

Macroeconomic Strategies: Is the Trend Always Your Friend?

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Abstract

Instead of using prices to predict market trends, some trend-followers seek to identify trends in macroeconomic data as predictors of market moves. While reasonable at first glance, the simplicity of this approach is not well-suited to addressing the complexity and idiosyncrasy of macroeconomic data and their impact on prices.

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1. Introduction

Macroeconomic trend (MT) strategies have grown in popularity over the past few years. These strategies extend the concept of price-based trend-following (PT) to macroeconomic data, attempting to predict price moves based on macroeconomic trends. An MT strategy might postulate a negative relationship between changes in inflation and bond price changes, arguing that increases in inflation would drive central banks to increase interest rates. When the trend on inflation is positive, the strategy would short bonds, and vice versa. This seems reasonable, as we would expect there to be relationships between economic and price trends. However, MT strategies have potential weaknesses, which may include ignoring more timely data, the conditional relationship between economic data and prices, and the impact of valuation information. All these arise from the tendency of MT strategies to mimic PT, rather than leveraging the particulars of macroeconomic data and their relationships to prices.

2. Timeliness of Data

MT strategies make use of economic data that is often only available intermittently and with significant lags. Most economic releases come out monthly. Some data, like GDP growth, are only available quarterly. Further, there is usually a significant lag between data collection and publication. Additionally, the economic trends they capture may themselves be lagging indicators of real-time developments in the economy. Together, these delays make MT strategies more sluggish than PT, which is already sometimes critiqued for being slow to turn in sudden market reversals.

3. Changing Response Functions

MT strategies usually make an assumption about the sign of the response function of market returns to macroeconomic variables. For instance, they might assume equity prices are positively related to employment and output, as higher economic growth increases corporate profits, which should boost stock prices. We ran a simple regression of monthly S&P 500 returns on non-farm payroll values (NFP), with the data ranging from 1998 to today. The scatter plot in Figure 1 shows the best line fit. The relationship is (weakly) positive, with the sign of the relationship



Figure 1. Scatter plot of monthly S&P returns against NFP values. We observe a positive relationship.

as expected. The same holds true for industrial production (IP). But an aggregate scatter plot does not tell the entire story. Figure 2 shows a more granular view. We subset our data to the top and bottom quintile of monetary policy based on a one-year difference in two-year swap rates. This allows us to repeat our best line fit for loosening and tightening monetary policy regimes. We find that S&P returns tend to be positively correlated with NFP in periods where monetary policy is less restrictive, and negatively correlated when policy is more restrictive. We find a similar pattern for IP. The behavior in tightening environments is consistent with the “good news is bad news” effect noted by practitioners: equity markets decline because positive economic news may cause a hawkish Fed to hike rates even more. During loosening regimes, “good news is good news”. Here, the response function of equity prices to economic data is not constant but conditional on prevailing central bank policy, implying that there may be additional information beyond the data releases that could improve predictions.

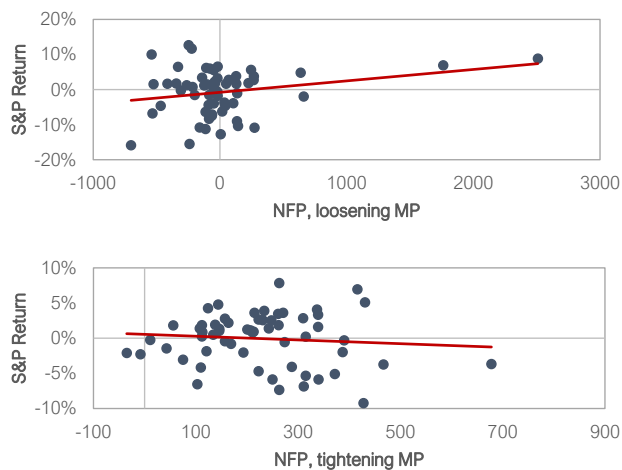


Figure 2. Relationship of S&P returns with NFP in different monetary policy (MP) regimes.

4. Macro and Valuation

Another concern with MT strategies is that they may fail to capture corrections caused by prices “overshooting” fundamentals, where prices move in the opposite direction of the macroeconomic trend as markets revert to fair value. Here we present a case study using US 10Y futures. In Figure 3 we plot the US 10Y futures price and our economic “fair value” fit (obtained via linear regression of log of price on IP and CPI, including a drift term). There are multiple periods in which price moves in the opposite direction of fair value, we highlight two: the period following the 1994-1995 tightening cycle, and the “Taper Tantrum” of 2013. In 1993, bond prices began to outpace economic fundamentals. As strong growth caused the Fed to tighten rates in 1994, bond markets began to revert to fair value, even though their fundamental fair value was increasing. This continued even after bonds became cheap relative to fundamentals. Following the 2008 financial crisis, the Fed engaged in a program of quantitative easing (QE), buying government bonds to flatten the yield curve and spur economic growth. By spring 2013, it became clear to market participants that the Fed would begin to ease purchases in the face of improving economic conditions. In the days following the April 2013 FOMC meeting, US bond markets sold off as the Fed signaled they would taper bond purchases, eventually ending QE. The rout did not stop until September. While the start of the Taper Tantrum is often identified as May 2013, the bond market decline actually began in mid-2012, as bond prices had significantly outpaced fundamentals. Throughout the period

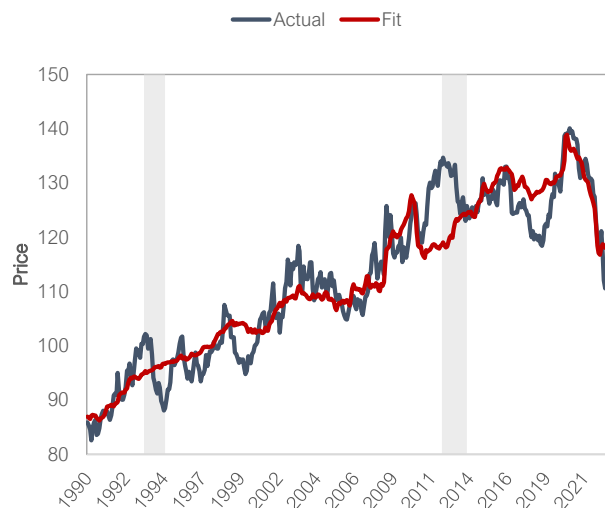


Figure 3. Historic price of US 10Y Futures, as well as an economic fair value fit based on IP and CPI. Shaded are the 1994-1995 tightening cycle and the “Taper Tantrum” of 2013.

of late 2012 to 2013, fundamental fair value continued to rise, but inflated prices declined towards fair value. Both examples illustrate that MT strategies ignore additional information about fundamental value that may be useful, causing them to do poorly during turning points that are driven by over- or under-valuation relative to economic fundamentals.

5. Conclusion

MT models might be overly simplistic in that they often leave out important additional sources of information. Strategies that are designed to use macroeconomic data, for example by allowing for changing response functions and by incorporating a breadth of data, may be more efficient at using fundamental information as they can be built from the ground up to reflect the unique relationships between prices and macroeconomic developments.

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