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INTELLECTUAL AMMUNITION

Is the Fed Moving the Stock Market?

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The Fed isn't printing money, it's printing risk -- to the tune of $1 billion a day in US stocks.

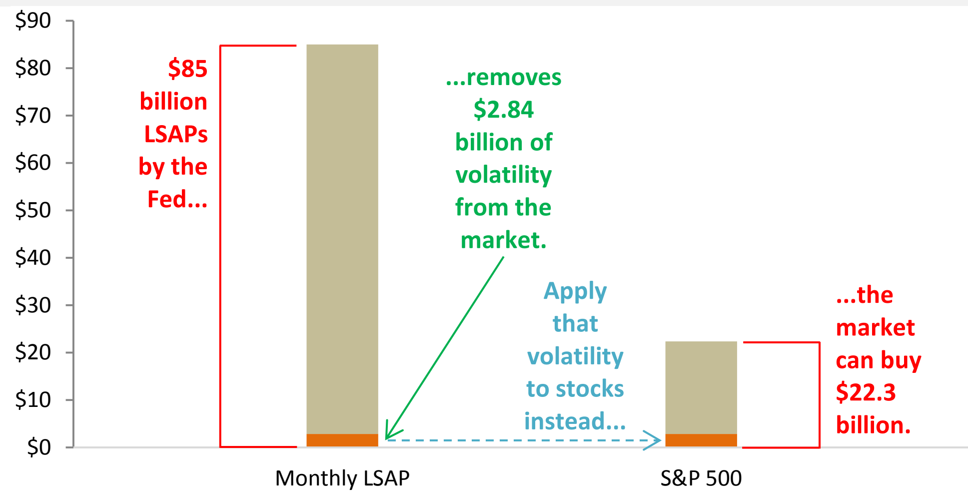
An abiding narrative explaining the melt-up in US equities -- despite a sluggish economy and slow earnings growth -- is that quantitative easing by the Fed amounts to printing money, which finds its way into stocks.

- Not literally. But figuratively, yes. The assets the Fed buys under its Large Scale Asset Purchase (LSAP) programs are risky (mortgage-backed securities and long-term Treasury bonds fluctuate in value). So whenever the Fed buys MBS and bonds, it takes risk out of investors' portfolios. That leaves investors free to take risk in other ways -- such as buying stocks.

We can quantify the amount of risk the Fed is taking out of the market, and use that to estimate the value of stock purchases the Fed is enabling.

- We estimate that the Fed's current LSAP program of $85 billion each month in MBS and Treasuries enables about $22.3 billion of equity purchases -- or about $1 billion every market day (please see the chart below).
- The aggregate volatility of the particular mix of MBS and Treasury bonds the Fed is currently purchasing is about 3.3%.
- So every $85 billion of LSAPs takes $2.84 billion of volatility out of

How Fed LSAPs translate into equity market purchases



Source: Federal Reserve Board, Bloomberg, TrendMacro calculations

Update to strategic view

US STOCKS, US FED: We estimate that the Fed's $85 billion monthly purchases of MBS and Treasuries is the risk-equivalent of $1 billion in stocks each market day. By removing risk from the bond market, the Fed enables replacement risk-taking in the stock market, and thus moves stock prices higher. This is consistent with Bernanke's theory of the "portfolio balance channel" of monetary policy, and explains why stocks rise when Fed Large Scale Asset Purchase (LSAP) programs are active, and consolidate or correct when they are not. But this does not assure that stocks must rise so long as the Fed is buying -- efficient markets have rational expectations that could already discount the present value of future Fed actions.

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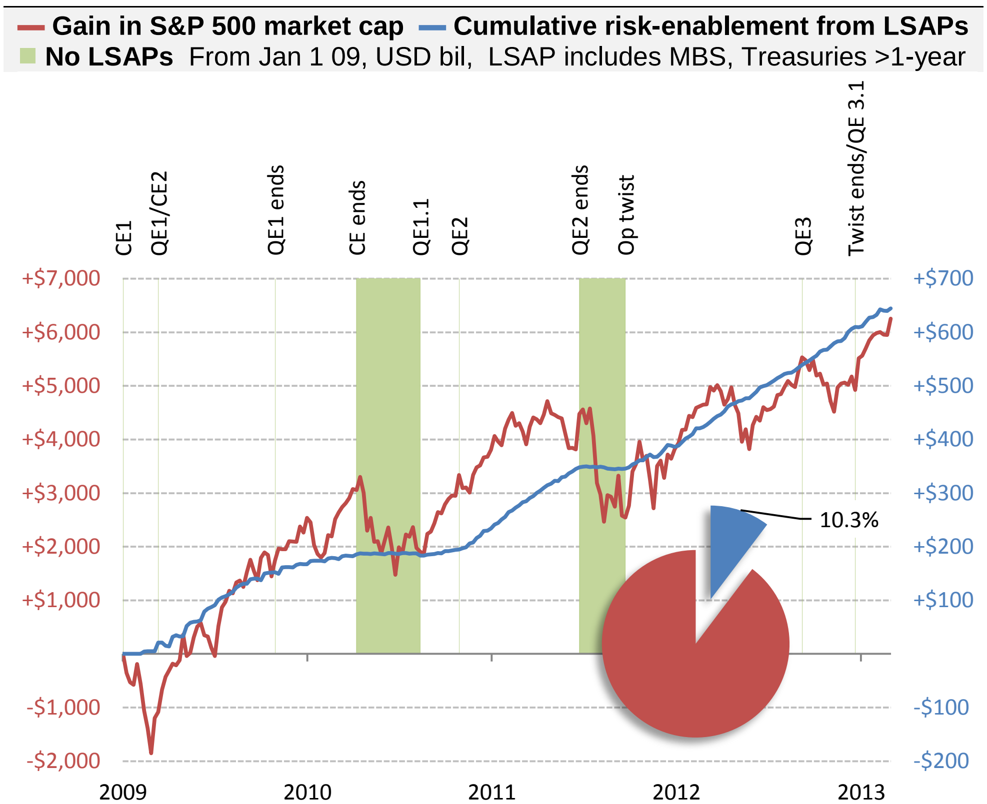
investors' portfolios.

- The volatility of the S&P 500 is 12.7%.
- So investors can buy $22.3 billion in stocks, because $2.84 is 12.7% of $22.3.
- *More simply, because stocks are four times more volatile than the bonds the Fed is buying, every $4 in LSAPs enables $1 in stocks.*
- Since the Fed first started buying long-term assets in January 2009, we estimate it has enabled about $645 billion in equity purchases (please see the chart below).
- That is 10.3% of the overall gain in S&P 500 market capitalization over the same period (again, please see the chart below).
- It is 4.5% of total S&P 500 market capitalization outstanding.

The history of the Fed's LSAPs, seen against moves in the stock market since the LSAPs began, broadly supports these ideas. Generally, stocks have risen during periods when the Fed was enabling equity risk-bearing by conducting LSAPs -- and they experienced substantial consolidations or corrections when the Fed was not (again, please see the chart below).



Source: Federal Reserve, Bloomberg, TrendMacro calculations

Correlation is not causation -- but it sure is a hint. In this case it does comport with *ex ante* theoretical expectations. Indeed, it falls exactly in line with one of Fed chair Ben Bernanke's rationales for quantitative easing. In speeches he has called this process of risk-enabling the "portfolio balance channel" of monetary policy. He said at Jackson Hole last year, just before the FOMC announced unlimited LSAPs under QE3:

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[About us]

> One mechanism through which such purchases are believed to affect the economy is the so-called portfolio balance channel, which is based on the ideas of a number of well-known monetary economists, including James Tobin, Milton Friedman, Franco Modigliani, Karl Brunner, and Allan Meltzer…
>
> …changes in the supplies of various assets available to private investors may affect the prices and yields of those assets. Thus, Federal Reserve purchases of mortgage-backed securities (MBS), for example, should raise the prices and lower the yields of those securities; moreover, as investors rebalance their portfolios by replacing the MBS sold to the Federal Reserve with other assets, the prices of the assets they buy should rise and their yields decline as well. Declining yields and rising asset prices ease overall financial conditions and stimulate economic activity through channels similar to those for conventional monetary policy.

The theory is plausible. As a practical matter, we do not need to believe that any one investor ever sells $85 billion of MBS and Treasury bonds to the Fed, and then immediately substitutes $22.3 billion in stocks. The process could work over time, with leads and lags, and involve a complex chain of risk-bearing counterparties. Each one might move up in risk only one asset sub-class at a time, until far along the chain someone finally buys equities. Perhaps that one, too, merely enables the next one in the chain to do something even riskier -- perhaps moving beyond securities markets altogether to invest in a start-up business, or even, as Bernanke most hopes, hire a new employee.

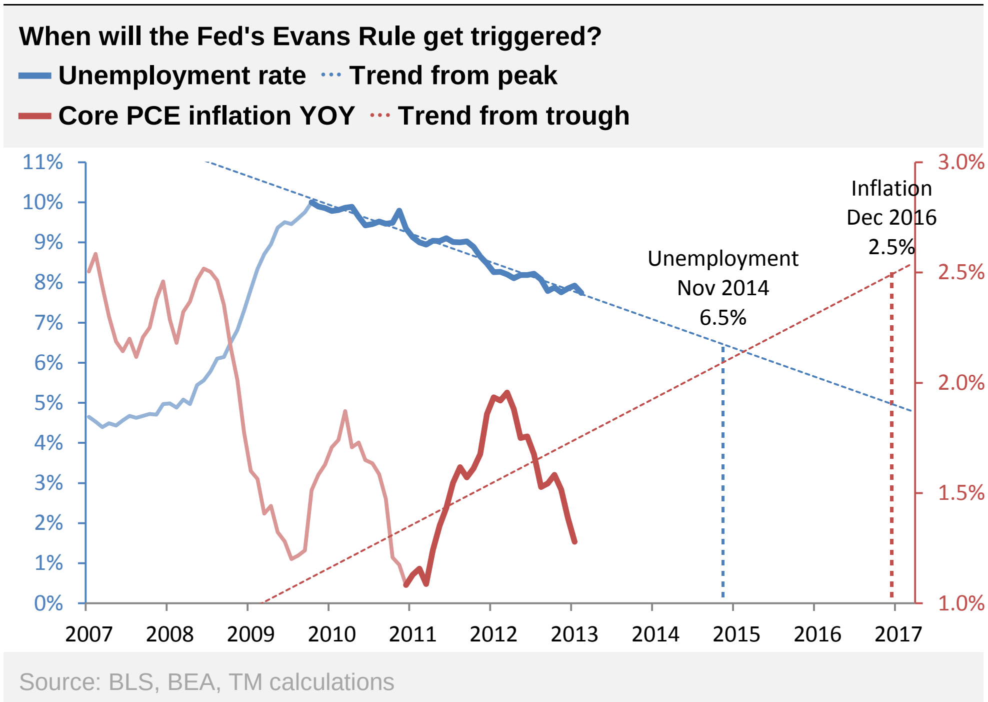
And incidentally…

The portfolio balance channel could be utilized by the federal government even if the Fed did not wish to do LSAPs, or even if the Fed didn't exist. All the government would have to do is cease issuing long-term bonds, replacing maturing ones exclusively with short-term paper. At each maturity the risk the market was being asked to bear would be reduced, enabling risk-bearing in other asset classes such as stocks.

While in line with theoretical expectations and plausible in practice, the correlation between Fed LSAPs and stock market gains is not *necessary* -- that is, we don't strictly *need* LSAPs to explain the stock market going up. After all, throughout most of US history the stock market has risen without Fed LSAPs. But it could be argued that LSAPs do explain why the stock market is going up *now*, despite slow output and earnings growth. Indeed, those factors motivated the Fed to do LSAPs in the first place. On the other hand, after a savage bear market in 2008 and 2009 in which the S&P 500 lost more than half its value, now, with output and earnings at all-time highs -- though growing slowly -- stocks would arguably be going up anyway. And it's not implausible to blame the corrections and consolidations stocks have experienced when LSAPs ceased on other factors, such as potentially systemic crises in the euro area banking system.

And it's too simple by half, even if we fully accept the mechanism of the portfolio balance channel, to think that stocks must rise, all else equal, so long as the Fed is doing LSAPs. Efficient markets have rational expectations for the Fed's future actions, and are perfectly capable of discounting the present value of such actions.

We'll get another empirical trial of all this when the Fed announces -- as someday it must -- that LSAPs are finished. That may come sooner than markets now appreciate. The trend decline in unemployment will intersect with the Fed's Evans Rule rate hike trigger of 6.5% in November 2014 (please see the chart below, and "On the February Jobs Report" March 4, 2013). And the FOMC has said that this will be "a considerable time after the asset purchase program ends." When it does, we'll find out whether stocks can keep rising when the Fed is no longer effectively buying $1 billion a day.



Bottom line

We estimate that the Fed's $85 billion monthly purchases of MBS and Treasuries is the risk-equivalent of $1 billion in stocks each market day. By removing risk from the bond market, the Fed enables replacement risk-taking in the stock market, and thus moves stock prices higher. This is consistent with Bernanke's theory of the "portfolio balance channel" of monetary policy, and explains why stocks rise when Fed Large Scale Asset Purchase (LSAP) programs are active, and consolidate or correct when they are not. But this does not assure that stocks must rise so long as the Fed is buying -- efficient markets have rational expectations that could already discount the present value of future Fed actions.