

## Minutes of the Federal Open Market Committee October 27–28, 2015

A joint meeting of the Federal Open Market Committee and the Board of Governors was held in the offices of the Board of Governors of the Federal Reserve System in Washington, D.C., on Tuesday, October 27, 2015, at 10:00 a.m. and continued on Wednesday, October 28, 2015, at 9:00 a.m.

### PRESENT:

Janet L. Yellen, Chair  
William C. Dudley, Vice Chairman  
Lael Brainard  
Charles L. Evans  
Stanley Fischer  
Jeffrey M. Lacker  
Dennis P. Lockhart  
Jerome H. Powell  
Daniel K. Tarullo  
John C. Williams

James Bullard, Esther L. George, Loretta J. Mester,  
Eric Rosengren, and Michael Strine, Alternate  
Members of the Federal Open Market Committee

Patrick Harker, Robert S. Kaplan, and Narayana  
Kocherlakota, Presidents of the Federal Reserve  
Banks of Philadelphia, Dallas, and Minneapolis,  
respectively

Brian F. Madigan, Secretary  
Matthew M. Luecke, Deputy Secretary  
David W. Skidmore, Assistant Secretary  
Michelle A. Smith, Assistant Secretary  
Scott G. Alvarez, General Counsel  
Steven B. Kamin, Economist  
Thomas Laubach, Economist  
David W. Wilcox, Economist

David Altig, Thomas A. Connors, Eric M. Engen,  
Michael P. Leahy, William R. Nelson, Glenn D.  
Rudebusch, Daniel G. Sullivan, and William  
Wascher, Associate Economists

Simon Potter, Manager, System Open Market Account

Lorie K. Logan, Deputy Manager, System Open  
Market Account

Robert deV. Frierson,<sup>1</sup> Secretary of the Board, Office  
of the Secretary, Board of Governors

Michael S. Gibson, Director, Division of Banking  
Supervision and Regulation, Board of Governors

Nellie Liang, Director, Office of Financial Stability  
Policy and Research, Board of Governors

Margaret Shanks,<sup>2</sup> Deputy Secretary, Office of the  
Secretary, Board of Governors

James A. Clouse and Stephen A. Meyer, Deputy  
Directors, Division of Monetary Affairs, Board of  
Governors

Andreas Lehnert, Deputy Director, Office of Financial  
Stability Policy and Research, Board of Governors

William B. English, Senior Special Adviser to the  
Board, Office of Board Members, Board of  
Governors

Andrew Figura and Stacey Tevlin, Special Advisers to  
the Board, Office of Board Members, Board of  
Governors

Trevor A. Reeve, Special Adviser to the Chair, Office  
of Board Members, Board of Governors

Linda Robertson, Assistant to the Board, Office of  
Board Members, Board of Governors

David E. Lebow, Senior Associate Director, Division  
of Research and Statistics, Board of Governors

Jeremy B. Rudd, Senior Adviser, Division of Research  
and Statistics, Board of Governors; Joyce K.  
Zickler, Senior Adviser, Division of Monetary  
Affairs, Board of Governors

Fabio M. Natalucci, Associate Director, Division of  
Monetary Affairs, Board of Governors

<sup>1</sup> Attended Tuesday morning's discussion of equilibrium real interest rates and Wednesday's session.

<sup>2</sup> Attended Tuesday's session following the discussion of equilibrium real interest rates.

Joseph W. Gruber,<sup>3</sup> Deputy Associate Director, Division of International Finance, Board of Governors; Jane E. Ihrig<sup>4</sup> and David López-Salido,<sup>5</sup> Deputy Associate Directors, Division of Monetary Affairs, Board of Governors

Glenn Follette and John M. Roberts, Assistant Directors, Division of Research and Statistics, Board of Governors; Christopher J. Gust, Assistant Director, Division of Monetary Affairs, Board of Governors

Robert J. Tetlow, Adviser, Division of Monetary Affairs, Board of Governors

Penelope A. Beattie,<sup>3</sup> Assistant to the Secretary, Office of the Secretary, Board of Governors

Dana L. Burnett, Section Chief, Division of Monetary Affairs, Board of Governors; Andrea Raffo,<sup>5</sup> Section Chief, Division of International Finance, Board of Governors

David H. Small, Project Manager, Division of Monetary Affairs, Board of Governors

Yuriy Kitsul, Senior Economist, Division of Monetary Affairs, Board of Governors

Benjamin K. Johannsen,<sup>5</sup> Economist, Division of Monetary Affairs, Board of Governors

David Sapenaro, First Vice President, Federal Reserve Bank of St. Louis

Jeff Fuhrer, Executive Vice President, Federal Reserve Bank of Boston

Kei-Mu Yi, Special Policy Advisor to the President, Federal Reserve Bank of Minneapolis

Michael Dotsey, Michael Held, Evan F. Koenig, and Christopher J. Waller, Senior Vice Presidents, Federal Reserve Banks of Philadelphia, New York, Dallas, and St. Louis, respectively

Edward S. Knotek II and George A. Kahn, Vice Presidents, Federal Reserve Banks of Cleveland and Kansas City, respectively

Robert Rich and Andrea Tambalotti,<sup>5</sup> Assistant Vice Presidents, Federal Reserve Bank of New York

Andreas L. Hornstein, Senior Advisor, Federal Reserve Bank of Richmond

Jing Zhang,<sup>5</sup> Senior Economist, Federal Reserve Bank of Chicago

<sup>3</sup> Attended Tuesday's session only.

<sup>4</sup> Attended through the discussion of financial developments and open market operations.

<sup>5</sup> Attended through the discussion of equilibrium real interest rates.

### Equilibrium Real Interest Rates

The staff presented several briefings regarding the concept of an equilibrium real interest rate—sometimes labeled the “neutral” or “natural” real interest rate, or “ $r^*$ ”—that can serve as a benchmark to help gauge the stance of monetary policy. Various concepts of  $r^*$  were discussed. According to one definition, short-run  $r^*$  is the level of the real short-term interest rate that, if obtained currently, would result in the economy operating at full employment or, in some simple models of the economy, at full employment and price stability. The staff summarized the behavior of estimates of the short-run equilibrium real rate over recent business cycles as well as longer-run trends in real interest rates and key factors that influence those trends. Estimates derived using a variety of empirical models of the U.S. economy and a range of econometric techniques indicated that short-run  $r^*$  fell sharply with the onset of the 2008–09 financial crisis and recession, quite likely to negative levels. Short-run  $r^*$  was estimated to have recovered only partially and to be close to zero currently, still well below levels that prevailed during recent economic expansions when the unemployment rate was close to estimates of its longer-run normal level.

With respect to longer-run trends, the staff noted that multiyear averages of short-term real interest rates had been declining not only in the United States, but also in many other large economies for the past quarter-century and stood near zero in most of those economies. Moreover, economic theory indicates that the equilibrium level of short-term real interest rates would likely remain low relative to estimates of its level before the financial crisis if trend growth of total factor productivity does not pick up and if demographic projections for slow growth in working-age populations are borne out. Finally, the staff discussed the implications of uncertainty

about the level of the equilibrium real rate for using estimates of short-run  $r^*$  as a guideline for appropriate monetary policy.

In their comments on the briefings and in their discussion of the potential use of  $r^*$  in monetary policy deliberations, policymakers made a number of observations. The unemployment rate has declined gradually in recent years, indicating that real gross domestic product (GDP) growth has, on average, exceeded growth of potential GDP, but not by a substantial margin. This outcome, in turn, suggested that the actual level of short-term real interest rates has been below but not substantially below the equilibrium real rate, consistent with estimates that  $r^*$  currently is close to zero, notably below its historical average.

A number of participants indicated that they expected short-run  $r^*$  to rise as the economic expansion continued, but probably only gradually. Moreover, it was noted that the longer-run downward trend in real interest rates suggested that short-run  $r^*$  would likely remain below levels that were normal during previous business cycle expansions, and that the longer-run normal level to which the nominal federal funds rate might be expected to converge in the absence of further shocks to the economy—that is, the level that would be consistent, in the long run, with maximum employment and 2 percent inflation—would likely be lower than was the case in previous decades. A lower long-run level of  $r^*$  would also imply that the gap between the actual level of the federal funds rate and its near-zero effective lower bound would be smaller on average. A smaller gap might increase the frequency of episodes in which policymakers would not be able to reduce the federal funds rate enough to promote a strong economic recovery and rapid return to maximum employment or to maintain price stability in the aftermath of negative shocks to aggregate demand. Some participants noted that it would be prudent to have additional policy tools that could be used in such situations.

### **Developments in Financial Markets, Open Market Operations, and Policy Normalization**

The deputy manager of the System Open Market Account (SOMA) reported on developments in domestic and foreign financial markets, money markets, and System open market operations conducted by the Open Market Desk during the period since the Federal Open Market Committee (FOMC) met on September 16–17. Take-up of the System's overnight reverse repurchase agreement operations increased during this period, evidently reflecting a modest narrowing of the spread of

money market interest rates over the offered rate on such operations. Total take-up of overnight and term reverse repurchase agreements at the end of the third quarter was also elevated. The deputy manager briefed the Committee on plans for the upcoming quarterly test of the Term Deposit Facility in December and for term reverse repurchase agreement operations to be conducted ahead of year-end. In addition, an update was provided on a data collection that will allow the calculation of the federal funds effective rate and a new overnight bank funding rate based on transaction-level data reported by depository institutions that are active in overnight bank funding markets; as previously reported, the Federal Reserve expects to begin publication of the rates based on these data in the first few months of 2016.

A staff presentation reviewed issues that could arise if the Treasury was temporarily unable to meet its obligations because of constraints associated with the statutory federal debt limit. Following the presentation, policymakers indicated that, if such issues arose, it remained appropriate to follow the strategy for open market operations, the discount window, and other System responsibilities that was discussed at the Committee's videoconference meeting of October 16, 2013, and summarized in the minutes of that meeting.

By unanimous vote, the Committee ratified the Desk's domestic transactions over the intermeeting period. There were no intervention operations in foreign currencies for the System's account over the intermeeting period.

### **Staff Review of the Economic Situation**

The information reviewed for the October 27–28 meeting suggested that real GDP was increasing at a moderate pace, but that the improvement in labor market conditions had slowed somewhat in recent months. Inflation continued to run below the FOMC's longer-run objective of 2 percent, restrained in part by declines in energy prices and prices of non-energy imported goods. Survey measures of longer-run inflation expectations remained stable; market-based measures of inflation compensation moved slightly lower.

Total nonfarm payroll employment expanded at about the same rate in September as in August, although at a slower pace than earlier this year, and the unemployment rate remained at 5.1 percent. Both the labor force participation rate and the employment-to-population ratio edged down. However, the share of workers employed part time for economic reasons fell a little. The rate of private-sector job openings declined in August but was

still at a high level, while the rates of hiring and quits were unchanged.

Industrial production decreased in September as the output of both the manufacturing and mining sectors declined, likely reflecting the effects of the appreciation in the foreign exchange value of the dollar and the fall in crude oil prices since the middle of last year. Automakers' assembly schedules, as well as broader indicators of manufacturing production, such as the readings on new orders from national and regional manufacturing surveys, generally pointed to further decreases in factory output in coming months. Recent information on crude oil and natural gas extraction indicated further declines in mining output.

Real personal consumption expenditures (PCE) appeared to rise at a solid rate in the third quarter as a whole. The components of the nominal retail sales data used by the Bureau of Economic Analysis to construct its estimate of PCE increased only slightly in September, but the rate of sales of light motor vehicles rose to a new high for the year. Real disposable income grew at a solid pace in July and August. Households' net worth was boosted by recent gains in home values and the net increase in equity prices over the intermeeting period. Moreover, consumer sentiment in the University of Michigan Surveys of Consumers improved in early October.

Activity in the housing sector was mixed, but it generally continued to recover slowly. Starts of new single-family homes stepped down modestly, on net, over August and September, although building permits increased slightly. Meanwhile, starts of multifamily units rose notably. Sales of new and existing homes moved down somewhat on balance.

Real private expenditures for business equipment and intellectual property products appeared to increase at a solid pace in the third quarter. Nominal shipments of nondefense capital goods excluding aircraft rose in September. However, forward-looking indicators, such as new orders for these capital goods along with national and regional surveys of business conditions, pointed to more modest increases in business equipment spending in the coming months. Firms' nominal spending for nonresidential structures excluding drilling and mining rose in August, although available indicators of drilling activity, such as the number of oil and gas rigs in operation, continued to fall. Real private inventory investment appeared to have slowed markedly in the third quarter.

Total real government purchases looked to have moved sideways in the third quarter. Federal government purchases likely declined a little, as defense spending stepped down further. In contrast, state and local government purchases appeared to have been rising; the payrolls of these governments expanded further in September, and their nominal construction spending in July and August was above its level in the second quarter.

The U.S. international trade deficit widened in August as exports declined and imports rose. The fall in exports was concentrated in industrial supplies, while consumer and capital goods accounted for much of the growth in imports. Advance estimates for September indicated a narrower merchandise trade deficit, with a rebound in exports and a decline in imports relative to August. After falling sharply early this year, real net exports were little changed in the second quarter and appeared to have stayed flat in the third quarter, with real exports remaining soft.

Total U.S. consumer prices in August, as measured by the PCE price index, were unchanged from 12 months earlier, reflecting large declines in consumer energy prices. Core PCE inflation, which excludes changes in food and energy prices, was 1¼ percent over the same 12-month period, restrained in part by declines in the prices of non-energy goods imports. In September, total consumer prices as measured by the consumer price index (CPI) were unchanged from a year earlier, while the core CPI increased almost 2 percent. Measures of expected longer-run inflation from a number of surveys, including the Michigan survey, the Blue Chip Economic Indicators, and the Desk's Survey of Primary Dealers, remained stable. However, market-based measures of inflation compensation moved a little lower. Average hourly earnings for all employees increased 2¼ percent over the 12 months ending in September, a pace that was faster than consumer price inflation.

Foreign economic growth appeared to have improved somewhat in the third quarter following two quarters of slow growth. Economic activity rebounded in Canada after disruptions to energy production earlier in the year, and real GDP growth jumped to 5 percent in South Korea as the effects of the MERS (Middle East Respiratory Syndrome) outbreak faded. Chinese real GDP growth remained around 7 percent on a four-quarter change basis, and information on economic activity in the euro area and the United Kingdom was consistent with continued expansion. However, indicators of economic activity in Japan and Brazil remained weak. Headline inflation was low in many countries as a result of falling

energy prices. Inflation rates remained high in some South American countries whose currencies had recently depreciated sharply.

### **Staff Review of the Financial Situation**

Continued concerns about the global economic growth outlook weighed on market sentiment in the United States and abroad early in the intermeeting period, but sentiment improved somewhat in the weeks preceding the October FOMC meeting. Following the weaker-than-expected report on the U.S. employment situation in September, market participants' expectations for the timing of the initial increase in the target range for the federal funds rate shifted out, and their expectation for the subsequent path of the federal funds rate flattened. Financing conditions for most businesses and households remained accommodative but tightened somewhat for businesses with lower credit quality.

Federal Reserve communications and economic data releases over the intermeeting period appeared to have led investors to expect a later start date for monetary policy normalization and a more gradual path for the federal funds rate thereafter. According to federal funds futures quotes just before the October FOMC meeting, as well as results from the Desk's Survey of Primary Dealers and Survey of Market Participants, market participants saw a significantly lower chance of the initial increase in the target range for the federal funds rate occurring before year-end than they perceived just before the September meeting, while the likelihood of liftoff occurring at or after the March 2016 meeting rose. The expected path for the federal funds rate implied by quotes on overnight index swap rates flattened notably over the intermeeting period.

Nominal Treasury yields declined further, reflecting FOMC communications, concerns about global economic growth, and generally weaker-than-expected U.S. economic data releases. Measures of inflation compensation based on Treasury Inflation-Protected Securities moved slightly lower on net.

Broad U.S. equity price indexes fell in the first few weeks after the September FOMC meeting but subsequently more than retraced those declines. Spreads of yields on triple-B-rated corporate bonds over comparable-maturity Treasury securities changed little, on balance, and those on speculative-grade corporate bonds widened notably across sectors. Across the credit spectrum, spreads were generally near their highest levels in several years and ended the period above their historical medians. Based on available reports and analysts' estimates,

aggregate corporate earnings per share in the third quarter were expected to decrease slightly, with large declines in the energy and materials sectors. Spreads on leveraged loans increased in August and moved up, on balance, over the intermeeting period.

Overall, financing conditions for nonfinancial businesses were generally accommodative but tightened somewhat for lower-rated firms. Corporate bond issuance rebounded in September after a slowdown in August. The expansion of commercial and industrial loans on banks' books moderated slightly during the third quarter, and lending standards were little changed, on net, after several years of easing, according to the October Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS). Financing conditions for small businesses continued to improve, with loan originations maintaining their upward trend, although indicators of the optimism of small business owners declined in recent months. Financing conditions for municipalities remained accommodative on balance. Even though news reports on Puerto Rico's public-sector debt situation garnered attention of market participants, credit default swap spreads on Puerto Rico's general obligation debt were little changed over the intermeeting period.

Spreads on commercial mortgage-backed securities (CMBS) widened over the intermeeting period, while respondents in the SLOOS reported that standards on commercial real estate (CRE) loans were little changed in the third quarter. Overall, CRE financing appeared to remain broadly available. All major categories of CRE loans on banks' balance sheets expanded robustly through September, consistent with reports of stronger demand for such loans in the SLOOS.

Credit conditions for residential mortgages eased modestly, on net, in the third quarter. A moderate net fraction of SLOOS respondents continued to ease standards on loans eligible for purchase by the government-sponsored enterprises and on jumbo loans, but standards on government-backed loans tightened somewhat. Interest rates on 30-year fixed-rate mortgages declined over the intermeeting period.

Conditions in consumer credit markets remained accommodative on balance. Outstanding credit card balances expanded further in August, and a moderate net fraction of banks in the SLOOS indicated that they eased standards on such loans during the third quarter. However, credit card limits remained mostly flat overall and were fairly tight for subprime borrowers. The growth of auto and student loans stayed robust.

Continued concerns about the outlook for global economic growth weighed on commodity and foreign equity prices early in the intermeeting period. These declines subsequently were reversed, and foreign equity price indexes ended the period higher, pushed up by expectations of additional monetary policy accommodation in major foreign economies and some favorable economic indicators in China.

The broad nominal index of the dollar's foreign exchange value ended the period little changed on balance. The dollar depreciated early in the period following the weaker-than-expected U.S. employment report for September and the subsequent downward shift of the expected path for U.S. policy rates. But this decline was balanced by subsequent appreciation, in part as expectations increased for greater monetary policy accommodation abroad. These shifting expectations also contributed to a decline in sovereign yields in the advanced foreign economies.

The staff provided its latest report on potential risks to financial stability. Since the previous report in July, financial markets around the globe experienced a surge in volatility that peaked in late August amid concerns regarding slowing economic growth in emerging market economies and potential implications for advanced economies. This volatility was accompanied by sizable declines in the prices of some risky assets, and an increase in risk aversion eased valuation pressures in the corporate bond market. Issuance of speculative-grade corporate bonds and leveraged loans slowed from the rapid pace seen earlier this year. The U.S. financial system appeared to absorb the shocks without systemic strains, supported by relatively high capital positions of large banking organizations and insurance firms and by restrained use of short-term wholesale funding across the financial sector. Moreover, leverage in the nonfinancial sector remained modest overall. However, leverage of speculative-grade and unrated nonfinancial corporations stayed near record levels. Rising CRE prices, accompanied by loosening underwriting standards in CMBS markets, continued to suggest valuation pressures.

### **Staff Economic Outlook**

In the economic forecast prepared by the staff for the October FOMC meeting, real GDP growth in the second half of this year was a little lower, on balance, than in the projection for the September meeting, largely reflecting a downward revision to estimated inventory investment. The staff's medium-term projection for real

GDP growth was essentially unrevised from the previous forecast. The staff continued to project that real GDP would expand at a somewhat faster pace than potential output from 2016 through 2018, supported primarily by increases in consumer spending. The unemployment rate was expected to decline gradually and to run a little below the staff's estimate of its longer-run natural rate over this period.

The staff's forecast for inflation in the near term was revised up a little, reflecting recent data, and it was unrevised over the medium term. Energy prices and prices of non-energy imported goods were expected to begin steadily rising next year. The staff projected that inflation would increase gradually over the next several years but would still be slightly below the Committee's longer-run objective of 2 percent at the end of 2018. However, inflation was anticipated to reach 2 percent thereafter, with inflation expectations in the longer run assumed to be consistent with the Committee's objective and slack in labor and product markets projected to have waned.

The staff viewed the uncertainty around its October projections for real GDP growth, the unemployment rate, and inflation as similar to the average of the past 20 years. The risks to the forecast for real GDP and inflation were seen as tilted to the downside, reflecting the staff's assessment that neither monetary nor fiscal policy was well positioned to help the economy withstand substantial adverse shocks. Consistent with this downside risk to aggregate demand, the staff viewed the risks to its outlook for the unemployment rate as tilted to the upside.

### **Participants' Views on Current Conditions and the Economic Outlook**

In their discussion of the economic situation and the outlook, meeting participants saw the information received over the intermeeting period as suggesting that economic activity had been expanding moderately. Household spending and business fixed investment increased at solid rates in recent months, and the housing sector improved further. However, net exports remained soft. Participants noted that the pace of job gains slowed while the unemployment rate held steady; nonetheless, a range of labor market indicators, on balance, suggested that underutilization of labor resources had diminished since early this year. With private domestic final demand expanding at a solid pace, participants generally viewed the incoming data as confirming their assessment that economic activity would continue to expand at a moderate rate, leading to further improve-

ment in labor market conditions. However, some participants were concerned that the recent slowdown in employment growth might prove more than temporary, and that improvement in labor market conditions might not continue. Most participants saw the downside risks arising from economic and financial developments abroad as having diminished and judged the risks to the outlook for domestic economic activity and the labor market to be nearly balanced. A few participants, though, noted that downside risks from abroad were still significant. Inflation continued to run below the Committee's 2 percent longer-run objective, partly reflecting declines in energy prices and prices of non-energy imports. Market-based measures of inflation compensation moved slightly lower; survey-based measures of longer-term inflation expectations remained stable. Participants generally anticipated that inflation would rise gradually toward 2 percent as the labor market improved further and the transitory effects of earlier declines in energy and import prices dissipated.

Notwithstanding the disappointing retail sales data in September, participants were encouraged by the solid pace of consumption growth in the third quarter and generally expected consumer spending to rise moderately going forward. Gains in employment and income, low gasoline prices, and a high level of consumer confidence were viewed as factors that should support consumer spending. The available reports from District contacts in the retail and auto industries indicated solid gains in consumer spending, and contacts were optimistic about the near-term outlook.

Participants generally viewed the housing sector as continuing to recover, although a couple of participants noted that the pace of recovery was slow. Contacts in a number of Districts were upbeat about the sector, citing rising home prices and a healthy pace of construction and sales.

Participants noted that business fixed investment appeared to be increasing at a solid rate despite the sharp contraction in energy-related investment. Nonresidential construction was reported to be expanding in a number of regions. A large decline in inventory investment was expected to reduce the pace of GDP growth in the third quarter, but participants saw further outsized declines in inventory accumulation as unlikely. Participants expected net exports to continue to subtract from GDP growth in the second half of the year, reflecting weak foreign activity as well as the earlier appreciation of the dollar. However, solid underlying momentum in

private domestic demand was anticipated to support economic growth going forward.

Manufacturing activity had slowed somewhat over the intermeeting period in a number of regions, importantly reflecting the weakness in exports, although the auto industry remained a bright spot. Weakness in commodity prices also continued to weigh on activity in the energy and agricultural sectors. Moreover, industry contacts remained pessimistic about the outlook for the energy sector. The substantial global supply of crude oil seemed likely to weigh on energy prices for some time, contributing to an increase in restructurings and bankruptcies in this sector. In contrast, service-sector reports were mostly positive.

Although employment growth slowed and the unemployment rate held steady in September, participants agreed that underutilization of labor resources had been reduced since earlier in the year. A number of participants expressed the view that further progress would be necessary before labor market conditions were fully consistent with maximum employment, while some others judged that there was little or no remaining underutilization of labor resources. Several participants observed that the recent employment reports had increased the uncertainty about the outlook for the labor market. They discussed whether the slowdown in job gains was merely transitory or indicative of a more persistent slowdown in which labor market conditions might no longer improve. Some other indicators, such as the labor force participation rate and data on job openings, quits, and hiring, had also been softer. Other participants viewed a broad range of recent labor market data as indicating a further reduction in slack and stressed the importance of assessing the cumulative improvement in the labor market since early in the year, which had been significant. Moreover, several participants indicated that they viewed the pace of monthly job gains in September as still above the rate consistent with stable or declining labor market slack, and a few participants interpreted slower increases in payrolls as evidence that labor markets had tightened.

The incoming information on wages and labor compensation, including recent data on average hourly earnings of employees, suggested that the pace of wage gains remained subdued. A number of participants cited staff analysis indicating that the modest pace of labor compensation growth in recent years may have reflected slower trend productivity growth that offset the upward pressure on wages from the narrowing of labor market

slack. However, other participants noted that the continued subdued trend in wages was evidence of an absence of upward pressure on inflation from the current level of resource utilization. A number of participants reported that some of their business contacts were experiencing increasing challenges in hiring, resulting in upward pressure on wages in various occupations and in some geographic areas.

Participants discussed how recent economic developments influenced their expectations for reaching the FOMC's 2 percent inflation objective over the medium term. Total PCE price inflation, as measured on a 12-month basis, continued to run below the Committee's longer-run objective. Core PCE inflation also remained low, but some other measures of inflation, such as the trimmed mean PCE and trimmed mean CPI measures, continued to run at higher levels than core PCE inflation and had recently moved up modestly. Moreover, a few participants noted that the September CPI data appeared consistent with some firming in inflation. Surveys continued to suggest that longer-run inflation expectations remained stable. Participants still expected that the downward pressure on inflation from the previous declines in energy prices and the effects of past dollar appreciation would prove temporary. Several participants, however, cited downside risks to inflation, pointing, for example, to declines in market-based measures of inflation compensation. Nonetheless, participants generally continued to anticipate that, with appropriate monetary policy, inflation would move toward the Committee's objective over the medium term, reflecting the anticipated tightening of product and labor markets, the waning of downward pressures from energy and import prices, and stable inflation expectations.

Participants also discussed a range of topics related to financial market developments and financial stability. They noted that volatility in global financial markets had abated since the previous FOMC meeting, with equity prices in the United States largely retracing the declines experienced late in the summer. The U.S. financial system appeared to have weathered the turbulence in global financial markets without any sign of systemic stress. Participants commented on issues related to financial stability monitoring and the use of macroprudential tools, the assessment of valuation risks in leveraged loan and real estate markets, the widening of credit spreads on corporate bonds, and potential risks to financial stability stemming from interest rates remaining low for a prolonged period in an environment of a low neutral (or equilibrium) real rate. In addition, it was noted that

Puerto Rico continued to face significant challenges servicing its debts, although the associated systemic risks for U.S. financial markets were likely to be minimal.

During their discussion of economic conditions and monetary policy, participants focused on a number of issues associated with the timing and pace of policy normalization. Some participants thought that the conditions for beginning the policy normalization process had already been met. Most participants anticipated that, based on their assessment of the current economic situation and their outlook for economic activity, the labor market, and inflation, these conditions could well be met by the time of the next meeting. Nonetheless, they emphasized that the actual decision would depend on the implications for the medium-term economic outlook of the data received over the upcoming intermeeting period. Some others, however, judged it unlikely that the information available by the December meeting would warrant raising the target range for the federal funds rate at that meeting.

A number of participants pointed to various reasons why the Committee should avoid a delay in policy firming. One concern was that such a delay, if the reasons were not well understood by market participants, could increase uncertainty in financial markets and unduly magnify the perceived importance of the beginning of the policy normalization process. Another concern mentioned was the increasing risk of a buildup of financial imbalances after a prolonged period of very low interest rates. It was also noted that a decision to defer policy firming could be interpreted as signaling lack of confidence in the strength of the U.S. economy or erode the Committee's credibility. Some participants emphasized that progress toward the Committee's objectives should be assessed in light of the cumulative gains made to date without placing excessive weight on month-to-month changes in incoming data.

Several participants indicated that, despite lessening concerns about the implications of recent global economic and financial developments for domestic economic activity and inflation, appreciable downside risks to the outlook remained. They were concerned about a potential loss of momentum in the economy and the associated possibility that inflation might fail to increase as expected. Such concerns might suggest that the initiation of the normalization process may not yet be warranted. They also noted uncertainty about whether economic growth was robust enough to withstand potential adverse shocks, given the limited ability of monetary policy to offset such shocks when the federal funds rate is near

its effective lower bound, and concern that the beginning of policy normalization might be associated with an unwarranted tightening of financial conditions. They believed that in these circumstances, risk-management considerations called for a cautious approach. They judged it appropriate to wait for additional information providing evidence of further improvement in the labor market and increasing their confidence that inflation was on a path to return to 2 percent over the medium term before raising the target range for the federal funds rate. In addition, a couple of participants cited concerns that a premature tightening might damage the credibility of the Committee's inflation objective if inflation stayed below 2 percent for a prolonged period.

Several participants indicated that, in the current low interest rate environment, it would be prudent for the Committee to consider options for providing additional monetary policy accommodation if the outlook for economic activity were to weaken to a degree that seemed likely to undermine continued progress in labor market conditions and impede the movement of inflation back to the Committee's 2 percent objective over the medium term. It was also noted that the Committee would need to reformulate its communications regarding the near-term outlook for monetary policy if the economic outlook weakened significantly.

During their discussion of the likely path for the federal funds rate after the time of the first increase in the target range, participants generally agreed that it would probably be appropriate to remove policy accommodation gradually. Participants also indicated that the expected path of policy, rather than the timing of the initial increase, would be the more important influence on financial conditions and thus on the outlook for the economy and inflation, and they noted the importance of underscoring this view at the time of liftoff. It was noted that beginning the normalization process relatively soon would make it more likely that the policy trajectory after liftoff could be shallow. It was also emphasized that, while participants' most recent economic projections suggested that a gradual increase in the target range for the federal funds rate will likely be appropriate to support progress toward the Committee's dual objectives, monetary policy adjustments ultimately would be dependent on economic and financial developments. These adjustments thus could be either more or less gradual than the Committee currently anticipates, responding to the Committee's assessment of the implications of incoming information for the medium-run outlook.

### **Committee Policy Action**

In their discussion of monetary policy for the period ahead, members judged that information received since the FOMC met in September indicated that economic activity had been expanding at a moderate pace. Although net exports had been soft and inventory accumulation appeared to have slowed, major domestic components of spending were increasing at solid rates. With concerns about global economic and financial developments having lessened, members continued to see the risks to the outlook for economic activity as nearly balanced, although they were still monitoring these developments. Members indicated that they expected that, with appropriate policy accommodation, economic activity would continue to expand at a moderate pace.

Almost all members agreed that, even though the pace of job gains had slowed and the unemployment rate had held steady over the intermeeting period, labor market indicators, on balance, showed that underutilization of labor resources had diminished since early in the year. Members anticipated that economic activity was likely to expand at a pace sufficient for labor market indicators to continue to move toward, or to remain at, levels the Committee judged consistent with its dual mandate. Inflation continued to run below the Committee's longer-run objective, held down in part by the effects of declines in energy prices and in prices of non-energy imports. Survey-based measures of longer-term inflation expectations had remained stable; market-based measures of inflation compensation had moved slightly lower. While inflation was anticipated to remain near its recent low level in the near term, reflecting the transitory effects of declines in energy and import prices, members continued to expect inflation to rise gradually toward 2 percent over the medium term as the labor market improved further and such transitory effects dissipated. Nonetheless, they agreed to continue monitoring inflation developments closely.

In assessing whether economic conditions and the medium-term economic outlook warranted beginning the process of policy normalization at this meeting, members noted a variety of indicators, including some weaker-than-expected readings on measures of labor market conditions, and almost all members agreed it was appropriate to wait for additional information to clarify whether the recent deceleration in the pace of progress in the labor market was transitory or reflected more persistent factors that might jeopardize further progress. They indicated that they would be assessing a range of labor market indicators over the period ahead to confirm further improvement in the labor market. Members,

however, expressed a range of views regarding the extent of further progress in labor market indicators they would need to see to judge it appropriate to raise the target range for the federal funds rate in December.

Members continued to anticipate that inflation would gradually return to the Committee's 2 percent objective over the medium term, but most of them were not yet sufficiently confident of that outlook to begin the normalization process. They generally agreed that their confidence would increase if, as anticipated, economic activity continued to expand at a pace sufficient to increase resource utilization. Other factors important to the inflation outlook were the expectation that the influence of lower energy and commodities prices and the stronger dollar would subside, and that longer-term inflation expectations would remain stable. In this regard, a couple of members expressed concern about the continued decline in market-based measures of inflation compensation. Moreover, the risk was noted that downward pressures on inflation from the appreciation of the dollar could persist.

After assessing the outlook for economic activity, the labor market, and inflation and weighing the uncertainties associated with the outlook, all but one member agreed to leave the target range for the federal funds rate unchanged at this meeting. Members generally agreed that, in light of some weaker-than-expected readings on measures of labor market conditions and in the absence of greater confidence about the inflation outlook, it would be prudent to wait for additional information bearing on the medium-term outlook before initiating the process of policy normalization. One member, however, preferred to raise the target range for the federal funds rate by 25 basis points at this meeting.

In its postmeeting statement, rather than framing its near-term policy path in terms of how long to maintain the current target range, the Committee decided to indicate that, in determining whether it would be appropriate to raise the target range at its next meeting, it would assess both realized and expected progress toward its objectives of maximum employment and 2 percent inflation. Members emphasized that this change was intended to convey the sense that, while no decision had been made, it may well become appropriate to initiate the normalization process at the next meeting, provided that unanticipated shocks do not adversely affect the economic outlook and that incoming data support the expectation that labor market conditions will continue to improve and that inflation will return to the Committee's 2 percent objective over the medium term. Members

saw the updated language as leaving policy options open for the next meeting. However, a couple of members expressed concern that this wording change could be misinterpreted as signaling too strongly the expectation that the target range for the federal funds rate would be increased at the Committee's next meeting. While members differed in their assessment of the likelihood that incoming information will warrant an increase in the target range for the federal funds rate when the Committee meets in December, they agreed that, in making the decision, the Committee will evaluate progress toward its objectives, taking into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. It was noted that the expected path of the federal funds rate, rather than the exact timing of the initial increase, was most important in influencing financial conditions and thus in affecting the outlook for the economy and inflation. The Committee reiterated its expectation that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.

The Committee also maintained its policy of reinvesting principal payments from its agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.

At the conclusion of the discussion, the Committee voted to authorize and direct the Federal Reserve Bank of New York, until it was instructed otherwise, to execute transactions in the SOMA in accordance with the following domestic policy directive:

"Consistent with its statutory mandate, the Federal Open Market Committee seeks monetary and financial conditions that will foster maximum employment and price stability. In particular, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to undertake open market operations as necessary to maintain such conditions. The Committee directs the Desk to maintain its policy of rolling over maturing Treasury securities into new

issues and its policy of reinvesting principal payments on all agency debt and agency mortgage-backed securities in agency mortgage-backed securities. The Committee also directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency mortgage-backed securities transactions. The System Open Market Account manager and the secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability."

The vote encompassed approval of the statement below to be released at 2:00 p.m.:

"Information received since the Federal Open Market Committee met in September suggests that economic activity has been expanding at a moderate pace. Household spending and business fixed investment have been increasing at solid rates in recent months, and the housing sector has improved further; however, net exports have been soft. The pace of job gains slowed and the unemployment rate held steady. Nonetheless, labor market indicators, on balance, show that underutilization of labor resources has diminished since early this year. Inflation has continued to run below the Committee's longer-run objective, partly reflecting declines in energy prices and in prices of non-energy imports. Market-based measures of inflation compensation moved slightly lower; survey-based measures of longer-term inflation expectations have remained stable.

Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects that, with appropriate policy accommodation, economic activity will expand at a moderate pace, with labor market indicators continuing to move toward levels the Committee judges consistent with its dual mandate. The Committee continues to see the risks to the outlook for economic activity and the labor market as nearly balanced but is monitoring global economic and financial developments. Inflation is anticipated to remain near its recent low level in the near term but the Committee expects inflation to rise gradually toward 2 percent over the medium

term as the labor market improves further and the transitory effects of declines in energy and import prices dissipate. The Committee continues to monitor inflation developments closely.

To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to ¼ percent target range for the federal funds rate remains appropriate. In determining whether it will be appropriate to raise the target range at its next meeting, the Committee will assess progress—both realized and expected—toward its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee anticipates that it will be appropriate to raise the target range for the federal funds rate when it has seen some further improvement in the labor market and is reasonably confident that inflation will move back to its 2 percent objective over the medium term.

The Committee is maintaining its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.

When the Committee decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent. The Committee currently anticipates that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run."

**Voting for this action:** Janet L. Yellen, William C. Dudley, Lael Brainard, Charles L. Evans, Stanley Fischer, Dennis P. Lockhart, Jerome H. Powell, Daniel K. Tarullo, and John C. Williams.

**Voting against this action:** Jeffrey M. Lacker.

Mr. Lacker dissented because he continued to believe that maintaining exceptionally low real interest rates was not appropriate for an economy with persistently strong consumption growth and tightening labor markets. Data received since the September FOMC meeting suggested that the global economic and financial developments of late summer had little effect on the medium-term outlook for U.S. growth and inflation. He remained reasonably confident that inflation would return to the Federal Reserve's 2 percent goal once temporary disinflationary impulses had passed.

It was agreed that the next meeting of the Committee would be held on Tuesday–Wednesday, December 15–

16, 2015. The meeting adjourned at 11:40 a.m. on October 28, 2015.

**Notation Vote**

By notation vote completed on October 7, 2015, the Committee unanimously approved the minutes of the Committee meeting held on September 16–17, 2015.

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**Brian F. Madigan**  
**Secretary**