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Thoughts on Unconventional Monetary Policy

Remarks by

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at

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It is great to be back at the Bipartisan Policy Center. I will comment briefly on the outlook for the economy and then turn to monetary policy.<sup>1</sup>

### **Near-Term Outlook**

Our economy has grown at an average annual rate of only about 2 percent since the recovery began exactly four years ago. That modest pace is notably weaker than the experience of past recoveries would have predicted, even accounting for the depth and duration of the Great Recession.<sup>2</sup> Since 2009, the question has been when the recovery will decisively take hold and begin to deliver the higher levels of growth that are needed to put people back to work more quickly.

Against that background, the Federal Open Market Committee (FOMC) met last week, and, among other tasks, each of the 19 members of the Committee submitted individual economic projections for growth, unemployment, and inflation for 2013 through 2015. These forecasts are combined into the Summary of Economic Projections (SEP), a high-level outline of which was released at the Chairman's press conference last week. FOMC participants generally expect an acceleration of the recovery through 2013 and 2014 and continued strong growth in 2015. While I make no claim to special forecasting skills, my individual projections are within the so-called central tendency of

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<sup>1</sup> Views expressed in this speech are mine and may not represent those of the FOMC or any of its members. I would like to thank members of the Board staff, including James Clouse, Dan Covitz, Jon Faust, John Maggs, Raven Molloy, Karen Pence, Jeremy Rudd, and Brad Strum.

<sup>2</sup> See Greg Howard, Robert Martin, and Beth Anne Wilson (2011), "Are Recoveries from Banking and Financial Crises Really So Different?" International Finance Discussion Papers 1037 (Washington: Board of Governors of the Federal Reserve System, March), [www.federalreserve.gov/pubs/ifdp/2011/1037/](http://www.federalreserve.gov/pubs/ifdp/2011/1037/); and Janet L. Yellen (2013), "A Painfully Slow Recovery for America's Workers: Causes, Implications, and the Federal Reserve's Response," speech delivered at "A Trans-Atlantic Agenda for Shared Prosperity," a conference sponsored by the AFL-CIO, Friedrich Ebert Stiftung, and the IMK Macroeconomic Policy Institute, held in Washington, February 11, [www.federalreserve.gov/newsevents/speech/yellen20130211a.htm](http://www.federalreserve.gov/newsevents/speech/yellen20130211a.htm).

the projections. Of course, the economy has looked to be poised for a breakout several times since 2009, only to disappoint. Will this time be different?

There are, in my view, good reasons to believe that the economy will continue to gain strength. I would point in particular to the housing sector, which in prior recoveries has been an important engine of growth. For the first two years of the current recovery, housing contributed nothing to growth, as housing investment hovered at extremely low levels. House prices declined sharply through most of 2011, wiping out about half of home equity and restraining consumer spending. But the housing market finally began to recover in early 2012, and that recovery seems to be proceeding strongly. Single-family housing starts have risen by more than 40 percent over the past two years, albeit from a low base. House prices are up more than 10 percent over the past 12 months. A better housing market has helped boost consumer attitudes from very low levels and supported consumer spending. The housing sector is still being held back by limited credit availability for less-creditworthy homebuyers and tight conditions for homebuilders. But overall trends suggest to me that the housing recovery can continue for many years and become an important contributor to growth.

The labor market has also made real progress, as I will discuss in a moment. Auto sales have nearly returned to pre-recession levels. Our financial system is far healthier and better capitalized than it was before the crisis. And after losing one-half of its value during the financial crisis, the stock market now exceeds its pre-recession peak in nominal terms.

Growth would be higher this year but for U.S. fiscal policy. The Congressional Budget Office (CBO) estimates that federal tax increases and spending cuts will slow the

pace of real gross domestic product (GDP) growth about 1-1/2 percentage points this year.<sup>3</sup> Tight fiscal policy may also be preventing faster reductions in unemployment. I have been surprised by how well consumer spending--and private domestic final demand more generally--have held up in the face of this pronounced fiscal drag. In the first quarter of this year, consumer spending and private domestic final demand rose at an annual rate of just above 2-1/2 percent. More-recent indicators of household and business spending suggest that private demand is continuing to advance at a reasonable clip despite the fiscal tightening. This strength is a reason for optimism. Indeed, even if real GDP rises only 2 percent or so this year--which is at the bottom end of the range of projections from the June SEP--it would still represent a solid performance in the face of these fiscal headwinds.

There is still a long way to go before we achieve a full recovery. The healing process will take time, but we continue to make real progress.

Let's turn to monetary policy, starting with the dual mandate, pursuant to which the Congress directs the Federal Reserve to conduct monetary policy so as to foster stable prices and full employment.

### **Dual Mandate—Inflation**

Inflation is currently running below the FOMC's 2 percent long-term objective for personal consumption expenditure (PCE) price inflation, and these readings have our attention. But inflation often fluctuates for transitory reasons. We generally try to look through such transitory movements, whether above or below our objective. There is some reason to think that the recent low readings partly reflect transitory factors. Other

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<sup>3</sup> Congressional Budget Office (2013), *The Budget and Economic Outlook: Fiscal Years 2013 to 2023* (Washington: CBO, February), [www.cbo.gov/publication/43907](http://www.cbo.gov/publication/43907).

factors point to a gradual increase in inflation. While some measures of longer-term inflation expectations have moved down, others remain more stable. Most FOMC participants anticipate that inflation will gradually move up to the FOMC's 2 percent target over coming years. Continued low or falling inflation could, however, raise real concerns. Inflation can be too low as well as too high. I have no doubt that the Committee will monitor this carefully and defend the inflation goal "from below," if necessary.

### **Dual Mandate—Full Employment**

The employment side of the dual mandate is a different story. From payroll employment's peak in January 2008 to its trough in February 2010, the U.S. economy lost nearly 9 million jobs, while the unemployment rate rose from an average of about 4-1/2 percent in 2007 to a high of 10 percent in October of 2009. As the economy has recovered, we have regained only about three-fourths of those lost jobs. Unemployment was 7.6 percent in May and so has come down about 2-1/2 percentage points from its peak. A broader measure that includes those who can only find part-time work, as well as those who want a job but have stopped looking, was 13.8 percent last month; in 2007, this measure averaged 8-1/4 percent.

In addition, long-term unemployment remains very high--4.4 million Americans or about 37 percent of the unemployed have been out of work for six months or more. These numbers represent tragedy and hardship for these workers and their families, of course, but they also represent a crucial economic challenge. The longer workers are unemployed, the greater the likelihood that their skills will erode and workers will lose

attachment to the labor force, permanently damaging the economy's dynamism and potential output.

To summarize, although inflation is below target, it is expected by most observers to return over time to the Committee's 2 percent objective. The Committee will continue to carefully monitor inflation developments. But we are still far from full employment. The case for continued support for the economy from monetary policy is strong.

### **Implications for Monetary Policy**

The federal funds rate has been near zero since late 2008, and since then the FOMC has been providing accommodation through two relatively new policy tools. These tools are "forward guidance" about the future level of the federal funds rate, which is the interest rate charged on overnight loans between banks, and large-scale asset purchase programs ("asset purchases," or LSAPs).

In part, the forward-guidance tool is embodied in the thresholds the FOMC adopted last December. The Committee indicated its intention to hold short-term rates near zero at least as long as unemployment remains above 6.5 percent, provided inflation one- to two-years ahead is projected to be no higher than 2.5 percent.<sup>4</sup> And under the current flow-based LSAP program, adopted last year, we are purchasing \$85 billion a month in long-term Treasury securities and agency mortgage-backed securities (MBS). Although the level of purchases may vary depending on economic conditions, the program will continue until there is a substantial improvement in the outlook for the labor market, in a context of price stability.

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<sup>4</sup> The Committee's long-run objective for PCE inflation remains 2 percent. See Board of Governors of the Federal Reserve System (2013), "FOMC Longer-Run Goals and Monetary Policy Strategy," statement, January 29, [www.federalreserve.gov/monetarypolicy/files/FOMC\\_LongerRunGoals.pdf](http://www.federalreserve.gov/monetarypolicy/files/FOMC_LongerRunGoals.pdf).

I see the first tool, forward guidance about rates, as really an extension of traditional central bank rate-setting policy. By stating an intention to hold rates low and linking that intention to the path of the economy, forward guidance affects the path of longer-term rates and allows the market to make adjustments to these rates as economic conditions evolve.

The second tool is large-scale asset purchases. By purchasing and holding large amounts of Treasury securities and MBS, we put additional downward pressure on term premiums and so on long-term rates. Asset purchases are an innovative, unconventional policy. Their likely benefits may be accompanied by costs and risks, the nature and size of which remain uncertain.

These two policies are complementary but play somewhat different roles. Asset purchases are being deployed to add near-term momentum to the economy. After those purchases are eventually completed, the purchased assets will remain on the Fed's balance sheet for some time and continue to put downward pressure on rates. The Committee will continue to use interest rate policy, including forward guidance about short-term rates, as we return to full employment. Provided inflation remains in check, the Committee will begin to assess whether to increase short-term rates when unemployment reaches 6.5 percent. Two important considerations are likely to arise at that time. First, if inflation remains low, as expected, that would be a signal that there is still significant slack in the economy. Second, a variety of other information will shed further light on the health of the labor market, including the labor force participation rate, flows into and out of employment, and other measures of labor slack. After the Committee first raises short-term rates, it will take a balanced, and in all likelihood

gradual, approach consistent with its longer-run goals of full employment and inflation of 2 percent.

Both forward guidance and asset purchases work by lowering longer-term interest rates and contributing to an easing of overall financial market conditions. Lower rates increase economic activity through a variety of channels.<sup>5</sup> Businesses and households react to lower rates by investing and spending more. Lower rates also support the prices of housing and financial assets such as stocks and bonds. Higher asset prices increase wealth and, with a lag, induce higher spending.

In all likelihood, the current LSAP program will continue for some time. It is therefore appropriate to ask how well asset purchases have worked, and whether they are still working today.

## **Benefits**

Most research has found, and I agree, that the first round of purchases of longer-term securities, which began in November 2008, contributed significantly to ending the financial crisis and preventing a much more severe economic contraction. The second round of purchases that began in November 2010 also appears to have been successful in countering disinflationary pressures.<sup>6</sup>

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<sup>5</sup> See Jonathan McCarthy (2013), “The Monetary Transmission Mechanism,” speech delivered at “The Federal Reserve in the 21st Century: A Symposium for College Professors,” held in New York, March 4-5, [www.newyorkfed.org/education/fed21\\_2013.html](http://www.newyorkfed.org/education/fed21_2013.html).

<sup>6</sup> See Canlin Li and Min Wei (2012), “Term Structure Modelling with Supply Factors and the Federal Reserve’s Large Scale Asset Purchase Programs,” Finance and Economics Discussion Series 2012-37 (Washington: Board of Governors of the Federal Reserve System, May), [www.federalreserve.gov/pubs/feds/2012/201237/201237abs.html](http://www.federalreserve.gov/pubs/feds/2012/201237/201237abs.html); Arvind Krishnamurthy and Annette Vissing-Jørgensen (2011), “The Effects of Quantitative Easing on Interest Rates: Channels and Implications for Policy,” *Brookings Papers on Economic Activity*, Fall, pp. 215-65, [www.brookings.edu/~media/Projects/BPEA/Fall%202011/2011b\\_bpea\\_krishnamurthy.PDF](http://www.brookings.edu/~media/Projects/BPEA/Fall%202011/2011b_bpea_krishnamurthy.PDF); Stefania D’Amico, William English, David López-Salido, and Edward Nelson (2012), “The Federal Reserve’s Large-Scale Asset Purchase Programmes: Rationale and Effects,” *Economic Journal*, vol. 122 (November), pp. F415-F446; James D. Hamilton and Jing Cynthia Wu (2012), “The Effectiveness of Alternative Policy Tools in a Zero Lower Bound Environment,” *Journal of Money, Credit and Banking*,



Now that the financial crisis has receded and the economy is recovering at a moderate pace, are asset purchases still effective? In my view, the evidence across the channels is mixed, but positive on balance.

Economic models are used to provide a necessarily uncertain estimate of the effect on the economy of the FOMC's asset purchases. The Fed's workhorse macro model is FRB/US, which estimates a reduction of about 20 basis points in the unemployment rate after three years in the wake of \$500 billion in purchases of longer-term securities. There are reasons to think that this estimate may be too low; for example, FRB/US does not include any direct channel for LSAPs to boost house prices. There are also reasons to think that the estimate might be too high, since some of the channels by which lower rates spur economic activity could be attenuated in current circumstances, for example, by lower credit availability for small businesses and less creditworthy households, or corporate and household risk aversion.

My view is that the LSAPs continue to provide meaningful support for economic activity but perhaps less than what the FRB/US estimates suggest. Although the channels may not be working perfectly, it is unlikely that they are not working at all. Beyond these model-predicted effects, it also seems likely that the economy continues to benefit from the knowledge that the Federal Reserve is committed to supporting growth as long as necessary.

### **Costs of LSAPs**

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vol. 44 (February supplement), pp. 3-46; Diana Hancock and Wayne Passmore (2012), "The Federal Reserve's Portfolio and its Effects on Mortgage Markets," Finance and Economic Discussion Series 2012-22 (Washington: Board of Governors of the Federal Reserve System, June), [www.federalreserve.gov/pubs/feds/2012/201222/201222abs.html](http://www.federalreserve.gov/pubs/feds/2012/201222/201222abs.html); and Carlo Rosa (2012), "How 'Unconventional' Are Large-Scale Asset Purchases? The Impact of Monetary Policy on Asset Prices," Federal Reserve Bank of New York Staff Reports 560 (New York: Federal Reserve Bank of New York, May), [www.newyorkfed.org/research/staff\\_reports/sr560.html](http://www.newyorkfed.org/research/staff_reports/sr560.html).

What of the potential costs or risks of the asset purchases? A variety of concerns have been raised over time. With inflation in check, the most important potential risk, in my view, is that of financial instability. One concern is that our policies might drive excessive risk-taking or create bubbles in financial assets or housing. A related worry is that the eventual process of reducing purchases and normalizing the balance sheet may itself be destabilizing or disruptive to the economy. Indeed, recent volatility in markets is in part related to concerns about the possibility of a reduction in asset purchases. I'll address both of these broad concerns, starting with incentives for risk-taking.

Monetary policy has helped to keep real interest rates low. While longer-term real rates have turned positive in recent weeks, they remain at historically low levels. Experience suggests that low real rates, if maintained for a long time, can lead to asset price bubbles and eventually to financial instability. But low rates are not solely or even primarily a result of the Federal Reserve's accommodative monetary policies; they are rooted in the market's expectations of low inflation and the weakness of the economic recovery, factors weighing on rates not just in the United States but throughout the advanced economies.<sup>7</sup> Given low real rates and low inflation, expected nominal returns should be low across all asset classes. The concern would be that these conditions, and our policies, could be encouraging irrational expectations of high returns. Is there any sign of that now?

By most measures, equity valuations seem to be within a normal range. Whether one looks at trailing or forward price-to-earnings ratios, equity risk premiums, or option

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<sup>7</sup> See Ben S. Bernanke (2013), "Long-Term Interest Rates," speech delivered at "The Past and Future of Monetary Policy," a conference sponsored by the Federal Reserve Bank of San Francisco, held in San Francisco, March 1, [www.federalreserve.gov/newsevents/speech/bernanke20130301a.htm](http://www.federalreserve.gov/newsevents/speech/bernanke20130301a.htm).

prices, there is little basis for arguing that markets show excessive optimism about future returns. Of course, in the equity markets there is always downside risk.

But, as my Board colleague Jeremy Stein has observed, there have been signs of a “reach for yield” in the fixed-income markets for some time.<sup>8</sup> Demand for higher-yielding fixed-income securities has outstripped new supply. The result has been very low rates, declining spreads, increasing leverage, and pressure on non-price terms such as covenants. These concerns have diminished somewhat as rates have risen since mid-May. Nonetheless, since it is likely that asset purchases will continue for some time, markets will need careful monitoring.

What about house prices? At the peak of the bubble, house prices were more than 40 percent above their usual relationship to rents, according to one model that the Fed staff follows. At their trough, house prices had fallen about 10 percent *below* fair valuation. Given the price increases over the past year, they are--by the lights of this one model--moving back into the approximate neighborhood of fair valuation.

The second concern is that the process of normalizing monetary policy and the balance sheet could itself be destabilizing or disruptive to the economy. Many cite the experiences of 1994 and 2003, when long-term rates increased quite sharply on changing views about the likely near-term path of policy. In those instances, there were both changes in views about the economy and changes in the public’s understanding of the Federal Reserve’s policy intentions. These same two factors have affected markets in recent weeks.

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<sup>8</sup> See Jeremy C. Stein (2013), “Overheating in Credit Markets: Origins, Measurement, and Policy Responses,” speech delivered at “Restoring Household Financial Stability after the Great Recession: Why Household Balance Sheets Matter,” a research symposium sponsored by the Federal Reserve Bank of St. Louis, held in St. Louis, Mo., February 5-7, [www.federalreserve.gov/newsevents/speech/stein20130207a.htm](http://www.federalreserve.gov/newsevents/speech/stein20130207a.htm).

Market adjustments since May have been larger than would be justified by any reasonable reassessment of the path of policy. In particular, the reaction of the forward and futures markets for short-term rates appears out of keeping with my assessment of the Committee's intentions, given its forecasts. The June SEP shows that 15 of 19 participants see the first rate increase happening in 2015 or 2016. The path of rates will ultimately depend on the path of the economy, and the Committee has said that the first rate increase will not happen until a considerable time has elapsed after asset purchases have been concluded. Thus, to the extent the market is pricing in an increase in the federal funds rate in 2014, that implies a stronger economic performance than is forecast either by most FOMC participants or by private forecasters.

We have made significant strides in communication in recent years. The unemployment and inflation thresholds I discussed earlier, as well as the communication around asset purchases, are all designed to improve public understanding of the Committee's intentions. But communications are bound to be imperfect, and changes in the outlook can still lead to adjustments in asset prices. Thus, some volatility is unavoidable, and indeed is a necessary part of the process by which markets and the economy adjust to incoming information.

### **The Path Ahead for Monetary Policy**

Last week, the Chairman provided greater clarity about the path of asset purchases. Specifically, the Chairman noted that, if incoming data are broadly consistent with the Committee's sense of the economic outlook, the Committee currently anticipates that it would be appropriate to moderate the monthly pace of purchases later this year. If the subsequent data remain broadly aligned with the Committee's current expectations

for the economy, the Committee could continue to reduce the pace of purchases in measured steps through the first half of next year, ending purchases around mid-year. At that time, the unemployment rate would likely be in the vicinity of 7 percent, with growth consistent with further improvements and inflation heading back toward our objective. If unemployment reaches the 7 percent range, that would constitute a substantial improvement from the 8.1 percent unemployment rate that prevailed when the Committee announced the current program of asset purchases.

I want to emphasize the importance of *data over date*. If the Committee's economic outlook is broadly realized, there will likely be a moderation in the pace of purchases later this year. If the performance of the economy is weaker, the Committee may delay before moderating purchases or even increase them. If the economy strengthens faster than the Committee anticipates, the pace of purchases may be moderated somewhat more quickly. The path of purchases is in no way predetermined; we will monitor economic data and adjust our purchases as appropriate.

In my view, there has been real progress in the labor market. The Committee first adopted the "substantial improvement" test at the September 2012 meeting, so it is appropriate to measure the economy's progress against economic conditions at that time. When the Committee met in September, the unemployment rate stood at 8.1 percent. Today, just nine months later, the unemployment rate is 7.6 percent--a larger decline than most FOMC participants expected in September. At the time of the September meeting, nonfarm payrolls were reported to have increased at a monthly rate of 97,000 over the prior six months.<sup>9</sup> Today the trailing six-month average payroll growth is 194,000.

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<sup>9</sup> The level of payroll employment would subsequently be revised up, but the Committee didn't know at the September 2012 meeting that the revision would occur.

Other labor market indicators also show moderate progress, including aggregate hours worked, initial unemployment insurance claims, the duration of unemployment, and the share of long-term unemployment.

### **Conclusion**

There are many signs that the economy is healing. If the Committee's economic outlook is broadly realized, and we do see the first moderation in the pace of purchases later this year, that would be good news. The first reduction in purchases, when it comes, will be an acknowledgement of the economy's progress and a sign of the Committee's confidence in the path to full recovery.

In all cases, the path of policy will remain fully data-dependent. If economic growth, unemployment, or inflation do not meet the Committee's expectations, or if financial conditions evolve in a way that is inconsistent with continued recovery, the Committee will respond.

Thanks, and I am happy to take your questions.