Global Macro: Portfolio Diversification for Turbulent Times

Deepak Gurnani
Versor Investments, Founder and Managing Partner

Ludger Hentschel
Versor Investments, Founding Partner

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www.versorinvest.com investors@versorinvest.com
1120 Avenue of the Americas, 15th Floor, New York, NY 10036

Firm Overview

Founded January 2014, Versor Investments ("Versor", formerly ARP Investments) creates diversified sources of absolute returns across multiple asset classes. Within a scientific, hypothesis-driven framework, Versor leverages modern statistical methods and vast datasets to drive every step of the investment process. Alpha forecast models, portfolio construction, and the trading process rely on the ingenuity and mathematical expertise of 40+ investment professionals.

Systematic Alpha Global Macro, which Versor began trading in August 2017, invests across 80+ futures and futures-related instruments across four asset classes globally: commodities, equity indices (developed and emerging), fixed income, and currencies (developed and emerging). Investments are made based on 40+ asset class specific alpha forecast models that are both fundamental and technical in nature, with an intentional mix of time horizons. The portfolio is cross-sectional in nature while maintaining zero net exposure to equity markets, commodities, and currencies and is duration neutral in fixed income markets. Given the low correlation to equity markets, Global Macro is created to be a diversifying strategy.

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Global Macro: Portfolio Diversification for Turbulent Times

Executive Summary

Following more than 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, cross-sectional 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 that react to 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 directional trend-following strategies dominate their portfolios. While trend-following strategies can be attractive, they are quite distinct from systematic cross-sectional strategies. Hence, investors interested in cross-sectional strategies within systematic Global Macro strategies must carefully select managers offering such investments.

Simulated returns for our Global Macro strategy based on cross-sectional alpha forecast models confirm that the strategy has historically done well during periods of equity market declines and high return dispersion. This includes the most recent period of market turmoil in the first quarter of 2020, when the Versor Systematic Global Macro strategy was up while equity markets were down about 20%.

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1 Introduction

Following 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.

We made this case in early 2018, in an earlier version of this paper.[1] In light of the market volatility of 2020, this version updates our earlier results. We are pleased that high-quality cross-sectional Global Macro strategies have performed in line with our earlier predictions: During the first quarter of 2020 global equity markets declined roughly 20% while the Versor Systematic Global Macro strategy we discuss here was up. Based on these developments, we think it is worthwhile to state our case once more and include more recent results.

For more than 10 years, the world's major central banks have jointly exercised extraordinarily lenient monetary policy, first in the extended aftermath of the global financial crisis and most recently in response to the Covid-19 pandemic. This monetary expansion has produced record-low bond yields and has contributed to record-high equity prices. A long stretch of low market volatility and asset return dispersion likely was a collateral effect but has recently been upended by the economic uncertainty associated with Covid-19.

There are signs that these coordinated policy efforts may begin to diverge as different central banks are setting policy to suit their respective economies at different points in the post-crisis expansion and Covid-19 contraction.

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 notable deterioration in funding ratios.

[1] See Gurnani and Hentschel (2018).

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.

Among Global Macro strategies, non-directional, cross-sectional strategies may be especially attractive since they can profit from asset return dispersion even in the absence of protracted price trends.

2 Global Macro

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

2.1 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.

2.2 Systematic

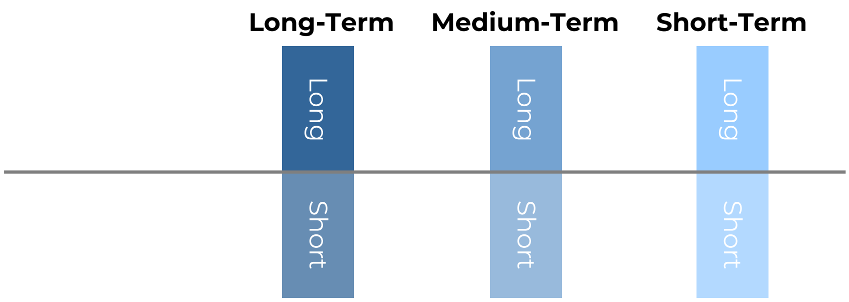
Systematic Global Macro managers trade equity, fixed income, currency, commodities, and futures markets using systematic investment rules based on large volumes of market and economic data. The rules are determined by a combination of the managers' insights and historical patterns in the data.

3 Versor Global Macro

Versor implements a fully systematic, purely cross-sectional Global Macro strategy that trades based on a large number of alpha forecast models in 4 asset classes: equities, fixed income, commodities, and currencies. The forecasts generally differ by asset class and can be most usefully grouped into short-, medium-, and long-term forecasts. The portfolio trades liquid futures and currency forwards. Figure 1 summarizes the alpha forecast models 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.

Versor constructs and combines alpha forecast models based on the firm's extensive experience and research. The research process subjects the team's

Figure 1: Versor Global Macro Signals and Universe



	Long-Term	Medium-Term	Short-Term
Commodities	✓	✓	✓
Equity Indices	✓	✓	✓
Fixed Income	✓	✓	✓
Currencies	✓	✓	✓

The figure shows a high-level summary of the signals used by the Versor Systematic Global Macro strategy to construct long-short portfolios in futures and currency forwards. The signals are diversified across long-term, medium-term, and short-term investment horizons ranging from a year to a few days.

Past performance is not indicative of future results. Performance results reflect the reinvestment of income. Commodity interest trading involves substantial risk of loss.

hypotheses about return predictions to rigorous analysis and sophisticated statistical tests. The predictive models are based on a broad range of data including market data, economic statistics, and alternative data, like news flow and sentiment.

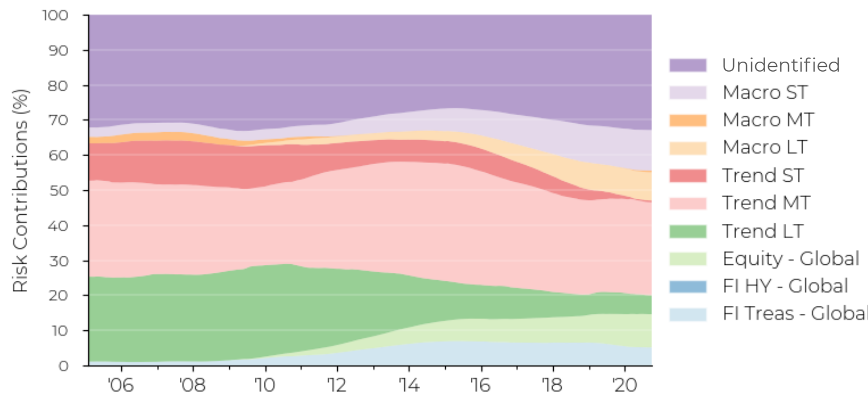
3.1 Short-Term Forecasts

Versor Global Macro short-term alpha forecast models look for price differences within an asset class that should revert to more normal relationships over holding periods up to 2 months. One example of these forecasts is based on unusual price relations between spot and futures prices and unusual shapes of the futures curves. These trades generally profit when the price differences are large relative to return volatility.

3.2 Medium-Term Forecasts

Versor Global Macro medium-term alpha forecast models look for price differences within an asset class that should revert to more normal relationships over holding periods between 2 and 4 months. One example of these forecasts is based on continuing momentum in past price movements. Importantly, such cross-sectional momentum forecasts are different from time-series Trend signals. Trend signals generally are net long equity

Figure 2: Macro Signals 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 cross-sectional Macro, short-term, medium-term, and long-term Trend, 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 September 2020.

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instruments following market rallies and net short equity instruments following market declines. In contrast, cross-sectional momentum forecasts always construct market neutral long and short portfolios, regardless of recent market movements. As a result, the returns from Trend and cross-sectional Global Macro strategies only have low correlation and are both good portfolio diversification strategies.

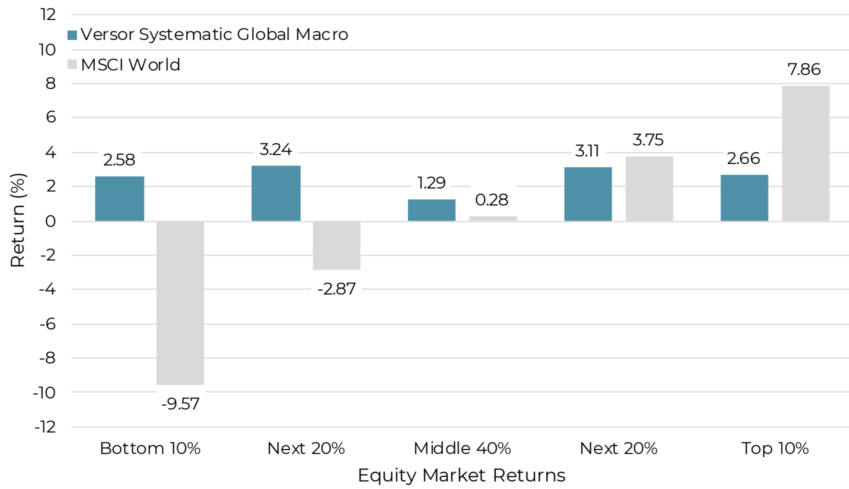
3.3 Long-Term Forecasts

Versor Global Macro long-term alpha forecast models look for price differences within an asset class that should revert to more normal relationships over holding periods between 4 and 6 months. One example of these forecasts is based on fundamental 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 prices return to more normal levels.

3.4 Prevalence of Styles

Interestingly, the cross-sectional forecasts driving the Versor Global Macro trades are demonstrably different from those implemented by systematic Global Macro hedge funds in general. Using simulated historical returns to these investment styles, we perform returns-based style analysis on

Figure 3: Global Macro Performance in Different Equity Market Regimes



The figure shows the simulated performance of the Versor Systematic Global Macro investment style during periods with different equity returns. The figure groups monthly equity returns into 5 buckets. The lighter, grey bars show the average monthly equity returns for each group. The darker, blue bars show the matching average monthly returns for the simulated Global Macro investment style during the same months. The figure uses monthly returns from January 2002 to September 2020. The simulated Global Macro returns are net of estimated transaction costs and 90bps of fees.

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the SG Macro Trading–Quantitative index returns.[2] We estimate time-varying exposures of the index to trend-following and cross-sectional macro forecasts. Figure 2 shows that the returns from these forecasts account for about 70% of the total risk in the SG Macro Trading–Quantitative index returns. However, most of the risk in the SG Macro Trading–Quantitative index stems from short-term, medium-term, and long-term directional Trend strategies. Only a small part of the risk stems from any of the cross-sectional macro investment styles.

Since the Versor Systematic Global Macro strategy is built entirely around cross-sectional forecasts and does not employ any trend-following signals, it is very different from the investment styles employed by the funds that make up the SG Macro Trading–Quantitative index. As a result, the purely cross-sectional Versor Systematic Global Macro strategy offers strong diversification from more common Global Macro investment styles.

[2] Sharpe (1992) describes how to estimate historical exposures to different investment styles using returns-based style analysis.

Moreover, investors looking for market-neutral, cross-sectional sources of returns in futures markets cannot rely on the headline descriptor "systematic Global Macro". They must carefully choose from the relatively small number of managers offering this investment style.

4 Performance Characteristics

Global Macro based on cross-sectional forecasts has performed well during periods of equity market declines and high volatility. This makes Global Macro an attractive portfolio diversification strategy.

4.1 Strong Performance During Market Stress

Although cross-sectional forecasts are not primary risk drivers 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 cross-sectional alpha forecast models 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 equity returns for each group in grey bars. The leftmost group contains the 10% of months with the lowest equity returns. The rightmost group contains the 10% of months with the highest equity returns. The middle groups likewise sort months by equity returns and collect them into groups with the remaining 20%, 40%, and 20% of months. The central groups are intentionally larger to focus attention on the more extreme outcomes.

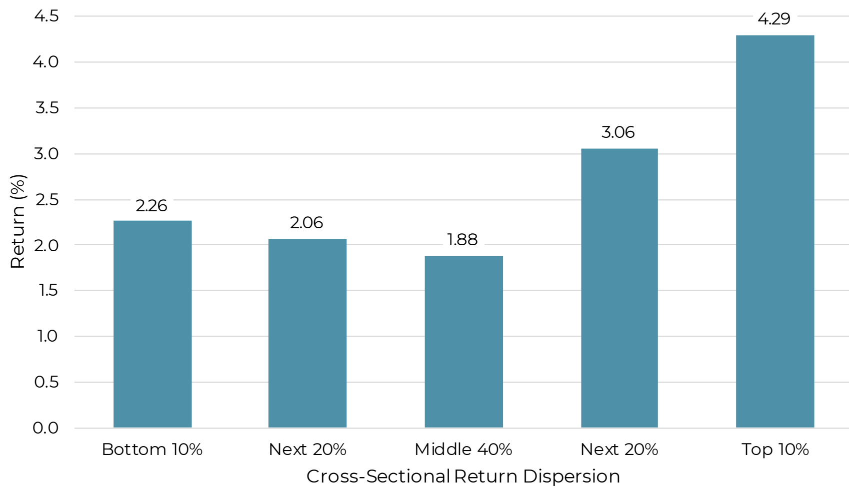
The blue bars show the average monthly returns for the simulated Global Macro strategy during the months corresponding to the equity returns in each group. In the 10% of months with the lowest equity returns, -9.57% on average, the Global Macro strategy returned 2.58%. Based on the graph, the Global 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 -0.04.

The Covid-19 related market stress during first quarter of 2020 was an interesting test of Global Macro performance during negative equity environments: Equity markets declined by roughly 20% while Versor's systematic Global Macro strategy was up for the quarter.

4.2 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

Figure 4: Global Macro Performance in Different Volatility Regimes



The figure shows the simulated performance of the Versor Systematic Global Macro investment style 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 2002 to September 2020. The simulated Global Macro returns are net of estimated transaction costs and 90bps of fees.

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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 cross-sectional Global Macro returns, 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.

5 Summary

A systematic Global Macro portfolio based on cross-sectional forecasts offers attractive diversification to portfolios dominated by equity risk, especially in an environment with increased uncertainty and potential equity market drawdowns. The Versor Global Macro portfolio systematically implements a broad range of cross-sectional forecasts with different time-horizons 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 directional trend-following signals. These are quite distinct from purely cross-sectional implementations. Investors looking to diversify their portfolios with the latter style need to carefully choose their Global Macro managers.

6 References

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The **MSCI World Index** represents a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets. As of February 2013, it includes 24 developed market country indices: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

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.