Jerome H Powell: Recent economic developments, monetary policy considerations and longer-term prospects

Speech by Mr Jerome H Powell, Member of the Board of Governors of the Federal Reserve System, at the Chicago Council on Global Affairs, Chicago, Illinois, 28 June 2016.

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The Footnotes can be found at the end of the speech.

Thank you for this opportunity to speak here today. The Chicago Council on Global Affairs has been a thought leader for nearly a century, encouraging public discourse, education, and research on important global issues. The Council's global focus is particularly important for understanding the challenges facing the U.S. economy today, as shown by last week's referendum on the United Kingdom's status in the European Union. In my remarks, I will review recent economic developments and the outlook for the economy. I will also discuss the economy's longer-term productive potential. As always, the view I express here today are my own.

The dual mandate and state of the economy

As you know, the Federal Reserve, through the Federal Open Market Committee (FOMC), is charged by the Congress with achieving maximum employment and stable prices – the dual mandate. For price stability, the FOMC has adopted a goal of 2 percent for inflation, as measured by the annual change in the price index for personal consumption expenditures. Many other central banks in developed economies have adopted inflation goals centered around 2 percent.

The FOMC has not set a numerical goal for maximum employment, because the long-run sustainable level of employment is determined mainly by non-monetary factors that are outside the Fed's control, such as demographics, social change, and fiscal and regulatory policies. Nonetheless, four times a year, FOMC participants write down their estimates of the longer-run sustainable level of the unemployment rate (which many interpret as the "natural rate"); at the recent June FOMC meeting the median estimate of that rate was 4.8 percent.

How should we evaluate our current performance against the dual mandate? I would say that we have made substantial progress toward maximum employment, although there is still some room for improvement. We have more work to do to assure that inflation moves back up to our 2 percent goal.

Let's start with the employment mandate. After several years of strong job growth, employment is now over 5 million higher than the pre-crisis peak in 2007. The unemployment rate has fallen from 10 percent in 2009 to 4.7 percent in May, essentially at the level that many observers identify as the natural rate. This rate is very far from a bright line – it cannot be observed directly, and estimates of its level are subject to great uncertainty.[1] So we look to a wide range of labor market indicators to assess the overall health of the labor market. Many of those indicators suggest that the labor market is strong. To mention a few of these, job openings are at an all-time high by some measures. The "quits" rate – the rate at which employees voluntarily leave their jobs – is about at pre-crisis levels. Surveys of individuals and businesses suggest that the ease of finding and filling jobs is similar to that experienced in the mid-2000s.

Even though we are near the natural rate of unemployment, there is still room for improvement on several margins. Important among these is the labor force participation rate. If someone leaves the labor force for any reason, even temporarily, that person is not counted as unemployed. So the labor force participation rate is also a key determinant of the unemployment rate. Labor force participation is influenced by many factors, including the age structure of the population and individuals' perceptions of the availability of jobs.

Participation rose steadily from the 1970s through the 1990s as increasing numbers of women entered the formal workforce. That process ran its course, and, around the year 2000, participation began a gradual decline because of population aging and the continuation of other long-term trends, particularly the decline in participation among prime age males. From 2008 through 2013, participation dropped sharply by 3 percentage points, but has remained about flat, on net, since late 2013 in a context of strong job growth and declining unemployment. Economists estimate that, as the population ages, participation will naturally tend to decline at a trend rate of about 0.2 percentage point per year, so this period of flat participation actually represents an improvement against the post-crisis cyclical drop. Today, participation is near its longer-run trend as estimated by a group of Fed economists whose work is widely cited on these issues.[2] Some other estimates suggest that there is still a shortfall in participation, and, of course, estimates of the trend participation rate are surrounded by fairly wide bands of uncertainty. I am inclined to believe that there are potential workers at the margins of the labor market who will return as the recovery continues, the labor market tightens further and wages increase. The U.S. participation rate for workers in the 25–54 age group is now below those of most other advanced economies, including the U.K., France and Germany, for example.

The number of part-time workers who want full time work remains above pre-crisis levels, which suggests that there may be some remaining slack there as well. In addition, we should expect to see stronger wage increases as the labor market tightens. There are welcome signs of a firming in wages, seen most clearly in the data on average hourly earnings, which are rising faster than the sum of inflation and productivity growth.

After several years of improving labor market conditions, recent data have been sending mixed signals on the level of momentum in the economy. Business investment has weakened, even outside the energy sector. Growth in gross domestic product (GDP) is estimated to have slowed to a rate of only 1-1/4 percent on an annualized basis over the fourth quarter of last year and the first quarter of this year. Incoming data do point to a rebound. For example, the Atlanta Fed's GDPNow model, which bases its projection on a range of incoming monthly data, estimates growth of 2.6 percent in the second quarter. In contrast, the labor market data, especially the monthly increase in payroll jobs, after displaying considerable strength for several years right through the first quarter of 2016, weakened significantly in April and May. While I would not want to make too much of two monthly observations, the strength of the labor market has been a key feature of the recovery, allowing us to look through quarterly fluctuations in GDP growth. So the possible loss of momentum in job growth is worrisome.

Turning to the inflation part of the mandate, the Fed's preferred measure of inflation has consistently run below our 2 percent objective since the end of the financial crisis, with the exception of the "Arab Spring" period in 2011, when oil prices temporarily spiked. For the 12 months ending in April, total inflation was only 1 percent, while core inflation (excluding food and energy prices) was 1-1/2 percent. Core inflation has been held down by falling import prices, owing in large part to the rise in the dollar, as well as the indirect effects of lower oil prices. If the dollar and oil prices remain broadly stable going forward, inflation should move up over time to our 2 percent objective.

When I was first exposed to macroeconomics in college, more than four decades ago, the view was that inflation was strongly influenced by the amount of slack in the economy. But the relationship between slack and inflation has weakened substantially over the years. In addition, inflation depends importantly on the inflation expectations of workers and firms. A widely shared view among economists today is that, unlike during the 1970s, expectations are no longer heavily influenced by fluctuations in inflation, but are fairly constant, or anchored. For both these reasons, inflation has become less responsive to cyclical changes in the economy. We measure inflation expectations through surveys of forecasters and the general public, and also through market readings on inflation swaps and "breakevens," which represent inflation compensation as measured by the difference between the return offered by nominal Treasury securities and that offered by TIPS. Since mid-2014, these market-based measures have declined significantly to historically low levels. Some of this decline probably represents lower risk of high inflation, or an elevated liquidity preference for much more heavily traded nominal Treasury securities, rather than expectations of lower inflation. Some survey measures of inflation expectations have also trended down. Given the importance of expectations for determining inflation, these developments deserve, and receive, careful attention. While inflation expectations seem to me to remain reasonably well anchored, it is essential that they remain so. The only way to assure that anchoring is to achieve actual inflation of 2 percent, and I am strongly committed to that objective.

Looking ahead

My baseline expectation has been that our economy is likely to continue on its path of growth at around 2 percent. I have also expected the ongoing healing in labor markets to continue, with healthy wage increases and job creation. As the economy tightens, I have expected that inflation will move up over time to the Committee's 2 percent objective.

For some time, the principal risks to that outlook have been from abroad. Global economic and financial conditions are particularly important for the U.S. economy at the moment. Weakness in economic activity around the world and related bouts of financial volatility have weighed on the performance of our economy. Given the stronger performance of the U.S. economy, the trade-weighted value of the dollar has risen roughly 20 percent since 2014. Such a large appreciation of the dollar means that we will "export" some of our strength to our trading partners and "import" some of their weakness.

Growth and inflation remain stubbornly low for most of our major trading partners. European and Japanese authorities have limited scope to respond, with daunting longer-run fiscal challenges and policy rates already set below zero. In China, stimulus measures should support growth in the near term, but may also slow China's necessary transition away from its export- and investment-led business model. Emerging market nations such as Brazil, Russia and Venezuela face challenging conditions.

These global risks have now shifted even further to the downside, with last week's referendum on the United Kingdom's status in the European Union. The Brexit vote has the potential to create new headwinds for economies around the world, including our own. The risks to the global outlook were somewhat elevated even prior to the referendum, and the vote has introduced new uncertainties. We have said that the Federal Reserve is carefully monitoring developments in global financial markets, in cooperation with other central banks. We are prepared to provide dollar liquidity through our existing swap lines with central banks, as necessary, to address pressures in global funding markets, which could have adverse implications for our economy. Although financial conditions have tightened since the vote, markets have been functioning in an orderly manner. And the U.S. financial sector is strong and resilient. As our recent stress tests show, our largest financial institutions continue to build their capital and strengthen their balance sheets.

It is far too early to judge the effects of the Brexit vote. As the global outlook evolves, it will be important to assess the implications for the U.S. economy, and for the stance of policy appropriate to foster continued progress toward our objectives of maximum employment and price stability.

I am often asked why rates remain so low now that we are near full employment. A big part of the answer is that, at least for the time being, the appropriate level of rates is simply lower than it was before the crisis. As a result, policy is not as stimulative as it might appear to be. Estimates of the real interest rate needed to keep the economy on an even keel if it were operating at 2 percent inflation and full employment – the "neutral rate" of interest – are currently around zero. Today, the real short term interest rate is about negative 1-1/4 percent, so policy is actually only moderately stimulative. I anticipate that the neutral rate will move up over time, as some of the headwinds that have weighed on economic growth ease.

Longer-term considerations: potential output, productivity, labor market fluidity, and business dynamism

I would like to take a step back from the current context and explore an issue that ought to receive more attention – the longer-run potential growth rate of our economy. One reason for the low neutral rate of interest is that potential growth appears to have slowed. Since the crisis ended, forecasters have broadly reduced their estimates of longer run growth by a full percentage point – from about 3 percent to about 2 percent.[3] This seemingly modest reduction implies dramatically smaller increases in living standards over time. A growing body of research shows that deep recessions accompanied by severe financial crises often leave behind permanent damage.[4] One recent analysis suggests that in about one-third of such cases there is no permanent damage; one-third of the time there is a permanent reduction in the level of potential output but not its subsequent growth rate; and one third of the time there is a reduction in both the level of potential output and in the growth rate.[5] Unfortunately, many economies are currently in danger of falling into the third category, including the U.S. economy.

Output growth can be broken down into increases in hours worked and changes in output per hour, or productivity. Most of the decline in estimated potential U.S. growth appears to be from lower productivity. Labor productivity growth began to slow around 2005 – before the crisis – and been only 1/2 percent annually since 2011 – the slowest five year period since World War II. The productivity slowdown has been worldwide, and has been seen in countries that were not as strongly affected by the crisis, so U.S. specific factors are probably not the main cause.[6]

Increasing productivity is necessary if living standards are to continue to rise over generations. So two important questions arise: Why has productivity growth been so slow? And what does the future look like?

We have tentative answers to the first question. Labor productivity is a function of three things. The first two are the skills of the labor force, and the tools they have, particularly equipment, software and the like. These are inputs to production and are driven by private and public investment. The third determinant is called "total factor productivity," or TFP, which refers to the ability of firms to produce more efficiently given the first two inputs. For example, as businesses learned how to incorporate advances in information technology into their production processes, there was a surge of productivity growth from roughly 1995 to 2005.

The weak performance of productivity since the crisis appears to stem mainly from weak business investment and low TFP growth. Weak business investment has resulted from weak demand and uncertainty about the pace of the recovery. TFP is equally important and has generally accounted for most of the variation in productivity over time, but is less well understood and so more difficult to forecast.

The second question – what will happen with productivity going forward – is the subject of intense debate. The range of forecasts is wide, and the historical record provides ample ground for humility. This summer, many will be carrying Robert Gordon's massive *The Rise and Fall of American Growth* to the beach (or perhaps to the lake, here in the Midwest), which argues the pessimistic view.[7] For balance, maybe bring along Brynjolfsson and McAfee's *The Second Machine Age*, which take a more optimistic view and is a great deal shorter.[8]

One factor that may contribute to low productivity growth is the notable decline in recent decades in measures of the dynamism of our economy. Entrepreneurs start new firms; most of them fail, but a few of them succeed, grow very rapidly, and account for significant amounts of job formation. Older firms shrink or go out of business if they fail to keep up with innovation and advances in productivity. Workers change jobs and move around the country (or the world) as their careers evolve and as companies grow and shrink. These processes can be painful and messy for both workers and firms, but they are essential to the allocation of resources to their highest, most productive uses. The high levels of innovation and fluidity of our economy have long been thought to be among the principal reasons for our high and rising living standards.

The slowdown in essentially all of these processes is seen in declining rates of creation and destruction of both firms and jobs.

Start-ups: Start-ups are a key driver of productivity growth. Although it may feel that we are living in an age of disruption, the birthrate of startups has actually been in decline since the 1970s.[9] New firms can be loosely grouped into two categories: those started by "lifestyle entrepreneurs" who want to be their own boss, but who have little prospect or desire for high growth; and those founded by transformational entrepreneurs who start businesses that aspire to grow dramatically and change their industry. Before 2000, the decline in new firm entry was mainly in the first sort; since 2000, it is also found among the so-called transformational firms. While the drop in the formation of lifestyle-type firms could be neutral or even a positive for productivity, as in the case of the U.S. retail sector, the reduction in the creation of high-performance new firms suggests that lower dynamism could be associated with slower productivity growth.[10]

Labor Market Dynamism: While changing jobs can be painful, job changes in the aggregate are associated with higher compensation, implying higher productivity. But the rewards to job change may have declined. Fewer start-ups has meant lower "job flows," as measured by job creation and destruction, and fewer opportunities for workers to find better jobs. And labor market dynamism across many dimensions has declined by more than can be explained by the reduction in startups. Workers have become less likely to leave their jobs, change jobs, or move geographically to take new jobs.[11]

Dynamism is a relatively new field of inquiry, and there is no consensus yet on the reasons for, or implications of, these developments. Some plausible sources of these changes are benign, while others are more negative and suggest that the reduction in dynamism may be a factor behind the slower increases in productivity. For example, historically there has been a robust correlation at the firm level between productivity and growth, with high productivity levels being correlated with faster growth and low productivity levels being associated with contraction or exit. This relationship has weakened since 2000, particularly in the high-tech sector.[12] High productivity firms are not growing as quickly, and low productivity firms are shrinking or exiting at a slower pace.

It may be that some government policies, while well intended, have contributed to these trends. One example that may explain a small portion of the reduction in dynamism is the substantial increase in occupational licensing.[13] By some estimates, the fraction of workers who are required to hold a government issued license or certification to perform their jobs has risen from 5 percent in the 1950s to close to 40 percent.[14] Like many policies, licensing has benefits and costs. Among the costs are that it tends to reduce job switching and employment opportunities for excluded workers, and may restrict competition and thus increase prices faced by consumers. Among the benefits may be higher quality products and services and improved health and safety standards. Some researchers have advanced the view that licensing requirements have become overly burdensome and may have contributed to the secular decline in job and worker reallocation.[15]

Dynamism is a fast-developing field of research, and it will be important that public policy react appropriately as this work continues. It goes without saying that economic policymakers should use all available information and tools to create a supportive environment for growth. We need policies that support labor force participation and the development of skills, business hiring and investment, and productivity growth. For the most part, these policies are outside the remit of the Federal Reserve, but monetary policy can contribute by supporting a strong and durable expansion, in a context of price stability.

Conclusion

How should we think about the performance of our economy since the Crisis? The picture is mixed, and that question will no doubt be debated in the decades ahead. But here are some facts. Since 2011, job growth has been stronger and unemployment has declined faster than most forecasts. On the other hand, economic growth has been consistently lower than almost all private- and public-sector forecasts, including those of FOMC participants. Growth has been slower in this recovery than in many previous recoveries; a growing body of research shows that weak recoveries are the norm after deep recessions and those associated with severe financial crises. Finally, our recovery has also been stronger than those of many other advanced economies following *this* crisis.

I expect our economy to continue to make progress. Monetary policy will need to remain supportive of growth, as we work through the challenging global environment. As always, it will be important to carefully monitor economic developments in order to assess the stance of policy appropriate to foster continued progress toward our objectives of maximum employment and price stability.

1. Confidence intervals around statistical estimates of the natural rate are routinely estimated to be quite wide, reflecting both uncertainty about the correct model specification as well as uncertainty about the parameter estimates given the model. The canonical paper by Douglas Staiger, James H. Stock and Mark W. Watson (1997), "How Precise are Estimates of the Natural Rate of Unemployment?," in Christina D. Romer and David H. Romer, eds., *Reducing Inflation: Motivation and Strategy* (Chicago: University of Chicago Press) puts the 95 percent confidence interval at 1-1/2 percentage points on either side of the point estimate.

2. See Stephanie Aaronson, Tomaz Cajner, Bruce Fallick, Felix Galbis-Reig, Christopher Smith, and William Wascher (2014), "Labor Force Participation: Recent Developments and Future Prospects (PDF)," *Brookings Papers on Economic Activity,* Fall, pp. 197–275.

3. The long-range consensus U.S. economic projections for real GDP growth reported by Blue Chip Economic Indicators moved down from 2.9 percent in March 2007 to 2.1 percent in March 2016.

4. See Robert F. Martin, Teyanna Munyan, and Beth Anne Wilson (2014), "Potential Output and Recessions: Are We Fooling Ourselves?" IFDP Notes (Washington: Board of Governors of the Federal Reserve System, November 12).

5. See Olivier Blanchard, Eugenio Cerutti and Lawrence Summers (2015), "Inflation and Activity – Two Explorations and Their Monetary Policy Implications," IMF Working Paper WP/15/230, 2015 (Washington: International Monetary Fund).

6. See, for example, "New OECD indicators trace productivity growth slowdown pre- and post-crisis."

7. See Robert J. Gordon (2016), *The Rise and Fall of American Growth: The U.S. Standard of Living since the Civil War* (Princeton, N.J.: Princeton University Press).

8. See Erik Brynjolfsson and Andrew McAfee (2014), *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies* (New York: W.W. Norton).

9. See Ryan A. Decker, John Haltiwanger, Ron S. Jarmin and Javier Miranda (2016), "Declining Business Dynamism: What We Know and the Way Forward," *American Economic Review*, vol. 106 (May), pp 203–07; Ryan Decker, John C. Haltiwanger, Ron Jarmin, and Javier Miranda (forthcoming), "Where Has all the Skewness Gone? The Decline of High-Growth (Young) Firms in the U.S." *European Economic Review*; and Jorge Guzman and Scott Stern (2016), "The State of American Entrepreneurship: New Estimates of the Quantity and Quality of Entrepreneurship for 15 US States, 1988-2014," NBER Working Paper Series 22095 (Cambridge, Mass: National Bureau of Economic Research, March).

10. See Lucia Foster, John Haltiwaner and C. J. Krizan (2001) "Aggregate Productivity Growth: Lessons from Microeconomic Evidence" in *New Developments in Productivity Analysis*, Charles Hulten, Ediwn Dean and Michael Harper, eds. (Cambridge, Mass: National Bureau of Economic Research, March).

11. See Steven Davis and John Haltiwanger (2014) "Labor Market Fluidity and Economic Performance," NBER Working Paper Series 20479, (Cambridge, Mass: National Bureau of Economic Research, September); Raven Malloy, Christopher Smith, Riccardo Trezzi and Abigail Wozniak (2016), "Understanding Declining Fluidity in the Labor Market," *Brookings Papers on Economic Activity*, March 3; and Henry Hyatt and James Spletzer (2013) "The Recent Decline in Employment Dynamics."

12. See Decker and others, "Declining Business Dynamism," in note 5.

13. Licensing restrictions increase the costs of switching occupations and potentially reduces interstate mobility. The evidence linking licensing to labor market fluidity is inconclusive, with some researchers finding a linkage and others not.

14. Davis and Haltiwanger (2014).

15. See, for example, The Department of the Treasury Office of Economic Policy, the Council of Economic Advisers, and the Department of Labor (2015), "Occupational Licensing: A Framework for Policymakers (PDF)," (Washington: The White House, July).