FEDERAL RESERVE BANK OF BOSTON<sup>™</sup>

EMBARGOED UNTIL WEDNESDAY, JANUARY 13, 2016 AT 8:20 A.M. EASTERN TIME OR UPON DELIVERY



Early Observations on Gradual Monetary Policy Normalization

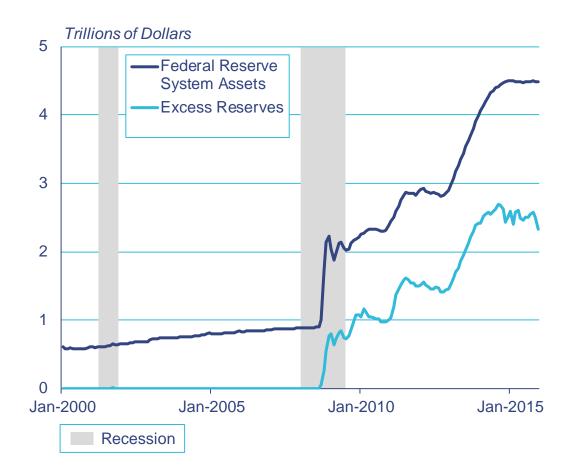
Eric S. Rosengren President & CEO Federal Reserve Bank of Boston

January 13, 2016

Greater Boston Chamber of Commerce Boston, Massachusetts

bostonfed.org

Figure 1: Federal Reserve System Assets and Excess Reserves of Depository Institutions in the U.S. January 2000 - December 2015



## Figure 2: Federal Reserve System Asset Composition December 28, 2005 and December 30, 2015

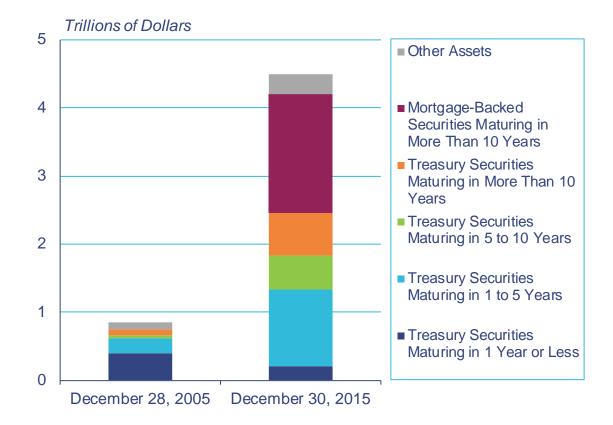
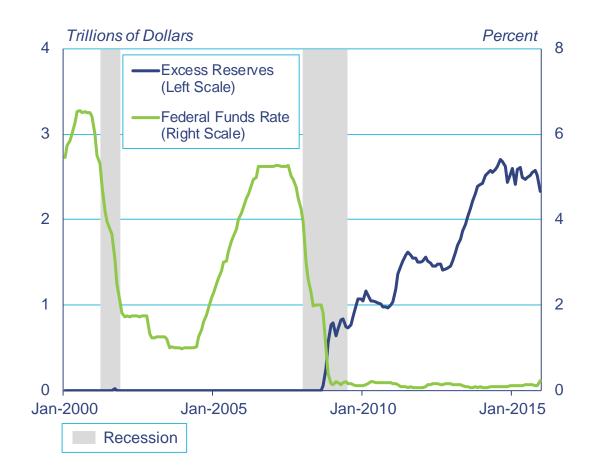


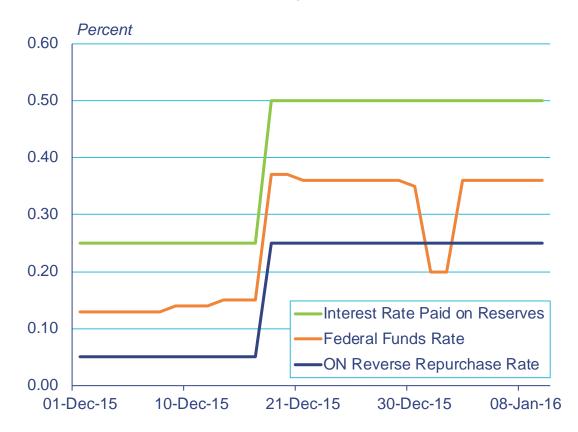
Figure 3: Excess Reserves of Depository Institutions in the U.S. and the Federal Funds Rate January 2000 - December 2015



Source: Federal Reserve Board, NBER, Haver Analytics

Figure 4: Interest on Reserves, the FRB Overnight Reverse Repurchase Rate, and the Federal Funds Rate

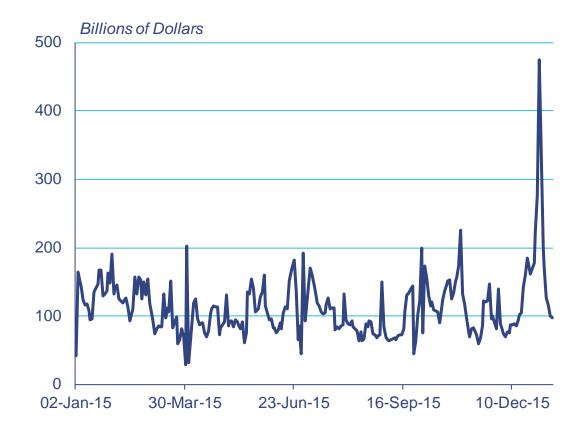
December 1, 2015 - January 11, 2016



Note: Currently, the interest rate paid on required and excess reserves is the same. Source: Federal Reserve Bank of New York, Federal Reserve Board, Haver Analytics

# Figure 5: FRB Overnight Reverse Repurchase Agreements: Total Amount Accepted

January 2, 2015 - January 11, 2016



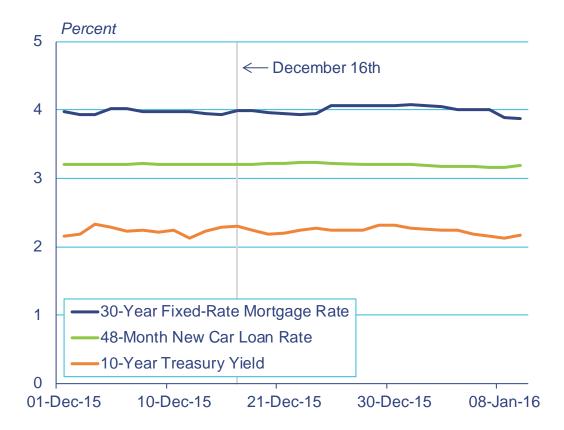
Note: Includes only fixed-rate, one-day reverse repurchase agreements. Source: Federal Reserve Bank of New York, Haver Analytics

#### Figure 6: Selected Short-Term Interest Rates December 1, 2015 - January 11, 2016



Source: Federal Reserve Board, Intercontinental Exchange (ICE), Haver Analytics

### Figure 7: Selected Long-Term Interest Rates December 1, 2015 - January 11, 2016



Source: Federal Reserve Board, WSJ, Haver Analytics

Figure 8: Treasury Yield Curves

January 4, 2006 and January 4, 2016

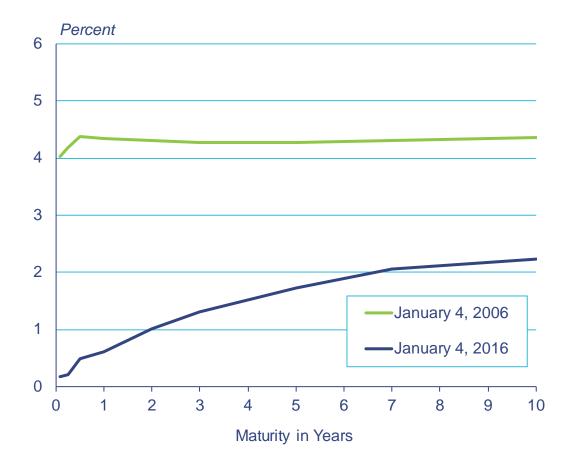
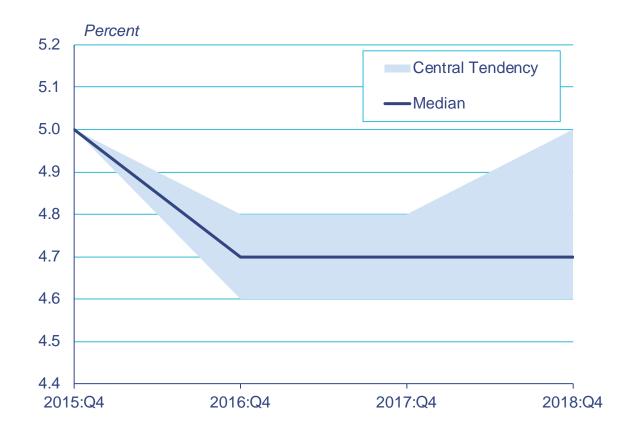


Figure 9: Unemployment Rate Projections of Federal Reserve Governors and Federal Reserve Bank Presidents, December 16, 2015 2015:Q4 - 2018:Q4



Note: The central tendency excludes the three highest and three lowest projections in each period. Source: FOMC, Summary of Economic Projections (SEP), December 16, 2015

#### Figure 10: Civilian Unemployment Rate and the Natural Rate of Long-Term Unemployment 1960:Q1 - 2015:Q4

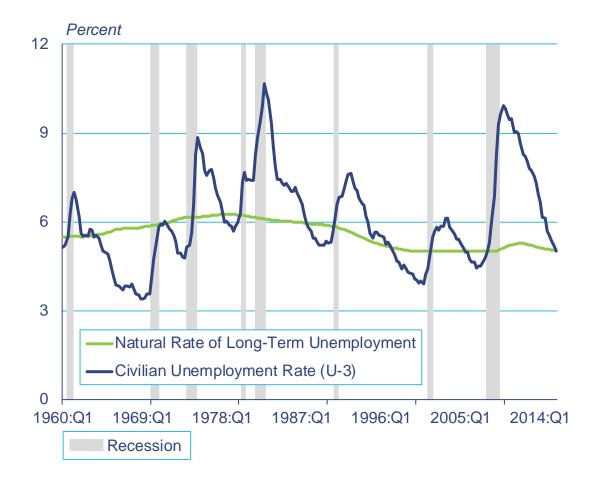


Figure 11: U.S. Inflation Rate: Change in Core Personal Consumption Expenditures Price Index January 1994 - November 2015



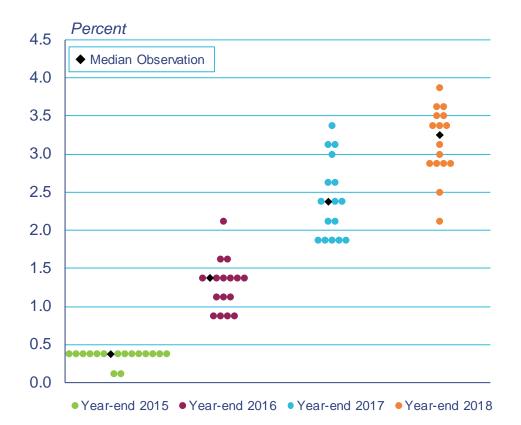
Source: BEA, NBER, Haver Analytics

Figure 12: Core Inflation Rate Projections of Federal Reserve Governors and Federal Reserve Bank Presidents, December 16, 2015 2015:Q4 - 2018:Q4

Percent Change from Year Earlier 2.5 2.0 1.5 1.0 Central Tendency 0.5 -Median 0.0 2015:Q4 2016:Q4 2017:Q4 2018:Q4

Note: The central tendency excludes the three highest and three lowest projections in each period. Source: FOMC, Summary of Economic Projections (SEP), December 16, 2015 Figure 13: U.S. Federal Funds Rate Projections of Federal Reserve Governors and Federal Reserve Bank Presidents, December 16, 2015

December 31, 2015 - December 31, 2018



Source: FOMC, Summary of Economic Projections (SEP), December 16, 2015