

Minutes of the Federal Open Market Committee April 26–27, 2016

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, April 26, 2016, at 10:30 a.m. and continued on Wednesday, April 27, 2016, at 9:00 a.m.¹

PRESENT:

Janet L. Yellen, Chair
William C. Dudley, Vice Chairman
Lael Brainard
James Bullard
Stanley Fischer
Esther L. George
Loretta J. Mester
Jerome H. Powell
Eric Rosengren
Daniel K. Tarullo

Charles L. Evans, Patrick Harker, Robert S. Kaplan, Neel Kashkari, and Michael Strine, Alternate Members of the Federal Open Market Committee

Jeffrey M. Lacker, Dennis P. Lockhart, and John C. Williams, Presidents of the Federal Reserve Banks of Richmond, Atlanta, and San Francisco, 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
Thomas C. Baxter, Deputy General Counsel
Steven B. Kamin, Economist
Thomas Laubach, Economist
David W. Wilcox, Economist

Thomas A. Connors, Troy Davig, Michael P. Leahy, David E. Lebow, Stephen A. Meyer, Geoffrey Tootell, and William Wascher, Associate Economists

Simon Potter, Manager, System Open Market Account

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

Robert deV. Frierson, 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

James A. Clouse, Deputy Director, Division of Monetary Affairs, Board of Governors

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

Andrew Figura, Ann McKeehan, David Reifschneider, 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

Eric M. Engen, Senior Associate Director, Division of Research and Statistics, Board of Governors; Fabio M. Natalucci, Senior Associate Director, Division of Monetary Affairs, Board of Governors

Antulio N. Bomfim, Egon Zakrajšek,² and Joyce K. Zickler, Senior Advisers, Division of Monetary Affairs, Board of Governors; Jeremy B. Rudd, Senior Adviser, Division of Research and Statistics, Board of Governors

Mark Carey,² Associate Director, Division of International Finance, Board of Governors; Joshua Gallin, Associate Director, Division of Research and Statistics, Board of Governors

¹ The Federal Open Market Committee is referenced as the “FOMC” and the “Committee” in these minutes.

² Attended the discussion of the relationship between monetary policy and financial stability.

Shaghil Ahmed, Deputy Associate Director, Division of International Finance, Board of Governors

Rochelle M. Edge, Deputy Associate Director, Office of Financial Stability Policy and Research, 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

Burcu Duygan-Bump, Adviser, Division of Monetary Affairs, Board of Governors

Penelope A. Beattie,³ Assistant to the Secretary, Office of the Secretary, Board of Governors

Dana L. Burnett, Section Chief, Division of Monetary Affairs, Board of Governors

Bora Durdu,² Section Chief, Office of Financial Stability Policy and Research, Board of Governors

Jae Sim,² Principal Economist, Division of Research and Statistics, Board of Governors

Andrea Ajello, Senior Economist, Division of Monetary Affairs, Board of Governors

Kelly J. Dubbert, First Vice President, Federal Reserve Bank of Kansas City

David Altig, Kartik B. Athreya, Jeff Fuhrer,² and Glenn D. Rudebusch, Executive Vice Presidents, Federal Reserve Banks of Atlanta, Richmond, Boston, and San Francisco, respectively

Tobias Adrian,² Michael Dotsey, and Samuel Schulhofer-Wohl, Senior Vice Presidents, Federal Reserve Banks of New York, Philadelphia, and Minneapolis, respectively

Joseph G. Haubrich, Anna Paulson, and David C. Wheelock, Vice Presidents, Federal Reserve Banks of Cleveland, Chicago, and St. Louis, respectively

Richard K. Crump² and Marco Del Negro, Assistant Vice Presidents, Federal Reserve Bank of New York

Jim Dolmas, Senior Research Economist, Federal Reserve Bank of Dallas

Nina Boyarchenko,² Financial Economist, Federal Reserve Bank of New York

The Relationship between Monetary Policy and Financial Stability

The staff presented several briefings on a special topic, the relationship between monetary policy and financial stability. The presentations began with an overview of the possible linkages among monetary policy, macroprudential tools, and financial stability, drawing on both academic research and experience with such tools in various countries. The staff then reviewed empirical literature on the linkages between the stance of monetary policy and financial stability. Lastly, the staff presented illustrative simulation results from a specific macroeconomic model to explore whether and how monetary policy should react to financial imbalances as well as the extent to which monetary and macroprudential policies should be coordinated to best achieve macroeconomic goals and financial stability goals.

In their comments on the briefings and in their discussion of the relationship between monetary policy and financial stability, FOMC participants noted that more stringent regulatory and supervisory policies implemented since the financial crisis, including enhanced capital and liquidity requirements for some types of financial institutions, had significantly increased the resilience of the financial system to shocks. Participants emphasized the importance of macroprudential tools in promoting financial stability, and they generally expressed the view that such tools should be the primary means to address financial stability risks. However, it was noted that relatively few macroprudential tools are available to financial regulators in the United States and that, for the most part, such tools are untested. Moreover, a number of institutional factors, including the dispersion of responsibilities across regulatory agencies, differences in mandates among those agencies, and resulting coordination challenges, may make it difficult to deploy macroprudential tools expeditiously in the United States and may lessen their effectiveness. Some participants noted that these considerations would be

³ Attended Tuesday session only.

less significant for tools that were likely to be adjusted only infrequently. Most participants judged that the benefits of using monetary policy to address threats to financial stability would typically be outweighed by the costs associated with deviations from the Committee's employment and price-stability objectives induced by such actions; some also noted that the benefits are highly uncertain. Nonetheless, participants generally agreed that the Committee should not completely rule out the possibility of using monetary policy to address financial stability risks, particularly in circumstances in which such risks significantly threatened the achievement of its dual mandate and when macroprudential tools had been or were likely to be ineffective at mitigating those risks. Finally, participants stressed the need for further research and analysis to advance understanding of the relationship between monetary policy and financial stability and to help identify situations in which it might be desirable to incorporate financial stability considerations in the design of monetary policy.

Developments in Financial Markets and Open Market Operations

The manager of the System Open Market Account (SOMA) reported on developments in domestic and foreign financial markets, including changes in market participants' expectations for the course of U.S. monetary policy. The deputy manager provided a briefing on money market developments and System open market operations conducted by the Open Market Desk during the period since the Committee met on March 15–16, 2016. Except for the March quarter-end, the daily effective federal funds rate had again remained very close to the center of the Committee's $\frac{1}{4}$ to $\frac{1}{2}$ percent target range over the intermeeting period. The manager then briefed the Committee on a routine review by the staff of the process for managing foreign currency reserves and a resulting proposal for an enhanced analytical framework for the management of those reserves.

The Committee voted unanimously to renew the reciprocal currency arrangements with the Bank of Canada and the Bank of Mexico; these arrangements are associated with the Federal Reserve's participation in the North American Framework Agreement of 1994. In addition, the Committee voted unanimously to renew the dollar and foreign currency liquidity swap arrangements with the Bank of Canada, the Bank of England, the Bank of Japan, the European Central Bank, and the Swiss National Bank. The votes to renew the Federal Reserve's participation in these standing arrangements are taken annually at the April FOMC 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 during the intermeeting period.

Staff Review of the Economic Situation

The information reviewed for the April 26–27 FOMC meeting indicated that labor market conditions improved further in the first quarter even though growth in real gross domestic product (GDP) appeared to have slowed. Consumer price inflation continued to run below the Committee's longer-run objective of 2 percent, restrained in part by earlier decreases in energy prices and declining prices of non-energy imports. Survey-based measures of longer-run inflation expectations were little changed, on balance, in recent months, while market-based measures of inflation compensation were still low.

Total nonfarm payroll employment expanded at a solid pace in March, and labor market conditions generally continued to strengthen. Although the unemployment rate edged up to 5.0 percent, both the labor force participation rate and the employment-to-population ratio continued to increase. The share of workers employed part time for economic reasons rose slightly but had been about flat, on balance, over recent months. The rates of private-sector hires and quits moved up in February, while the rate of job openings declined a little but was still at an elevated level. In late March and early April, the four-week moving average of initial claims for unemployment insurance benefits was essentially unchanged, on net, at a low level. Labor productivity growth appeared to have remained slow over the four quarters ending in the first quarter of this year. Measures of labor compensation continued to rise at a modest pace, as average hourly earnings for all employees increased $2\frac{1}{4}$ percent over the 12 months ending in March.

Total industrial production declined in February and March. Manufacturing output decreased, partly reflecting the effects on export demand of earlier appreciation of the foreign exchange value of the dollar. Meanwhile, mining output continued to contract as a result of further declines in drilling activity associated with low crude oil prices. Moreover, unseasonably warm weather in February and March held down the output of utilities. Automakers' assembly schedules and broader indicators of manufacturing production, such as the readings on new orders from national and regional manufacturing surveys, mostly pointed to only modest gains in factory

output over the next few months. Information on extraction and drilling activity for crude oil and natural gas in early April was consistent with further declines in mining output.

Growth in real personal consumption expenditures (PCE) appeared to have slowed in the first quarter. Real PCE rose moderately in February after being flat in January. The components of the nominal retail sales data used by the Bureau of Economic Analysis to construct its estimate of PCE moved sideways in March, and the rate of sales of new light motor vehicles decreased markedly. Nevertheless, recent readings on key factors that influence consumer spending were consistent with a pickup in real PCE growth in the coming months. Gains in real disposable income continued to be solid in February. Households' net worth was boosted by the rise in equity prices over the intermeeting period and by further strong increases in home values through February. Also, consumer sentiment as measured by the University of Michigan Surveys of Consumers remained upbeat in early April.

Recent information on housing activity was broadly consistent with a continued slow recovery in this sector. Starts and building permits for new single-family homes declined in March, but both measures were higher in the first quarter as a whole than in the fourth quarter of 2015. However, starts of multifamily units continued to decrease in March. Sales of existing homes rose in March after decreasing in February, while new home sales moved lower in both months; nonetheless, sales of both new and existing homes in the first quarter as a whole were above those in the fourth quarter.

Real private expenditures for business equipment and intellectual property appeared to decline further in the first quarter. Nominal shipments of nondefense capital goods excluding aircraft decreased, on net, in February and March. Forward-looking indicators of equipment spending, such as new orders for nondefense capital goods along with recent readings from national and regional surveys of business conditions, continued to be soft. Firms' nominal spending for nonresidential structures excluding drilling and mining decreased in February. Indicators of spending for structures in the drilling and mining sector, such as the number of oil and gas rigs in operation, continued to fall through early April. The available data suggested that inventory investment moved down in the first quarter.

Total real government purchases seemed to have risen modestly in the first quarter. Federal government

spending for defense appeared to have declined. However, the payrolls of state and local governments increased in the first quarter, and nominal construction spending by these governments rose, on net, in the first two months of the quarter.

The U.S. international trade deficit widened in February, as imports rose more than exports; however, preliminary data on trade in goods suggested that the deficit narrowed substantially in March, with imports falling back sharply even as exports declined. Large increases in both exports and imports of consumer goods in February were more than reversed in March. Also, imports of capital goods dropped sharply in March after increasing in February. In all, the recent data indicated that net exports probably continued to be a moderate drag on real GDP growth in the first quarter.

Total U.S. consumer prices, as measured by the PCE price index, increased 1 percent over the 12 months ending in February, partly restrained by declines in consumer energy prices. Core PCE price inflation, which excludes changes in food and energy prices, was 1³/₄ percent over the same 12-month period, held down in part by falling prices of non-energy imports and the pass-through of declines in energy prices to prices of other goods and services. Over the 12 months ending in March, total consumer prices as measured by the consumer price index (CPI) rose 1 percent, while core CPI inflation was 2¹/₄ percent. In light of the CPI data, both total and core PCE price inflation on a 12-month basis appeared to slow a bit in March. Survey measures of longer-run inflation expectations—including those from the Michigan survey along with the Desk's Survey of Primary Dealers and Survey of Market Participants—were generally little changed, on balance, in recent months, although the reading from the Michigan survey in early April was at the low end of its historical range.

Recent indicators suggested that foreign real GDP growth had picked up in the first quarter after a lackluster performance last year. Economic growth in Canada appeared to have rebounded from a very weak fourth quarter. Recent data on industrial production and retail sales pointed to a pickup in economic growth in the euro area. Although weak economic performance persisted in Japan and South America, the weakness appeared to have abated somewhat. In contrast, economic growth in China moderated in the first quarter, although economic indicators in March were more upbeat than in the earlier months of the year. In the advanced foreign economies (AFEs), headline inflation remained low,

held down by earlier declines in energy prices. With inflation generally running below the target rates in these economies, monetary policies remained very accommodative. By contrast, overall inflation in emerging market economies (EMEs) rose in the first quarter, largely reflecting increases in inflation in much of Latin America along with an increase in inflation in China that was driven by higher food prices.

Staff Review of the Financial Situation

Financial market conditions improved further, on balance, over the intermeeting period, with investors appearing to respond to Federal Reserve communications that were viewed as more accommodative than anticipated and to somewhat better-than-expected incoming data on foreign economic activity. Risk sentiment also appeared to improve further, on net, accompanied by a decline in financial market volatility and higher oil prices. Domestic economic data releases over the period had, on balance, a limited effect on asset prices.

Federal Reserve communications following the March FOMC meeting were interpreted by market participants as more accommodative than expected. In particular, investors were attentive to the larger-than-expected downward revisions to the projections of the federal funds rate in the FOMC's Summary of Economic Projections as well as to references in the March FOMC statement and the Chair's prepared remarks at the press conference to risks to the U.S. economic outlook stemming from global economic and financial developments. Meanwhile, domestic data releases were mixed and elicited only modest market reactions. On net, financial market quotes implied that the federal funds rate path expected by investors flattened notably, and that their estimated probability of a rate hike by the June FOMC meeting declined significantly. In the Survey of Market Participants, the median investor's modal path for the federal funds rate also moved down substantially, while in the Survey of Primary Dealers, the median dealer's modal path was little changed.

Consistent with the flatter path for the federal funds rate implied by market quotes, yields on nominal Treasury securities with maturities up to 10 years declined slightly over the period since the March FOMC meeting. Measures of inflation compensation based on Treasury Inflation-Protected Securities increased somewhat but remained at low levels. Credit conditions in municipal bond markets continued to be stable even as the situation facing Puerto Rico and its creditors deteriorated further.

Over the intermeeting period, broad U.S. equity price indexes moved up, on net, likely because of investors' views that monetary policy would be more accommodative than previously expected along with an improvement in risk sentiment. Stock prices increased broadly across industries, including the energy sector. One-month-ahead implied volatility on the S&P 500 index—the VIX—moved down and ended the period below its historical median. Spreads on 10-year corporate bond yields over yields on comparable-maturity Treasury securities for both triple-B-rated and speculative-grade issuers declined, on balance, but remained at levels near the high end of their ranges since 2012, as the outlook for corporate earnings deteriorated somewhat over the period. In light of available earnings reports of some companies in the S&P 500 index along with equity analysts' forecasts for companies that had not yet issued reports, corporate earnings in the first quarter appeared to have decreased markedly relative to the previous quarter.

Financing conditions for U.S. nonfinancial businesses remained generally accommodative for investment-grade issuers, and those for speculative-grade firms improved somewhat after showing strains earlier in the year. Corporate bond issuance by speculative-grade firms rebounded in March from the sluggish pace in January and February. Growth of commercial and industrial (C&I) loans on banks' books remained strong and continued to be driven by lending to investment-grade borrowers by large banks. Nonetheless, according to the most recent Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS), on balance, banks further tightened their lending standards on C&I loans to large and middle-market firms in the first quarter, while demand for such loans weakened. The SLOOS indicated that banks expected an increase this year in delinquencies and charge-offs on existing loans to firms in the energy sector; banks also noted some deterioration in credit quality of loans to non-energy businesses located in U.S. regions that were dependent on the energy sector.

A significant number of SLOOS respondents reported tightening their lending standards on all major categories of commercial real estate (CRE) loans during the first quarter. However, demand for CRE loans reportedly strengthened, and CRE loans on banks' books continued to grow at a robust pace over the first quarter. In response to wider and more volatile spreads on commercial mortgage-backed securities (CMBS) since the summer of 2015, CMBS issuance was subdued in the first quarter, consistent with reports from banks in the

SLOOS. Over the intermeeting period, CMBS spreads narrowed markedly but remained elevated.

Growth of residential real estate (RRE) loans on banks' books continued to be low through the first quarter, and credit conditions stayed tight for mortgage borrowers with low credit scores, hard-to-document income, or relatively high debt-to-income ratios. A significant number of SLOOS respondents reportedly eased lending standards on residential mortgages eligible for purchase by the government-sponsored enterprises, and a significant number also experienced stronger demand overall for RRE loans in the first quarter. Over the intermeeting period, rates on 30-year fixed-rate mortgages for well-qualified borrowers edged down in line with yields on mortgage-backed securities and comparable-duration Treasury securities and were near their all-time lows at the end of the period.

Financing conditions in consumer credit markets were little changed and remained largely accommodative in the first quarter, with student and auto loans continuing to be broadly available. Credit card lending conditions were still relatively tight, particularly for borrowers with subprime credit scores. Responses to the SLOOS indicated that during the first quarter, while credit card lending standards were little changed, a modest number of banks eased standards on auto and other consumer loans. Over the same period, demand for auto loans reportedly strengthened further at many banks. Consumer loan balances continued to increase at a robust pace through February, and data on bank lending activities suggested further growth through March. Issuance of asset-backed securities continued to be strong in the first quarter. Spreads on such securities remained at levels that were a bit higher than usual.

Since the March FOMC meeting, foreign financial market conditions eased, on net, and overall risk sentiment appeared to have improved. A number of factors likely contributed to the improvement, including expectations of more accommodative monetary policy in the United States. Sentiment was also likely boosted by the release of generally favorable foreign economic data. Against this backdrop, stock prices rose in most countries, with the equity indexes of the EMEs outperforming those of the AFEs. Changes in longer-term yields in the AFEs were mixed: Ten-year sovereign yields decreased slightly in Germany and Japan but increased in Canada and in the United Kingdom. The foreign exchange value of the dollar depreciated against most currencies, in part because higher oil prices supported the currencies of oil exporters.

In its latest report on potential risks to the stability of the U.S. financial system, the staff continued to judge that vulnerabilities were moderate overall. In particular, leverage and maturity transformation in the financial sector were subdued relative to historical levels, and growth of aggregate private nonfinancial-sector credit was modest. These indicators suggested that the financial system was fairly resilient, as did the absence of a significant increase in funding stresses or margin calls earlier this year when prices of risky assets fell and volatility rose sharply. Since then, prices of risky assets rebounded notably, and valuation pressures rose somewhat. Term premiums remained very low, and CRE valuations were elevated. In addition, corporate debt positions were high, although the issuance of low-rated debt had slowed.

Staff Economic Outlook

In the U.S. economic forecast prepared by the staff for the April FOMC meeting, real GDP growth in the first quarter of this year was estimated to have been much slower than in the forecast prepared for the March meeting, although projected real GDP growth in the second quarter was revised up a little. Beyond the near term, real GDP was expected to increase slightly faster than in the previous forecast, largely reflecting a somewhat higher projected trajectory for equity prices and lower assumed paths for both longer-term interest rates and the foreign exchange value of the dollar. The staff continued to project that real GDP would expand at a modestly faster pace than potential output in 2016 through 2018, supported primarily by increases in consumer spending. The unemployment rate was expected to gradually decline further and to run somewhat below the staff's estimate of its longer-run natural rate over this period.

The staff's forecast for inflation was little changed from the previous projection. The staff continued to project that inflation would increase over the next several years, as energy prices and the prices of non-energy imports were expected to begin steadily rising this year, but inflation was still projected to be slightly below the Committee's longer-run objective of 2 percent in 2018.

The staff viewed the uncertainty around its April 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 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. In addition, while there had been recent improvements in global financial and economic conditions, downside

risks to the forecast from developments abroad, though smaller, remained. Consistent with the downside risk to aggregate demand, the staff viewed the risks to its outlook for the unemployment rate as skewed to the upside. The risks to the projection for inflation were still judged as weighted to the downside, reflecting the possibility that longer-term inflation expectations may have edged down.

Participants' Views on Current Conditions and the Economic Outlook

In their discussion of the economic situation and the outlook, meeting participants agreed that the information received over the intermeeting period indicated that labor market conditions improved further even as growth in economic activity appeared to have slowed. Growth in household spending had moderated, although households' real income had risen at a solid rate and consumer sentiment remained high. Since the beginning of the year, the housing sector had improved further, but business fixed investment and net exports had been soft. A range of indicators, including strong job gains, pointed to additional strengthening of the labor market. Inflation had continued to run below the Committee's 2 percent longer-run objective, partly reflecting earlier declines in energy prices and falling prices of non-energy imports. Market-based measures of inflation compensation remained low; survey-based measures of longer-run inflation expectations were little changed, on balance, in recent months. Domestic and global financial conditions eased over the intermeeting period, the incoming news on the foreign economic outlook was generally positive, and investor sentiment improved.

Although the incoming data suggested that aggregate spending in the first quarter had been weaker than expected, participants continued to anticipate that economic activity would expand at a moderate pace over the medium term and that labor market indicators would continue to strengthen. Inflation was expected to remain low in the near term, in part because of earlier declines in energy prices, but to rise to 2 percent over the medium term as the transitory effects of the declines in energy and import prices dissipated and the labor market strengthened further. Participants generally saw the risks stemming from global economic and financial developments as having diminished over the intermeeting period but as continuing to warrant close monitoring.

Participants indicated that their assessments of the medium-term economic outlook had not changed materi-

ally since March and discussed a number of factors suggesting that the apparent softness in spending in the first quarter was unlikely to persist. Most pointed to the steady improvement in the labor market as an indicator that the underlying pace of economic activity had likely not deteriorated as much as was suggested by the recent data on spending and production. Notably, solid job gains and real income growth, along with a high level of household wealth and relatively upbeat consumer sentiment, were expected to support a pickup in consumer spending after its slowdown in the first quarter. In addition, the easing of financial conditions in recent months was anticipated to provide some support for consumer spending and business investment going forward. Many also thought that, as had apparently been the case in recent years, a low reading on seasonally adjusted first-quarter GDP growth could partly reflect measurement problems and, if so, would likely be followed by stronger GDP growth in subsequent quarters. However, some participants were concerned that transitory factors may not fully explain the softness in consumer spending or the broad-based declines in business investment in recent months. They saw a risk that a more persistent slowdown in economic growth might be under way, which could hinder further improvement in labor market conditions.

Participants generally agreed that the risks to the economic outlook posed by global economic and financial developments had receded over the intermeeting period. The public appeared to have interpreted Federal Reserve communications following the March FOMC meeting as indicating that achieving the Committee's economic objectives would likely require a somewhat more gradual pace of increases in the federal funds rate than anticipated earlier. The shift in policy expectations, along with incoming data showing that economic growth abroad picked up during the first quarter of the year, seemed to contribute to the improved tone in global financial markets. Several FOMC participants judged that the risks to the economic outlook were now roughly balanced. However, many others indicated that they continued to see downside risks to the outlook either because of concerns that the recent slowdown in domestic spending might persist or because of remaining concerns about the global economic and financial outlook. Some participants noted that global financial markets could be sensitive to the upcoming British referendum on membership in the European Union or to unanticipated developments associated with China's management of its exchange rate.

While the recent data suggested markedly slower growth in consumer spending in the first quarter than seen in 2015, most participants expected to see a pickup in the growth rate of consumer spending in coming months in light of the still-solid fundamental determinants of household spending. Ongoing strong gains in employment and low energy prices were boosting aggregate household real income, and the level of household wealth was relatively high. It was noted that the slowdown in consumer spending early this year was primarily due to weaker expenditures for goods while outlays for services continued to increase in line with recent trends. Although a couple of participants noted that consumers' caution in recent months might have been the result of financial market turmoil in the first two months of this year, they and others observed that financial conditions had since improved and that consumer confidence remained at a relatively high level. Reports from District contacts on consumer spending were generally positive.

In the housing sector, indicators of sales and starts of new single-family homes were up, on balance, from their fourth-quarter levels. Activity in the multifamily sector appeared to have slowed during the first quarter, although demographic trends should continue to support this sector going forward. Business contacts in a number of Districts noted an improvement in housing activity and a continued rise in house prices, although their reports showed that the pace of sales and construction varied across regions.

Participants summarized survey readings and anecdotal reports on business conditions that were, on balance, mixed. According to several District surveys, activity in services industries continued to expand, and in some Districts, surveys and reports from business contacts indicated that manufacturing activity had strengthened or stabilized. Motor vehicle production remained at a high level. Nonetheless, manufacturing industries dependent on exports or the energy sector were still experiencing weak demand. The low level of oil prices continued to depress activity in the domestic energy sector, and a couple of participants suggested that, even with the ongoing cutbacks in production and potential increases in global demand, the imbalance of supply of crude oil relative to demand could last into 2017 and lead to further reductions in capital investment by energy firms. One participant noted that bankruptcies were rising among natural gas and coal producers as well as among firms engaged in oil exploration and extraction. A few participants also reported that low prices for agricultural commodities continued to strain the profitability of farming operations in their Districts.

Business fixed investment declined in the fourth quarter of 2015 and appeared to have dropped further in early 2016. As noted by a number of participants, the weakness in capital spending in recent quarters was in part due to the ongoing contraction in drilling activity and weak demand from abroad for goods manufactured in the United States. More broadly, several participants commented that their business contacts had expressed considerable caution about the economic outlook or had indicated that their firms were focused on cost-cutting measures that included delaying major expenditures, despite relatively favorable financial conditions. However, some other participants were more positive about the outlook for business spending, pointing to the optimism reported in a number of business surveys or to rising business investment in both equipment and commercial structures in their Districts.

Labor market conditions strengthened further in recent months. Increases in nonfarm payroll employment averaged almost 210,000 per month over the first three months of 2016. Although the unemployment rate changed little over that period, the labor force participation rate moved up and the pool of potential workers, which includes the unemployed as well as those who would like a job but are not actively looking, continued to shrink. Many participants judged that labor market conditions had reached or were quite close to those consistent with their interpretation of the Committee's objective of maximum employment. Several of them reported that businesses in their Districts had seen a pickup in wages, shortages of workers in selected occupations, or pressures to retain or train workers for hard-to-fill jobs. Many other participants continued to see scope for reducing labor market slack as labor demand continued to expand. In that regard, a number of participants indicated that the recent rise in the participation rate was a positive development, suggesting that a tighter labor market could potentially draw more individuals back into the workforce on a sustained basis without adding to inflationary pressures and thus increase the productive capacity of the economy. It was also noted that businesses might satisfy increases in labor demand in part by converting involuntary part-time jobs to full-time positions.

Over the past five years, employment and hours worked rose relatively strongly while the pace of the expansion in output was moderate, resulting in measured productivity growth of slightly less than ½ percent per year on average. It was noted that participants' projections of the longer-run growth rate of real GDP, shown in the Summary of Economic Projections, appeared to assume

that productivity growth would strengthen. While acknowledging uncertainty about the reasons for the slowdown in productivity growth in recent years and whether it would persist, many participants commented on a range of possible outcomes that could result from slower-than-expected productivity growth. Some saw the possibility that, even with real GDP growth remaining relatively slow, the unemployment rate might decline more quickly and inflation might rise a bit more rapidly than expected if productivity growth continued to disappoint in coming quarters while hiring remained strong. In that case, monetary policy accommodation might need to be removed more quickly than currently anticipated. Alternatively, continued low productivity growth for a time might instead lead to slower-than-anticipated growth in household income and business sales, thereby resulting in paths for the unemployment rate and the federal funds rate little different than currently expected. Moreover, several participants noted that if trend productivity growth remained permanently lower—a development that could be quite difficult to identify in only a few quarters—the likely implication for monetary policy would be a reduction in the longer-run equilibrium federal funds rate.

The incoming information on inflation over the intermeeting period showed that the earlier declines in energy prices and falling prices of non-energy imports were still contributing importantly to low headline inflation. The 12-month change in core PCE prices also continued to run below 2 percent, but it moved up to 1.7 percent in January and February from 1.4 percent at the end of 2015. Despite the recent rise in core inflation, some participants continued to see progress toward the Committee's 2 percent inflation objective as likely to be gradual. They noted that, as they had expected, the March CPI data showed that the high monthly readings on some components of core prices in January and February were transitory, and that the March CPI data suggested that the 12-month change in core PCE prices likely moved down in March. Several commented that the stronger labor market still appeared to be exerting little upward pressure on wage or price inflation. Moreover, several continued to see important downside risks to inflation in light of the still-low readings on market-based measures of inflation compensation and the slippage in the past couple of years in some survey measures of expected longer-run inflation. However, for many other participants, the recent developments provided greater confidence that inflation would rise to 2 percent over the medium term. Some viewed the recent firming in core inflation as broadly based and unlikely to unwind, with

several noting recent increases in alternative measures of the trend in inflation, such as the trimmed mean PCE and the median CPI, or citing evidence that wage growth was picking up. In addition to the ongoing tightening of resource utilization, the recent depreciation of the dollar and the firming in oil prices suggested that the downward pressures on both core and headline inflation from declining prices of non-oil imports and energy should begin to subside.

U.S. and global financial conditions improved significantly over the intermeeting period, marked by a rise in equity indexes, more positive risk sentiment, and a decline in financial market volatility. During their discussion of these developments, participants cited several factors that likely contributed to the easing in financial conditions. In the view of many FOMC participants, Federal Reserve communications after the March FOMC meeting led financial market participants to shift down their expectations concerning the likely path of the Committee's target for the federal funds rate. In addition, the recent depreciation of the dollar and indications of a rebound of economic growth in China appeared to reduce pressures on the renminbi. More broadly, signs of a pickup in growth in economic activity in some AFEs and emerging Asian economies other than China also appeared to contribute to the improvement in sentiment in financial markets. Participants generally agreed that the easing in financial conditions in the United States would provide some support for consumer spending and business investment going forward and had reduced the downside risks to the outlook. Moreover, a number of participants cited reports from business contacts in their Districts of favorable credit conditions for household and business borrowers.

Several participants pointed out that U.S. firms and financial markets had come through the period of elevated financial market volatility earlier in the year looking relatively resilient. However, several noted the ongoing need to remain alert to vulnerabilities in the financial system. In that regard, a few cited concerns about rapidly rising prices of CRE, including multifamily properties, or about illiquidity of the assets of some mutual funds. It was also noted that the debt situation in Puerto Rico had deteriorated further over the intermeeting period and remained unresolved. To date, the situation had not led to strains in broader financial markets and was not expected to do so.

Participants discussed whether their current assessments of economic conditions and the medium-term outlook warranted increasing the target range for the federal

funds rate at this meeting. Participants agreed that incoming indicators regarding labor market developments continued to be encouraging. They generally concurred that data releases during the intermeeting period on components of private domestic demand had been disappointing, but most participants judged that the slowdown in growth of domestic spending would be temporary, citing possible measurement problems and other transitory factors. Financial market conditions continued to improve, providing support to aggregate demand and suggesting that market participants saw some reduction in downside risks to the outlook: Equity prices rose further, credit spreads declined somewhat, and the dollar depreciated over the intermeeting period. Taking these developments into account, participants generally judged that the medium-term outlook for economic activity and the labor market had not changed appreciably since the previous meeting. Furthermore, most participants continued to expect that, with labor markets continuing to strengthen, the dollar no longer appreciating, and energy prices apparently having bottomed out, inflation would move up to the Committee's 2 percent objective in the medium run.

Still, with 12-month PCE inflation continuing to run below the Committee's 2 percent objective, a number of participants judged that it would be appropriate to proceed cautiously in removing policy accommodation. Some participants pointed to the risk that the recent weak data on domestic spending could reflect a loss of momentum in the economy that might hinder further gains in the labor market and raise the likelihood that inflation could fail to increase as expected. Accordingly, these participants believed that it would be important to evaluate whether incoming information was consistent with their expectation that economic growth would pick up and thus support continued improvement in the labor market. In addition, a number of participants judged that the risks to the outlook for inflation remained tilted to the downside in light of low readings on measures of inflation compensation and the fall over the past year in some survey measures of longer-term inflation expectations. Also, many participants noted that downside risks emanating from developments abroad, while reduced, still warranted close monitoring. For these reasons, participants generally saw maintaining the target range for the federal funds rate at $\frac{1}{4}$ to $\frac{1}{2}$ percent at this meeting and continuing to assess developments carefully as consistent with setting policy in a data-dependent manner and as leaving open the possibility of an increase in the federal funds rate at the June FOMC meeting.

Some participants saw limited costs to maintaining a patient posture at this meeting but noted the risks—including potential risks to financial stability—of waiting too long to resume the process of removing policy accommodation, especially given the lags with which monetary policy affects the economy. A couple of participants were concerned that further postponement of action to raise the federal funds rate might confuse the public about the economic considerations that influence the Committee's policy decisions and potentially erode the Committee's credibility.

A few participants judged it appropriate to increase the target range for the federal funds rate at this meeting, citing their assessments that downside risks associated with global economic and financial developments had diminished substantially since early this year, that labor market conditions were consistent with the Committee's maximum-employment objective, and that inflation was likely to rise this year toward the Committee's 2 percent objective. Two participants noted that several standard policy benchmarks, such as a number of interest rate rules and some measures of the equilibrium real interest rate, continued to imply values for the federal funds rate well above the current target range. Such large and persistent deviations of the federal funds rate from these benchmarks, in their view, posed a risk that the removal of policy accommodation was proceeding too slowly and that the Committee might, in the future, find it necessary to raise the federal funds rate quickly to combat inflation pressures, potentially unduly disrupting economic or financial activity. Overly accommodative policy could also induce imprudent risk-taking in financial markets, posing additional risks to achieving the Committee's goals in the future.

Participants agreed that their ongoing assessments of the data and other incoming information, as well as the implications for the outlook, would determine the timing and pace of future adjustments to the stance of monetary policy. Most participants judged that if incoming data were consistent with economic growth picking up in the second quarter, labor market conditions continuing to strengthen, and inflation making progress toward the Committee's 2 percent objective, then it likely would be appropriate for the Committee to increase the target range for the federal funds rate in June. Participants expressed a range of views about the likelihood that incoming information would make it appropriate to adjust the stance of policy at the time of the next meeting. Several participants were concerned that the incoming information might not provide sufficiently clear signals to determine by mid-June whether an increase in the target

range for the federal funds rate would be warranted. Some participants expressed more confidence that incoming data would prove broadly consistent with economic conditions that would make an increase in the target range in June appropriate. Some participants were concerned that market participants may not have properly assessed the likelihood of an increase in the target range at the June meeting, and they emphasized the importance of communicating clearly over the intermeeting period how the Committee intends to respond to economic and financial developments.

Committee Policy Action

In their discussion of monetary policy for the period ahead, members judged that information received since the FOMC met in March indicated that labor market conditions had improved further even as growth in economic activity had appeared to slow. They noted that growth in household spending had moderated, although households' real income had risen at a solid rate and consumer sentiment had remained high. They also agreed that since the beginning of the year, the housing sector had improved further, but business fixed investment and net exports had been soft. Members saw a range of recent indicators, including strong job gains, as pointing to additional strengthening of the labor market. Members noted that inflation had continued to run below the Committee's 2 percent longer-run objective, partly reflecting earlier declines in energy prices and falling prices of non-energy imports. Market-based measures of inflation compensation remained low. Survey-based measures of longer-term inflation expectations were little changed, on balance, in recent months.

With respect to the economic outlook and its implications for monetary policy, members continued to expect that, with gradual adjustments in the stance of monetary policy, economic activity would expand at a moderate pace and labor market indicators would continue to strengthen. Although the recent spending and production data had been disappointing, members generally judged this weakness to be temporary, though some members noted the risk that it might persist, potentially undermining further improvement in the labor market. Members also continued to expect inflation to remain low in the near term, in part because of earlier declines in energy prices, but to rise to 2 percent over the medium term as the transitory effects of declines in energy and import prices dissipated and the labor market strengthened further. In its postmeeting statement, rather than stating that global economic and financial developments continued to pose risks, the Committee de-

cidated to indicate that it would continue to closely monitor inflation indicators and global economic and financial developments. This change in language was intended to convey the Committee's sense that the risks associated with global developments had diminished somewhat since the March FOMC meeting without characterizing the overall balance of risks.

Against the backdrop of its discussion of current conditions, the economic outlook, and the risks and uncertainties surrounding the outlook, the Committee decided to maintain the target range for the federal funds rate at $\frac{1}{4}$ to $\frac{1}{2}$ percent at this meeting. Members generally agreed that, in light of the recent weak readings on spending and production, and with inflation below the Committee's objective, it would be prudent to wait for additional information bearing on the medium-term outlook before deciding whether to raise the target range for the federal funds rate. One member, however, preferred to raise the target range for the federal funds rate at this meeting, noting that downside risks to the outlook had diminished and that the outlook was for outcomes consistent with the Committee's objectives.

Members again agreed that, in determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee would assess realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. This assessment would 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. In light of the current shortfall of inflation from 2 percent, the Committee agreed that it would carefully monitor actual and expected progress toward its inflation goal. The Committee expected that economic conditions would evolve in a manner that would warrant only gradual increases in the federal funds rate, and that the federal funds rate was likely to remain, for some time, below levels that were expected to prevail in the longer run. Regarding the possibility of adjustments in the stance of policy at the next meeting, members generally judged it appropriate to leave their policy options open and maintain the flexibility to make this decision based on how the incoming data and developments shaped their outlook for the labor market and inflation as well as their evolving assessments of the balance of risks around that outlook. It was noted that communications could help the public understand how the Committee might respond to incoming data and developments over the upcoming intermeeting period. Some members expressed concern that the likelihood implied

by market pricing that the Committee would increase the target range for the federal funds rate at the June meeting might be unduly low.

The Committee also decided to maintain 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, and it anticipated doing so until normalization of the level of the federal funds rate is well under way. 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, to be released at 2:00 p.m.:

“Effective April 28, 2016, the Federal Open Market Committee directs the Desk to undertake open market operations as necessary to maintain the federal funds rate in a target range of $\frac{1}{4}$ to $\frac{1}{2}$ percent, including overnight reverse repurchase operations (and reverse repurchase operations with maturities of more than one day when necessary to accommodate weekend, holiday, or similar trading conventions) at an offering rate of 0.25 percent, in amounts limited only by the value of Treasury securities held outright in the System Open Market Account that are available for such operations and by a per-counterparty limit of \$30 billion per day.

The Committee directs the Desk to continue rolling over maturing Treasury securities at auction and to continue 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 vote also encompassed approval of the statement below to be released at 2:00 p.m.:

“Information received since the Federal Open Market Committee met in March indicates that labor market conditions have improved further even as growth in economic activity appears to

have slowed. Growth in household spending has moderated, although households' real income has risen at a solid rate and consumer sentiment remains high. Since the beginning of the year, the housing sector has improved further but business fixed investment and net exports have been soft. A range of recent indicators, including strong job gains, points to additional strengthening of the labor market. Inflation has continued to run below the Committee's 2 percent longer-run objective, partly reflecting earlier declines in energy prices and falling prices of non-energy imports. Market-based measures of inflation compensation remain low; survey-based measures of longer-term inflation expectations are little changed, on balance, in recent months.

Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee currently expects that, with gradual adjustments in the stance of monetary policy, economic activity will expand at a moderate pace and labor market indicators will continue to strengthen. Inflation is expected to remain low in the near term, in part because of earlier declines in energy prices, but to rise to 2 percent over the medium term as the transitory effects of declines in energy and import prices dissipate and the labor market strengthens further. The Committee continues to closely monitor inflation indicators and global economic and financial developments.

Against this backdrop, the Committee decided to maintain the target range for the federal funds rate at $\frac{1}{4}$ to $\frac{1}{2}$ percent. The stance of monetary policy remains accommodative, thereby supporting further improvement in labor market conditions and a return to 2 percent inflation.

In determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee will assess realized and expected economic conditions relative to 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. In light of the current shortfall of inflation from 2 percent, the Committee will carefully monitor actual and expected progress toward its inflation

goal. The Committee expects that economic conditions will evolve in a manner that will warrant only gradual increases in the federal funds rate; the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run. However, the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data.

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, and it anticipates doing so until normalization of the level of the federal funds rate is well under way. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions."

Voting for this action: Janet L. Yellen, William C. Dudley, Lael Brainard, James Bullard, Stanley Fischer, Loretta J. Mester, Jerome H. Powell, Eric Rosengren, and Daniel K. Tarullo.

Voting against this action: Esther L. George.

Ms. George dissented because she believed that a 25 basis point increase in the target range for the federal funds rate was appropriate at this meeting. Potential downside risks to the economic outlook had diminished since the March FOMC meeting, and the modal outlook

was for economic growth, employment, and inflation outcomes consistent with the Committee's statutory objectives. She believed that monetary policy should respond to these developments by gradually removing accommodation and noted that several frameworks for assessing the appropriate stance of monetary policy, such as prescriptions from various policy rules and some estimates of equilibrium interest rates, also suggested that a reduction in monetary policy accommodation would be appropriate.

Consistent with the Committee's decision to leave the target range for the federal funds rate unchanged, the Board of Governors took no action to change the interest rates on reserves or discount rates.

It was agreed that the next meeting of the Committee would be held on Tuesday–Wednesday, June 14–15, 2016. The meeting adjourned at 10:05 a.m. on April 27, 2016.

Notation Vote

By notation vote completed on April 5, 2016, the Committee unanimously approved the minutes of the Committee meeting held on March 15–16, 2016.

Brian F. Madigan
Secretary