Minutes of the Federal Open Market Committee
April 24–25, 2012

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, April 24, 2012, at 1:00 p.m., and continued on Wednesday, April 25, 2012, at 8:30 a.m.

PRESENT:
Ben Bernanke, Chairman
William C. Dudley, Vice Chairman
Elizabeth Duke
Jeffrey M. Lacker
Dennis P. Lockhart
Sandra Pianalto
Sarah Bloom Raskin
Daniel K. Tarullo
John C. Williams
Janet L. Yellen

James Bullard, Christine Cumming, Charles L. Evans, Esther L. George, and Eric Rosengren, Alternate Members of the Federal Open Market Committee

Richard W. Fisher, Narayana Kocherlakota, and Charles I. Plosser, Presidents of the Federal Reserve Banks of Dallas, Minneapolis, and Philadelphia, respectively

William B. English, Secretary and Economist
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
Thomas C. Baxter, Deputy General Counsel
Steven B. Kamin, Economist
David W. Wilcox, Economist

David Altig, Thomas A. Connors, Michael P. Leahy, William Nelson, Simon Potter, David Reifschneider, and William Wascher, Associate Economists

Brian Sack, 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

Jon W. Faust and Andrew T. Levin, Special Advisors to the Board, Office of Board Members, Board of Governors

James A. Clouse, Deputy Director, Division of Monetary Affairs, Board of Governors; Matthew J. Eichner, Deputy Director, Division of Research and Statistics, Board of Governors

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

Thomas Laubach, Senior Adviser, Division of Research and Statistics, Board of Governors; Ellen E. Meade, Senior Adviser, Division of Monetary Affairs, Board of Governors

Daniel M. Covitz and David E. Lebow, Associate Directors, Division of Research and Statistics, Board of Governors

David Bowman, Deputy Associate Director, Division of International Finance, Board of Governors; Gretchen C. Weinbach, Deputy Associate Director, Division of Monetary Affairs, Board of Governors

Jane E. Ihrig, Assistant Director, Division of Monetary Affairs, Board of Governors

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

Gregory L. Stefani, First Vice President, Federal Reserve Bank of Cleveland

Jeff Fuhrer, Loretta J. Mester, Harvey Rosenblum, and Daniel G. Sullivan, Executive Vice Presidents, Federal Reserve Banks of Boston, Philadelphia, Dallas, and Chicago, respectively

Troy Davig, Ron Feldman, Mark E. Schweitzer, Christopher J. Waller, Senior Vice Presidents, Federal Reserve Banks of Kansas City, Minneapolis, Cleveland, and St. Louis, respectively

John Fernald, Group Vice President, Federal Reserve Bank of San Francisco

Andreas L. Hornstein and Lorie K. Logan, Vice Presidents, Federal Reserve Banks of Richmond and New York, respectively

Monetary Policy under Alternative Scenarios

A staff presentation provided an overview of an exercise that explored individual participants' views on appropriate monetary policy responses under alternative economic scenarios. Committee participants discussed the potential value and drawbacks of this type of exercise for both internal deliberations and external communications about monetary policy. Possible benefits include helping to clarify the factors that individual participants judge most important in forming their views about the economic outlook and their assessments of appropriate monetary policy. Two potential limitations of this approach are that the scenario descriptions must by necessity be incomplete, and the practical range of scenarios that can be examined may be insufficient to be informative, given the degree of uncertainty surrounding possible outcomes. Some participants stated that exercises using alternative scenarios, with appropriate adjustments, could potentially be helpful for internal deliberations and, thus, should be explored further. However, no decision was made at this meeting regarding future exercises along these lines.

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

The Manager of the System Open Market Account (SOMA) reported on developments in domestic and foreign financial markets during the period since the Federal Open Market Committee (FOMC) met on March 13, 2012. He also reported on System open market operations, including the ongoing reinvestment into agency-guaranteed mortgage-backed securities (MBS) of principal payments received on SOMA holdings of agency debt and agency-guaranteed MBS as well as the operations related to the maturity extension program authorized at the September 20–21, 2011, 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 over the intermeeting period.

With Mr. Lacker dissenting, the Committee agreed to extend the reciprocal currency (swap) arrangements with the Bank of Canada and the Banco de México for an additional year beginning in mid-December 2012; these arrangements are associated with the Federal Reserve's participation in the North American Framework Agreement of 1994. The arrangement with the Bank of Canada allows for cumulative drawings of up to $2 billion equivalent, and the arrangement with the Banco de México allows for cumulative drawings of up to $3 billion equivalent. The vote to renew the System's participation in these swap arrangements was taken at this meeting because a provision in the Framework Agreement requires each party to provide six months' prior notice of an intention to terminate its participation. Mr. Lacker dissented because of his opposition, as indicated at the January meeting, to foreign exchange market intervention by the Federal Reserve, which such swap arrangements might facilitate, and because of his opposition to direct lending to foreign central banks.

Staff Review of the Economic Situation

The information reviewed at the April 24–25 meeting suggested that economic activity was expanding moderately. Payroll employment continued to move up, and the unemployment rate, while still elevated, declined a little further. Overall consumer price inflation increased somewhat, primarily reflecting higher prices of crude oil and gasoline, but measures of long-run inflation expectations remained stable.

The unemployment rate declined to 8.2 percent in March. The share of workers employed part time for economic reasons also moved down, but the rate of long-duration unemployment remained elevated. Private nonfarm employment rose at a slower pace in March than in the preceding three months, while total government employment was little changed in recent months after declining last year. Some indicators of job openings and firms' hiring plans improved. After being roughly flat over most of the intermeeting period, initial claims for unemployment insurance rose moderately toward the end of the period but remained at a level consistent with further moderate job gains in the coming months.

Manufacturing production expanded, on net, in February and March, while the rate of manufacturing capacity utilization was essentially unchanged. In recent months, the production of motor vehicles continued to rise appreciably in response to both higher vehicle sales and dealers' additions to relatively low levels of inventories; output gains in other industries also were solid and widespread. Motor vehicle assemblies were scheduled to step up further in the second quarter, and broader indicators of manufacturing activity, such as the diffusion indexes of new orders from the national and regional manufacturing surveys, were at levels consistent with moderate increases in factory output in the second quarter.

Real personal consumption expenditures (PCE) rose briskly in February, even though households' real disposable incomes declined. In March, nominal retail sales excluding purchases of motor vehicles increased solidly, while motor vehicle sales fell off a little from their brisk pace in the previous month. Consumer sentiment was little changed, on balance, in March and early April and remained subdued.

Some measures of home prices rose in January and February, but activity in the housing market continued to be held down by the large inventory of foreclosed and distressed properties and by tight underwriting standards for mortgage loans. Starts of new single-family homes fell back in February and March to a level more in line with permit issuance; starts were apparently boosted by unseasonably warm weather in December and January. Moreover, sales of new and existing homes edged down, on net, in recent months.

Real business expenditures on equipment and software appeared to rise modestly in the first quarter. Nominal shipments of nondefense capital goods excluding aircraft increased in February and March after declining in January; new orders for these capital goods increased, on balance, in February and March, and they continued to run above the level of shipments. The buildup of unfilled orders in recent months, along with improvements in survey measures of capital spending plans and some other forward-looking indicators, pointed toward a pickup in the pace of expenditures for business equipment. In contrast, nominal business spending for nonresidential construction declined in January and February. Inventories in most industries looked to be fairly well aligned with sales in recent months, although motor vehicle stocks were still relatively lean.

Data for federal government spending in recent months indicated that real defense expenditures rose modestly in the first quarter. Real state and local government purchases appeared to be about flat last quarter, as the payrolls of these governments edged up in the first quarter and their nominal construction spending declined slightly, on net, in January and February.

The U.S. international trade deficit narrowed in February as exports rose and imports fell. The export gains were concentrated in services. Exports of goods declined largely because of a decrease in exports of automotive products. The drop in imports reflected significant declines in imports of petroleum products, automotive products, capital goods, and consumer goods. Imports from China were especially weak, which may in part reflect seasonal adjustment issues related to the timing of the Chinese New Year.

Overall U.S. consumer prices, as measured by the PCE price index, rose at a somewhat faster rate in February than in the preceding six months. In March, prices measured by the consumer price index increased at that same faster pace. Consumer energy prices climbed markedly in February and March, although survey data indicated that gasoline prices stepped down in the first half of April. Meanwhile, increases in consumer food prices were relatively subdued in recent months. Consumer prices excluding food and energy rose moderately in February and March. Near-term inflation expectations from the Thomson Reuters/University of Michigan Surveys of Consumers increased in March but then fell back in early April, while longer-term inflation expectations in the survey remained stable.

Available measures of labor compensation indicated that nominal wage gains continued to be muted. Average hourly earnings for all employees rose modestly in March, and their rate of increase from 12 months earlier remained low.

Recent indicators suggested that foreign economic activity improved on balance in the first quarter, but there were important differences across economies. In the euro area, economic indicators pointed to weakening activity as financial stresses worsened, whereas in the emerging market economies, recent data were consistent with continued expansion. Readings on foreign inflation eased, although they were still relatively high in some Latin American countries.

Staff Review of the Financial Situation

Broad financial market conditions changed little, on balance, since the March FOMC meeting. However, asset prices fluctuated substantially over the period, apparently in response to the evolving views on the U.S. and global economic outlook and changing expectations regarding the future course of monetary policy.

Yields on nominal Treasury securities moved up early in the period, reportedly as investors read incoming information, including the March FOMC statement and minutes along with the results of the Comprehensive Capital Analysis and Review (CCAR), as suggesting a somewhat stronger economic outlook than previously expected. Over subsequent weeks, however, yields drifted lower in response to disappointing economic news and increased concerns about the strains in Europe. On net, nominal Treasury yields finished the period slightly lower and measures of the expected path for the federal funds rate derived from overnight index swap (OIS) rates moved down.

Conditions in unsecured short-term dollar funding markets were stable over most of the intermeeting period despite the increase in concerns about Europe in the latter part of the period. In secured funding markets, the overnight general collateral Treasury repurchase agreement rate declined for a time late in the period, reportedly in response to the seasonal reduction in Treasury bill issuance in April, but ended the period roughly unchanged.

Broad U.S. stock price indexes followed the general pattern observed across asset markets, rising early in the period on increased investor optimism and then falling later on, to end the period little changed on net. Equity prices of financial institutions increased, reportedly as investors interpreted the first-quarter earnings of several large banking organizations and the results of the CCAR as better than expected. Yields and spreads on investment-grade corporate bonds were about unchanged, but yields and spreads on speculative-grade corporate bonds increased somewhat.

Businesses continued to raise substantial amounts of funds in credit and capital markets over recent months. Bond issuance by financial firms picked up further in March from the strong pace recorded in the previous two months. Domestic nonfinancial firms' bond issuance and growth in commercial and industrial (C&I) loans were robust in the first quarter. Leveraged loan issuance was brisk over this period as well, reportedly supported by investor demand for newly issued collateralized loan obligations as well as by interest from pension funds and other institutional investors. Gross public equity issuance by nonfinancial firms stayed strong in March. In contrast, financial conditions in the commercial real estate (CRE) sector remained strained amid weak fundamentals and tight underwriting conditions, and issuance of commercial mortgage-backed securities in the first quarter of 2012 was below that of a year ago.

With respect to credit to households, developments over the intermeeting period were mixed. Although mortgage rates remained near their historical lows, mortgage refinancing activity was subdued, and conditions in residential mortgage markets continued to be weak. By contrast, consumer credit rose at a solid pace, on balance, in recent months; nonrevolving credit, particularly student loans, expanded. Issuance of consumer asset-backed securities (ABS) edged up in recent months, supported by auto-loan ABS issuance.

Gross issuance of long-term municipal bonds was subdued in the first quarter. The ratio of general obligation municipal bond yields to yields on comparable-maturity Treasury securities was little changed over the intermeeting period, and the average spreads on credit default swaps for debt issued by states declined on net.

Bank credit slowed in March but expanded at a solid pace in the first quarter as a whole. The Senior Loan Officer Opinion Survey on Bank Lending Practices conducted in April indicated that, in the aggregate, domestic banks eased slightly their lending standards on core loans—C&I, real estate, and consumer loans—and experienced somewhat stronger demand for such loans in the first quarter of 2012. C&I loans at domestic banks continued to expand in March, with growth concentrated at large domestic banks. Banks' holdings of closed-end residential mortgage loans expanded, while home equity loans and CRE loans continued to decline. Consumer loans on banks' books rose modestly in March.

M2 expanded at a moderate pace in March, reflecting growth in liquid deposits and currency that was only partially offset by declines in small time deposits and in balances in retail money market funds.

Financial strains within the euro area increased over the intermeeting period. Spreads of yields on sovereign Italian and Spanish debt over those on comparable-maturity German bonds rose, amid official warnings that Spain would miss its fiscal target for this year and would need to make further budget cuts, as well as renewed concerns in the market about the prospects for Spanish banks. Although the spread of the three-month euro London interbank offered rate over the comparable OIS rate narrowed on balance over the period, euro-area bank equity indexes dropped sharply, driven by declines in the share prices of Spanish and Italian banks. Five-year credit default swap premiums rose for a broad range of euro-area banks, especially Spanish banks.

Against the background of these increased stresses within the euro area, foreign equity indexes declined and corporate credit spreads widened. The staff's broad nominal index of the foreign exchange value of the dollar was about unchanged over the intermeeting period as the dollar appreciated against most emerging market currencies but depreciated moderately against the yen and sterling. Amid some volatility, yields on benchmark sovereign bonds for Germany and Japan ended the period somewhat lower. Monetary policy abroad remained generally accommodative.

The total outstanding amount on the Federal Reserve's dollar liquidity swap lines declined to $32 billion, down from $65 billion at the time of the March FOMC meeting; demand for dollars fell at the lending operations of the European Central Bank, the Bank of Japan, and the Swiss National Bank.

Staff Economic Outlook

In the economic forecast prepared for the April FOMC meeting, the staff revised up slightly its near-term projection for real gross domestic product (GDP) growth, reflecting that the unemployment rate was a little lower, the level of overall payroll employment a bit higher, and consumer spending noticeably stronger than the staff had expected at the time of the previous forecast. However, the staff's medium-term projection for real GDP growth in the April forecast was little changed from the one presented in March. The staff continued to project that real GDP would accelerate gradually through 2014, supported by accommodative monetary policy, further improvements in credit availability, and rising consumer and business sentiment. Increases in economic activity were expected to be sufficient to decrease the wide margin of slack in the labor market slowly over the projection period, but the unemployment rate was anticipated to still be elevated at the end of 2014.

The staff's forecast for inflation over the projection period was just a bit above the forecast prepared for the March FOMC meeting, reflecting somewhat higher-than-expected data on core consumer prices and a slightly narrower margin of economic slack than in the March forecast. However, with the pass-through of the recent run-up in crude oil prices into consumer energy prices seen as nearly complete, oil prices expected to edge lower from current levels, substantial resource slack persisting over the projection period, and stable long-run inflation expectations, the staff continued to forecast that inflation would be subdued through 2014.

Participants' Views on Current Conditions and the Economic Outlook

In conjunction with this FOMC meeting, meeting participants—the five members of the Board of Governors and the presidents of the 12 Federal Reserve Banks, all of whom participate in the deliberations of the FOMC—submitted their assessments of real output growth, the unemployment rate, inflation, and the target federal funds rate for each year from 2012 through 2014 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 more detail 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 agreed that the information received since the Committee's previous meeting suggested that the economy continued to expand moderately. Labor market conditions improved in recent months. So far this year, payroll employment had expanded at a faster pace than last year and the unemployment rate had declined further, although it remained elevated. Household spending and business fixed investment continued to expand. There were signs of improvement in the housing sector, but from a very low level of activity. Despite some volatility in financial markets over the intermeeting period, financial conditions in U.S. markets continued to improve; bank credit quality and loan demand both increased. Mainly reflecting the increase in the prices of crude oil and gasoline earlier this year, inflation had picked up somewhat. However, longer-term inflation expectations remained stable.

Participants' assessments of the economic outlook were little changed, with the intermeeting information generally seen as suggesting that economic growth would remain moderate over coming quarters and then pick up gradually. Reflecting the moderate pace of economic growth, most anticipated a gradual decline in the unemployment rate. The incoming information led some participants to become more confident about the durability of the recovery. However, others thought it was premature to infer a stronger underlying trend from the recent positive indicators, since those readings may partially reflect the effects of the mild winter weather or other temporary influences. A number of factors continued to be seen as likely limiting the economic expansion to a moderate pace in the near term; these included slow growth in some foreign economies, prospective fiscal tightening in the United States, slow household income growth, and—notwithstanding some recent signs of improvement—ongoing weakness in the housing market. Participants continued to expect most of the factors restraining economic expansion to ease over time and so anticipated that the recovery would gradually gain strength. The strains in global financial markets, though generally less pronounced than last fall, continued to pose a significant risk to the outlook, and the possibility of a sharp fiscal tightening in the United States was also considered a sizable risk. Most participants anticipated that inflation would fall back from recent elevated levels as the effects of higher energy prices waned, and still expected that inflation subsequently would run at or below the 2 percent rate that the Committee judges to be most consistent with its statutory mandate. However, other participants saw upside risks to the inflation outlook given the recent pickup in inflation and the highly accommodative stance of monetary policy.

In discussing the household sector, meeting participants generally noted that consumer spending continued to expand moderately, notwithstanding high gasoline prices. The recent strengthening in the pace of light motor vehicle sales was attributed to both pent-up demand and the desire for increased fuel efficiency in the wake of higher gasoline prices. Looking forward, increases in household wealth from the rise in equity prices, improving consumer sentiment, and a diminishing drag from household deleveraging were seen as helping to support continued increases in household expenditures, notwithstanding sluggish growth in real disposable income and restrictive fiscal policies.

Recent housing-sector indicators, including sales and starts, suggested some upward movement, but some participants saw the improvement as likely related to unusually warm winter weather in much of the country. Overall, the level of activity in the sector remained depressed. House prices appeared to be stabilizing but had not yet begun to rise in most markets. Most participants anticipated that the housing sector was likely to recover only slowly over time, but a few were more optimistic about the potential for a more rapid housing recovery given reports of stronger demand in some regions and of improved sentiment among builders, as well as signs that recent changes to the Home Affordable Refinance Program were contributing to the refinancing of performing high loan-to-value mortgages.

Reports from business contacts indicated that activity in the manufacturing, energy, and agriculture sectors continued to advance in recent months. Auto production had picked up in light of strengthening demand. Business contacts suggested that sentiment was improving, but many firms remained somewhat cautious in their hiring and investment decisions, with most capital investment being undertaken to improve productivity or gain market share rather than to expand capacity. Reportedly, this caution reflected in part continued uncertainty about the strength and durability of the economic recovery, as well as about government policies.

Participants expected that the government sector would be a drag on economic growth over coming quarters. They generally saw the U.S. fiscal situation also as a risk to the economic outlook; if agreement is not reached on a plan for the federal budget, a sharp fiscal tightening could occur at the start of 2013. Several participants indicated that uncertainty about the trajectory of future fiscal policy could lead businesses to defer hiring and investment. It was noted that agreement on a longer-term plan to address the country's fiscal challenges would help to alleviate uncertainty and consequent negative effects on consumer and business sentiment.

Exports have supported U.S. growth so far this year; however, some participants noted risks to the export picture from economic weakness in Europe or from a more significant slowdown in the pace of expansion in China and emerging Asia.

Labor market conditions continued to improve, although unusually warm weather may have inflated payroll job figures somewhat earlier this year. Contacts in some parts of the country said that highly qualified workers were in short supply; overall, however, wage pressures had been limited so far. The decline in labor force participation, which has been sharpest for younger workers, has been a factor in the nearly 1 percentage point decline in the unemployment rate since last August, a drop that was larger than would have been predicted from the historical relationship between real GDP growth and changes in the unemployment rate. Assessing the extent to which the changes in labor force participation reflect cyclical factors that will be reversed once the recovery picks up, as opposed to changes in the trend rate of participation, was seen as important for understanding unemployment dynamics going forward. One participant cited research suggesting that about half of the decline in labor force participation had reflected cyclical factors, and thus, as participation picks up, unemployment may decline more slowly in coming quarters compared with the recent pace. Another posited that the strength in payroll job growth in recent months may be a one-time reaction to the sharp layoffs in 2008 and 2009 and that future job gains may be somewhat weaker unless the pace of economic growth increases. Participants expressed a range of views on the extent to which the unemployment rate was being boosted by structural factors such as mismatches between the skills of unemployed workers and those being demanded by hiring firms. A few participants acknowledged there could be structural factors at work, but said that in their view, slack remained high and weak aggregate demand was the major reason that unemployment was still elevated. Two noted the possibility that sustained high levels of long-term unemployment could result in higher structural unemployment, an outcome that might be forestalled by increased aggregate demand. A few participants noted that current measures of labor market slack would be overstated if structural factors accounted for a large portion of the current high levels of unemployment. As a result, such measures might be an unreliable guide as to how close the economy was to maximum employment. These participants pointed out that, over time, estimates of the potential level of output have declined, reducing, as a consequence, estimates of the level of economic slack. Some participants cited the recent rise in inflation, abstracting from the direct effect of the rise in energy prices, as supportive of the view that the level of slack was lower than some believe.

Participants judged that, in general, conditions in domestic credit markets had continued to improve since the March FOMC meeting. Bank credit quality and consumer and business loan demand were increasing, although commercial and residential real estate lending remained relatively weak. U.S. equity prices had risen early in the intermeeting period but subsequently declined, ending the period little changed on net; investment-grade corporate bond yields were flat to down slightly and remained at very low levels. Many U.S. financial institutions had been taking steps to bolster their resiliency, including increasing capital levels and liquidity buffers, and reducing their European exposures. A few participants indicated that they were seeing signs that very low interest rates might be inducing some investors to take on imprudent risks in the search for higher nominal returns. In contrast to improved conditions in domestic credit markets, investors' concerns about the sovereign debt and banking situation in the euro area intensified during the intermeeting period. Some participants said they thought the policy actions taken in Europe would most likely ease stress in financial markets, but some expressed the view that a longer-term solution to the banking and fiscal problems in the euro area would require substantial further adjustment in the banking and public sectors. Participants expected that global financial markets would remain focused on the evolving situation in Europe.

Readings on consumer price inflation had picked up somewhat mainly because of increases in oil and gasoline prices earlier in the year. In recent weeks, oil prices had begun to fall and readings from the oil futures market suggested this may continue; non-energy commodity prices had remained relatively stable. Several participants noted that increases in labor costs continued to be subdued. With longer-run inflation expectations well anchored and the unemployment rate elevated, most participants anticipated that after the temporary effect of the rise in oil and gasoline prices had run its course, inflation would be at or below the 2 percent rate that the Committee judges to be most consistent with its mandate. Overall, most participants viewed the risks to their inflation outlook as being roughly balanced. However, some participants saw a risk that inflation pressures could increase as the expansion continued; they pointed to the fact that inflation was currently above target and were skeptical of models that rely on economic slack to forecast inflation partly because of the difficulty in measuring slack, especially in real time. These participants were concerned that maintaining the current highly accommodative stance of monetary policy over the medium run could erode the stability of inflation expectations and risk higher inflation. In this regard, one participant noted the potential risks and costs associated with additional balance sheet actions.

In their discussion of the economic outlook and policy, some participants noted the potential usefulness of simple monetary policy rules, of the type the Committee regularly reviews, as guides for monetary policy decisionmaking and for external communications about policy. These participants suggested that because such rules give an indication of how policy should systematically respond to changes in economic conditions they might help clarify the relationship between appropriate monetary policy and the evolution of the economic outlook. While acknowledging that there could be differences across participants in the type of rules they might favor—for example, one participant expressed a preference for rules based on growth rates rather than output gaps because of measurement issues—a few participants indicated that the likely degree of commonality across participants was suggestive that this might be a promising approach to explore. However, a few other participants were more skeptical. One thought that, while prescriptions from rules might provide useful benchmarks, applying the rules mechanically and with little thought about the embedded assumptions would be counterproductive. Another participant questioned the value of interest rate rules when the policy rate is constrained by the zero lower bound on nominal interest rates and unconventional policy options are being used, but others indicated they believed the rules could be appropriately adjusted to account for these factors. Interest was expressed in examining the usefulness of simple policy rules in a more normal environment, as well as in the current environment in which the policy rate is at the zero lower bound and large-scale asset purchases and the maturity extension program have been implemented. Participants planned to discuss further, at a future meeting, the potential merits and drawbacks of using simple rules as guides to monetary policy decisionmaking and for communications.

Committee Policy Action

Members viewed the information on U.S. economic activity received over the intermeeting period as suggesting that the economy had been expanding moderately and generally agreed that the economic outlook was broadly similar to that at the time of their March meeting. Labor market conditions had improved in recent months, and the unemployment rate had fallen, but almost all of the members saw the unemployment rate as still elevated relative to levels that they viewed as consistent with the Committee's mandate. Growth was expected to be moderate over coming quarters and then to pick up over time. Members expected the unemployment rate to decline gradually. Strains in global financial markets stemming from the sovereign debt and banking situation in Europe continued to pose significant downside risks to economic activity both here and abroad. The possibilities that U.S. fiscal policy would be more contractionary than anticipated and that uncertainty about fiscal policy could lead to a deferral of hiring and investment were other downside risks. Recent readings indicated that inflation remained above the Committee's 2 percent longer-run target, primarily reflecting the increase in oil and gasoline prices seen earlier in the year. With longer-term inflation expectations stable, most members anticipated that the increase in inflation would prove temporary and that subsequently inflation would run at or below the rate that the Committee judges to be most consistent with its mandate. However, one member thought that there were upside risks to inflation, especially if the current degree of highly accommodative monetary policy were maintained much beyond this year.

In their discussion of monetary policy for the period ahead, the Committee members reached the collective judgment that it would be appropriate to maintain the existing highly accommodative stance of monetary policy. In particular, the Committee agreed to keep the target range for the federal funds rate at 0 to ¼ percent, to continue the program of extending the average maturity of the Federal Reserve's holdings of securities as announced last September, and to retain the existing policies regarding the reinvestment of principal payments from Federal Reserve holdings of securities.

With respect to the statement to be released following the meeting, members agreed that only relatively small modifications to the first two paragraphs were needed to reflect the incoming economic data and the modest changes to the economic outlook. With the economic outlook over the medium term not greatly changed, almost all of the members again agreed to indicate that the Committee expects to maintain a highly accommodative stance for monetary policy and currently anticipates that economic conditions—including low rates of resource utilization and a subdued outlook for inflation over the medium run—are likely to warrant exceptionally low levels for the federal funds rate at least through late 2014. Most members continued to anticipate that the unemployment rate would still be well above their estimates of its longer-run level, and inflation would be at or below the Committee's longer-run objective, in late 2014. Some Committee members indicated that their policy judgment reflected in part their perception of downside risks to growth, especially since the Committee's ability to respond to weaker-than-expected economic conditions would be somewhat limited by the constraint imposed on monetary policy when the policy rate is near the zero lower bound. The need to compensate for a substantial period during which the policy rate was constrained by the zero bound was also cited by a few members as a possible reason to maintain a very low level of the federal funds rate for a longer period than would otherwise be the case.

While almost all of the members agreed that the change in the outlook over the intermeeting period was insufficient to warrant an adjustment to the Committee's forward guidance, particularly given the uncertainty surrounding economic forecasts, it was noted that the forward guidance is conditional on economic developments and that the date given in the statement would be subject to revision should there be a significant change in the economic outlook. Some members recalled that gains in employment strengthened in early

2010 and again in early 2011 only to diminish as those years progressed; moreover, the uncertain effects of the unusually mild winter weather were cited as making it harder to discern the underlying trend in the economic data. They viewed these factors as reinforcing the case for leaving the forward guidance unchanged at this meeting and preferred adjusting the forward guidance only once they were more confident that the medium-term economic outlook or risks to the outlook had changed significantly. In contrast, another member thought that the forward guidance should be more responsive to changes in economic developments; that member suggested that the Committee would need to determine the appropriate threshold for altering the guidance.

The Committee also stated that it will regularly review the size and composition of its securities holdings and is prepared to adjust those holdings as appropriate to promote a stronger economic recovery in a context of price stability. Several members indicated that additional monetary policy accommodation could be necessary if the economic recovery lost momentum or the downside risks to the forecast became great enough.

Committee members discussed the desirability of providing more clarity about the economic conditions that would likely warrant maintaining the current target range for the federal funds rate and those that would indicate that a change in monetary policy was appropriate. Doing so might help the public better understand the conditionality in the Committee's forward guidance. The Committee also discussed the relationship between the Committee's statement, which expresses the collective view of the Committee, and the policy projections of individual participants, which are included in the SEP. The Chairman asked the subcommittee on communications to consider possible enhancements and refinements to the SEP that might help better clarify the link between economic developments and the Committee's view of the appropriate stance of monetary policy.

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:

> "The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, 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 continue the maturity extension program it began in September to purchase, by the end of June 2012, Treasury securities with remaining maturities of approximately 6 years to 30 years with a total face value of $400 billion, and to sell Treasury securities with remaining maturities of 3 years or less with a total face value of $400 billion. The Committee also directs the Desk to maintain its existing policies of rolling over maturing Treasury securities into new issues and of reinvesting principal payments on all agency debt and agency mortgage-backed securities in the System Open Market Account in agency mortgage-backed securities in order to maintain the total face value of domestic securities at approximately $2.6 trillion. The Committee directs the Desk to engage in dollar roll transactions as necessary to facilitate settlement of the Federal Reserve's agency MBS transactions. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability."

The vote encompassed approval of the statement below to be released at 12:30 p.m.:

> "Information received since the Federal Open Market Committee met in March suggests that the economy has been expanding moderately. Labor market conditions have improved in recent months; the unemployment rate has declined but remains elevated. Household spending and business fixed investment have continued to advance. Despite some signs of improvement, the housing sector remains depressed. Inflation has picked up somewhat, mainly reflecting higher prices of crude oil and gasoline. However, 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 economic growth to remain mod-

erate over coming quarters then to pick up gradually. Consequently, the Committee anticipates that the unemployment rate will decline gradually toward levels that it judges to be consistent with its dual mandate. Strains in global financial markets continue to pose significant downside risks to the economic outlook. The increase in oil and gasoline prices earlier this year is expected to affect inflation only temporarily, and the Committee anticipates that subsequently inflation will run at or below the rate that it judges most consistent with its dual mandate.

To support a stronger economic recovery and to help ensure that inflation, over time, is at the rate most consistent with its dual mandate, the Committee expects to maintain a highly accommodative stance for monetary policy. In particular, the Committee decided today to keep the target range for the federal funds rate at 0 to ¼ percent and currently anticipates that economic conditions—including low rates of resource utilization and a subdued outlook for inflation over the medium run—are likely to warrant exceptionally low levels for the federal funds rate at least through late 2014.

The Committee also decided to continue its program to extend the average maturity of its holdings of securities as announced in September. The Committee is maintaining its existing policies 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. The Committee will regularly review the size and composition of its securities holdings and is prepared to adjust those holdings as appropriate to promote a stronger economic recovery in a context of price stability."

Voting for this action: Ben Bernanke, William C. Dudley, Elizabeth Duke, Dennis P. Lockhart, Sandra Pianalto, Sarah Bloom Raskin, Daniel K. Tarullo, John C. Williams, and Janet L. Yellen.

Voting against this action: Jeffrey M. Lacker.

Mr. Lacker dissented because he did not believe that economic conditions were likely to warrant exceptionally low levels of the federal funds rate through late 2014. In his view, an increase in the federal funds rate was likely to be necessary by mid-2013 to prevent the emergence of inflationary pressures.

It was agreed that the next meeting of the Committee would be held on Tuesday–Wednesday, June 19–20, 2012. Because some participants had expressed a preference for the two-day format over the one-day format for FOMC meetings, the Chairman raised the possibility of revising the FOMC meeting schedule to incorporate more two-day meetings to allow additional time for discussion. The meeting adjourned at 11:10 a.m. on April 25, 2012.

Notation Vote

By notation vote completed on April 2, 2012, the Committee unanimously approved the minutes of the FOMC meeting held on March 13, 2012.

William B. English
Secretary

Summary of Economic Projections

In conjunction with the April 24–25, 2012, Federal Open Market Committee (FOMC) meeting, meeting participants—the members of the Board of Governors and the presidents of the Federal Reserve Banks, all of whom participate in the deliberations of the FOMC—submitted their assessments of real output growth, the unemployment rate, inflation, and the target federal funds rate for each year from 2012 through 2014 and over the longer run, under each participant's judgment of appropriate monetary policy. These assessments were based on information available at the time of the meeting and participants' individual assumptions about factors likely to affect economic outcomes. 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. "Appropriate monetary policy" is defined as the future path of policy that participants deem most likely to foster outcomes for economic activity and inflation that best satisfy their individual interpretations of the Federal Reserve's objectives of maximum employment and stable prices.

Overall, the assessments that FOMC participants submitted in April indicated that, with appropriate monetary policy, the pace of economic recovery over the 2012–14 period would likely continue to be moderate. As depicted in figure 1, participants judged that real gross domestic product (GDP) would rise this year at a rate that slightly exceeds their estimates of its longer-run sustainable rate of increase, and then accelerate gradually through 2014. Taking into account the decline in the unemployment rate since the time of the previous Summary of Economic Projections (SEP) in January, participants generally anticipated only a small further reduction in the unemployment rate this year. They judged that the unemployment rate would then gradually move lower as economic growth picks up. Even so, participants generally projected that the unemployment rate at the end of 2014 would still be well above their estimates of the longer-run rate of unemployment that they currently view as being consistent with the FOMC's statutory mandate for promoting maximum employment and price stability. Most participants judged that inflation, as measured by the annual change in the price index for personal consumption expenditures (PCE), would be at or below the FOMC's long-run inflation objective of 2 percent under the assumption of appropriate monetary policy. Core inflation was generally projected to run at rates similar to those of overall inflation.

Relative to their previous projections in January, shown in table 1, participants revised up their projected rate of increase in real GDP in 2012 while marking down the pace of real growth over the next two years. With the unemployment rate having declined in recent months

Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, April 2012
Percent

Variable	Central tendency[1]				Range[2]			
	2012	2013	2014	Longer run	2012	2013	2014	Longer run
Change in real GDP	2.4 to 2.9	2.7 to 3.1	3.1 to 3.6	2.3 to 2.6	2.1 to 3.0	2.4 to 3.8	2.9 to 4.3	2.2 to 3.0
January projection	2.2 to 2.7	2.8 to 3.2	3.3 to 4.0	2.3 to 2.6	2.1 to 3.0	2.4 to 3.8	2.8 to 4.3	2.2 to 3.0
Unemployment rate	7.8 to 8.0	7.3 to 7.7	6.7 to 7.4	5.2 to 6.0	7.8 to 8.2	7.0 to 8.1	6.3 to 7.7	4.9 to 6.0
January projection	8.2 to 8.5	7.4 to 8.1	6.7 to 7.6	5.2 to 6.0	7.8 to 8.6	7.0 to 8.2	6.3 to 7.7	5.0 to 6.0
PCE inflation	1.9 to 2.0	1.6 to 2.0	1.7 to 2.0	2.0	1.8 to 2.3	1.5 to 2.1	1.5 to 2.2	2.0
January projection	1.4 to 1.8	1.4 to 2.0	1.6 to 2.0	2.0	1.3 to 2.5	1.4 to 2.3	1.5 to 2.1	2.0
Core PCE inflation[3]	1.8 to 2.0	1.7 to 2.0	1.8 to 2.0		1.7 to 2.0	1.6 to 2.1	1.7 to 2.2	
January projection	1.5 to 1.8	1.5 to 2.0	1.6 to 2.0		1.3 to 2.0	1.4 to 2.0	1.4 to 2.0	

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 January projections were made in conjunction with the meeting of the Federal Open Market Committee on January 24–25, 2012.

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, 2012–14 and over the longer run

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

by more than participants had anticipated in the previous SEP, they generally lowered their projections for the level of the unemployment rate over coming years. Participants' expectations for both the longer-run rate of increase in real GDP and the longer-run unemployment rate were little changed from January. Their projection for the rate of inflation in 2012 moved up since January, reportedly in light of the recent increases in the prices of crude oil and gasoline, with much smaller increases in their projections for 2013 and 2014. The range and central tendency of the projections of longer-run inflation remained equal to 2 percent.

As shown in figure 2, most participants judged that highly accommodative monetary policy was likely to be warranted over coming years to promote a stronger economic recovery in the context of price stability. In particular, with inflation generally projected to be subdued over the projection period and the unemployment rate elevated, 11 participants thought that it would be appropriate for the first increase in the target federal funds rate to occur during 2014 or later, the same number as in the January SEP (upper panel). However, in contrast to their assessments in January, none of the participants indicated that 2016 was the appropriate year to first increase the target federal funds rate. The remaining 6 participants judged that it would be appropriate to raise the federal funds rate in 2012 or 2013 in order to avoid a buildup of inflationary pressures or the creation of imbalances in the financial system. Each participant's individual assessment of the appropriate year-end level of the target federal funds rate over the projection period was substantially below his or her projection of the longer-run level of the federal funds rate (lower panel). In addition, 9 participants placed the target federal funds rate at 1 percent or lower at the end of 2014.

All participants indicated that they expected the Federal Reserve's balance sheet would be normalized in a manner consistent with the principles that the FOMC agreed on at its June 2011 meeting, with the date that participants gave for the onset of the normalization process dependent on their expected timing of the first increase in the target federal funds rate. One participant reported that appropriate policy would include additional balance sheet actions in the near term to mitigate downside risks to economic growth.

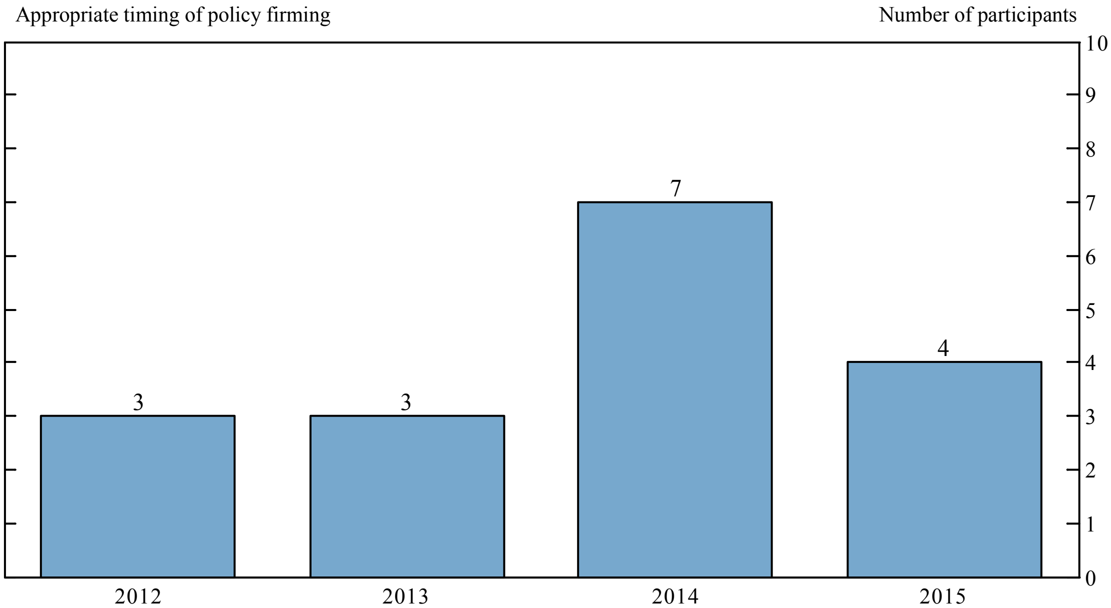
Most participants judged the level of uncertainty associated with their projections for real activity, the unemployment rate, and inflation to be unusually high relative to historical norms, although the number of participants doing so declined somewhat since the January SEP. About half of the participants now see the risks to real GDP growth as weighted to the downside and those to the unemployment rate as weighted to the upside, also down somewhat from the previous SEP. As in January, a majority of participants viewed the risks to their inflation projections as broadly balanced.

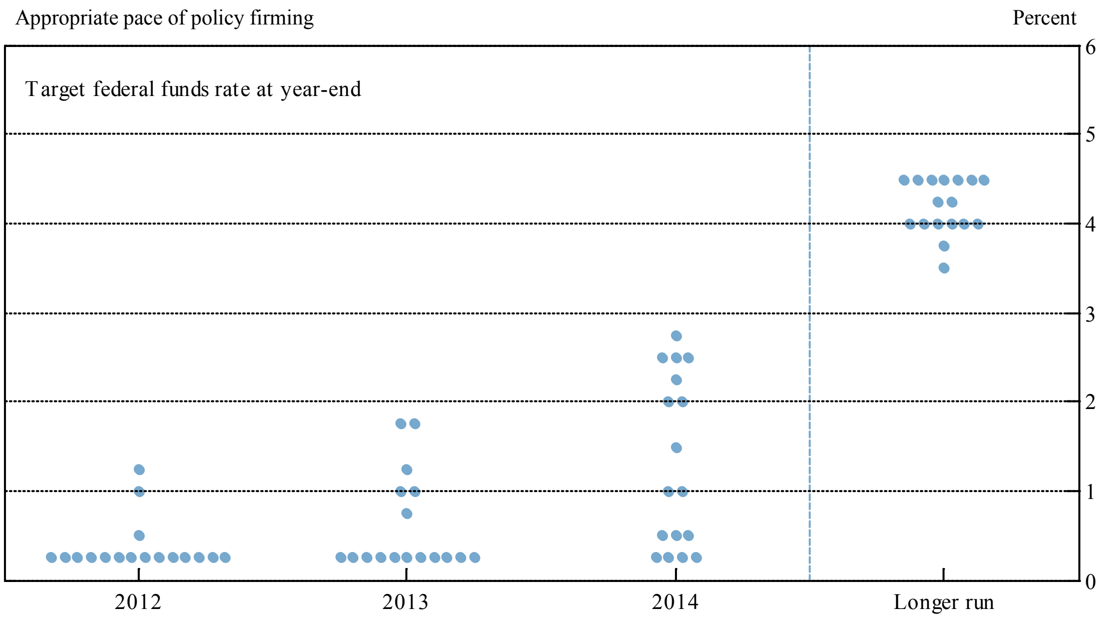
The Outlook for Economic Activity

Under appropriate monetary policy, participants continued to judge that the economy would expand at a moderate pace over the projection period. The central tendency of participants' projections for the change in real GDP growth in 2012 was 2.4 to 2.9 percent, a bit higher than in January. Growth at this rate would be a noticeable pickup from the pace of expansion in 2011 and a little above most participants' assessments of trend growth over the longer run. Most participants characterized the incoming data on consumer spending—especially for motor vehicles—as being at least somewhat stronger than had been anticipated in January, and several also pointed to some encouraging signs in recent readings on housing activity. A few participants indicated they had seen some improvements in household and business confidence. Participants projected that real GDP growth would pick up gradually over the 2013–14 period. Economic growth would be supported by monetary policy accommodation as well as some gradual improvements in credit conditions, the housing sector, and household balance sheets. The central tendencies of participants' projections of real growth in 2013 and 2014 were 2.7 to 3.1 percent and 3.1 to 3.6 percent, respectively, down somewhat from the central tendencies of the January projections. The central tendency of participants' projections for the longer-run rate of increase of real GDP was 2.3 to 2.6 percent, unchanged from January.

Participants cited several factors that would likely continue to restrain the pace of economic expansion over the projection period. In particular, tighter fiscal policy seemed likely to impart a significant drag on economic activity for a time. Moreover, uncertainty about the fiscal environment could hold back both household spending on durable goods and business capital expenditures. In addition, some participants noted that the recent stronger data might reflect temporary factors. For example, the pace of consumer spending was seen as likely to fall back some and be more in line with that of disposable personal income, and federal outlays were not expected to continue at their recent pace. Moreover, a couple of participants also pointed to the unseasonably warm winter weather as a possible con-

Figure 2. Overview of FOMC participants' assessments of appropriate monetary policy, April 2012





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 ¼ percent will occur in the specified calendar year. In January 2012, the numbers of FOMC participants who judged that the first increase in the target federal funds rate would occur in 2012, 2013, 2014, 2015, and 2016 were, respectively, 3, 3, 5, 4, and 2. In the lower panel, each shaded circle indicates the value (rounded to the nearest ¼ percent) 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.

tributor to the more favorable tone to the recent incoming data.

Most participants marked down their projections for the rate of unemployment over the projection period. The unemployment rate had declined from 8.7 percent, on average, in the final quarter of last year to 8.2 percent at the end of the first quarter of 2012, more than most participants anticipated when they prepared their January projections. With real GDP expected to increase at a moderate pace, the unemployment rate was projected to decline only a bit further this year, with the central tendency of participants' forecasts at 7.8 to 8.0 percent at year-end. Participants projected that in 2013 and 2014, the pickup in the pace of the expansion would be accompanied by a further gradual improvement in labor market conditions. The central tendency of participants' forecasts for the unemployment rate was 7.3 to 7.7 percent at the end of 2013 and 6.7 to 7.4 percent at the end of 2014. The central tendency of participants' estimates of the longer-run normal rate of unemployment that would prevail in the absence of further shocks to the economy was 5.2 to 6.0 percent, unchanged from January. Most participants anticipated that five or six years would be required to close the gap between the current unemployment rate and their estimates of the longer-run rate, although a few anticipated that less time would be needed.

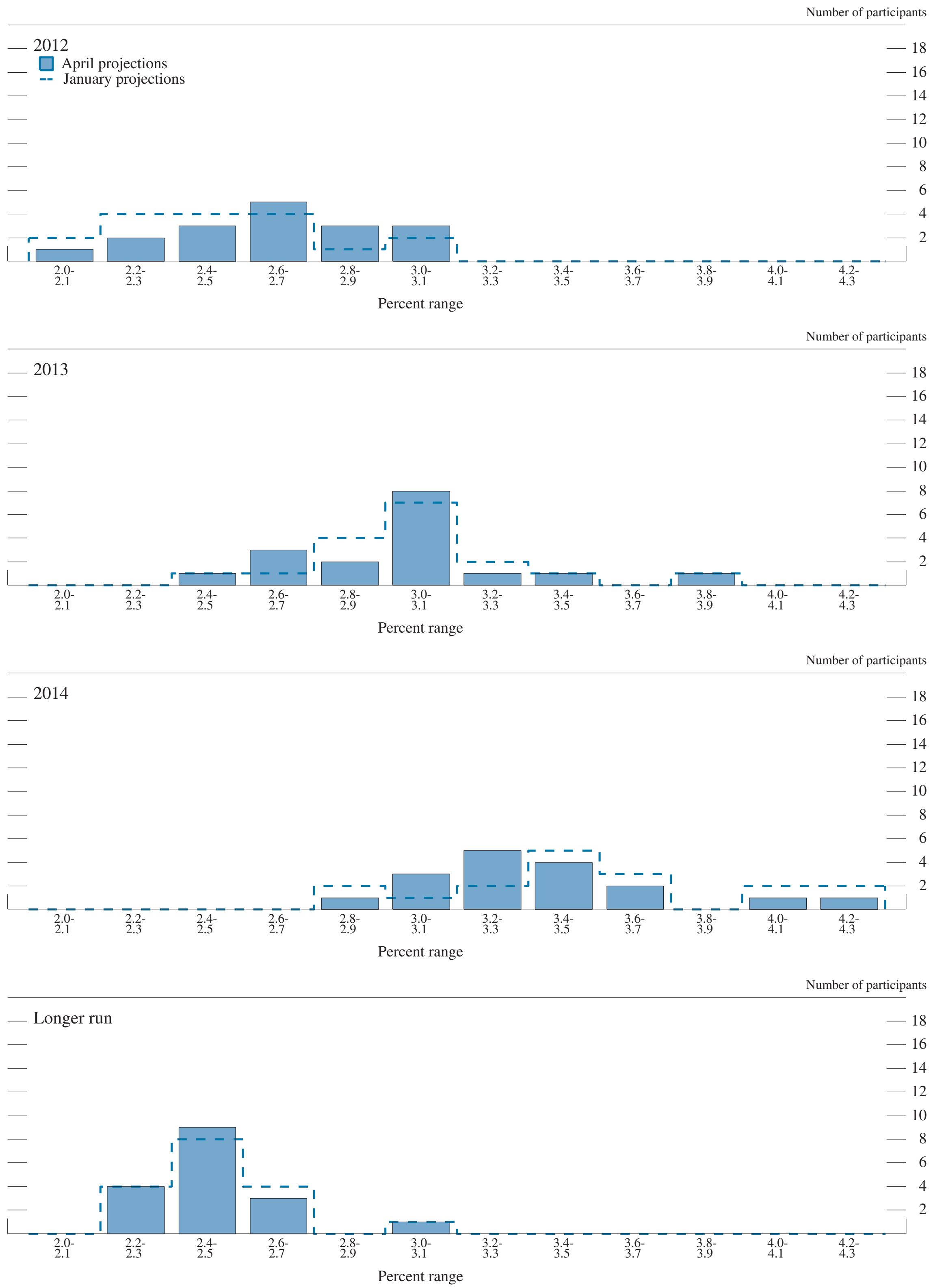
The diversity of participants' projections for real GDP growth and the unemployment rate over the next three years and over the longer run is depicted in figures 3.A and 3.B. The dispersion in these projections reflects differences in participants' assessments of many factors, including appropriate monetary policy and its effects on the economy, the underlying momentum in economic activity, the likely evolution of credit and financial market conditions, the prospective path for U.S. fiscal policy, the effects of the European situation, and the extent to which current dislocations in the labor market were structural versus cyclical. Given the decline in the rate of unemployment in the first quarter, the distribution of participants' projections of this variable for the fourth quarter of 2012 shifted noticeably lower, and the range of these projections became considerably narrower, relative to the January assessments. The distributions of the unemployment rate projections for 2013 and 2014 exhibited less pronounced shifts toward lower rates. Participants made only minor adjustments to their projections of the rates of output growth and unemployment over the longer run, leaving the dispersions of their projections for both little changed. As in January, the dispersion of estimates for the longer-run rate of output growth is fairly narrow, with only one participant's estimate outside of a range of 2.2 to 2.7 percent. By comparison, participants' views about the level to which the unemployment rate would converge in the longer run are more diverse, reflecting, among other things, different views on the outlook for labor supply and the structure of the labor market.

The Outlook for Inflation

Participants' views about the outlook for inflation generally firmed a little since January. In particular, a majority of participants indicated that the incoming readings on inflation, especially for the prices of crude oil and gasoline, were a little higher than had been anticipated. Nonetheless, assuming no further shocks, most participants judged that both headline and core inflation would remain subdued over the 2012–14 period, running at rates at or below the FOMC's longer-run objective of 2 percent under the assumption of appropriate monetary policy. Participants pointed to several factors that would help restrain inflation pressures over the projection period, including expected declines in commodity prices, modest increases in business costs, and the ongoing stability of inflation expectations. Specifically, the central tendency of participants' projections for inflation, as measured by the PCE price index, moved up in 2012 to 1.9 to 2.0 percent, and it edged up in 2013 and 2014 to 1.6 to 2.0 percent and 1.7 to 2.0 percent, respectively; the central tendencies of the forecasts for core PCE inflation were very close to those for the total measure. Participants indicated that it would take about five or six years, or less, for inflation to converge to its longer-run level.

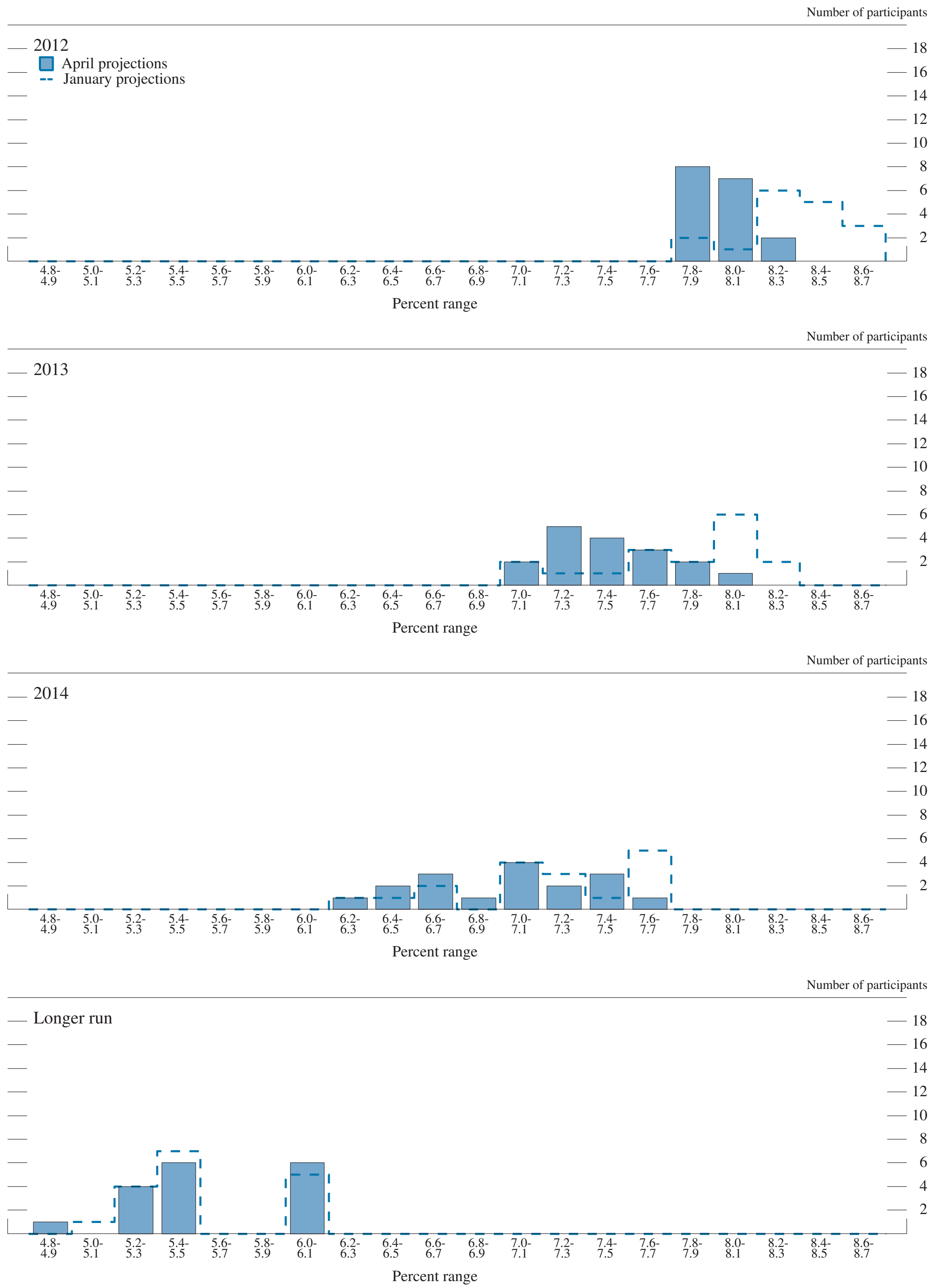
Information about the diversity of participants' views regarding the outlook for inflation is provided in figures 3.C and 3.D. Relative to the assessments that were compiled in January and reflecting the recent incoming data, the projections for inflation shifted higher in 2012 and exhibited a noticeably narrower range. The dispersion of inflation projections also narrowed in 2013, although to a lesser degree, and was little changed in 2014. In general, the dispersion of views on the outlook for inflation over the projection period represented differences in judgments regarding a range of issues, including the current degree of slack in resource utilization and the extent to which such slack influences inflation and inflation expectations. In addition, participants differed in their estimates of how the stance of monetary policy would influence inflation expectations.

Figure 3.A. Distribution of participants' projections for the change in real GDP, 2012–14 and over the longer run



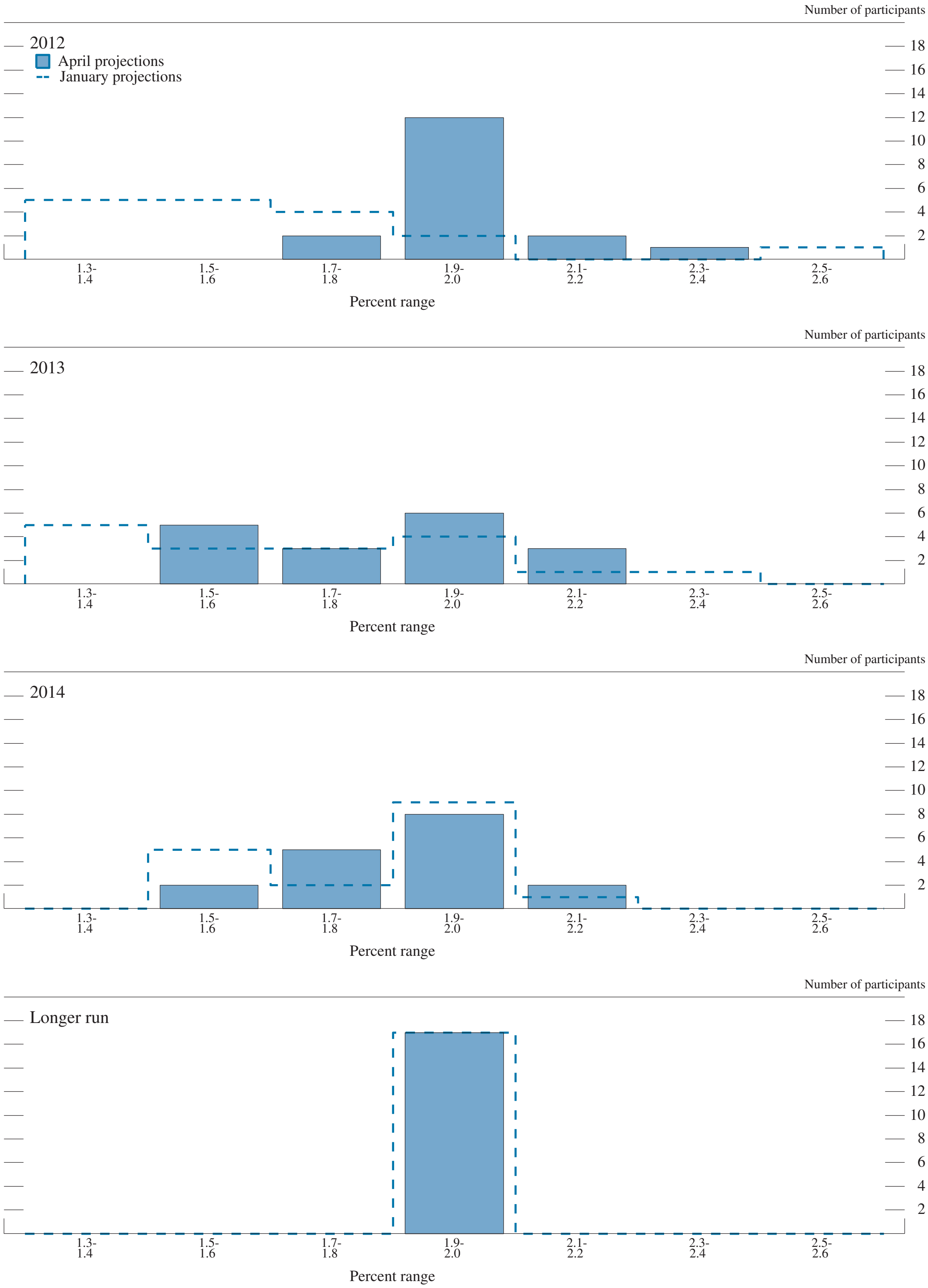
NOTE: Definitions of variables are in the general note to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2012–14 and over the longer run



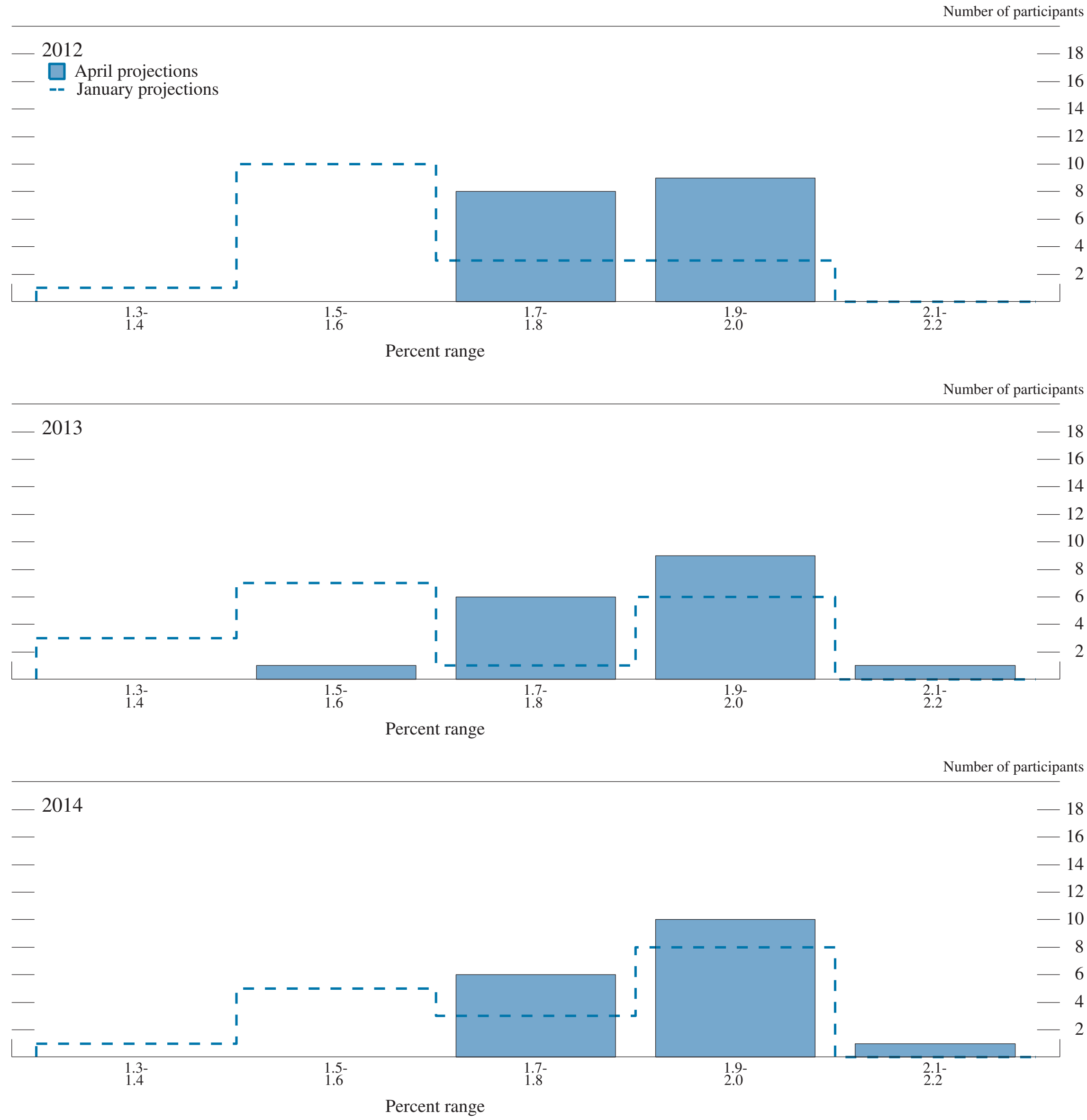
NOTE: Definitions of variables are in the general note to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2012–14 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, 2012–14



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

Appropriate Monetary Policy

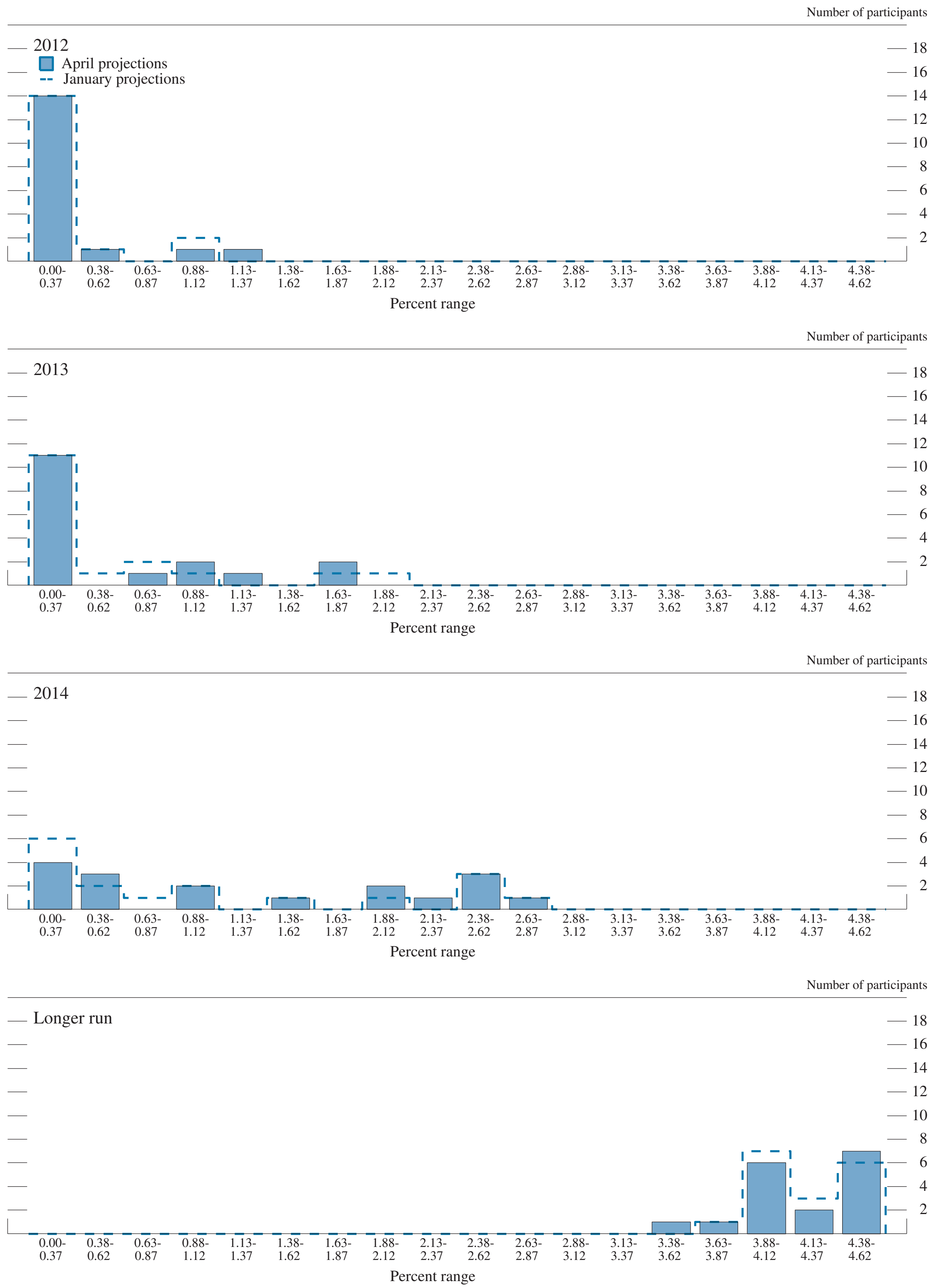
About half of the participants judged that exceptionally low levels of the federal funds rate would remain appropriate at least until late 2014. In particular, seven participants viewed appropriate policy firming as commencing during 2014, while four others judged that the first increase in the target federal funds rate would not be warranted until 2015. Nine participants anticipated that the appropriate federal funds rate at the end of 2014 would be 1 percent or lower. Those who saw the first increase occurring in 2015 anticipated that the federal funds rate would be either 1 percent or 1½ percent at the end of that year. In contrast, six participants judged that an increase in the target federal funds rate would be appropriate in 2012 or 2013, and those participants anticipated that the target rate would need to be increased to around 2 to 2¾ percent by the end of 2014. All participants reported levels for the appropriate target federal funds rate at the end of 2014 that were well below their estimates of the level expected to prevail in the longer run. Participants' estimates of the longer-run target federal funds rate ranged from 3½ to 4½ percent, reflecting the Committee's inflation objective of 2 percent and participants' individual judgments about the longer-run equilibrium level of the real federal funds rate.

Several key factors informed participants' individual expectations about the appropriate setting for monetary policy, including their assessments of the maximum level of employment, the Committee's longer-run inflation objective, the extent to which current conditions had deviated from these mandate-consistent levels and why the deviations had arisen, and their projections of the likely time periods required to return employment and inflation to levels they judge to be most consistent with the Committee's mandate. Several participants commented that their assessments took into account the risks and uncertainties associated with their outlooks for economic activity and inflation, and one pointed specifically to the potential effects of a protracted period of very low interest rates on financial stability. Participants also noted that because the appropriate stance of monetary policy depends importantly on the evolution of real activity and inflation over time, their assessments of the appropriate future path of the federal funds rate would change if economic conditions were to evolve in an unexpected manner.

Participants also provided qualitative information on their views regarding the appropriate path of the Federal Reserve's balance sheet. All participants expect that the Committee would carry out the normalization of the balance sheet according to the principles approved at the June 2011 FOMC meeting. That is, prior to the first increase in the federal funds rate, the Committee would likely cease reinvesting some or all principal payments on securities in the System Open Market Account (SOMA), and it would likely begin sales of agency securities from the SOMA sometime after the first rate increase, aiming to eliminate the SOMA's holdings of agency securities over a period of three to five years. In general, the participants linked their preferred start dates for the normalization process to their views for the appropriate timing for the first increase in the target federal funds rate. Two participants judged that once begun, asset sales should proceed relatively quickly, while one participant's assessment of appropriate monetary policy incorporated an expansion of the maturity extension program in the near term. In addition, some participants indicated that they remained open to considering additional policy-related adjustments to the balance sheet if the economic outlook deteriorated.

The distribution of participants' judgments regarding the appropriate level of the target federal funds rate at the end of each calendar year from 2012 to 2014 and over the longer run is presented in figure 3.E. Participants' views on the appropriate level of the federal funds rate at the end of 2014 continued to be relatively widely dispersed, with seven participants seeing the appropriate level of the federal funds rate at that time as most likely to be 50 basis points or less and seven seeing the appropriate rate as 2 percent or higher. Relative to the other participants, the group of participants who judged that a longer period of exceptionally low levels of the federal funds rate would be appropriate tended to include those who anticipated a somewhat more gradual increase in the pace of the economic expansion and a slower decline in the unemployment rate over the projection period. Some of these participants also mentioned their assessment that a longer period of exceptionally low federal funds rates is appropriate when the federal funds rate has previously been constrained by its effective lower bound. In contrast, the six participants who judged that policy firming should begin in 2012 or 2013 included some who projected a somewhat faster pickup in economic activity over the near term. Participants seeing an earlier increase in the target federal funds rate tended to indicate that the Committee would need to begin removing policy accommodation relatively soon in order to keep inflation at mandate-consistent levels and to limit the risk of undermining the Federal Reserve's credibility and caus-

Figure 3.E. Distribution of participants' projections for the target federal funds rate, 2012–14 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.

ing a rise in inflation expectations. One of these participants also stressed the risk of distortions in the financial system from an extended period of exceptionally low interest rates.

Uncertainty and Risks

Most participants judged that their projections for real GDP growth and the unemployment rate were subject to a higher level of uncertainty than was the norm during the previous 20 years (figure 4).[1] However, the number reporting elevated uncertainty moved down somewhat relative to the January SEP. Many participants also judged the levels of uncertainty associated with their inflation forecasts to be higher than the longer-run historical norm, but such an assessment continued to be somewhat less prevalent among participants than was the case for uncertainty about real activity. Several factors were said to be contributing to the elevated level of uncertainty about the economic outlook, including ongoing developments regarding the fiscal and financial situation in Europe. Many participants also cited considerable uncertainty about U.S. fiscal policy over coming quarters and its potential implications for economic activity. More broadly, participants again noted difficulties in projecting the path of the economic recovery because deep recessions brought on by severe financial crises differed importantly from most historical experience. In that regard, participants continued to be uncertain about the pace at which credit conditions would improve and about the prospects for recovery in the housing sector. In addition, participants generally saw the longer-term outlook for fiscal and regulatory policies as still highly uncertain. Some participants also expressed uncertainty about the extent to which the labor market was undergoing structural changes. Among the sources of uncertainty about the outlook for inflation were the difficulties in assessing the current and prospective margins of slack in resource markets and the effect of such slack on prices. Participants also cited uncertainty about the future path of global commodity prices, which were seen as depending on idiosyncratic supply and demand factors as well as on global growth.

Table 2. Average historical projection error ranges
Percentage points

Variable	2012	2013	2014
Change in real GDP[1]	±1.1	±1.6	±1.7
Unemployment rate[1]	±0.5	±1.2	±1.7
Total consumer prices[2]	±0.8	±1.0	±1.0

NOTE: Error ranges shown are measured as plus or minus the root mean squared error of projections for 1992 through 2011 that were released in the spring 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 is 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).

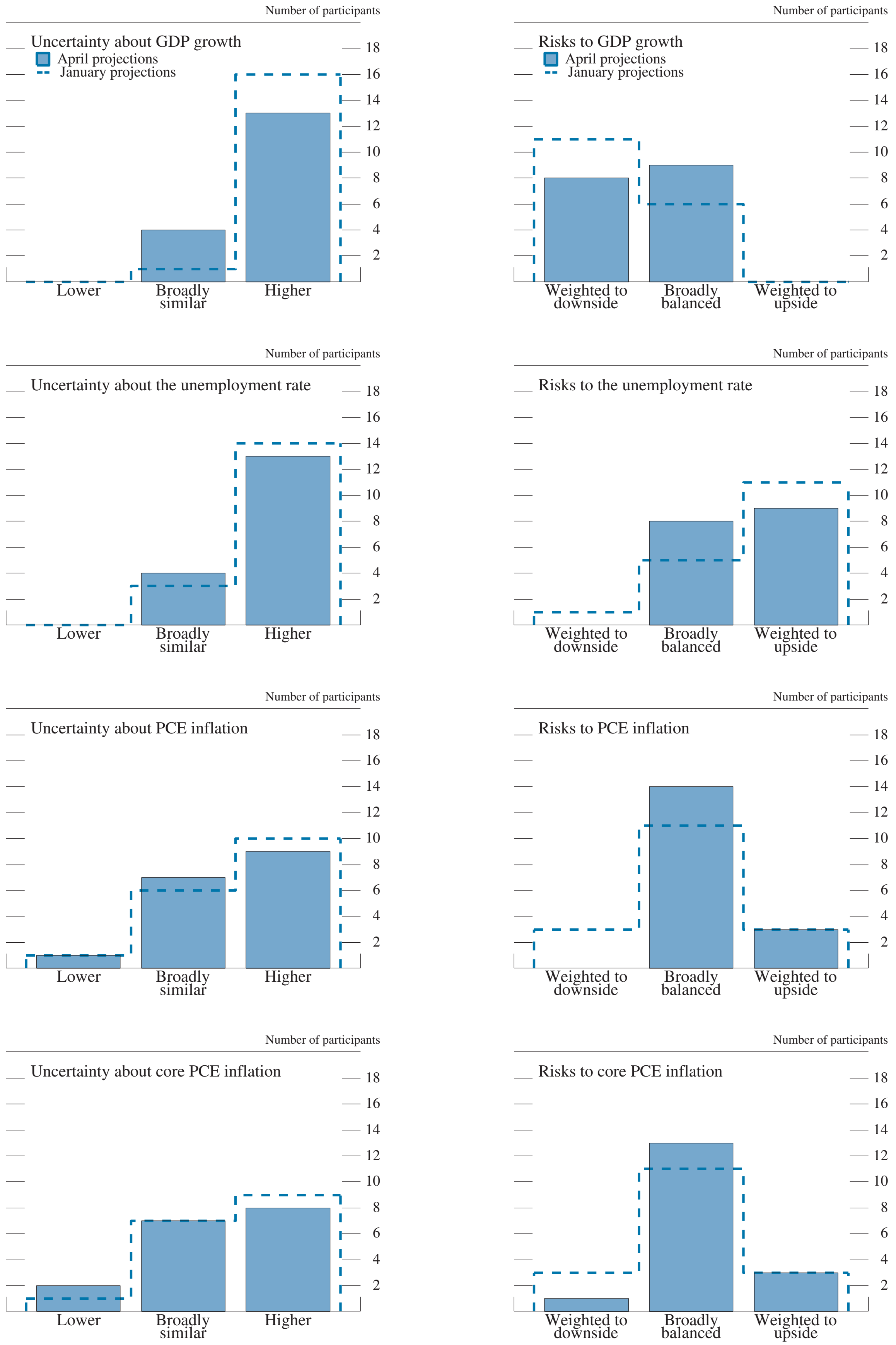
1. For definitions, refer to general note in table 1.

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.

Turning to the balance of risks that participants attached to their economic projections, about half reported that they judged the risks to their forecasts of both real GDP growth and the unemployment rate as broadly balanced, a few more than was the case in January. Nearly all of the remaining participants viewed the risks to real GDP growth as weighted to the downside and the risks to the unemployment rate as skewed to the upside. Participants identified several downside risks to the projected pace of economic expansion, including the fiscal and financial strains in the euro area and the possibility of an abrupt fiscal consolidation in the United States. In addition, some of the factors that had restrained the U.S. recovery in recent years could persist for longer than currently expected and thus weigh on economic activity to a greater extent going forward than participants had assumed in their baseline forecasts. In particular, some participants mentioned the downside risks to consumer spending in light of meager gains in disposable personal income and households' still-weak balance sheets. Others cited the possible damping effects of high levels of uncertainty regarding regulatory policies on businesses' willingness to invest and hire. A few participants noted the risk of another disruption in global oil markets or greater tensions in the Middle East that could not only boost inflation but also reduce real incomes, consumer confidence, and spending. Some of the participants who judged the risks to be broadly balanced recognized some of these downside risks to the outlook, but they saw them as about counterbalanced by the chance that the recent signs of improvement in labor markets and

[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 1992 to 2011. 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 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.

consumer spending could signal the emergence of a more vigorous recovery.

Most participants judged the risks to their projections of inflation as broadly balanced, including a few more than held that view in January. However, a few saw the risks as tilted to the upside, pointing to the possibility of disruptions in global oil and commodity markets or to effects from the current stance of monetary policy. Two of these participants indicated that the current highly accommodative stance of monetary policy and the substantial liquidity currently in the financial system risked a pickup in inflation to a level above the Committee's longer-run objective, or cited the risk that uncertainty about the Committee's ability to effectively remove policy accommodation when appropriate could lead to a rise in inflation expectations.

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 1.9 to 4.1 percent in the current year, 1.4 to 4.6 percent in the second year, and 1.3 to 4.7 percent in the third year. The corresponding 70 percent confidence intervals for overall inflation would be 1.2 to 2.8 percent in the current year and 1.0 to 3.0 percent in the second and third 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.