



EMBARGOED UNTIL MONDAY, JUNE 6, 2016 AT 2:15 A.M. U.S. EASTERN TIME AND 9:15 A.M. IN
HELSINKI, FINLAND; OR UPON DELIVERY

Perspectives on Quantitative Easing in the United States

Eric S. Rosengren
President & CEO
Federal Reserve Bank of Boston

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Assessment of Quantitative Easing

- ▶ Still early to evaluate – no country has fully normalized monetary policy
 - ▶ U.S. has taken the first step toward normalization of monetary conditions
 - ▶ Increased target federal funds by 25 basis points in December
 - ▶ U.S. spending has rebounded, but employment growth has recently been weaker, and progress is being made on reaching the Fed's inflation target
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Overall, QE was Quite Successful in the U.S.

- ▶ Early and forceful use of QE in the aftermath of the crisis
 - ▶ U.S. now close to meeting both elements of dual mandate
 - ▶ Real rates relevant to households and firms have been quite low – in part because of QE
 - ▶ Nonetheless, the U.S. path to normalization has been slow by historical standards – appropriately so, because of economic conditions
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Observations on Negative Interest Rates

- ▶ My own view is the data on the use of negative interest rates are mixed
 - ▶ Implementation has differed across countries, and not all have been successful
 - ▶ Do not expect to use in the U.S. since we are now moving towards more normalized policy
 - ▶ Tool to be used only after “more-conventional unconventional” tools have been exhausted
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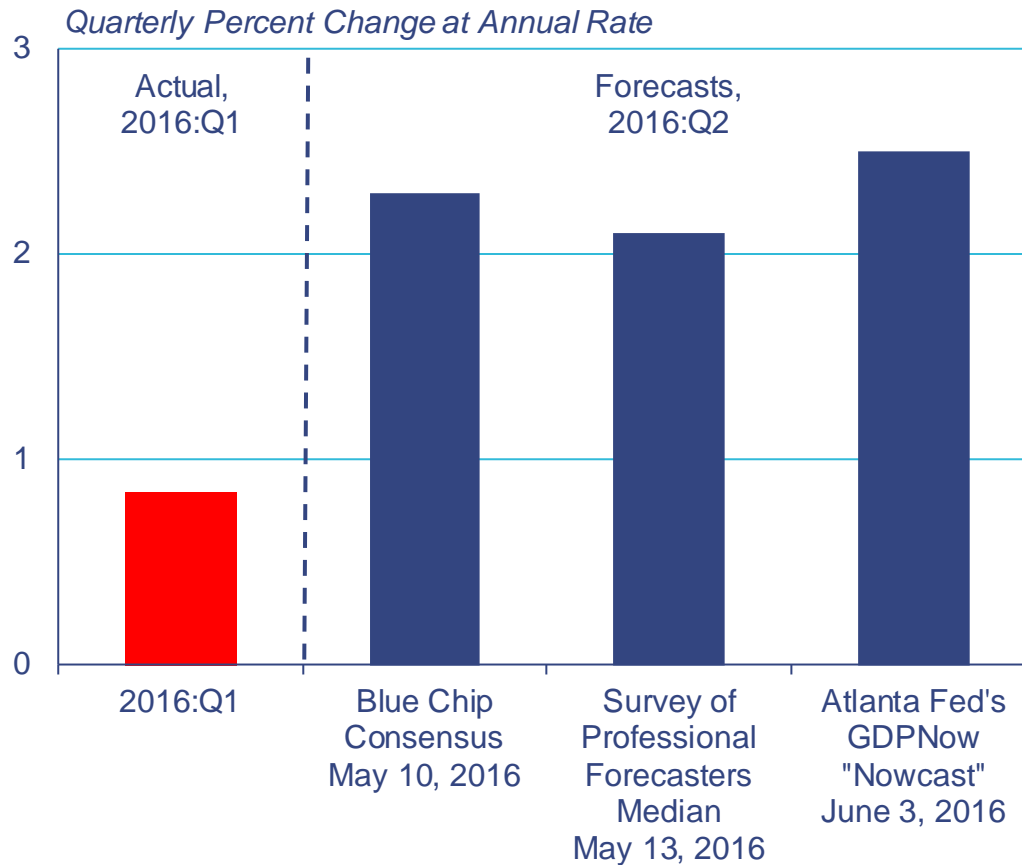


Conditions Mentioned in FOMC Minutes

- ▶ Rebound in U.S. spending
 - ▶ Continued strengthening of U.S. labor markets
 - ▶ Additional progress toward reaching the inflation target in the U.S.
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Figure 1: Forecasts of Real GDP Growth in the U.S. 2016:Q2



Source: BEA, Blue Chip Economic Indicators, May 10, 2016; Federal Reserve Bank of Philadelphia, Survey of Professional Forecasters, May 13, 2016; Federal Reserve Bank of Atlanta, GDPNow, June 3, 2016



Figure 2: U.S. Retail Sales January 2014 - April 2016

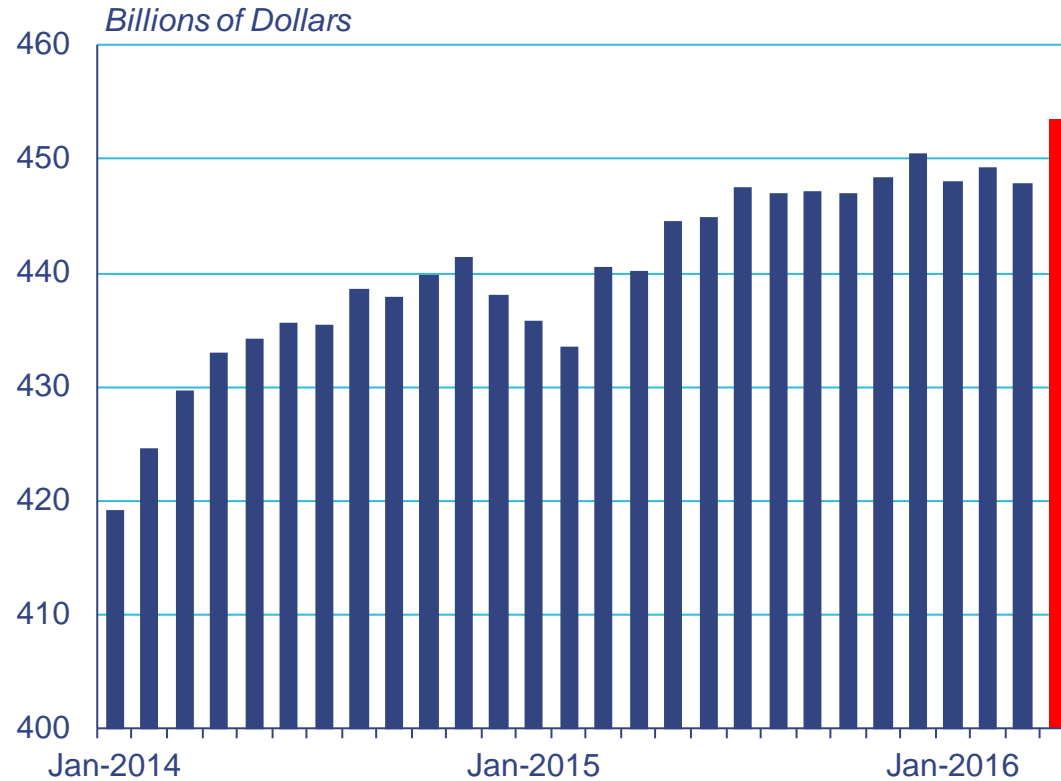




Figure 3: U.S. Civilian Unemployment Rate January 2014 - May 2016 and Forecast for Year-end 2016

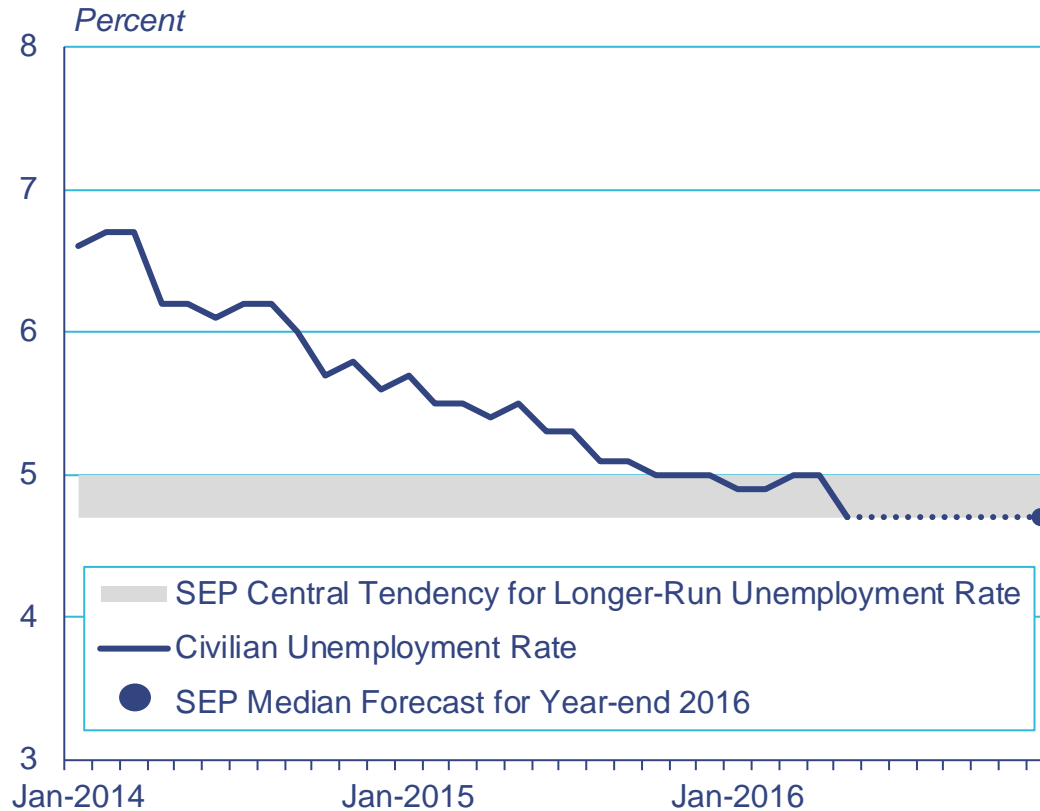
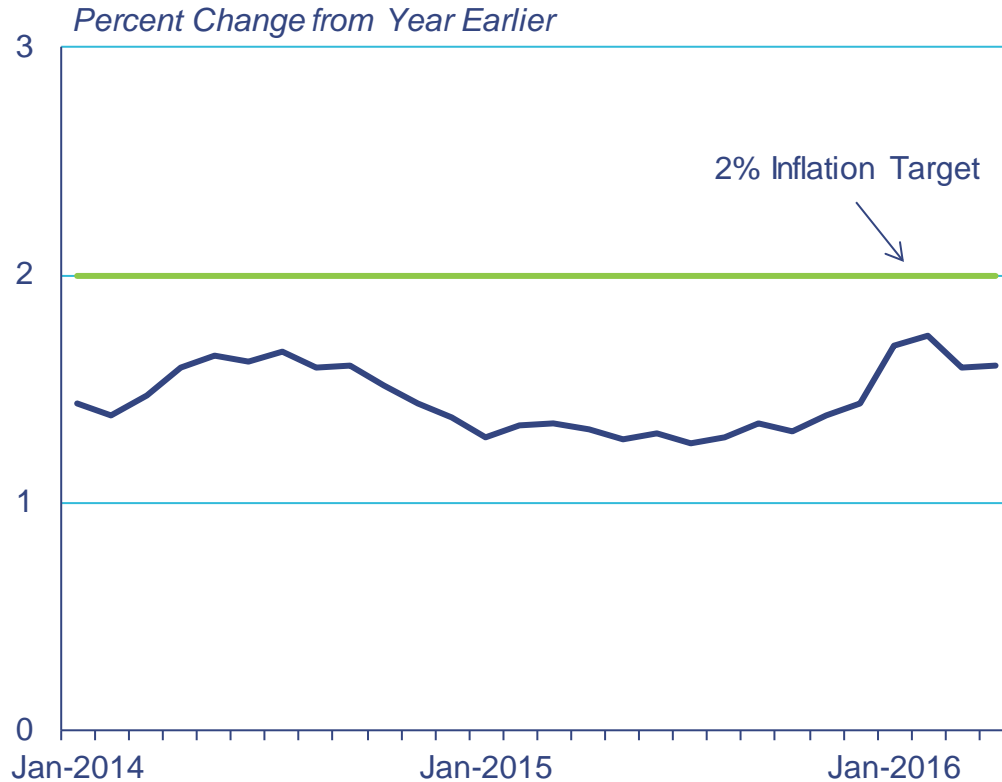




Figure 4: U.S. Inflation Rate: Change in Core Personal Consumption Expenditures Price Index January 2014 - April 2016



Note: Core PCE excludes food and energy.

Source: BEA, Haver Analytics



Normalization of Monetary Policy

- ▶ Normalization has been very gradual (appropriately so):
 - ▶ Only gradual move to full employment
 - ▶ Slow progress toward inflation target
- ▶ Assessment of QE is preliminary until we have successfully normalized



QE in the United States

- ▶ I was a strong supporter of QE in the aftermath of the financial crisis
 - ▶ Done in conjunction with other tools
 - ▶ Liquidity facilities
 - ▶ Forward guidance
 - ▶ With short-term rates at the zero lower bound, purchasing long-term securities:
 - ▶ Lowers interest paid by households and firms
 - ▶ Increases aggregate demand
 - ▶ More limited application in the U.S. than in other countries with more flexibility on asset types
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Figure 5: Real Rate on 48-Month New Auto Loan in the U.S.

January 2006 - May 2016



Note: The real auto loan rate is calculated by subtracting the core PCE inflation rate from the stated auto loan rate. The April core PCE inflation rate is used as an estimate for May.

Source: BEA, Federal Reserve Board, WSJ, Haver Analytics



Figure 6: Real Rate on 30-Year Fixed-Rate Mortgage Loan in the U.S.

January 2006 - May 2016



Note: The real mortgage rate is calculated by subtracting the core PCE inflation rate from the stated mortgage rate. The April core PCE inflation rate is used as an estimate for May.

Source: BEA, Federal Reserve Board, FHLMC, Haver Analytics



Figure 7: Real Corporate Bond Yields on 10-Year AAA and AA Industrials in the U.S.

January 2006 - May 2016



Note: The real bond yields are calculated by subtracting the core PCE inflation rate from the stated bond yields. The April core PCE inflation rate is used as an estimate for May.

Source: S&P, BEA, Federal Reserve Board, Haver Analytics



QE Assessment

- ▶ Successful in lowering rates for households and firms
 - ▶ Helped U.S. economy recover
 - ▶ Now at the point of having begun removing accommodation
 - ▶ QE likely to prove to be a tool that is appropriate to utilize again should we experience a recession that results in short-term interest rates reaching the zero lower bound
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Observations on Negative Interest Rates

- ▶ I do not expect to see the use of negative interest rates in the U.S., given that we are moving toward a normalized monetary policy
- ▶ Results are mixed in other countries
- ▶ Japanese experience shows potential concerns



Figure 8: Foreign Exchange Rate:
Japanese Yen Per U.S. Dollar
January 2, 2014 - June 2, 2016

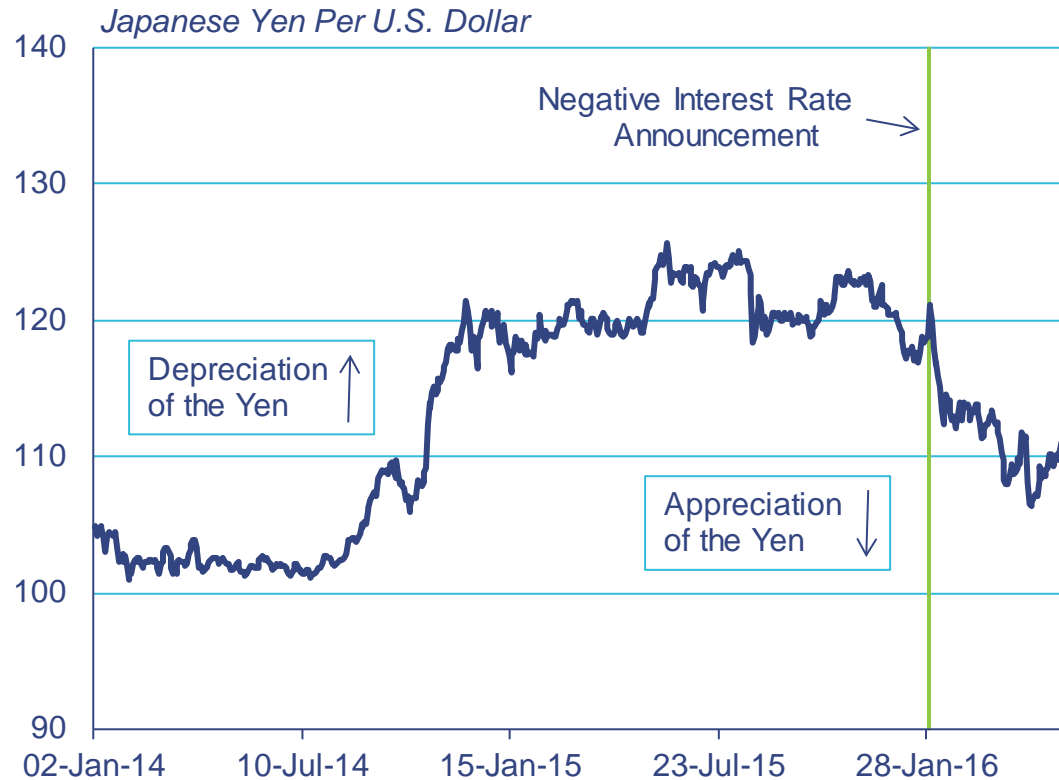
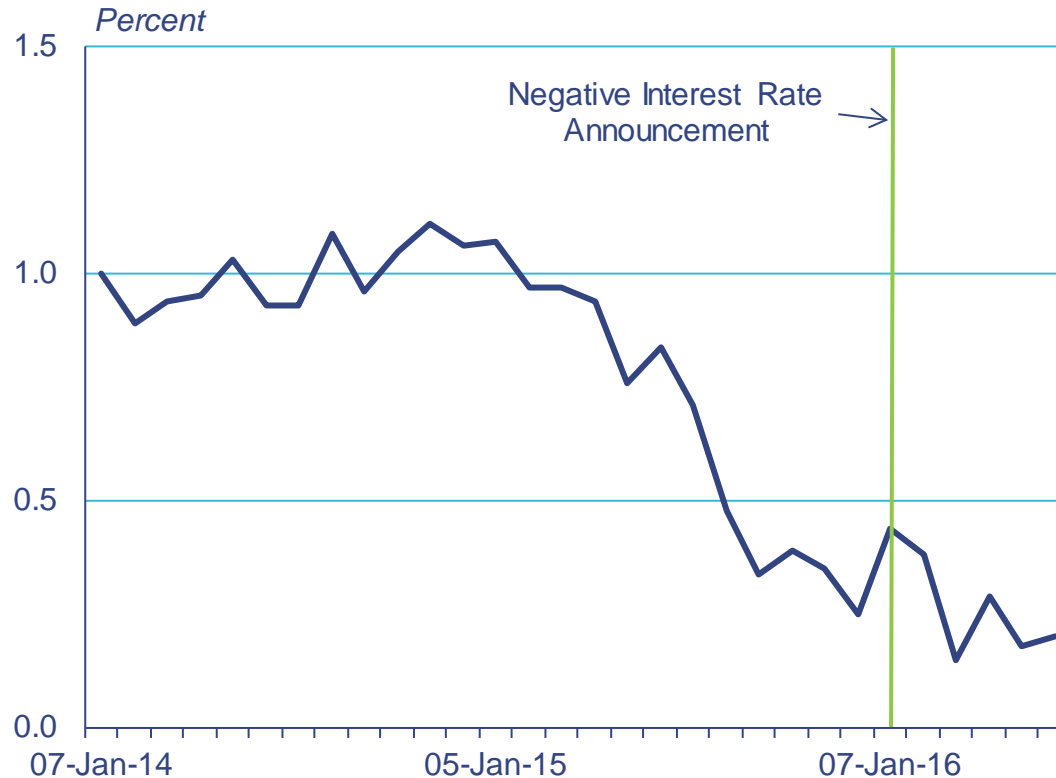




Figure 9: Real Rate on 35-Year Fixed-Rate Mortgage Loan in Japan

January 7, 2014 - June 2, 2016



The "Flat 35" is the fixed-rate mortgage that the Japan Housing Finance Agency (JHF) offers to borrowers through collaboration with private financial institutions.

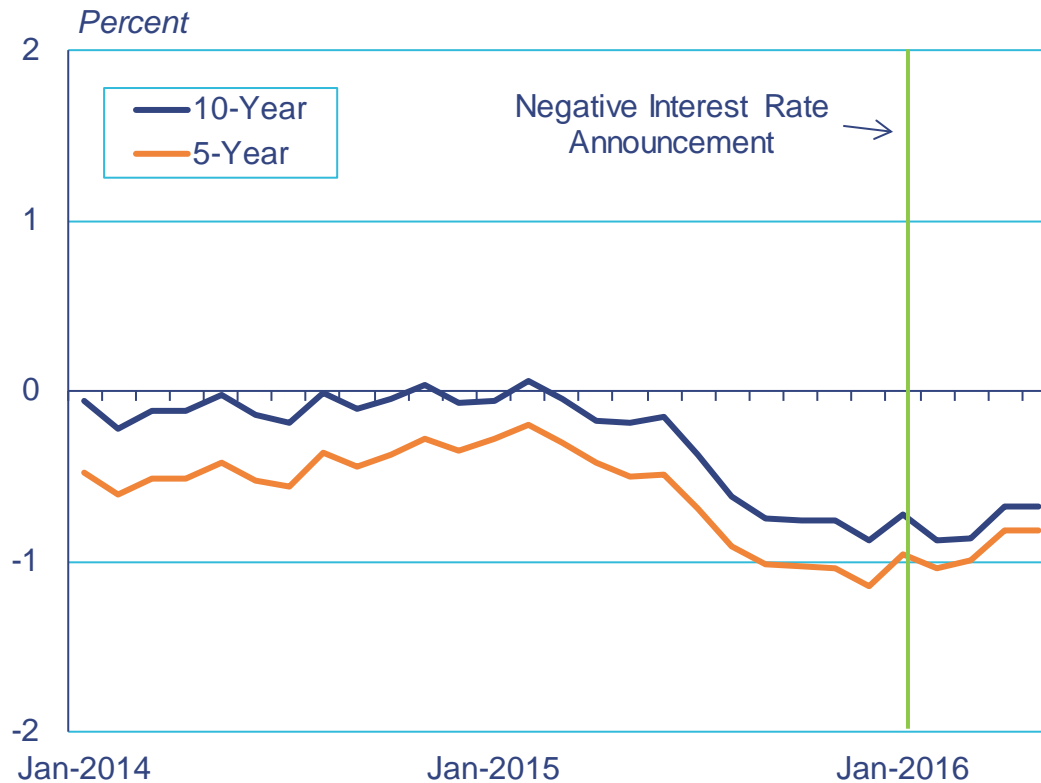
Note: Japan's real mortgage rate is calculated using Japan's CPI less Fresh Food and Energy, adjusted for the consumption tax increase, as calculated by the Bank of Japan. The April CPI figure is used as an estimate for May and June.

Source: Bank of Japan, Japan Housing Finance Agency, Bloomberg Finance L.P.



Figure 10: Real AA+, AA, and AA- Corporate Bond Yields in Japan

January 2014 - May 2016

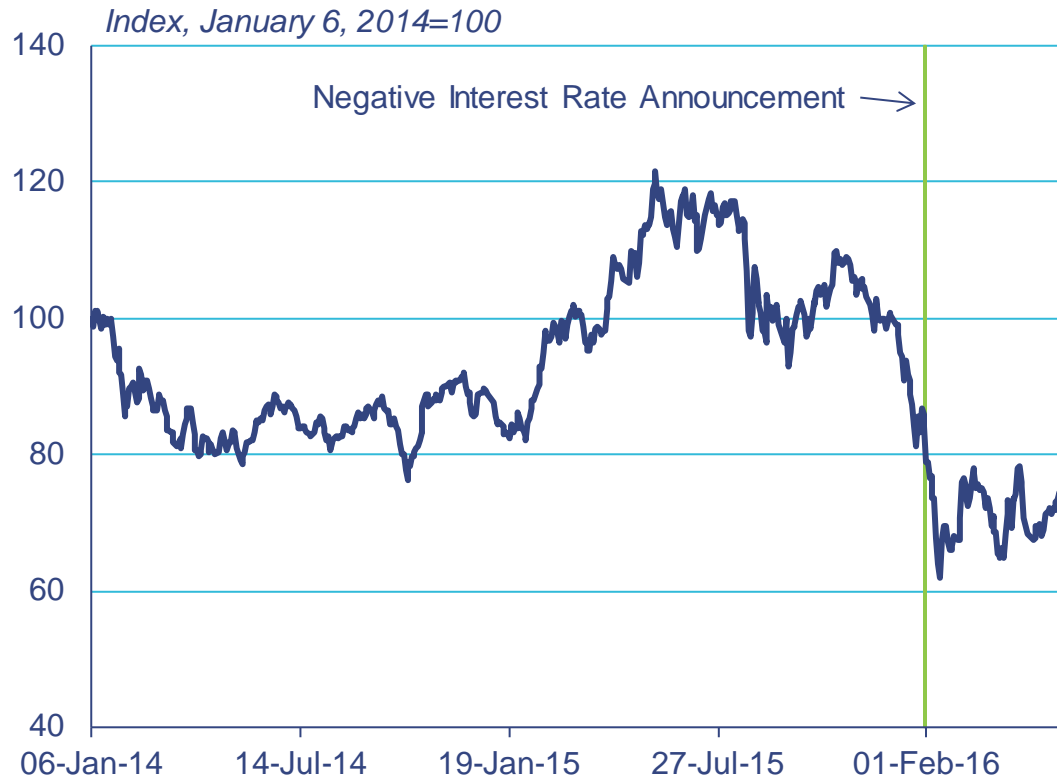


Note: Japan's real corporate bond yields are calculated using Japan's CPI less Fresh Food and Energy, adjusted for the consumption tax increase, as calculated by the Bank of Japan. The April CPI figure is used as an estimate for May.

Source: Bank of Japan, Bloomberg Finance L.P.



Figure 11: Bank Stock Prices in Japan January 6, 2014 - June 2, 2016

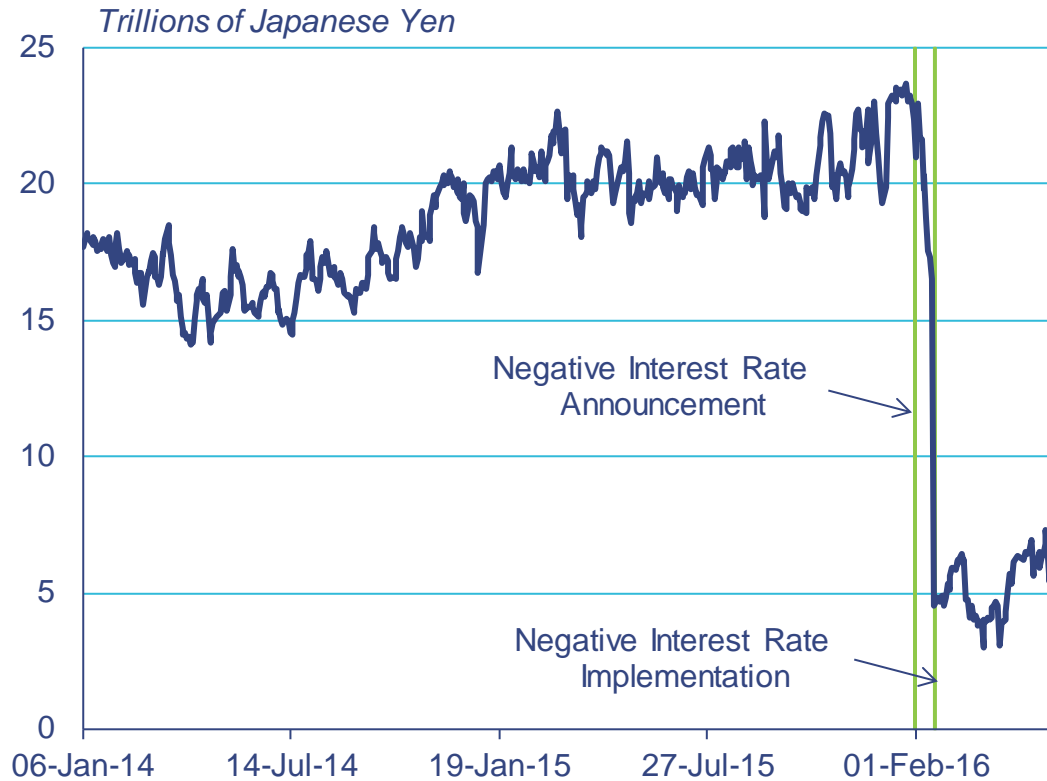


Note: The bank stock price index is the average of the indices for Japan's 3 largest banks.

Source: Bank of Japan, Bloomberg Finance L.P.



Figure 12: Call Market Volume in Japan
January 6, 2014 - June 2, 2016





Concluding Observations

- ▶ QE was successful in the U.S. – one reason we are now able to move toward normalization
 - ▶ Negative interest rates – evidence is mixed
 - ▶ Fortunately, I do not expect additional QE or negative interest rates to be necessary as the U.S. is now on the path to normalize monetary policy
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