New Monetary Policy Tools

- Large-Scale Asset Purchases (LSAPs)
  - Purchases of mortgage-backed securities and long-term U.S. Treasury securities
  - Lower long-term interest rates
- Forward guidance
  - Provide guidance on maintaining low short-term rates
  - Lower long-term interest rates
- Today: Discuss context, impacts, possible evolution
- Full assessment of costs and benefits somewhat premature – still adding to accommodation, albeit in smaller increments
Previewing My Conclusions

- New tools were essential to address a continued weak economy (despite low short-term rates)
- Particularly important: Emphasis on “doing what it would take,” and following through with actions
  - Interest rates did fall and asset prices rebounded
  - Interest sensitive sectors improved and the U.S. and global economies are better off now than in the fall of 2012
- New tools are not without challenges
  - Premium on communication
  - Market participants can react strongly to exit strategies, as witnessed one year ago
- An opportunity to carefully consider broad set of monetary tools, and their impact on financial stability along with inflation and unemployment
Figure 1: Federal Reserve System Assets

Periods of Large-Scale Asset Purchases ‘QE’

Source: Federal Reserve Board, Haver Analytics
Figure 2: Blue Chip Forecast for U.S. Real GDP Growth
Forecast as of August 10, 2012

Source: Blue Chip Economic Indicators, August 10, 2012, BEA, Haver Analytics
Figure 3: Blue Chip Forecast for the U.S. Unemployment Rate

Forecast as of August 10, 2012

Source: Blue Chip Economic Indicators, August 10, 2012, BLS, Haver Analytics
Monetary Policy Statements

- September 2012
  - Purchase $40 billion a month of MBS securities in addition to $45 billion a month of long-term Treasury securities bought with funds from sales of short-term Treasury securities (Maturity Extension Program)
  - Asset purchases were to be open-ended – no end date or total amount stated – focused instead on substantial improvement in labor markets
  - Suggested low rates were likely to be appropriate until at least mid-2015

Monetary Policy Statements (Continued)

- December 2012
  - Continued open ended purchase of $85 billion a month in long-term securities
  - Introduced 6.5 percent unemployment rate threshold (low rates anticipated at least as long as the unemployment rate remained above that threshold and inflation and inflation expectations remain anchored)
Figure 4: U.S. FHFA House Price Purchase-Only Index: IHS Global Insight Forecast and Actual Forecast as of August 2012

Source: IHS Global Insight, U.S. Economic Outlook, August 2012, FHFA, Haver Analytics
Figure 5: U.S. Housing Starts: Blue Chip Annual Forecast for 2013 and Quarterly Actual Forecast as of August 10, 2012

Note: Actual quarterly observations are seasonally adjusted annual rates.

Source: Blue Chip Economic Indicators, August 10, 2012, Bureau of the Census, Haver Analytics
Figure 6: U.S. Auto Sales: Blue Chip Annual Forecast for 2013 and Quarterly Actual Forecast as of August 10, 2012

Note: Actual quarterly observations are seasonally adjusted annual rates.

Source: Blue Chip Economic Indicators, August 10, 2012, BEA, Haver Analytics.
Figure 7: U.S. Unemployment Rate: Blue Chip Forecast and Actual
Forecast as of August 10, 2012

Source: Blue Chip Economic Indicators, August 10, 2012, BLS, Haver Analytics
New Monetary Policy Tools a Factor in Better Economic Outcomes

- Rebounding asset prices and falling interest rates resulted in better than forecast economic outcomes.
- Not only helped U.S. economy, but also helped other advanced and developing economies whose economies were underperforming (given the improving state of the U.S. as an export market).
- Rates fell as private investors invested “alongside” the Federal Reserve.
- Models must account for potential investor reaction: e.g., the risk that private investors would “switch sides” quickly when policies changed.
Figure 8: 10-Year U.S. Treasury Note Yield at Constant Maturity
January 2, 2013 - June 2, 2014

Source: Federal Reserve Board, Haver Analytics
Significant Reaction to Discussion of Taper

- Investors pulled back (became active sellers) with discussion of taper
- “Carry trade” reversal – investors borrowing “short” and investing “long” were often highly levered
- Particularly a problem in emerging markets as investors borrowed in U.S. but sought higher yields in other securities including those in emerging markets
- Repercussions have been felt in U.S. housing, and emerging economies
Figure 9: U.S. Treasury Yield Volatility Index
January 1993 - May 2014

Note: Merrill Lynch’s MOVE Index is a yield curve weighted index of the normalized implied volatility on 1-month Treasury options. It is the weighted average of volatilities on the CT2, CT5, CT10, and CT30.

Source: Bank of America Merrill Lynch, Bloomberg, Haver Analytics
Recent Response to Tapering of Stimulus

- Since December, the FOMC has reduced purchases from $85 billion a month to $45 billion a month
- Gradual and predictable reduction in the purchase program
  - Market volatility has been relatively low
  - Economy improving, albeit gradually and with some setbacks along the way
- Benign reaction to tapering of stimulus may be instructive as we consider eventual winding down the Federal Reserve’s balance sheet
  - One scenario for consideration: Gradual, transparent, and predictable policy – for example, slowly taper percentage of maturing assets that are reinvested, as long as economy continues improving
My personal view is that raising short-term rates should occur only when the U.S. economy is likely within one year of both achieving full employment and returning to within a narrow band around 2 percent inflation.

Raising rates, when appropriate, is complicated by the large quantity of excess reserves.

Raise rate of interest paid on excess reserves. Can choose to have more control of short-term rates by also engaging in overnight reverse repurchase agreements.
Figure 10: Excess Reserves of Depository Institutions in the U.S.
January 2007 - April 2014

Source: Federal Reserve Board, Haver Analytics
Financial Stability and Exit

- **Other considerations**
  - Reverse repo provides a safe asset for investors
  - During instability, however, a run from private sector assets to reverse repurchase agreements is possible
  - Federal Reserve may need to limit size of the reverse repo facility

- **Potential benefits, in my view:**
  - Size of balance sheet does not impact ability to influence rates
  - Fed could maintain a large balance sheet to have additional financial stability tools at its disposal – for example, MBS and Treasury securities that could be sold to raise long-term rates, to react to asset bubbles
Figure 11: Federal Funds Target Rate and 10-Year U.S. Treasury Yield
January 1990 - May 2014

Source: Federal Reserve Board, Haver Analytics
Concluding Observations

- Even without these new policy tools, the “exits” from accommodative monetary policy can be unsettled
- The new tools were essential in recent years
- Need to react flexibly as we learn more about the use of tools as we exit
- New tools have been quite helpful, given that short-term rates were essentially at zero. It will be important to continue to work on communication and consider financial stability implications as we continue to gradually normalize policies
Figure 12: Federal Reserve System Assets

Source: Federal Reserve Board, Haver Analytics