and are both good portfolios diversification strategies.

Prevalence of styles

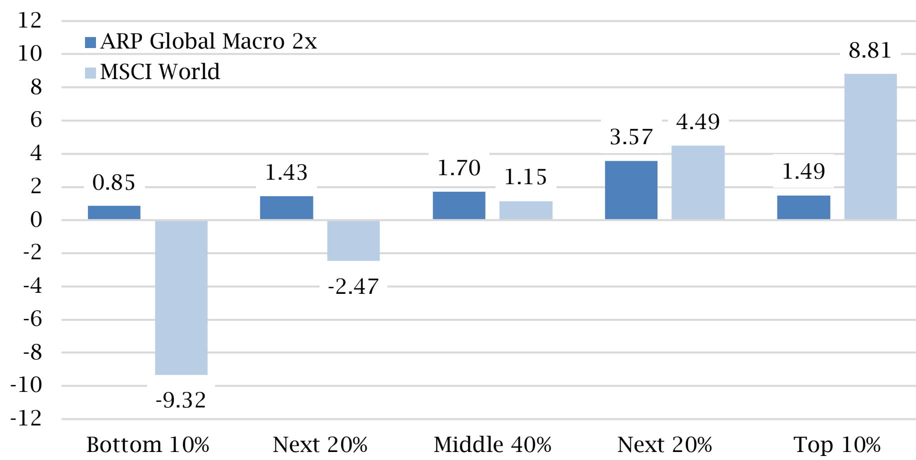
Although value, carry, and momentum are intuitive and powerful investment styles, they are not reliably implemented among systematic Global Macro hedge funds in general. Using simulated historical returns to these investment styles, we perform returns-based style analysis on the SG Macro Trading – Quantitative index returns.[2] We allow the return exposures of the index to vary over time. Figure 2

[1] Historically, Trend portfolios have also performed well during extended market downturns. ARP Investments offers a systematic Trend strategy on a stand-alone basis and as part of the ARP Multi-Strategy portfolio.

[2] The returns-based style analysis is based on Sharpe (1992).

shows that the SG Macro Trading – Quantitative index derives material risk from short-term, medium-term, and long-term Trend strategies but only receives relatively small risk contributions from systematic value, carry, and momentum investment styles. The figure shows that the factors we employ in the style analysis

Figure 3: Global Macro Performance in Different Equity Market Regimes (Simulated)



The figure shows the simulated performance of the systematic Global Macro investment style based on value, carry, and momentum during periods with different equity returns. The figure groups monthly equity returns into 5 buckets. The light blue bars show the average monthly equity returns for each group. The dark blue bars show the matching average monthly returns for the simulated Global Market investment style during the same months. The figure uses monthly data from January 2003 to December 2017. The simulated Global Macro 2x returns are net of estimated transaction costs and 75bps of fees.

Past performance is not indicative of future results. Commodity interest trading involves substantial risk of loss. These results are based on simulated or hypothetical performance results that have certain inherent limitations. Unlike the results shown in an actual performance record, these results do not represent actual trading. Also, because these trades have not actually been executed, these results may have under- or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity. Simulated or hypothetical trading programs in general are also subject to the fact that they are designed with the benefit of hindsight. Specifically, ARP Investments continuously seeks to enhance its methodologies and therefore a survivorship bias is present as these hypothetical performance results are continuously updated to apply what ARP Investments believes to be the most optimal approach at that point in time. No representation is being made that any account will or is likely to achieve profits or losses similar to these being shown.

Hypothetical performance results have many inherent limitations, some of which are described below. No representation is being made that any account will or is likely to achieve profits or losses similar to those shown. In fact, there are frequently sharp differences between hypothetical performance results and the actual results subsequently achieved by any particular trading program.

One of the limitations of hypothetical performance results is that they are generally prepared with the benefit of hindsight. In addition, hypothetical trading does not involve financial risk, and no hypothetical trading record can completely account for the impact of financial risk in actual trading. For example, the ability to withstand losses or adhere to a particular trading program in spite of trading losses are material points which can also adversely affect actual trading results. There are numerous other factors related to the markets in general or to the implementation of any specific trading program which cannot be fully accounted for in the preparation of hypothetical performance results and all of which can adversely affect trading results.

can account for about 70% of the total risk in the SG Macro Trading – Quantitative index returns.[3]

Clearly, investors looking for value, carry, and momentum styles cannot rely on the headline descriptor "systematic global macro". They must carefully choose from the relatively small number of managers offering these investment styles.

4. Performance Characteristics

Global Macro based on value, carry, and momentum has performed well during periods of equity market declines and high volatility. This makes Global Macro an attractive portfolio diversification strategy.

Strong performance during market stress

Although value, carry, and momentum are not the core positions for most global macro funds in the SG Macro Trading – Quantitative index, they are valuable for investors, especially in the face of declining equity markets.

Figure 3 summarizes the performance of simulated Global Macro based on value, carry, and momentum during different equity market regimes. For illustration, we segment monthly equity market returns, as measured by the MSCI World index, into 5 groups. The figure shows monthly average returns for each group in light blue bars. The leftmost group contains months with equity returns more than 1.3 standard deviations below the mean. Likewise, the rightmost group contains months with equity returns more than 1.3 standard deviations above the mean. The middle group contains months with equity returns within 0.5 standard deviations of the mean. For normally distributed returns, the extreme groups each contain about 10% of all observations. The middle group contains about 40% of all observations. That leaves about 20% each for the remaining two, intermediate groups.

The dark blue bars show the average monthly returns for the simulated Global Macro strategy during months matching the equity returns in each group. In the 10% of months with the lowest equity returns, -9.32% on average, the Global Macro strategy returned 0.85%. Based on the graph, the Global Macro strategy has similarly attractive returns regardless of the equity market environment. This is also borne out by the correlation between the monthly returns for equities and Global Macro, which is 0.12.

Dispersion offers opportunity for Global Macro

If global monetary expansion slows or reverses and does so at different points in different regions, this may well give rise to increased market volatility and higher dispersion across asset prices. Such periods of high volatility and dispersion offer opportunities for above-average Global Macro returns.

To illustrate this effect, Figure 4 shows average monthly Global Macro returns, based on value, carry, and momentum, where months are grouped by the average dispersion of returns within asset classes during the month. The grouping criteria are as in Figure 3 but here we apply them to average dispersion instead of returns.

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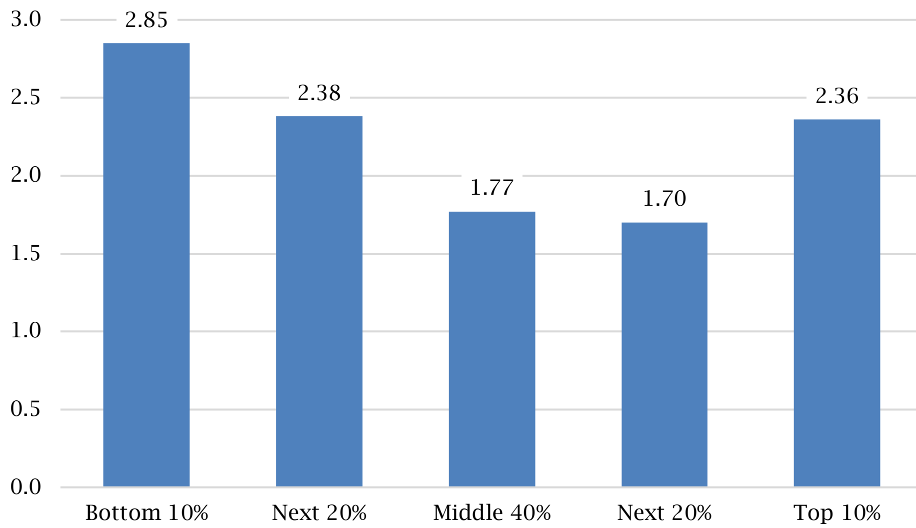
[3] This is consistent with Gurnani and Hentschel (2010), who show that many hedge fund strategies can be understood as systematic trading rules if they trade similar securities as the hedge funds.

Figure 4: Global Macro Performance in Different Volatility Regimes (Simulated)



The figure shows the simulated performance of the systematic Global Macro investment style based on value, carry, and momentum during periods with different asset return dispersion. The figure groups monthly returns into 5 buckets according to the average return dispersion within asset classes during each month. The figure uses monthly returns from January 2003 to December 2017. The simulated Global Macro returns are net of estimated transaction costs and 75bps of fees.

Past performance is not indicative of future results. Commodity interest trading involves substantial risk of loss. These results are based on simulated or hypothetical performance results that have certain inherent limitations. Unlike the results shown in an actual performance record, these results do not represent actual trading. Also, because these trades have not actually been executed, these results may have under- or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity. Simulated or hypothetical trading programs in general are also subject to the fact that they are designed with the benefit of hindsight. Specifically, ARP Investments continuously seeks to enhance its methodologies and therefore a survivorship bias is present as these hypothetical performance results are continuously updated to apply what ARP Investments believes to be the most optimal approach at that point in time. No representation is being made that any account will or is likely to achieve profits or losses similar to these being shown.

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5. Conclusions

A systematic Global Macro portfolio based on value, carry, and momentum offers attractive diversification to portfolios dominated by equity risk, especially in an environment with increased uncertainty and potential equity market drawdowns.

The ARP Global Macro portfolio systematically implements value, carry, and momentum trades in liquid futures or forwards on commodities, equity indexes, fixed income, and currencies. Simulations for this strategy confirm an attractive return profile during periods of negative equity returns and high return dispersion.

Importantly, most systematic Global Macro hedge funds focus on trend-following signals. These are quite distinct from value, carry, and momentum. Investors looking to diversify their portfolios with the latter styles need to carefully choose their Global Macro managers.

References

Gurnani, Deepak and Ludger Hentschel, 2010, *Demystifying Hedge Funds: An Analysis of Trades and Alpha.* Investcorp. New York, NY.

Sharpe, William F., 1992, “Asset allocation: Management style and performance measurement.” *Journal of Portfolio Management* (Winter), 7-19.

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The **SG Macro Trading – Quantitative Index** includes global macro managers who typically employ top-down fundamental research to forecast the effect of global macroeconomic and political events on the valuation of financial instruments. These strategies are frequently focused on a diversified basket of instruments.