Issues for U.S. Monetary Policy

Loretta J. Mester
President and Chief Executive Officer
Federal Reserve Bank of Cleveland

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Introduction

Let me begin by thanking the Global Interdependence Center and the Banque de France for inviting me back to this important conference series. I always learn a lot from the GIC's Central Banking Series conferences, and I am proud of the association I have had with the GIC for many years.

Three years ago when I spoke here, I reviewed the tools that monetary policymakers had put in place to address the financial crisis and Great Recession. I discussed the Federal Reserve's plans for normalizing policy and some of the challenges we would face as we transitioned from extraordinary economic and policy times back to ordinary times. Today, the environment has changed, but policymakers, as always, continue to face challenges in determining the most effective policies within the environment. So today, I'd like to carry on the theme and talk about current and future issues that Fed policymakers will face as we set appropriate monetary policy. My remarks will reflect my own views and not necessarily those of the Federal Reserve System or my colleagues on the Federal Open Market Committee, the monetary policymaking body within the Fed.

The U.S. Economy

The U.S. economy is performing very well and I expect that to continue. Over this year and next, I expect above-trend output growth, continued strength in labor markets, and firming inflation. I believe the U.S. economy is slightly beyond maximum employment, from the standpoint of the cyclical conditions monetary policy can address, and that inflation will reach our symmetric 2 percent goal on a sustainable basis over the next one to two years. This outlook is based on favorable underlying fundamentals, including accommodative monetary and fiscal policies, healthy household balance sheets, rising personal income, a global economy that is improving overall, and stable inflation expectations.

Of course, as with any forecast, there are risks around the outlook. Financial market volatility has risen from the very low levels of recent years. But, so far, investors seem to be taking it in stride and firms tell us the volatility has not thwarted their spending plans. The rise in oil prices and increase in the value of the dollar are worth watching. Geopolitical risks have risen and there is uncertainty around trade, which may not be resolved soon. Assessing the impact of trade developments on the U.S. macroeconomy will ultimately depend on the actions actually taken by the U.S. and its trading partners. But in the meantime, continued uncertainty may also cause businesses and investors to reevaluate their outlook for the U.S. economy and alter their spending in the near term. We will need to continue to monitor the trade situation. On the upside, the tax package and increased federal spending in the U.S. are expected to add to an already healthy level of spending in the second half of this year and next year, but the magnitudes and exact timing are still somewhat uncertain.

Despite the risks, this is one of the most favorable outlooks we have had in a long time, so one might ask: What are the challenges? The task before monetary policymakers is to calibrate policy to this healthy outlook to meet and maintain our dual mandate goals of maximum employment and price stability. At its meeting earlier this month, the FOMC decided to maintain the target range for the federal funds rate at 1-1/2 to 1-3/4 percent. This was consistent with the strategy the FOMC has followed as progress has been made on our monetary policy goals, namely, to gradually remove the high level of accommodation that was needed to address the Great Recession. Also, at the May meeting, the FOMC continued to implement its plan, initiated last October, to normalize the Fed's balance sheet in terms of the size and composition of assets.[1] The balance sheet grew in size and lengthened in maturity during the Great Recession when the Fed undertook several programs to purchase longer-term assets in order to put further downward pressure on longer-term interest rates.[2] We are now allowing maturing longer-term assets to

[1] See FOMC, "Addendum to the Policy Normalization Principles and Plans," June 13, 2017 (https://www.federalreserve.gov/monetarypolicy/files/FOMC_PolicyNormalization.20170613.pdf).

[2] As a result of the purchases, the Fed's balance sheet grew, from nearly $900 billion in assets in 2007, or 6 percent of nominal GDP, to about $4.4 trillion today, or 22 percent of nominal GDP. The balance sheet's composition changed from mainly short-term Treasuries to longer-maturity Treasuries and agency MBS.

roll off the balance sheet in a gradual and predictable way; this process will take several years to complete.

The economy is dynamic, so calibrating monetary policy to the medium-run outlook involves several moving parts. Essentially, the challenge for policymakers is to assess current and future performance on our policy goals of maximum employment and price stability, and to assess the current and appropriate future stance of monetary policy. So let me discuss each of these.

Maximum Employment

The U.S. labor market is strong. The unemployment rate, at 3.9 percent, is below its lowest point during the last expansion and near its lowest point in the past 40 years. I expect the unemployment rate to fall further this year and to remain below 4 percent next year. This year, payroll job growth has strengthened to an average of 200,000 jobs per month. This is well above most economists' estimates of trend job growth, which lie in the range of 75,000 to 120,000 jobs per month. The trend estimate depends on what one assumes about labor force participation, and this is a key factor in determining whether the economy is at or beyond the level of employment that is sustainable over the longer run.

Based on demographic factors, including the aging of the U.S. population, the longer-run trend in participation is downward sloping. But the labor force participation rate has been fairly stable over the past two years, a sign of strength in the labor market. We are increasingly hearing from a wide variety of businesses and job placement firms that it is hard to find workers, for both higher-skill and lower-skill occupations, and firms are responding to labor shortages by raising wages. The acceleration in the employment cost index over the past two years suggests that the anecdotal reports of firms raising wages to attract and retain workers are now filtering through to the official statistics.

An issue for policymakers is that it is difficult to know with precision how tight labor markets are. The acceleration in compensation growth, from under 2 percent earlier in the expansion to about 2-3/4 percent more recently, is not as strong as one might normally expect from tight labor markets. In my view, part of the reason for this is the low level of productivity growth over the expansion. Over the longer run, wages, adjusted for inflation, tend to reflect the marginal product of workers. During this expansion, labor productivity growth has been on the order of only 1 percent.[3] This is less than half the pace over the prior two expansions. Research from the Cleveland Fed staff suggests that nominal wage growth over the expansion is not a puzzle if you account for productivity growth, labor market conditions, and inflation.[4]

Nonetheless, economists and policymakers have to take on board all the data when assessing where the economy is relative to goal. The movements in labor force participation, combined with the fact that wage and price inflation have remained moderate even as labor markets have strengthened, suggest that labor market conditions may not be as tight as we originally assumed. As the expansion has played out, FOMC policymakers have lowered their estimates of the longer-run level of unemployment; these estimates come with a considerable amount of uncertainty. Five years ago, in the March 2013 Summary of Economic Projections, the central tendency of projections of the longer-run unemployment rate ranged from 5.2 to 6.0 percent.[5] In projections this March, the central tendency was 4.3 to 4.7 percent, down a

[3] Labor productivity as measured by output per hour worked in the nonfarm business sector has averaged 1 percent over this expansion.

[4] See Pinheiro, Roberto and Meifeng Yang, "Wage Growth after the Great Recession," Federal Reserve Bank of Cleveland *Economic Commentary*, March 21, 2017 (https://clevelandfed.org/newsroom-and-events/publications/economic-commentary/2017-economic-commentaries/ec-201704-wage-growth-after-great-recession.aspx).

[5] See the Summary of Economic Projections section of FOMC, "Minutes of the Federal Open Market Committee," March 19-20, 2013 (https://www.federalreserve.gov/monetarypolicy/files/fomcminutes20130320.pdf).

percentage point or more, with a median projection of 4.5 percent.[6] I have also moved down my own estimate of the longer-run unemployment rate over time, to 4.5 percent.

Despite lower estimates of the longer-run unemployment rate, in my view, if one combines all the indicators, labor markets do appear to be slightly beyond maximum employment, and the outlook suggests that labor markets will continue to be tight over the next couple of years. In the past, when labor markets have moved too far beyond maximum employment, with the unemployment rate moving substantially below estimates of its longer-run level for some time, the economy overheated, inflation rose, and the economy ended up in a recession. Achieving a soft landing is difficult and recent research by Cleveland Fed staff suggests that a strategy to overheat the economy in an attempt to pull more people back into the workforce is unlikely to have a lasting effect on labor force participation.[7] An interesting paper by economists at Stanford University and the University of Chicago suggests that overly tight labor markets can result in firms having to meet rising demand by hiring workers into jobs that are not the best match to their skill sets.[8] The longer this need to hire lower-productivity workers continues, the larger the decline in employment when the inevitable bad shock and downturn comes. All this suggests that policymakers have to continue to assess labor market conditions, and to balance progress on this goal with progress on our other objective, price stability.

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[6] See the Summary of Economic Projections section of FOMC, "Minutes of the Federal Open Market Committee," March 20-21, 2018 (https://www.federalreserve.gov/monetarypolicy/files/fomcminutes20180321.pdf).

[7] Fallick, Bruce, and Pawel Krolikowski, "Hysteresis in Employment among Disadvantaged Workers," Federal Reserve Bank of Cleveland Working Paper 18-01, February 2018 (https://www.clevelandfed.org/en/newsroom-and-events/publications/working-papers/2018-working-papers/wp-1801-hysteresis-in-employment-among-disadvantaged-workers.aspx).

[8] Jackson, Matthew O., and Pietro Tebaldi, "A Forest Fire Theory of the Duration of a Boom and the Size of a Subsequent Bust," Working Paper, Stanford University and University of Chicago, June 2017 (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2263501).

Price Stability

The FOMC has set a symmetric longer-run goal of 2 percent inflation, as measured by the year-over-year change in the price index for personal consumption expenditures, that is, PCE inflation. The FOMC aims for inflation to be 2 percent because it believes that this rate is most consistent over the longer run with our statutory mandate. The goal is symmetric, meaning that the FOMC would be concerned if inflation were running persistently above or persistently below this goal and such persistent deviations would warrant a policy response.[9]

Inflation measures can vary from month to month due to idiosyncratic factors and in response to temporary economic and financial disturbances. So when we assess where inflation is relative to our goal, it is important to look through transitory movements and focus on where inflation is going on a sustained basis. Our goal is expressed in terms of total PCE inflation, but policymakers also look at a variety of other measures of inflation to get a sense of the underlying inflation trend. These include CPI measures; core measures of PCE and CPI, which exclude food and energy prices because they tend to be volatile; and the trimmed-mean and median measures, which drop those components with the largest and smallest changes. We also use various models to forecast inflation. The models include components to account for current and past inflation, utilization rates of labor and capital, and inflation expectations. As good as our various models are, it's important to remember that a significant portion of the variation in inflation rates comes from idiosyncratic factors that can't be forecasted.[10] So forecasts of inflation, like those of longer-run unemployment, have wide error bands. For example, based on historical forecast

[9] See FOMC, "Statement on Longer-Run Goals and Monetary Policy Strategy," adopted effective January 24, 2012; as amended effective January 30, 2018 (https://www.federalreserve.gov/monetarypolicy/files/FOMC_LongerRunGoals.pdf).

[10] See Yellen, Janet, "Inflation Dynamics and Monetary Policy," remarks delivered at the Philip Gamble Memorial Lecture, University of Massachusetts, Amherst, September 24, 2015 (https://www.federalreserve.gov/newsevents/speech/files/yellen20150924a.pdf).

errors over the past 20 years, the 70 percent confidence range for forecasts of PCE inflation one to two years ahead is around ±1.0 percentage point.[11]

Inflation has been running under the 2 percent goal for much of the expansion, but it has been firming and is now near our goal. Measured year-over-year, in March, total PCE inflation rose to 2.0 percent and core PCE inflation rose to 1.9 percent. These are welcome developments, but it is too soon to say that we have met our inflation goal on a sustained basis. Near-term monthly readings of inflation have risen, but some of the pickup reflects higher commodity prices and some of the strength is likely to be temporary, as low readings from last March drop out of the calculations.

I expect to see month-to-month variation in the numbers around an underlying upward trend in inflation, as inflation moves to our goal on a sustainable basis over the next year or so. One of the challenges for monetary policymakers will be to keep the public and market participants focused on the medium-run outlook for inflation, even as higher monthly readings in the near term are followed by some softer readings. We don't want inflation expectations to react to these temporary movements, and policymakers can best avoid that by continuing to convey through policy decisions and communications that we are committed to achieving our dual mandate goals. Consistent with the FOMC's longer-run monetary policy strategy, I am comfortable looking through transitory movements in inflation – those to the low side and those to the high side – as we aim for inflation over the longer run to be at our symmetric 2 percent objective, allowing for the normal variation in measured inflation.

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[11] See Table 2: "Average Historical Projection Error Ranges," in the Summary of Economic Projections portion of the "Minutes of the Federal Open Market Committee," March 20-21, 2018 (https://www.federalreserve.gov/monetarypolicy/files/fomcminutes20180321.pdf).

The Stance of Monetary Policy

As the FOMC said in its May statement, the stance of monetary policy remains accommodative. Currently, one indicator that policy is accommodative is that the fed funds rate, adjusted for inflation, is negative even though the economic outlook is strong. Another indicator is that many monetary policy rules are pointing to higher interest rates given the outlook. For example, the simple monetary policy rules across several forecasts that are available on the Cleveland Fed's external website indicate that policy rates should be rising given the forecasts, with the median path somewhat steeper in the near term than the median funds rate path in the March Summary of Economic Projections.[12]

In its May statement, the FOMC also said it expects economic conditions will evolve in a manner that will warrant further gradual increases in the fed funds rate. In my view, the medium-run outlook supports the continued gradual removal of policy accommodation; it seems the best strategy for balancing the risks to both of our policy goals and avoiding a build-up of financial stability risks. We want to give inflation time to move back to goal, and I don't expect inflation to pick up sharply; this argues against a steep path. At the same time, the economy is slightly beyond maximum employment, and financial conditions are accommodative. In my view, it is appropriate to continue to remove some of the monetary policy accommodation to ensure that we avoid a build-up in risks to macroeconomic stability that could arise if the economy were allowed to overheat or a build-up of financial imbalances or risks to financial stability that could arise from the extended period of very low interest rates. Of course, the path policy actually takes will depend on how the economy actually evolves. If the upside risks to growth come to pass, we may need to steepen the path a bit; if inflation surprises on the downside, we may need to go a bit slower, but the gradual upward path is consistent with the modal economic outlook at this time.

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[12] See Federal Reserve Bank of Cleveland, "Simple Monetary Policy Rules" (https://www.clevelandfed.org/en/our-research/indicators-and-data/simple-monetary-policy-rules.aspx).

As we continue to move rates up, we will have to continue to assess whether monetary policy is accommodative, neutral, or restrictive. Essentially, it requires assessing where the policy rate is relative to the level of the short-term interest rate that represents neutral monetary policy, that is, the equilibrium interest rate. This equilibrium interest rate will vary with economic conditions that affect the demand for investment and the supply of savings; there are wide error bands around estimates of this rate; and the rate over a short-run horizon can differ from that over a longer horizon. For example, as the economy deteriorated during the financial crisis and Great Recession, the short-run equilibrium interest rate fell to a level below what would be expected to prevail over the longer run. Now, with fiscal policy turning from restrictive to stimulative, the economy growing above trend, and investment rising, the short-term equilibrium interest rate is rising, too.

As the expansion continues, it could be that in order to maintain our policy goals, we may need to move the fed funds rate, for a time, a bit above the level of the funds rate that is expected to prevail over the longer run. Indeed, the March Summary of Economic Projections indicates that the median appropriate policy path has the fed funds rate in 2020 moving a bit above the estimate of its longer-run level, which is about 3 percent. Of course, 2020 is a long time away and the policy path actually followed will be responsive to changes in the outlook.

In terms of that estimate of the longer-run fed funds rate, one needs to consider what policy rate is consistent with maximum employment and stable inflation over the longer run. There is reason to believe that this equilibrium rate is lower now than it used to be. In fact, FOMC participants have been lowering their estimates of the longer-run fed funds rate over time. For example, in March 2014, the median estimate was 4 percent. Now it is about 3 percent. The equilibrium rate is related to the longer-run potential growth rate of the economy, which itself depends on the growth of the labor force and the growth of productivity, a measure of how effectively the economy combines labor and capital to create output.

Based on demographics, U.S. labor force growth is projected to be considerably slower than it has been in recent decades.[13] While some of the slow growth in labor productivity during this expansion has been cyclical, more persistent structural factors may also be at play.[14] The combination of slow labor force growth and slow productivity growth suggests that the potential growth rate of the economy will be lower than it was in the past. My own estimate of output growth over the longer run is 2 percent, which is a lot slower than the 3 to 3-1/2 percent rate seen over the 1980s and 1990s, and my own estimate of the longer-run nominal fed funds rate is 3 percent, or 1 percent in real terms.

Of course, policy changes outside the realm of monetary policy could foster higher productivity growth and labor force growth and ultimately support higher potential output growth and equilibrium interest rates. But such policies need to be implemented as the country puts its longer-run fiscal situation on a sustainable path. Recently released projections by the Congressional Budget Office indicate that under current policy, the U.S. federal deficit as a share of GDP will be considerably higher 10 years from now, with rising government debt levels implying that a higher share of government spending will go to

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[13] In the 1970s, the labor force grew about 2-1/2 percent per year, on average, as baby boomers and women entered the workforce. But since then, labor force growth has slowed, rising at slightly more than 1/2 percent per year over 2010-2016, and it is expected to remain near that level over the next decade. For further discussion of demographics and economic growth, see Mester, Loretta J., "Demographics and Their Implications for the Economy and Policy," Cato Institute's 35th Annual Monetary Conference: The Future of Monetary Policy, Washington, D.C., November 16, 2017, and forthcoming in the *Cato Journal* (https://www.clevelandfed.org/newsroom-and-events/speeches/sp-20171116-demographics-and-their-implications-for-the-economy-and-policy.aspx).

[14] For example, on average, over the 1990s and until the Great Recession, business start-ups accounted for about 3 percent of total employment per year. Since then, this share has fallen to around 2 percent. For further discussion of dynamism, see Mester, Loretta J., "The National and Regional Economic Outlook and Monetary Policy," The African American Chamber of Commerce of Western Pennsylvania Annual Business Luncheon, Pittsburgh, PA, November 30, 2016 (https://www.clevelandfed.org/newsroom-and-events/speeches/sp-20161130-the-national-and-regional-economic-outlook-and-monetary-policy).

interest payments.[15] This would tend to crowd out productive investments by the private sector and the government, thereby lowering productivity and longer-run growth.

Monetary Policy Frameworks: Operations and Strategy

Let me conclude by touching on two future monetary policy considerations: the operating framework that the FOMC uses to ensure that its policy rate is being maintained at the appropriate level, and the monetary policy framework that the FOMC uses to determine what that appropriate level of the policy rate is.[16]

Before the financial crisis, the FOMC kept the supply of bank reserves scarce. The FOMC could make small changes in that supply by buying or selling short-term Treasuries, and this allowed the FOMC to ensure that the fed funds rate was maintained at the FOMC's target. But now, as a result of the Fed's large-scale asset purchases, reserves are very abundant: indeed, banks are holding a bit more than $2 trillion in reserves in accounts at the Fed, and almost all of this is in excess of what is required by regulation. At these levels, small changes in the supply of reserves have little effect on the fed funds rate. Instead, the Fed brings the fed funds rate into its target range by adjusting the rate it pays on excess reserves, and by using overnight reverse repurchase agreements, which help put a floor on the fed funds

[15] The deficit as a percentage of GDP (adjusted to exclude the effects of shifting payments from one fiscal year into another so that those payments are not made on a weekend) was 3.5 percent in 2017. Under the CBO's baseline assumptions, the CBO projects that this ratio will rise to 4.2 percent this year and be 4.8 percent in 2028. See Summary Table 2 from CBO, "The Budget and Economic Outlook: 2018 to 2028," Congress of the United States, April 2018
(https://www.cbo.gov/publication/53651).

[16] For further discussion of monetary policy frameworks, see Mester, Loretta J., "Monetary Policy Frameworks," National Association for Business Economics and American Economic Association Session at the Allied Social Science Associations Annual Meeting, Philadelphia, PA, January 5, 2018
(https://www.clevelandfed.org/newsroom-and-events/speeches/sp-20180105-monetary-policy-frameworks), and Mester, Loretta J., "Remarks on the FOMC's Monetary Policy Framework," panel remarks at the 2018 U.S. Monetary Policy Forum, sponsored by the Initiative on Global Markets at the University of Chicago Booth School of Business, New York, NY, February 23, 2018
(https://www.clevelandfed.org/newsroom-and-events/speeches/sp-20180223-remarks-on-the-fomcs-monetary-policy-framework).

rate. As normalization of the balance sheet progresses, the FOMC will need to decide which operating framework it will use going forward. The fed funds market has changed considerably since the financial crisis, and part of the consideration will be whether the fed funds rate will remain the best indicator of the general level of short-run interest rates.[17]

Another issue for the FOMC is the strategic framework it uses to determine appropriate monetary policy. Currently, we use a flexible inflation-targeting framework, which has served the FOMC well in effectively promoting our policy goals. But as the economy moves back to normal, it seems an opportune time for the FOMC to undertake a study of its framework. As a matter of good governance, a central bank should periodically review its assumptions, methods, and models. Moreover, if the longer-term equilibrium real interest rate does remain lower than in past decades, there will be less room for monetary policy to cushion against a negative economic shock, policy would likely hit the zero lower bound more often, and nontraditional monetary policy tools would have to be used more often. To the extent that these tools are less effective or are constrained from being used, the potential is for longer recessions and longer bouts of low inflation.

Given this potential scenario, now is the time to assess whether changes to our current framework could make monetary policy more effective in achieving our goals. Researchers have suggested several alternative frameworks, such as targeting an inflation rate higher than 2 percent, moving to an inflation-targeting range instead of a point goal, or targeting a path for the price level or for nominal GDP rather than for inflation. None of these alternative frameworks are without challenges, but the positives and

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[17] For a review of changes in the fed funds market since the financial crisis, see Craig, Ben R. and Sara Millington, "The Federal Funds Market since the Financial Crisis," Federal Reserve Bank of Cleveland *Economic Commentary*, April 5, 2017 (https://www.clevelandfed.org/newsroom-and-events/publications/economic-commentary/2017-economic-commentaries/ec-201707-the-federal-funds-market-since-the-financial-crisis.aspx).

negatives should be thoroughly reviewed to evaluate whether the net benefits of any of the alternatives would outweigh those of the flexible inflation-targeting framework currently in use.

Conclusion

Three years ago at this conference, I discussed the challenges U.S. monetary policymakers faced in preparing for the start of monetary policy normalization. Today, the medium-run outlook for the U.S. economy is very favorable and policy normalization is well underway. While the economic environment has changed, monetary policy challenges remain. I appreciate the opportunity this conference has given me to explain how I'm approaching some of the policy issues the FOMC faces. I look forward to your questions.