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Managed Futures and Macro Uncertainty: Navigating the Extremes

Kathryn M. Kaminski, Ph.D., CAIA®
Chief Research Strategist,
Portfolio Manager

Ying Yang
Research Scientist

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Introduction

The past forty years has been a spectacular period for the 60/40 portfolio. Equities continued to hit new highs, interest rates drifted lower and lower with low price inflation. Under the backdrop of low macroeconomic uncertainty, goods have been plentiful and easily accessible, and supply chains have worked in an efficient manner around the world. This entire narrative changed in 2020 when the world faced a global pandemic. Since then, inflation has hit its highest year-over-year number in 40 years, and scarcity, supply chain issues, and general disruptions have plagued once streamlined and globally integrated businesses. Since February 2022, geopolitical issues surrounding the war in Ukraine only further exacerbated the situation.

Going forward, inflation and the potential for rising rates are themes that will be important. Figure 1 plots the year-over-year consumer price index changes alongside 10-year and 2-year yields. From this graph, we can see how extreme levels of CPI have moved ahead of prevailing interest rates. Although it is hard to say how extreme the changes in markets will be there is one thing that seems to be certain – the range of outcomes for different asset classes is large and there is little consensus.

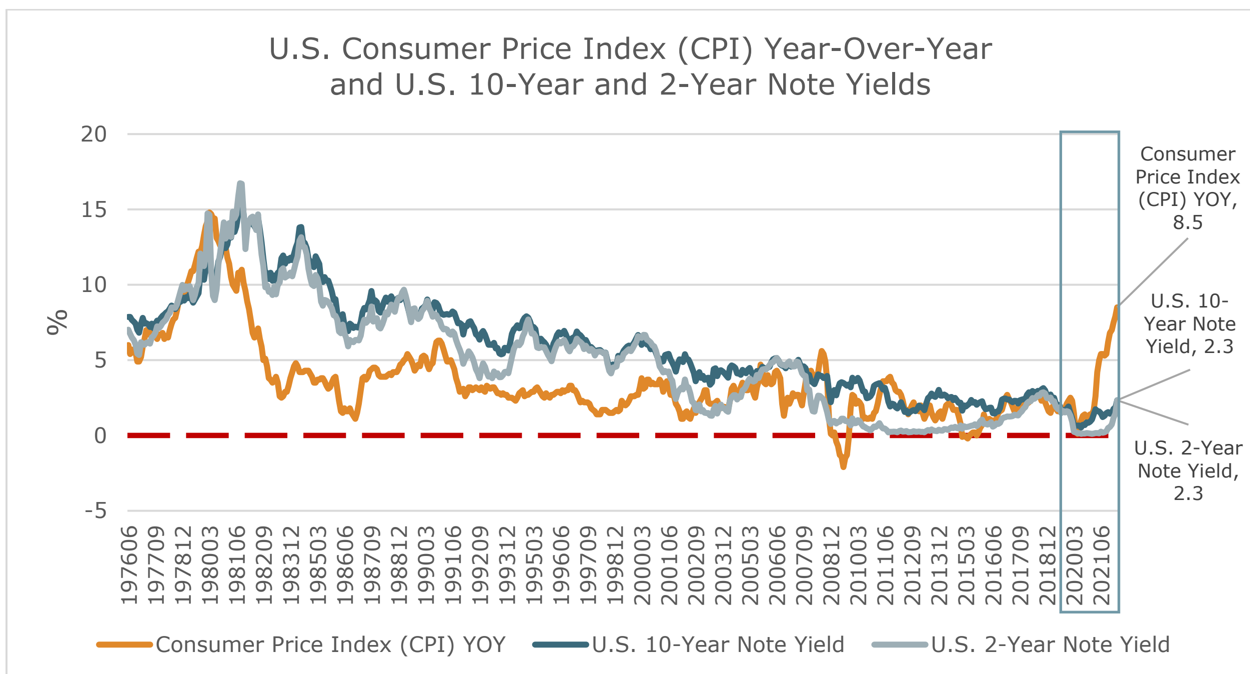


Figure 1: Changes in the year-over-year Consumer Price Index (CPI) and the U.S. Treasury 10-Year and 2-Year Note yields from June 1976 (inception of the 2-Year Note) to March 2022. Source: Bloomberg, AlphaSimplex.

Macro Uncertainty and Managed Futures

To examine the impact of macro uncertainty on different asset classes, we consider a multi-asset definition of macro uncertainty based on an aggregated measure across equities, fixed income, currencies, and commodities. To proxy a measure of uncertainty, we use the implied volatility for each asset class aggregated and risk adjust for each asset class as different asset classes have ranges in levels of uncertainty. Figure 2 plots macro uncertainty from 2005 to present. From this graph, we can examine the extreme periods of macro uncertainty (either low or high) and rising or falling uncertainty. The low or high uncertainty is defined as the top 30% or bottom 30% absolute level of uncertainty. Rising or falling uncertainty is measured trough to peak or vice versa for different periods (marked in arrows in the graph).

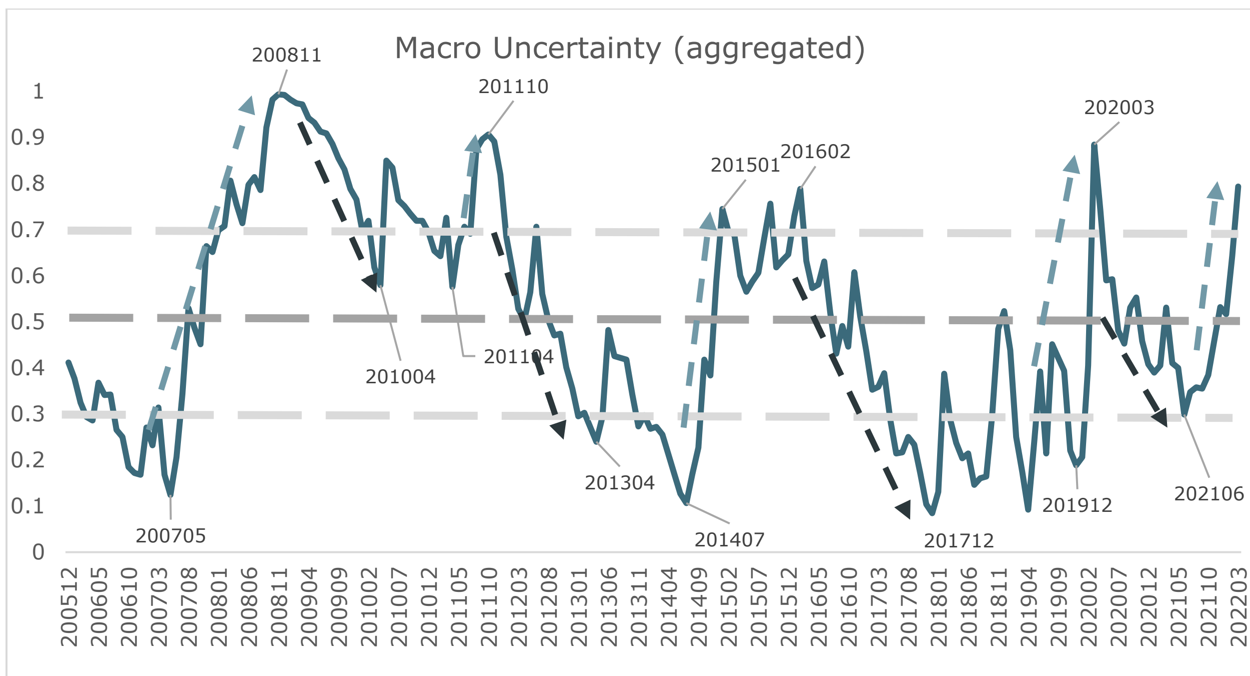


Figure 2: Macro Uncertainty from December 2005 to March 2022. Macro uncertainty is the aggregated implied multi-asset volatility across equity, fixed income, currencies, and commodities. High vs. low macro uncertainty is defined by the absolute level where top 30% is high and bottom 30% is low. Rising and falling periods of uncertainty are defined by peak to trough periods. Source: Bloomberg, AlphaSimplex.

From Figure 2, we can see that periods of high uncertainty include crises like the Great Financial crisis, the 2011 Euro crisis, and the recent COVID-19 crisis. Periods of low macro uncertainty tend to be periods of relatively calm markets, often before a crisis period begins. To consider how different asset classes behave in either low or high macro uncertainty, Figure 3 plots the performance of equity, fixed income, currency, and commodity markets as well as Managed Futures using the SG Trend Index. From this graph, we can see that equities perform particularly well during periods of low uncertainty; to a lesser extent, bonds, commodities, and the U.S. dollar also perform positively during these periods. During periods of high

uncertainty, on the other hand, equities perform negatively, as do commodities, but bonds and the U.S. dollar perform positively. Trend-following strategies perform positively in periods of both high and low macro uncertainty.

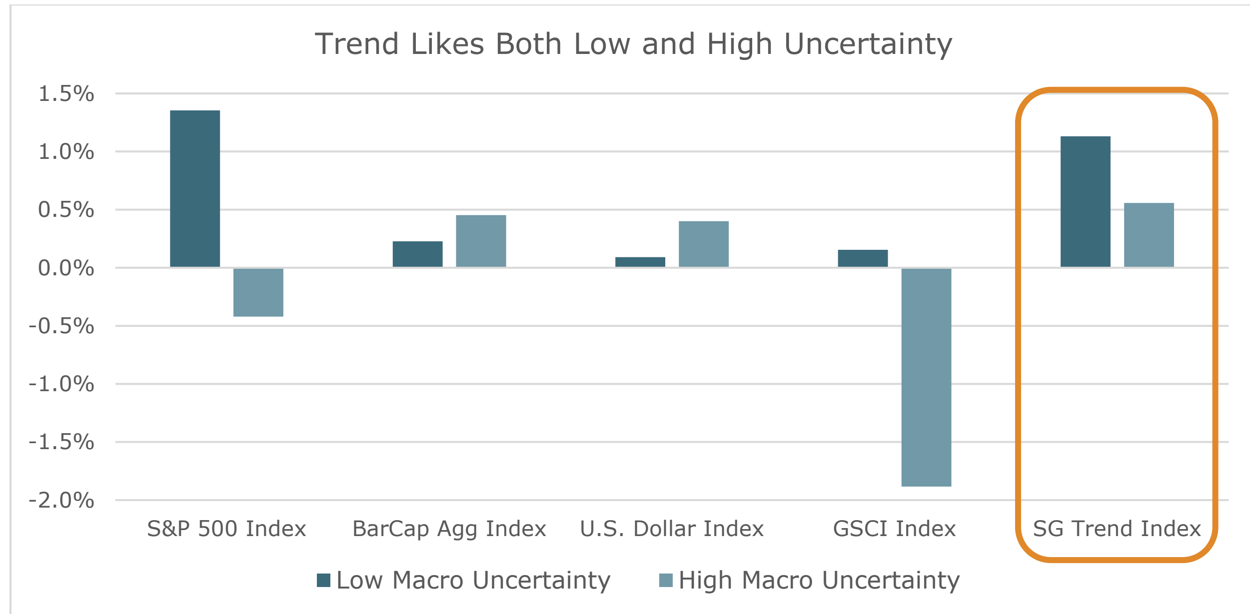


Figure 3: Performance of equity, fixed-income, currency, and commodity markets and the SG Trend Index during periods of low and high macro uncertainty based on monthly performance from December 2005 to March 2022. Past performance is not necessarily indicative of future results. Source: Bloomberg, AlphaSimplex.

Performance can also be affected by changing macro environments. As a comparison, Table 1 lists the largest changes in macro uncertainty and the corresponding returns for each of the same asset classes, as well as for trend followers. From this Table, we can see that commodity and equity markets have tended to struggle during periods of rising uncertainty while trend-following strategies outperform during those periods. On the other hand, equities and commodities have tended to outperform during periods of falling uncertainty, while trend-following strategies underperform during those periods.

	Start Month	End Month	Description	S&P 500 Index	BarCap Agg Index	U.S. Dollar Index	GSCI Index	SG Trend Index
Rising Uncertainty	May 2007	Nov 2008	Lead up to GFC	-2.5%	0.3%	0.4%	-0.7%	1.4%
	Apr 2011	Oct 2011	Lead up to Euro Debt	-0.7%	0.9%	0.1%	-1.4%	-0.8%
	July 2014	Jan 2015	Oil Selloff	0.3%	0.6%	2.5%	-7.3%	3.5%
	Dec 2019	Mar 2020	Lead up to COVID-19	-4.6%	0.8%	0.2%	-10.4%	0.4%
	Sep 2021	Mar 2022	Inflation concerns	0.1%	-1.0%	0.9%	5.5%	2.6%
			Average	-1.5%	0.3%	0.8%	-2.9%	1.4%
Falling Uncerta	Dec 2008	Apr 2010	Recovery from GFC	1.8%	0.7%	-0.3%	0.3%	0.2%
	Nov 2011	Apr 2013	Quantitative Easing	1.4%	0.3%	0.4%	-0.2%	0.3%
	Feb 2016	Dec 2017	Equity bull market	1.4%	0.2%	-0.3%	1.0%	-0.3%

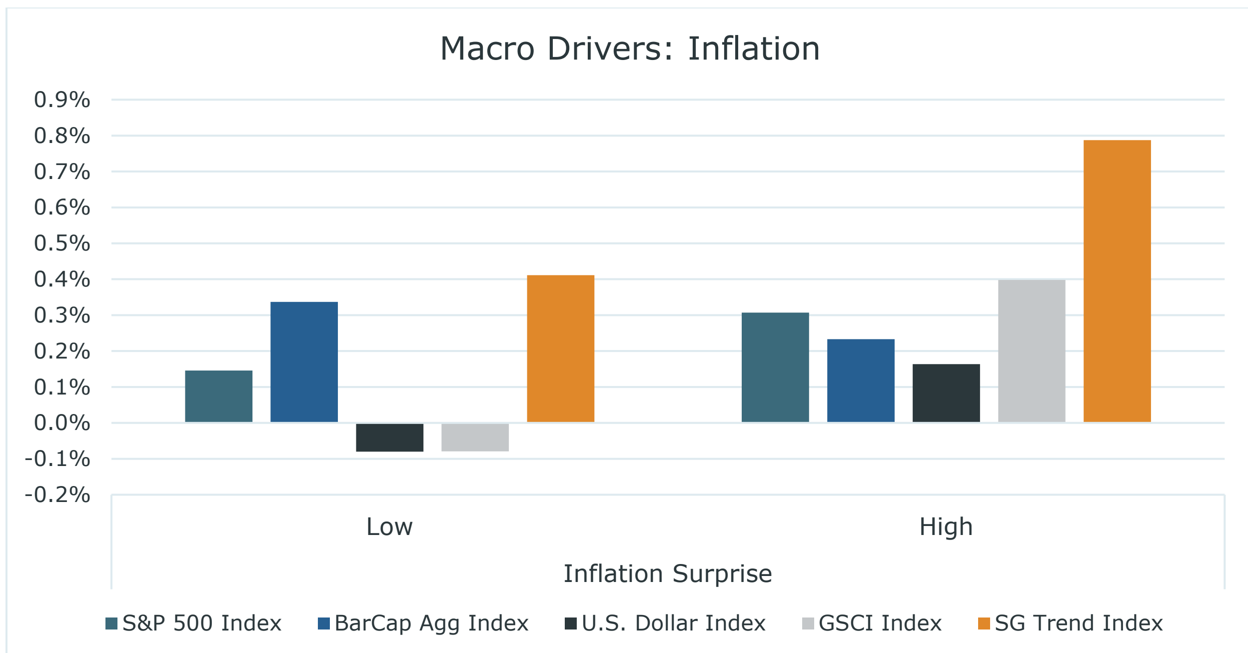
Apr 2020	June 2021	Reflation recovery	3.5%	0.2%	-0.4%	4.0%	0.8%
Average			2.0%	0.4%	-0.2%	1.3%	0.2%

Table 1: Asset class and trend-following performance during periods of rising and falling macro uncertainty. Data from 2005 to 2021. Past performance is not necessarily indicative of future results. Source: Bloomberg, AlphaSimplex.

Navigating the Extremes: Managed Futures in Good Times and Bad Times

From both Figure 3 and Table 1, it seems that trend-following strategies tend to like both low and high macro uncertainty and they seem to work well during periods of rising uncertainty. Since macro uncertainty is a general term, we can examine some of the extreme environments, both high and low, and see how asset classes and trend-following strategies perform. To do this, we consider their performance during extreme periods of inflation surprise, both high and low, as well as during rallies and crashes for each asset class. We choose to consider inflation surprise given the current macro environment using the Citi Surprise Index.[1]

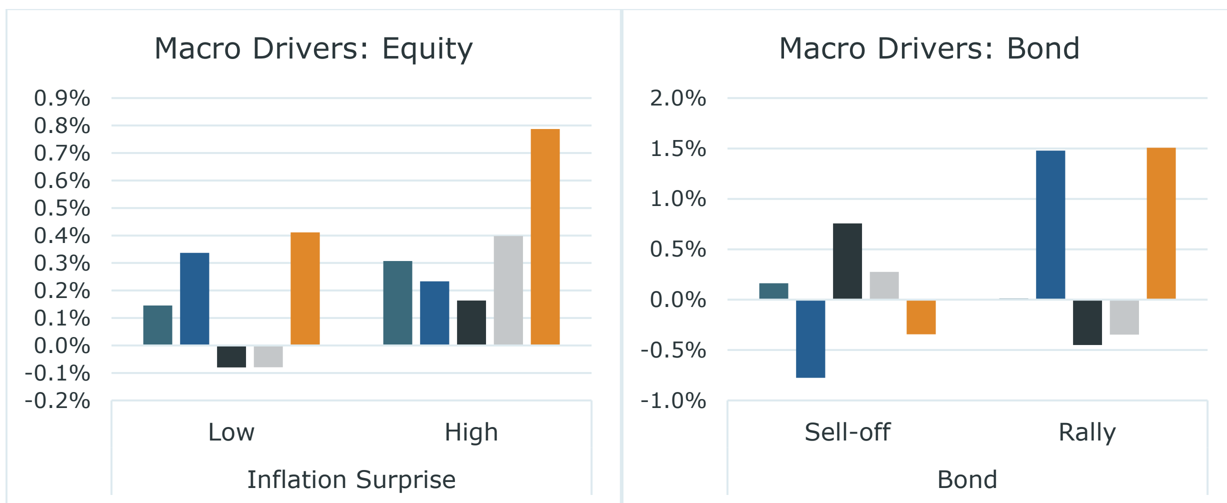
Figure 4 plots the return for different asset classes and trend following during very low or very high inflation surprise. From this chart, we can see that during this period equities and bonds like both low and high inflation surprises, while commodities and currencies prefer higher inflation surprise. Trend following is positive during both low and high inflation surprise.



[1] The Citi Inflation Surprise index measures price surprises relative to market expectations. When the index is higher, measures of inflation are higher than expected.

Figure 4: Performance of different asset classes and trend following during periods of very low or very high inflation surprise based on monthly performance from December 2005 to March 2022. Past performance is not necessarily indicative of future results. Source: Bloomberg, AlphaSimplex.

Figure 5 plots asset class performance for equity, fixed income, currency, commodities, and trend following during rallies and crashes for each asset class. For equity crashes, bonds and the U.S. dollar have tended to have positive returns while commodity markets have tended to be negative. Trend following has positive performance for both positive and negative periods in equity markets. For bond selloffs, only the U.S. dollar has had strong positive performance, while both equities and commodities had slight positive performance; all three asset classes were flat-to-negative during bond rallies. Trend following has positive returns during bond rallies and negative returns during bond selloffs.[2] For currencies, equities, bonds, and commodities have tended to do well when the dollar sells off whereas when the dollar rallies only bonds had a positive return. Trend following has a more positive return during dollar sell offs but it is still positive during a dollar rally. From Figure 5, most asset classes react differently across extreme environments. Trend-following strategies tend to like the extremes.



[2] During this period, the prevailing trend in bonds has been upward. In this period, it is not surprising that all bond sell-offs have reverted. This has not been the case year-to-date in 2022.

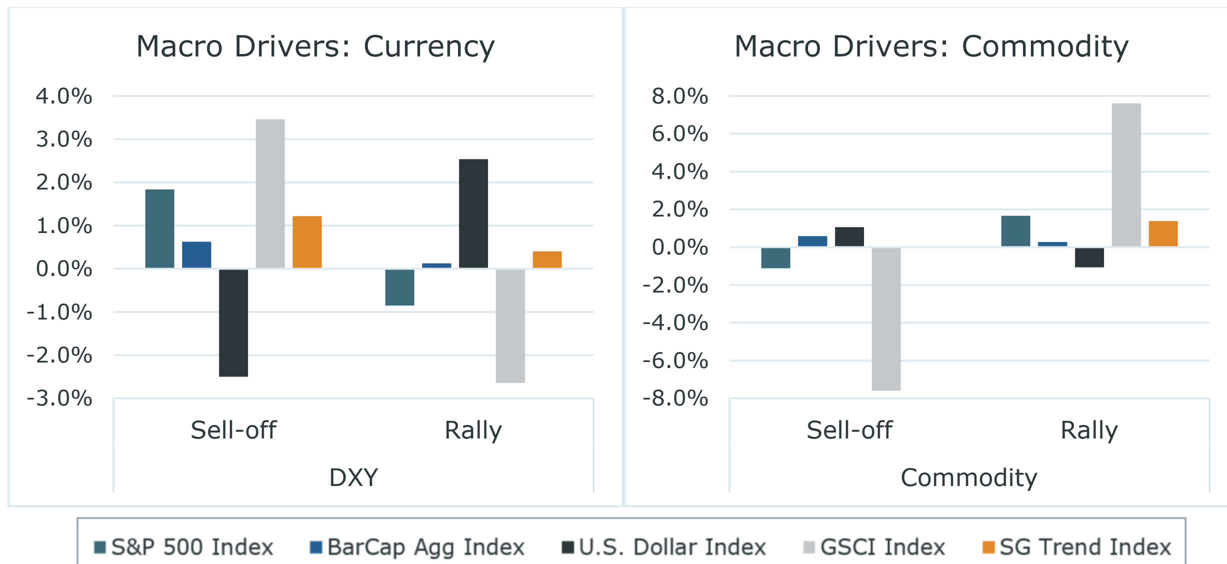


Figure 5: Asset class performance for equity, fixed income, currency, and commodity markets with trend-following performance during rallies and sell-offs for each asset class based on monthly performance from December 2005 to March 2022. Past performance is not necessarily indicative of future results. Source: Bloomberg, AlphaSimplex.

Portfolio Benefits of Managed Futures

Given that trend-following strategies have tended to like macro uncertainty during the period analyzed in this study in terms of navigating extreme moves in markets, there were generally benefits to adding the strategy to a traditional investment portfolio during this period. To demonstrate this, Table 2 lists extreme environments and the performance impact of adding trend following to a traditional 60/40 portfolio. Across extreme environments, trend following tends to increase overall portfolio returns and improve risk-adjusted returns.

		Annualized Return			**Sharpe Ratio**		
		60/40		60/40 + SG Trend	60/40		60/40 + SG Trend
Inflation Surprise	Low	2.7%	↑	2.9%	0.30	↑	0.36
	High	3.3%	↑	3.9%	0.30	↑	0.41
Equity Market	Rally	37.5%	↓	35.1%	7.44	↑	8.26
	Sell-Off	-30.7%	↑	-27.2%	-4.62	↓	-4.80
Commodity Market	Rally	13.2%	↑	13.6%	1.47	↑	1.73
	Sell-Off	-5.2%	↑	-4.7%	-0.50	↓	-0.51
Bond Market	Rally	7.2%	↑	8.3%	0.71	↑	0.91
	Sell-Off	-2.6%	↓	-2.7%	-0.27	↓	-0.32
U.S. Dollar	Rally	-5.5%	↑	-4.5%	-0.62	↑	-0.55
	Sell-Off	16.2%	↓	16.1%	1.93	↑	2.14

Macro Uncertainty	Low	10.9%	10.9%	2.22	2.18
	High	-1.3%	-0.6%	-0.10	-0.05

Table 2: Portfolio benefit during extreme macro environments from December 2005 to March 2022. Past performance is not necessarily indicative of future results. Source: Bloomberg, AlphaSimplex.

Summary

Given recent geopolitical events, increased levels of inflation, and the push towards rising rates, there is also an increase in macro uncertainty. Investors may expect extreme moves in a number of markets as they navigate the impact of these changes. To examine the impact of macro uncertainty, we use a multi-asset class measure of macro uncertainty and find that during the period analyzed in this study most assets prefer periods of low macro uncertainty and very few like high or rising macro uncertainty. Trend-following strategies, when compared with traditional asset classes, seem to like both high and low macro uncertainty, and particularly prefer periods of rising macro uncertainty. As a result, we further examine the performance of traditional assets during extreme periods (both rallies and sell-offs) and periods of high and low inflation surprise. Over a range of extreme environments, trend followers tend to find opportunity during the extreme periods where some traditional assets tend to sell off. This observation demonstrates the value of diversification both during extreme periods and during periods of high macro uncertainty. Put simply, for good or for bad, extreme periods drive more persistent trends. When these trends are captured as part of a trend-following strategy, they can provide diversification to an overall portfolio.

About the Authors

Kathryn M. Kaminski, Ph.D., CAIA® is the Chief Research Strategist at AlphaSimplex Group. As Chief Research Strategist, Dr. Kaminski conducts applied research, leads strategic research initiatives, focuses on portfolio construction and risk management, and engages in product development. She also serves as a co-portfolio manager for the AlphaSimplex Managed Futures Strategy. Dr. Kaminski's research and industry commentary have been published in a wide range of industry publications as well as academic journals. She is the co-author of the book *Trend Following with Managed Futures: The Search for Crisis Alpha* (2014). Dr. Kaminski holds a B.S. in Electrical Engineering and Ph.D. in Operations Research from MIT.

Ying Yang, MFE, is a Research Scientist at AlphaSimplex. As a Research Scientist, Ms. Yang focuses on applied research and supports the portfolio management teams. Ms. Yang earned both a B.S. in Mathematics and Physics and a B.A. in Economics and Management from Tsinghua University as well as an M.F.E. from the Haas School of Business at the University of California at Berkeley.

Contact Information

For more information, please contact:
clientservices@alphasimplex.com
617-475-7100

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