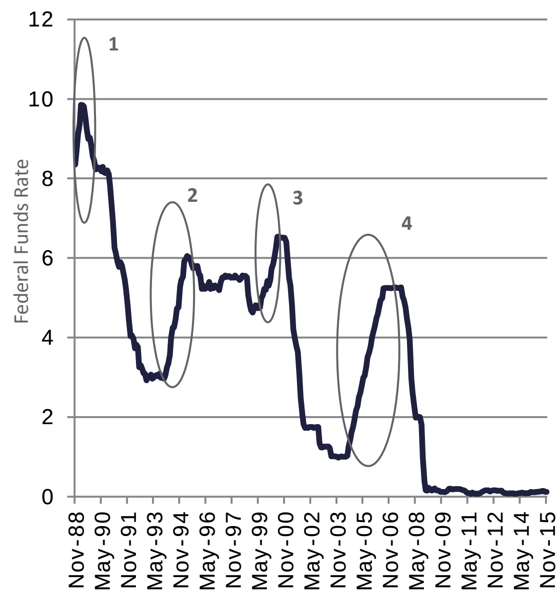
Fed at Lift-off: How Markets Responded to Previous Tightening Cycles

The Federal Reserve raised its target benchmark rate by 0.25% after its December 2015 meeting. This long awaited move was the first hike in 9 years. This decision was, to paraphrase Chair Yellen, a recognition that considerable progress has been made in restoring jobs and raising incomes. A quarter point increase is believed to be a step toward normalizing policy, which will proceed gradually, depending on how the economy performs. Although the unemployment rate has fallen from its peak of 10% during the financial crisis to 5%, inflation has remained below the Fed's stated 2% target. The Fed believes the economy is on the right track and inflation pressures will grow. In the Fed's opinion, a target rate of 0.25-0.50% remains quite accommodative and a gradual hiking cycle will not undo the recovery.

With lift-off underway, this paper analyzes prior rate hiking cycles for insight into how changes in the Federal Reserve policy affected markets. These observations suggest that often-repeated assumptions should not be taken for granted. For example, during these Fed tightening cycles, inflation rose, unemployment dropped, stock prices increased and bonds tended to have positive performance.

Exhibit 1: Fed Funds: Previous 4 Tightening Cycles



Sources: Bloomberg.

While the media places the Federal Reserve on a pedestal with the power to grow or contract the economy at will, the Fed doesn't actually impact unemployment or inflation directly. In reality, the Fed tries to set monetary conditions to promote full employment and stable inflation over the long-run. We believe that macro-economic factors, such as globalization, savings, technology and fiscal policy, play a much larger role in output and market performance.

Contrary to what the textbooks say, unemployment declined and inflation rose during each higher rate cycle (see Exhibit 2). This is counter-intuitive as tighter monetary conditions are thought to slow the economy as the cost of borrowing increases. It is true that monetary policy acts with a lag, but as detailed in previous work, cyclical and structural macroeconomic forces have been more important factors in the levels of unemployment and inflation.

Exhibit 2: Prior Rate Cycles: Unemployment Falls and Inflation Rates

Rate Cycle	Date of Cycle	Length of Cycle (Months)	Change in Unemployment Rate	Change in CPI	Change in Core CPI
1	Mar-88 - Feb-89	11	5.7 to 5.2	3.9 to 4.8	4.4 to 4.8
2	Feb-94 - Feb-95	12	6.6 to 5.4	2.5 to 2.9	2.8 to 3.0
3	Jun-99 - May-00	11	4.3 to 4.0	2.0 to 3.2	2.1 to 2.4
4	Jun-04 - Jun-06	24	5.6 to 4.6	3.3 to 4.3	1.9 to 2.6
	Dec-15		5.0	0.5	2.0

Source: Bloomberg.

Last month's liftoff is consistent with data at the start of previous cycles.

Unemployment is slightly below the average observed at the outset of previous rate cycles, which supports a rate hike. Although today's headline inflation (using the consumer price index) is below the average due to the collapse of commodity prices, core inflation, which strips out the volatile food and energy sectors, is at the Fed's 2% target (see Exhibit 2). The Fed is inclined to move slowly to raise rates as inflation does not appear to be a major concern in the near term.

Exhibit 3: Previous 4 Tightening Cycles: Rate Hike Policies

Rate Cycle	Starting Fed Funds Rate	Total Increase	Average Annual Hike
1	6.75%	3.00%	3.33%
2	3.00%	3.00%	3.03%
3	4.75%	1.75%	1.99%
4	1.00%	4.25%	2.13%
Average	**3.88%**	**3.00%**	**2.62%**

Source: Bloomberg.

Exhibit 4: Previous 4 Tightening Cycles: Treasury Yields

Change in 2Y UST	Change in 10Y UST	Initial Slope	Ending Slope	Change in Slope
7.43 to 9.63%	8.61 to 9.38%	1.18%	-0.25%	-1.43%
4.39 to 7.35%	5.87 to 7.66%	1.48%	0.30%	-1.18%
5.51 to 6.87%	5.51 to 6.42%	0.27%	-0.45%	-0.72%
2.68 to 5.19%	2.68 to 5.20%	1.90%	0.01%	-1.89%
5.00 to 7.26%	**6.21 to 7.16%**	**1.21%**	**-0.10%**	**-1.30%**

Source: Bloomberg.

The Fed's goal is a longer path to higher rates.

Fed rate cycles have tended to be short, with mechanical increases at each meeting. The Fed's gradual and data-dependent approach for this cycle will be a departure from the usual playbook. The Fed's expectation that the terminal rate will be 3.5% in 2018 would indicate an average yearly hike of only 1.1%, well below the scale of prior cycles of 2.62% (see Exhibit 3).

Prior tightening cycles have seen a bear flattening in the Treasury curve.

Shorter maturities yields rose faster than longer rates in each period. This is called a flattening of the yield curve. The end of each cycle has coincided with 2 and 10 year maturities having equal yields. The average slope was 1.21% at the start and -0.10% at the end (see Exhibit 4). A flat yield curve is seen as a recessionary signal as investors, fearing that growth is slowing, buy longer maturity bonds to lock in interest rates they think will be lower in the future.

Treasury yields do rise, but total returns can be positive depending on the pace of rate hikes, the holding period, and the starting yield level, which determines the income return (see Exhibit 5).

Exhibit 5: Previous 4 Tightening Cycles: Treasury Indices

Rate Cycle	2 Year	5 Year	10 Year	30 Year	US Intermediate
1	3.71%	2.13%	2.83%	3.74%	3.68%
2	1.10%	-3.55%	-7.20%	-11.45%	-1.15%
3	2.74%	0.55%	-0.44%	0.58%	2.40%
4	3.14%	1.31%	2.83%	7.76%	3.43%
Average	**2.67%**	**0.11%**	**-0.50%**	**0.16%**	**2.09%**

Source: Bloomberg.

Exhibit 6: Previous 4 Tightening Cycles: P/E Ratios

Change in P/E Ratio	S&P 500 Index Return
14.8 to 14.7	14.18%
22.2 to 15.5	2.94%
29.9 to 28.9	7.94%
18.8 to 15.9	15.73%
21.4 to 18.8	**10.20%**

Source: Bloomberg.

Stock prices rose during the prior rate cycles.

Stocks generally had positive performance in each period. Although price to earnings ratios fell slightly, rate hikes were not consistent with a bear market in stocks (see Exhibit 6).

TIPs outperformed nominal Treasuries in prior cycles.

Not surprisingly, Treasury Inflation Protected Securities (TIPS) outperformed nominal Treasuries as inflation rose during the previous rate hike cycles. This makes sense as TIPS investors get their principal value adjusted with changes in the consumer price index. Only the last 2 cycles are shown to coincide with the inception of the TIPS index in 1997 (see Exhibit 7).

Exhibit 7: Previous 2 Tightening Cycles: Treasuries v. TIPS

Rate Cycle	Length of Cycle (months)	Barclays Intermediate Treasury Index	Barclays Intermediate TIPS Index
3	11	2.39%	5.11%
4	24	3.43%	6.49%
Average	**15**	**2.91%**	**5.80%**

Sources: Bloomberg.

Past performance is not indicative of future results, but the observations presented here should give investors pause about turning bearish on stocks and bonds solely because the Fed is beginning a tightening cycle. Each period has its own unique set of circumstances and this one will be no different. Investors can be rewarded by questioning conventional wisdom that states Fed tightening cycles spell doom for the economy and markets.

Brian P. Meaney, CFA
Vice President, Fixed Income Investments

Index Definitions:

- The Consumer Price Index (CPI) is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services.
- The US 2-Year, 5-Year, 10-Year, 30-Year, and Intermediate Treasury Indices measure securities in their respective maturity range of the U.S. Treasury Index, which represents public obligations of the U.S. Treasury with a remaining maturity of one year or more.
- The S&P 500, or the Standard & Poor's 500, is an American stock market index based on the market capitalizations of 500 large companies having common stock listed on the NYSE or NASDAQ.
- The Barclays Intermediate TIPS Index consists of securities in the intermediate maturity range of the Inflation-Protection securities issued by the U.S. Treasury