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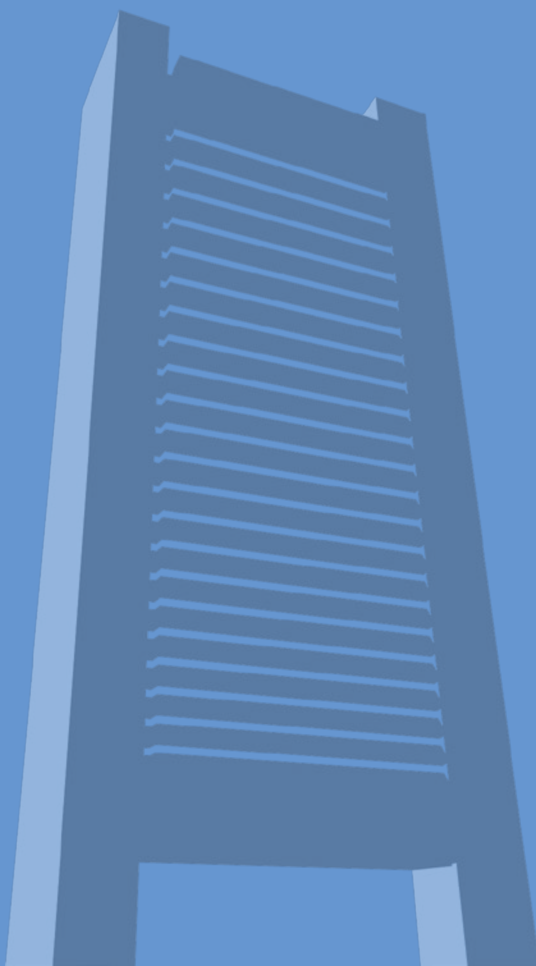

Monetary Policy and Forward Guidance

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The Economy: Unfortunately, *Not* "The Way Life Should Be"

- PCE inflation is well below 2 percent (0.9 percent)
- U-3 unemployment is at 6.7 percent, but:
  - This understates the severity of labor market problems
  - U-6, which includes "part time for economic reasons" and "marginally attached" workers, is historically high at 12.7 percent
  - Significant problems in labor markets persist
  - Unusually accommodative monetary policy remains necessary

Signs of Improvement

- Economy produced 192,000 jobs in March
- Most private forecasters expect growth in real GDP for the rest of this year around 3 percent
- Boston Fed forecast is for approximately 3 percent growth, given factors like:
  - Continued improvement in housing
  - Fewer headwinds from fiscal policy
  - Somewhat stronger consumption

Alternative Policy Tools

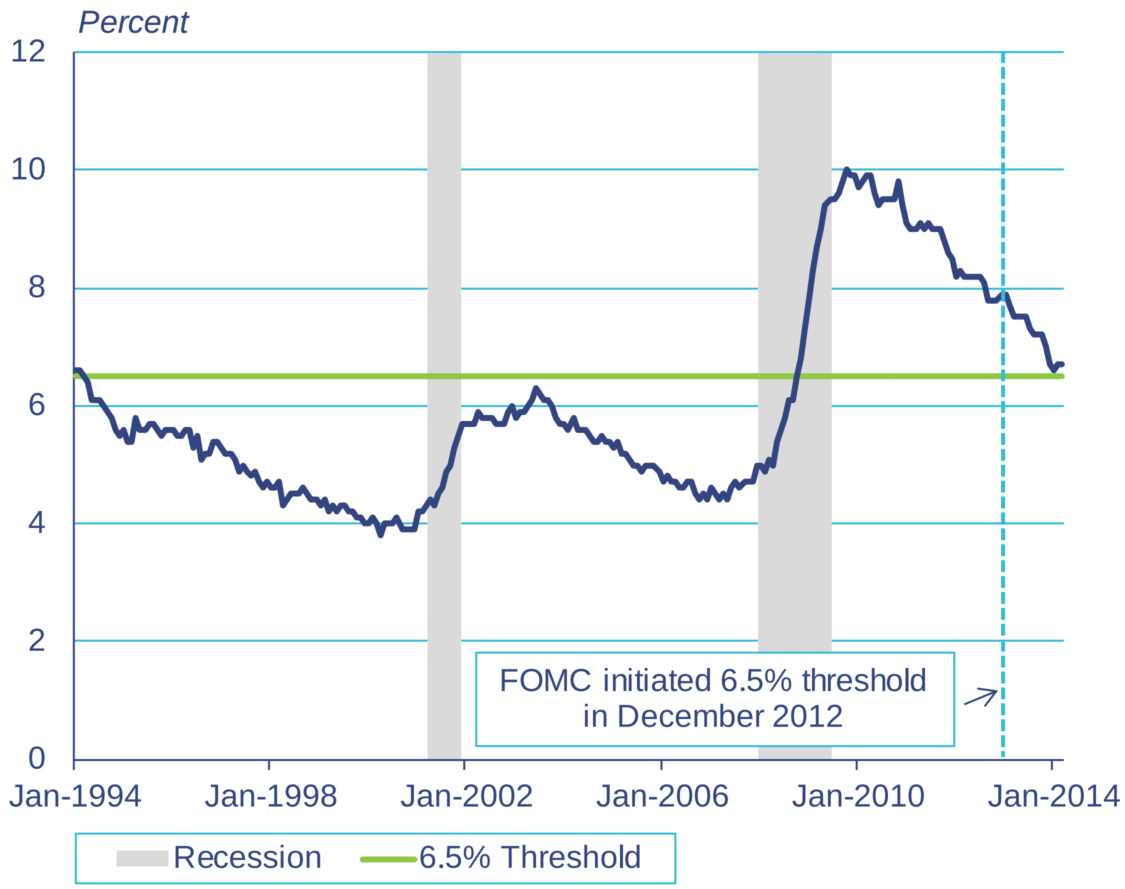
- Purchasing long-term assets to lower long-term interest rates
  - Currently purchasing $55 billion per month
  - Reduced purchases by $10 billion at each of the last three FOMC meetings
- Providing forward guidance
  - Will keep short-term rates at their very low levels “for a considerable time after the asset purchase program ends…”
  - Tied to timing of the tapering of asset purchases, which is data dependent

Changes in Forward Guidance

- Moved from *quantitative* guidance relative to a 6.5 percent threshold to *qualitative* guidance
  - At 6.7 percent, unemployment is close enough to the 6.5 percent threshold that it no longer provided much guidance about future actions
  - Specific guidance is easier when the economy is very far from the policy goal – but the economy has been improving
- My recommendation: Focus guidance on how quickly we make progress on inflation that is well below target, and on removing the significant underutilization of labor resources

Figure 1: Civilian Unemployment Rate (U-3): Total Unemployed as a Percent of the Civilian Labor Force

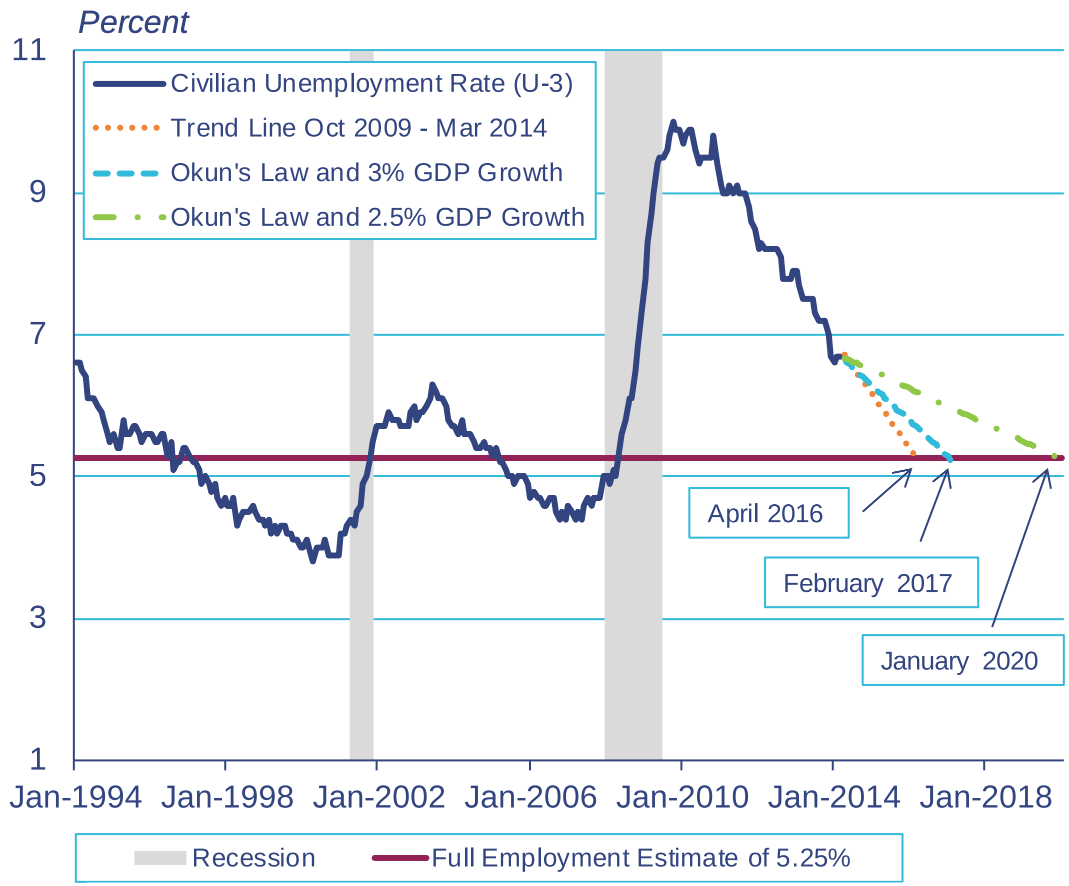
January 1994 - March 2014



Source: BLS, NBER, Haver Analytics

Figure 2: Civilian Unemployment Rate (U-3) Path based on Okun's Law and Recent Trends

Jan 1994 - Mar 2014 Actual, Apr 2014 - Jan 2020 Projections

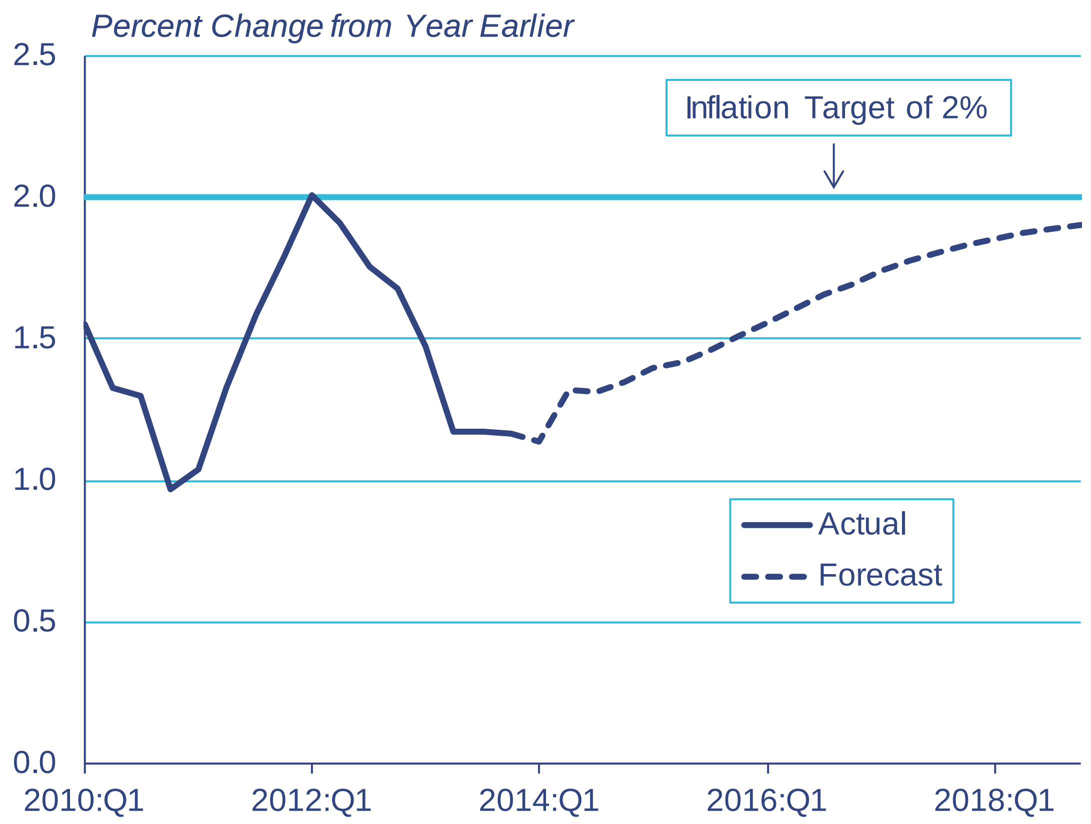


Note: Okun's Law projections assume growth of 1% and 0.5% above potential GDP growth of 2%.

Source: BLS, NBER, Haver Analytics, Author's Calculations

Figure 3: Inflation Rate: Change in Core Personal Consumption Expenditure (PCE) Price Index

2010:Q1 - 2013:Q4 Actual, 2014:Q1 - 2018:Q4 Forecast



Note: Forecast uses a Phillips Curve with anchored inflation expectations. Projected inflation is based on the expected evolution of the unemployment rate from the midpoint of the central tendency of the SEP. Source: BEA, NBER, Haver Analytics, Federal Reserve Bank of Boston Calculations

Challenges with Forward Guidance

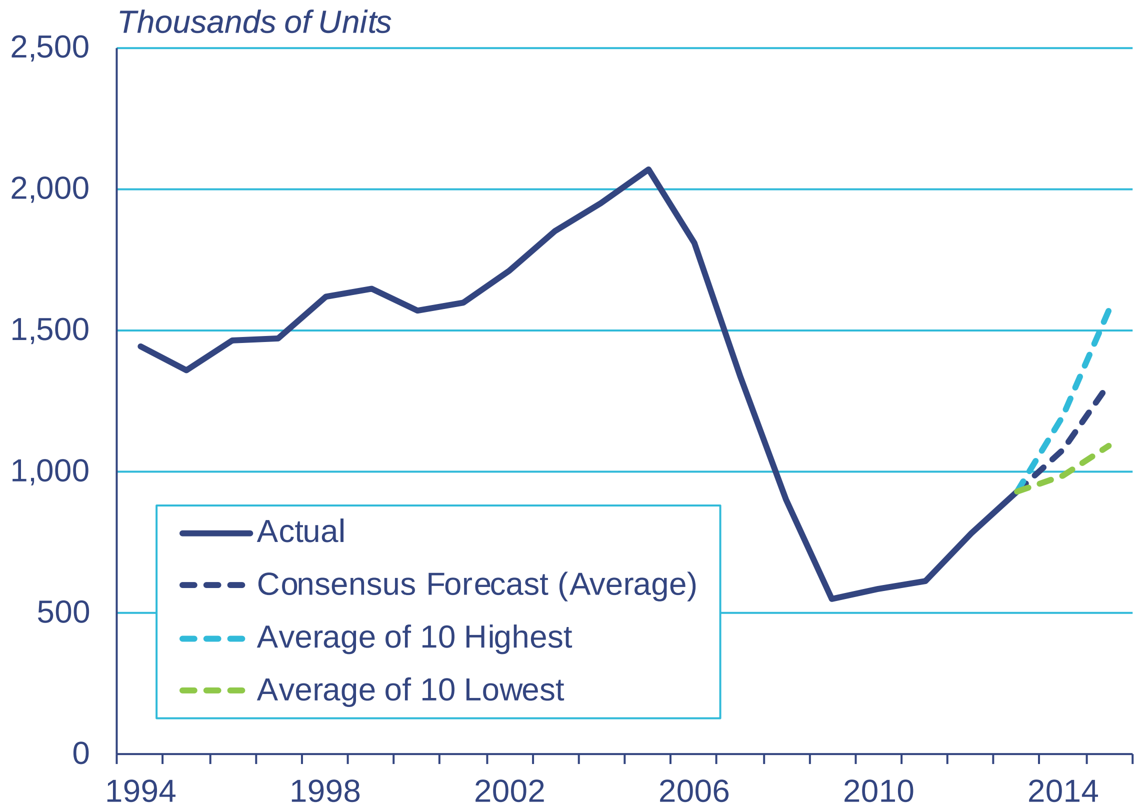
- When you are close to the threshold, the guidance is likely to place little downward pressure on interest rates
- The path to full employment and 2 percent inflation is uncertain
- Ideally, guidance would reflect how far the economy remains away from achieving the dual mandate, and the time it takes to close that gap
- Ideally, there would be more market focus on economic data and less focus on the setting of monetary policy tools

Forecast Uncertainty

- Forecasts are always uncertain, but many economic patterns have been unusual since the financial crisis
- One example is housing
  - Interest rates below historical standards
  - Housing prices rising
  - More workers employed
- Yet the speed of the housing recovery remains uncertain

Figure 4: Housing Starts: Actual and Blue Chip Forecast

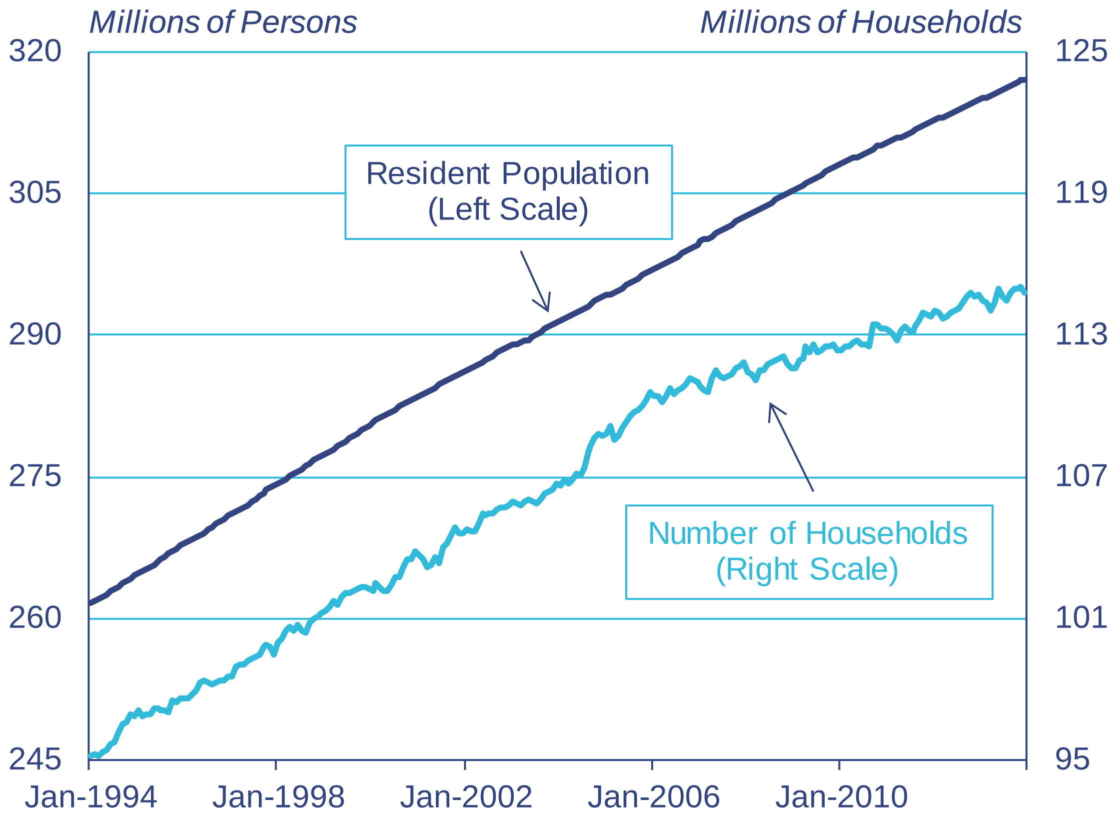
1994 - 2013 Actual, 2014 - 2015 Forecast



Source: Bureau of the Census, Blue Chip Economic Indicators, April 10, 2014, Haver Analytics

Figure 5: Population and Households

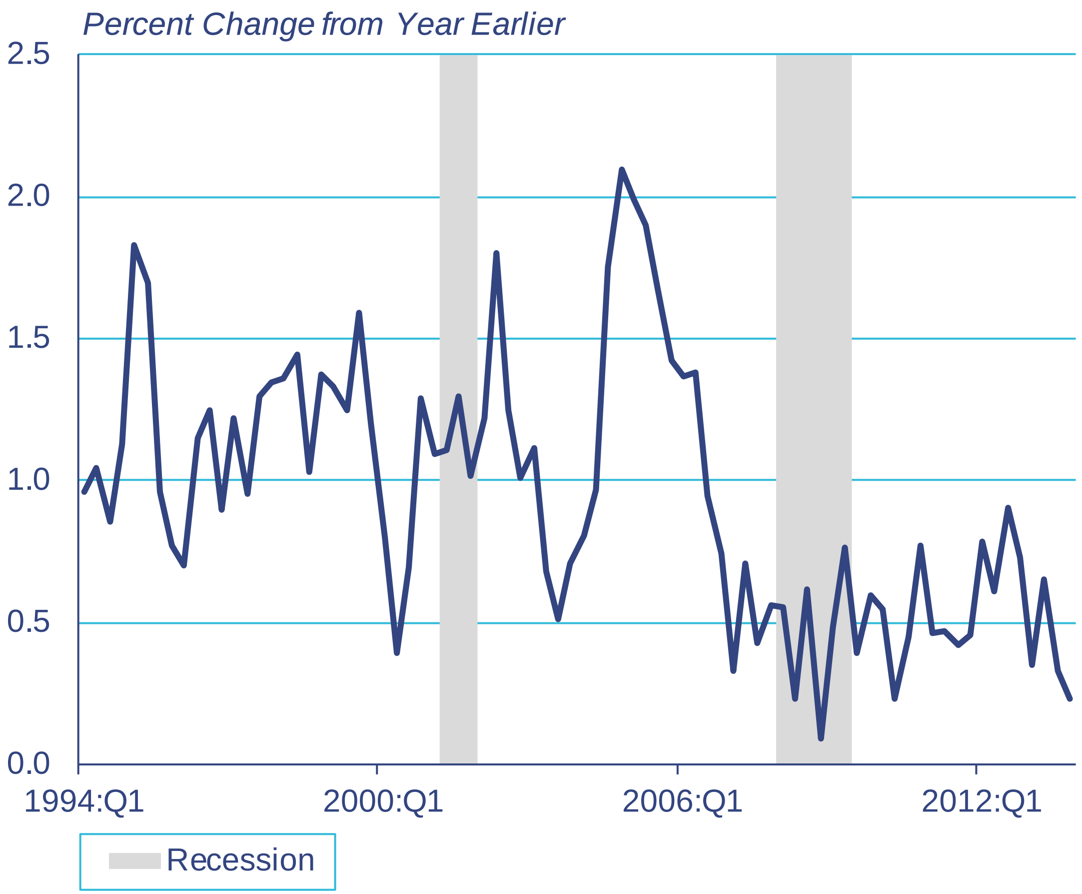
January 1994 - December 2013



Source: Bureau of the Census, Haver Analytics

Figure 6: Growth in Households

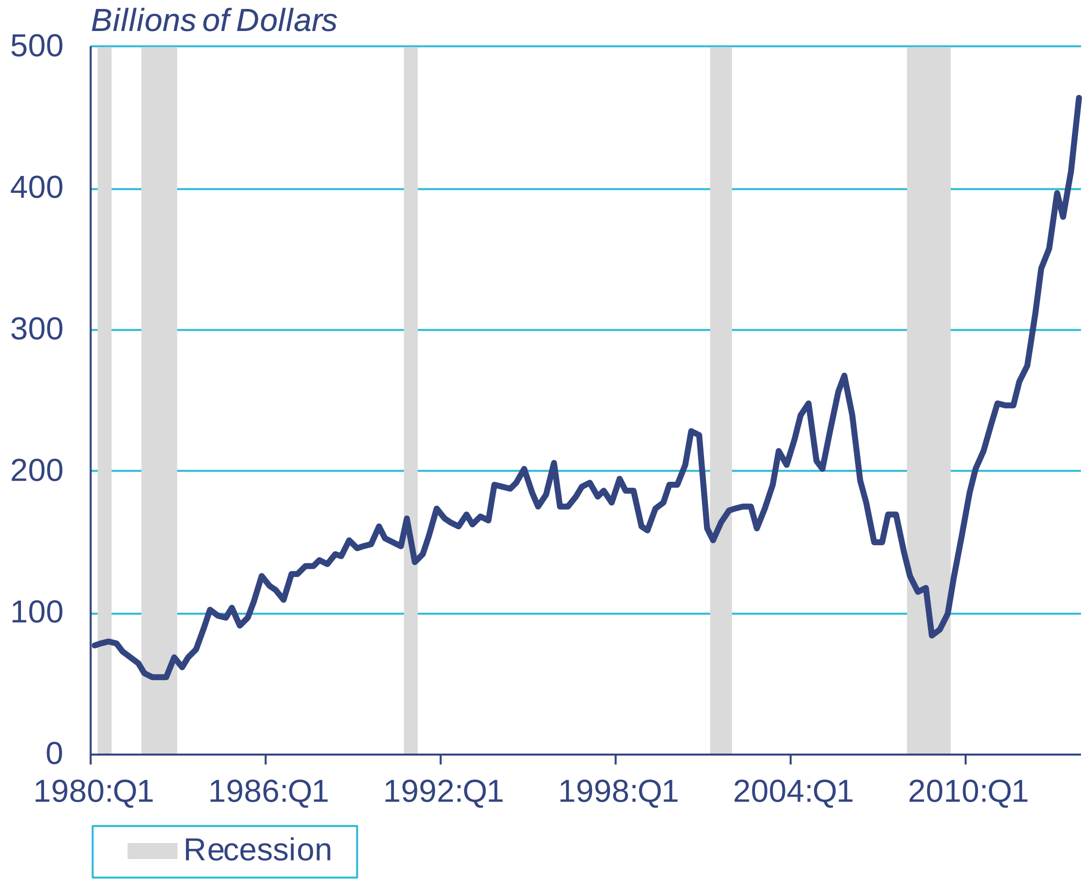
1994:Q1 - 2013:Q4



Source: Bureau of the Census, NBER, Haver Analytics

Figure 7: Checkable Deposits and Currency of Nonfinancial Corporate Businesses

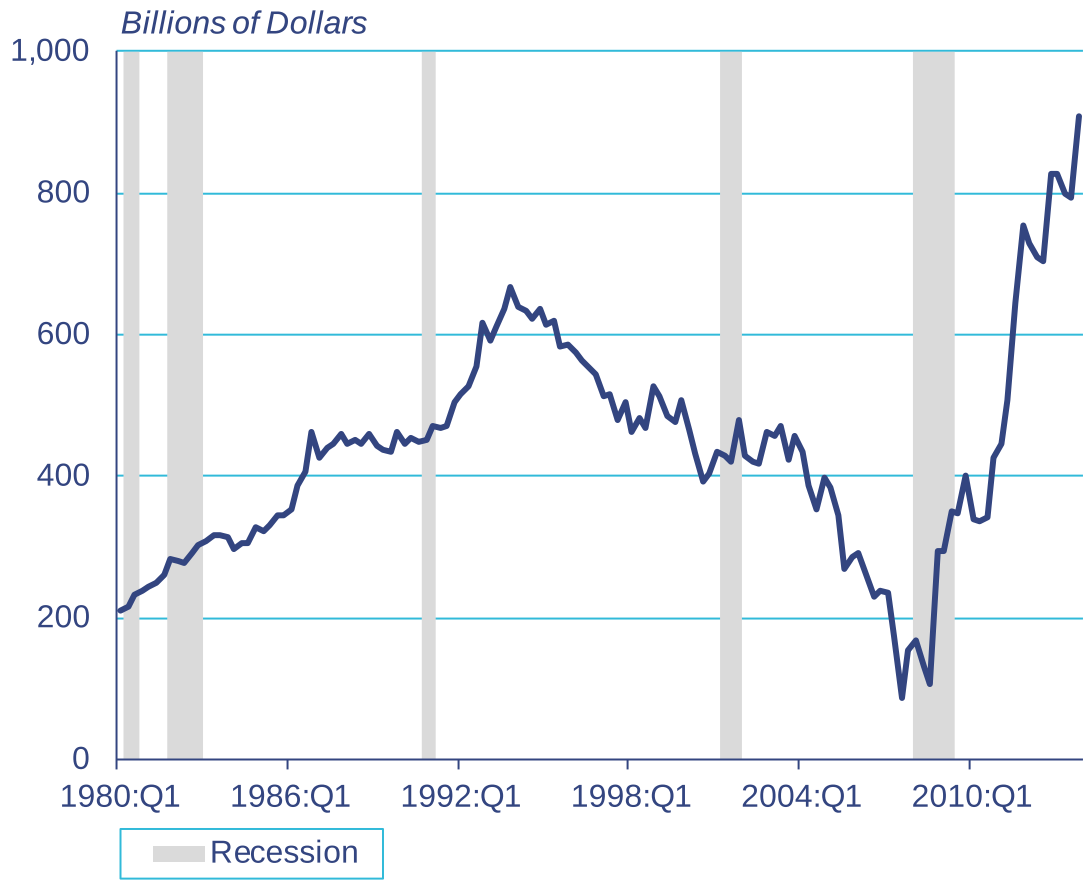
1980:Q1 - 2013:Q4



Source: Federal Reserve Board, NBER, Haver Analytics

Figure 8: Checkable Deposits and Currency of Households and Nonprofit Organizations

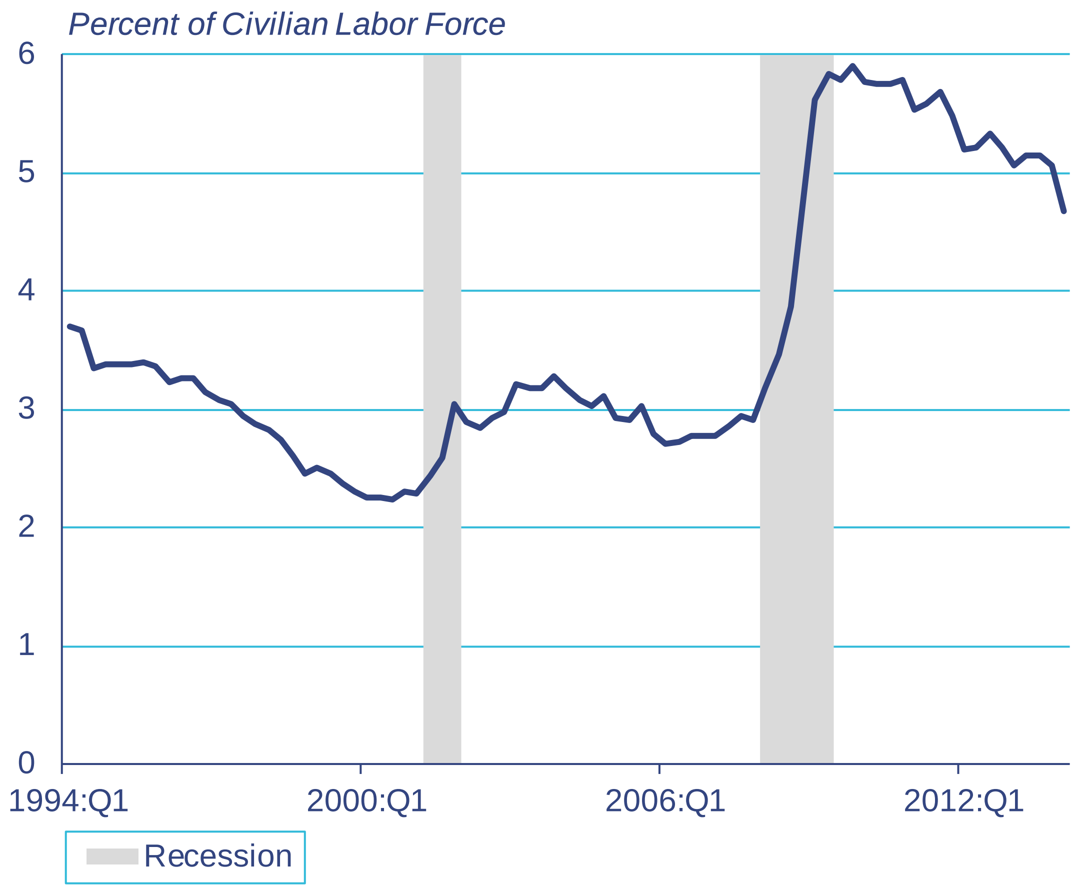
1980:Q1 - 2013:Q4



Source: Federal Reserve Board, NBER, Haver Analytics

Figure 9: Persons Employed Part Time for Economic Reasons as a Percent of the Civilian Labor Force

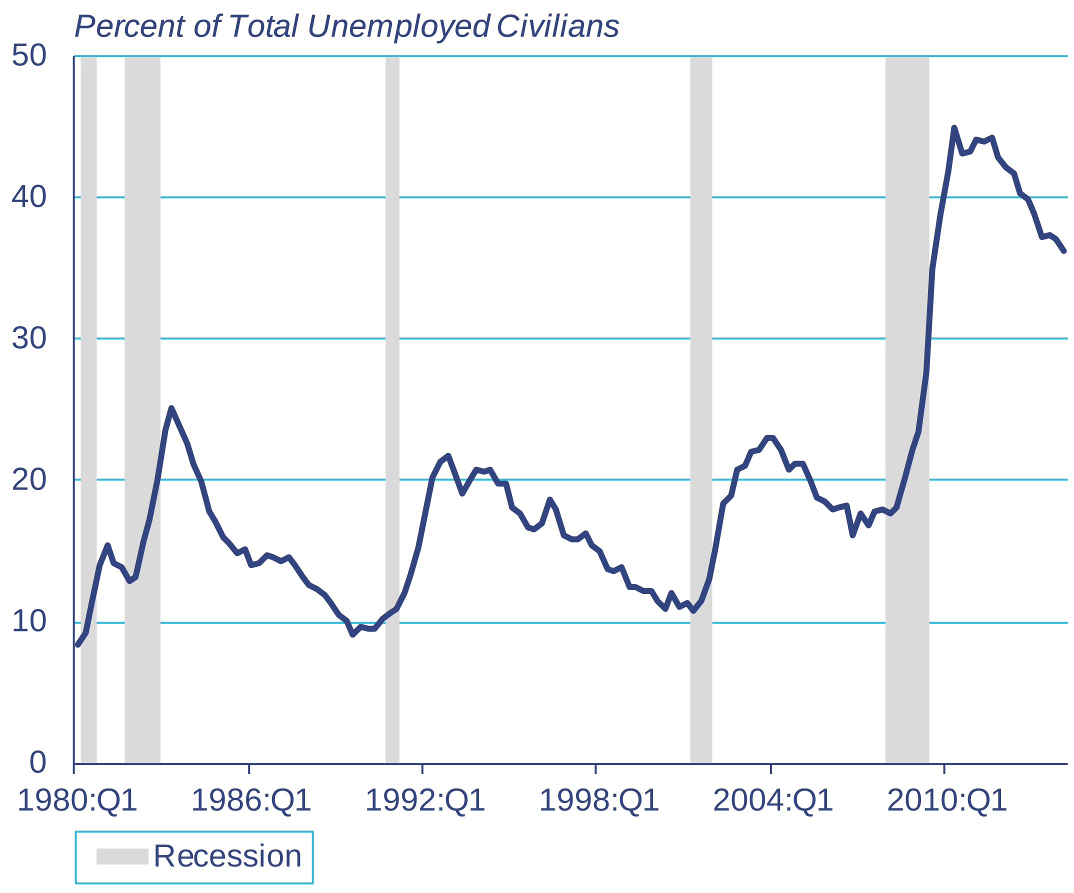
1994:Q1 - 2014:Q1



Source: BLS, NBER, Haver Analytics

Figure 10: Long-Term Unemployment: Persons Unemployed 27 Weeks or More as a Percent of Total Unemployed Civilians

1980:Q1 - 2014:Q1



Source: BLS, NBER, Haver Analytics

Will Historical Patterns in Economic Data Resume?

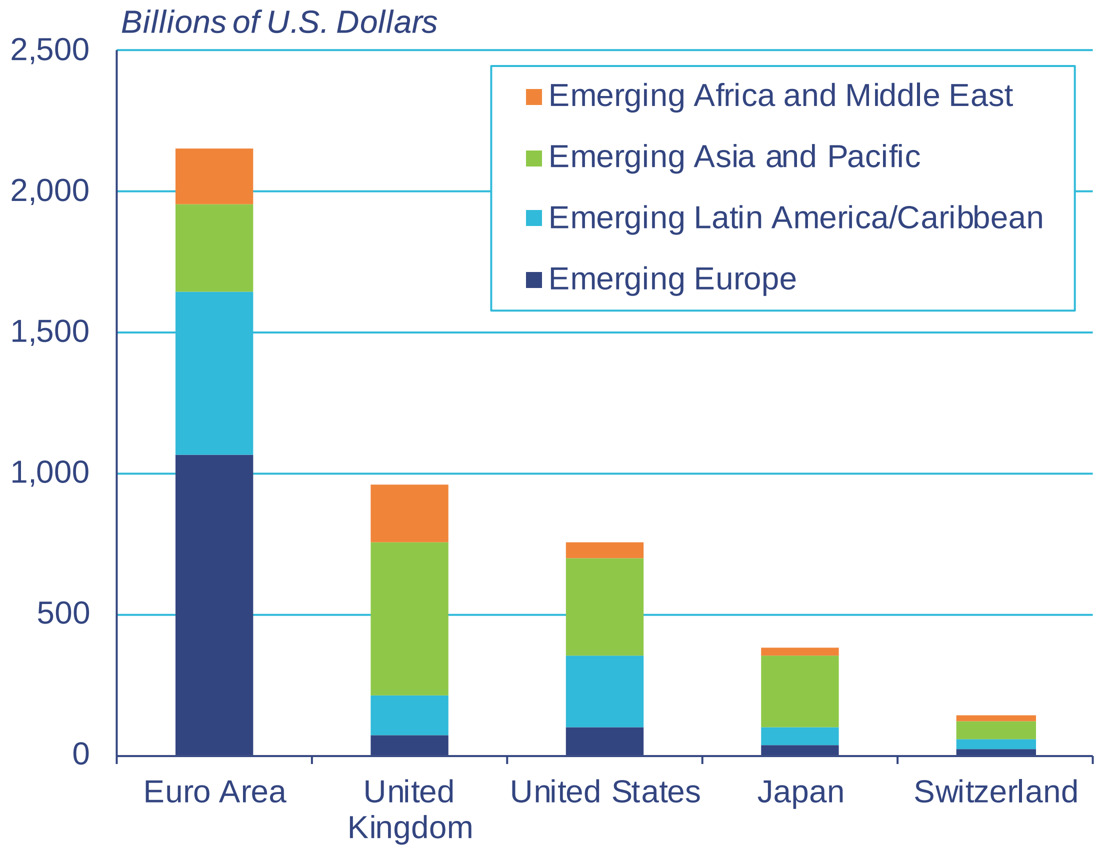
- Likely yes
- However, an unusual degree of uncertainty given that a variety of economic patterns have shifted since the recession…
  - Will new household formation grow more quickly?
  - Will households and firms continue to be so risk averse as a result of the crisis?
  - Will labor markets be strong enough to re-employ the long-term unemployed?
- Will previous patterns re-establish or will “scarring” mean longer-lasting impacts?

Shocks Outside of Our Control Can Still Be Important

- My forecast expects no significant foreign shock
- However, it is not hard to imagine a shock given the uncertain situation, for example, in Ukraine
- Europe is still only slowly recovering, with very low inflation and very high unemployment
  - Risk of oil disruptions
  - Risk of banking problems

Figure 11: Foreign Claims of Domestically Owned Reporting Banks on Emerging Market Economies Consolidated, Ultimate Risk Basis

2013:Q3



Note: Worldwide consolidated positions of domestically owned banks of 24 reporting countries.

Source: BIS Quarterly Review, March 2014, Statistical Annex Table 2B

Concluding Observations

- The economy continues to slowly improve
- However, there are several reasons to be cautious and patient
- We still have high unemployment and very low inflation
- Remember: Negative shocks to the economy may be more difficult to offset than positive shocks
- Monetary policy should remain highly accommodative until the economy is on a more solid footing