"The Economic Outlook and Monetary Policy"

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I would like to thank the Club for your invitation, and in particular Mark Olson, a former member of the Fed's Board of Governors.

It is a great pleasure to be back in Minneapolis. When I was in graduate school at the University of Wisconsin at Madison, my brother was in graduate school at the University of Minnesota – so I have fond memories of visiting the Guthrie Theater, enjoying the lakes, and seeing the passionate way a warm day is welcomed in this city.

I am also grateful that you were looking for a speaker in May, and not January.

My comments today will focus on the progress the economy has made since the Federal Reserve adopted an open-ended large-scale asset purchase program last September. I should mention as I always do that my comments reflect my views, not necessarily those of my colleagues on the Fed's Board of Governors or the Federal Open Market Committee (FOMC).

At last September's meeting of the FOMC, we took into account the August unemployment rate of 8.1 percent, and weighed concerns that without more policy accommodation the economy would make little progress in returning to full employment in the near term.

Since adopting an asset purchase program focused on mortgage-backed securities (MBS) last September,[1] and additional longer-term Treasury securities in December,[2] there has been some evidence of strengthening labor markets. The unemployment rate is currently 7.5 percent, and payroll employment growth has averaged more than 200,000 jobs per month over the past several months. I expect that the unemployment rate will be down to 7.25 percent or a bit lower by the end of the year. This has been my forecast since the beginning of the year, but the recent incoming data have bolstered my confidence in that degree of improvement being achieved. In fact, I see it as a quite positive sign of underlying economic strength that labor markets are improving despite significant fiscal "headwinds" in the form of the payroll tax increase and the federal budget sequester.

What are the implications of these incremental changes in the economy for the Federal Reserve's asset-purchase program? The program was designed to continue until there was a substantial improvement in the outlook for the labor market, as long as the benefits of the purchases outweighed the costs. My personal view is that the benefits of this accommodative monetary policy program still significantly outweigh the costs.

While some improvement in labor markets has been achieved, it does not yet constitute progress sufficient to merit halting the asset purchase program.

As for the costs, the Fed is and should be very attuned to unintended consequences – and is intently monitoring an array of asset prices, including stock prices, housing prices, and other widely held assets. At this point it seems that fundamentals are prevailing, and potential costs are well contained.

I also believe that the Federal Reserve should make adjustments to the program based on economic outcomes – that if the economy and the outlook improve, the rate of purchases could be gradually reduced, rather than suddenly stopped once we have achieved substantial improvement in labor markets. By the way, a reduction is one possibility, but of course adjustments could be down or up – because if the incoming economic data do not reflect improvements consistent with both elements of our dual mandate, I believe the Fed should be willing to *increase* asset purchases.

Progress in the Economic Outlook

Figure 1 shows how the Blue-Chip forecast for the unemployment rate at the end of 2013, and the Survey of Professional Forecasters[3] projection for the same, have evolved since last September. As the actual, current unemployment rate has slowly receded, there has been a gradual improvement in the forecast for the unemployment rate at the end of this year. Both forecasts are now projecting the unemployment rate will be lower at the end of the year than they had projected last September, although they are still not quite as optimistic as my own forecast.

Turning to inflation measures, Figure 2 shows the evolution since last September of the Blue Chip forecast for the Consumer Price Index (CPI) at the end of 2013, and the Survey of Professional Forecasters projection for the Personal Consumption Expenditures (PCE) inflation rate at the end of 2013. Both show declining forecasts of inflation for 2013, as incoming data consistently come in below forecasts – raising the possibility that inflation will fall further below the Federal Reserve's 2 percent target.

Figure 3 shows the growth in the Federal Reserve's balance sheet.[4] We have been purchasing $85 billion in securities per month. Were we to decide to lower the purchase amount somewhat, our assets would continue to rise but at a more modest rate. Thus we would be increasing monetary accommodation, but at a slower pace.

Of course, many asset prices are calibrated to the anticipation of our cumulative purchases. Thus the *effect* of our purchases ultimately depends on whether they result in a larger or smaller balance sheet for the central bank, which in turn depends on when the purchase program ends, given the pace of purchases. If asset purchases at a lower rate were to continue for longer than they would otherwise, the Fed's balance sheet could actually grow larger than it would with more sizable purchases over a shorter period. So, in short, altering the flow of purchases may or may not result in a smaller central bank balance sheet, depending on how long the reduced inflow of assets continued.

Figure 4 provides a scatter diagram that attempts to depict the economy's experience with inflation and unemployment, the two facets of the Federal Reserve's dual mandate from Congress. Of course a variety of factors play a role in these outcomes, not just monetary policy – but it is instructive to look at the actual recent experience.

On the horizontal or x axis I have plotted the PCE inflation rate minus 2 percent – so when the inflation rate is at our target, 2 percent, the dot should lie on the vertical or y axis. If inflation is above 2 percent it will be to the right of the vertical axis and if inflation rate is undershooting our target it will be to the left of the vertical axis. By the way, while the FOMC has only had an explicit 2 percent inflation target for the past 16 months, there is strong empirical evidence suggesting that the central bank had an *implicit* 2 percent inflation target over the past two decades.[5]

The chart's vertical or y axis focuses on the employment side of our mandate. It plots the deviation of the unemployment rate from the Congressional Budget Office's (CBO's) estimate of full employment. When the unemployment rate is above the full employment level, the observations are above the horizontal or x-axis, and when the unemployment rate is below the full employment level the observations are below the horizontal axis.

In short, a hypothetical "bull's eye" outcome reflecting the dual mandate framework could show up as an inflation rate of 2 percent and an unemployment rate at the CBO's estimate of full employment – and such an observation would lie at the intersection of the two axes. Points that are near the intersection of the axes could be considered close to achieving both elements of the mandate.

The three red diamonds represent the most recent three quarters. They appear in the upper left quadrant, where unemployment is well above the full employment level and inflation is below target. The red diamonds are well above the cluster of observations representing quarters where performance was closer to mandate (closer to the origin where the axes cross) – but at the same time are much closer to the origin than at earlier stages of the recovery, when we experienced much higher unemployment rates than we see currently.

Figure 5 provides the same information as Figure 4, but uses the *core* PCE measure of inflation rather than the *total* PCE. With the core measure, the more volatile food and energy prices that the Federal Reserve cares about but cannot control are excluded. Clearly this measure of the inflation rate does not show as wide a range of observations, in particular because it does not encompass the significant swings in oil prices that we have seen over the past two decades.

The chart clearly shows a dense set of observations near the origin and a somewhat less dense set of observations above the three red diamonds. The chart implies that we are transitioning from being well away from full employment, and have been moving closer to the horizontal axis as the economy has recovered.

Figure 6 shows total PCE inflation over a longer time period, the past three decades. The solid horizontal line reflects the most recent observation of total PCE inflation. While there are three periods when total PCE inflation has been lower over the past 30 years, the current PCE inflation rate is much lower than it has been over most of that period.

Figure 7 shows the *core* PCE inflation over the past three decades, again with the most recent observation reflected in a dark horizontal line. This shows even more starkly just how low the inflation rate is currently. The current core PCE inflation rate is close to the low point for the past 30 years.

Switching from inflation to unemployment, Figure 8 shows the unemployment rate over the past three decades with a dark horizontal line at 7.5 percent unemployment, the current unemployment rate. While the unemployment rate has fallen significantly from its peak during this business cycle, it is still quite high. At an unemployment rate of 7.5 percent, the rate is above the peak level in the last prior recession (2001) and near the peak level associated with the 1990 recession.

The charts highlight that while we have seen some improvement in labor markets, the unemployment rate remains well above what can be considered full employment, and the inflation rate remains well below target. In fact, core inflation remains at the very low end of recent experience, and the unemployment rate is close to the cyclical peaks of the past two recessions. And as I mentioned before, potential unintended costs of the accommodative policy are not currently evident. Taken together, these facts provide the rationale for my own view that, while we have seen some improvement in labor market conditions, significant accommodation remains appropriate at this time.

Disaggregated Labor Market Data

Figure 9 shows the pattern of unemployment by state – with dark green representing states that have had a decline in the unemployment rate of 1.0 percent or more since last September, light green representing states that have had a decline between 0.5 and 1.0 percent, yellow representing states that have had a decline ranging from 0.0 to 0.5 percent, and red representing states that have had an *increase* in the unemployment rate.

The overall improvement in unemployment rates has been widespread. Only five states had higher unemployment rates in April 2013 than in September 2012, and one of them is North Dakota – a state that has a very low unemployment rate of 3.3 percent.

Some of the states with the biggest declines in the unemployment rate have been among those with very high rates, such as Nevada, Rhode Island, California, and Florida. Also notable is the fact that states that were particularly troubled by falling real estate values and elevated foreclosure – such as California, Florida, and Nevada – are all among the states with the largest declines in the unemployment rate.

It is also instructive to examine not just unemployment rates but the state patterns in payroll employment growth – since in some states the unemployment *rate* fell in part because of declines in the labor force, which could be the result of discouraged workers giving up the search for a formal job. Figure 10 shows payroll employment growth by state. Dark green states have had positive payroll employment growth that expanded faster than the labor force. Light green states have had increases in payroll employment but no increase in the labor force. Yellow states have had positive payroll employment growth, but the expansion has been slower than growth in the labor force. And the red states have had declines in payroll employment.

It is encouraging that only three states have experienced declines in payroll employment. Also, those states that were hit hardest by declines in real estate values – California, Florida, and Nevada – are all among the states that have experienced growth in payroll employment that exceeds growth in the labor force.

Taken together, Figures 9 and 10 indicate that improvements in labor markets have been relatively widespread, and that regions that were particularly impacted by real estate problems are among the states that have recovered the most since last September. Overall, this indicates that the economic recovery is *beginning* to positively impact most regions of the country.

Concluding Observations

In summary and conclusion, since last September there has been continued slow improvement in labor markets. Most regions of the country now have better labor market conditions than they did last September. Despite the slowly improving labor market outlook, the unemployment rate remains at levels close to the peaks of the past two recessions, indicating that the economy remains far from the full employment level.

In terms of monetary policy, it would in my view be premature to stop the Fed's large-scale asset purchase program at this time. I believe the Fed should continue the purchase program until we see more sustained improvement in labor markets and have greater confidence that the economic recovery is sufficiently self-sustaining to yield continued progress in reducing the still very high unemployment rate.

However, I would also say that it may be undesirable to abruptly stop purchases, so it may make sense to consider a modest reduction in the pace of asset purchases if we see a few months more of gradual improvement in labor markets and improvement in the overall growth rate in the economy – consistent, by the way, with my forecast, which is somewhat more optimistic than that of many private forecasters.

I would reiterate that with an open-ended asset purchase program, changing the flow of purchases does not necessarily yield, in the end, a smaller central bank balance sheet. That would depend on having a fixed point for cessation of purchases, combined with a lower flow of purchases. So, even if we were to adjust the rate of monthly purchases, the ultimate size of the Fed's balance sheet would depend on the point of cessation. If economic growth proves sufficient and the purchase program was not extended over a longer time period, the size of the balance sheet could be smaller than otherwise.

The bottom line is that we really need to see the economy grow, as I hope and expect, more quickly than at the 2.1 percent growth rate it has averaged over the recovery. Faster growth is essential to attaining inflation and employment outcomes consistent with the Federal Reserve's dual mandate from Congress – and more broadly for the economic wellbeing of the many Americans who have struggled through a long and slow recovery.

Thank you.

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[1] See the September 13, 2012 FOMC statement available at http://www.federalreserve.gov/newsevents/press/monetary/20120913a.htm

[2] After our program to extend the average maturity of our holdings of Treasury securities was completed at the end of 2012. See the FOMC statement from the December 12, 2012 meeting, available at http://www.federalreserve.gov/newsevents/press/monetary/20121212a.htm.

[3] See http://www.phil.frb.org/research-and-data/real-time-center/survey-of-professional-forecasters/.

[4] Discount Window loans and liquidity facility lending are included in "other assets" on the chart.

[5] See my remarks on April 12 (available at http://www.bostonfed.org/news/speeches/rosengren/2013/041213/index.htm), in particular the discussion around Figure 1.