Tactical Asset Allocation using Fed Sentiment Data

Jeff Haessler, Founder & CEO
jeff@hawkai.com
March 27, 2017

- In this article, we construct a leading indicator for shifts in the business cycle using Fed speech sentiment data
- Using this data, we present a tactical asset allocation strategy: overweight bonds when the Fed is dovish and underweight when hawkish
- Over the past 15 years, this strategy outperformed a 60/40 benchmark portfolio by 1.5% annually while reducing volatility by 2%
- With the Fed currently leaning hawkish, our strategy suggests a modest overweight to US equities relative to treasuries

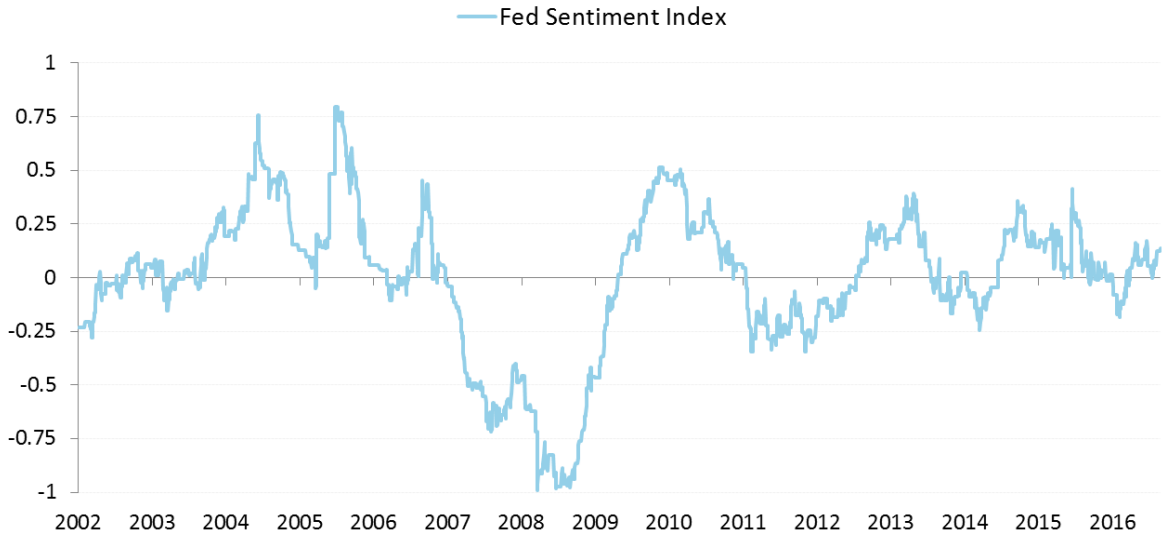
Introduction

Over the past twenty years, and especially since the financial crisis, communication by the Fed has become a key component of monetary policy. Yet, in a Brookings survey last year, most Fed watchers felt that speeches by Fed officials were less than useful. Why is this and what can we do about it? For starters, some of the blame is on the Fed. The noise to signal ratio of their speeches is certainly high (can we move on from discussing the Phillip's curve already?). In addition, their reaction function evolves in a way they find difficult to explain. "Data-dependent" does not quite cut it when they constantly shift the goalposts (but when in doubt, data means stock prices).

At Hawkai, we spend a lot of time thinking about the Fed's communication problem. The fundamental issue is not the communications themselves, but the fact that the majority of investors have to process this information in a qualitative way. It is difficult to filter the signal from the noise if you are manually reading central bank speeches or newswire headlines. Sure, the Fed has sounded relatively hawkish lately, but exactly how hawkish have they sounded and what difference does it make for markets?

The Fed Sentiment Index

To answer this question, we will construct an index which quantifies how hawkish or dovish Fed speeches have been throughout history. Hawkai's dataset contains about 20 years of central bank speeches, each classified with a sentiment score (positive scores indicate a hawkish tone and vice versa). The raw data is available to subscribers through our API, but sample data for this research is available on our website. We will define the sentiment index as an exponentially weighted average of all Fed speeches over a rolling 6-month window. We can then use this index as a leading indicator to predict changes in the business cycle.



Tactical Asset Allocation Methodology

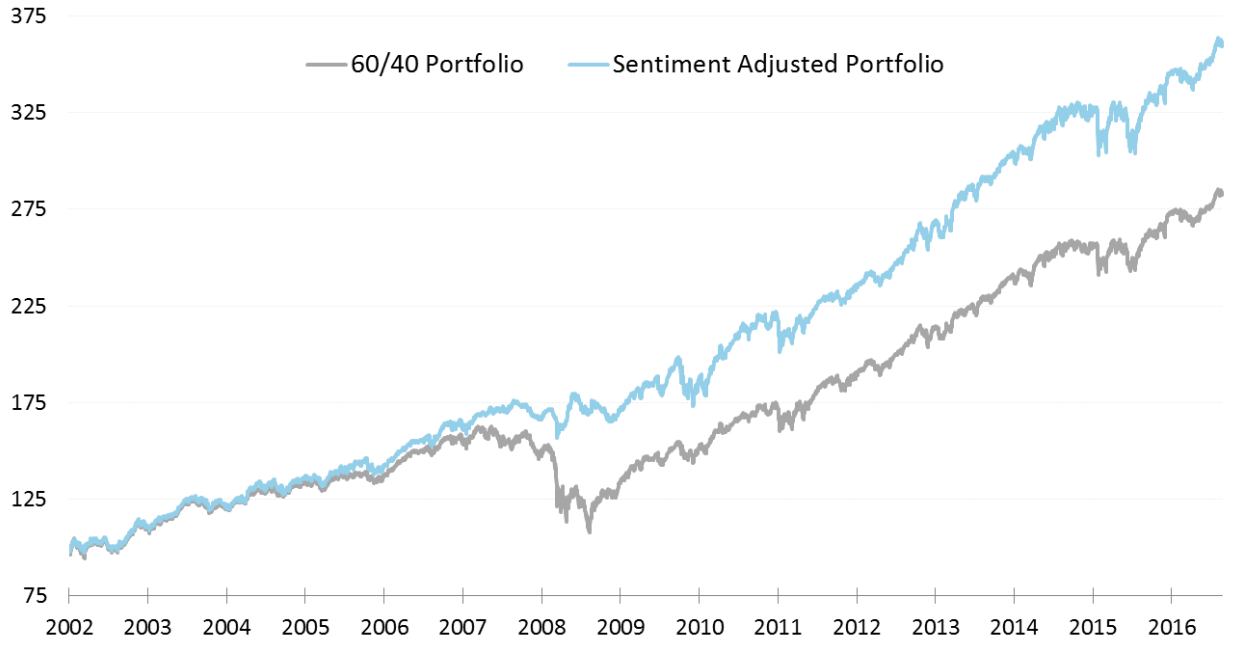
There are an infinite number of ways to use this data to guide investment decisions. Here I will cover a basic strategy for dynamically allocating between stocks and bonds. In practice, this would be done in the context of a more robust portfolio construction methodology. The intuition for the strategy is that when the Fed is dovish, the expected returns of bonds relative to equities are likely higher than average. Likewise, when the Fed is hawkish, the expected returns of bonds relative to equities are likely lower than average. To backtest this strategy, we will allocate between just two assets: SPY and IEF (7-10 year treasuries ETF), using daily adjusted close prices back to IEF's inception in 2002.

The allocation to SPY is calculated as follows:

```
A = 60% + SentimentIndex * 60%
```

where 0% <= A <= 100%.

In this experiment, we allow for rebalancing on a daily basis, though this could be adjusted to a monthly or quarterly frequency by expanding the averaging window when constructing the sentiment index. The long-run average equity allocation in our dynamic portfolio matches the benchmark at 60%. Using Fed sentiment to tactically allocate between equities and bonds resulted in a roughly 1.5% increase in average annual returns while simultaneously reducing volatility by almost 2%. Below I report "lazy" Sharpe ratios with a 0 risk-free return.



	60/40 Portfolio	Sentiment Adjusted Portfolio
Annualized return	7.11%	8.75%
Return volatility	10.62%	8.88%
Sharpe ratio	0.67	0.99

The Macroeconomic Justification

With enough time and boredom, anyone can manufacture a brilliant looking backtest. However, without the proper economic justification for *why* it works, these strategies aren't worth the PDFs they are printed on (here is an old favorite from the hall of shame which led to a hedge fund being started and shuttered within a month).

It's clear that easier monetary policy is good for bond prices, whether it is traditional rate cuts or QE, but what about our allocation to stocks? Macroeconomics tells us that policy loosening should be good for risky assets as risk-premia are lowered. However there is an important difference between easier policy and the Fed sounding more dovish. In fact, what the Fed's communication patterns show is that shifts in sentiment occur *before* policy is actually loosened. In early 2007, the Fed started to shift more dovish before beginning their multi-year easing cycle in September of that year. Again in 2011, sentiment trends started to shift dovish at the beginning of the year before the US debt-ceiling and European debt crisis rattled markets that summer.

Monetary policy affects the real economy with a multi-year lag. It takes time for lower rates to feed into increased borrowing and spending. Markets will generally react favorably to an initial easing announcement, but the impact on demand occurs over time. In practice, when the Fed is turning dovish, it's because the economic outlook is negative, and the expected returns on risky assets are lower than average.

Outlook

Over the last 15 years, asset allocation decisions have been made easier by the fact that bond prices and stocks have largely been negatively correlated. In the context of the longer term debt cycle though, this need not always be the case. In the US 1970s "Great Inflation," allocating between only stocks and bonds was a pretty futile exercise. Nonetheless, we can build upon the research presented here to include inflation hedging strategies as Fed sentiment shifts hawkish: reducing duration, increasing allocations to TIPS, or overweighting commodities.

The Fed Sentiment Index leans slightly hawkish around +0.15, suggesting a modest overweight to equities, or a 70% allocation in our model. Central bank sentiment data can be a valuable tool to overlay systematic views within a more sophisticated asset allocation framework.