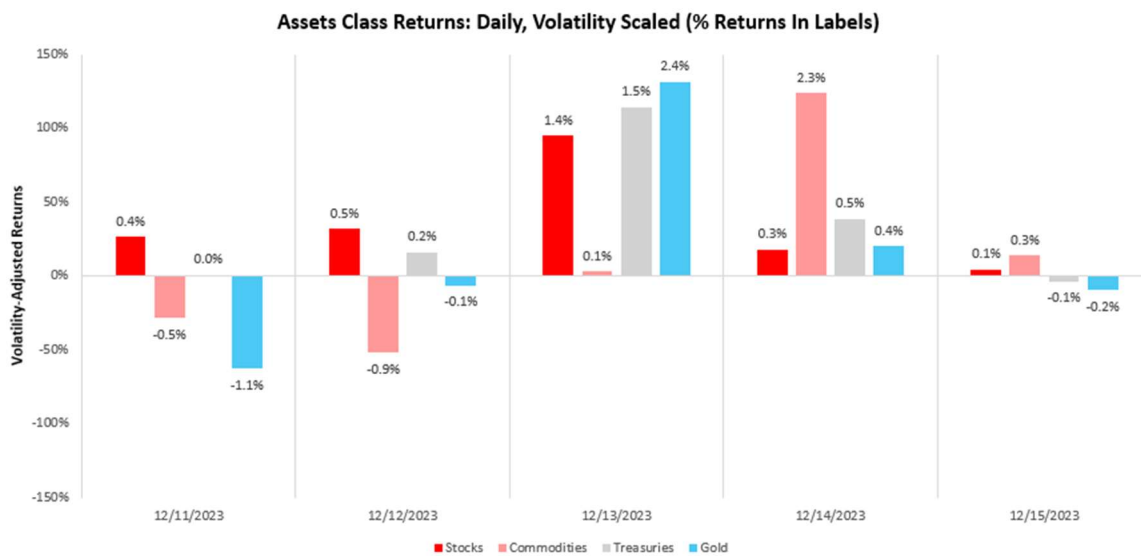


Prometheus ETF Portfolio

Welcome to Prometheus ETF Portfolio. The Prometheus ETF Portfolio aims to allow everyday investors to access an investment solution that combines active macro alpha, passive beta, and strict risk control, all in an easy-to-follow, low-turnover solution. We aim to achieve strong risk-adjusted returns relative to cash, with limited capital drawdowns in depth and duration. We do this in a highly accessible package, which rotates between five highly liquid ETFs, readily available to any investor with a brokerage account. Without further ado, let us dive into our assessment of macroeconomic conditions:

- **Nominal activity remains elevated, as does real activity. Recent data points to an economy that continues to operate at an elevated pace relative to recent history.**
- **Markets are pricing a fast deterioration in both growth and inflation, which would illicit a cutting cycle beginning in March.**
- **While we expect the economy to weaken, we do not think that we will see severe recessionary pressures consistent with the high probabilities priced into markets. This remains a hurdle to us entering Treasury positions.**
- **In this context, our systems are looking to position the long-only Prometheus ETF Portfolio long stocks (SPY: 22%), flat commodities (DBC: 0%), flat treasuries (IEF: 0%), long gold (IAU: 31%) with a cash position of 43% (BIL: 47%).**
- **Our long/short Prometheus ETF Portfolio has increased risk but has not changed views from last week and is long stocks (26%), short commodities (-31%), flat treasuries (0%), and long gold (35%).**

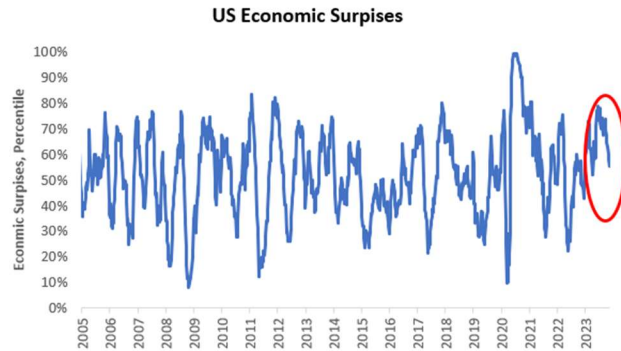
Please note that this will be our last official note for 2023, as the team will take some much-needed time off for the holiday season. We will resume our coverage per usual in the first week of January 2024. Let's dive into the data driving our assessment before moving on to positioning. We begin by examining the path of asset price returns over the last week:



Stocks and bonds pressed higher, while commodities and gold lagged. These moves were predominantly driven by an implicit easing of monetary policy by the Federal Reserve. The Fed signaled that the beginning of a cutting cycle may be at hand in 2024, fueling liquidity conditions across assets. While policy moves were the primary driver of asset prices, we also see that slowing economic momentum continued, further supporting disinflationary trends in the markets:

Economic Momentum: Economic Surprises vs Asset Class Performance

Asset Class Performance By Economic Surprise Percentile				
	0-25%	25-50%	50-75%	75-100%
Stocks	-8%	2%	13%	30%
Commodities	-29%	3%	7%	17%
Bonds	28%	9%	-9%	-3%
Gold	15%	12%	9%	-3%



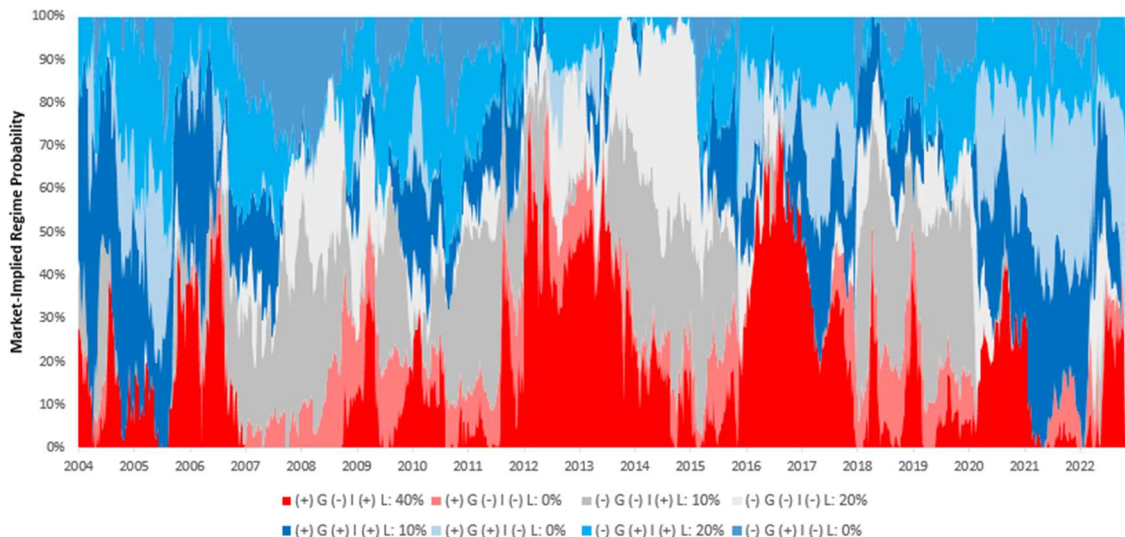
Economic Surprise Percentile: Weekly Trend					
	Nov 17	Nov 24	Dec 01	Dec 08	Dec 15
	64.6%	63.0%	60.1%	58.0%	55.5%

We are now approaching the point in economic momentum where stocks and commodities begin to underperform treasuries and gold. We have already begun to see this in commodity markets, but equities remain bid based on policy conditions. The continuation of this economic trend will have significant implications for markets, with relative growth pricing likely to be an important driver of markets. For a further understanding of how economic dynamics have been priced into markets, we show our tracking of market-implied macroeconomic regime probabilities below, which reflect the aforementioned dynamic:

Prometheus Market Regime Probabilities

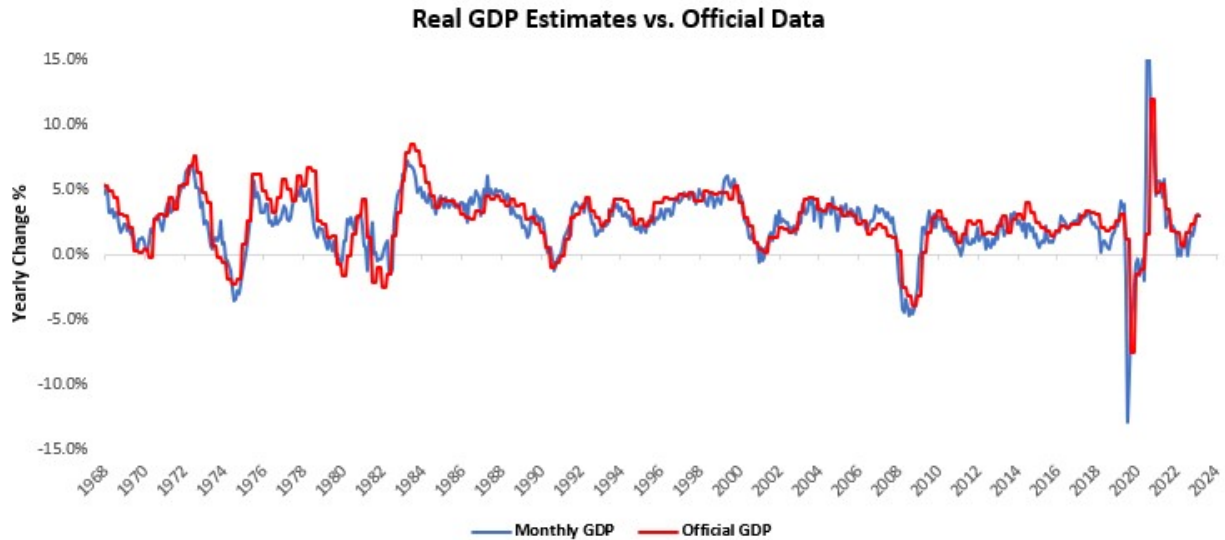
Probability %	(+) G (-) I (+) L	(+) G (-) I (-) L	(-) G (-) I (+) L	(-) G (-) I (-) L	(+) G (+) I (+) L	(+) G (+) I (-) L	(-) G (+) I (+) L	(-) G (+) I (-) L
	38.0%	0.0%	13.3%	22.8%	7.3%	1.6%	17.1%	0.0%

Regime Probabilities: Recent History

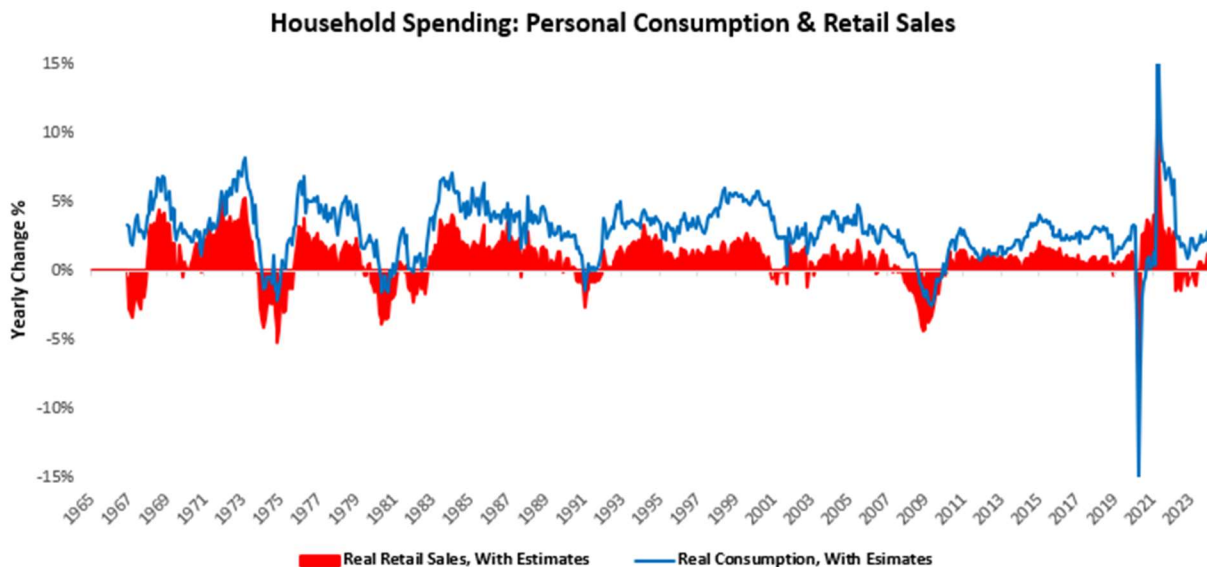


■ (+) G (-) I (+) L: 40% ■ (+) G (-) I (-) L: 0% ■ (-) G (-) I (+) L: 10% ■ (-) G (-) I (-) L: 20%
■ (+) G (+) I (+) L: 10% ■ (+) G (+) I (-) L: 0% ■ (-) G (+) I (+) L: 20% ■ (-) G (+) I (-) L: 0%

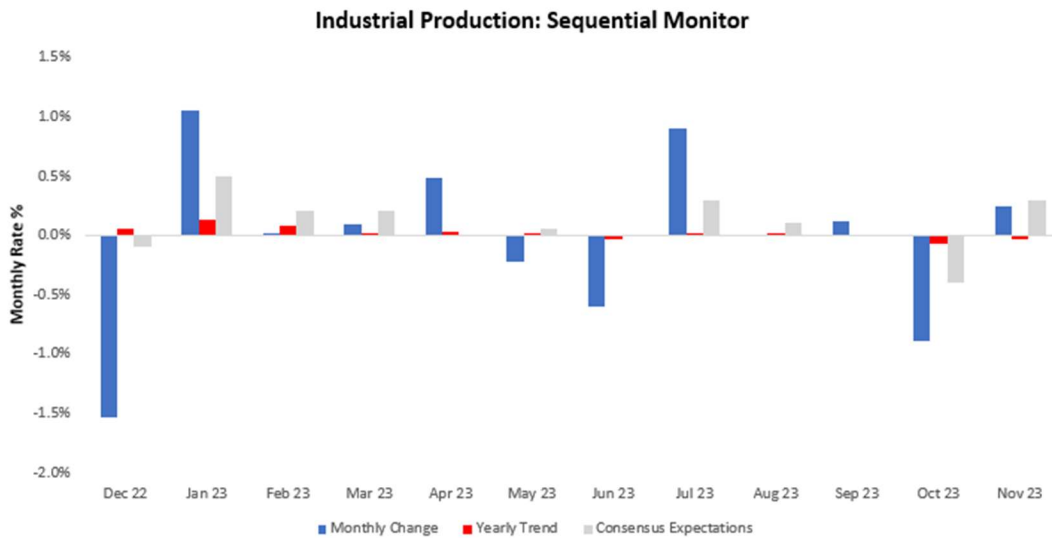
Currently, our market-implied regime probabilities show that liquidity remains the dominant impulse in asset markets. This pricing has further increased this week. We think this may be some cause for concern, as markets have moved significantly ahead of the Fed's expectations of the path for interest rates. This market pricing is an easing of financial conditions, which is likely to be reversed if the Fed does not ease as fast as expected. This repricing would be consistent with high-level macroeconomic data, which continues to suggest that there is no urgency to cut interest rates. What we think is concerning about this pricing is not that the economy cannot deteriorate and elicit Fed cuts but rather that the speed of required deterioration seems largely inconsistent with the current clip of aggregate activity. We look through high-level measures of this activity, beginning with our real GDP Nowcast:



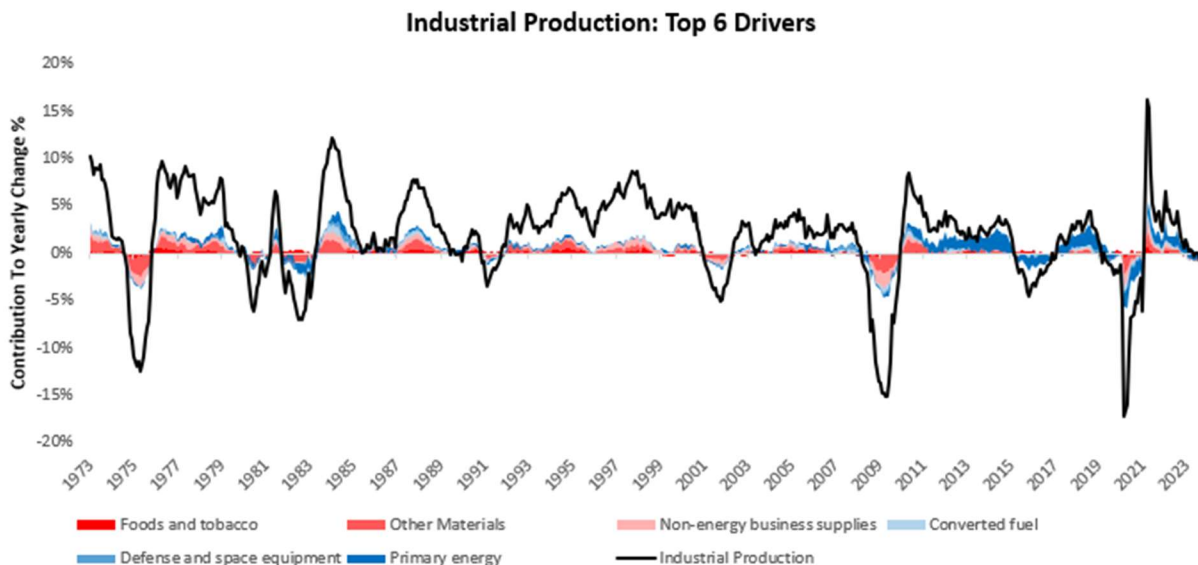
For the latest data through November, our systems place Real GDP growth at 2.95% versus one year prior. Fueling part of this strength, we saw strong activity coming from retail sales data this week, which will likely flow through to consumption:



Additionally, we saw some sequential improvement in industrial production data this week, though the print came in weaker than expected:

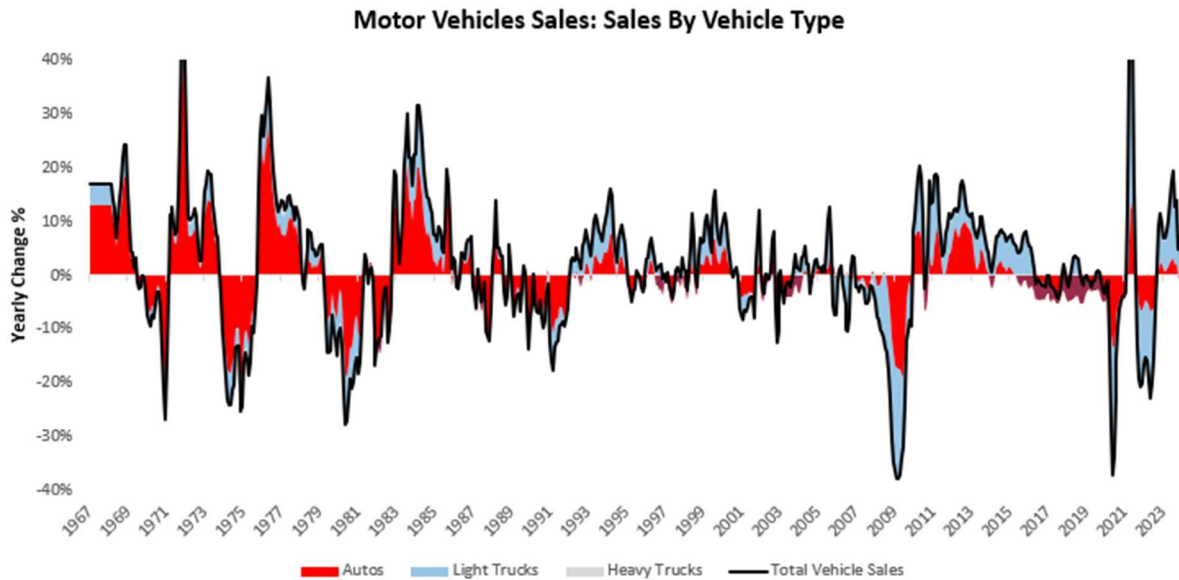


However, we note that this strength was far from broad-based, with transportation contributing to virtually all the strength in the sequential data. Over the last year, industrial production has contracted by -0.39%. Below, we present the top six drivers of industrial production, with the three strongest industries highlighted in blue (Primary energy, Défense and space equipment, and Converted fuel) and the three weakest industries highlighted in red (Foods and tobacco, Other Materials, and Non-energy business supplies):

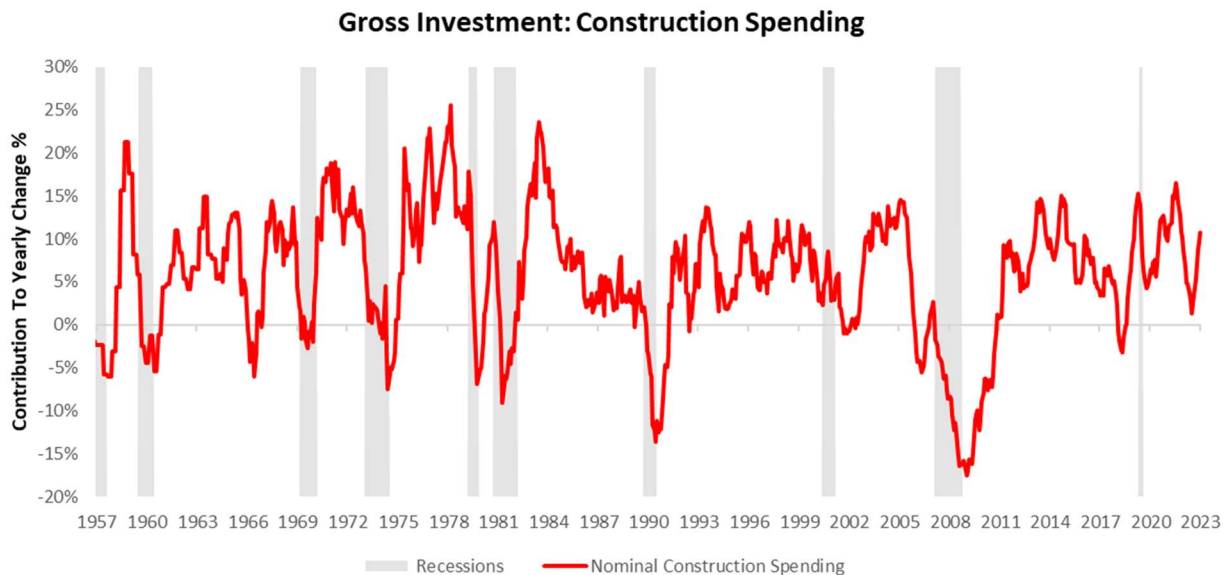


Therefore, we continue to see industrial activity as the weakest area of the economy, though not weak enough to drag down aggregate activity at this time. Furthermore, strong transportation production has

resulted in spending in the broader economy, contributing to overall activity. Below, we show this reflect in total motor vehicle sales:

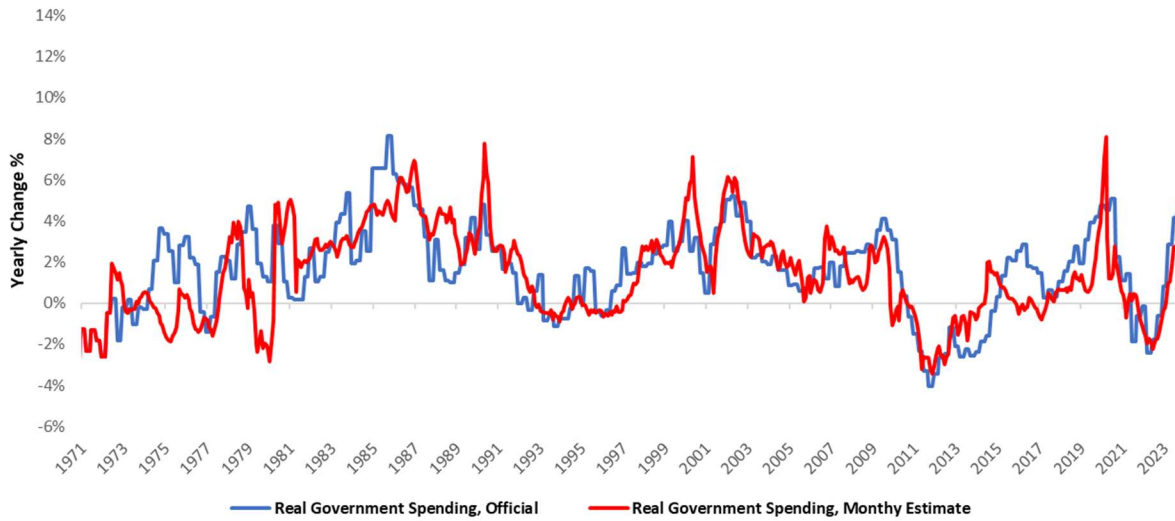


Alongside consumption and production, construction activity also continues to rise at an extremely strong pace:



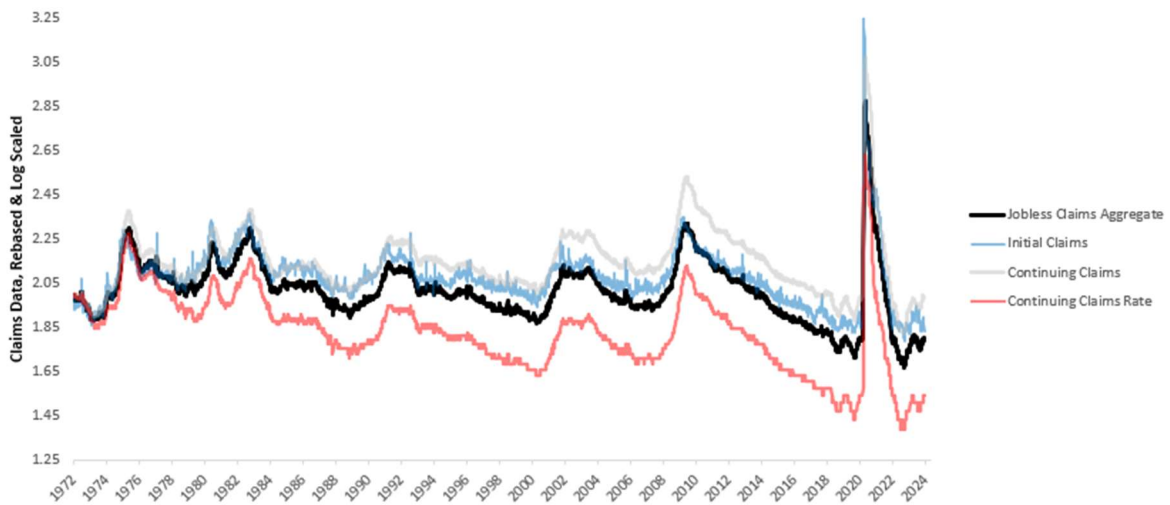
In addition to private sector spending, government spending continues to be modest support to overall activity as well:

Real Government Spending: Monthly Estimates

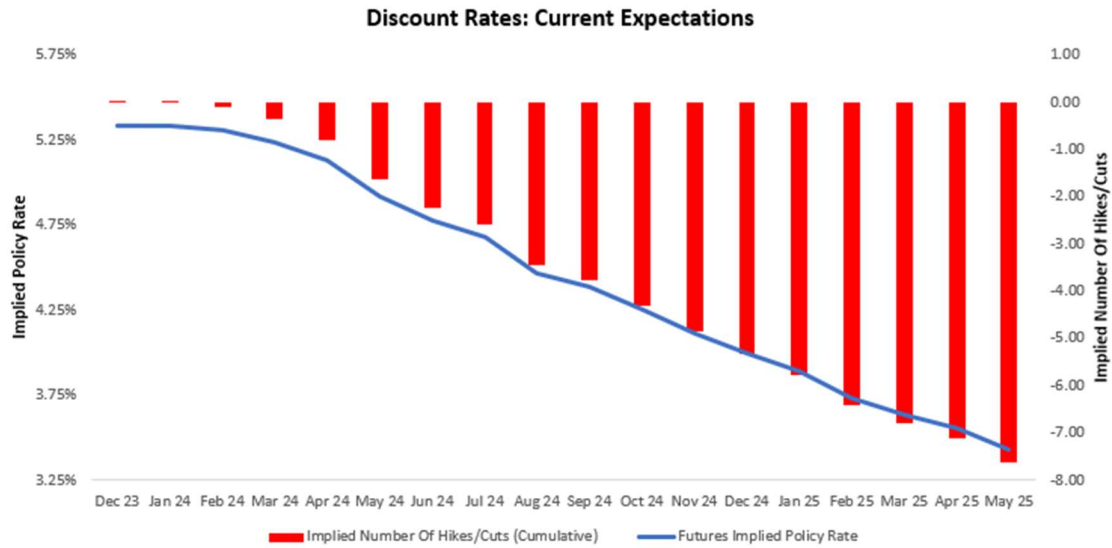


Finally, these measures are confirmed by timely reads into economic activity, which continue to suggest that the economy remains out of a recessionary condition. Below, we show our tracking of jobless claims data:

Labor Markets: Jobless Claims Measures



Now, while we do see the initial stages of the impacts of the Fed's tightening cycle present in the economy, we think these are not enough to elicit a cutting cycle beginning in March as it is priced into short-term interest rate markets. We show this market-implied expectation below:



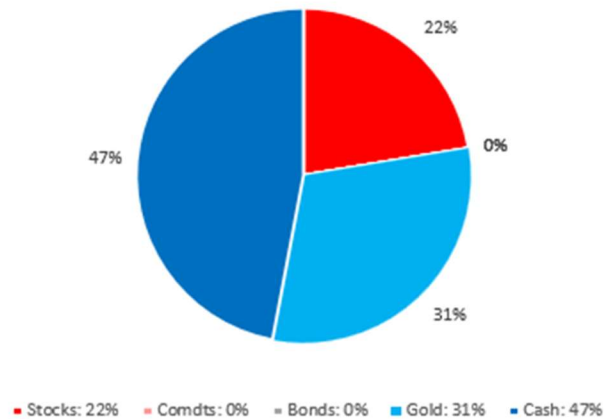
Above, we show the latest discount rate path priced over the next eighteen months. Short-term interest rate markets are expecting a peak in policy rates on Jan 24 at 5.33%, followed by a trough on May 25 at 3.43%. This implies approximately eight interest rate cuts cumulatively over the next eighteen months. ***This pricing remains a hurdle to us entering bond positions, and continues to make equities look attractive to us relative to bonds. This flows through to our positioning, which we discuss next.***

Prometheus ETF Portfolio: Allocations & Risk

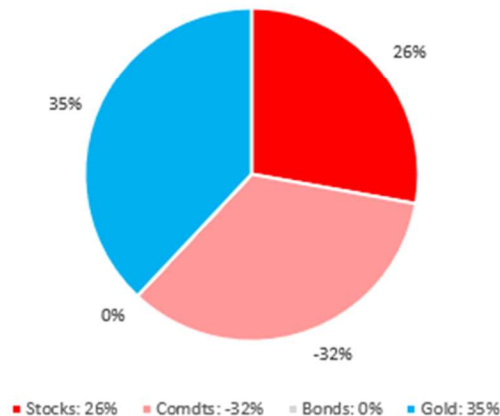
In this section, we discuss the position and performance of our systematic allocations. **We primarily focus on our long-only allocations, but from time to time, we will discuss the positions coming from our long/short process.** Heading into next week, our systems are looking to position the long-only Prometheus ETF Portfolio long stocks (SPY: 22%), flat commodities (DBC: 0%), flat treasuries (IEF: 0%), long gold (IAU: 31%) with a cash position of 43% (BIL: 47%). Our long/short Prometheus ETF Portfolio has increased risk but not views from last week and is long stocks (26%), short commodities (-31%), flat treasuries (0%), and long gold (35%).

Prometheus ETF Portfolio: Allocations

Prometheus ETF Portfolio: Long-Only Allocations

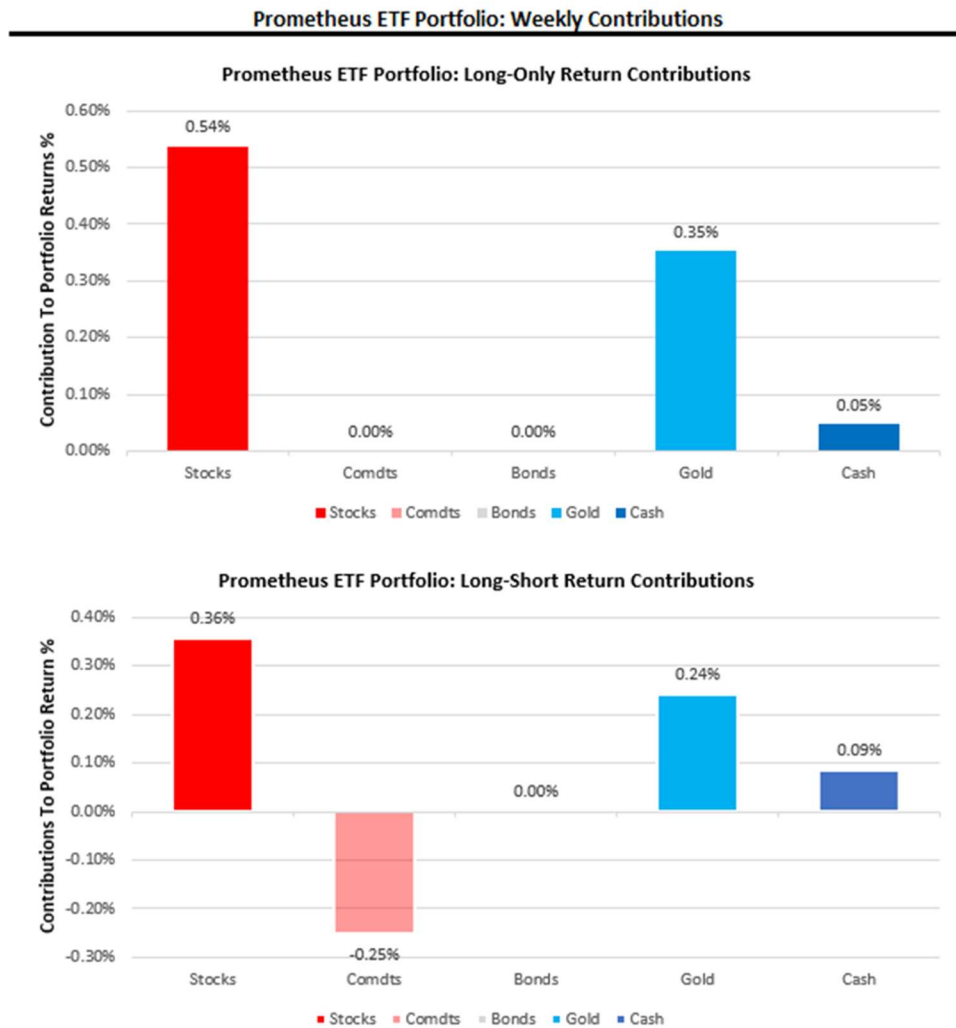


Prometheus ETF Portfolio: Long/Short Allocations



Before we move further into our risk assessment, we examine recent returns on our allocations, as they provide context and also inform our risk management. Over the last week, our long-only Prometheus ETF Portfolio was up 0.94%, driven by stock and gold performance. Our long/short process saw a similar

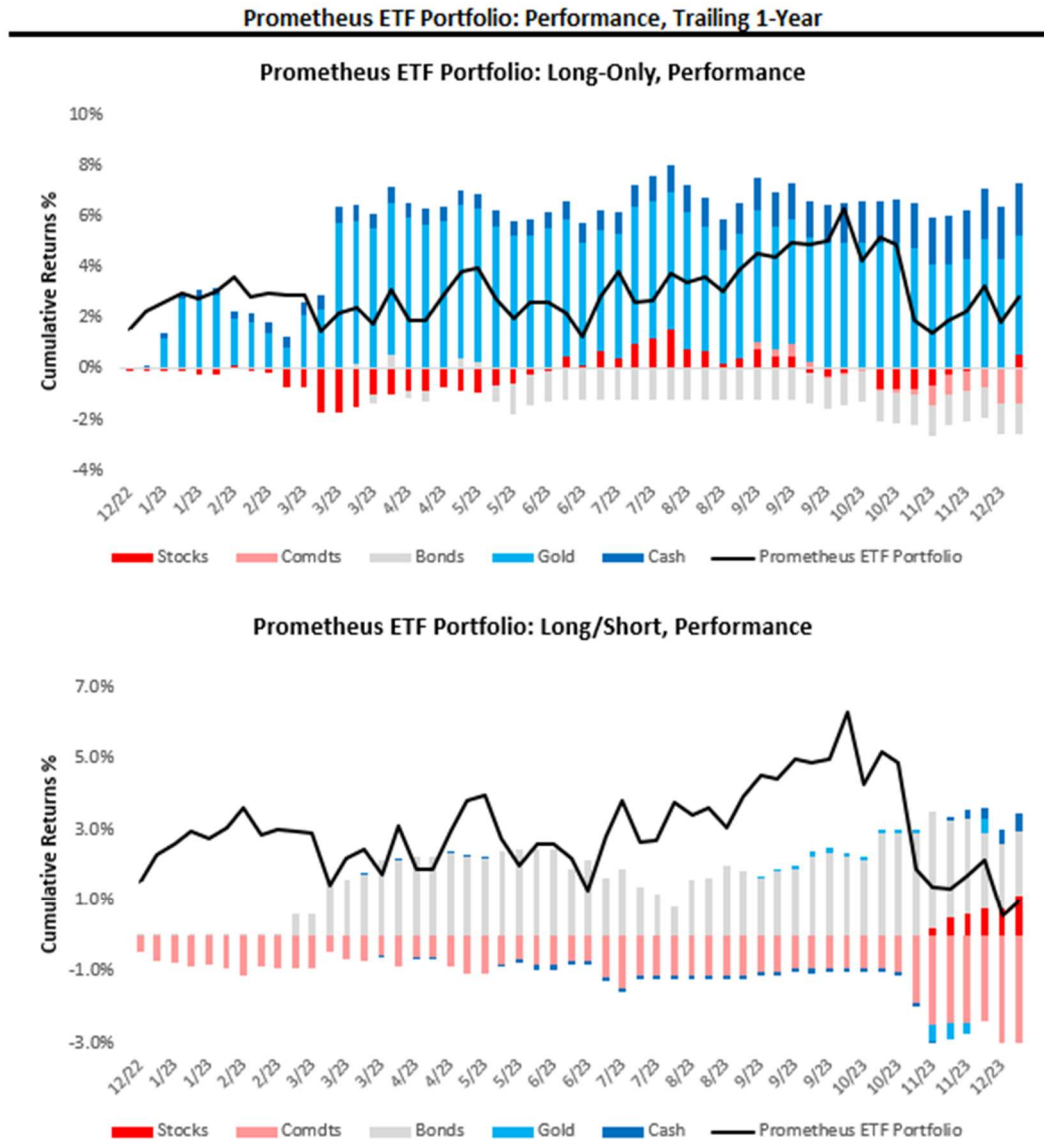
outcome and was 0.43% commodity shorts dragged on returns modestly. We show the contributions to these returns below:



This performance was once again significantly positive relative to expected weekly mean returns on the strategies but well within the typical variation expected in markets. In particular, equity positions showed very strong gains following the FOMC on Wednesday, which we take to be idiosyncratic upside volatility rather than an expectation for how equity prices will evolve typically over the course of the economic cycle. While we may see some reversal in these positions as markets may reprice for a more modest rate path, they will likely come because of the strength of the economy, offering insulation to equities relative to other assets.

For further context, we zoom out to offer the recent one-year trailing returns on the strategy since these inform our forward-looking risk controls. These include simulated returns as our approach is dependent; as time progresses, the simulated returns will drop off from this tracking. As a cautionary note, we highly recommend not chasing the most successful components of the strategy at any given time. While a single asset may contribute to the majority of over or underperformance at any given time, over long periods of time, our edges have been fairly evenly distributed by asset class. Timing the

distribution of performance on these edges is a nontrivial and perhaps dangerous pursuit. With this in mind, we show the recent one-year contributions to performance:

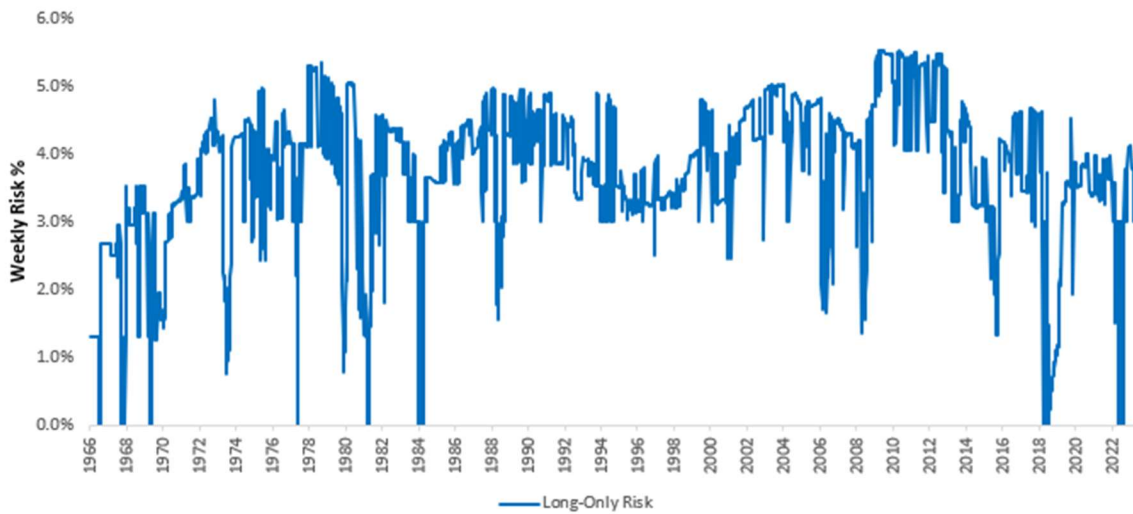


As we can see above, the performance of the long-only strategy has been driven by long positions in gold and, more recently, in equities. The long-short strategy has seen gains from recent stock exposures as well, while treasury shorts were the largest contributor to performance previously.

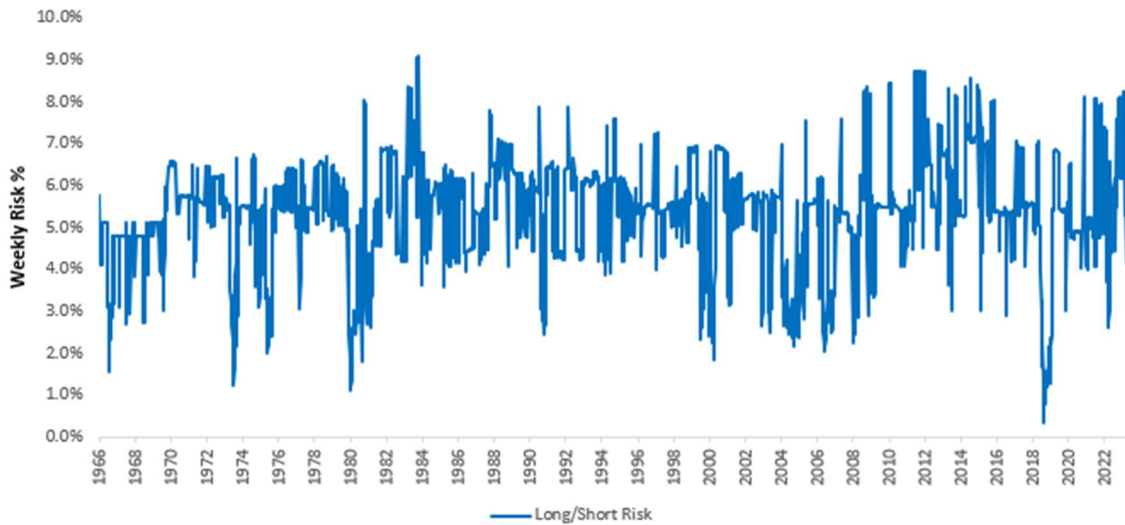
We now turn to our risk management headed into next week. Heading into next week, we estimate our long-only allocation is running a risk of a loss of 3.8%. Our long/short allocations are running a risk of 4.2%. Recall these risk estimates are multi-standard deviation losses across the portfolio with a zero percent hit rate. We visualize these losses below.

Prometheus Portfolio Risk Control: Ex-Ante Risk Estimates

Prometheus ETF Portfolio: Ex-Ante Risk



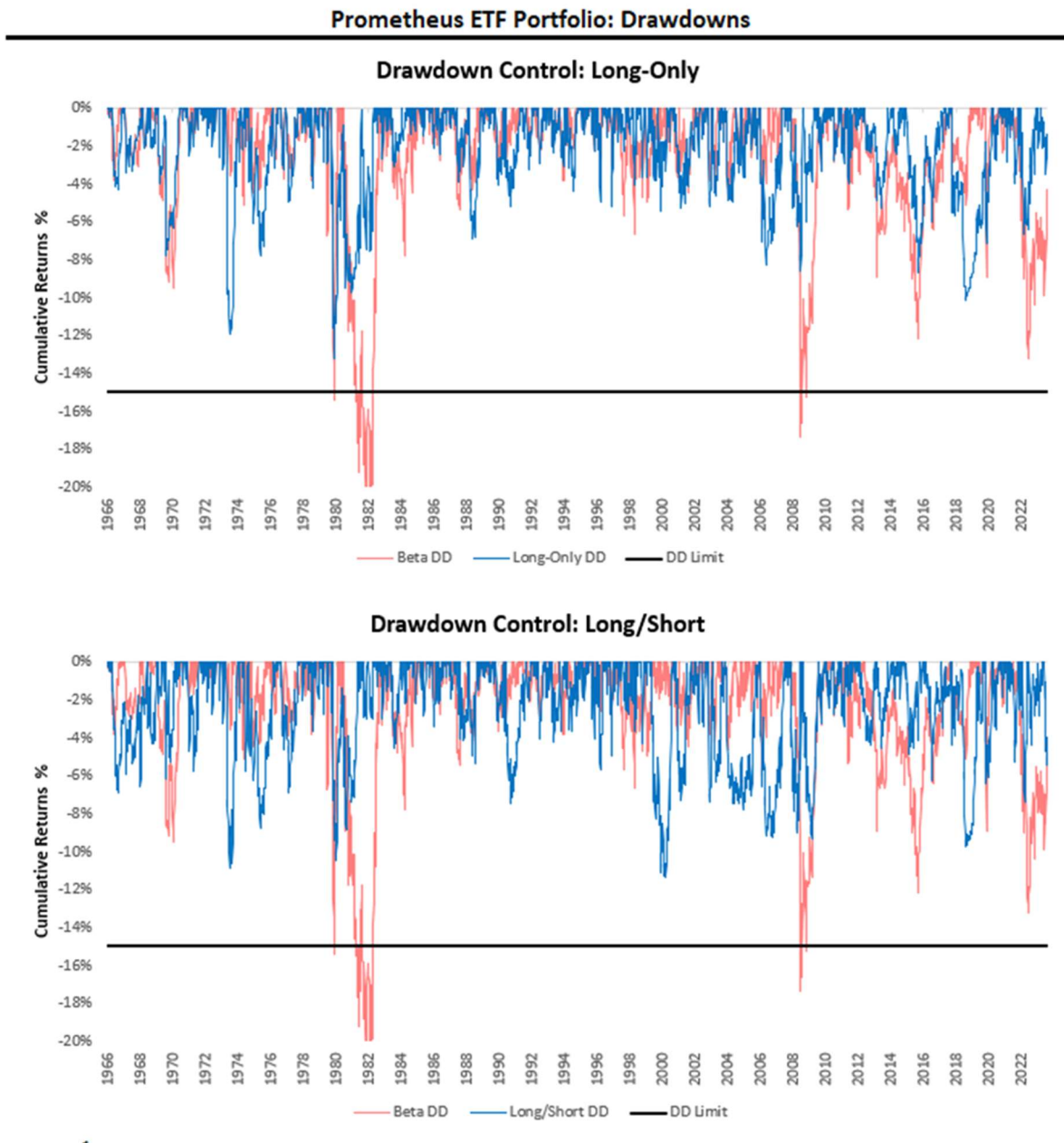
Prometheus ETF Portfolio: Ex-Ante Risk



We note that the long/short program is taking on a significant amount of risk heading into next week, and those with lower tolerances should adjust accordingly. The purpose of providing these loss numbers is to allow users to adjust their exposures as desired to meet their risk objectives. For those wishing more or less risk, they can scale up or down positions based upon our ex-ante risk assessment. For instance, if our systems are running a 5% risk heading to the next week, but an individual desires a 2.5% risk, they may scale all positions down by 50% ($2.5\%/5.0\%=50\%$) while scaling up their cash by the same amount. The inverse is true for taking on more risk.

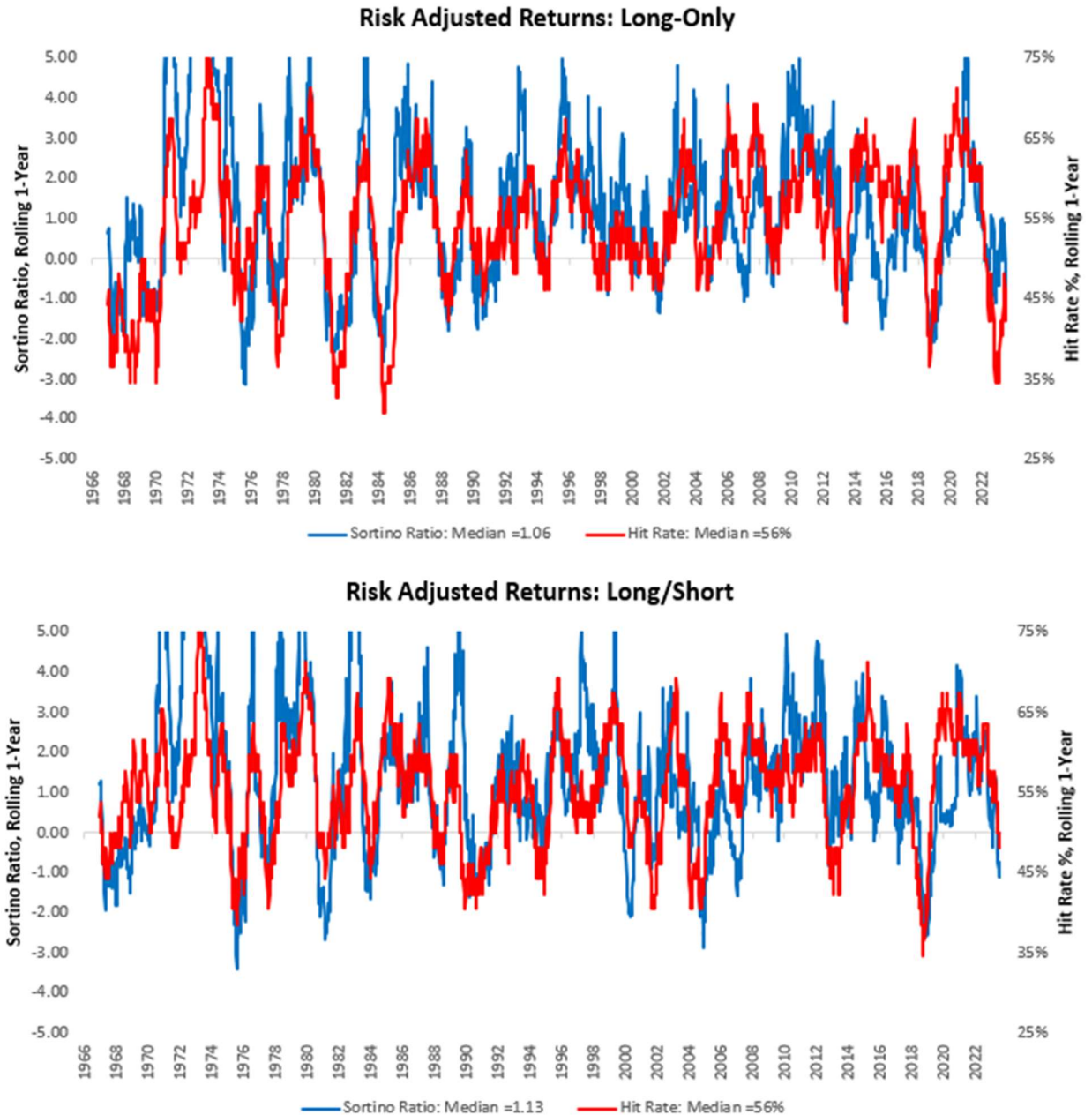
Next, we turn to our current drawdown profile. Currently, our strategy remains well removed from drawdown limits, incurring no need to cut back on risk in order to maintain our drawdown profile for choice. Our long-only strategy is currently at a 1.8% drawdown (including simulation data), which does

not warrant a pullback in risk. Our long/short strategy is currently at a 4.28% drawdown (including simulation data), which warrants some monitoring of the portfolio:



Next, we turn to our portfolio rolling portfolio hit rates and Sortino ratios to offer an understanding of the recent risk-adjusted measures. As visualized below, these typically have significant variance in the short term but are mean reverting over long periods.

Prometheus ETF Portfolio: Risk-Adjusted Returns

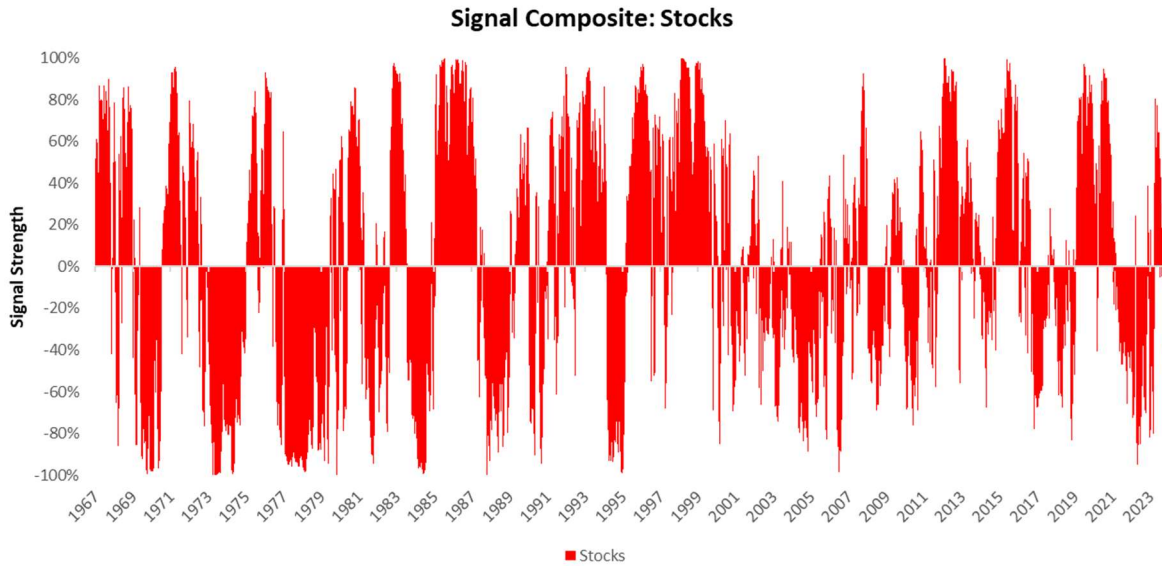


In recent weeks, both our long-only and long/short-hit rates have begun to rebound. Importantly, drawdowns have been well-controlled despite recent local lows in hit rates. We see little cause for concern, but as always, monitor carefully.

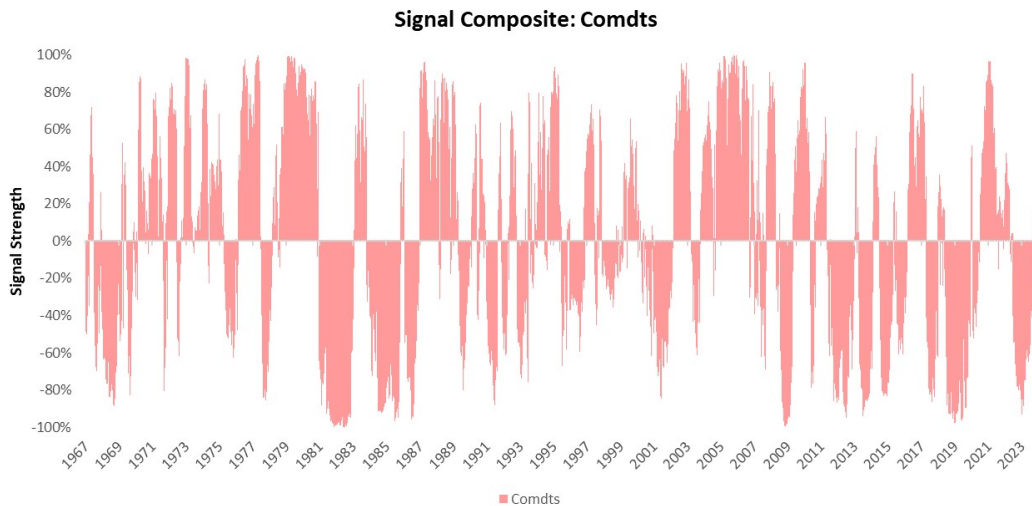
Finally, we offer our alpha signal composites heading into next week to offer compositional insight. As a word of caution, we highly recommend not over-benchmarking to signal strength in any one asset class. While our signals for gold this week proved prescient, our edge in any one asset is modest at best. Our ETF Portfolio process was designed to work across assets, not for any specific one. While we expect

these edges to outperform their benchmarks over long periods of time, we have no idea how these edges are going to be distributed for any one asset. Diversification is always essential.

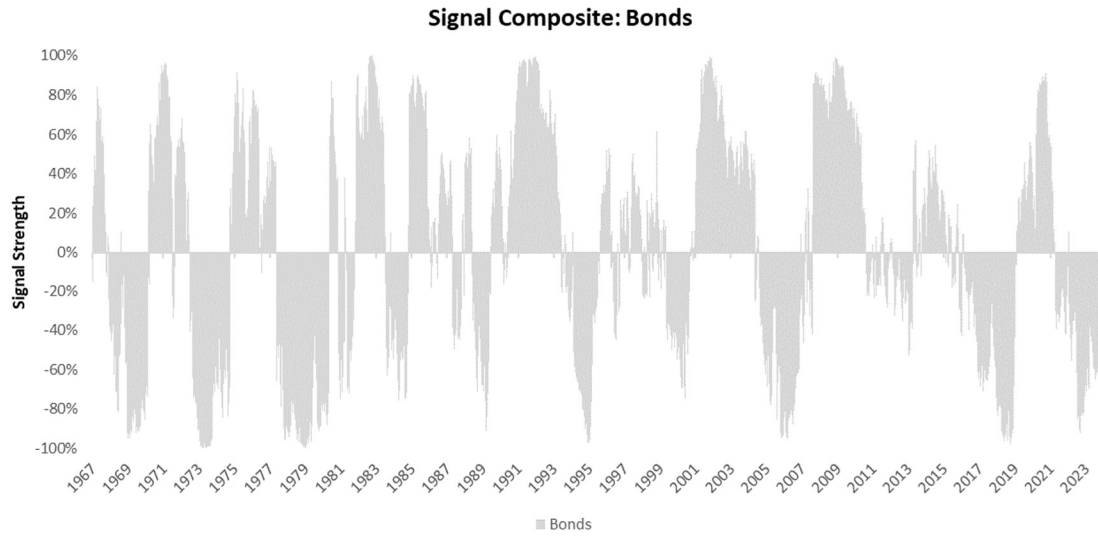
Stocks continue to see signal strength compression. While economic conditions have come to favor stocks, their relative pricing versus other assets continues to be a headwind for future gains:



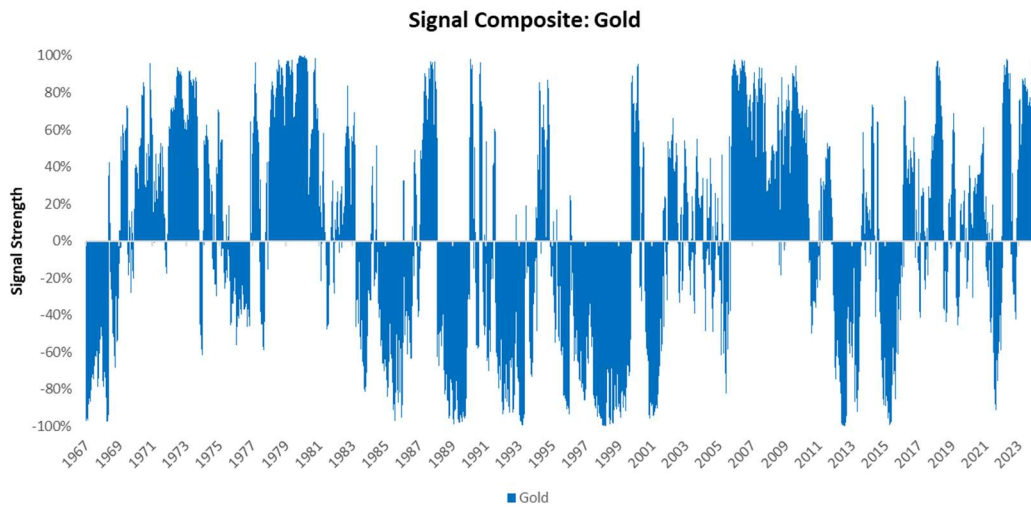
Commodities continue to show downside potential, with weakness from the industrial cycle continuing to put pressure on commodity demand:



Cross-asset pricing now looks far more favourable toward bonds. However, the outlook for interest rate cuts remains significantly at odds with economic trends. Bonds look relatively more attractive to us, but not enough to begin adding positions:



Finally, in an environment of elevated monetary liquidity, elevated valuations in stocks and bonds, and elevated inflation levels, gold continues to offer the most value:



Nominal activity continues to remain elevated, with strength across major areas of the economy, though pockets of the economy continue to underperform. Treasury markets continue to look mispriced relative to these conditions. Our positioning reflects these dynamics, and we will adjust as conditions arise. Until next time.

DISCLAIMER: *All information, views, and opinions provided herein are for informational purposes only and should not be construed or relied upon as investment advice, an offer to sell, or a solicitation for any form of investment. The information contained in this website is the most recent information available to us (except otherwise noted); however, all of the information herein is subject to change without notice. Certain information included in this website is based on data obtained from sources considered to be reliable; however, no representation is made with respect to the accuracy or completeness of such data. All opinions, estimates, and forward-looking statements, including any market forecasts or projections, involve a number of assumptions that may not prove to be valid. Past performance does not guarantee future results. The value of investments will fluctuate, and a loss of principal may occur. Any mention of an investment decision is intended only to illustrate our investment approach. Prometheus Investments Research LLC will not be held liable for any decisions made using its information content.*