GREAT-WEST CAPITAL MANAGEMENT, LLC (GWCM) RESEARCH NOTE
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GREAT-WEST FINANCIAL
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A hike in the federal funds rate does not necessarily mean bad news for the stock market

As we enter the second quarter of 2015, it's become clear that the Federal Reserve (Fed) will soon be raising interest rates. The question at this time is not *if*, but *when,* the Fed will make its first rate increase since the financial crisis.

On a daily basis, professional investors and economists in the media are outlining their arguments for the exact timing of the first rate move. The Fed itself has indicated that it remains patient, and the timing will be data-dependent. Meanwhile, markets are jumping at any shred of data or commentary that is believed to partially cut through the fog and help better time the first rate move. At this point, the futures markets are pricing in a 60% probability of the first rate hike by June; 70% by July; and 93% by October.[1] Additionally, few economists expect the Fed to wait until October — June or September remain the most anticipated months to see a rate hike.[2]

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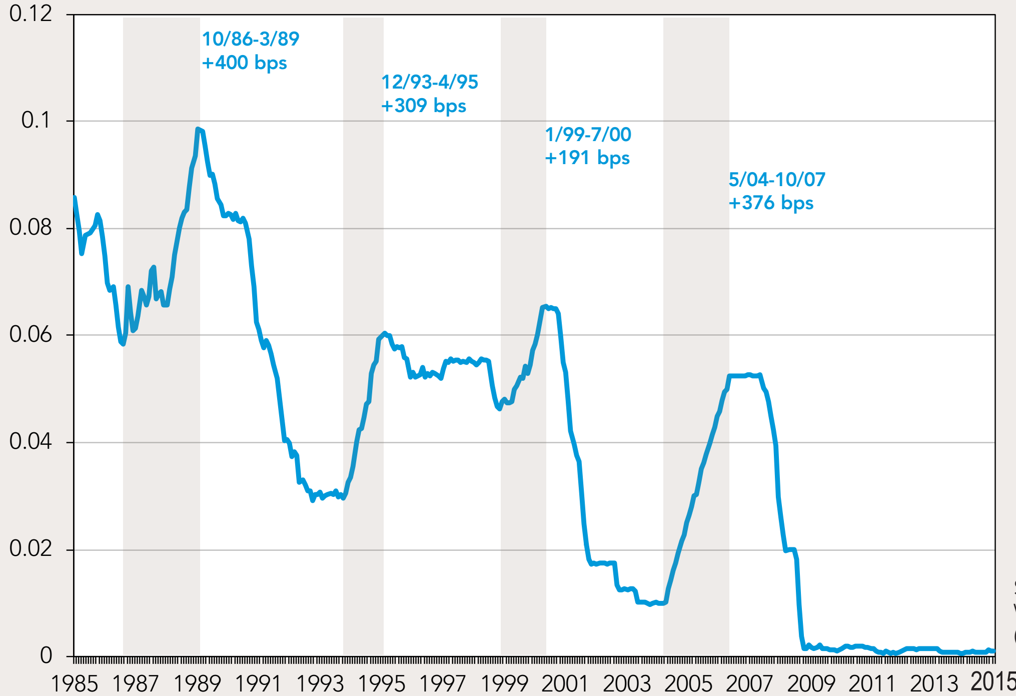
An even greater, more pressing question than *when* is *how* markets will react to such a rate hike. If conventional wisdom holds true, markets will be adversely affected, and stocks will decline. In order to more accurately assess market behavior around periods of Fed tightening cycles, we constructed an analysis to demonstrate how markets have behaved before, during and after the past few instances.

1 Source: CME Group FedWatch Calculator; accessed March 23, 2015; http://www.cmegroup.com/trading/interest-rates/fed-funds.html
2 Source: http://blogs.wsj.com/economics/2015/03/12/wsj-survey-most-economists-see-fed-raising-rates-in-june-or-september/

Fed Funds Rate
1985-2015

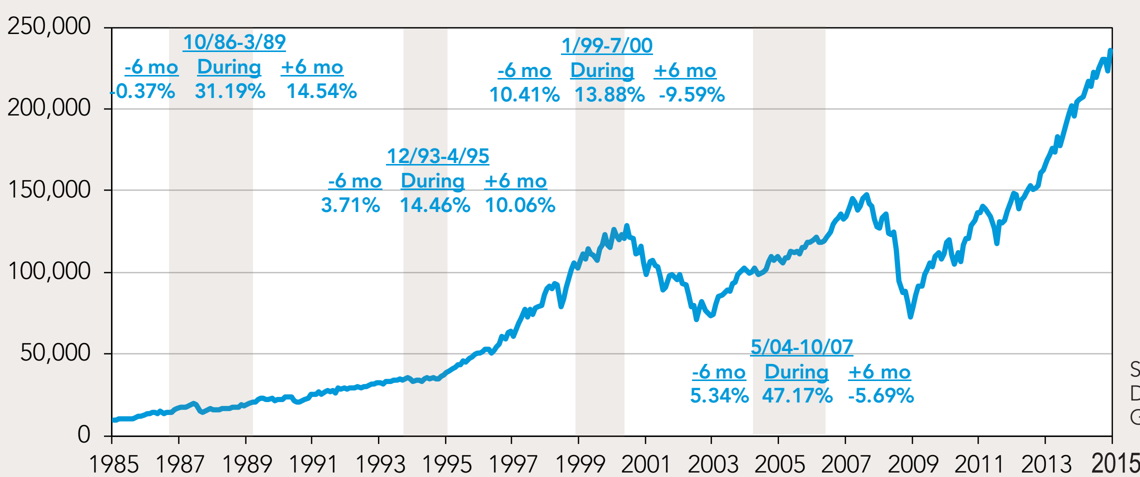


Source: Federal Reserve; Great-West Capital Management, LLC (GWCM) analysis

TIGHTENING CYCLES			EFFECTIVE FED FUNDS TARGET RATE (%)		
BEG	END	DURATION (MONTHS)	BEG	END	TOTAL RATE HIKE
10/1986	3/1989	29	5.85	9.85	4.00
12/1993	4/1995	16	2.96	6.05	3.09
1/1999	7/2000	18	4.63	6.54	1.91
5/2004	10/2007	37	1.00	4.76	3.76

Source: Federal Reserve, federalreserve.com

S&P 500® Index



Source: Morningstar® Direct℠; Federal Reserve; GWCM analysis

All data is as of the month-end of each period

The effective federal funds rate (Fed Funds Rate) and the S&P 500® Index returns over the past 30 years are illustrated above. Since 1985, there have been four distinct Fed tightening cycles. Each is illustrated in the gray shading in the charts shown above. Each of the four periods resulted in a significant increase in the Fed Funds Rate (from as little as +191 basis points during the late 1990s cycle to as much as +400 basis points during the late 1980s cycle). The most recent tightening cycle ended in October 2007 before the Fed began to cut rates aggressively during the height of the financial crisis. Since that time, the Fed Funds Rate has remained near zero (nearly five years).

Examining the behavior of the S&P 500 Index in the months leading up to a rate increase, returns have largely been positive. Going back to 1986, the average return for the S&P 500 Index over the six months prior to a rate increase was +4.77%. With the exception of the 1986-89 rate hike cycle, the S&P 500 Index has posted positive returns in each of the six-month periods preceding the first rate increase in a tightening cycle.

During each of the four tightening cycles, the S&P 500 Index has posted positive returns. The average return for the index during a tightening cycle has been +26.67%, with the index posting a net positive return each time. During each of the above mentioned cycles, returns have been 31.19%, 14.46%, 13.88% and 47.17%, respectively, for the 1986, 1993, 1999 and 2004 cycles.

Looking at the six months following a tightening cycle, the S&P 500 Index has posted an average return of only 2.33%. The first two tightening cycles (1986 and 1993) both posted positive returns of 14.54% and 10.06%, respectively, in the six months following the end of the tightening cycle. During the two most recent tightening cycles, however, the S&P 500 Index posted negative returns in the period following the end of the tightening cycle (please note that these two periods coincided with the bursting of the tech bubble in 2000 and the beginning of the financial crisis in 2008). Unlike the periods leading up to and during a rate hike, returns in periods following the end of a tightening cycle have been mixed. Based on an analysis of the data, it appears investors should welcome the start of a tightening cycle — and fear the end of it.

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The uniqueness of each tightening cycle does not allow for a precise prediction of future market return. For example, the duration of the cycle and overall magnitude of the interest rate increase, along with the economic environment in which markets are operating, are important factors unique to each tightening cycle. To the extent that past behavior is any indicator of what to expect in the future, fears of stocks necessarily declining due to a rate increase appear largely unfounded.