Minutes of the Federal Open Market Committee
September 17–18, 2013

A meeting of the Federal Open Market Committee was held in the offices of the Board of Governors of the Federal Reserve System in Washington, D.C., on Tuesday, September 17, 2013, at 1:00 p.m. and continued on Wednesday, September 18, 2013, at 8:30 a.m.

PRESENT:

Ben Bernanke, Chairman
William C. Dudley, Vice Chairman
James Bullard
Charles L. Evans
Esther L. George
Jerome H. Powell
Eric Rosengren
Jeremy C. Stein
Daniel K. Tarullo
Janet L. Yellen

Christine Cumming, Richard W. Fisher, Narayana Kocherlakota, Sandra Pianalto, and Charles I. Plosser, 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

Deborah J. Danker, Deputy Secretary
Matthew M. Luecke, Assistant Secretary
David W. Skidmore, Assistant Secretary
Michelle A. Smith, Assistant Secretary
Scott G. Alvarez, General Counsel
Steven B. Kamin, Economist
David W. Wilcox, Economist

Thomas A. Connors, Troy Davig, Michael P. Leahy, Stephen A. Meyer, Geoffrey Tootell, Christopher J. Waller, and William Wascher, Associate Economists

Simon Potter, Manager, System Open Market Account

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 and William Nelson, Deputy Directors, Division of Monetary Affairs, Board of Governors

Jon W. Faust, Special Adviser to the Board, Office of Board Members, Board of Governors

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

Ellen E. Meade and Joyce K. Zickler, Senior Advisers, Division of Monetary Affairs, Board of Governors

Eric M. Engen, Michael T. Kiley, Thomas Laubach, David E. Lebow, and Michael G. Palumbo, Associate Directors, Division of Research and Statistics, Board of Governors; Fabio M. Natalucci, Associate Director, Division of Monetary Affairs, Board of Governors

Joshua Gallin, Deputy Associate Director, Division of Research and Statistics, Board of Governors

Jeremy B. Rudd, Adviser, Division of Research and Statistics, Board of Governors

Christopher J. Gust and Elizabeth Klee, Section Chiefs, Division of Monetary Affairs, Board of Governors

Gordon Werkema, First Vice President, Federal Reserve Bank of Chicago

David Altig, Loretta J. Mester, and Harvey Rosenblum,[1] Executive Vice Presidents, Federal Reserve Banks of Atlanta, Philadelphia, and Dallas, respectively

Joyce Hansen, Evan F. Koenig, Spencer Krane, Lorie K. Logan, Mark E. Schweitzer, John A. Weinberg, and Kei-Mu Yi, Senior Vice Presidents, Federal Reserve Banks of New York, Dallas, Chicago, New York, Cleveland, Richmond, and Minneapolis, respectively

[1] Attended introductory remarks at Tuesday's session only.

Chris Burke and Jonathan P. McCarthy, Vice Presidents, Federal Reserve Bank of New York

Eric T. Swanson, Senior Research Advisor, Federal Reserve Bank of San Francisco

Developments in Financial Markets and the Federal Reserve's Balance Sheet

The Manager of the System Open Market Account reported on developments in domestic and foreign financial markets as well as the System open market operations during the period since the Federal Open Market Committee (FOMC) met on July 30–31, 2013. The review included a report that the System's purchases of longer-term assets did not appear to have had an adverse effect on the functioning of the markets for Treasury securities or agency mortgage-backed securities (MBS), and that the Open Market Desk's operations in both sectors had proceeded smoothly. 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.

In support of the Committee's longer-run planning for improvements in the implementation of monetary policy, the staff presented an update on the potential for establishing a fixed-rate, full-allotment overnight reverse repurchase agreement (RRP) facility. The presentation summarized initial discussions with financial market firms about how such a facility might affect money market interest rates and intermediation flows, what the relationship might be between the facility rate and other money market rates, and how the different types of firms might view the facility. Overall, the inquiries suggested that the facility could be an effective additional tool for managing money market interest rates and helping to support a floor on those rates. Meeting participants discussed the potential role for an overnight RRP facility, the possible effects on the functioning of the federal funds market or the structure of money markets, and the usefulness of expanding the Desk's test operations in RRPs. Meeting participants generally supported a proposal to authorize the Desk to conduct a limited exercise in order to provide some insight into the potential usage of an overnight RRP facility as well as additional experience with operational aspects of such a facility. One participant, however, preferred that further analysis be undertaken before proceeding with the exercise. A number of meeting participants emphasized that their interest in these operations reflected an ongoing effort to improve the technical execution of policy and did not signal any change in the Committee's views about policy going forward. Following the discussion, the Committee unanimously approved the following resolution:

> "The Federal Open Market Committee (FOMC) authorizes the Federal Reserve Bank of New York to conduct a series of fixed-rate, overnight reverse repurchase operations involving U.S. Government securities, and securities that are direct obligations of, or fully guaranteed as to principal and interest by, any agency of the United States, for the purpose of assessing operational readiness. The reverse repurchase operations authorized by this resolution shall be (i) offered at a fixed rate that may vary from zero to five basis points, (ii) offered at up to a capped allotment per counterparty of $1 billion per day and (iii) for an overnight term, or such longer term as is warranted to accommodate weekend, holiday, and similar trading conventions. The System Open Market Account Manager will inform the FOMC in advance of the terms of the planned operations. These operations may be announced when authorized by the Chairman, may begin when authorized by the Chairman on or after September 23, 2013, and shall be authorized through the FOMC meeting that ends on January 29, 2014."

Staff Review of the Economic Situation

The information reviewed for the September 17–18 meeting suggested that economic activity continued to increase at a moderate rate. Private-sector employment rose further in July and August, but the unemployment rate was still elevated. Total consumer price inflation picked up in recent months but continued to be modest, and measures of longer-run inflation expectations remained stable.

Private nonfarm employment continued to expand in July and August, but at a somewhat slower pace than in the first half of the year, while total government employment edged down on balance. The unemployment rate declined further to 7.3 percent in August. The labor force participation rate also decreased, leaving the employment-to-population ratio essentially unchanged in recent months. Other indicators of labor market activity also were mixed. Measures of firms' hiring plans moved up, initial claims for unemployment insurance declined, and the share of workers employed part time for economic reasons decreased a little. However, household expectations of the labor market situation deteriorated somewhat, rates of job openings and gross private-sector hiring were little changed, on net, and the rate of long-duration unemployment rose slightly.

Manufacturing production increased in August after a decline in July, and the rate of manufacturing capacity utilization was unchanged, on balance, over those two months. Automakers' schedules indicated that the pace of motor vehicle assemblies would remain roughly flat in the coming months, but broader indicators of manufacturing production, such as the readings on new orders from the national and regional manufacturing surveys, pointed to moderate increases in factory output in the near term.

Real personal consumption expenditures (PCE) were flat in July. In August, nominal retail sales, excluding those at motor vehicle and parts outlets, edged up, while sales of light motor vehicles rose notably. Recent information on key factors that influence consumer spending were mixed: Households' net worth likely expanded further as home prices posted additional gains through July, but real disposable incomes increased only a little in July and consumer sentiment in the Thomson Reuters/University of Michigan Surveys of Consumers moved lower in August and early September.

Improvements in housing-sector activity appeared to slow, possibly reflecting the rise in mortgage rates since the spring. Starts and permits of new single-family homes moved down in July, but the level of permit issuance was still somewhat above that for starts and pointed to moderate increases in construction in subsequent months. In the multifamily sector, both starts and permits rose in July but construction remained around the same level as early in the year. Sales of existing homes increased, but new home sales declined.

Growth in real private expenditures for business equipment and intellectual property products appeared to be subdued going into the third quarter. Nominal shipments of nondefense capital goods excluding aircraft declined again in July. However, nominal new orders for these capital goods continued to be above the level of shipments, pointing to increases in shipments in subsequent months, and other forward-looking indicators, such as surveys of business conditions, were consistent with moderate gains in spending for business equipment in the near term. Nominal business expenditures for nonresidential construction increased in July but were still at a low level. Recent book-value data for inventory-sales ratios, along with readings on inventories from national and regional manufacturing surveys, did not point to significant inventory imbalances.

Reductions in real federal government purchases appeared to persist: Defense spending continued to decrease in July and August, while federal employment edged down further. Real state and local government purchases looked to be about flat—the payrolls of these governments expanded slightly, on balance, in July and August, and state and local construction expenditures seemed to be leveling off.

The U.S. international trade deficit narrowed substantially in June before widening in July to a level near its second-quarter average. Exports expanded in June, with particular strength in industrial supplies and capital goods, before stepping down somewhat in July. Imports fell in June but then largely recovered in July, driven by swings in imports of oil and consumer goods.

Total U.S. inflation, as measured by the PCE price index through July and by the consumer price index through August, was about 1½ percent over the preceding 12-month period for each series. Consumer food prices only edged up in July and August, while energy prices were little changed, on net, over those two months, and retail gasoline prices moved down in the first half of September. Core consumer price inflation, which excludes food and energy, was modest in July and August. Both near-term and longer-term inflation expectations from the Michigan survey were little changed in August and early September.

Measures of labor compensation indicated that increases in nominal wages were still subdued. Both compensation per hour and unit labor costs in the nonfarm business sector rose modestly over the year ending in the second quarter, as there were only slight gains in productivity. In July and August, increases in average hourly earnings for all employees were fairly slow on balance.

Average foreign economic growth remained muted in the first half of the year, although there were some notable divergences across countries. Growth in real gross domestic product (GDP) picked up in the second quarter in the United Kingdom and remained strong in Japan, recent data suggested that the euro-area economy was coming out of recession, and economic indicators were positive for China and several other emerging market economies (EMEs) in Asia. However, real

GDP fell in the second quarter in Mexico and decelerated notably in India. Foreign inflation was generally subdued. Monetary policy remained highly accommodative in the advanced economies, but some EME central banks moved toward tighter monetary policy in the face of capital outflows and depreciation pressures. An exception was the Bank of Mexico, which cut its policy rate in response to economic weakness.

Staff Review of the Financial Situation

Longer-term interest rates rose over the intermeeting period, while equity prices were fairly volatile but ended the period modestly higher. The move in interest rates appeared to be importantly influenced by shifting expectations about monetary policy.

The path of the federal funds rate implied by financial market quotes steepened notably during the period, in part reflecting some increase in uncertainty about the outlook for monetary policy as indicated by option-implied measures of uncertainty about the future path of the policy rate. In contrast to market-based quotes, the results from the Desk's September survey of primary dealers showed little change in the projected path of the policy rate relative to that in the July survey. However, the survey also suggested that primary dealers marked up somewhat the odds that the FOMC would begin to cut the pace of asset purchases at its September meeting, a result generally in line with other surveys of market participants.

Five- and 10-year Treasury yields increased about 25 basis points over the intermeeting period. Yields on corporate bonds, agency MBS, and Treasury inflation-protected securities rose about in line with those on nominal Treasury securities.

Conditions in short-term dollar funding markets were generally stable during the period since the July FOMC meeting. Responses to the September Senior Credit Officer Opinion Survey on Dealer Financing Terms suggested little change over the preceding three months in the credit terms applicable to most classes of counterparties covered by the survey. A moderate net fraction of respondents reported a decline in the use of financial leverage by hedge funds, and a more substantial net fraction reported a decrease in financial leverage used by real estate investment trusts. In response to special questions in the survey, dealers indicated that, during the period of heightened volatility beginning in May and extending into early July, liquidity and functioning had deteriorated in a number of fixed-income markets.

Stock prices for financial-sector firms underperformed the broad equity market somewhat over the intermeeting period. However, spreads on credit default swaps (CDS) for the largest bank holding companies remained stable at levels near the bottom of their range over the past few years.

Credit flows to nonfinancial businesses remained solid in the face of higher longer-term interest rates. Relative to the typical summer lull, gross issuance of corporate bonds and leveraged loans was robust in August; commercial and industrial (C&I) loans on banks' books continued to expand moderately, on average, in July and August. Commercial real estate (CRE) loans at banks accelerated over the summer, and issuance of commercial mortgage-backed securities remained strong despite slightly wider spreads on those securities.

Recent information about household credit was mixed. Mortgage rates increased further over the intermeeting period, and credit standards for mortgage loans remained tight. Nonetheless, applications for new mortgages declined only modestly, apparently supported by improvements in labor market conditions and some pent-up demand. Higher mortgage rates weighed more heavily on applications to refinance existing mortgages, which decreased significantly. The pace of home price appreciation moderated a bit in July, although it was still strong. In nonmortgage credit, automobile loans and student loans both continued to expand rapidly, while balances on revolving consumer credit stayed about flat. Issuance of consumer asset-backed securities remained robust in July and August.

In the municipal bond market, despite the ongoing bankruptcy proceedings for Detroit and greater scrutiny of Puerto Rico's fiscal problems, broader market sentiment was reportedly supported by the lessening in budget pressures for many other state and local governments. Gross issuance of long-term municipal bonds was solid in August, and yield ratios on general-obligation municipal bonds over comparable Treasury securities were about unchanged, on balance, over the intermeeting period.

Bank credit declined in July and August amid the general rise in longer-term interest rates. While banks' holdings of assets with longer duration, such as residential mortgages, decreased, growth in C&I, CRE, and automobile loans—which are more likely to have floating interest rates or relatively short maturities, and therefore less duration risk—tended to hold up in recent months.

M2 increased significantly in July and August, as the selloff in fixed-income markets that began in May, along with the associated outflows from bond funds, likely continued to support reallocations into liquid M2 assets. The monetary base continued to expand rapidly, primarily reflecting the rise in reserve balances resulting from the Federal Reserve's asset purchases.

Against a backdrop of higher interest rates in the advanced economies and slowing economic growth in the EMEs, several EME currencies came under downward pressure in August; yields and CDS premiums on EME sovereign debt increased, particularly for those economies experiencing sharp currency depreciations; and investors continued to decrease their holdings in EME mutual funds. In response, some EME authorities took actions to support their currencies, including tightening monetary policy, modifying capital controls, and purchasing their currencies in foreign exchange markets. On net over the period, the dollar ended little changed on a trade-weighted basis against a broad set of currencies, but it appreciated notably against the currencies of India, Indonesia, and Turkey. Equity prices in Germany increased substantially and sovereign yields in the United Kingdom and Germany continued to rise as data on economic activity in Europe generally improved over the period, while yield spreads of Spanish and Italian sovereign securities relative to German government debt declined a bit further.

The staff reported on potential risks to financial stability, including those highlighted by the rise in yields and volatility on longer-term fixed-income securities since the spring. The increase in yields appeared to reduce investors' appetite for taking duration risk, but if a significant volume of bond investors moved to sell at a future time, issues surrounding dealer capacity and willingness to make markets in volatile conditions could again amplify price movements. On balance, the vulnerability of the financial system appeared moderate, as loss-absorbing capital had increased and the reliance on short-term funding and the exposure of financial institutions to nonfinancial credit risk had decreased. Nonetheless, a number of potential shocks could prove challenging to markets and institutions, including a failure to raise the U.S. federal debt limit, financial instability in EMEs, and geopolitical events in the Middle East.

Staff Economic Outlook

In the economic forecast prepared by the staff for the September FOMC meeting, the projection for real GDP growth in the second half of this year was revised down a little from the one prepared for the previous meeting. The staff's forecast for real GDP over the medium term also was revised down somewhat, reflecting higher projected paths for both longer-term interest rates and the foreign exchange value of the dollar, along with slightly lower projected paths for equity and home prices. The staff still anticipated that the pace of expansion in real GDP this year would only moderately exceed the growth rate of potential output but continued to forecast that real GDP would accelerate in 2014 and 2015, supported by an eventual easing in the effects of fiscal policy restraint on economic growth, increases in consumer and business sentiment, further improvements in credit availability and financial conditions, and accommodative monetary policy. In 2016, real GDP growth was projected to begin to edge down toward the growth rate of potential output. Over the projection period, the expansion in economic activity was anticipated to slowly reduce the slack in labor and product markets, and the unemployment rate was expected to decline gradually.

The staff's forecast for inflation was little changed from the projection prepared for the previous FOMC meeting. In the near term, the staff continued to project that inflation would be modest in the second half of this year but higher than the readings posted in the first half. Over the medium term, with longer-run inflation expectations assumed to remain stable, changes in commodity and import prices expected to be modest, and resource slack persisting over most of the projection period, inflation was forecast to be subdued through 2016.

The staff viewed the uncertainty around the forecast for economic activity as similar to its normal level over the past 20 years. However, the risks were viewed as skewed to the downside, reflecting concerns about the economic effects of the recent tightening in U.S. financial market conditions, the resolution of federal fiscal policy issues in the coming months, the economic and financial stresses in the EMEs, and the ability of the U.S. economy to weather potential future adverse shocks. The staff did not see the uncertainty around its outlook for inflation as unusually high, and the risks were viewed as balanced.

Participants' Views on Current Conditions and the Economic Outlook

In conjunction with this FOMC meeting, meeting participants—5 members of the Board of Governors and the presidents of the 12 Federal Reserve Banks, all of whom participated in the deliberations—submitted their assessments of real output growth, the unemployment rate, inflation, and the target federal funds rate for each year from 2013 through 2016 and over the longer run, under each participant's judgment of appropriate monetary policy. The longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge, over time, under appropriate monetary policy and in the absence of further shocks to the economy. These economic projections and policy assessments are described in the Summary of Economic Projections (SEP), which is attached as an addendum to these minutes.

In their discussion of the economic situation and outlook, meeting participants regarded the information received during the intermeeting period as indicating that economic activity had continued to expand at a moderate pace, albeit somewhat more slowly than earlier anticipated, and they generally indicated that the broad contours of the outlook further out had not changed materially since their July meeting. Participants continued to project the rate of growth of economic activity to strengthen over coming years, supported by highly accommodative monetary policy and the gradual abatement of the headwinds that have been slowing the pace of economic recovery, such as household-sector deleveraging, tight credit conditions for some households and businesses, and fiscal restraint. Accordingly, the unemployment rate was projected to continue to decline over time toward levels judged to be consistent with the Committee's dual mandate. While downside risks to the outlook for the economy and the labor market were generally viewed as having diminished, on balance, since last fall, a number of significant risks remained, including those related to the potential economic effects of the sizable increases in interest rates since the spring, ongoing fiscal drag, and the possible fallout from near-term fiscal debates. Inflation continued to run below the Committee's longer-run objective, apart from fluctuations that largely reflected changes in energy prices, and participants generally saw it as moving back gradually to 2 percent in the medium term.

In the household sector, consumer spending continued to advance, but incoming data on retail sales were somewhat weaker than expected. Auto sales, however, remained strong, supported in part by steady interest rates on auto loans, which, unlike mortgage rates, did not rise substantially in recent months. Despite the continued improvement in household balance sheets, a number of factors were mentioned as possible restraints on spending, including declines in consumer confidence, concerns about job security and availability, and the lingering effects of this year's payroll tax increase. While the housing sector continued to strengthen, supported by improving fundamentals and gains in house prices, the increases in mortgage rates since the spring were seen as a potential risk. The extent to which the higher mortgage rates had materially affected that sector remained unclear, with the exception of the sharp decline in refinancing activity. But it was noted that recent softness in housing starts and home sales might well reflect some restraint from those higher rates.

Business contacts in selected parts of the country were reported to be cautiously optimistic, consistent with encouraging responses to a number of business surveys. Nonetheless, uncertainties regarding the outlook for the economy and fiscal and regulatory policies were reportedly continuing to weigh on business decisionmaking, with firms focused on improving their balance sheets and enhancing productivity and still quite cautious about expanding their workforces. Reports on manufacturing activity pointed to some rebound, with production related to autos the most notable area of strength, and activity in the energy sector continued to expand at a steady pace. In the agricultural sector, farmland values increased further, even though farm income was reported to be declining. Some business contacts indicated that wage and price pressures were subdued; however, in one District, contacts pointed to rising wage pressures and labor shortages.

Participants discussed the extent to which the ongoing tightening in fiscal policy was likely to further restrain economic activity in the second half of this year, with one participant noting that the effects of the federal sequestration appeared to be less pronounced than previously anticipated. However, a number of others pointed to heightened uncertainty about the course of federal fiscal policy over coming months, including the potential for a government shutdown or strains related to the debt ceiling debate, which posed downside risks to the economic outlook.

In discussing labor market developments, a number of participants indicated that gains in payrolls in the July and August employment reports were disappointing, but one participant also noted that seasonal adjustment tended to be challenging during the summer months. Taking a range of data into account, participants generally agreed that labor market conditions had improved meaningfully since the start of the asset purchase program in September 2012. Participants discussed how to reconcile the notable decline in the unemployment rate over the past year with the only moderate pace of expansion in real GDP. One possible explanation was that, to the extent the decline in the unemployment rate was primarily driven by a fall in the labor force participation rate and low productivity growth, such a decline might overstate the degree of improvement in broader labor market conditions. Indeed, the continued low readings on the employment-to-population ratio were supportive of this explanation, suggesting that overall labor market conditions had not improved as much as the unemployment rate would indicate. An alternative explanation for the significant improvement in the labor market performance despite the moderate growth in real GDP over the past year was that growth had been understated somewhat; notably, some research suggested that real gross domestic income, which expanded at a somewhat faster pace than real GDP, may provide better information about overall economic activity. Despite recent declines in the unemployment rate, one participant noted the risk that the longer the duration of elevated unemployment, the more likely it was that the labor market and economy would experience some lasting structural damage. While judging the extent of structural damage continued to be quite difficult, one piece of evidence consistent with this view was the apparent decline in the job-finding rate of the long-term unemployed.

Despite the reversal of some transitory factors that had contributed to the earlier softness in inflation, recent readings continued to be below the Committee's longer-run objective of 2 percent. However, participants generally expected inflation to pick up over the coming year as the pace of economic growth accelerated and slack in resource utilization diminished further, although to a rate still below the Committee's longer-run objective.

Participants discussed financial market developments, including their views on the extent to which the rise in longer-term interest rates since May reflected growing confidence about the economic outlook or a perception by financial markets that monetary policy would be less accommodative going forward than had been previously anticipated. Several participants judged that overall financial conditions had tightened notably over the past few months, as seen most importantly in the rise in mortgage rates. While acknowledging that it was too early to assess the effects of such an increase, they expressed concerns that tighter financial conditions might weigh on the recovery in the housing sector. A few others observed that the increase in longer-term yields in recent months had not seemed to leave a meaningful imprint on other asset prices, suggesting that the effects on the economy were likely to be relatively muted. While recognizing the potentially significant impact of higher mortgage rates on the housing market, these same participants pointed to higher equity prices, the further gradual loosening of terms in bank lending, and the continued availability of credit at inexpensive terms in corporate debt markets as signs that financial conditions more generally had not tightened materially. In any case, however, the assessment of the adverse effects of the increase in longer-term rates on financial conditions and ultimately on economic activity would depend importantly upon the extent to which rates stabilized at current levels or instead continued to rise.

Participants also touched on the implications for financial stability resulting from the increase in interest rates, focusing on the effects on securities held by banking and other nonbank institutions, the unwinding of leveraged trades, and the liquidity and functioning of a number of fixed-income markets. One participant noted that, notwithstanding the recent rise in interest rates, net interest margins remained under pressure at community and regional banks, and as a result many of these banks continued to add to risk exposures. Another participant raised the possibility that financial stability risks might arise from recent adverse developments in municipal bond markets. It was also noted that financial conditions in a number of EMEs had tightened as a result of some depreciation of their currencies, an increase in yields and borrowing costs, and some capital outflows as measured by withdrawals from bond funds. More broadly, a couple of participants noted the complexities related to the interaction between the stance of monetary policy and the vulnerabilities in the financial system.

In their discussion of the path for monetary policy, participants debated the advantages and disadvantages of reducing the pace of the Committee's asset purchases at this meeting, focusing importantly on whether the conditions presented to the public in June for reducing the pace of asset purchases had yet been met. In general, those who preferred to maintain for now the pace of purchases viewed incoming data as having been on the disappointing side and, despite clear improvements in labor market conditions since the purchase program's inception in September 2012, were not yet adequately confident of continued progress. Many of these participants had revised down their forecasts for economic activity or pointed to near-term risks and uncertainties. For example, questions were raised about the effects on the housing sector and on the broader economy of the tightening in financial conditions in recent months, as well as about the considerable risks surrounding fiscal policy. Moreover, the announcement of a reduction in asset purchases at this meeting might trigger an additional, unwarranted tightening of financial conditions, perhaps because markets would read such an announcement as signaling the Committee's willingness, notwithstanding mixed recent data, to take an initial step toward exit from its highly accommodative policy. As a result of such concerns, a number of participants thought that risk-management considerations called for a cautious approach and that, in light of the ambiguous cast of recent readings on the economy, it would be prudent to await further evidence of progress before reducing the pace of asset purchases. Consistent with the framework discussed by the Chairman during the June press conference, asset purchases were contingent on the Committee's ongoing assessment of the economic outlook and were not on a preset course; this approach implied a need to adapt and to adjust asset purchases in response to changes in economic conditions in order to preserve the Committee's credibility. With many outside observers expecting a decision to reduce purchases at this meeting, some participants emphasized a need to clearly communicate the rationale behind any decision not to do so, in order to avoid conveying a message of pessimism regarding the economic outlook or to reinforce the distinction between decisions concerning the pace of purchases and those concerning the federal funds rate. One participant suggested that postponing the reduction in the pace of asset purchases would also allow time for the Committee to further discuss and to implement a clarification or strengthening of its forward guidance for the federal funds rate, which could temper the risk that a future downward adjustment in asset purchases would cause an undesirable tightening of financial conditions.

The participants who spoke in favor of moderating the pace of securities purchases at this meeting also cited the incoming data, but viewed those data as broadly consistent with the Committee's outlook for the labor market at the time of the June FOMC meeting when the contingent expectation that the pace of asset purchases would be reduced later in the year was first presented to the public. Moreover, they highlighted what they saw as meaningful cumulative progress in labor market conditions since the purchase program began. Those participants generally were satisfied that investors had come to understand the data-dependent nature of the Committee's thinking about asset purchases, and, because they judged that the conditions laid out in June had been met, they believed that the credibility of the Committee would best be served by announcing a downward adjustment in asset purchases at this meeting. With the markets apparently viewing a cut in purchases as the most likely outcome, it was noted that the postponement of such an announcement to later in the year or beyond could have significant implications for the effectiveness of Committee communications. In particular, concerns were expressed that a delay could potentially undermine the credibility or predictability of monetary policy by, for example, increasing uncertainty about the Committee's reaction function and about its commitment to the forward guidance for the federal funds rate, with the result of an increase in volatility in financial markets. Moreover, maintaining the pace of purchases could be perceived as a sign that the FOMC had turned more pessimistic about the economic outlook. Finally, it was noted that if the Committee did not pare back its purchases in these circumstances, it might be difficult to explain a cut in coming months, absent clearly stronger data on the economy and a swift resolution of federal fiscal uncertainties. Most of the participants leaning toward a downward adjustment in the pace of asset purchases also indicated that they favored a relatively small reduction to signal the Committee's intention to proceed cautiously.

With regard to adjustments in the pace of asset purchases, whether at this or a future meeting, a few participants expressed a preference for not cutting MBS purchases but reducing purchases only of Treasury securities initially, with the intent of continuing to support the recovery in the housing sector. However, the appeal of including both types of securities in any reduction was also mentioned. In addition, in an effort to reduce uncertainty about how the Committee might adjust its purchases in response to economic developments and to alleviate some of the related communications issues, one participant suggested an approach that would mechanically link the reduction in asset purchases to numerical values for the unemployment rate, with the goal of ending the program when the unemployment rate reached a stated level.

Participants also discussed the potential for clarifying or strengthening the Committee's forward guidance for the federal funds rate. To the extent that financial markets have at times interpreted the Committee's communications regarding the asset purchase program as also signaling information about the federal funds rate target, participants thought it might be important to reiterate the distinction between the two, and a clarification or strengthening of the forward guidance might help to reinforce this message. In part toward this end, participants mentioned several possible steps that might be considered, including stating that the Committee would not raise its target for the federal funds rate if the inflation rate was expected to run below a given level or providing additional information on the Committee's intentions regarding the federal funds rate after the 6½ percent unemployment threshold was reached. One participant stressed that the Committee could use the full range of its tools, including forward guidance, to further improve the alignment of the medium-term outlook for employment and inflation with its longer-term goals. In light of the importance of credibility for the effectiveness of the forward guidance for the federal funds rate, participants noted the possible implications of uncertainties related to the Federal Reserve leadership transition in considering the appropriate timing of any enhancements to the guidance.

In discussing the projections for the target federal funds rate at the end of 2016 as reported in the SEP, some participants highlighted the importance of communicating to the public the reasons why the policy rates that were projected by most, but not all, participants appeared to remain at low levels even as the unemployment rate and inflation by then were expected to be close to their longer-run values. In particular, if economic headwinds died away only slowly, as a number of participants expected, the achievement of the Committee's employment and price stability objectives would likely require keeping the federal funds rate below its longer-run equilibrium value for some time even as economic conditions improved. In light of the potential difficulties in succinctly conveying this information in the Committee's policy statement, the Chairman's postmeeting press conference and the minutes were mentioned as more appropriate vehicles for providing this information. A couple of participants also remarked that they viewed their projections of a low federal funds rate in 2016 as reflecting a commitment to support the economy by maintaining a more accommodative policy for longer.

Committee Policy Action

Committee members saw the information received over the intermeeting period as suggesting that economic activity was expanding at a moderate pace. Some indicators of labor market conditions showed further improvement in recent months, but the unemployment rate remained elevated. Household spending and business fixed investment advanced, and the housing sector was strengthening, but mortgage rates had risen further and fiscal policy was restraining growth. The Committee expected that, with appropriate policy accommodation, economic growth would pick up from its recent pace, resulting in a gradual decline in the unemployment rate toward levels consistent with the Committee's dual mandate. Members generally continued to see the downside risks to the outlook for the economy and the labor market as having diminished, on net, since last fall, but indicated that the tightening of financial conditions observed in recent months, if sustained, could slow the pace of improvement in the economy and labor market. Apart from fluctuations due to changes in energy prices, inflation was running below the Committee's longer-run objective, but longer-term inflation expectations were stable, and the Committee anticipated that inflation would move back toward its objective over the medium term. Members recognized, however, that inflation persistently below the Committee's 2 percent objective could pose risks to economic performance.

In their discussion of monetary policy for the period ahead, members reviewed the degree of improvement in economic activity and labor market conditions since the asset purchase program began a year ago and judged that, taking into account the extent of federal fiscal retrenchment, the improvement was consistent with growing underlying strength in the broader economy. However, all members but one judged that it would be appropriate for the Committee to await more evidence that progress would be sustained before adjusting the pace of asset purchases. In the view of one member, the progress to date in labor markets and in broader economic conditions amply supported a reduction in purchases. During the exchange of views on whether to trim the flow of asset purchases at this meeting, a number of members emphasized the contingent and data-dependent nature of the Committee's purchase program. In light of the mixed data recently, including inflation readings that remained below the Committee's longer-run objective, and the concerns over near-term fiscal uncertainties, some members indicated that they preferred to await more evidence that their expectation of continuing improvement would be realized. But with financial markets appearing to expect a reduction in purchases at this meeting, concerns were raised about the effectiveness of FOMC communications if the Committee did not take that step. For several members, the various considerations made the decision to maintain an unchanged pace of asset purchases at this meeting a relatively close call. At the conclusion of the discussion, the Committee decided to continue adding policy accommodation by purchasing additional MBS at a pace of $40 billion per month and longer-term Treasury securities at a pace of $45 billion per month and to maintain its existing reinvestment policies. In addition, the Committee reaffirmed its intention to keep the target federal funds rate at 0 to ¼ percent and retained its forward guidance that it anticipates that this exceptionally low range for the federal funds rate will be appropriate at least as long as the unemployment rate remains above 6½ percent, inflation between one and two years ahead is projected to be no more than a half percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored.

Members also discussed the wording of the policy statement to be issued following the meeting. In addition to updating its description of the state of the economy, the Committee decided to underline its concern about the tightening of financial conditions observed in recent months. It also acknowledged the improvement in economic activity and labor market conditions since its asset purchase program began, while emphasizing that it was prepared to be patient and await more evidence that progress would be sustained before adjusting downward the pace of purchases. The Committee also adopted language to the effect that, in judging when to moderate the pace of asset purchases at its coming meetings, it would assess whether incoming information continued to support its expectation of ongoing improvement in labor market conditions and of inflation moving back toward its longer-run objective. Finally, the Committee reiterated the contingent nature of the outlook for asset purchases, indicating that asset purchases were not on a preset course and that the Committee's decisions about their pace would continue to depend on its economic outlook as well as its assessment of the likely efficacy and costs of such purchases.

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 System Account 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 Desk is directed to continue purchasing longer-term Treasury securities at a pace of about $45 billion per month and to continue purchasing agency mortgage-backed securities at a pace of about $40 billion per month. 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 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 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 July suggests that economic activity has been expanding at a moderate pace. Some indicators of labor market conditions have shown further improvement in recent months, but the unemployment rate remains elevated. Household spending and business fixed investment advanced, and the housing sector has been strengthening, but mortgage rates have risen further and fiscal policy is restraining economic growth. Apart from fluctuations due to changes in energy prices, inflation has been running below the Committee's longer-run objective, but 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 growth will pick up from its recent pace and the unemployment rate will gradually decline toward levels the Committee judges consistent with its dual mandate. The Committee sees the downside risks to the outlook for the economy and the labor market as having diminished, on net, since last fall, but the tightening of financial conditions observed in recent months, if sustained, could slow the pace of improvement in the economy and labor market. The Committee recognizes that inflation persistently below its 2 percent objective could pose risks to economic performance, but it anticipates that inflation will move back toward its objective over the medium term.

Taking into account the extent of federal fiscal retrenchment, the Committee sees the improvement in economic activity and labor market conditions since it began its asset purchase program a year ago as consistent with growing underlying strength in the broader economy. However, the Committee decided to await more evidence that progress will be sustained before adjusting the pace of its purchases. Accordingly, the Committee decided to continue purchasing additional agency mortgage-backed securities at a pace of $40 billion per month and longer-term Treasury securities at a pace of $45 billion per month. 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. Taken together, these actions should maintain downward pressure on longer-term interest rates, support mortgage markets, and help to make broader financial conditions more accommodative, which in turn should promote a stronger economic recovery and help to ensure that inflation, over time, is at the rate most consistent with the Committee's dual mandate.

The Committee will closely monitor incoming information on economic and financial developments in coming months and will continue its purchases of Treasury and agency mortgage-backed securities, and employ its other policy tools as appropriate, until the outlook for the labor market has improved substantially in a context of price stability. In judging when to moderate the pace of asset purchases, the Committee will, at its coming meetings, assess whether incoming information continues to support the Committee's expectation of ongoing improvement in labor market conditions and inflation moving back toward its longer-run objective. Asset purchases are not on a preset course, and the Committee's decisions about their pace will remain contingent on the Committee's economic outlook as well as its assessment of the likely efficacy and costs of such purchases.

To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that a highly accommodative stance of monetary policy will remain appropriate for a considerable time after the asset purchase program ends and the economic recovery strengthens. In particular, the Committee decided to keep the target range for the federal funds rate at 0 to ¼ percent and currently anticipates that this exceptionally low range for the federal funds rate will be appropriate at least as long as the unemployment rate remains above 6½ percent, inflation between one and two years ahead is projected to be no more than a half percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored. In determining how long to maintain a highly accommodative stance of monetary policy, the Committee will also consider other information, including additional measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial developments. 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."

Voting for this action: Ben Bernanke, William C. Dudley, James Bullard, Charles L. Evans, Jerome H.

Powell, Eric Rosengren, Jeremy C. Stein, Daniel K. Tarullo, and Janet L. Yellen.

Voting against this action: Esther L. George.

Ms. George dissented because she saw recent information on the economy as sufficiently positive to warrant a reduction in the pace of the Committee's asset purchases at this meeting. In her view, waiting for more evidence of progress discounted the cumulative improvement in the economy as well as the potential costs of ongoing purchases. Accordingly, not only would a reduction be appropriate in light of the ongoing improvement in labor market conditions, but it also would support the credibility and predictability of monetary policy because it would be seen as following through on the Committee's earlier communications about the outlook for the asset purchase program.

It was agreed that the next meeting of the Committee would be held on Tuesday–Wednesday, October 29–30, 2013. The meeting adjourned at 11:15 a.m. on September 18, 2013.

Notation Vote

By notation vote completed on August 20, 2013, the Committee unanimously approved the minutes of the FOMC meeting held on July 30–31, 2013.

William B. English
Secretary

Summary of Economic Projections

In conjunction with the September 17–18, 2013, Federal Open Market Committee (FOMC) meeting, meeting participants—5 members of the Board of Governors and the 12 presidents of the Federal Reserve Banks, all of whom participated in the deliberations—submitted their assessments of real output growth, the unemployment rate, inflation, and the target federal funds rate for each year from 2013 through 2016 and over the longer run. Each participant's assessment was based on information available at the time of the meeting plus his or her judgment of appropriate monetary policy and assumptions about the factors likely to affect economic outcomes. The longer-run projections represent each participant's judgment of the value to which each variable would be expected to converge, over time, under appropriate monetary policy and in the absence of further shocks to the economy. "Appropriate monetary policy" is defined as the future path of policy that each participant deems most likely to foster outcomes for economic activity and inflation that best satisfy his or her individual interpretation of the Federal Reserve's objectives of maximum employment and stable prices.

Overall, FOMC participants expected, under appropriate monetary policy, a pickup in economic growth, with the unemployment rate declining gradually (table 1 and figure 1). Almost all of the participants projected that inflation, as measured by the annual change in the price index for personal consumption expenditures (PCE), would rise to a level at or somewhat below the Committee's 2 percent objective in 2016.

Most participants judged that highly accommodative monetary policy was likely to remain warranted over the next few years to support continued progress toward maximum employment and a return to 2 percent inflation. As shown in figure 2, a large majority of participants judged not only that it would be appropriate to wait until 2015 or later before beginning to increase the federal funds rate, but also that it would then be appropriate to raise the federal funds rate target relatively gradually. Most participants viewed their economic projections as broadly consistent with a slowing in the pace of the Committee's purchases of longer-term securities this year and the completion of the program in mid-2014.

Most participants saw the uncertainty associated with their outlook for economic growth, the unemployment rate, and inflation as similar to that of the past 20 years. In addition, most participants considered the risks to the outlook for the unemployment rate and inflation as broadly balanced. A slim majority of the participants also judged that the risks to the outlook for real gross domestic product (GDP) growth were broadly balanced, while nearly as many indicated that the risks were weighted to the downside.

Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, September 2013

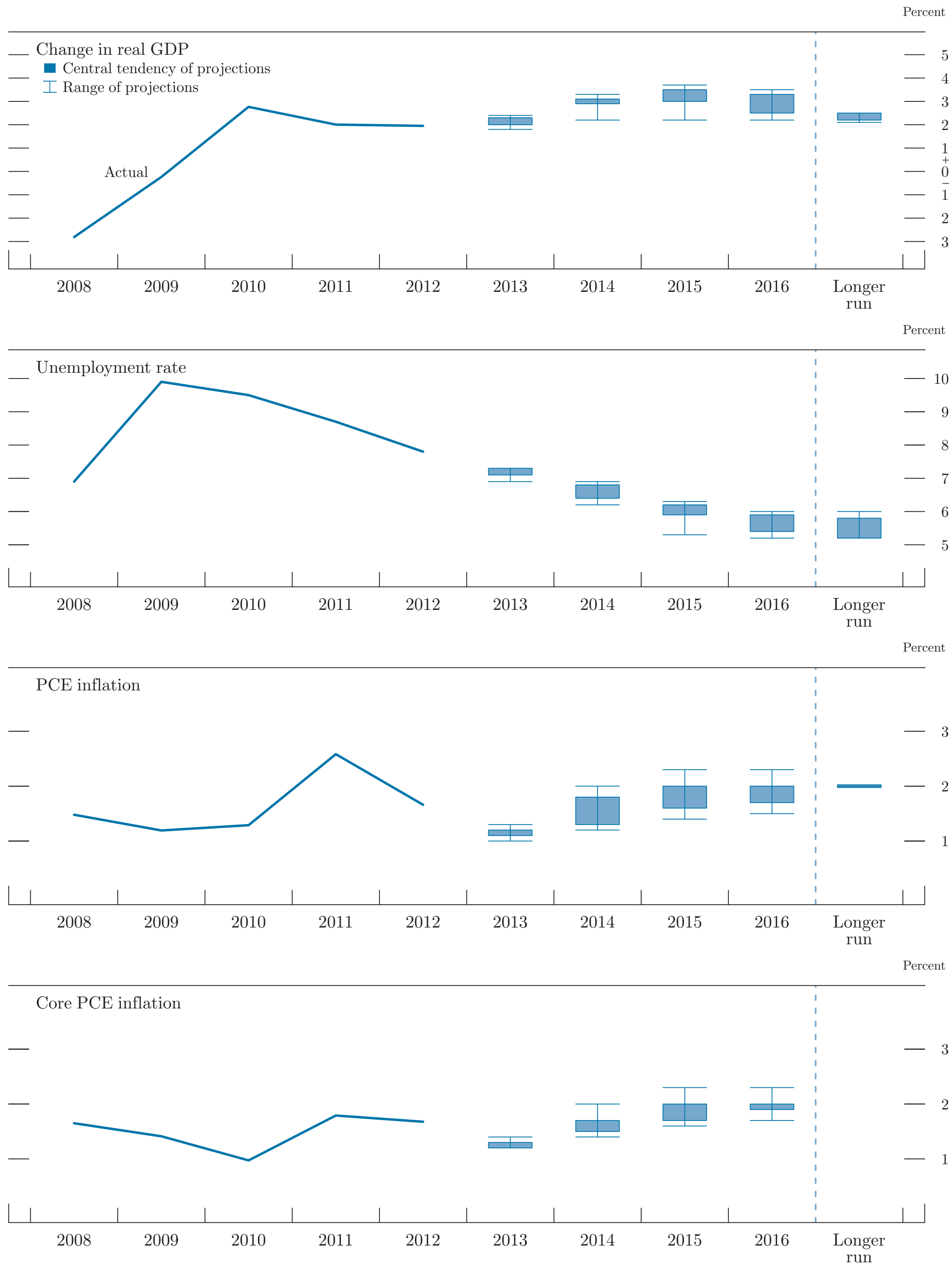
Percent

Variable	Central tendency[1]					Range[2]				
	2013	2014	2015	2016	Longer run	2013	2014	2015	2016	Longer run
Change in real GDP	2.0 to 2.3	2.9 to 3.1	3.0 to 3.5	2.5 to 3.3	2.2 to 2.5	1.8 to 2.4	2.2 to 3.3	2.2 to 3.7	2.2 to 3.5	2.1 to 2.5
June projection	2.3 to 2.6	3.0 to 3.5	2.9 to 3.6	n.a.	2.3 to 2.5	2.0 to 2.6	2.2 to 3.6	2.3 to 3.8	n.a.	2.0 to 3.0
Unemployment rate	7.1 to 7.3	6.4 to 6.8	5.9 to 6.2	5.4 to 5.9	5.2 to 5.8	6.9 to 7.3	6.2 to 6.9	5.3 to 6.3	5.2 to 6.0	5.2 to 6.0
June projection	7.2 to 7.3	6.5 to 6.8	5.8 to 6.2	n.a.	5.2 to 6.0	6.9 to 7.5	6.2 to 6.9	5.7 to 6.4	n.a.	5.0 to 6.0
PCE inflation	1.1 to 1.2	1.3 to 1.8	1.6 to 2.0	1.7 to 2.0	2.0	1.0 to 1.3	1.2 to 2.0	1.4 to 2.3	1.5 to 2.3	2.0
June projection	0.8 to 1.2	1.4 to 2.0	1.6 to 2.0	n.a.	2.0	0.8 to 1.5	1.4 to 2.0	1.6 to 2.3	n.a.	2.0
Core PCE inflation[3]	1.2 to 1.3	1.5 to 1.7	1.7 to 2.0	1.9 to 2.0		1.2 to 1.4	1.4 to 2.0	1.6 to 2.3	1.7 to 2.3	
June projection	1.2 to 1.3	1.5 to 1.8	1.7 to 2.0	n.a.		1.1 to 1.5	1.5 to 2.0	1.7 to 2.3	n.a.	

NOTE: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the price index for personal consumption expenditures (PCE) and the price index for PCE excluding food and energy. Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated. Each participant's projections are based on his or her assessment of appropriate monetary policy. Longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge under appropriate monetary policy and in the absence of further shocks to the economy. The June projections were made in conjunction with the meeting of the Federal Open Market Committee on June 18–19, 2013.

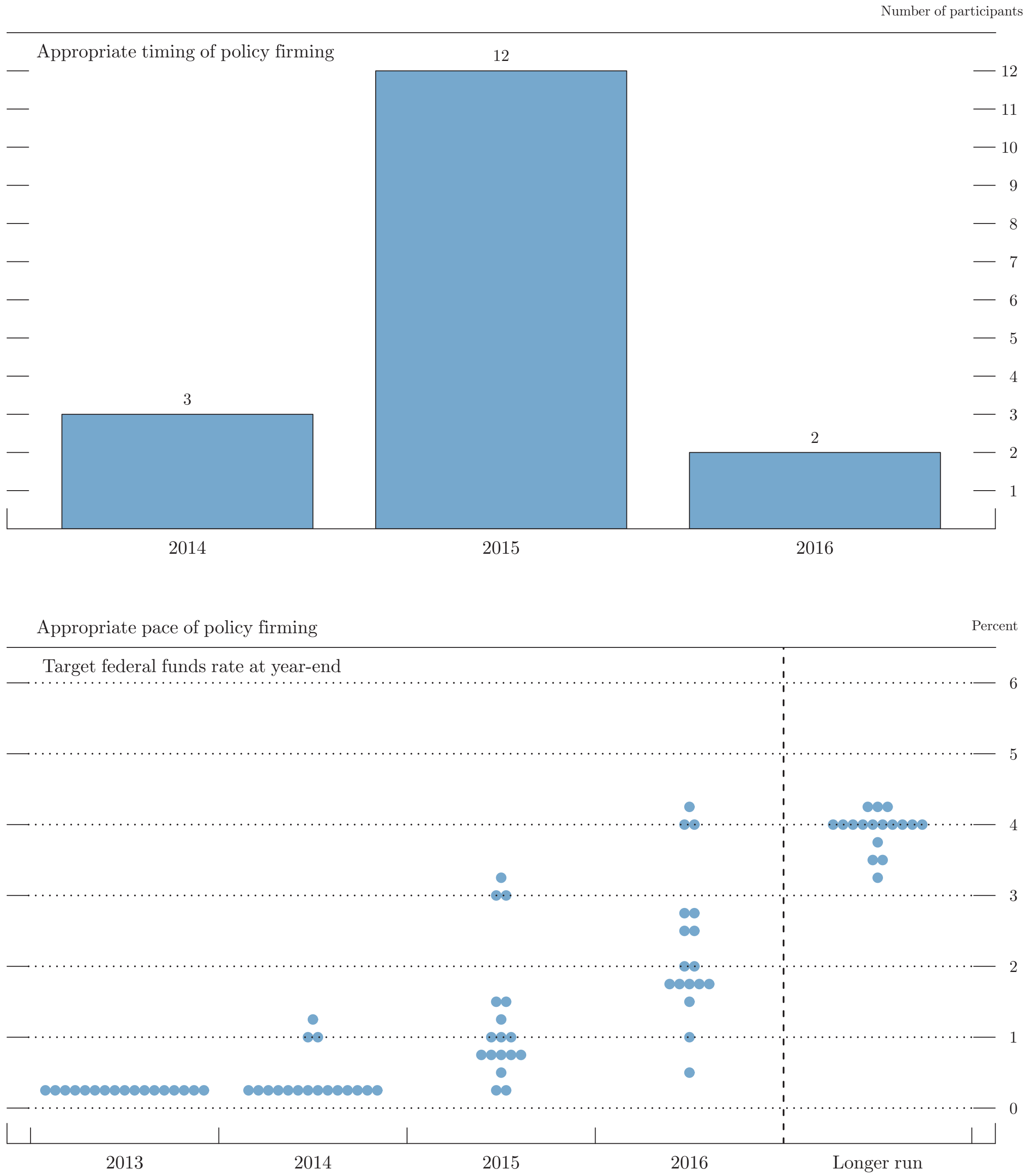
1. The central tendency excludes the three highest and three lowest projections for each variable in each year.
2. The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year.
3. Longer-run projections for core PCE inflation are not collected.

Figure 1. Central tendencies and ranges of economic projections, 2013–16 and over the longer run



NOTE: Definitions of variables are in the general note to table 1. The data for the actual values of the variables are annual.

Figure 2. Overview of FOMC participants' assessments of appropriate monetary policy



Note: In the upper panel, the height of each bar denotes the number of FOMC participants who judge that, under appropriate monetary policy, the first increase in the target federal funds rate from its current range of 0 to 1/4 percent will occur in the specified calendar year. In June 2013, the numbers of FOMC participants who judged that the first increase in the target federal funds rate would occur in 2013, 2014, 2015, and 2016 were, respectively, 1, 3, 14, and 1. In the lower panel, each shaded circle indicates the value (rounded to the nearest 1/4 percentage point) of an individual participant's judgment of the appropriate level of the target federal funds rate at the end of the specified calendar year or over the longer run.

The Outlook for Economic Activity

Participants generally projected that, conditional on their individual assumptions about appropriate monetary policy, real GDP growth would be similar in 2013 to its rate in 2012 and would increase in the 2014–16 period to a pace above what participants saw as the longer-run rate of output growth. Many participants pointed to diminishing restraint from fiscal policy, pent-up demand for consumer and producer durables, or rising household net worth as contributing to the pickup in growth. In addition, a number of participants noted continued improvement in the housing sector, supported by rising employment and income and by improved credit availability.

The central tendencies of participants' projections for real GDP growth were 2.0 to 2.3 percent in 2013, 2.9 to 3.1 percent in 2014, 3.0 to 3.5 percent in 2015, and 2.5 to 3.3 percent in 2016. In general, participants' projections for growth in 2013, 2014, and, to a lesser extent, 2015 were below those collected in June. Most participants attributed the downward revisions to their projections in 2013 and 2014 in part to weaker-than-expected incoming data, while some participants pointed to tighter financial conditions. The central tendency for the longer-run rate of growth of real GDP was 2.2 to 2.5 percent, little changed from June.

Participants anticipated a gradual decline in the unemployment rate over the projection period. The central tendencies of participants' forecasts for the unemployment rate in the fourth quarter of each year were 7.1 to 7.3 percent in 2013, 6.4 to 6.8 percent in 2014, 5.9 to 6.2 percent in 2015, and 5.4 to 5.9 percent in 2016. These projections were little changed from June. The central tendency of participants' estimates of the longer-run normal rate of unemployment that would prevail under appropriate monetary policy and in the absence of further shocks to the economy was 5.2 to 5.8 percent. A majority of participants projected that the unemployment rate would be near or slightly above their individual estimates of its longer-run level at the end of 2016.

Figures 3.A and 3.B show that participants' views regarding the likely outcomes for real GDP growth and the unemployment rate in 2014 and 2015 remained dispersed. This diversity reflected their individual assessments of the likely rate of improvement in the housing sector and in household balance sheets, the domestic implications of foreign economic developments, the prospective path for U.S. fiscal policy, the likely evolution of financial conditions, and a number of other factors. Relative to June, the dispersions of participants' projections for GDP growth in 2014 and 2015 narrowed to some extent, while the dispersions of projections for the unemployment rate in those years generally widened a bit.

The Outlook for Inflation

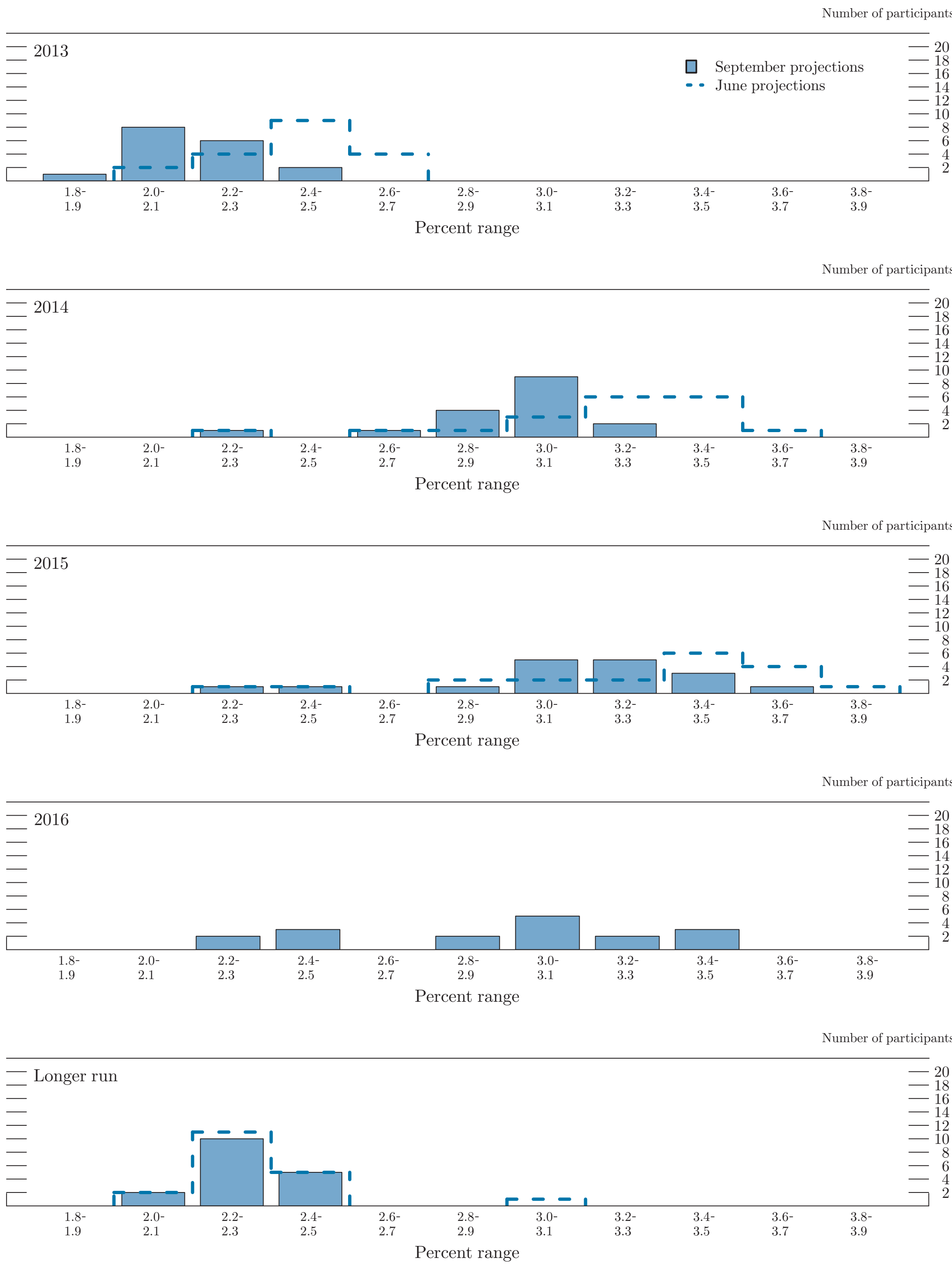
Participants' views on the broad outlook for inflation under the assumption of appropriate monetary policy were little changed from June. Although most participants revised up slightly their projection for PCE inflation in 2013, a number of participants revised down a bit their forecasts for 2014. All participants anticipated that both headline and core inflation would rise gradually over the next few years, and almost all participants expected inflation to be at or somewhat below the Committee's 2 percent objective in 2016. Specifically, the central tendencies for PCE inflation were 1.1 to 1.2 percent in 2013, 1.3 to 1.8 percent in 2014, 1.6 to 2.0 percent in 2015, and 1.7 to 2.0 percent in 2016. The central tendencies of the forecasts for core inflation were little changed from June and broadly similar to those for the headline measure over the projection period. A number of participants viewed the combination of stable inflation expectations and diminishing resource slack as important factors leading to a gradual pickup in inflation toward the Committee's longer-run objective.

Figures 3.C and 3.D provide information on the diversity of participants' views about the outlook for inflation. The ranges of participants' projections for overall inflation in 2014 and 2015 widened slightly from June and were 1.2 to 2.0 percent in 2014 and 1.4 to 2.3 percent in 2015. In 2016, the forecasts for PCE inflation were concentrated near the Committee's longer-run objective, though one participant expected inflation to be noticeably above the Committee's objective and another expected it to be ½ percentage point below. Similar to the projections for headline inflation, the projections for core inflation became more concentrated near the 2 percent objective in 2016 than in earlier years; however, the dispersion of the projections for core inflation in each year was lower than for headline inflation.

Appropriate Monetary Policy

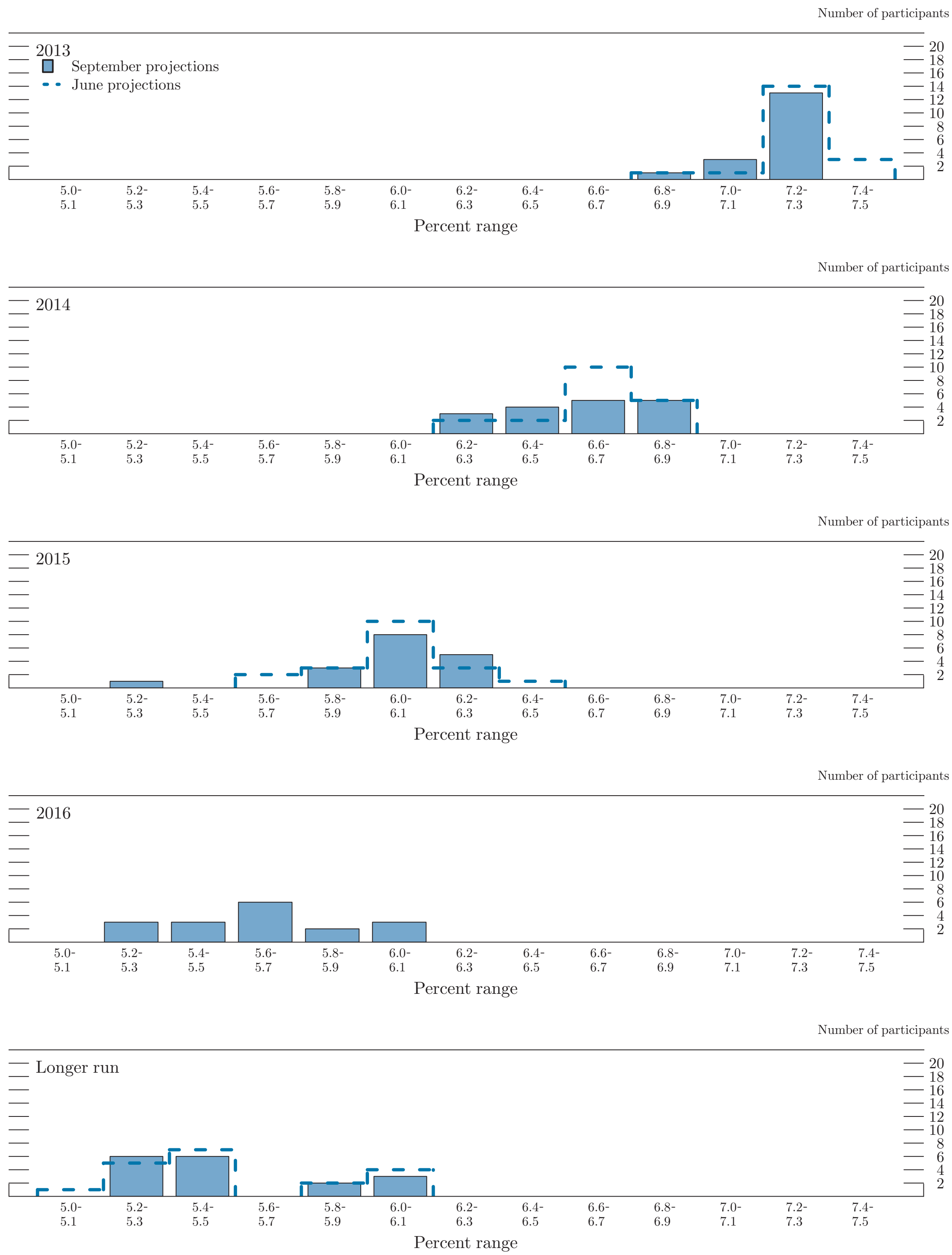
As indicated in figure 2, most participants judged that exceptionally low levels of the federal funds rate would remain appropriate for the next few years. In particular, 12 participants thought that the first increase in the target federal funds rate would not be warranted until sometime in 2015, and two judged that policy firming

Figure 3.A. Distribution of participants' projections for the change in real GDP, 2013–16 and over the longer run



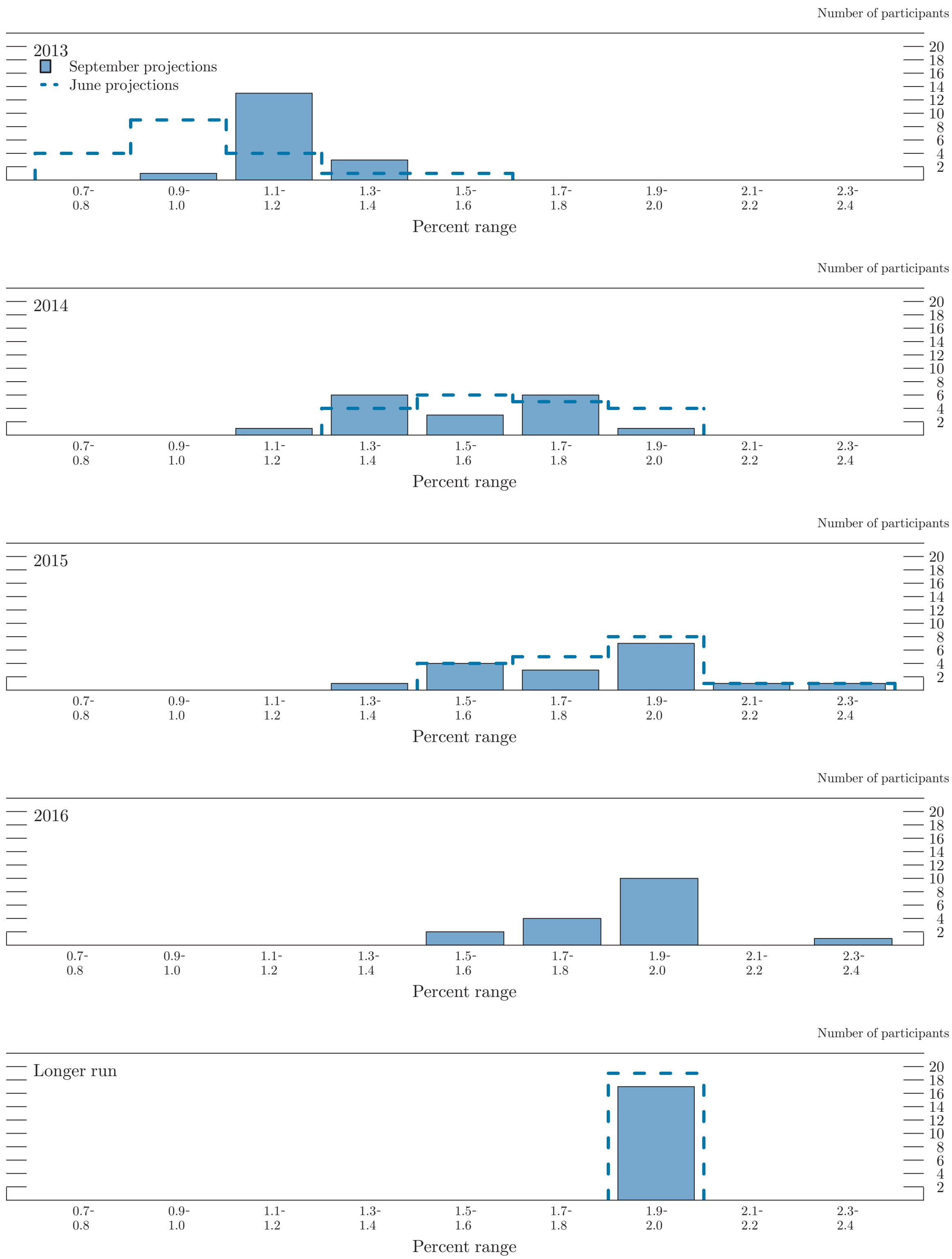
Note: Definitions of variables are in the general note to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2013–16 and over the longer run



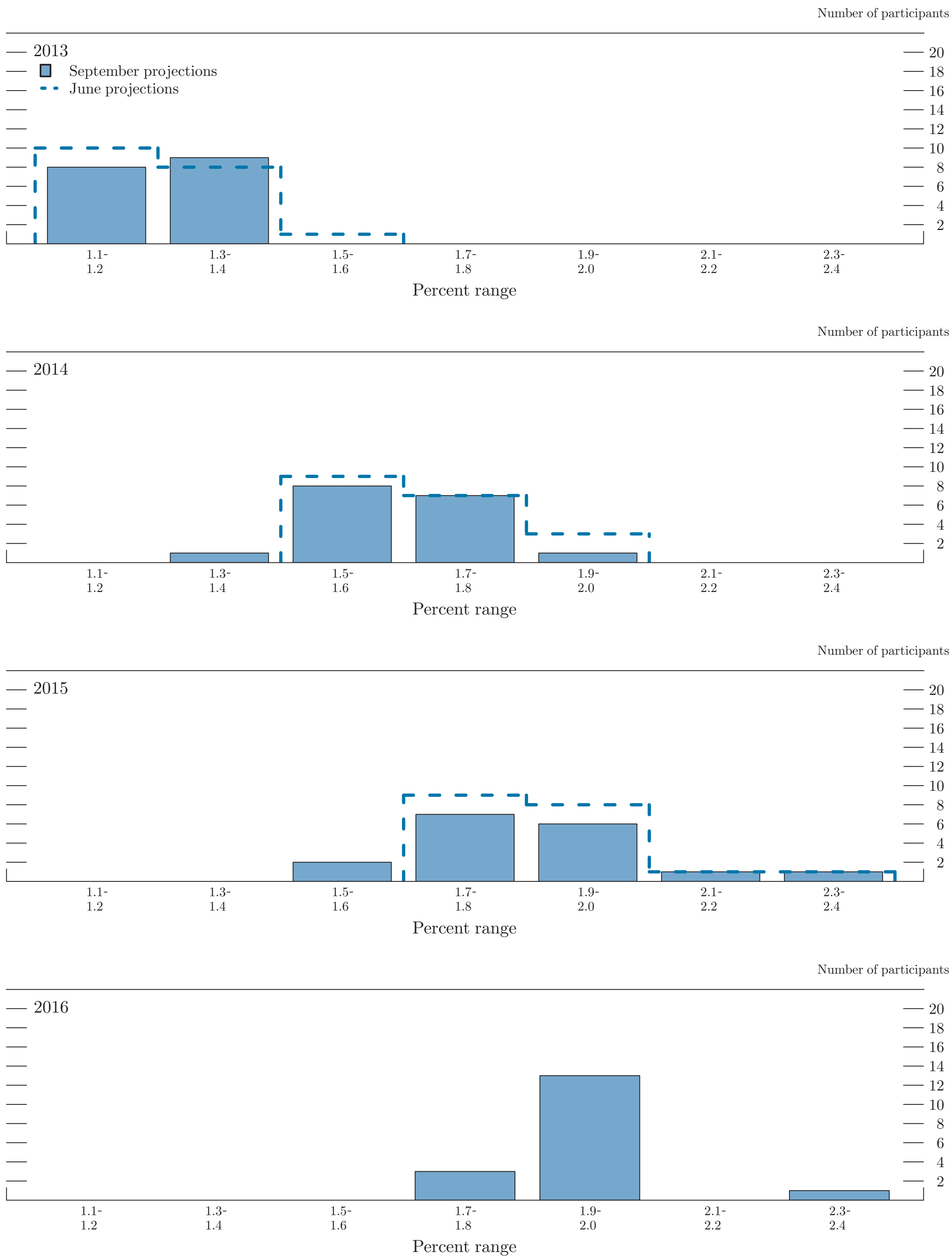
NOTE: Definitions of variables are in the general note to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2013–16 and over the longer run



NOTE: Definitions of variables are in the general note to table 1.

Figure 3.D. Distribution of participants' projections for core PCE inflation, 2013–16



NOTE: Definitions of variables are in the general note to table 1.

would likely not be appropriate until 2016. Three participants judged that an increase in the federal funds rate in 2014 would be appropriate.

All participants projected that the unemployment rate would be below the Committee's 6½ percent threshold at the end of the year in which they viewed the initial increase in the federal funds rate to be appropriate, and all but one judged that inflation would be at or below the Committee's longer-run objective. Almost all participants projected that the unemployment rate would still be above their view of its longer-run level at the end of the year in which they saw the federal funds rate increasing from the effective lower bound.

Figure 3.E provides the distribution of participants' judgments regarding the appropriate level of the target federal funds rate at the end of each calendar year from 2013 to 2016 and over the longer run. As noted above, most participants judged that economic conditions would warrant maintaining the current low level of the federal funds rate until 2015. Among the three participants who saw the federal funds rate leaving the effective lower bound earlier, projections for the federal funds rate at the end of 2014 ranged from 1 to 1¼ percent. These three participants viewed the appropriate level of the federal funds rate as 3 percent or higher at the end of 2015, while the remainder of participants saw the appropriate level of the funds rate as 1½ percent or lower. On balance, the dispersion of participants' projections for the appropriate federal funds rate at the end of 2015 widened a bit from June, while the median value of the rate was unchanged.

All of the participants who saw the first tightening in either 2015 or 2016 judged that the appropriate level of the federal funds rate at the end of 2016 would still be below their individual assessment of its expected longer-run value. In contrast, the three participants who saw the first tightening in 2014 believed that the appropriate level of the federal funds rate at the end of 2016 would be at their assessment of its longer-run level, which they viewed as either at or just above 4 percent. Among all participants, estimates of the longer-run target federal funds rate ranged from 3¼ to about 4¼ percent, reflecting the Committee's inflation objective of 2 percent and participants' individual judgments about the appropriate longer-run level of the real federal funds rate in the absence of further shocks to the economy.

Participants also described their views regarding the appropriate path of the Federal Reserve's balance sheet. Conditional on their respective economic outlooks, most participants judged that it would likely be appropriate to begin to reduce the pace of the Committee's purchases of longer-term securities this year and to conclude purchases in the middle of 2014. A couple of participants thought it appropriate for the first reduction in the pace of asset purchases to occur later, and another specified that purchases likely would continue past midyear 2014; in contrast, a couple of participants thought that the program should be ended considerably sooner than the middle of next year.

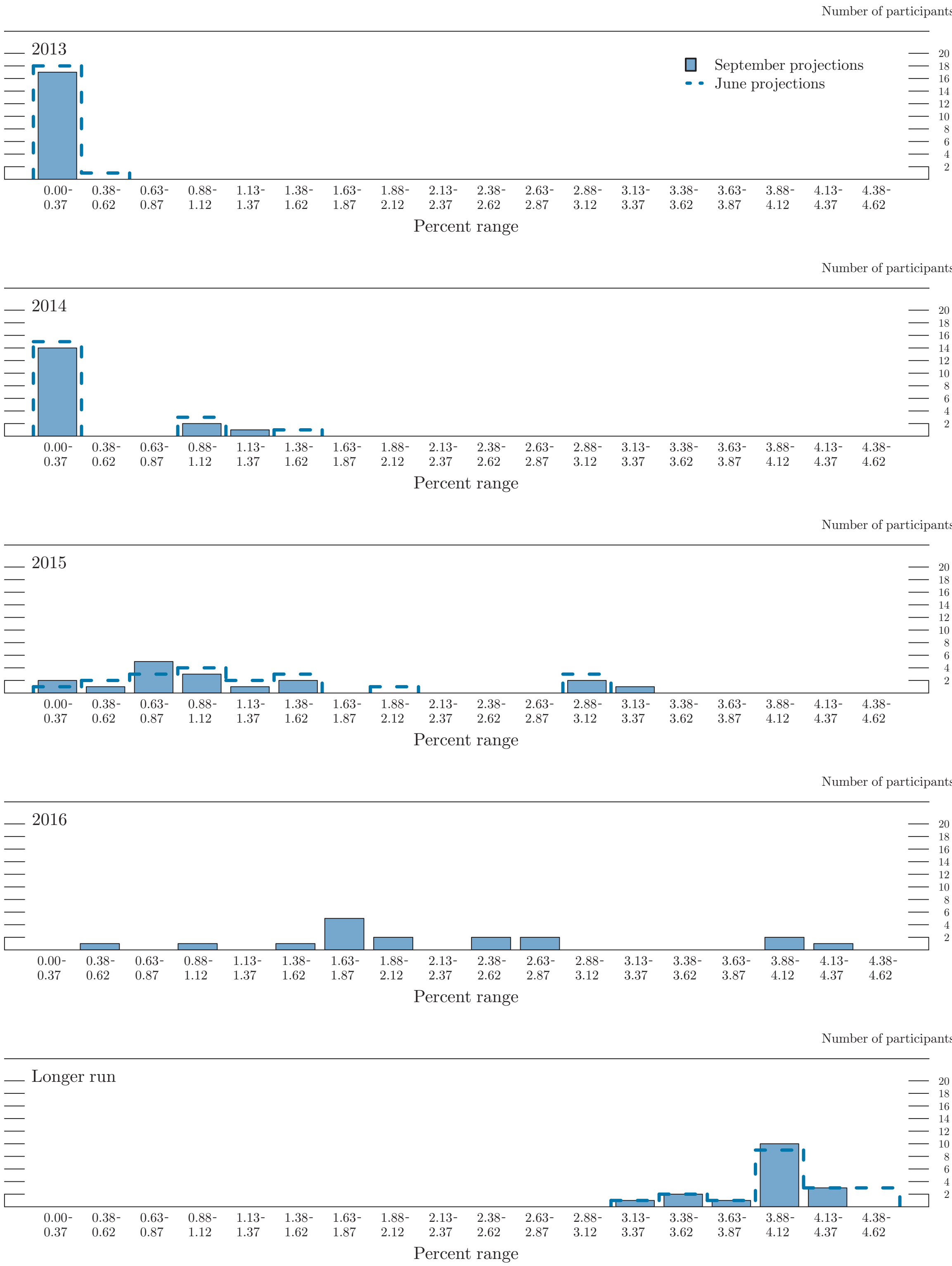
Participants' views of the appropriate path for monetary policy were informed by their judgments on the state of the economy, including the values of the unemployment rate and other labor market indicators that would be consistent with maximum employment, the extent to which the economy was currently falling short of maximum employment, the prospects for inflation to reach the Committee's longer-term objective of 2 percent, and the balance of risks around the outlook. Some participants also mentioned the usefulness of examining the implications of alternative policy strategies for returning employment and inflation to mandate-consistent levels over the medium term.

Uncertainty and Risks

Most participants judged that the levels of uncertainty about their projections for real GDP growth and unemployment were broadly similar to the norm during the previous 20 years, although four participants continued to see them as higher (figure 4).[1] The number of participants who viewed the risks around their GDP projections as weighted to the downside was nearly equal to the number who viewed them as broadly balanced. Most participants saw the risks around their unemployment projections as broadly balanced. The main factors cited as contributing to the uncertainty and balance of risks around economic outcomes were the limits on the ability of monetary policy at the zero lower bound to respond to adverse shocks, as well as challenges associated with forecasting the path of fiscal policy and developments abroad. In addition, some

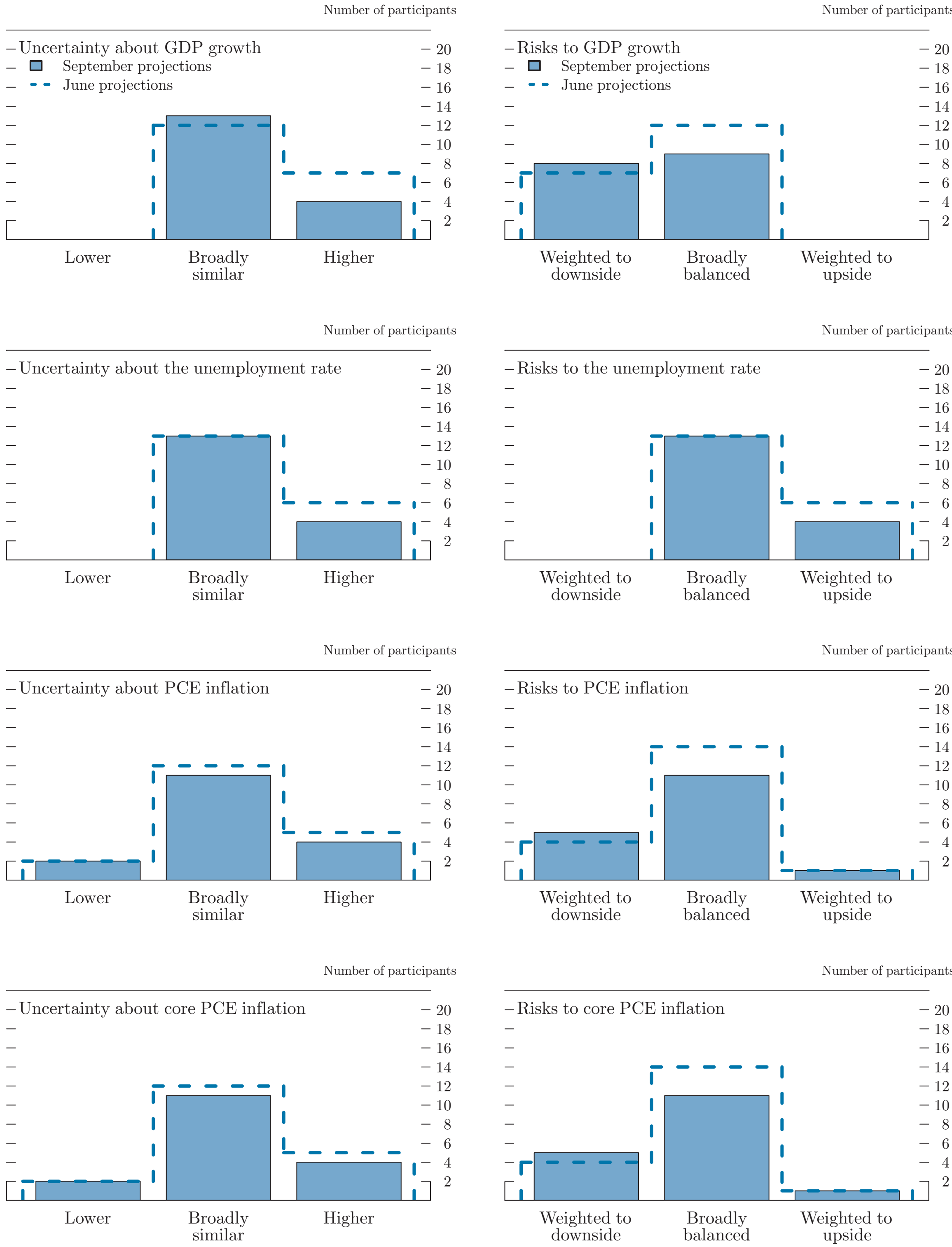
[1] Table 2 provides estimates of the forecast uncertainty for the change in real GDP, the unemployment rate, and total consumer price inflation over the period from 1993 through 2012. At the end of this summary, the box "Forecast Uncertainty" discusses the sources and interpretation of uncertainty in the economic forecasts and explains the approach used to assess the uncertainty and risks attending the participants' projections.

Figure 3.E. Distribution of participants' projections for the target federal funds rate, 2013–16 and over the longer run



Note: The target federal funds rate is measured as the level of the target rate at the end of the calendar year or in the longer run.

Figure 4. Uncertainty and risks in economic projections



NOTE: For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty." Definitions of variables are in the general note to table 1.

Table 2. Average historical projection error ranges
Percentage points

Variable	2013	2014	2015	2016
Change in real GDP[1]	±0.9	±1.5	±1.8	±1.9
Unemployment rate[1]	±0.3	±1.0	±1.6	±1.9
Total consumer prices[2]	±0.8	±1.0	±1.1	±1.1

NOTE: Error ranges shown are measured as plus or minus the root mean squared error of projections for 1993 through 2012 that were released in the fall by various private and government forecasters. As described in the box "Forecast Uncertainty," under certain assumptions, there is about a 70 percent probability that actual outcomes for real GDP, unemployment, and consumer prices will be in ranges implied by the average size of projection errors made in the past. Further information may be found in David Reifschneider and Peter Tulip (2007), "Gauging the Uncertainty of the Economic Outlook from Historical Forecasting Errors," Finance and Economics Discussion Series 2007-60 (Washington: Board of Governors of the Federal Reserve System, November).

1. Definitions of variables are in the general note to table 1.

2. Measure is the overall consumer price index, the price measure that has been most widely used in government and private economic forecasts. Projection is percent change, fourth quarter of the previous year to the fourth quarter of the year indicated.

participants pointed to the tightening in financial conditions in recent months and the possibility of heightened volatility in financial markets, while others pointed to risks associated with structural changes affecting productivity growth and labor markets.

Participants reported little change in their assessments of the level of uncertainty and the balance of risks around their forecasts for overall PCE inflation and core inflation. Eleven participants judged the levels of uncertainty associated with their forecasts for those inflation measures to be broadly similar to historical norms; the same number saw the risks to those projections as broadly balanced. Five participants saw the risks to their inflation forecasts as tilted to the downside, reflecting, for example, the possibility that the current low levels of inflation could persist and become embedded in inflation expectations. Conversely, a couple of participants cited upside risks to inflation stemming from the current highly accommodative stance of monetary policy or concerns about the Committee's ability to shift to a less accommodative policy stance when it becomes appropriate to do so.

Forecast Uncertainty

The economic projections provided by the members of the Board of Governors and the presidents of the Federal Reserve Banks inform discussions of monetary policy among policymakers and can aid public understanding of the basis for policy actions. Considerable uncertainty attends these projections, however. The economic and statistical models and relationships used to help produce economic forecasts are necessarily imperfect descriptions of the real world, and the future path of the economy can be affected by myriad unforeseen developments and events. Thus, in setting the stance of monetary policy, participants consider not only what appears to be the most likely economic outcome as embodied in their projections, but also the range of alternative possibilities, the likelihood of their occurring, and the potential costs to the economy should they occur.

Table 2 summarizes the average historical accuracy of a range of forecasts, including those reported in past *Monetary Policy Reports* and those prepared by the Federal Reserve Board's staff in advance of meetings of the Federal Open Market Committee. The projection error ranges shown in the table illustrate the considerable uncertainty associated with economic forecasts. For example, suppose a participant projects that real gross domestic product (GDP) and total consumer prices will rise steadily at annual rates of, respectively, 3 percent and 2 percent. If the uncertainty attending those projections is similar to that experienced in the past and the risks around the projections are broadly balanced, the numbers reported in table 2 would imply a probability of about 70 percent that actual GDP would expand within a range of 2.1 to 3.9 percent in the current year, 1.5 to 4.5 percent in the second year, 1.2 to 4.8 percent in the third year, and 1.1 to 4.9 percent in the fourth year. The corresponding 70 percent confidence intervals for overall inflation would be 1.2 to 2.8 percent in the current year, 1.0 to 3.0 percent in the second year, and 0.9 to 3.1 percent in the third and fourth years.

Because current conditions may differ from those that prevailed, on average, over history, participants provide judgments as to whether the uncertainty attached to their projections of each variable is greater than, smaller than, or broadly similar to typical levels of forecast uncertainty in the past, as shown in table 2. Participants also provide judgments as to whether the risks to their projections are weighted to the upside, are weighted to the downside, or are broadly balanced. That is, participants judge whether each variable is more likely to be above or below their projections of the most likely outcome. These judgments about the uncertainty and the risks attending each participant's projections are distinct from the diversity of participants' views about the most likely outcomes. Forecast uncertainty is concerned with the risks associated with a particular projection rather than with divergences across a number of different projections.

As with real activity and inflation, the outlook for the future path of the federal funds rate is subject to considerable uncertainty. This uncertainty arises primarily because each participant's assessment of the appropriate stance of monetary policy depends importantly on the evolution of real activity and inflation over time. If economic conditions evolve in an unexpected manner, then assessments of the appropriate setting of the federal funds rate would change from that point forward.