

**The Economic Outlook, Monetary Policy,  
and Some Future Considerations for the Monetary Policy Agenda**



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## **Introduction**

I thank the organizers at the Julis-Rabinowitz Center for inviting me to speak today. It's nice to be back at Princeton. Walking up from the Dinky station, I was impressed by the changes on campus, including several new buildings since my days here as a graduate student. But one thing hasn't changed, and that's the sense of energy and inquisitiveness among the people on campus. Although it has been several years since I graduated, I use the knowledge I gained at Princeton every day in my role at the Federal Reserve.

Today, I'll discuss my views on the outlook for the economy and monetary policy and make a few remarks on two future issues for the monetary policy agenda. I believe it's important for Fed policymakers to explain the rationale for their policy decisions to the public, so I am looking forward to taking your questions after my remarks. Before I continue, I should remind everyone that the views I'll present today are my own and not necessarily those of the Federal Reserve System or my colleagues on the Federal Open Market Committee.

## **The Economy**

At its meeting last week, the Federal Open Market Committee, the monetary policymaking body within the Fed, decided to raise the target range of the federal funds rate by 25 basis points, to 1-1/2 to 1-3/4 percent. This rate increase is consistent with the healthy outlook for the economy, and the achieved and expected progress on our monetary policy goals of maximum employment and price stability.

This year is shaping up to be another good year for the economy, and the task before monetary policymakers is to calibrate policy to this healthy economy so that the expansion is sustained. Given the economy's strength, we don't want to get behind the curve, but we also don't want to overreact to the positive outlook and potentially curtail the expansion. This takes some careful balancing, and in my view, last week's decision on rates reflects this type of balanced approach to achieving and maintaining our policy goals.

### ***Economic growth***

Last year, economic growth picked up to 2-1/2 percent, and I expect growth to be a bit above that pace this year and next. This is an improvement from the average 2 percent pace over prior years of the expansion. In addition, growth is now more balanced across sectors. Business investment accelerated last year. Nonresidential investment grew at a pace of about 6 percent last year, compared to an anemic pace of less than 1 percent in 2015 and 2016. You may recall that oil prices fell sharply from mid-2014 through early 2016, and this led to a sharp pullback in the drilling and mining sectors and their suppliers. The drop in oil prices was coupled with a greater than 20 percent appreciation in the value of the dollar, which hurt manufacturers and other firms dependent on exports. Those conditions are now reversing. Last year, oil prices rose and the dollar depreciated as the economies of our trading partners began to strengthen.

Indeed, for the first time in many years, economic activity around the world is picking up and forecasts for global growth are being revised up. This should have a positive feedback effect on the U.S. economy via exports. However, the tariffs on steel and aluminum imports and the recent announcement of planned tariffs on certain goods imported from China, as well as the ongoing renegotiations of the North American Free Trade Agreement (NAFTA), add uncertainty to the trade picture. This uncertainty may not be resolved quickly. Assessing the impact on the U.S. macroeconomy will ultimately depend on how other countries react, including whether they impose their own tariffs or other trade barriers in response. I am monitoring trade developments, and while I see them as a risk to the forecast, at this point they have not led me to change my outlook for the overall economy.

Business sentiment remains high and firms will gain from the tax changes passed in December. The recently passed federal budget and spending appropriation bills will add further fiscal stimulus in the form of increased federal spending. At this point, it is difficult to be precise about the magnitude and timing of

the effect of these fiscal policy changes on output growth. I'm estimating they will add an additional 1/2 percentage point of annual growth over the next couple of years, but there is some upside risk that the effect could be larger. I expect to have a better read on the timing of the federal spending and on how households and firms are actually responding to the tax changes over the next several months.

Lower tax rates and full expensing for investment in equipment and intangibles should spur additional business spending to meet higher near-term demand. In a staff survey of firms in the Cleveland Fed District, over a third of the firms expecting tax savings this year said they planned to use some of the proceeds to increase investment. Smaller percentages of respondents said they planned to buy back shares of their stock, increase dividends, or pay down debt with their tax gains. About a third of the surveyed firms in the District said they planned to share some of their tax savings with employees in the form of increased wages, bonuses, or additions to employee pension plans. And some firms in the District and elsewhere in the nation have already done so.

This adds a positive element to an already healthy outlook for consumer spending, which makes up over two-thirds of output. Personal incomes are growing because labor market conditions are strong. Lower personal tax rates and higher standard deductions should spur some additional household spending in the aggregate, although the impact of tax changes on individual households will depend on the level and sources of their income. Household balance sheets are in much better shape since the Great Recession, reflecting a combination of deleveraging and increased savings. While there has been a marked increase in market volatility since the start of the year, equity prices are higher than they were a year ago.

A moderately paced recovery in the housing sector continues, despite the increase in mortgage rates. Housing equity held by households is now above its peak before the housing crash. Overall, I expect activity in the housing sector to continue to expand at a sustainable pace.

### ***Labor markets***

The labor market is strong and I expect that strength to continue. Payroll jobs rose by more than 300,000 in February, following an increase of more than 200,000 in January. These job numbers are a pickup from last year's already strong pace of 180,000 jobs per month. Most economists put trend job growth somewhere in the range of 75,000 to 120,000 jobs per month. The variation depends on what one assumes about labor force participation. Based on demographic factors, including the aging of the 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, and last month we saw a rise in the participation rate, including that of prime-age males. Indeed, the participation rate of men aged 45 to 54 has shown a notable increase of nearly 1.5 percentage points over the past year.

Increased participation helps ease some of the tightness we are seeing in the labor supply. As both national and regional labor markets have tightened, our contacts have been reporting for some time that they are having trouble finding qualified workers. These reports are now coming from a wide range of firms across different sectors and cover both higher-skill and lower-skill occupations. The unemployment rate, at 4.1 percent, is low by historical standards. It's below its lowest point during the last expansion and below the range most economists associate with full employment.

Of course, it's difficult to say with any precision how tight labor markets are. Usually we associate tight labor markets with rising wages. The official statistics indicate that compensation growth has moved up, from under 2 percent earlier in the expansion to over 2-1/2 percent more recently. And increasingly, firms are telling us that they are responding to labor shortages by offering higher wages and benefits to attract and retain workers. But so far wage growth hasn't been as strong as one might normally expect from tight labor markets. One partial explanation for this is the low level of productivity growth. 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.<sup>1</sup> This is less than half the pace over the prior two expansions. Last year we saw somewhat stronger growth in productivity than we saw earlier in the expansion. It is too soon to tell whether this rise will be sustained; however, the welcome pickup we are seeing in investment should help to promote productivity growth as the expansion continues, and this should help buoy wage growth.

The movements in labor force participation, combined with the fact that wage and price inflation have remained moderate even as labor markets continue to strengthen, suggest that labor market conditions may not be as tight as I had been assuming. So I recently moved my own estimate of the longer-run unemployment rate down by 1/4 percentage point, to 4-1/2 percent. I expect the unemployment rate to move below 4 percent this year and to remain below 4 percent next year. Overall, my assessment remains that from the standpoint of the cyclical conditions monetary policy can address, we are slightly beyond the maximum employment part of the Fed's monetary policy mandate.

### ***Inflation***

The other part of the Fed's mandate is price stability. The FOMC has set a symmetric 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. "Symmetric" means that the 2 percent inflation goal isn't a ceiling; the FOMC would be concerned if inflation were running persistently above or persistently below this goal and such persistent deviations warrant a policy response.<sup>2</sup> But inflation measures can vary from month to month because of idiosyncratic factors and in response to temporary economic and financial disturbances. Sometimes inflation will be above and sometimes it will be below 2 percent. While monetary policy's

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<sup>1</sup> Labor productivity as measured by output per hour worked in the nonfarm business sector has averaged 1 percent over this expansion.

<sup>2</sup> 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](https://www.federalreserve.gov/monetarypolicy/files/FOMC_LongerRunGoals.pdf))

control of inflation isn't precise enough to keep inflation at 2 percent at each point in time, averaging through temporary fluctuations, we aim for inflation to be 2 percent because the FOMC believes that this rate is most consistent over the longer run with the Federal Reserve's statutory mandate.

Getting inflation back to this goal has been somewhat of a challenge. PCE inflation fell to very low levels in 2015, when inflation was held down by falling oil and import prices. Since then it has moved back up, even temporarily exceeding 2 percent early last year, until it moved back below 2 percent in the middle of last year partly due to special factors, like the drop in the prices of prescription drugs and cell phone service plans. Since then, inflation has picked up and several of our business contacts have reported that they now have more pricing power and have been able to pass along some of their cost increases to customers.

PCE inflation has risen to about 1.7 percent, not quite at our goal. In the near term, we will likely see some higher inflation readings as the sharp price declines of last March drop out of the year-over-year measures. But just as we didn't overreact to weaker inflation readings last summer or to stronger inflation readings at the beginning of last year, we shouldn't overreact to these increases either. Mild temporary over- or under-runs of inflation should not be cause for concern. Instead, we need to remain focused on the medium-run outlook for inflation.

My outlook is that inflation will gradually move up to 2 percent on a sustainable basis over the next one to two years. This forecast reflects my expectation that the economy will continue to grow above trend and the demand for labor will continue to strengthen. Stable inflation expectations are another important component of this forecast because inflation expectations help to anchor actual inflation rates. We already saw how valuable stable inflation expectations were during the Great Recession. At that time, the deep pullback in activity and collapse in demand could have led to deflation – not just low inflation rates but a declining overall price level. This would have made the economy even worse by making demand

even weaker than it was and raising debt burdens in real terms. But deflationary conditions did not develop because policy responses helped to maintain people's expectations that prices would remain stable over the longer run and that inflation would eventually return to goal.

One of the risks of having inflation under-run the 2 percent goal for so long is that inflation expectations could have become unanchored. That didn't happen. Now, as inflation firms, it is equally important that monetary policymakers continue to convey through policy communications and decisions our commitment to achieving our dual mandate goals.

### **Monetary Policy**

The recent policy action to increase the target range for the fed funds rate to 1-1/2 to 1-3/4 percent is consistent with this commitment and continues the process to gradually increase interest rates as the economy has continued to make progress on our monetary policy goals. I supported the increase in the fed funds rate last week and, if the economy evolves as I anticipate, I believe further gradual increases in interest rates will be appropriate this year and next year. In my view a gradual upward path of interest rates will help sustain the expansion and balance the risks so that our longer-run goals of price stability and maximum employment are met and maintained. We want to give inflation time to move back to goal; this argues against a steep path. At the same time, the economy is slightly beyond maximum employment, and despite an increase in market volatility and longer-term interest rates since the start of the year, financial conditions are accommodative. It seems appropriate to remove some of the monetary policy accommodation to ensure we avoid a build-up in risks to macroeconomic stability that could arise if the economy were allowed to overheat. In addition, a gradual upward path of interest rates should help avoid financial imbalances and a potential build-up of financial stability risks that could arise from the extended period of very low interest rates. And it puts monetary policy in a better position to address whatever risks, whether to the upside or to the downside, are ultimately realized.



The gradual upward path of interest rates is consistent with the median path across the projections submitted by FOMC participants at last week's meeting. The median path of appropriate policy in those projections has the fed funds rate gradually rising to between 2 and 2-1/4 percent by the end of this year, with further gradual increases over the next two years should the economy evolve as anticipated.

Compared to the December projections, the FOMC's median path over next year and the following year has steepened a bit, reflecting the policymakers' views that the medium-run outlook has strengthened, with somewhat stronger output growth and a lower unemployment rate. The change in the median path is an excellent illustration of how our views of appropriate policy are related to the economic outlook.

Policymakers don't react to any small change in the data, but if incoming information suggests a change in our medium-run forecast, our projected appropriate policy path can change. The FOMC projections give a sense of the participants' current views on appropriate policy given their current outlook. But the path policy actually takes will depend on how the economy actually evolves and the implications of incoming information for the medium-run outlook and risks around the outlook. 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.

I've been discussing the fed funds rate because changing its target range is the main way to adjust the stance of policy during normal times. But during extraordinary times, other tools are needed. To address the Great Recession, the FOMC brought the fed funds rate down to effectively zero, and then to put further downward pressure on longer-term interest rates, it undertook several programs to purchase longer-term assets, including longer-maturity Treasuries and agency mortgage-backed securities (MBS). 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 23 percent of nominal GDP. The balance sheet's composition changed from mainly short-term Treasuries to longer-maturity Treasuries and agency MBS.

Last October, the FOMC began implementing its plan to normalize the Fed's balance sheet in terms of the size and composition of assets.<sup>3</sup> Maturing Treasuries and principal payments of agency MBS and agency debt are allowed to gradually roll off the balance sheet up to a monthly cap, with the caps rising over time. The gradual, predictable decline in assets, which will take several years to complete, allows balance-sheet normalization to run in the background and monetary policy to focus on setting the appropriate level of the fed funds rate, our conventional monetary policy tool.

### **Future Considerations for the Monetary Policy Agenda: Operating Framework and Monetary Policy Framework**

I'd like to end my talk by briefly 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 to promote our longer-run monetary policy goals.<sup>4</sup>

You may have noticed that I didn't tell you how large the Fed's balance sheet will be once we complete normalization. We do know the balance sheet will be larger than it was prior to the financial crisis for the simple reason that the public's demand for currency is rising over time. But the balance sheet will also likely be considerably smaller than it is today. Just how much smaller depends on how the FOMC

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<sup>3</sup> See FOMC, "Addendum to the Policy Normalization Principles and Plans," June 13, 2017. ([https://www.federalreserve.gov/monetarypolicy/files/FOMC\\_PolicyNormalization.20170613.pdf](https://www.federalreserve.gov/monetarypolicy/files/FOMC_PolicyNormalization.20170613.pdf))

<sup>4</sup> 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>).

implements monetary policy in the future.<sup>5</sup> Before the 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 market-clearing interest rate at which banks lend reserves to each other overnight, 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 around \$2.2 trillion in reserves in accounts at the Fed, and about \$2 trillion of this amount 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.

Each of these operating frameworks has its strengths, and as balance-sheet normalization progresses, the FOMC will need to decide which operating framework it will use going forward.

Another consideration for the FOMC is the framework it uses to determine appropriate monetary policy. Currently, we use a flexible inflation-targeting framework. This framework recognizes that, over the longer run, monetary policy can influence only inflation and not the underlying real structural aspects of the economy such as the natural rate of unemployment or maximum employment, but that monetary policy can be used to help offset shorter-run fluctuations in employment from maximum employment. I believe this framework has served the FOMC well and has been effective in promoting our policy goals.

It has been the choice of many central banks around the globe.

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<sup>5</sup> For an accessible description of frameworks for implementing monetary policy, see Ihrig, Jane E., Meade, Ellen E., and Weinbach, Gretchen C., "Rewriting Monetary Policy 101: What's the Fed's Preferred Post-Crisis Approach to Raising Interest Rates?" *Journal of Economic Perspectives* 29 (Fall 2015), pp. 177-198 (<http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.29.4.177>).

For projections of the Fed's asset holdings in its System Open Market Account (SOMA), see Bonis, Brian, Ihrig, Jane, and Wei, Min, "Projected Evolution of the SOMA Portfolio and the 10-Year Treasury Term Premium Effect," FEDS Notes, Board of Governors of the Federal Reserve System, September 22, 2017 (<https://doi.org/10.17016/2380-7172.2081>).

Nevertheless, it is legitimate to ask whether any changes in our monetary policy framework would be helpful in maintaining macroeconomic stability. First, as a matter of good governance, a central bank should periodically review its assumptions, methods, and models.<sup>6</sup> Second, based on demographics, higher demand for safe assets, and other factors, many economists anticipate that the longer-term equilibrium real interest rate will remain lower than in past decades. If so, then compared to the past, there would be less room for monetary policymakers to cushion against a negative economic shock, the probability of the policy rate hitting the zero lower bound would be higher, and nontraditional monetary policy tools would need to be used more often. To the extent that these tools are less effective than the traditional interest rate tool or are constrained from being used, the potential would be for longer recessions and longer bouts of low inflation.<sup>7</sup>

To help mitigate this issue, researchers have suggested several alternative frameworks, such as targeting an inflation rate higher than 2 percent, or instead of targeting inflation, targeting a path for the price level or for nominal GDP. The positives and negatives of these and other frameworks would need to be thoroughly reviewed. Such reviews take considerable time and so it may be appropriate for the FOMC to commence a framework assessment later this year.

I am open-minded on the outcome, but at the same time, I think the bar should be high for adopting a new framework. The current framework has been largely successful, there is little experience with alternative frameworks here or abroad, and since we are not starting from scratch, transition costs would need to be considered. Even if the FOMC concludes it is best not to adopt a new framework, the review will help

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<sup>6</sup> For example, the Bank of Canada renews its agreement with the government on its inflation target every five years. The next renewal is in 2021.

<sup>7</sup> Although I don't discuss them here, other government policies might also be brought to bear to increase the long-term growth rate and equilibrium interest rate, which would give monetary policy more room to act. Such policies would focus on increasing productivity growth and labor force participation.

determine if improvements to the current framework could make it even more effective at achieving our monetary policy goals, given the current and future economic environment.

Now, paraphrasing French mathematician Blaise Pascal, if I had had more time, I would have written a shorter speech. Before we run out of time for questions, I'd like to end here and thank you for your attention.