



***“Monetary Policy and Financial Stability”***

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It is a pleasure to be back in New Hampshire to discuss the economic outlook with you. While economic growth was modest in the latter part of 2012, recent data suggest some improvement in the first part of this year. On balance economic growth has been a bit better than expected, considering the notable headwinds of fiscal restraint and issues in Europe that reflect the still-fragile global recovery. The current expectation of many private-sector forecasters is that the economy will expand slightly more rapidly than its potential rate of growth in the near term.

Still, the economy remains far from where we want it to be, especially given the Fed's dual mandate for maximum sustainable employment and price stability. The national unemployment rate is 7.7 percent, far higher than the 5.25 percent unemployment rate to which I think the economy will eventually return. Similarly, the inflation rate (measured by the Personal Consumption Expenditures price index or PCE) over the twelve months ending in January 2013 averaged only 1.2 percent, far below the Federal Reserve's PCE inflation target of 2 percent.

Today, I will discuss both the economic outlook and the role that monetary policy has played in the improving economy. Certainly the "no free lunch" doctrine applies here, so along with the benefits there are some potential costs. I will discuss some of the potential costs of our current policies, particularly those dealing with financial stability. Of course I would add that the views I express today are my own, not necessarily those of my colleagues on the Board of Governors or the Federal Open Market Committee (the FOMC).

To preview my conclusions, I will argue that the Federal Reserve's policy of open-ended purchases of mortgage-backed securities and U.S. Treasury securities – currently proceeding at a pace of \$85 billion a month – has contributed importantly to the gradual improvement in labor markets that we have seen, despite the fiscal headwinds. I will also argue that the costs of these policies are outweighed by their benefits, and by the costs likely to result if we did not pursue them.

It is clear to me that monetary policy actions have been benefiting the economy. Some observers argue that the beneficial effects are offset by the cost of reduced financial stability. Certainly, this is an area we need to watch closely. Financial stability is

exceptionally important to me personally, as my research and talks underscore. I have been vocal about significant policy actions that, in my view, should be taken to avoid financial stability problems in the future. However, I see little evidence that our monetary policies are generating significant financial stability problems at this time.

Put simply, the benefits of our asset purchases have exceed any reasonable estimate of the costs. The asset-purchase program is having the desired impact, and the faster economic growth that is in part the result of monetary policy actions will bring us more quickly to a situation where this degree of additional accommodation is no longer necessary.

### **The Economic Outlook**

I expect the economy to grow at a rate a bit above 2 percent in the first half of this year, despite the headwinds resulting from more fiscal austerity than many expected. As Figure 1 shows, government spending, a GDP component, has declined for the past two years – even before the federal sequester. This is true for federal spending as well as state and local government spending. Fiscal austerity has been offset in part by improvements in housing and also auto sales (part of consumer durables). Housing and autos are the most interest-sensitive components of GDP, and their strength partly reflects the positive impact of Federal Reserve policies to push long-term interest rates down with our large-scale asset purchase program.

Figure 2 provides the longer-run economic forecasts of the 19 Reserve Bank presidents and Federal Reserve Board governors who participate on the FOMC, taken from the periodic report known as the Summary of Economic Projections or SEP.<sup>1</sup> Once

a quarter, each FOMC participant is asked to provide an economic forecast for a variety of variables, including the unemployment rate and the PCE inflation rate.

In the left panel, the range and midpoint of forecasts for unemployment at the end of 2013 and 2014 are provided for the most recent FOMC meeting, in March, and for the FOMC meeting last September when we began the open-ended purchases of mortgage-backed securities. Last September the FOMC participants expected the unemployment rate at the end of 2013 would range from 7 to 8 percent, with a midpoint of 7.5. At the March FOMC meeting the range from the SEP was narrower and lower – the range was now from 6.9 to 7.6 percent, and the midpoint had dropped by 25 basis points.

My own forecast for the unemployment rate at the end of 2013 is just above the midpoint of the range. Similarly, the forecast range for unemployment at the end of 2014 is now lower, and the midpoint fell by 30 basis points to 6.6 percent. For 2014, my forecast is again just a bit above the midpoint. In sum, FOMC participants see improvement in the unemployment forecast since last September – for both 2013 and 2014. And, comparing the midpoints of the unemployment rate forecast for the two years shows that the overall *level* has declined, but the *size* of the decline expected over 2014 is the same – six tenths.

Turning to the right-side panel, the midpoint of the PCE inflation forecast for FOMC participants fell from 1.8 to 1.65 for 2013 between the September FOMC and the March FOMC meetings. Furthermore, the midpoint forecast for 2014 fell from 1.9 to 1.75. My own forecast is below the midpoint of the range for both 2013 and 2014.

In sum, the March SEP was quite positive, with declines in the midpoint of the forecast ranges for both unemployment and PCE inflation, in 2013 and 2014. However,

even at the end of 2014, unemployment is expected to be almost 1.5 percentage points above most estimates of full employment. Given that the midpoint for the inflation forecast for both years is below our 2 percent target, I believe we have the flexibility to pursue a policy that encourages faster economic growth and a more rapid improvement in the unemployment rate. To me, that implies that we should continue our large-scale asset purchases of Treasury and mortgage-backed securities through this year – although the amount may need to be adjusted up or down, depending on how the economic situation evolves.

### **Benefits and Costs of Large-Scale Asset Purchases**

The Fed's purchases of long-term securities are intended to lower longer-term interest rates, like rates on home mortgages and auto loans, in order to promote faster economic growth. These purchases also encourage households and businesses to shift somewhat from riskless low-yielding short-term government securities to investments that bear a sensible degree of risk and have a stronger economic effect, like corporate bonds and stocks.

Federal Reserve Bank of Boston staff use two different models to estimate the impact of asset purchases on the economy. One explicitly articulates household and business behaviors<sup>2</sup> and the other is a purely statistical model.<sup>3</sup> Reassuringly, both models give similar results. Our best estimate implies roughly a one-quarter-point decrease in the unemployment rate for a \$500 billion asset-purchase program.

By this estimate, the benefits of the large-scale asset purchase (LSAP) program include almost 400,000 additional workers employed for every \$500 billion in purchased

assets (which earn a return while on the Fed's books), returning to our inflation target somewhat more quickly, and a somewhat better debt-to-GDP ratio as a result of the lower interest rates and improved GDP and revenue growth. While these estimates are model dependent, and are clearly subject to estimation error, they are broadly consistent with other studies – and with the growth in asset prices and the expansion of the interest-sensitive components of GDP seen since last September.

One of the potential costs of LSAPs would be that they could be viewed as inflationary. Most of the original critics of LSAPs voiced concerns over the potential impact on inflation and inflation expectations. However, the expansion of the Federal Reserve's balance sheet began in 2008 and five years later we currently have a PCE inflation rate of 1.2 percent, well below our 2 percent target. As the years have passed and inflation has remained stable, this criticism has become more muted.

FOMC participants seem to agree with the assessment: looking at the range of FOMC participant forecasts from the SEP for March, most FOMC participants expect us to undershoot our 2 percent target this year. And in 2014, while the range extends to 2.1, most indicate that inflation would be between 1.5 and 2.0 percent, undershooting or achieving the target (an observation based on the published central tendency of 1.5 to 2.0 percent).

A second concern expressed about LSAPs is that they might undermine financial stability. For example, if one expects the Fed to hold short-term rates at zero for a long time, one could choose to earn higher yields by taking on substantially more credit risk or interest rate risk.

It is true that the Fed's low interest rate policies are intended in part to encourage additional, responsible risk-taking of the sort that advances real economic activity and growth – for example, spurring banks to lend more rather than hold cash or government securities, and non-financial firms to seek higher-return investment opportunities rather than hold cash or government securities. However, it is possible that the expectation of very low interest rates could encourage too much risk-taking – in the form of excessive leverage, or taking credit risks that could not withstand another economic slowdown. While some households or firms may choose to take excessive risks, even with more normalized interest rates, it is the widespread taking of excessive risk – particularly by leveraged institutions – that is likely to generate macroeconomic financial stability problems.

Some observers have noted that stock prices have risen quite substantially, as shown in Figure 3. Of course our policy doesn't specifically target a particular asset market, but encouraging investors and firms to take more of the responsible risks that contribute to economic activity and growth would normally mean a shift into assets such as stocks and investments with higher expected returns.

Make no mistake, this would pose a financial stability problem if stock prices had significantly outstripped likely earnings – particularly if those investing in stocks had become highly leveraged and were particularly susceptible to a reversal in share prices. Figure 4 shows the S&P stock index relative to composite operating earnings over the past 20 years. While share prices have risen, so have operating earnings. And while there has been some increase in the ratio, it remains well below the 20-year average.

Other observers have noted that residential real estate prices have risen significantly in some markets, and that this could pose a financial stability problem. Since homes are normally purchased with significant debt, a rapid increase in prices could risk a repeat of the problems of the past decade. Figure 5 looks at the Case-Shiller home price index in a variety of metro areas. While housing prices have risen in many markets recently, they remain well below their peak prices.<sup>4</sup> Furthermore, if one compares an index of house prices to a rent index (shown in Figure 6), assessing whether the values of homes are approximately in line with the services that housing provides, as reflected in rental rates, house prices have now fallen enough that this ratio is back to where it was in 1993, well before the run-up in house prices.

Another area of potential concern has been the increase in high-yield bond issuance. As Figure 7 shows, high-yield bond rates are now quite low by historical standards. Firms with high-yield bonds are refinancing those bonds, much like many homeowners have refinanced their houses. This refinancing improves the cash flow of companies and makes them more able to weather shocks. However, if these yields are low because investors are bidding aggressively for such bonds, reaching or over-reaching for higher yields in a low interest rate environment, then one would expect to see high-yield bond rates fall more than relatively safe rates, reflecting the strong desire to take on more of this debt at lower yields, despite its higher risk.

But Figure 8 shows that while the rates have fallen, the decline has largely been due to the decline in all longer-term interest rates, including safe Treasury rates. The spread between high-yield bonds and 10-year Treasury securities is currently a little below the average spread over nearly two decades.<sup>5</sup> That means that high-yield rates



have fallen approximately in line with the rates on safe assets, implying stable rather than significantly diminished compensation for risk. As Figure 9 shows, high-yield bond rates have been declining in a manner quite similar to other rates, such as rates on home mortgages and auto loans.

Another way of looking at this data is that it highlights that the Fed's program of purchasing long-term securities has affected a wide range of financial markets – from safe Treasuries to mortgages to auto loans, well beyond the specific market where the purchases are occurring. Thus, the decline in high-yield bond rates looks broadly in line with other market rates, and the widespread rate declines are contributing to a faster recovery than we would otherwise have seen.

Another potential area of concern is banking. Asset price declines have much greater economic impact if the assets are held by highly leveraged financial institutions that may respond to losses by reducing credit availability.

But here the news is somewhat encouraging as well. Figure 10 shows the capital ratios for the largest banks. Since the financial crisis in 2008, banks have restored their capital ratios and have raised capital levels much higher than they were prior to the crisis and recession.<sup>6</sup> This reflects both the banks' tightening of their own capital levels, and the impact of our stress tests which reveal whether banks are holding sufficient capital to weather an adverse economic, interest rate, or market shocks. The increased scrutiny of capital and liquidity at banks has made banks much better positioned to withstand potential future economic shocks.

Even with more capital and liquidity, however, banks can experience difficulties if they have very large positions in asset classes that could experience sharp declines in

prices. Some observers have noted that farmland prices have experienced significant increases in prices over the past several years. Figure 11 provides the banking industry's exposure to agricultural loans by bank size. The largest banks have relatively small exposures to agricultural loans, less than 1 percent for the largest two categories (banks exceeding \$1 trillion in assets and banks from \$100 billion to \$1 trillion in assets). Furthermore, in some parts of the country, like New England, and in urban based areas, banks' exposure to agricultural loans is quite modest.

However, in agricultural areas of the country, some smaller banks have a significant exposure to agricultural loans. Such exposures are unlikely to pose financial stability concerns that affect the nation. In such circumstances, raising interest rates on all household and business borrowers, as some have suggested might be appropriate in response to a boom even in such a narrowly-held sector, seems to me a very blunt tool to address this exposure. Instead, this seems a particularly good area for continued, enhanced supervisory focus with individual banks – with large agricultural exposures being challenged by bank supervisors to ensure the banks have sufficient capital to sustain a theoretical reversal in farmland prices.

In sum, broad-based financial stability concerns do not seem particularly acute at this time. Interest rates in most markets have fallen, and asset prices are rising. This is the expected and intentional result of the Fed's efforts to promote a more rapid return to more normalized conditions. As the economy continues to improve, and labor markets and inflation return to more normalized levels, the recent levels of monetary accommodation can be reduced.

This is not to say we should not be vigilant about potential financial stability concerns. We should remain humble about our ability to detect such imbalances, given our failure to do so in the recent crisis. Thus we should closely monitor whether the high degree of monetary accommodation is having unintended consequences. I would now like to briefly discuss some particular financial stability concerns that I believe should be watched carefully.

### **Financial Stability Monitoring and the Need for Additional Regulatory Focus**

While the Federal Reserve's accommodative monetary policy has been an important driver of the current economic recovery, and the financial stability costs appear relatively modest at this time, we cannot be Pollyannas. There are areas that we should closely monitor. Some areas that bear watching, in my view, are specific markets where underwriting standards are slipping – or where rapid growth in financial products could become a more significant concern.

In terms of underwriting standards, the covenant quality on new high-yield bond issuance should be closely monitored. Bond covenants are intended to protect investors, and the issuance of bonds that reduce or eliminate common covenants in their contracts could become an area of concern. In fact, there is some evidence that some new bond issuance reduces covenants that protect investors.<sup>7</sup>

Also, financial structures that involve the use of short-term borrowing to finance longer-term assets should be monitored carefully. For example, agency real estate investment trusts (agency REITS) have grown rapidly, involve leverage, and are

susceptible to sharp interest rate movements. Such financing structures need to be monitored to ensure they do not pose broader financial stability concerns.

Finally, many non-depository financial institutions that were susceptible to runs during the financial crisis still have not resolved that run risk. For example, money market mutual funds experienced a severe run requiring substantial government intervention during the crisis, yet the regulatory reform effort is moving only slowly. Similarly, Federal Reserve Governor Daniel Tarullo<sup>8</sup> and New York Fed President William Dudley<sup>9</sup> have raised concerns about broker-dealers and wholesale funding markets. These concerns have substantial merit and deserve attention.

### **Concluding Observations**

In conclusion and in sum, the economy continues to improve, but at a painfully slow pace. Actions taken by the Federal Reserve to speed up the pace of the economic recovery seem to be having the desired impact. Interest-sensitive sectors are growing more rapidly, asset markets are returning to pre-crisis levels, and economic forecasters are expecting continued improvements over the next several years.

While the benefits of our actions continue to outweigh the costs, we need to closely monitor financial instruments, financial institutions, and financial markets for potentially emerging financial stability concerns. There are areas that I have highlighted today that require close monitoring – including, unfortunately, some problems in financial market that were significant contributors to the financial crisis but have not yet been fully remedied.

While the economy is improving, global financial conditions remain fragile, as events in Europe are highlighting. And the economy still has a long way to go before we have full employment and PCE inflation at about 2 percent. Still, I believe the Federal Reserve will continue to do its part in this process, with a clear focus on improving economic conditions for all Americans.

Thank you.

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<sup>1</sup> The complete Summary of Economic Projections is released with the minutes of the FOMC meeting three weeks after the date of the policy decision. Table 1 of the SEP, containing the economic projections, is released in advance, following the FOMC meeting at the time of the Chairman's press conference. Table 1 contains the range and central tendency of the projections for GDP growth, the unemployment rate, PCE inflation, and core inflation.

<sup>2</sup> In other words is more structural in nature.

<sup>3</sup> A parsimonious vector autoregression model.

<sup>4</sup> An exception is Denver, which did not experience a substantial decline.

<sup>5</sup> More precisely, over the 17 years from March 1996 to the present – the period for which the data series was available.

<sup>6</sup> *Quality* of capital has also improved, in addition to *quantity*. There has also been a significant improvement in the quality of capital as evidenced by the large increase in the more narrowly-defined tangible capital. Tangible capital, which is more readily available to absorb losses than some broader measures of capital, increased from 2.4% of tangible assets at the close of 2008 to 6.9% of tangible assets at the close of 2012 for the same group of large U.S. banking organizations used in the Tier 1 common capital ratio pictured in Figure 10.

<sup>7</sup> The covenant quality decline (or the rise of “covenant lite” arrangements) is present in both leveraged loans and high yield bonds.

<sup>8</sup> See <http://www.federalreserve.gov/newsevents/speech/tarullo20121204a.htm>

<sup>9</sup> See <http://www.newyorkfed.org/newsevents/speeches/2013/dud130201.html>