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Navigating the Different Signals from Inflation and Unemployment

Remarks by

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For the first time in many years, we are seeing signs of synchronized economic expansions at home and abroad, and the balance of risks globally has become more positive. Recent data suggest that the underlying momentum of the domestic expansion remains solid. While U.S. consumption was weak in the first quarter of 2017, the data so far are consistent with a rebound in the current quarter. Moreover, financial conditions remain supportive of continued economic expansion despite some recent volatility.[1]

The ongoing progress in bringing Americans back into productive employment is especially heartening. With continued strength in the labor market, economic activity regaining momentum, and a brighter outlook abroad, it would be appropriate soon to see the federal funds rate moving closer to its neutral level. If the economy evolves in line with the March Summary of Economic Projections (SEP) median path, normalization of the federal funds rate is likely to be well underway before too long, setting the stage for a gradual and predictable running off of the balance sheet.

Even so, I see some tension between signs that the economy is in the neighborhood of full employment and indications that the tentative progress we had seen on inflation may be slowing. If the tension between the progress on employment and the lack of progress on inflation persists, it may lead me to reassess the expected path of the federal funds rate in the future, although it is premature to make that call today.

Different Signals from the Labor Market and Inflation

Let me start by reviewing the conflicting readings we are getting from the labor market and from inflation.

I am grateful to Jim Clouse and John Roberts for their assistance in preparing this text.

[1] These remarks represent my own views, which do not necessarily represent those of the Federal Reserve Board or the Federal Open Market Committee.

The labor market has continued to strengthen. Payroll growth has averaged 175,000 over the past three months, more than sufficient to absorb new entrants into the labor market. Although earlier in the recovery, it appeared that the U-3 unemployment rate was running ahead of broader indicators of slack, more recently, it has been encouraging to see other margins of slack being drawn down. The labor force participation rate has held stable, against what many believe to be a downward trend based on demographics, and the employment-to-population ratio has reached a new post-recession high. Moreover, the share of employees who work part time for economic reasons has recently moved down close to its pre-crisis level, after a long period of remaining at elevated levels.

The most commonly used U-3 measure of the unemployment rate moved down to 4.4 percent in April. This happens to be the cyclical low reached in 2006-07, although unemployment was at or below this level much of the time from the middle of 1998 to the middle of 2001. Relative to recent decades, the unemployment rate is now quite low. In fact, some have voiced concerns that the economy has proven unable to sustain its expansion when the unemployment rate has fallen below these levels. With that in mind, it is worth asking whether we should be worried that history will inevitably repeat itself.

The truth is, we cannot know for sure. Although rising inflation often heralded the death knell of economic expansions in earlier decades, inflation expectations have been well anchored and rising inflation has presented less of a risk in the most recent business cycles.[2] From 1998 to 2001, for instance, core personal consumption expenditures (PCE) inflation never exceeded 2 percent on a four-quarter basis. Core PCE

[2] In the period from 1950 to 2000, inflation often rose late in the business cycle. In response, the Federal Reserve raised interest rates, which in turn led to a weaker economy.

inflation did reach as high as 2.4 percent in the period from 2006 to 2007, but, at the time, this higher inflation was viewed as reflecting the pass-through of a significant run-up in energy and non-energy import prices.[3]

Today, there is little indication of an outbreak of inflation--rather, the latest data on inflation have been lower than expected. If anything, the puzzle today is why inflation appears to be slowing at a time when most forecasters place the economy at or near full employment.

Even wage inflation, which is most tightly connected to labor market slack, shows little sign of heating up by most measures. Overall, wages are increasing a bit more rapidly than they were a few years ago, but the latest data on wages do not show much progress over the past year. Average hourly earnings rose only 2-1/2 percent in the 12 months through April, the same as a year earlier. Similarly, the employment cost index was up only 2-1/4 percent in the 12 months through March. While that is up from a year earlier, it is lower than two years ago. The Atlanta Fed's Wage Growth Tracker tells a similar story: Upward movement in wage gains was observed until about a year or so ago, but there has been little acceleration recently.

Turning to overall inflation, earlier this year, reports indicated that the Federal Open Market Committee's (FOMC) preferred measure of inflation--the headline measure of consumer price inflation on a national accounts basis--had, on a 12-month change basis, risen close to the FOMC's objective, but the latest figures have edged down somewhat as the rebound in energy prices has abated. I tend to place greater weight on

[3] For example, the FOMC minutes for March 2007 expressed "concern" about the rate of inflation but noted that increases in energy and non-energy imports could explain some of the upward pressure on core prices (see Board of Governors, 2007, paragraph 23). The outlook was for a gradual decline in core inflation.

the core measure of inflation, which abstracts from the transitory movements in energy prices and is a better predictor of future inflation. In the April report, the core measure--that is, excluding food and energy prices--had increased only 1.5 percent on a 12-month change basis. That reading marks a considerable shortfall from the Committee's 2 percent objective. And there does not seem to have been any progress over the past year or so: Core PCE inflation is about the same over the past 12 months as over the preceding period. Although the past two monthly readings of core inflation have been held down in part by idiosyncratic factors, including upgrades to cell-phone plans, the apparent lack of progress in moving core inflation back to 2 percent is a source of concern.

Traditionally, economists assessed that as labor market slack diminished and the economy approached full employment, upward pressure on inflation would result, in the statistical relationship known as the Phillips curve. But I am not confident we can count on the Phillips curve to restore inflation to target in today's economy. Since 2012, inflation has tended to change relatively little--both absolutely and relative to earlier decades--as the unemployment rate has fallen considerably.[4] At a time when the unemployment rate has fallen from 8.2 percent to 4.4 percent, core inflation has undershot our 2 percent target for 58 straight months.[5] In other words, the Phillips curve appears to be flatter today than it was previously. This is also true in a number of advanced foreign economies, where declines in unemployment rates to low levels have failed to generate significant upward pressures on inflation.

[4] See Blanchard (2016), Kiley (2015), and Brainard (2015a). Similarly, inflation did not fall very much as the unemployment rate climbed to 10 percent during the Great Recession.
[5] The inflation information refers to core PCE inflation measured on a 12-month average basis.

With the Phillips curve appearing to be a less reliable guidepost than it has been in the past, the anchoring role of inflation expectations remains critically important. Here, recent developments are mixed. The May reading of the University of Michigan Surveys of Consumers' measure of longer-term inflation expectations remained near its all-time low, while the New York Fed's measure of three-year inflation expectations edged up in its latest reading to the highest level in more than a year. And although market-based measures of inflation compensation have improved relative to their lows in the middle of last year, they are still below the average level in the period from 2010 to 2014.

Attaining the Committee's symmetric target for inflation on a sustainable basis is especially important in the current environment, with the neutral real interest rate at historically lower levels, in order to ensure conventional policy has room to respond to unexpected adverse developments. Underlying fundamentals, such as import prices and diminishing slack, should lead inflation to resume moving closer to its goal. Nonetheless, currently I see more signs that progress on inflation is slowing than of a breakout of inflation to the upside, as might be the case with a nonlinearity in the relationship between inflation and unemployment when unemployment is very low.[6]

But as noted earlier, a breakout in inflation also was not a primary concern following the past two times the unemployment rate dropped as low as it is now, in 1998 and 2006, when recessions followed within two or three years. One notable feature of both episodes was that they were preceded by sharply elevated financial imbalances. In the late 1990s, equity prices had reached very high levels, according to common

[6] See Nalewaik (2016).

measures of stock market valuations. And the period from 2006 to 2007 coincided with a house price bubble, along with extreme leverage at a number of large financial institutions and widespread use of exotic financial products.

Broadly speaking, financial conditions today appear to be more balanced: In most markets, house prices seem fairly well aligned with rents. Large banks are much better capitalized than before the crisis and appear to be managing their risk exposures and liquidity much more carefully. While today's equity market valuations appear somewhat elevated, they do not seem to be near the dizzying heights reached in 1999 and 2000. Moreover, for a variety of reasons, importantly including critical financial reforms as well as changes in risk appetite, leverage and maturity transformation are at much lower levels than they were before the crisis.

One area that merits ongoing vigilance is corporate indebtedness, which remains at a high level and where investor appetite still seems strong. Another area of concern is auto lending--particularly in the subprime segment--where underwriting appears to have become quite lax last year and, consequently, delinquency rates indicate more borrowers struggling to keep up with their payments. Eight years into the recovery, it is important to recognize that financial conditions can change rapidly and bear special vigilance. Nonetheless, risks to the U.S. financial system do not appear to be flashing red in the way they did in the run-up to previous downturns.

It is also possible that the natural rate of unemployment has moved lower or that the unemployment rate still may be overstating the strength of the labor market. While it is encouraging that the share of employees who work part time for economic reasons has continued to move down, there may well be slack remaining along this margin. And

another key measure--the prime-age employment-to-population ratio--remains more than 1 percentage point below pre-crisis levels, and further improvement there would be welcome.

The Outlook

Looking at economic activity more broadly, although first-quarter gross domestic product (GDP) was soft, the data so far suggest a rebound in the second quarter. The weak Q1 reading follows a recurring pattern in recent years, with the first quarter of the year often weaker than subsequent quarters. Moreover, below the top-line number, there were some encouraging signs of strength: Residential construction posted a double-digit increase and contributed 1/2 percentage point to first-quarter GDP growth. Drilling for oil and natural gas is rebounding sharply, and nonresidential construction contributed 3/4 percentage point to first-quarter GDP growth. Business spending on equipment and intangibles, which fell slightly in 2016, rebounded to a 7 percent annualized increase in the first quarter and contributed another 3/4 percentage point to the overall increase.

A key reason overall GDP was so weak last quarter was consumer spending, which rose only 0.6 percent at an annual rate. Nonetheless, there are good reasons to think that the first-quarter weakness in consumer spending will not persist. Household incomes should continue rising with the continued strengthening in employment and wages, home prices should be contributing through improved household balance sheets, and consumer sentiment remains upbeat.

Recent changes in financial conditions have, overall, been supportive of further gains in the real economy. The S&P 500 index is up almost 8 percent since the start of the year. At the same time, a broad measure of the exchange value of the dollar is down

about 4 percent so far this year, which should help boost net exports. After moving up sharply late last year, long-term interest rates have moved down somewhat so far this year.

In addition, the balance of risks has shifted over the past two quarters, with a number of downside risks receding and some upside risks emerging. In particular, the latest international economic data have suggested waning downside risks from abroad, while continued labor market strength and the prospect for fiscal stimulus in the United States present a possible upside risk to domestic demand.

Importantly, we are seeing synchronized global growth for the first time in many years. Growth forecasts for both advanced and emerging market economies are being marked up, breaking a pattern of repeated downward revisions from 2013 to 2016. Recent political developments significantly enhanced the prospects for policy continuity in the euro area, and there has been continued growth in euro-area employment and economic activity. While Italy continues to face political, economic, and financial risks, recent developments augur well for the resilience of the broader euro area.

China's first-quarter growth came in above 7 percent at an annual rate, although there appears to have been some moderation since then, and capital outflows slowed notably. China's economy bears watching in the medium term, especially given financial-sector risks and elevated debt levels. Although Mexico's growth may moderate this year, both the Mexican equity market and the exchange rate have strengthened, along with confidence, following sharp falls late last year.

Along with the favorable shift in foreign risks, recent announcements on fiscal policy suggest some upside risk to U.S. aggregate demand. The Administration has

proposed deep tax cuts, which, if implemented, could amount to about 2 percentage points of GDP in the first few years according to independent estimates. Most estimates suggest that the supply-side effects of these policies would be fairly small, so, if enacted, the net effect could well be a boost to U.S. aggregate demand at a time when the economy could be at full employment. Nonetheless, there is considerable uncertainty about the magnitude and timing of any policy changes. There is also important uncertainty about the deliberations over the debt limit, which are likely to garner increasing attention in the early fall and will factor into my considerations of risks to the outlook.

The Path of Policy

On balance, when assessing economic activity and its likely evolution, it would be reasonable to conclude that further removal of accommodation will likely be appropriate soon. As I noted earlier, the unemployment rate is now at 4.4 percent, and we are seeing improvement in other measures of labor market slack, such as participation and the share of those working part time for economic reasons. There are good reasons to believe that the improvement in real economic activity will continue: Financial conditions remain supportive. Indicators of sentiment remain positive. The balance of risks at home has shifted favorably, downside risks from abroad are lower than they have been in several years, and we are seeing synchronous global growth.

The time for a change in balance sheet policy is coming into clearer view as normalization of the federal funds rate approaches the range that can be considered "well under way." If the outlook and the expected federal funds rate path evolve in line with

the median projection of FOMC participants reported in the March SEP, the federal funds rate will soon approach midway to its expected long-run equilibrium value.

I shared my framework for thinking about the change in balance sheet policy in early March, and today I will elaborate on the approach that seems most appropriate to achievement of our goals.[7] Consideration that normalization of the federal funds rate is well underway was the criterion the Committee adopted in its December 2015 decision to continue to reinvest principal payments. In my view, that "well under way" standard has served an important purpose.[8] With asymmetry in the scope for conventional monetary policy to respond to shocks, maintaining reinvestments provided an important benefit by enabling the federal funds rate to rise more quickly than would have been possible with a shrinking balance sheet and sooner reach a level that allows for reductions if conditions deteriorate. This approach has ensured that our most proven tool, the federal funds rate, will have reached a level at which it can be cut if needed to buffer adverse shocks, thus helping to guard against the asymmetric risks associated with the effective lower bound. With the federal funds rate projected to be in the range that is midway to the Committee's projection of the long-run value of the federal funds rate later this year, I would consider it reasonable to assess that this threshold will have been attained before too long.

As we shrink the size of our balance sheet, the public's holdings of Treasury securities will rise, and that will tend to boost longer-term interest rates. In particular, most studies conclude that increases in central bank holdings of longer-maturity assets chiefly affect interest rates by reducing the quantity of longer-term securities held by the public and putting downward pressure on the term premium--that is, the difference

[7] See Brainard (2017).
[8] This rationale is in Brainard (2015b).

between the yields on longer-dated assets and the path of expected short-term interest rates over the holding period. By some estimates, the effect is modestly above 90 basis points currently.[9] Thus, balance sheet normalization should be associated with higher term premiums, which in turn, other things held equal, should be associated with higher long-term Treasury yields. Most studies find that higher Treasury yields also affect yields and prices of other securities: increasing interest rates faced by private-sector borrowers, making dollar-denominated assets more attractive, which tends to boost the exchange value of the dollar, and making fixed-income assets more attractive relative to stocks, tending to depress share prices. Together, these channels contribute to a tightening in financial conditions.[10]

These effects are, of course, in many respects, similar to the effects of increases in short-term interest rates. [11] Thus, away from the zero lower bound, the two tools are, to a large extent, substitutes for one another. As a result, the FOMC will be in the unfamiliar posture of having two tools available for adjusting monetary policy. It is, therefore, important to clarify how they will be used in relation to each other. While, under most circumstances, the two tools are largely substitutes for one another in terms of their effects on the economy the federal funds rate is the tool with which we have the most

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[9] Bonis, Ihrig, and Wei (2017) estimate that the cumulative effect of the Federal Reserve's asset purchases results in a reduction in the 10-year Treasury yield term premium moderately in excess of 90 basis points currently.

[10] It seems likely that many investors have developed an expectation of the likely path of the Federal Reserve's balance sheet once the process of normalization is well underway, and these expectations are already priced into asset prices. See, for instance, Federal Reserve Bank of New York May 2017 Responses to Survey of Primary Dealers, https://www.newyorkfed.org/medialibrary/media/markets/survey/2017/may-2017-spd-results-public-release.pdf?la=en and Responses to Survey of Market Participants, https://www.newyorkfed.org/medialibrary/media/markets/survey/2017/may-2017-smp-results-public-release.pdf?la=en .

[11] There may be differences in the specific ways changes in short-term rates and the balance sheet transmit to different asset prices and the exchange rate, although estimates are limited and lack precision.

experience. And using two tools at once could easily foster confusion. Thus, in my view, predictability, precision, and clarity of communications all argue in favor of focusing policy on the federal funds rate as the single active tool. In this framework, the balance sheet essentially would remain subordinate to the federal funds rate.

Under the subordinated balance sheet approach, once the change in reinvestment policy is triggered, the balance sheet would essentially be set on autopilot to shrink passively until it reaches a neutral level, expanding in line with the demand for currency thereafter. I favor an approach that would gradually and predictably increase the maximum amount of securities the market will be required to absorb each month, while avoiding spikes. Thus, in an abundance of caution, I prefer to cap monthly redemptions at a pace that gradually increases over a fixed period. In addition, I would be inclined to follow a similar approach in managing the reduction of the holdings of Treasury securities and mortgage-backed securities (MBS), calibrated according to their particular characteristics.

The Committee's policy normalization principles have made clear that the Federal Reserve "will, in the longer run, hold no more securities than necessary to implement monetary policy efficiently and effectively."[12] Over time, the gradual reduction in our balance sheet should result in a gradual decline in reserves to a longer-run level that is well below today's level but likely somewhat higher than in the pre-crisis regime. It is difficult to know in advance with any precision how low reserves can be allowed to drop. That minimum level will depend on the structural demand for reserves and the short-term variability in the demand for and supply of reserves. During the process of balance sheet

[12] See the Committee's Policy Normalization Principles and Plans, available on the Board's website at https://www.federalreserve.gov/newsevents/press/monetary/20140917c.htm.

normalization, I favor an approach of monitoring money markets carefully to gauge the appropriate longer-run level of reserves consistent with efficient and effective policy implementation.

Finally, while subordination of the balance sheet to the federal funds rate should be our baseline policy, in my view, there may be circumstances when we may need to rely on the balance sheet more actively. During the period when the balance sheet is running down, if the economy encounters significant adverse shocks, it may be appropriate to commence the reinvestment of principal payments again in order to preserve conventional policy space.

Conclusion

In recent quarters, the balance of risks has become more favorable, the global outlook has brightened, and financial conditions have eased on net. With the labor market continuing to strengthen, and GDP growth expected to rebound in the second quarter, it likely will be appropriate soon to adjust the federal funds rate. And if the economy evolves in line with the SEP median path, the federal funds rate will likely approach the point at which normalization can be considered well under way before too long, when it will be appropriate to adjust balance sheet policy. I support an approach that retains the federal funds rate as the primary tool for adjusting monetary policy, sets the balance sheet to shrink in a gradual and predictable way for both Treasury securities and MBS, and avoids spikes in redemptions.

While that remains my baseline expectation, I will be watching carefully for any signs that progress toward our inflation objective is slowing. With a low neutral real rate, achieving our symmetric inflation target is more important than ever in order to preserve

some room for conventional policy to buffer adverse developments in the economy. If the soft inflation data persist, that would be concerning and, ultimately, could lead me to reassess the appropriate path of policy.

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