



EMBARGOED UNTIL THURSDAY, FEBRUARY 5, 2015 AT 5:00 A.M. IN U.S. EASTERN TIME  
AND 11:00 A.M. IN FRANKFURT, GERMANY; OR UPON DELIVERY

# Lessons from the U.S. Experience with QE

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

February 5, 2015

Joint Event on Sovereign Risk and Macroeconomics  
Moody's Investors Service and  
Peterson Institute for International Economics  
Frankfurt, Germany

[bostonfed.org](http://bostonfed.org)

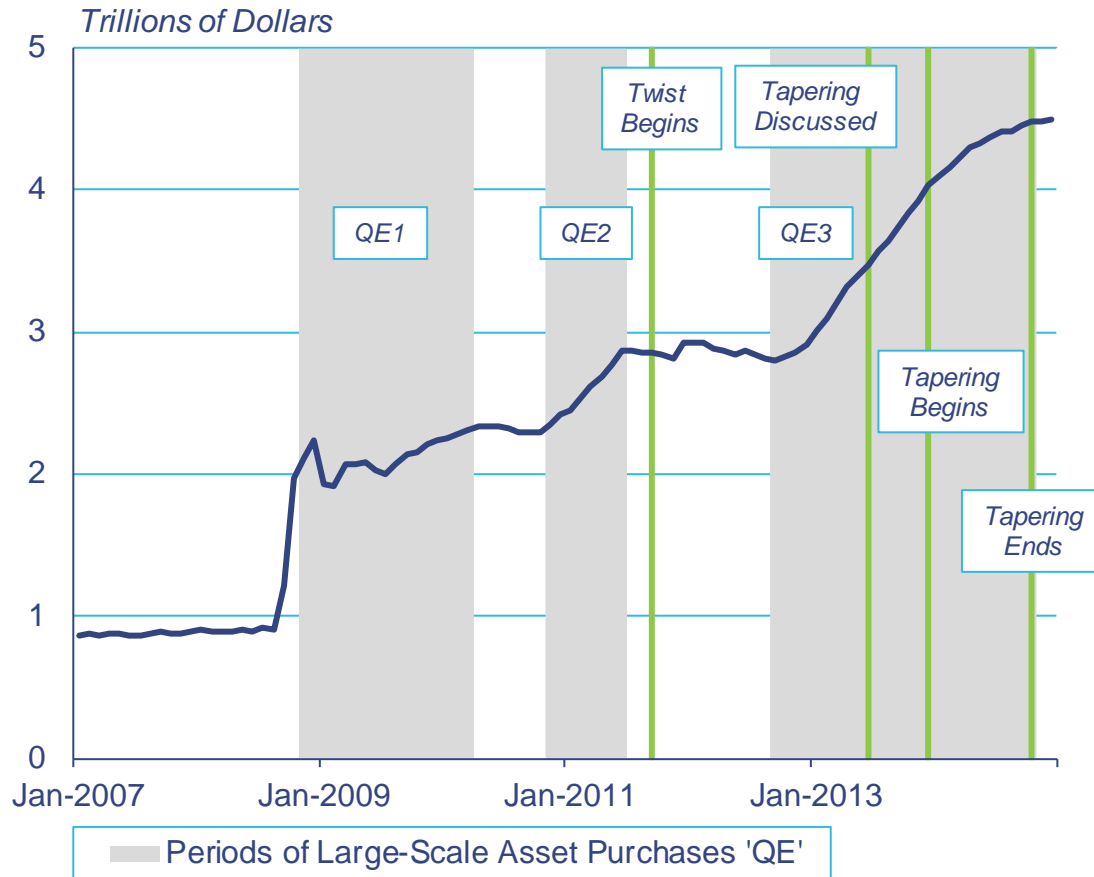
## Figure 1: Monetary Policy: Large-Scale Asset Purchase Programs – QE1, QE2, QE3, and Operation Twist

Program	Announcement Date	Targeted End Date	Targeted Total Purchase	Composition of Purchases	Program Details as Announced
Quantitative Easing 1 (QE1)	November 25, 2008	Over Several Quarters	Agency Debt: Up to \$100 bil Agency MBS: Up to \$500 bil	Agency Debt and Agency MBS	Purchase up to \$100 bil of agency debt and up to \$500 bil of agency MBS. Purchases expected to take place over several quarters.
	March 18, 2009	Treasury Securities: September 30, 2009 Agency Debt and MBS: December 31, 2009	Agency Debt: Additional \$100 bil Agency MBS: Additional \$750 bil Longer-Term Treasuries: \$300 bil	Agency Debt, Agency MBS, and Longer-Term Treasury Securities	Total purchases of agency MBS will now be up to \$1.25 trillion, and agency debt up to \$200 bil. Purchase up to \$300 bil of longer-term Treasury securities over next 6 months.
Quantitative Easing 2 (QE2)	November 3, 2010	June 30, 2011	\$600 bil	Longer-Term Treasury Securities	Purchase \$600 bil of longer-term Treasury securities by the end of the second quarter of 2011, a pace of about \$75 bil per month.
Maturity Extension Program (Operation Twist)	September 21, 2011	June 30, 2012	\$400 bil	Longer-Term Treasury Securities <sup>1</sup>	Purchase, by the end of June 2012, \$400 bil of Treasury securities with remaining maturities of 6-30 years and sell an equal amount of Treasury securities with remaining maturities of 3 years or less.
	June 20, 2012	December 31, 2012	Amount Limited by Remaining Shorter-Term Treasury Securities <sup>1</sup>	Longer-Term Treasury Securities <sup>1</sup>	Purchase Treasury securities with remaining maturities of 6-30 years at the current pace and sell or redeem an equal amount of Treasury securities with remaining maturities of approximately 3 years or less.
Quantitative Easing 3 (QE3)	September 13, 2012	None Given	None Given	Agency MBS and Longer-Term Treasury Securities	Purchase agency MBS at pace of \$40 bil per month and continue Twist through yearend, increasing holdings of longer-term securities in aggregate by \$85 bil.
	December 12, 2012	None Given	None Given	Agency MBS and Longer-Term Treasury Securities	Purchase agency MBS at a pace of \$40 bil per month and longer-term Treasury securities initially at a pace of \$45 bil per month after Twist ends at yearend.

<sup>1</sup>Shorter-term Treasury securities are sold or redeemed while an equal amount of longer-term Treasury securities are purchased, resulting in no net increase in balance-sheet size.

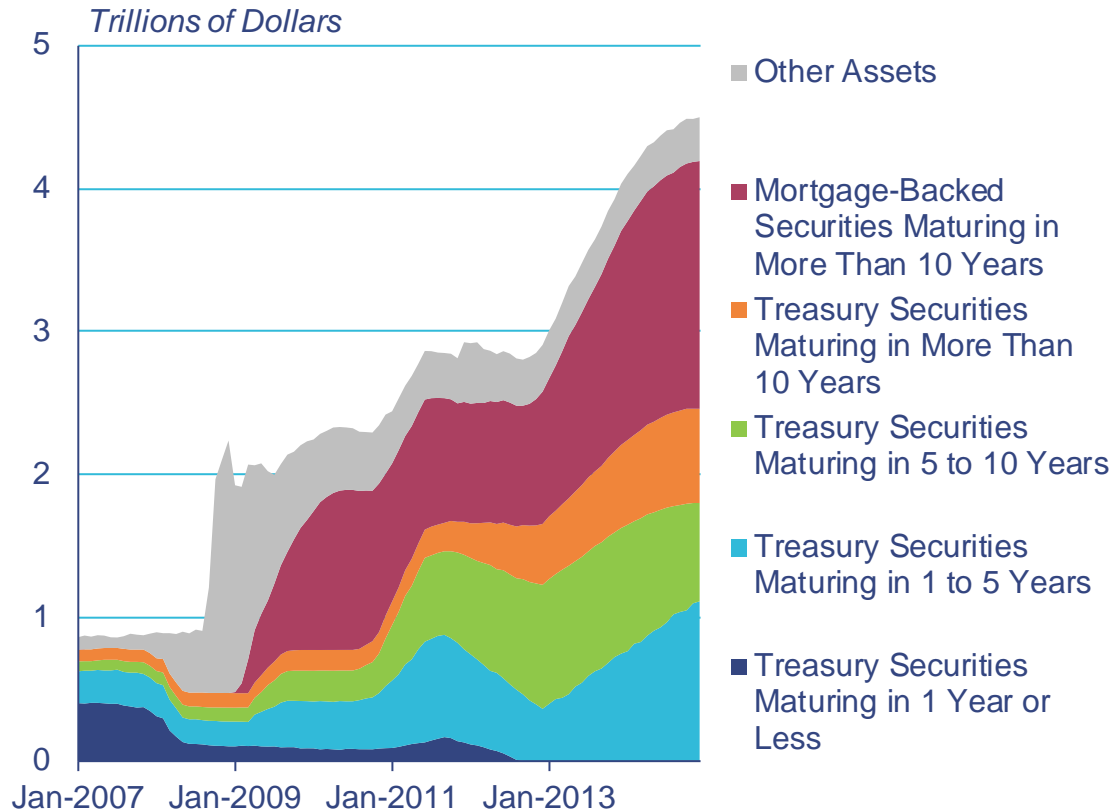


# Figure 2: Federal Reserve System Assets January 2007 - December 2014



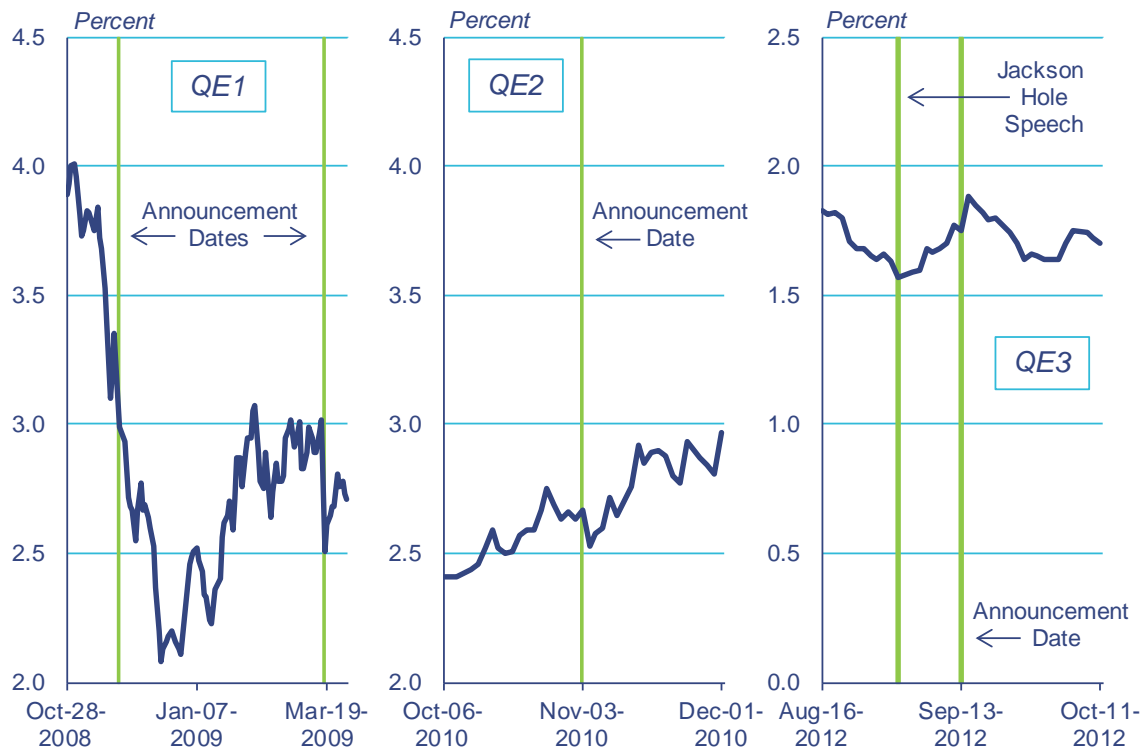


# Figure 3: Federal Reserve System Assets January 2007 - December 2014





# Figure 4: Quantitative Easing Announcements and Ten-Year Treasury Yields

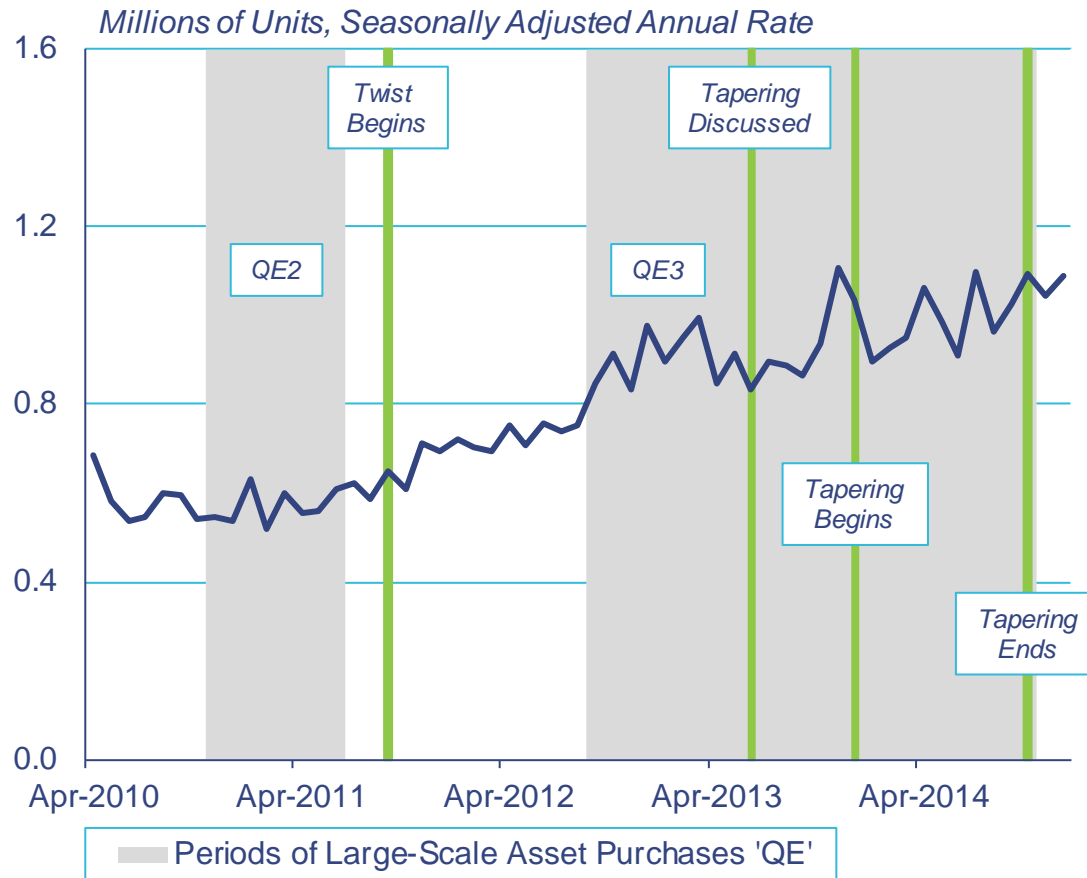


Source: Federal Reserve Board, Haver Analytics



# Figure 5: Housing Starts

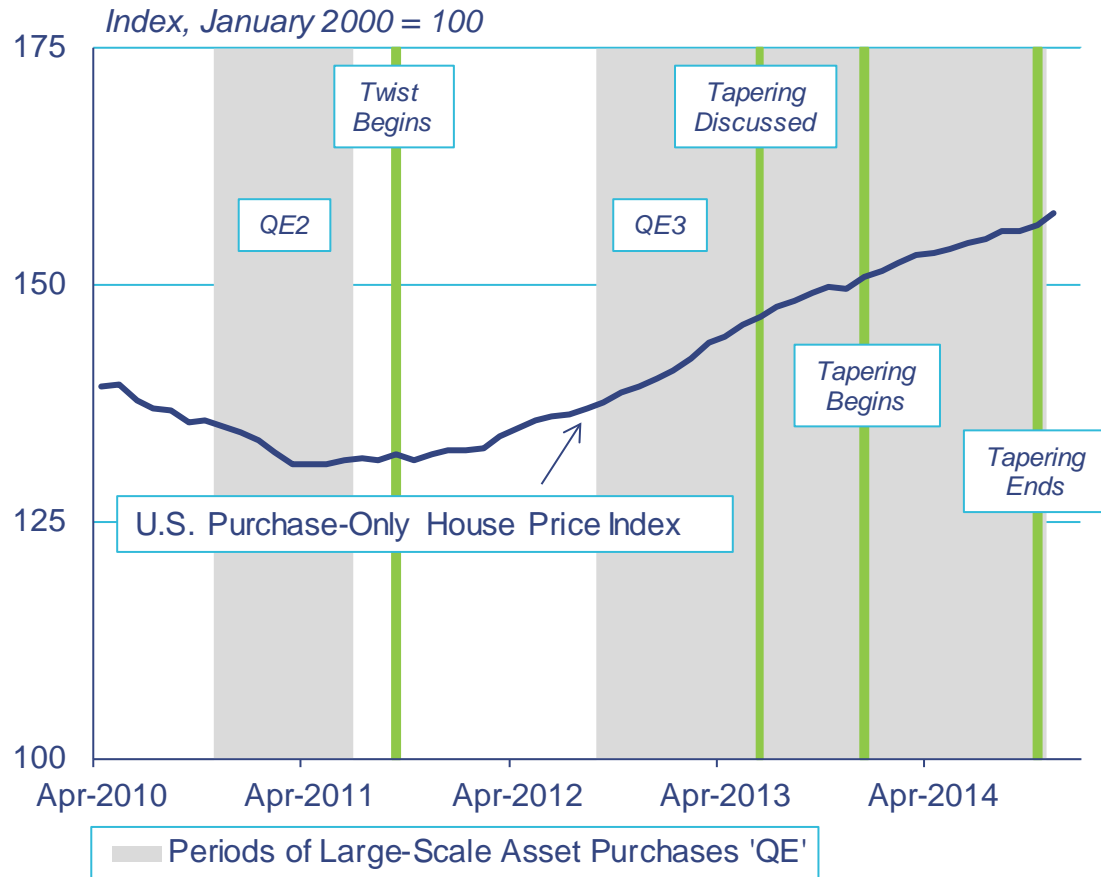
April 2010 - December 2014





# Figure 6: U.S. House Price Index

April 2010 - November 2014





# Figure 7: Auto and Light-Weight Truck Sales

April 2010 - December 2014

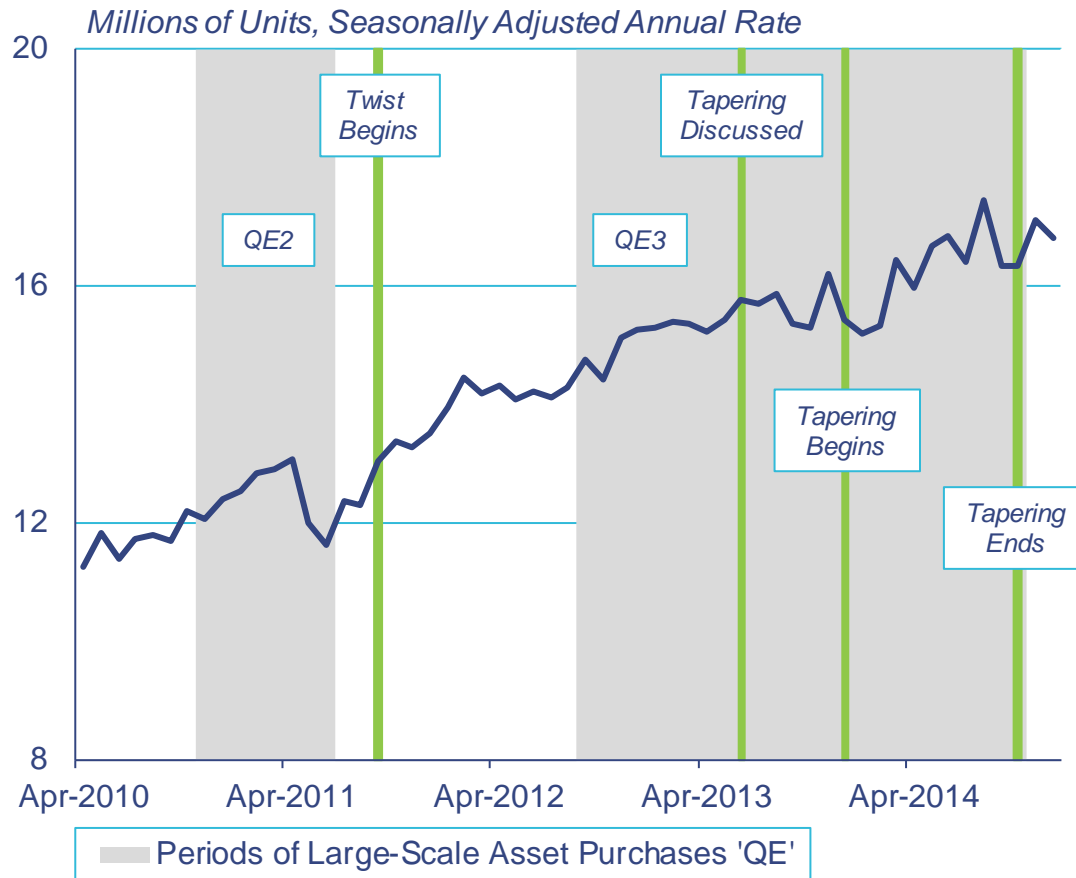
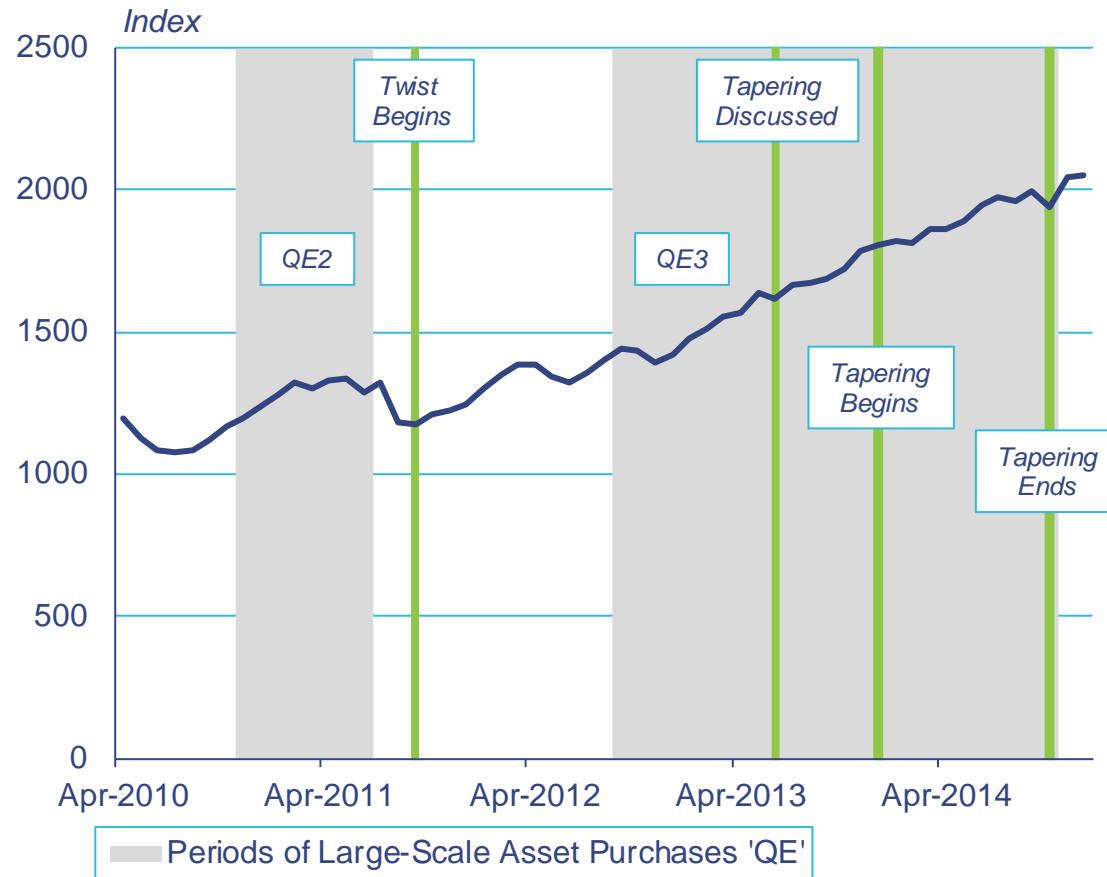






Figure 8: S&P 500 Composite Stock Price Index  
April 2010 - December 2014





# Figure 9: Civilian Unemployment Rate

April 2010 - December 2014

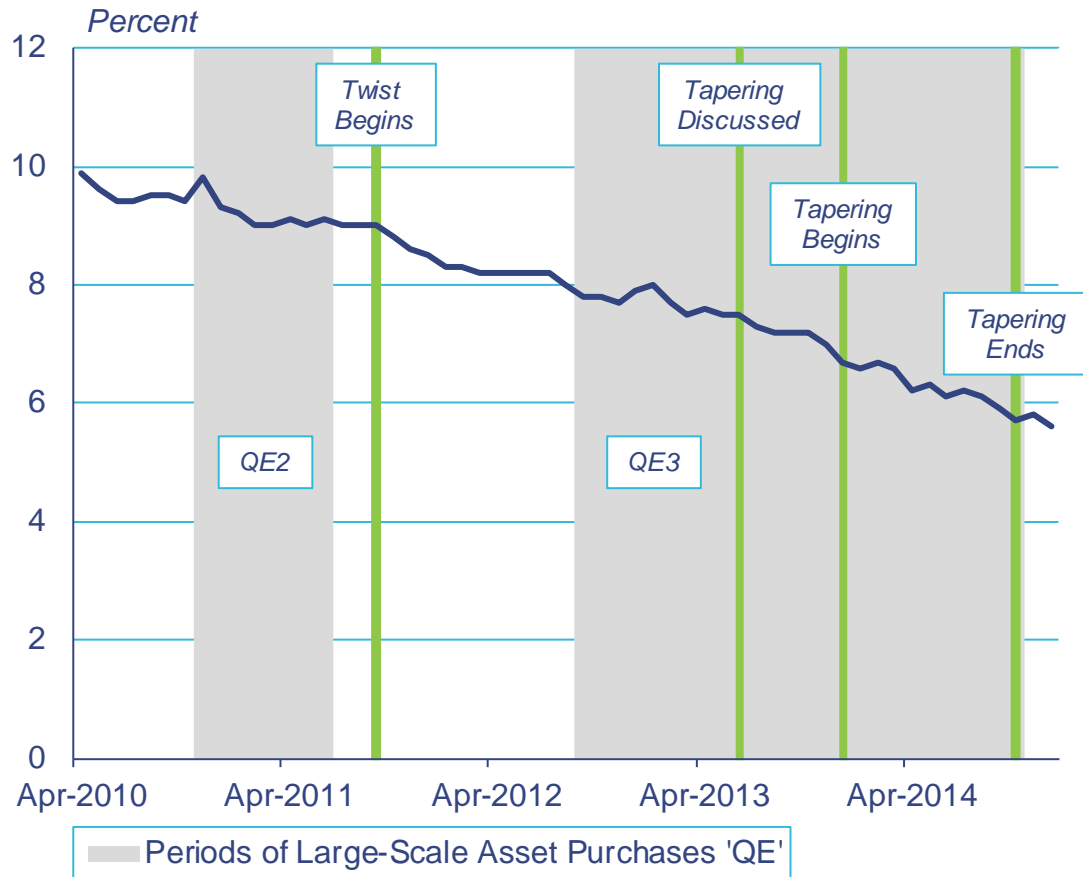
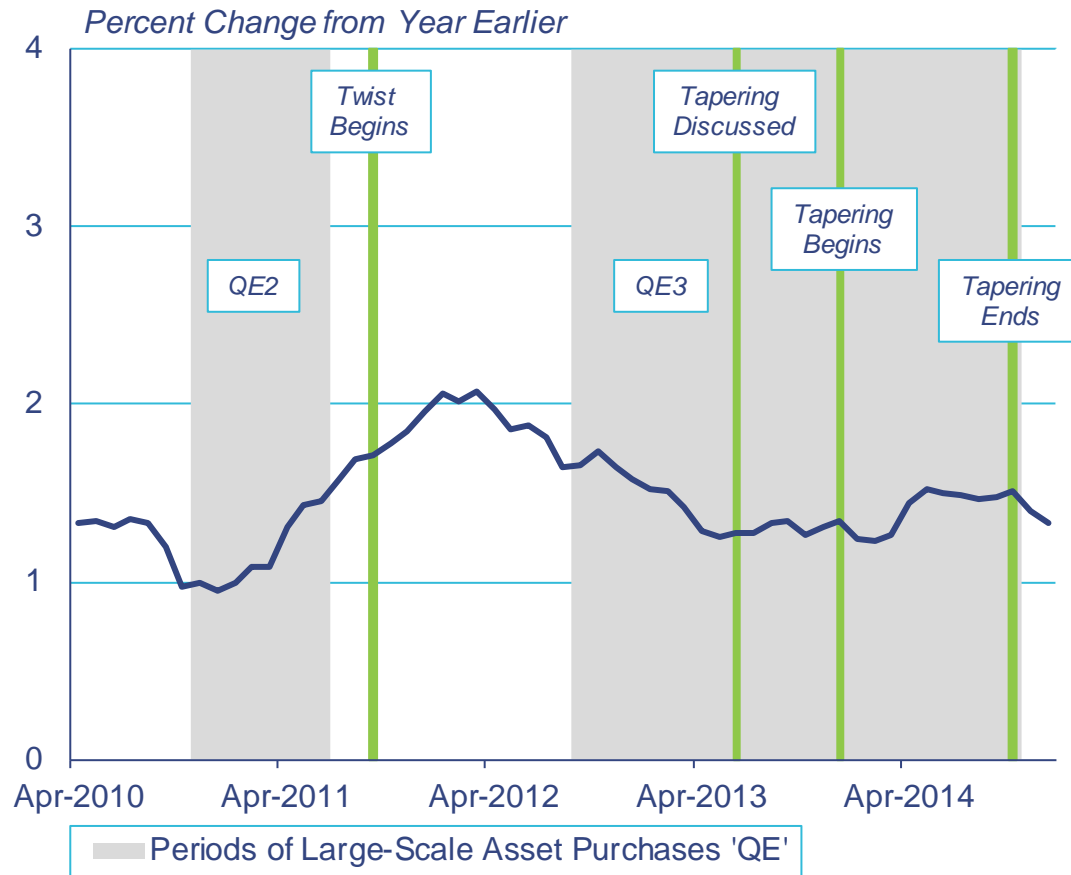




Figure 10: Inflation Rate: Change in Core Personal Consumption Expenditures Price Index  
April 2010 - December 2014



# Figure 11: Employment Cost Index for Total Compensation for Private Industry Workers by Occupational Group

2001:Q1 - 2014:Q4

