Economic Leadership in an Uncertain World
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Good afternoon. Thank you for inviting me to speak with you today. While I do have some consoling thoughts on your fellow North Carolinians' unfortunate loss to Villanova, I know that what most people want to hear about from a participant on the Federal Open Market Committee (FOMC) is what's going to happen with interest rates. Before I say anything about that, let me note that I am speaking for myself, and my remarks should not be attributed to anyone else in the Federal Reserve System.[1]

Last December, the FOMC decided to raise rates for the first time in seven years, increasing the target federal funds rate to ¼ to ½ percent. Now that the first interest rate increase is out of the way, the question on everyone's mind is how rapidly interest rates will rise in the current year. Many observers have noted that central banks in some other major countries have actually moved toward easier monetary policy in recent months. In January, for example, the Bank of Japan announced that it would begin charging an interest rate of negative 0.1 percent on reserves held at the central bank. In March, the European Central Bank, which has charged negative interest rates on such reserves for nearly two years, announced further cuts to several key interest rates and expanded its asset purchase program.

These policy decisions were a response to slowing inflation and economic growth in their respective regions. But the situation in the United States is different. As I will discuss in more detail, our labor markets are strong and growing stronger, and the household sector is healthy. This is fueling steady growth in household spending, which is a substantial portion of GDP. Certainly, many American households still face significant economic challenges. But overall, the prospects for continued growth in employment and consumer spending look good. As I will discuss later, U.S. economic leadership within the global economy makes divergence between the monetary policies of the United States and other major economies that much more likely.

With that said, how quickly are rates likely to rise? As always, the future is uncertain, and neither I nor anyone else can give you a definitive answer. But the FOMC has provided some guidance based on our understanding of how economic conditions are likely to evolve and how we will want to respond. In a statement issued on March 16, the FOMC said, "The Committee expects that economic conditions will evolve in a manner that will warrant only gradual increases in the federal funds rate…" Essentially the same language has been used since the Committee raised rates in December.

That statement raises the question of what "gradual" means. While the Committee has not formally adopted a definition of gradual, one can glean some information from the projections that meeting participants submit four times a year. (These are posted on the Federal Reserve Board's website, under the heading "Summary of Economic Projections," or SEP.) In December,

the median projection was for the federal funds rate target to rise 1 percentage point by the end of 2016 and nearly another 2 percentage points by the end of 2018. This projected path was notably slower than the "measured pace" of rate increases during the last tightening cycle, from June 2004 to June 2006, when the funds rate target rose at a pace of 2 percentage points per year — a quarter of a percentage point every meeting.

But it is important to remember that the FOMC's rate projections are just that — projections, not promises. At lift off, when the Committee predicted gradual increases, it also stated that "the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data." Indeed, as the new year brought a new round of global economic and financial disturbances, many FOMC participants modified their views of the most likely appropriate path for policy. In the March SEP, the median projection for the federal funds rate target at the end of this year was ½ of 1 percentage point lower than it had been in December — that is, it indicated a half of a percentage point increase over the course of the entire year. This reflects the "data dependent" nature of participants' judgments concerning appropriate policy.

The contingent nature of policy is crucial. Since the future is uncertain, the appropriate path of policy has to depend on how economic conditions evolve. Consequently, one should expect the Fed's interest rate target to rise at a pace that is gradual but dependent on the economic outlook. Moreover, one should expect that differing views regarding the economic outlook might give rise to differing views about the most likely pace at which the target should rise. My own view, as I will discuss today, is that the medium-term U.S. outlook has not changed materially since December. If anything, inflation seems to be returning to our 2 percent goal somewhat more rapidly than expected. As a result, my sense is that the less leisurely but still gradual pace of target rate increases that FOMC participants submitted at year-end is still more likely to be appropriate. In any case, this makes the discussion of the economic outlook especially relevant.

The Outlook for GDP

For perspective, recall that economic activity in the United States hit a low point when the Great Recession ended in June 2009. Since then, growth has been fairly steady. Real GDP, an estimate of total production of goods and services in the economy, has grown at an annual rate of 2.1 percent. Employment has risen by over 12 million jobs and the unemployment rate has fallen from a high of 10 percent to 5.0 percent currently.

Growth in output and employment is likely to continue this year, I believe. The basis for that view is that the household sector is relatively healthy and is likely to remain so. Real consumer spending has risen by a solid 2.8 percent over the last 12 months due to strong fundamentals. Real disposable income increased by 2.7 percent over the last 12 months, and household net worth has risen by over $30 trillion in the last seven years. Moreover, a strong labor market continues to be a key factor supporting growth in consumer spending. Over the last 12 months we've added over 2.8 million new jobs, and the unemployment rate has fallen by 0.5 percent.

Putting all this together, consumer spending growth is likely to be robust again this year. And since consumer spending by itself accounts for more than two-thirds of GDP, that's critical for GDP growth as well.

The housing market also depends on the well-being of households and is also likely to contribute to real GDP growth this year. Over the last four years, real residential investment has grown over 8 percent at an annual rate. Granted, real residential investment fell sharply in the Great Recession and remains well below the peak values of the housing boom. So the housing market may seem sluggish to some. But new housing construction continues to expand; for the first two months this year, new housing starts rose 16 percent from the same period a year ago. And home prices have been rising steadily; over the last three years, the average rate of change for home prices has been 7 ½ percent. Taking into account the outlook for household incomes, employment and wealth, residential investment is likely to continue to add to growth this year.

What about business spending? Fixed investment by the business sector has grown at a solid 5 ½ percent annual rate over the last six years, but that growth has not been steady. Early in the recovery it rebounded rapidly but it only grew 1.5 percent last year. Two categories of business investment look fairly solid. Investment in equipment seems to be on an upward trend after allowing for some quarterly volatility. And investment in intellectual property, which includes computer software, business research and original artistic creations, rose more than 3 ½ percent last year.

Investment in nonresidential structures is the other main component of business fixed investment. Spending in this category, which includes new oil wells, grew rapidly from 2011 to 2014, but has contracted somewhat since then as oil producers have slashed capital spending in response to lower oil prices. Outside of drilling, investment in structures has been fairly robust.

Looking ahead, prospects for nonresidential investment as a whole are reasonably positive. Businesses continue to identify profitable opportunities for new investment. Corporate cash flows are strong on balance, and financing is readily available to an array of firms. So I expect business investment to continue to expand this year despite the drag from energy sector spending.

Rounding out the domestic picture, government spending subtracted from GDP growth for several years after stimulus-related spending peaked right after the recession. Last year, though, real government consumption and investment spending rose 1.1 percent, with positive growth at the national level and at the state and local levels. The budget deal last December will provide a boost to federal spending this year, and state and local spending in much of the country should continue to benefit from growing revenues.

Net exports, on the other hand, are likely to subtract from growth this year. Many domestic producers now face stiffer competitive pressures from overseas because the value of the dollar on foreign exchange markets has risen considerably over the last two years. But the dollar appears to have reversed course and declined in value since reaching a high point in early January, so the dampening effects on U.S. growth are plausibly behind us.

Adding this all up, the evidence suggests that in the near term real GDP is likely to continue to grow at a pace very close to the 2.1 percent rate we've seen since the end of the recession. Growth at that rate would generate further employment gains and a lower unemployment rate. The unemployment rate is already fairly low, however, and arguably has reached a level

consistent with notions of longer-run maximum employment. As a result, we should expect growth in employment and GDP to start tapering off to a rate consistent with growth in the normal working age population of about ½ percent per year. If productivity advances at about 1 ¼ percent per year, which is slightly faster than its growth in this expansion, that implies convergence to real GDP growth of around 1 ¾ percent.

The Outlook for Inflation

The economic outlook is not complete until we discuss inflation. The FOMC's 2 percent inflation target is based on a particular measure, the price index for personal consumption expenditure, which is produced as a part of the national income accounts that cover overall economic activity. This measure has been depressed by the dramatic fall in energy prices over the last two years. Energy prices appear to have bottomed out, however, and futures markets point to an upward near-term trend.

Stripping the volatile energy and food components out of the overall price index yields the so-called core price index that often provides a better gauge of where inflation is likely to head. An important factor holding down core inflation has been the rise in the dollar on foreign exchange markets, which has reduced prices of imported consumer goods. Core inflation on a 12-month average basis was around 1.3 percent for most of last year, but it has firmed more recently. This measure rose to 1.7 percent in January, and was 1.7 percent again in February. As I noted a moment ago, the value of the dollar has actually declined since it peaked in January, so the restraining effect of import prices has been waning.

In short, inflation has been held down temporarily by two factors, the falling price of oil and the rising value of the dollar. Since both seem to have stabilized of late, neither factor seems likely to depress inflation going forward. After the effects of temporary shocks that move inflation for a time wear off, inflation tends to gravitate back toward the level of inflation that the public generally expects to prevail, based on their understanding of the conduct of monetary policy. As I discussed at length in a speech last month, I believe the evidence shows that inflation expectations are well-anchored right now at a level consistent with the FOMC's target of 2 percent over the near term.[2] As a result, I expect U.S. inflation to average fairly close to 2 percent this year, absent further disturbances.

The Case for Raising Rates

Now would be a good time to return to the question of how fast interest rates are likely to rise. As the FOMC has stated, the pace is going to depend critically on the evolution of the economic outlook as we see the incoming data. But even if there is uncertainty about the pace at which monetary policy rates will rise, the case for higher rates over time should be clear. For perspective, it's useful to look at real interest rates — that is, interest rates adjusted for expected inflation. The federal funds rate has been near zero for over seven years. The difference between the federal funds rate and expected inflation is the real federal funds interest rate, and it has been negative for more than seven years.

Movements in real interest rates ultimately are due to changes in the supply of and demand for savings and investment. While cyclical fluctuations can simply reflect the ebbs and flows of overall economic activity, there are important longer-term movements attributable to changes in productivity growth, demographics and the efficiency of financial intermediation. This longer-term trend real interest rate is sometimes referred to as the “natural rate” — an unobserved variable that is distinct from the real interest rate that is actually observed at any point in time.

Over the last several decades, actual real interest rates have tended to move down, suggesting that the natural real rate has fallen. Current estimates from a variety of models are that the natural rate is either near zero or is a small positive number. This observation has two implications for monetary policy.

First, as this cyclical expansion continues, real interest rates may for some time remain below levels seen in previous expansions. This is consistent with the unusually low productivity growth we’ve seen in this expansion.

Second, actual real rates, at about negative 1 ¼ percent, are now substantially below estimates of the natural rate, many of which are near zero. Thus current interest rates are extremely low, even after accounting for the downward longer-run trend in the natural rate.

Given current economic conditions, there should be a strong presumption that the gap between the exceptionally low current level of real interest rates and the natural real rate needs to close relatively soon. Employment has continued to grow robustly and the unemployment rate is very close to its full employment value. Core inflation is firming more rapidly than expected this year, from 1.3 percent half a year ago to 1.7 percent today, and inflation expectations remain well-anchored, which should bolster confidence that inflation will rise toward 2 percent in the near term. For me, these considerations make a persuasive case for increasing the target range for the federal funds rate and related policy rates.

As I noted at the beginning of my remarks, one argument that is often heard for a slower pace of rate increases is that the Fed should avoid diverging too far from many of the world’s other major economies, where monetary policy is either on hold or in an easing cycle. In such a global policy environment, tightening by the Federal Reserve could contribute to volatile movements in financial asset prices. But the Fed’s monetary policy mandate is solely focused on domestic economic conditions, employment and inflation in particular. Certainly, our assessment of the outlook should factor in how policy divergence might affect the domestic outcomes for which we are accountable, for instance through its effect on exchange rates. But policy divergence, by itself, is not a separate, additional consideration — it matters for our policy choices to the extent that it affects the outlook for inflation and real economic activity. My assessment of the policy outlook takes this into account.

Two months ago, global economic and financial developments appeared to have heightened the downside risks to U.S. growth and inflation. Given the sharp swings in U.S. asset markets, it made sense to take those linkages seriously. Since then, however, the adverse financial market developments we saw in the first two months of the year have largely reversed: equity markets have retraced, volatility measures have receded and oil prices appear to have bottomed out.

Moreover, the intervening tumult left little trace on real economic data, nor on real economic projections, which now largely mirror the December outlook for solid economic growth and continuing movement of inflation back toward the 2-percent goal. If anything, the inflation outlook has firmed, suggesting the emergence of upside risks on that front.

When the Fed has delayed needed policy adjustments in the past, it has often been in response to financial market developments that turned out, with hindsight, to be false signals. The record shows that if we delay too long or raise rates too slowly, we run the risk of needing to make larger, potentially more disruptive rate increases in the future. Given the extent to which global risks to the United States have subsided, prudence suggests staying the course with a gradual sequence of rate increases.

Continuing Economic Leadership

I'll close today by returning to the theme I started with — the relative strength of the U.S. economy compared to some other developed countries. What's behind that strength? In my view, the country's economic performance reflects the fact that the United States remains an attractive place to generate and implement innovations. Labor markets are relatively flexible and regulatory burdens have historically been low by international standards. Our institutions of higher learning are worldwide leaders in research and education, and they continue to attract exceptional students from both home and abroad.

That said, we do face some challenges that I believe our educational system is the key to addressing. The pattern of wage differentials between workers with different levels of education has been described as a "race between education and technology."[3] In general, new technologies create demand for workers with the skills to operate those technologies, leading to an increase in their wages relative to workers with fewer skills. But over time, we expect those higher wages to spur more people to obtain the necessary education, increasing the relative supply of skilled workers and narrowing the wage gap. But that's not what we are seeing today. Instead, the "college premium" — the extra amount college graduates earn relative to workers without a college degree — has been increasing since the 1980s and remains large. Combined with relatively low college enrollment rates and high college dropout rates, particularly for lower-income and minority students, the inescapable conclusion is that we are failing to keep up with our economy's demand for skilled workers.

What can we do to ensure our workforce has the skills necessary to perpetuate the United States' economic leadership? A full discussion is beyond the scope of my talk today, but I will say that the Richmond Fed's review of the available research suggests several key strategies.[4] First, we must do a better job of informing middle and high school students about what is required for success in college (as well as ensure that the K-12 education system is capable of providing them with those skills, although I know this is easier said than done). We can also do a better job of providing these students with information about multiple postsecondary educational options, so that students who are not prepared for or do not wish to attend college can take advantage of other opportunities to acquire valuable skills. At the same time, there is evidence that some students who are well-qualified for college overestimate the costs of attending; providing such students with targeted information could improve their decision-making. Finally, and perhaps

most crucially, investment in high-quality early childhood education would yield exceptional returns, and would help broaden opportunities for students of all backgrounds. I believe these strategies aimed at bolstering growth in human capital can not only augment our nation's prosperity over time but also can equip a broader range of our citizens with the skills they need to share in that prosperity.

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[1] I am grateful to Jessie Romero, Roy Webb and John Weinberg for assistance in preparing these remarks.

[2] See Jeffrey M. Lacker, "The Outlook for Inflation and Inflation Expectations," Speech for the Global Interdependence Center's Central Banking Series, Paris, France, March 21, 2016.

[3] Claudia Goldin and Lawrence F. Katz, *The Race Between Education and Technology*, Cambridge, Mass.: Harvard University Press, 2008.

[4] For more, see Jeffrey M. Lacker, "Investing in People for Long-Term Prosperity," Speech delivered in Charleston, S.C., April 15, 2015.