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SPEECH

The 2015 Economic Outlook and the Implications for Monetary Policy

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It is a pleasure to have the opportunity to speak here today. In my remarks, I will focus on the 2015 economic outlook and the implications for monetary policy. In general, I will paint a reasonably positive picture—an economy that is likely to make further progress towards the Federal Open Market Committee's (FOMC) objectives of maximum sustainable employment in the context of price stability. In fact, if my own forecast is realized, I would expect to favor raising the FOMC's federal funds rate target sometime in 2015. This would be a welcome development, because it would signify that the economy has healed sufficiently to warrant a somewhat less accommodative monetary policy. As always, what I have to say today reflects my own views and not necessarily those of the FOMC or the Federal Reserve System.

The Growth Outlook Is Improving

Since the official end of the Great Recession more than five years ago, the U.S. economy has grown at a disappointing 2.3 percent annualized rate. Several times over that period, it appeared that growth was breaking out on the upside, but each time such hopes were disappointed. We are again at a similar junction. Over the past few quarters, the pace of economic growth has picked up and the broad consensus is that the U.S. economy will grow at about a 2 ½-3 percent annual rate over the next year.[1]

Will these forecasts once again turn out to be too optimistic? Subject to a few caveats that I discuss later, my view is that the likelihood of another disappointment has lessened. The consensus forecast seems like a reasonable expectation, in part, because several of the "headwinds" restraining U.S. economic activity in recent years have subsided. First, the housing sector is currently in much better balance. The overhang of housing associated with the housing boom has largely been absorbed, and a recovery in housing prices has significantly shrunk the proportion of borrowers that are underwater on their mortgages—that is, those households that have outstanding mortgage balances higher than the value of their homes. Also, measures of distress such as mortgage delinquencies and homes entering the foreclosure process have fallen.

Second, consumers are in better financial shape. Households are carrying less debt, with total household liabilities roughly $500 billion below their cyclical peak in 2008. Moreover, lower interest rates have facilitated significant mortgage debt refinancing, which has lowered the household debt service burdens. Depending on the particular measure used, household debt service burdens relative to income have fallen back to levels last seen in the 1980s and 1990s. In addition, household net worth has recovered sharply, boosted primarily by higher financial asset valuations, but also by some recovery in home prices.

Third, the fiscal restraint that has held back growth in recent years has ended, with the federal budget deficit now at a level consistent with a stable to slowly declining federal debt-to-GDP ratio. In the aggregate, state and local governments have also ended their retrenchment. One important piece of evidence in this regard is the fact that state and local government employment is now rising at between 5,000 and 10,000 per month, after generally contracting during the 2009 to 2012 period.

Now that these headwinds have subsided, buoyant financial market conditions spurred, in part, by a very accommodative monetary policy should do more to support economic activity. In particular, compared to historical patterns, the current household net worth-to-income ratio is high relative to the personal saving rate. This suggests some scope for a decline in the household saving rate. If this were to occur, consumption growth would outstrip income growth. Similarly, financial market conditions are conducive to sustained gains in business fixed investment. Equity prices are high, borrowing costs are low, cash flows are strong and corporate balance sheets are healthy.

Another positive development for both the U.S. and the global economy is the sharp decline in energy prices. Let's start with the U.S. perspective. Despite the impressive recent gains in natural gas and crude oil production, the U.S. still is a net importer of energy. As a result, falling energy prices are beneficial for our economy. In economist parlance, falling energy prices are a positive "terms of trade" shock for the U.S. Over the near-term, this will lead to a significant rise in real income growth for households and should be a strong spur to consumer spending. Since energy expenditures represent a higher proportion of outlays for lower income households, falling energy prices disproportionately raise their real incomes. Also, because such households are more liquidity constrained, with budgets that often bind paycheck to paycheck, they have a higher tendency to spend any additional real income. As a result, much of the boost to real household income from falling energy prices is likely to be spent, not saved.

More broadly, the decline in energy prices also will be supportive to the global growth outlook in two other ways. First, by pulling

down inflation in many countries it will spur more expansive monetary policy. We are already seeing this response in Europe and Japan. Second, the decline in energy prices is also likely to ease the global fiscal stance. Over the near-term, for oil exporting governments, falling revenue will not be fully offset by reduced expenditures. This will cause major oil exporters to run either smaller budget surpluses or bigger budget deficits. In the aggregate, the swing from oil producers to consumers is quite large. For example, a $20 per barrel decline in global oil prices results in an income transfer of about $670 billion per year from producers to consumers.[2] This understates the total effect because it does not include any knock-on reductions in other energy prices—such as for natural gas—that, outside the U.S., often are linked to oil prices.

Obviously, if the oil price declines were to both intensify and persist, this would have negative implications for oil and gas investment in the U.S. At a minimum, as cash flows fall, some producers will cut back on their drilling activity rather than plug the shortfall with outside financing.

Nevertheless, there are several reasons why I don't think this risk should be overstated, especially if oil prices stabilize around current levels. First, even after the large gains in recent years, oil and gas investment remains a small fraction of GDP. Second, domestic natural gas investment should be relatively unaffected because U.S. natural gas prices are largely insensitive to global energy price developments. This reflects the high costs associated with exporting natural gas and the fact that most of our oil production is used for transportation purposes. Thus, the ability to substitute lower cost natural gas for oil is limited. Third, extraction costs vary appreciably across the different major oil fields. There is not a single critical price that will constrain production or investment. Fourth, with respect to oil produced by fracking, productivity gains have cut drilling costs and raised oil production, so breakeven costs per barrel have been falling. Finally, if oil investment were to soften, this would lead to lower breakeven costs as resources currently in short supply—e.g., water, welders, housing and transport—became more available and less expensive.

Of course, as with any forecast, there is some meaningful chance that growth will turn out to be either weaker or stronger than expected. However, I believe that the risks around this forecast are reasonably well balanced. The subsiding headwinds that I discussed earlier are the primary reason for seeing the downside risks as limited. In contrast, the ongoing geopolitical risks remain substantial.

At the same time, several factors suggest that growth is unlikely to turn out to be substantially stronger than the consensus forecast. First, the upside from housing relative to the forecast is likely limited. Although there has been an impressive recovery of multi-family housing starts over the past few years, single-family housing starts are growing only slowly and are unlikely to climb much faster over the next year or two. The demand for new homes is still hindered by tight credit conditions for homebuyers. Mortgage lenders continue to be extremely risk averse in extending new credit, and mortgage availability to those with lower credit scores is still significantly constrained. I don't anticipate that this situation will change in a material way any time soon.

Second, because motor vehicle sales are now close to their pre-recession levels, the future growth impetus from this cyclical sector will likely also be restrained going forward. Third, growth in the rest of the world has slowed slightly and the dollar has appreciated somewhat. This will limit the growth in U.S. exports, and suggests that the trade sector is unlikely to provide much support to growth over the next year or two.

Inflation: Lower Now, but Likely to Drift Gradually Higher Next Year

Let me now turn to discuss the inflation outlook. Inflation has been running below the Federal Reserve's objective of a 2 percent annualized rate for the personal consumption expenditures (PCE) deflator. For example, over the past twelve months, the overall PCE deflator has risen by 1.4 percent, and the core PCE deflator, which excludes food and energy, has increased by 1.6 percent. Recently, the overall index has been pulled down by sharply lower oil and gasoline prices. Also, I expect that core goods prices will be held down somewhat over the near-term by the recent appreciation of the U.S. dollar. Nevertheless, I expect inflation will begin to move back towards our 2 percent objective in 2015. As the economy expands and the labor market continues to tighten, resource slack should decline and this should gradually exert some upward pressure on prices. Also, despite some softness in market-based measures of inflation compensation, inflation expectations still seem well-anchored and this should also work to pull inflation gradually higher.

Implications for Monetary Policy

So, what does this assessment of the growth and inflation outlook imply for monetary policy? Since the September 2012 announcement of the Treasury and agency mortgage-backed securities asset purchase program, there has been substantial improvement in the labor market outlook. Recognizing its success in meeting the FOMC's stated objectives, the FOMC decided to end the asset purchase program at the end of October.

Now that we have ended our asset purchase program, attention has turned to the monetary policy normalization process. There are four important questions regarding this process: When to begin? How to begin? How fast to go? And, how far to go? Let me consider each question in turn.

With respect to the question of when to begin, it is still premature to begin to raise interest rates, that is, to "lift off" from the zero

lower bound. As the FOMC concluded in its most recent statement: "The Committee anticipates, based on its current assessment, that it likely will be appropriate to maintain the 0 to 1/4 percent target range for the federal funds rate for a considerable time following the end of its asset purchase program this month."

But this sentence should not be viewed as an iron-clad commitment unaffected by economic and financial developments. The statement goes on to say: "However, if incoming information indicates faster progress toward the Committee's employment and inflation objectives than the Committee now expects, then increases in the target range for the federal funds rate are likely to occur sooner than currently anticipated. Conversely, if progress proves slower than expected, then increases in the target range are likely to occur later than currently anticipated." In other words, the FOMC's monetary policy actions and the timing of lift-off will depend on how the economic outlook evolves, particularly with respect to the labor market and inflation.

In considering the appropriate timing of lift-off, there are three important reasons to be patient. First, the Committee is still undershooting both its employment and inflation objectives. Unemployment is too high and inflation is too low. Thus, monetary policy needs to be very accommodative in order to close these gaps relative to the Committee's objectives. Second, when interest rates are at the zero lower bound, the risks of tightening a bit too early are likely to be considerably greater than the risks of tightening a bit too late. A premature tightening might lead to financial conditions that are too restrictive, resulting in a weaker economy and, in turn, an aborted lift-off. This would be problematic in that it would harm the Fed's credibility and, more importantly, would be difficult to rectify. The U.S. experience during the Great Depression and the Japanese experience over the past two decades illustrate the risks of raising interest rates too soon, especially when inflation is running below the central bank's objective. Finally, given the still high level of long-term unemployment and the outlook for inflation, there could be a significant benefit to allowing the economy to run "slightly hot" for a while in order to get those that have been unemployed for a long time working again. I believe this can be done without jeopardizing our price stability objective. If the long-term unemployed are not employed relatively soon, their job skills will erode further, reducing their long-term prospects for employment and, therefore, the productive capacity of the U.S. economy. This would be a very unfortunate outcome for them, their families and the country.

Market expectations that lift-off will occur around mid-2015 seem reasonable to me. Although that could change depending on how the economy evolves, my views on "when" do not differ appreciably from the most recent primary dealer and buy-side surveys undertaken by the New York Fed prior to the October FOMC meeting.[3]

I hope the economic outlook evolves so that it will be appropriate to begin to raise interest rates sometime next year. While raising interest rates is often portrayed as a difficult task for central bankers, in fact, given the events since the onset of the financial crisis, it would be a development to be truly excited about. When the FOMC begins to raise its federal funds rate target, this would indicate that the U.S. economy is finally getting healthier, and that the Committee believes it is on a sustainable track to achieving its dual mandate objectives of maximum employment and price stability. That would be very good news, even if it were to cause a bump or two in financial markets.

So, when the appropriate time comes, how is the process of monetary policy normalization likely to unfold? In this regard, the revised policy normalization principles and plans that the FOMC released following the September FOMC meeting are informative.[4]   In particular, the Committee will begin to normalize monetary policy by first raising its target range for the federal funds rate and short-term interest rates will be the primary tool used for tightening monetary policy. After lift-off looks sustainable and the federal funds rate is somewhat above the zero lower bound, the Committee will cease to reinvest those funds generated by maturing Treasury securities and prepayments of agency MBS securities. The Committee anticipates that the balance sheet will gradually normalize passively as these assets run off, not actively via asset sales.

The effective federal funds rate will be pushed into a higher target range by raising the interest rate paid on excess reserves (IOER). The overnight reverse repo repurchase (ON RRP) facility will play a secondary role, in the sense that it will be used "only to the extent necessary" to help put a floor under the federal funds rate, and it will be phased out when it is no longer needed.

With respect to "how fast" the normalization process will proceed, that depends on two factors—how the economy evolves, and how financial market conditions respond to movements in the federal funds rate target. Financial market conditions mainly include, but are not necessarily limited to, the level of short- and long-term interest rates, credit spreads and availability, equity prices and the foreign exchange value of the dollar. When the FOMC adjusts its short-term federal funds rate target, this does not directly influence the economy since little economic activity is linked to the federal funds rate. Instead, monetary policy affects the economy as the current change in short-term interest rates and expectations about future monetary policy changes influence financial market conditions more broadly.

Developments in financial market conditions are thus an important element in the transmission mechanism of monetary policy to the economy. Changes in financial market conditions influence economic growth through a number of channels. For example, a stronger equity market raises household wealth and lowers the desired personal saving rate—lifting consumer spending. A stronger equity market also reduces the cost of capital for business, which may help encourage greater investment spending. Lower long-term interest rates push down business financing costs, which also supports investment spending. At the same time, lower mortgage rates support housing demand and reduce household interest outlays. A weaker dollar supports growth by making imports more expensive and by increasing export competitiveness. The combined effect is to increase net exports.

If the linkage from the federal funds rate to financial market conditions were stable over time, there would be no need to focus on financial market conditions. In a world in which the linkage was solid and unchanging, adjustments to the short-term interest rate and communication about future policy would have a predictable and reliable effect on financial market conditions. Central bankers, then, could keep their focus narrowly on their policy rate.

However, as has been very clear, especially in recent years, this linkage is not stable. Thus, how much one pushes on the short-term interest rate lever depends, in part, on how financial market conditions respond to such adjustments. Imagine driving a car where the connection between the gas pedal and the engine speed was variable and uncertain. The driver would have to constantly monitor and adjust the pressure on the gas pedal to achieve the desired speed. Similarly, we will have to monitor and adjust short-term interest rates to achieve financial market conditions consistent with achieving our labor market and inflation objectives. All else equal, less responsiveness implies larger interest rate adjustments and vice versa.

Quickly, let me give two examples that illustrate how variable this linkage can be. First, during the 2004-07 period, the FOMC tightened monetary policy nearly continuously, raising the federal funds rate from 1 percent to 5.25 percent in 17 steps. However, during this period, 10-year Treasury note yields did not rise much, credit spreads generally narrowed and U.S. equity price indices moved higher. Moreover, the availability of mortgage credit eased, rather than tightened. As a result, financial market conditions did not tighten.

As a result, financial conditions remained quite loose, despite the large increase in the federal funds rate. With the benefit of hindsight, it seems that either monetary policy should have been tightened more aggressively or macroprudential measures should have been implemented in order to tighten credit conditions in the overheated housing sector.

Second, during the financial crisis, especially during the fall of 2008, financial market conditions tightened dramatically even as the FOMC was cutting its federal funds rate target to zero. Monetary accommodation turned out to be insufficient to produce an easing of financial market conditions, and the economy fell into a deep recession.

Over time, financial market conditions have become a much more important factor in evaluating the appropriate setting of monetary policy and the level of short-term interest rates. This reflects several factors. First, over the past few decades, as the U.S. capital markets have grown in size and scope, the U.S. financial system has become much less bank-centric. This has loosened the linkage between the federal funds rate and financial market conditions. Second, the U.S. economy and financial markets have become more interconnected globally. Thus, the impact of U.S. monetary policy has become more diffused, and financial market conditions have come to depend increasingly not only on developments in the U.S., but also on developments elsewhere. As an example, the low level of U.S. 10-year Treasury yields presumably is due, in part, to the fact that long-term interest rates in Europe and Japan are much lower.

So, if the effect of short-term rate changes on financial market conditions has become less predictable and more variable over time, what implications does this have for U.S. monetary policy? From my perspective, there are three major implications that deserve attention.

First, when lift-off occurs, the pace of monetary policy normalization will depend, in part, on how financial market conditions react to the initial and subsequent tightening moves. If the reaction is relatively large—think of the response of financial market conditions during the so-called "taper tantrum" during the spring and summer of 2013—then this would likely prompt a slower and more cautious approach. In contrast, if the reaction were relatively small or even in the wrong direction, with financial market conditions easing—think of the response of long-term bond yields and the equity market as the asset purchase program was gradually phased out over the past year—then this would imply a more aggressive approach. The key point is this: We will pursue the monetary policy stance that best generates the set of financial market conditions most consistent with achievement of the FOMC's dual mandate objectives. This depends both on how financial market conditions respond to the Fed's policy actions and on how the real economy responds to the changes in financial conditions.

The second major implication is to be cautious about overreliance on simple monetary policy rules, such as the Taylor Rule, that do not include measures of financial market conditions in their formulation. As you may recall, in a Taylor Rule the nominal federal funds rate depends on an equilibrium or neutral real rate of interest—which is assumed to be constant over time—the deviation of the level of economic activity from estimates that would be consistent with long-run price stability and the deviation of inflation from the central bank's target.

As I have noted elsewhere, the Taylor Rule formulation has a number of characteristics that make it a useful input into the policy-setting process. First, it very explicitly focuses on the two parameters—the long-term inflation objective and the level of potential output consistent with that objective—that map directly to the Federal Reserve's dual mandate objectives. Second, standard Taylor Rules are self-equilibrating. They respond to economic shocks and forecast errors in a way that pushes the economy back toward the central bank's objectives. Market participants incorporating information about the rules in their price-setting decisions helps keep inflation expectations well-anchored. Third, academic research shows that Taylor-type rules typically perform quite well across a wide range of economic models. This is important because we want guides to policy that are robust; that is, guides that are not overly sensitive to model-specific assumptions about how the economy works, or how households and

businesses alter their expectations and behavior in response to changes in monetary policy.[5]

Despite these attractive features, I do not believe that simple policy rules can take the place of in-depth analysis of economic and financial market conditions. While simple policy rules provide useful benchmarks to policymakers, their very virtue—their simplicity—is also a significant shortcoming. Policy rules cannot capture all of the information that is relevant for policymaking. In particular, such rules do not capture the fact that the linkage between the federal funds rate and financial market conditions can be very loose. This is a critical shortcoming because this looseness affects the stability of the relationship between monetary policy and economic outcomes. If the relationship between monetary policy, financial conditions and the real economy were stable over time, then following a relatively simple and unchanging policy rule would likely generate acceptable results. However, if the transmission of monetary policy to the real economy is more variable and uncertain, as I believe it is, then an approach that takes this explicitly into consideration will be more effective.

The third implication that stems from the fact that financial market conditions matter in the conduct of monetary policy pertains to the so-called "Fed put" with respect to equity prices. The notion here is that because the Federal Reserve cares about unanticipated and undesired changes in financial market conditions, the Fed will respond to weakness in equity prices by easing monetary policy—essentially providing a put to equity investors. The expectation of such a put is dangerous because if investors believe it exists they will view the equity market as less risky. This will cause investors to push equity market values higher, increasing the likelihood of an equity market bubble and, when such a bubble bursts, the potential for a sharp shock that could threaten financial stability and the economy.

Let me be clear, there is no Fed equity market put. To put it another way, we do not care about the level of equity prices, or bond yields or credit spreads per se. Instead, we focus on how financial market conditions influence the transmission of monetary policy to the real economy. At times, a large decline in equity prices will not be problematic for achieving our goals. For example, economic conditions may warrant a tightening of financial market conditions. If this happens mainly via the channel of equity price weakness—that is not a problem, as it does not conflict with our objectives. In contrast, when we want financial market conditions to be extremely accommodative—as has been the case in recent years when we have been far away from our employment and inflation objectives—then we will take into consideration a broad set of developments with respect to interest rates, the stock market and other measures of financial conditions in choosing the appropriate stance for monetary policy.

Because financial market conditions affect economic activity only slowly over time, this suggests that we should look through short-term volatility and movements in financial markets. We should not respond until we become convinced that the movements will likely, without action on our part, prove sufficiently persistent to conflict with achievement of our objectives. Often, financial markets can be quite volatile and move a lot without disturbing underlying economic performance.

Finally, let me turn to the issue of "how much," in other words, what federal funds rate target over the long term is consistent with our employment and inflation objectives. This issue is more difficult to judge for a number of reasons. First, it depends on how financial conditions evolve in response to our monetary policy adjustments. Second, it depends on other factors, such as potential real GDP growth, which in turn, depends on the growth of the labor force and productivity growth trends. My current thinking, in this regard, is that the equilibrium federal funds rate consistent with 2 percent inflation will be somewhat lower in the future than in the past. In part, this reflects the likelihood that potential real GDP growth will likely be somewhat lower going forward due to slower growth in the labor force. But my confidence in this conclusion may change on the basis of incoming empirical evidence. In fact, I suspect my views will evolve as I see how the economy responds over time to higher interest rates and tighter financial market conditions.

Conclusion

In my remarks today, I have provided my current thinking about the U.S. growth and the inflation outlook, and the implications for monetary policy. To sum up, the U.S. economic outlook looks brighter, with growth likely to be somewhat above the trend of the past five years. The risks to growth appear generally balanced, without unusually high risks that growth will either be much stronger or weaker than my forecast. On inflation, I remain confident, despite the recent softening, that inflation will begin to move up towards our 2 percent objective next year. This move will not likely happen immediately, however, given the recent weakness in energy prices and the fact that non-energy import price trends are also likely to soften a bit over the near-term.

With respect to monetary policy, I believe that market expectations as captured by the most recent New York Fed's surveys of primary dealers and market participants are reasonable—with lift-off expected to take place sometime around the middle of next year. But, life is uncertain and my judgment of the appropriate timing could change in response to incoming data and other factors that change the economic outlook. When we do begin to tighten monetary policy, the pace of tightening will depend not only on the outlook but also on how financial market conditions respond as we begin to remove monetary policy accommodation. Financial market conditions are an important transmission mechanism of monetary policy. This is why I don't favor indiscriminately adhering to simple policy rules that exclude financial market conditions.

I hope the FOMC can begin to raise its federal funds rate target next year. This would signify that the economy has made sufficient progress towards the FOMC's objectives and that the time had finally come to begin to unwind the current high degree of

monetary policy accommodation.

Thank you for your kind attention. I would be happy to take a few questions.

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[1] See, for example, the latest Blue Chip consensus survey (volume 39, no. 11, November 10, 2014). The median real GDP forecast for 2015 (fourth quarter over fourth quarter) is 2.9 percent.

[2] Current world oil consumption is 92 million barrels per day (International Energy Agency, October Oil Market Report).

[3] See Primary Dealer Surveys and Pilot Survey of Market Participants.

[4] See Policy Normalization Principles and Plans.

[5] See Conducting Monetary Policy: Rules, Learning and Risk Management.