ALPHASIMPLEX
A VIRTUS INVESTMENT PARTNER

Themes of 2023

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

Jiashu Sun
Junior Research Scientist

January 2024

Introduction

After a difficult 2022 for many markets, 2023 saw an overall shift for traditional markets; looking at the year as a whole, investors saw equities rally as bond yields went up and then came back down again. While the beginning of 2023 seemed ripe for a recession, by the middle of the year the story had changed to "higher for longer" – that is, markets expected inflation and interest rates to stay high longer than previously expected. This story was interrupted by the U.S. banking crisis in Q1, during which yields plummeted as investors pulled money from banks and fueled a flight-to-safety into short-term assets. The stock market declined sharply, at least at first; the U.S. dollar sold off, especially against European currencies; and there was a dramatic rise in gold prices. However, markets recovered from this shock relatively quickly, and during the second quarter markets saw a return of strong market trends, including rising equity prices and bond yields. These trends continued into the third quarter, which was relatively quiet compared to the turbulent first half of the year. The narrative once again changed sharply in the fourth quarter, when improving inflation data led to a rally in equity prices, a decline in bond yields, and a substantial reversal in the U.S. dollar. This risk rally reversed several longer-term trends from earlier in 2023. Despite a rise in interest rates during the first three quarters of the year, equities never significantly corrected in 2023, suggesting that investors believed inflation had peaked and rates would be cut.

While 2022 was difficult for traditional markets, it was a stellar year for trend following, but trends were much more mixed in 2023. Extreme events and trend reversals, particularly in fixed income, caused some struggles for the strategy. This note discusses several key themes that affected trend followers over the course of 2023, including: 1) varied performance across asset classes over the year, with extreme shocks causing the biggest effect on performance; 2) elevated bond volatility and extreme shifts in stock-bond correlations; and 3) variations in CTA style factors that may explain some themes in relative trend following performance. Finally, we note the cyclical nature of CTA returns and the typical periods for drawdown recovery for trend followers after periods of extreme trends as well as the consolidation that often follows them.

A Year of Consolidation for Trend

After inflation peaked in late 2022, the biggest theme for trend following was rising rates and the eventual dis-inversion of the yield curve. This trend was punctuated by the regional banking crisis in mid-March. As that crisis unfolded, fixed income trends sold off violently as short-term yields faced multi-sigma moves. This type of move in interest rates had not been experienced in decades and trend followers, who were predominantly short, experienced sizeable losses. The size of the loss was generally directly related to the overall size of the short positioning given the severity of the correction in fixed income. As a result, fixed income losses dominated Q1 performance for trend followers. This can be seen in Figure 1, which plots the estimated quarterly performance for the SG Trend Index by asset class.

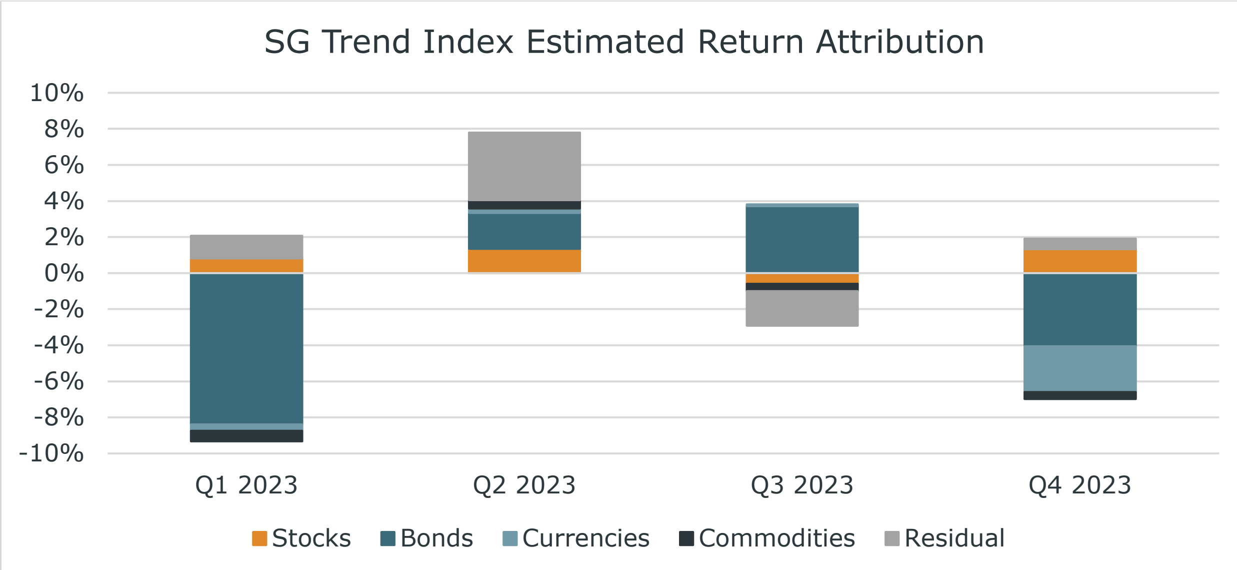

Figure 1: Quarterly estimated returns by asset class for the SG Trend Index during 2023. Residual returns are those that cannot be attributed to any specific asset class using this estimation methodology. Past performance is not necessarily indicative of future results. It is not possible to invest directly in any index. Source: Bloomberg and AlphaSimplex.

Although the banking crisis certainly shook up investors and led to reduced positioning for trend portfolios, inflation and rising rates were still the core trend-following signals across markets at the beginning of 2023. During Q2, trend-following performance was generally positive but harder to pin down given the amount of noise surrounding the banking crisis. This is observable in the estimation for return contribution for the SG trend Index in Q2, which contains a large positive residual. At the end of Q2 markets became euphoric with "pause-mania" and equity markets soared while rates continued higher. Moving into Q3, the Fed began to warn of upside risks on inflation, energy prices started to climb, yields continued higher and markets seemed to coalesce around the idea that "higher for longer" may be a reality. During this period, the strongest trend continued to be short fixed income due to choppy performance in commodities, equities, and currencies. As a result, Q2 and Q3 were two consecutive quarters for trend following where positive performance was driven by a trend of consistently higher rates. Despite the extreme event in Q1, things were looking positive for trend followers going into Q4. However, on October 19th the U.S. 10-Year Note hit the critical 5% level and then in early November the U.S. Consumer Price Index results for October came out lower than expected. These two pieces of data served as the catalyst for what many are calling the end of the hiking cycle. They also sent markets into a buying frenzy with bonds and stocks rallying all month. This move marked a clear reversion from past inflation trends that had dominated trend signals for the last two plus years, causing significant losses for trend followers across the board. This can be seen in the estimated Q4 attribution for the SG Trend Index in Figure 1, which shows losses in all asset classes except equities.

The Impact of Extreme Events

A trading year has approximately 250-260 trading days. In 2023, two of these days (March 10 and March 13, the days when the regional banking crisis began) dominated the others, at least as far as trend followers are concerned. The moves in fixed income were so extreme that they are some of the biggest moves in the history of CTA returns; the move in the U.S. 10-Year Note was one of the largest since 2009.[1] These dramatic shifts caused two of the worst days of CTA returns in the history of the SG Trend Index, as we might expect when strong trends are suddenly interrupted. If we consider the year without these returns the picture is very different.[2] Figure 2 plots the return of the SG Trend Index in 2023 with and without those two days in March.

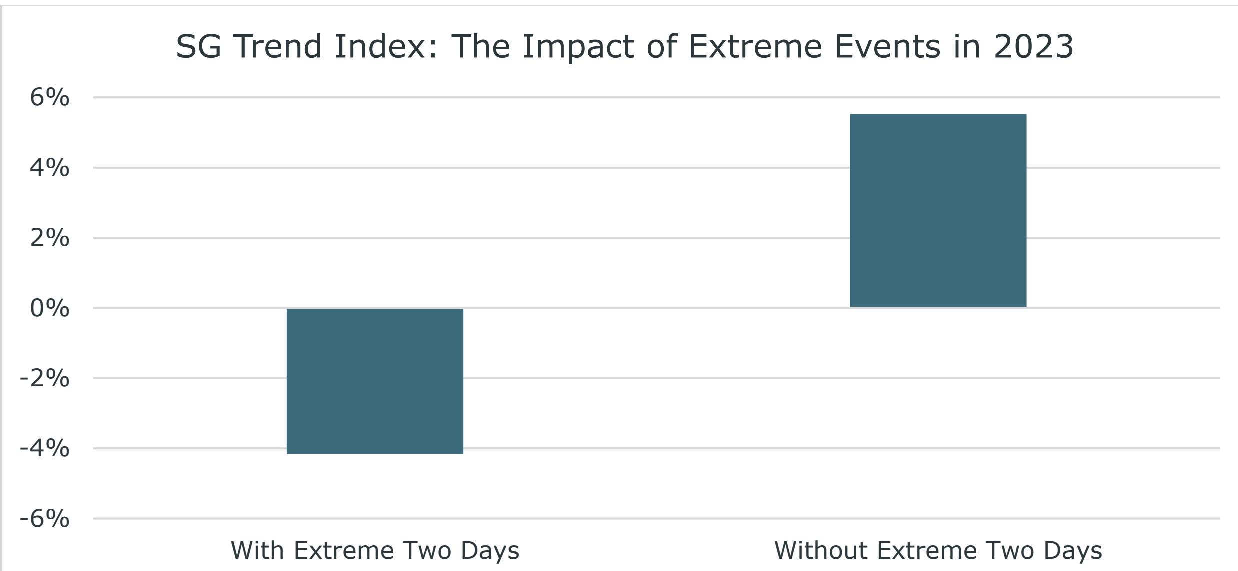

Figure 2: Cumulative return for the SG Trend Index with and without the two extreme days of the regional banking crisis (3/10/2023 and 3/13/2023). Past performance is not necessarily indicative of future results. It is not possible to invest directly in any index. Source: Bloomberg and AlphaSimplex.

Overall, trends were positive in 2023 for most asset classes. We can see this in Figure 3, which plots the percentage of positive days for trend following by asset class. This figure demonstrates the point that there have been trends available to follow, particularly on the inflation/rising rate theme, but extreme events challenged the performance of the strategy. This is a well-known issue for cross asset trading strategies. In 2022, we examined this concept in a paper called "Quantifying Turbulence in Trend Following," which examines the effect of extreme days.[3]

---

[1] The March move in the U.S. 10-Year Note was a roughly 4 sigma move, and one of only two moves of that magnitude since 2009.
[2] March 13th, 2023 was the second worse daily return for the SG Trend Index and March 10th, 2023 was the 11th worst daily return for the SG Trend Index since 2000.
[3] Kaminski and Zhao 2022.

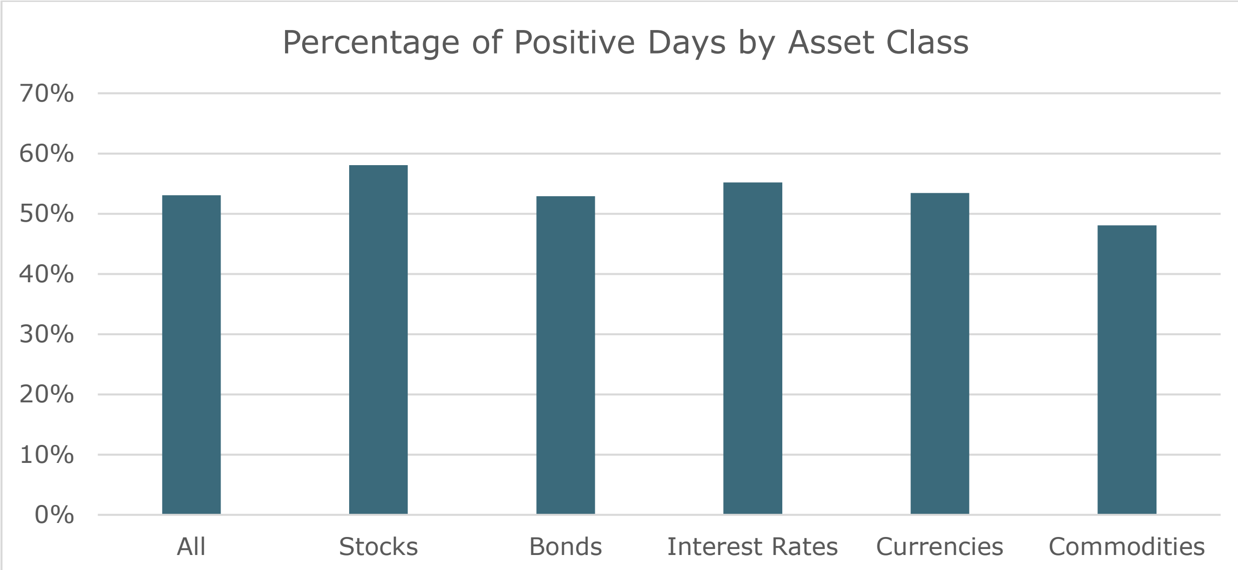

Figure 3: Percentage of positive days by asset class in 2023 for a hypothetical trend following system in equity indices, fixed income, currencies, and commodities. Past performance is not necessarily indicative of future results. Source: Bloomberg and AlphaSimplex.

Quantitative Market Measurements

In addition to performance, there were a few other interesting quantitative themes to note in 2023. In a year with extreme market moves during the regional banking crisis in Q1, and the potential end of the bond bear market in Q4, stock/bond correlations have been in flux. To demonstrate this, Figure 4 plots the correlation between stocks and bonds in 2022 and 2023. These correlations were positive in 2022, leading many investors to follow that trend. This relationship dissipated during the regional banking crisis, but it has steadily come back through year-end 2023. This demonstrates a key issue that many investors need to remember: stock/bond correlations have historically tended to be positive during longer periods of rising rates. The banking crisis reawakened risk-off negative correlations, but that seemed to be transitory.

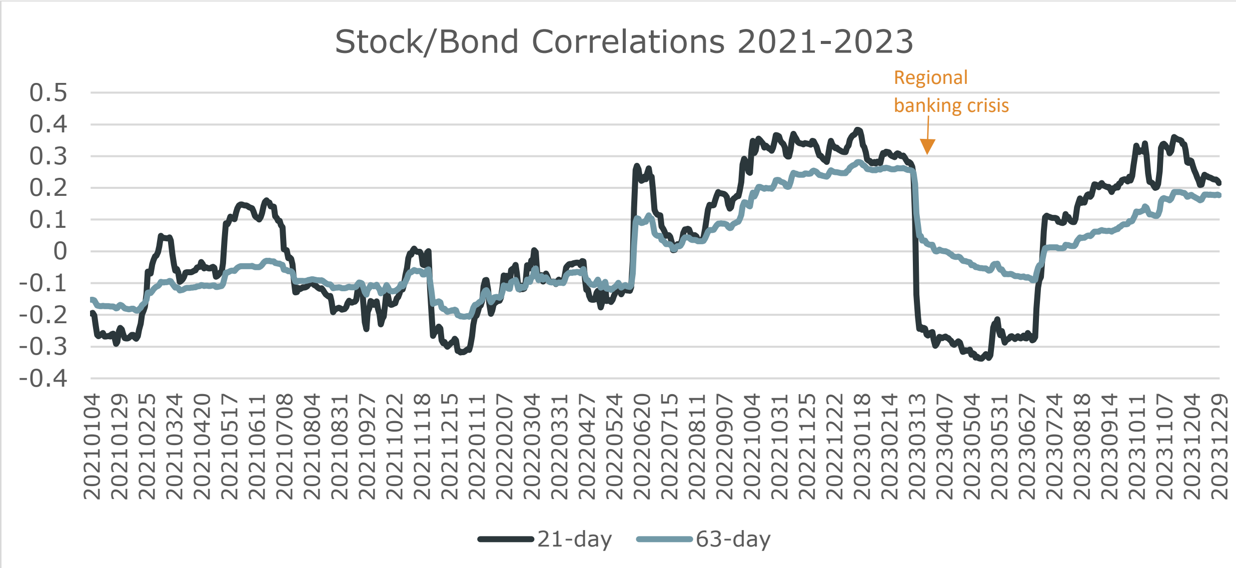

Figure 4: Cross-asset correlation between a selection of stocks and bonds traded in a representative trend-following strategy, estimated using an exponentially weighted correlation with a 21-day and 63-day half life. Past performance is not necessarily indicative of future results. Source: Bloomberg and AlphaSimplex.

In a paper summarizing the market themes of 2022, we highlighted how volatility had gone up for all asset classes but had doubled in fixed income[4]. Revisiting this point in 2023, we find that fixed income volatility has remained elevated while volatility in other asset classes has generally retreated. Figure 5 plots the relative difference in average volatility of each asset class for 2022 and 2023 relative to 2021. Note the substantial increase in fixed income volatility and the persistence in volatility even in 2023 as other asset classes have tended to be less volatile this year. We stated last year that 2022 is the year that investors remembered that fixed income has downside volatility. Perhaps 2023 is the year that we suggest that fixed income volatility may be here to stay.

[4] See Kaminski and Zhao 2023.

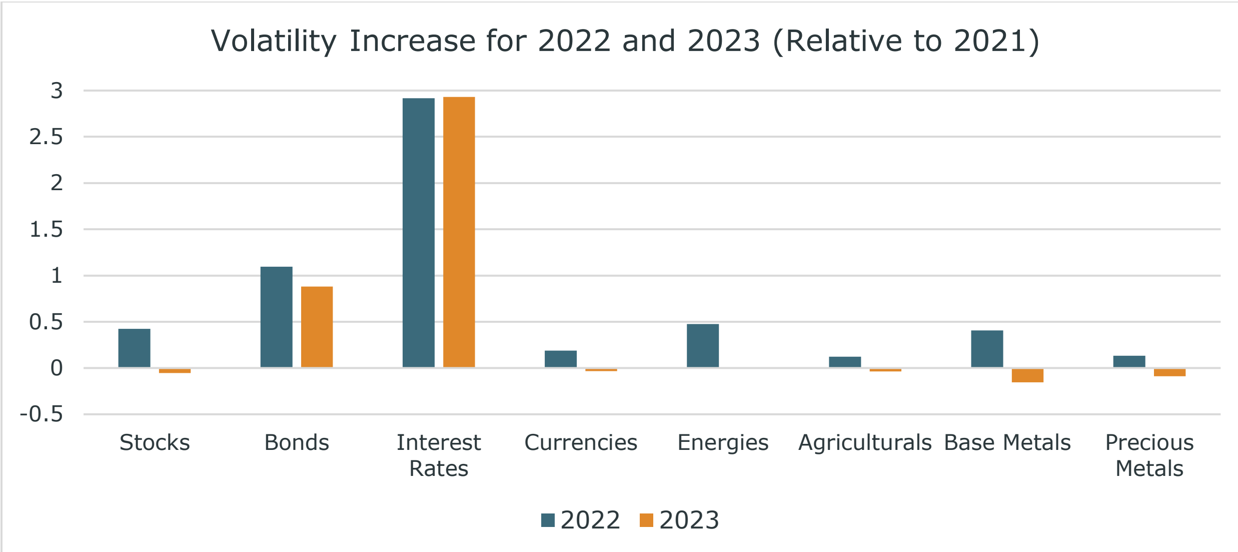

Figure 5: Relative difference in volatility estimates, by asset class, for the years of 2022 and 2023 versus 2021. Volatility is estimated for each year without overlap. Past performance is not necessarily indicative of future results. Source: Bloomberg and AlphaSimplex.

CTA Style Factors Tell the Tale

Although there were some profitable trends in 2023, as usual different approaches led to different results. To give insights into dispersion across the space, we often consult our CTA style factors to help understand which tilts may have hurt or helped relative performance.[5] Figure 6 plots the CTA style factors in 2023 both as a total return and then by asset class. Overall return dispersion was high and it was not clear whether it would have been better to react more quickly or less quickly in 2023. During sell-off periods, like Q4, getting out of short bond positioning helped; during other periods, like Q2 and Q3, sticking with the trade was better. When it comes to market size, a tilt to larger equity and fixed income markets helped, while larger commodity markets such as energies and larger currencies detracted. For the co-movement factor and correlation factor, there was little deviation except that more correlated currencies outperformed and commodities with greater co-movement (especially energy markets) seemed to be a larger detractor this year. Finally, the long bond bias factor had some surprising results. The contribution of reducing overall exposure to short fixed-income signals was actually negative this year. Upon closer investigation, the reality is that while yields went up this year overall, during parts of the year being short fixed income was a positive trend. A system with a long bond bias would have leaned into less profitable trends, like those in currencies, which in turn would have led to losses that outweighed the small positive contribution from long fixed income positions. The general conclusion from a review of these CTA factors is that results were mixed in 2023.

[5] The CTA Style Factors used here include: a tilt towards slower or faster trend signals; a tilt towards larger markets instead of smaller markets; investing in markets that either move together or are correlated; and a bias towards long positions in fixed income. These factors are described in more detail in, for example: Greyserman and Kaminski 2014, Kaminski 2019, and Kaminski and Yang 2021.

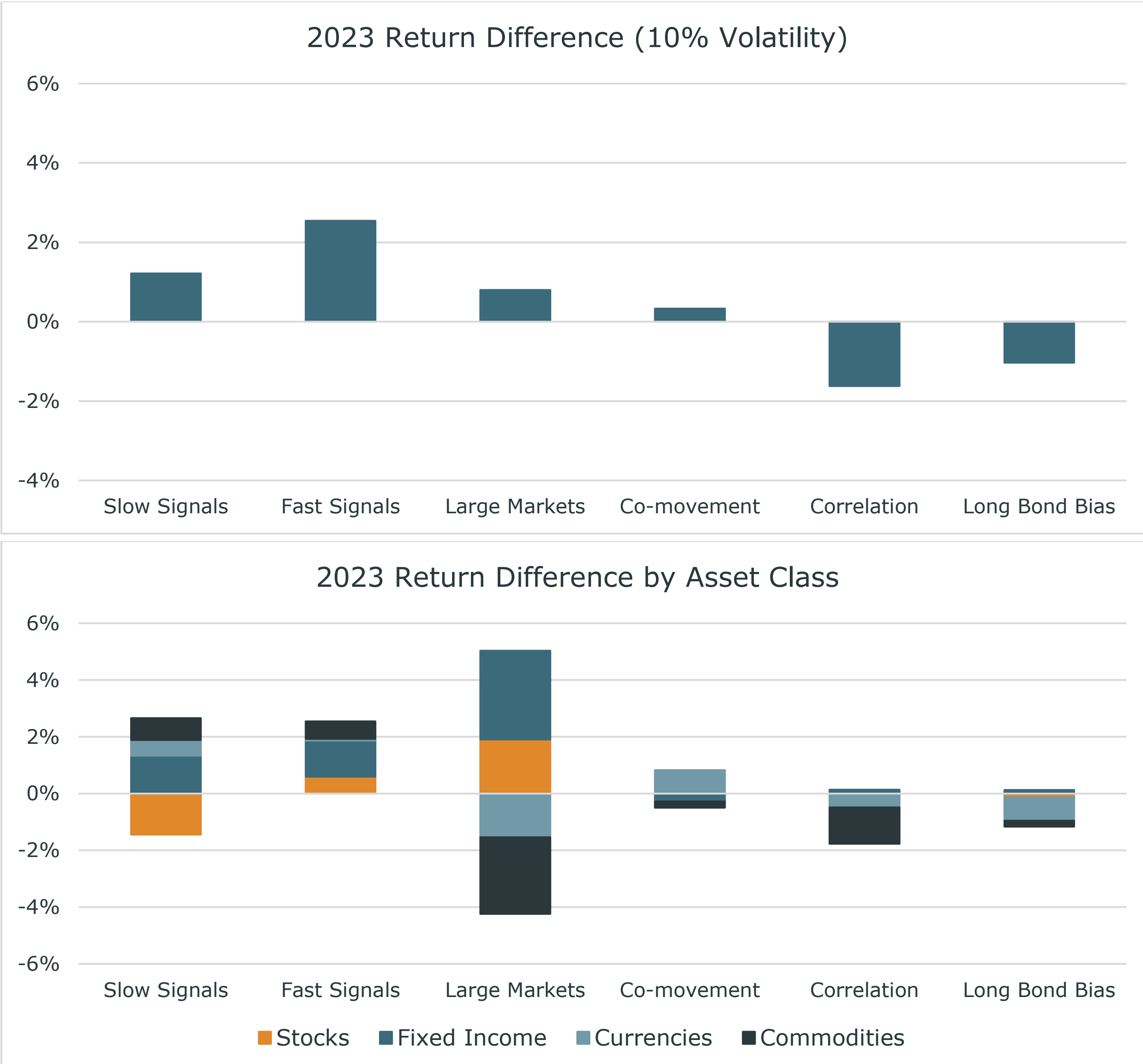

Figure 6: Return differences for trend systems with different style tilts in 2023. Past performance is not necessarily indicative of future results. Source: Bloomberg and AlphaSimplex.

Thoughts on CTA Drawdown Recovery

Trend-following strategies, just like equity markets, experience periods of ups and downs. The best environments for trend following are periods of macroeconomic uncertainty and change. A spike in inflation, the subsequent monetary response to calm inflation, and the changes that ensued in the wake of that move proved to be an excellent period for trend-following strategies. As the dust has settled for the inflation trend, and as we wait to see if we have indeed seen the end of the hiking cycle, many are wondering whether we will move into a different regime. Trend-following strategies are continually measuring market trends; they will continue to adapt and move as markets adjust. As a result, investors sometimes describe their trend-following returns as "clumpy." They do well when there are strong market trends that are hard to predict. After these trends often comes a period of consolidation before eventually new trends emerge. Given this, trend following tends to struggle during periods of consolidation after strong performance and to do better as new trends emerge. To demonstrate this empirically, Figure 7 plots the average return for the SG Trend Index one year after a positive or negative return (on the left are the largest drawdown periods and on the right are the largest positive return periods). For example, since 2000 the average return one year after the Index has posted a cumulative return of between 25 and 30% is only around -2%. Similarly, one year after a drawdown of more than 10% the average cumulative return is around 12%. From this figure, we see that historically when trend following is in a drawdown it has tended to recover and when it has done well it has tended to consolidate.

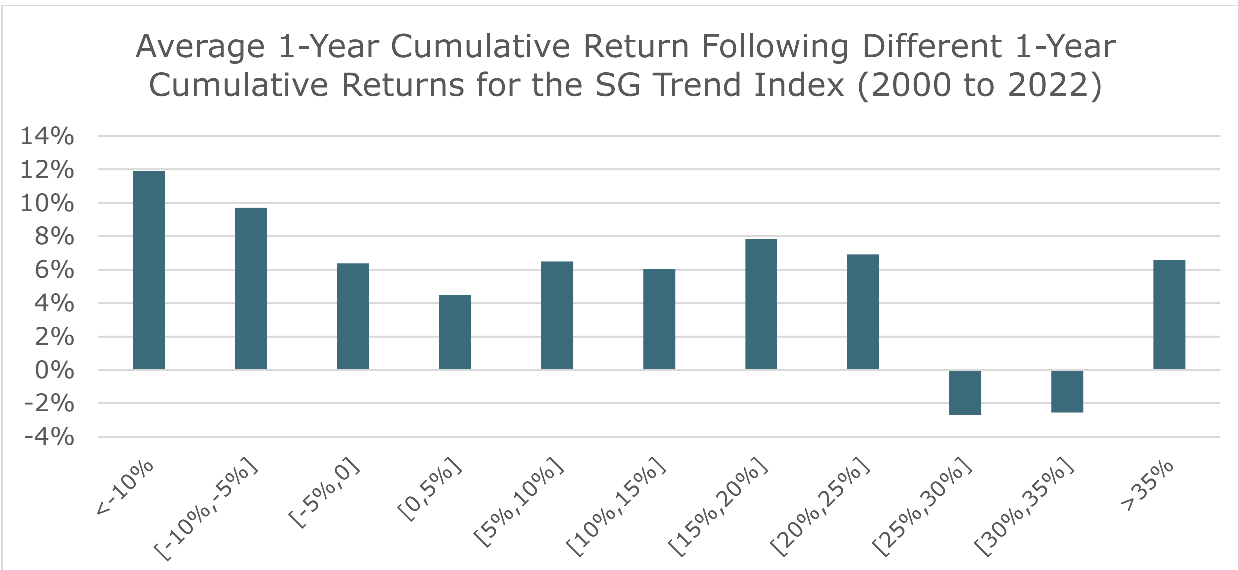

Figure 7: Average cumulative 1-year future returns following a period with different cumulative 1-year returns ranked from most negative to most positive. The cumulative returns are calculated using the SG Trend Index from 2000 to 2022. Past performance is not necessarily indicative of future results. It is not possible to invest directly in any index. Source: Bloomberg and AlphaSimplex.

What's Next?

Although 2023 was a year of consolidation for trend following, things eventually change and new market trends evolve and emerge. Going into 2024, we think that the period of great moderation is over and that volatility for growth and inflation will remain high. Market sentiment seems to have coalesced around rates being higher for longer, but there is a risk that markets could have a harder landing than expected. Investors should be aware that a soft landing is not a foregone conclusion. The ramifications of higher-for-longer and the implications of tighter policy are still unknown, leaving the door open for a range of different new trends to emerge across asset classes in 2024.

References

- Greyserman, Alex, and Kathryn M. Kaminski. 2014. *Trend Following with Managed Futures: The Search for Crisis Alpha*. New York: Wiley Trading.
- Kaminski, Kathryn M. 2019. "CTA Market Size Factor: Bigger was better in 2018." *AlphaSimplex Insights*. Available on request.
- Kaminski, Kathryn M., and Ying Yang. 2021. "Crowded Trends: Safe Haven or Sour Spot in 2020?" *AlphaSimplex Insights*. https://www.alphasimplex.com/articles/crowded-trends-safe-haven-of-sour-spot-in-2020.
- Kaminski, Kathryn M., and Yingshan Zhao. 2022. "Quantifying Turbulence in Trend Following." *AlphaSimplex Insights*. https://www.alphasimplex.com/articles/quantifying-turbulence-in-trend-following.
- Kaminski, Kathryn M., and Yingshan Zhao. 2023 "Themes of 2022." *AlphaSimplex Insights*. https://www.alphasimplex.com/articles/themes-of-2022.
- Kaminski, Kathryn M., and Yingshan Zhao. 2023. "From Bears to Bulls? A trend-follower's perspective on the U.S. yield curve." *AlphaSimplex Insights*. https://www.alphasimplex.com/articles/from-bears-to-bulls-a-trend-followers-perspective-on-the-u-s-yield-curve.

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.

Jiashu Sun is a Junior Research Scientist at AlphaSimplex. In this role, Ms. Sun focuses on applied research and supports the portfolio management teams. Ms. Sun joined AlphaSimplex in 2021. Prior to this, Ms. Sun gained experience as a research assistant at the Columbia Business School and the University of Chicago Booth School of Business. At the Columbia Business School, Ms. Sun worked on worked on structural estimation models, hedge fund activism, and portfolio specialization. Ms. Sun earned both a B.A. in Finance from Peking University as well as an M.S. in Financial Economics from the Columbia Business School.

Contact Information

For more information, please contact:

clientservices@alphasimplex.com
617-475-7100

Disclosures

Past performance is not necessarily indicative of future results. Managed Futures strategies can be considered alternative investment strategies. Alternative investments involve unique risks that may be different from those associated with traditional investments, including illiquidity and the potential for amplified losses or gains. Investors should fully understand the risks associated with any investment prior to investing. Commodity-related investments, including derivatives, may be affected by a number of factors including commodity prices, world events, import controls, and economic conditions and therefore may involve substantial risk of loss.

The illustrations and examples presented in this document were created by AlphaSimplex based on unaudited data and methodologies. Accordingly, while the underlying data were obtained from sources believed to be reliable, AlphaSimplex provides no assurances as to the accuracy or completeness of these illustrations and examples. The views and opinions expressed are as of 12/31/2023 and may change based on market and other conditions. There can be no assurance that developments will transpire as forecasted, and actual results may vary. All investments are subject to risk, including risk of loss.

This document has been prepared for informational purposes only and should not be construed as investment advice. AlphaSimplex is not registered or authorized in all jurisdictions and the strategy described may not be available to all investors in a jurisdiction. Any provision of investment services by AlphaSimplex would only be possible if it was in compliance with all applicable laws and regulations, including, but not limited to, obtaining any required registrations. This material should not be considered a solicitation to buy or an offer to sell any product or service to any person in any jurisdiction where such activity would be unlawful.