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Monetary Policy Report

July 15, 2014

Board of Governors of the Federal Reserve System

Letter of Transmittal

Board of Governors of the
Federal Reserve System

Washington, D.C., July 15, 2014

The President of the Senate
The Speaker of the House of Representatives

The Board of Governors is pleased to submit its *Monetary Policy Report* pursuant to section 2B of the Federal Reserve Act.

Sincerely,

Janet L. Yellen

Janet L. Yellen, Chair

Statement on Longer-Run Goals and Monetary Policy Strategy

As amended effective January 28, 2014

The Federal Open Market Committee (FOMC) is firmly committed to fulfilling its statutory mandate from the Congress of promoting maximum employment, stable prices, and moderate long-term interest rates. The Committee seeks to explain its monetary policy decisions to the public as clearly as possible. Such clarity facilitates well-informed decisionmaking by households and businesses, reduces economic and financial uncertainty, increases the effectiveness of monetary policy, and enhances transparency and accountability, which are essential in a democratic society.

Inflation, employment, and long-term interest rates fluctuate over time in response to economic and financial disturbances. Moreover, monetary policy actions tend to influence economic activity and prices with a lag. Therefore, the Committee's policy decisions reflect its longer-run goals, its medium-term outlook, and its assessments of the balance of risks, including risks to the financial system that could impede the attainment of the Committee's goals.

The inflation rate over the longer run is primarily determined by monetary policy, and hence the Committee has the ability to specify a longer-run goal for inflation. The Committee reaffirms its judgment that inflation at the rate of 2 percent, as measured by the annual change in the price index for personal consumption expenditures, is most consistent over the longer run with the Federal Reserve's statutory mandate. Communicating this inflation goal clearly to the public helps keep longer-term inflation expectations firmly anchored, thereby fostering price stability and moderate long-term interest rates and enhancing the Committee's ability to promote maximum employment in the face of significant economic disturbances.

The maximum level of employment is largely determined by nonmonetary factors that affect the structure and dynamics of the labor market. These factors may change over time and may not be directly measurable. Consequently, it would not be appropriate to specify a fixed goal for employment; rather, the Committee's policy decisions must be informed by assessments of the maximum level of employment, recognizing that such assessments are necessarily uncertain and subject to revision. The Committee considers a wide range of indicators in making these assessments. Information about Committee participants' estimates of the longer-run normal rates of output growth and unemployment is published four times per year in the FOMC's Summary of Economic Projections. For example, in the most recent projections, FOMC participants' estimates of the longer-run normal rate of unemployment had a central tendency of 5.2 percent to 5.8 percent.

In setting monetary policy, the Committee seeks to mitigate deviations of inflation from its longer-run goal and deviations of employment from the Committee's assessments of its maximum level. These objectives are generally complementary. However, under circumstances in which the Committee judges that the objectives are not complementary, it follows a balanced approach in promoting them, taking into account the magnitude of the deviations and the potentially different time horizons over which employment and inflation are projected to return to levels judged consistent with its mandate.

The Committee intends to reaffirm these principles and to make adjustments as appropriate at its annual organizational meeting each January.

Contents

Note: Unless otherwise noted, the time series in the figures extend through, for daily data, July 10, 2014; for monthly data, June 2014; and, for quarterly data, 2014:Q1. In bar charts, except as noted, the change for a given period is measured to its final quarter from the final quarter of the preceding period.

Summary

The overall condition of the labor market continued to improve during the first half of 2014. Gains in payroll employment picked up to an average monthly pace of about 230,000, and the unemployment rate fell to 6.1 percent in June, nearly 4 percentage points below its peak in 2009. Notwithstanding those improvements, a broad array of labor market indicators—such as labor force participation, hiring and quit rates, and the number of people working part time for economic reasons—generally suggests that significant slack remains in the labor market. Continued slow increases in most measures of labor compensation also corroborate the view that labor resources are not being fully utilized.

Inflation has moved up this year following unusually low readings in 2013, but it has remained somewhat below the Federal Open Market Committee's (FOMC) longer-run goal of 2 percent. The price index for personal consumption expenditures (PCE) rose 1¾ percent over the 12 months ending in May, up from an increase of only 1 percent a year earlier. The PCE price index excluding food and energy items rose 1½ percent over the past 12 months. Meanwhile, both survey- and market-based measures of longer-term inflation expectations have remained stable.

Real gross domestic product is reported to have declined in the first quarter of this year, but a number of recent indicators suggest that economic activity rebounded in the second quarter. The pace of economic growth abroad also appears to have quickened in the second quarter following weakness earlier this year, which should provide support for export sales. Moreover, expansion in economic activity continues to be supported by ongoing job gains, a waning drag from fiscal policy, and accommodative financial conditions. However, the housing sector has shown little recent progress. While it has recovered notably from its earlier trough, activity in the sector leveled off in the wake of last year's increase in mortgage rates, and readings this year have, overall, continued to be disappointing.

The Committee expects that, with appropriate policy accommodation, economic activity will expand at a moderate pace and labor market conditions will continue to move gradually toward levels that the Committee judges consistent with its dual mandate of maximum employment and price stability. In addition, the Committee anticipates that with stable inflation expectations and strengthening economic activity, inflation will, over time, return to the Committee's 2 percent objective. Those expectations are reflected in the June Summary of Economic Projections, which is included as Part 3 of this report.

Financial conditions have generally remained supportive of economic growth. Longer-term interest rates have continued to be low by historical standards, and over the first half of the year those interest rates moved down significantly in the United States as well as in most other advanced economies. Overall, borrowing conditions for households have continued to slowly improve amid rising house and equity prices and the faster pace of employment growth so far this year. Credit flows to large nonfinancial businesses have remained strong, and small business lending activity has shown signs of improvement in recent months.

With respect to financial stability, signs of risk-taking that could leave segments of the U.S. financial sector vulnerable to possible adverse events have increased modestly this year, albeit from a subdued level. Prices for real estate, equities, and corporate debt have risen and valuation measures have increased, but valuations remain roughly in line with historical norms. Signs of excesses that could lead to higher future defaults and losses have emerged in some sectors, including for speculative-grade corporate bonds and leveraged loans. At the same time, financial firms' use of short-term wholesale funding has not increased materially and the capital and liquidity position of the banking sector continued to improve. The Federal Reserve and other agencies took further supervisory and regulatory steps to improve resilience, including conducting the 2014 stress tests of the largest bank holding companies (BHCs); finalizing rules to strengthen prudential standards for the largest domestic BHCs and for the U.S. operations of foreign banking firms; and raising leverage ratio standards for the largest, most interconnected firms.

To support continued progress toward maximum employment and price stability, the FOMC has maintained a highly accommodative stance of monetary policy. Specifically, the Committee has kept its target range for the federal funds rate at 0 to ¼ percent; updated its forward guidance regarding the path of the federal funds rate; and continued to increase its sizable holdings of longer-term securities, though at a gradually diminishing pace. In particular, the Committee made additional measured reductions at each of its first four regularly scheduled meetings in 2014 in the monthly pace of its asset purchases. The FOMC also stated at each meeting that, if incoming information continued to broadly support the Committee's assessment of the economic outlook, the Committee would likely reduce the pace of asset purchases in further measured steps at future meetings. However, the Committee also noted that its asset purchases are not on a preset course, and that decisions about their pace will remain contingent on the economic outlook.

The FOMC has provided forward guidance for the federal funds rate based on its assessment of economic and financial conditions. As 2014 began, the Committee's forward rate guidance included quantitative thresholds relating to the unemployment rate and inflation. However, with the unemployment rate having neared its 6½ percent threshold, the Committee decided at its March meeting to replace the numerical thresholds with a qualitative characterization of its approach to determining how long to maintain the current 0 to ¼ percent target range for the federal funds rate. Specifically, the Committee stated that it will assess progress—both realized and expected—toward its objectives of maximum employment and 2 percent inflation, taking into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial developments. The Committee continues to anticipate, based on its assessment of these factors, that it likely will be appropriate to maintain the current target range for the federal funds rate for a considerable time after the asset purchase program ends. The Committee additionally stated its anticipation that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.

As part of prudent planning, the Federal Reserve has continued to prepare for the eventual normalization of the stance and conduct of monetary policy. The FOMC remains confident that it has the tools it needs to raise short-term interest rates when the time is right and to achieve the desired level of short-term interest rates thereafter, even while the Federal Reserve is holding a very large balance sheet. The Committee intends to continue its discussions about policy normalization at upcoming meetings while it proceeds with testing the operational readiness of its tools; it expects to provide to the public more information about its normalization plans later this year.

Part 1
Recent Economic and Financial Developments

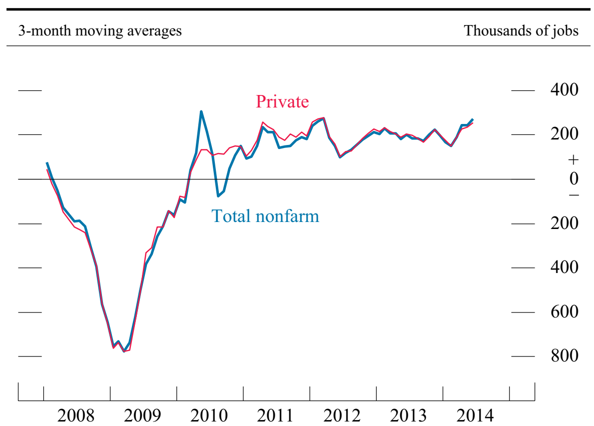
Labor market conditions continued to improve over the first half of this year. Gains in payroll employment since the start of the year have averaged about 230,000 jobs per month, up a little from the average pace in 2013, and the unemployment rate declined to 6.1 percent in June, the lowest rate recorded in more than five years. Nevertheless, the jobless rate is still above Federal Open Market Committee (FOMC) participants' estimates of the longer-run normal rate. Other measures of labor utilization, as well as the continued slow increases in most measures of labor compensation, generally corroborate the view that significant slack remains in the labor market. Inflation, as measured by the price index for personal consumption expenditures (PCE), averaged 1¾ percent over the 12 months ending in May, higher than the unusually low level over the preceding 12 months but still somewhat below the Committee's 2 percent objective. Meanwhile, both survey- and market-based measures of longer-term inflation expectations have remained quite stable. Real gross domestic product (GDP) was reported to have decreased in the first quarter of this year, but the available information for the second quarter suggests that the decline was transitory. One area of concern, however, is the housing sector, where activity softened by more, relative to its earlier trajectory, than would have been expected based on last year's rise in mortgage interest rates. Financial conditions have generally remained supportive of economic growth. Longer-term interest rates in the United States as well as in most other advanced economies have partially reversed last year's increases, and borrowing conditions for households and small businesses have slowly improved, while credit flows to large nonfinancial corporations have remained strong.

Domestic Developments

Labor market conditions have strengthened further . . .

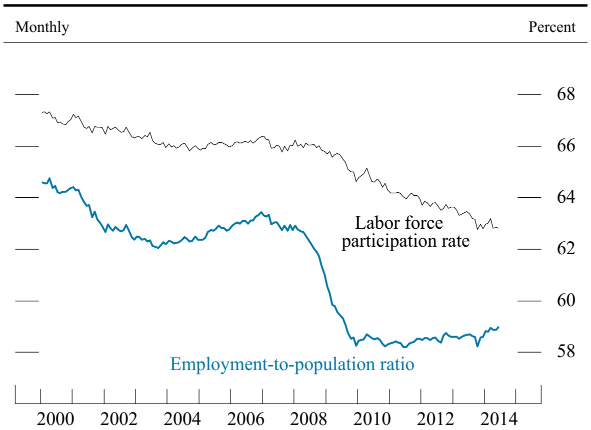
The labor market continued to improve in the first half of 2014. Payroll employment has increased by an average of about 230,000 per month so far this year, higher than the average gain in 2013 (figure 1). The unemployment rate continued to trend down, declining from 6.7 percent in December 2013 to 6.1 percent in June of this year, while the labor force participation rate was little changed, on net, over the first half of this year after having moved down considerably in the second half of last year (figure 2). The unemployment rate has declined nearly 4 percentage points from its peak in 2009, although it remains elevated when judged against FOMC participants' estimates of the longer-run normal rate. Payrolls have reversed the cumulative job losses that occurred over the last recession, though that recovery has been achieved in the context of a larger population and labor force.

1. Net change in payroll employment



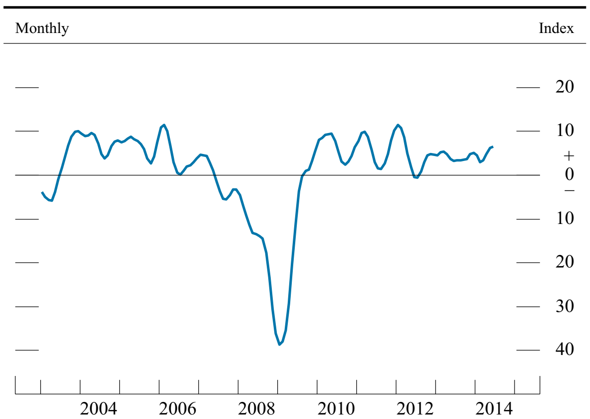
Note: The data extend through June 2014.
Source: Department of Labor, Bureau of Labor Statistics.

2. Labor force participation rate and employment-to-population ratio



NOTE: Both series are a percent of the population aged 16 and over.
SOURCE: Department of Labor, Bureau of Labor Statistics.

3. Change in labor market conditions index



NOTE: Data are three-month moving averages. The index is estimated using a dynamic factor model to measure the primary source of common variation among 19 labor market indicators. The index has a mean of zero and a standard deviation of 100; an increase indicates an improvement in labor market conditions.
SOURCE: Federal Reserve Board staff estimates based on data from the Conference Board; Department of Labor, Bureau of Labor Statistics and Employment and Training Administration; National Federation of Independent Business.

An index constructed by Board staff that aims to summarize movements in a broad array of labor market indicators also suggests that labor market conditions have strengthened further this year (figure 3).[1] While increases in that index slowed a touch at the beginning of this year, partly reflecting the effects of the unseasonably cold and snowy weather this winter, the pace has picked up again in recent months.

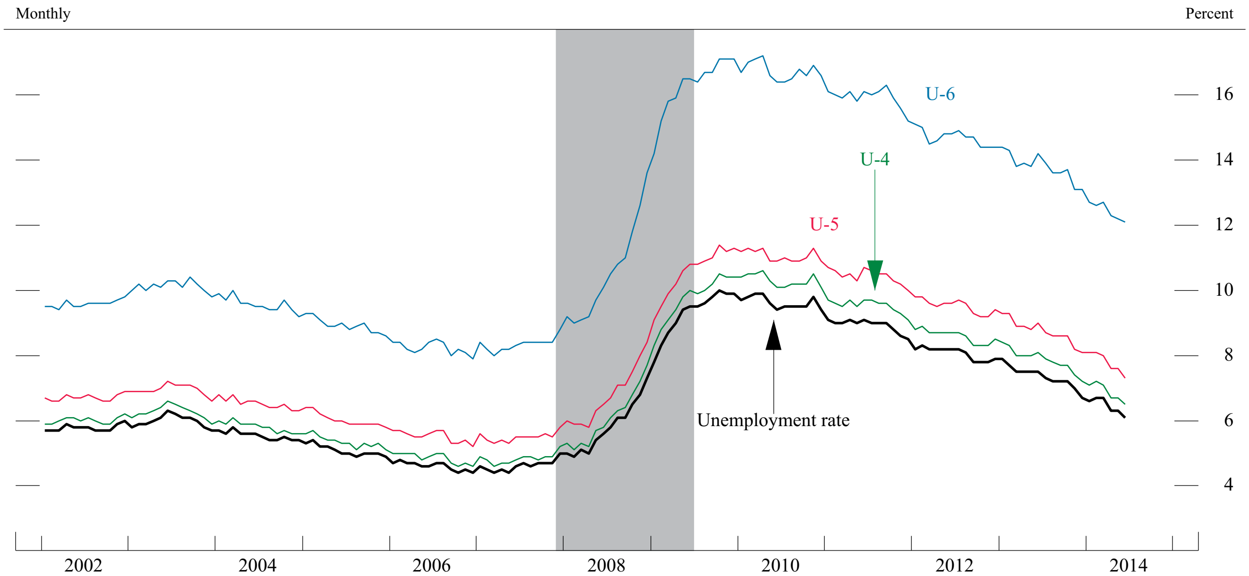
. . . but significant slack remains . . .

Notwithstanding those improvements, various labor market indicators suggest that a significant degree of slack remains in labor utilization. For instance, measures of labor underutilization that incorporate broader definitions of unemployment are still well above their pre-recession levels, even though they have moved down further this year (figure 4). The proportion of workers employed part time because they are unable to find full-time work has similarly declined but remains elevated, and hiring and quit rates are still below their pre-recession norms. Moreover, the median duration of unemployment is still well above its long-run average.

The declines in the participation rate during the past few years, within the context of a strengthening labor market, also could be an indication of continuing labor market slack. To be sure, movements in the participation rate partly reflect the changing demographic composition of the population, most notably the increasing share of older persons, who have lower-than-average participation rates because they are more likely to be retired. As such, many of those exits from the labor force probably would have occurred even if

1. For details on the construction of the labor market conditions index, see Hess Chung, Bruce Fallick, Christopher Nekarda, and David Ratner (2014), "Assessing the Change in Labor Market Conditions," FEDS Notes (Washington: Board of Governors of the Federal Reserve System, May 22), www.federalreserve.gov/econresdata/notes/feds-notes/2014/assessing-the-change-in-labor-market-conditions-20140522.html.

4. Measures of labor underutilization



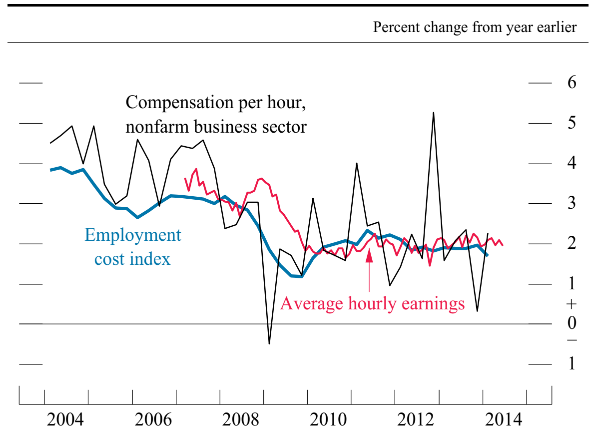
NOTE: U-4 measures total unemployed plus discouraged workers, as a percent of the labor force plus discouraged workers. Discouraged workers are a subset of marginally attached workers who are not currently looking for work because they believe no jobs are available for them. U-5 measures total unemployed plus all marginally attached to the labor force, as a percent of the labor force plus persons marginally attached to the labor force. Marginally attached workers are not in the labor force, want and are available for work, and have looked for a job in the past 12 months. U-6 measures total unemployed plus all marginally attached workers plus total employed part time for economic reasons, as a percent of the labor force plus all marginally attached workers. The shaded bar indicates a period of business recession as defined by the National Bureau of Economic Research.
SOURCE: Department of Labor, Bureau of Labor Statistics.

the labor market had been stronger. However, some exits are likely occurring because the prolonged period of high unemployment has led some individuals to give up their job search, and such dynamics could have harmful consequences for economic activity in the long run.

. . . and wage growth has remained tepid

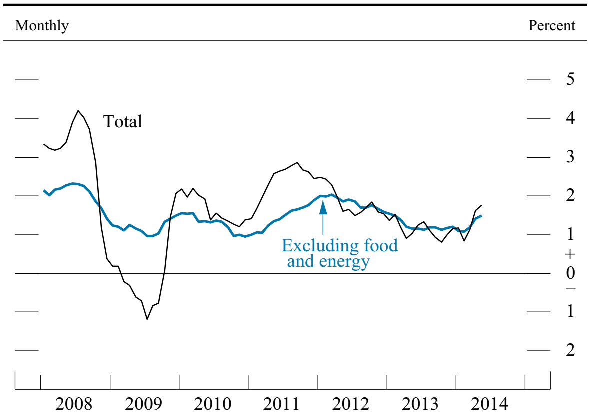
Continued slow increases in most measures of labor compensation offer further evidence of labor market slack. Compensation per hour in the nonfarm business sector is estimated to have risen at a modest pace of 2¼ percent over the four quarters ending in the first quarter of this year; the employment cost index for private industry workers rose at an annual rate of only 1¾ percent in the same period; and average hourly earnings rose about 2 percent over the 12 months ending in June, little changed from the average rate of increase in hourly earnings during the past several years (figure 5). Over the past five years, the various measures of nominal hourly compensation

5. Measures of change in hourly compensation



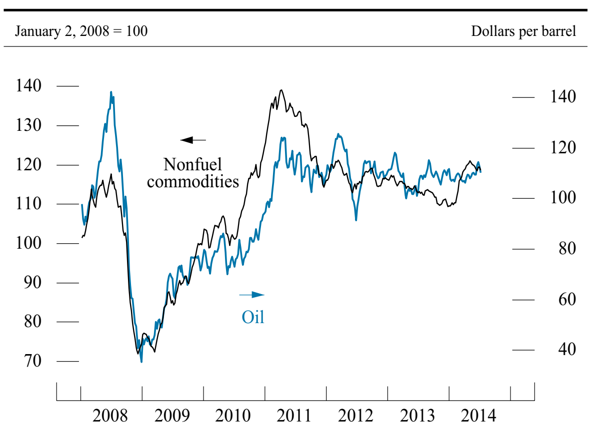
NOTE: For nonfarm business compensation, change is over four quarters; for the employment cost index, change is over the 12 months ending in the last month of each quarter; for average hourly earnings, change is over the 12 months ending in June. The average hourly earnings data series begins in March 2007.
SOURCE: Department of Labor, Bureau of Labor Statistics.

6. Change in the chain-type price index for personal consumption expenditures



NOTE: The data extend through May 2014; changes are from one year earlier.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

7. Prices of oil and nonfuel commodities



NOTE: The data are weekly averages of daily data through July 10, 2014. The price of oil is the spot price of Brent crude oil, and the price of nonfuel commodities is an index of 23 primary-commodity prices.
SOURCE: CRB Data Center: Final Markets, Commodity Research Bureau.

have increased roughly 2 percent per year, on average, and after adjusting for inflation, growth of real compensation has fallen short of the gains in productivity over this period.

Consumer price inflation has moved up . . .

Inflation has moved higher this year following unusually low readings in 2013. The PCE price index rose 1¾ percent over the 12 months ending in May, up from the 1 percent increase recorded over the preceding 12 months (figure 6). The PCE price index excluding food and energy items rose 1½ percent over the 12 months ending in May, slightly less than the overall index. The FOMC continues to judge that inflation at the rate of 2 percent, as measured by the annual change in the PCE price index, is most consistent over the longer run with the Federal Reserve's statutory mandate. Thus, inflation remained somewhat below the Committee's goal. Some of the factors that contributed to the unusually low inflation in 2013, such as the softness seen in non-oil import prices, have begun to unwind and are pushing up inflation a little this year. More generally, however, with wages growing slowly and raw materials prices generally flat or moving downward, firms are not facing much in the way of cost pressures that they might otherwise try to pass on.

A portion of the recent increase in inflation reflects movements in energy and food prices that appear transitory. Consumer energy prices rose at an annual rate of nearly 6 percent over the 12 months ending in May, partly reflecting strong demand for electricity and natural gas during the cold winter. Global oil prices have been remarkably stable for much of the past year, with oil prices remaining mostly in a narrow range of between about $105 and $110 per barrel and moving above that range only temporarily in reaction to events in Iraq (figure 7). Meanwhile, adverse growing conditions in both the United States and abroad have pushed up wholesale prices for various food commodities—including corn, wheat, and coffee—and these higher raw materials prices have led to somewhat larger increases in consumer food prices this year.

. . . but inflation expectations have changed little

Survey- and market-based measures of inflation expectations at medium- and longer-term horizons have remained quite stable throughout the recent period. Readings on inflation expectations 5 to 10 years ahead, as reported in the Thomson Reuters/University of Michigan Surveys of Consumers, have continued to move within a narrow range (figure 8). In the Survey of Professional Forecasters, conducted by the Federal Reserve Bank of Philadelphia, the median expectation in the second quarter for the annual rate of increase in the PCE price index over the next 10 years was 2 percent, similar to its level in recent years. Meanwhile, market-based measures of medium- (5-year) and longer-term (5-to-10-years-ahead) inflation compensation derived from differences between yields on nominal Treasury securities and Treasury Inflation-Protected Securities have also remained within their respective ranges observed over the past few years (figure 9).

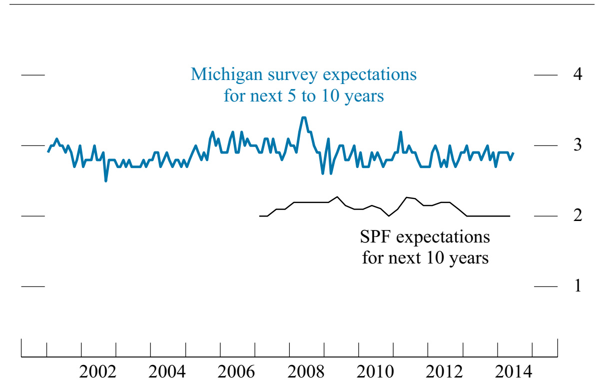
The first-quarter decline in real GDP appears to have been transitory

Measures of real aggregate output—that is, GDP and gross domestic income—were both reported to have declined in the first quarter of this year (figure 10).[2] Part of the weakness in output was likely related to severe weather early in the year.[3] But much of the drop in first-quarter GDP reflected

2. Gross domestic income measures the same economic concept as GDP, and the two estimates would be identical if they were measured without error.

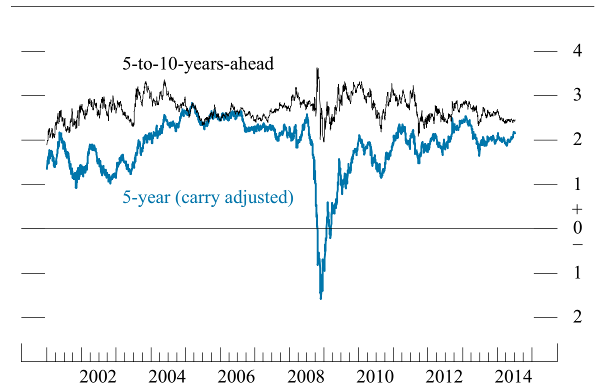
3. Manufacturing output was held down by both snow and extreme cold in parts of the country in January and February. In March, output appears to have been boosted significantly by manufacturers making up for earlier production curtailments. Factory output subsequently dropped back in April, consistent with the view that this makeup production had been achieved.

8. Median inflation expectations



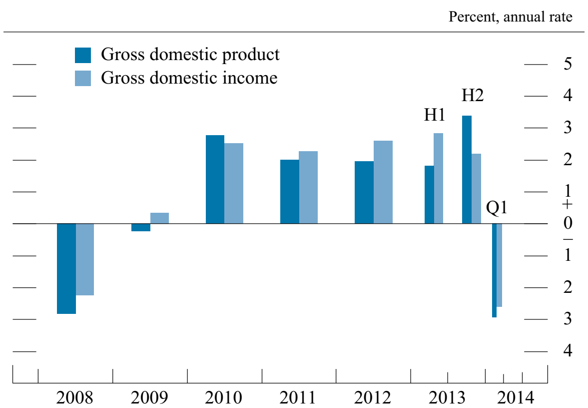
NOTE: The Michigan survey data are monthly. The SPF data for inflation expectations for personal consumption expenditures are quarterly and extend from 2007:Q1 through 2014:Q2.
SOURCE: Thomson Reuters/University of Michigan Surveys of Consumers; Survey of Professional Forecasters (SPF).

9. Inflation compensation



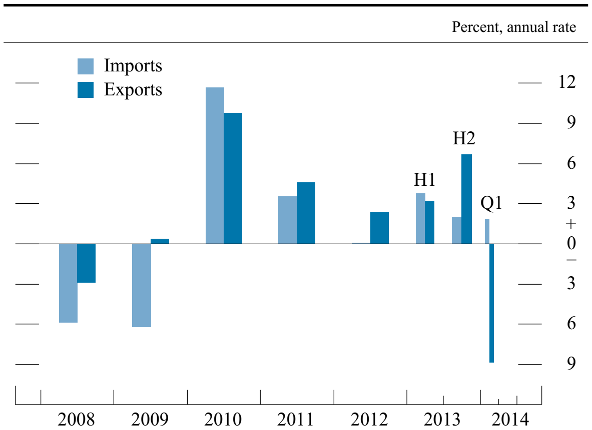
NOTE: Inflation compensation is the difference between yields on nominal Treasury securities and Treasury Inflation-Protected Securities (TIPS) of comparable maturities, based on yield curves fitted to off-the-run nominal Treasury securities and on- and off-the-run TIPS. The 5-year measure is adjusted for the effect of indexation lags.
SOURCE: Federal Reserve Bank of New York; Barclays TIPS Pricing; Federal Reserve Board staff estimates.

10. Change in real gross domestic product and gross domestic income



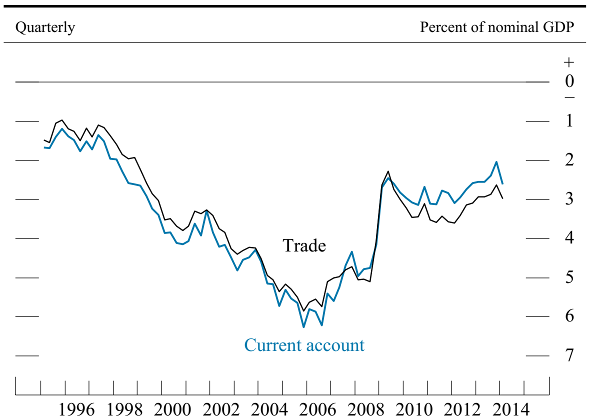
SOURCE: Department of Commerce, Bureau of Economic Analysis.

11. Change in real imports and exports of goods and services



SOURCE: Department of Commerce, Bureau of Economic Analysis.

12. U.S. trade and current account balances



SOURCE: Department of Commerce, Bureau of Economic Analysis.

unusually large swings in inventories and net exports, two volatile categories for which the available monthly data point to a rebound in the second quarter. In addition, a number of recent indicators of second-quarter spending, including motor vehicle sales, retail sales, and shipments of capital goods, suggests that the overall pace of consumer and business spending also picked up in the second quarter. Expansion in real activity continues to be supported by ongoing job gains, a waning drag from fiscal policy, and accommodative financial conditions. However, activity in the housing sector has yet to show persistent gains since it slowed in the wake of last year's rise in mortgage interest rates.

Export declines weighed heavily on first-quarter GDP

Real exports of goods and services declined at an annual rate of about 9 percent in the first quarter of 2014 (figure 11), coinciding with a global slowdown in trade. The decline partly reflected a retrenchment in two volatile categories, petroleum and agriculture, that had surged in the fourth quarter of 2013. With real imports of goods and services advancing in the first quarter, albeit slowly, net exports subtracted 1½ percentage points—an unusually large amount—from overall GDP growth. However, available data for April and May indicate that exports rebounded in the second quarter, and net exports will likely be more supportive of growth in the second quarter.

The current account deficit widened somewhat in the first quarter of this year after having narrowed further over 2013; however, measured relative to nominal GDP, the deficit remains near its narrowest readings since the late 1990s (figure 12). In the second half of 2013, the current account deficit continued to be financed mostly by purchases of Treasury and corporate securities by both foreign official investors and foreign private investors (figure 13). Foreign private purchases remained strong in the first quarter of 2014, but official inflows weakened as conditions in emerging market economies (EMEs) worsened early in the quarter.

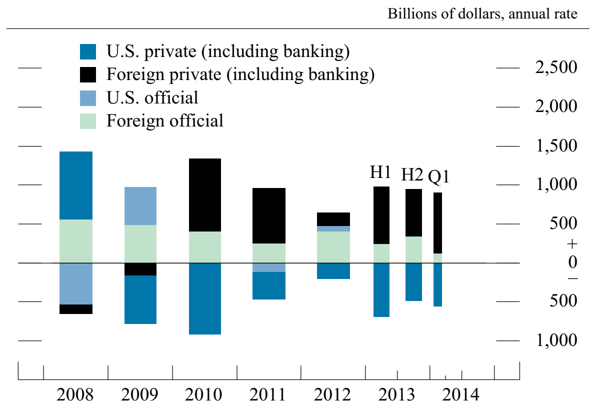
Gains in wealth and income are supporting consumer spending

Smoothing through weather-related fluctuations, consumer spending was reported to have risen at a modest annual rate of 1 percent over the first five months of this year, while disposable personal income advanced at a stronger pace of 2¼ percent over the same period (figure 14).[4] The faster pace of job gains so far this year has helped improve the economic prospects of many households and has contributed to a pickup in the pace of aggregate income growth, though it is not yet clear how widely these income gains have been shared across the population. In addition, personal tax payments and social security contributions, which surged last year as a consequence of higher federal payroll and income taxes, are no longer weighing as heavily on income growth.

Consumption growth this year also has been supported by ongoing gains in household net worth. House prices, which are of particular importance for the wealth position of many middle-income households, have continued to move higher, with the CoreLogic national index showing a rise of almost 9 percent over the 12 months ending in May (figure 15). Meanwhile, the value of corporate equities has risen more than 15 percent over the past year and has added substantially to net wealth. Reflecting those solid gains, aggregate household net wealth is estimated to have approached 6½ times the value of disposable

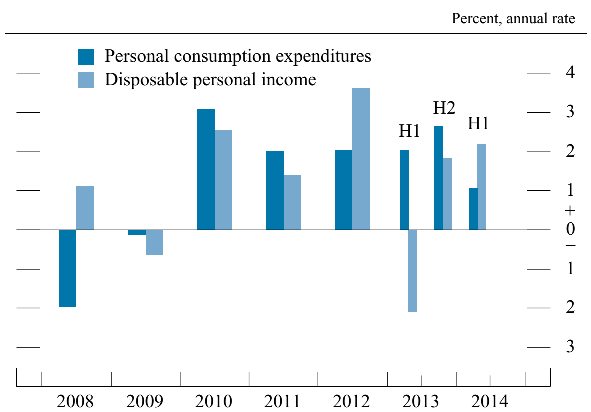
4. In its third release of quarterly GDP, the Bureau of Economic Analysis reported that consumer spending on health-care services declined in the first quarter. This estimate reflected the incorporation of census data from the U.S. Census Bureau's Quarterly Services Survey, which showed a decline in the revenues of health-care providers. By contrast, a variety of other indicators, including data on Medicaid payments as well as health-care exchange enrollments and subsidies related to the Affordable Care Act, are suggestive of greater strength in health-care spending.

13. U.S. net financial inflows



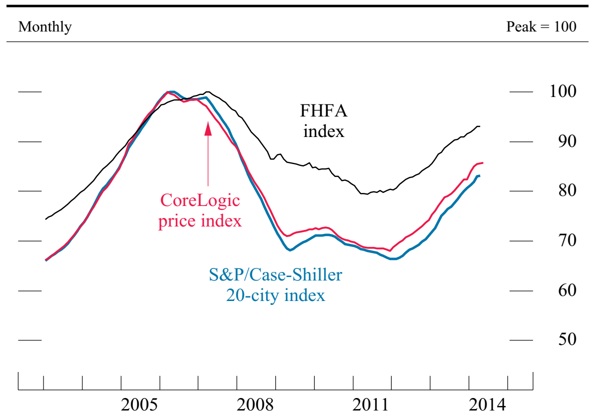
NOTE: Negative numbers indicate a balance of payments outflow, generated when U.S. residents, on net, purchase foreign assets or when foreign residents, on net, sell U.S. assets. A negative number for "U.S. private" or "U.S. official" indicates an increase in U.S. residents' holdings of foreign assets. U.S. official flows include the foreign currency acquired when foreign central banks draw on their swap lines with the Federal Reserve.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

14. Change in real personal consumption expenditures and disposable personal income



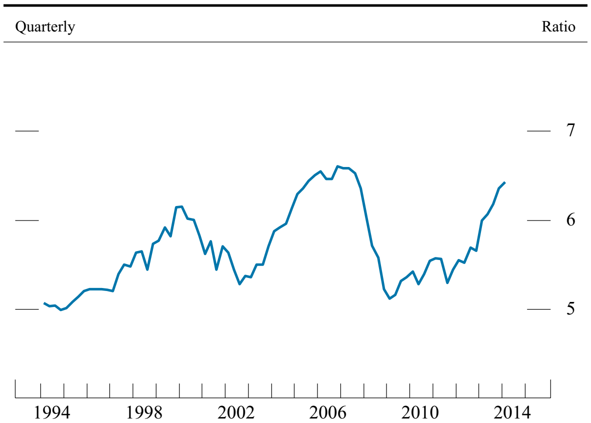
NOTE: The reading for 2014:H1 is the annualized May/Q4 change.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

15. Prices of existing single-family houses



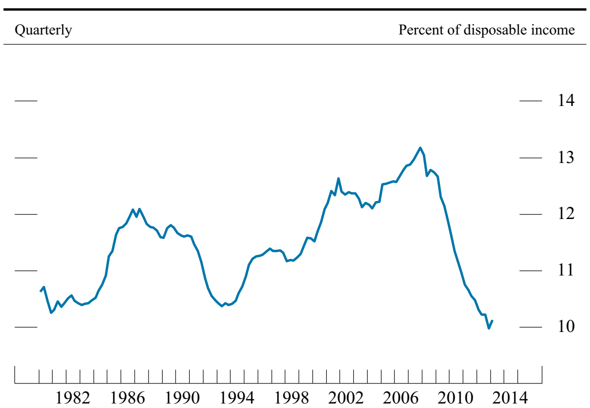
NOTE: The S&P/Case-Shiller and FHFA data extend through April 2014. The CoreLogic data extend through May.
SOURCE: Federal Housing Finance Agency (FHFA); Case-Shiller data via S&P Capital IQ Solutions' Capital IQ Platform; staff calculations based on data provided by CoreLogic.

16. Wealth-to-income ratio



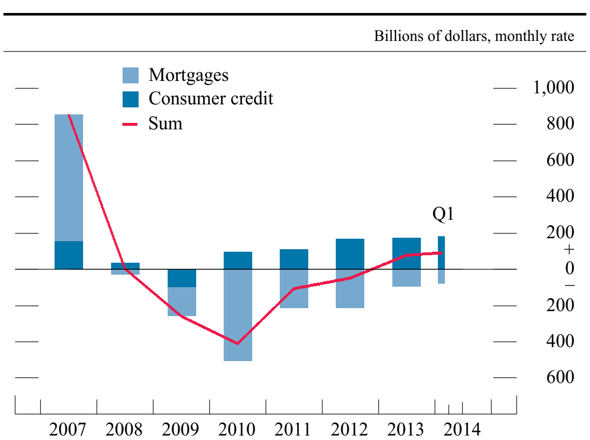
NOTE: The ratio is household net worth to disposable personal income.
SOURCE: For net worth, Federal Reserve Board, flow of funds data; for income, Department of Commerce, Bureau of Economic Analysis.

17. Household debt service



NOTE: Debt service payments consist of estimated required payments on outstanding mortgage and consumer debt.
SOURCE: Federal Reserve Board, statistical release, "Household Debt Service and Financial Obligations Ratios."

18. Changes in household debt



NOTE: Changes are calculated from year-end to year-end.
SOURCE: Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

personal income in the first quarter of this year, the highest level observed for that ratio since 2007 (figure 16).

Coupled with low interest rates, the rise in incomes has enabled many households to reduce their debt payment burdens. The household debt service ratio—that is, the ratio of required principal and interest payments on outstanding household debt to disposable personal income—dropped further in the first quarter of this year and stood at a very low level by historical standards (figure 17).

Borrowing conditions for households are slowly improving . . .

The improvements in households' balance sheets so far this year have been accompanied by a gradual easing in borrowing conditions. For example, large banks reported a net easing of standards for home purchase loans to prime borrowers in the Federal Reserve Board's April 2014 Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS).[5] SLOOS responses also indicated a net easing in credit standards for consumer loans. Even so, mortgage lending standards have remained tight for many households; indeed, standards on nontraditional mortgage loans were reported to have tightened further in the April survey. Likely reflecting, in part, the increased willingness to lend, the rate of decline in mortgage debt has slowed so far this year, and growth in other consumer credit has been robust (figure 18).

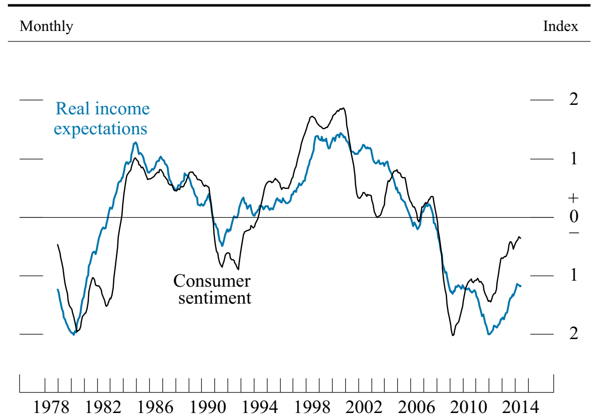
. . . but consumer confidence remains tepid

Despite the strengthening in household incomes and wealth, indicators of consumer sentiment still appear somewhat depressed compared with their longer-run norms. The Michigan survey's index of consumer

5. The SLOOS is available on the Board's website at www.federalreserve.gov/boarddocs/snloansurvey.

sentiment—which incorporates households' views about their own financial situations as well as broader economic conditions—has recovered noticeably from its recessionary low but has changed little, on net, over the past year (figure 19). The responses to a separate survey question about income expectations display a similar pattern: Although an index of households' expectations of real income changes in the year ahead has recovered somewhat since 2011, it remains substantially below the historical average and suggests a more guarded outlook than the headline index.

19. Consumer sentiment indexes

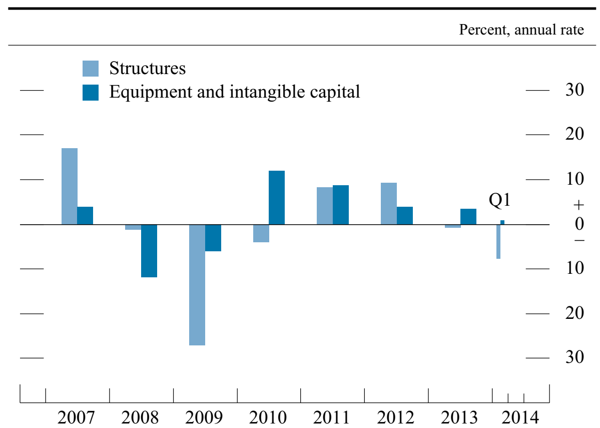


NOTE: Data are 12-month moving averages. Average values since 1978 equal zero. Real income expectations are calculated as the net percent of survey respondents expecting family income to go up more than prices during the next year or two.
SOURCE: Thomson Reuters/University of Michigan Surveys of Consumers.

Business investment has been lackluster, . . .

After recording modest gains in 2013, business fixed investment ticked down in the first quarter of this year, as a large decline in spending on nonresidential structures was partly offset by a small increase in outlays for equipment and intangible (E&I) capital (figure 20). Although the expiration of a tax provision allowing 50 percent bonus depreciation may have pulled some capital investment forward into late 2013, looking over a longer period, the pattern of investment outlays over the past year and a half appears broadly consistent with the sluggish pace of business output growth during the period. Nevertheless, various forward-looking indicators, such as business sentiment and earnings expectations of capital goods producers, paint a fairly upbeat picture and point to a pickup in the growth of E&I investment.

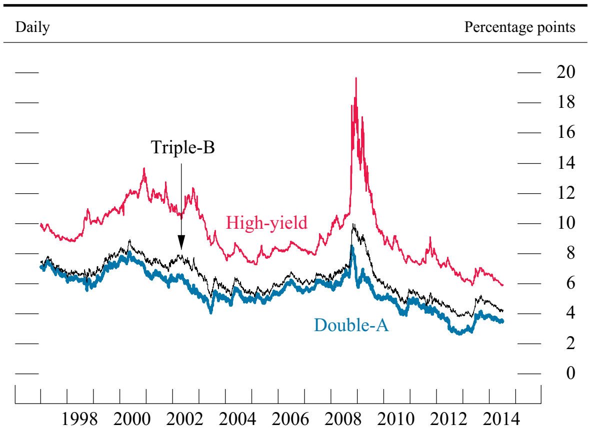
20. Change in real business fixed investment



SOURCE: Department of Commerce, Bureau of Economic Analysis.

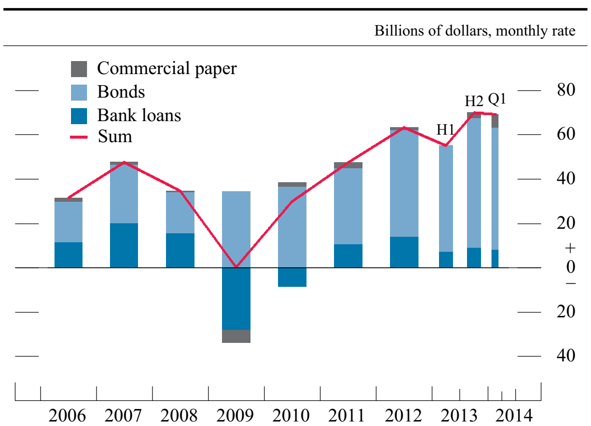
Business investment in structures has been relatively weak this year, as demand for nonresidential buildings continues to be restrained by high vacancy rates for existing properties and tight financing conditions for new construction. However, the level of investment in drilling and mining structures is extremely high by historical standards, a reflection of the boom in oil and natural gas extraction.

21. Corporate bond yields by securities rating



NOTE: The yields shown are yields on 10-year bonds.
SOURCE: BofA Merrill Lynch Global Research, used with permission.

22. Selected components of net financing for nonfinancial businesses



NOTE: The data for the components except bonds are seasonally adjusted.
SOURCE: Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

. . . even as corporate borrowing has expanded and loan terms and standards appear to be easing

The financial condition of large nonfinancial firms has remained strong so far this year, with profitability high and the default rate on nonfinancial corporate bonds generally low. Nonfinancial firms have continued to raise funds at a robust pace, given strong corporate credit quality and historically low interest rates on corporate bonds (figure 21). Indeed, bond issuance by both investment- and speculative-grade nonfinancial firms has been strong (figure 22).

Moreover, credit availability in business loan markets has shown further improvement. According to the April SLOOS, banks again eased standards on commercial and industrial (C&I) loans to firms of all sizes in the first quarter, and many banks have eased price-related and other terms on such loans. In addition, according to the Federal Reserve Board's May 2014 Survey of Terms of Business Lending, loan rate spreads over market interest rates for newly originated C&I loans have continued to decline. In this environment, C&I loans on banks' books and commercial paper outstanding both have registered solid increases. Issuance of leveraged loans continued to be rapid in the first half of 2014, and issuance of collateralized loan obligations reached very high levels in the period from February to April.[6] Small business lending activity has picked up as well in recent months, likely reflecting some increase in credit availability as well as a strengthening in businesses' demand for credit.

In the commercial real estate (CRE) sector, loans continued to expand at a moderate

6. New collateralized loan obligation (CLO) deals over this period were reportedly structured to address certain restrictions in the Volcker rule. In addition, the Federal Reserve Board announced that bank holding companies have until July 21, 2017, to disinvest from non-Volcker-compliant CLOs originated prior to the end of 2013. The extension for complying with the requirement reportedly alleviated the risk of forced liquidations of such instruments in the near term.

pace, and increases in banks' CRE loans remained widespread across all major CRE segments (that is, loans secured by nonfarm nonresidential properties, multifamily residential properties, and construction and land development loans). According to the April SLOOS, standards on CRE loans extended by banks also eased in the first quarter. Special survey questions asked about changes in terms on CRE loans over the past year, and many banks reported having eased interest rate spreads and increased maximum loan sizes and terms to maturity. Nevertheless, standards for construction and land development loans appear to have remained relatively tight.

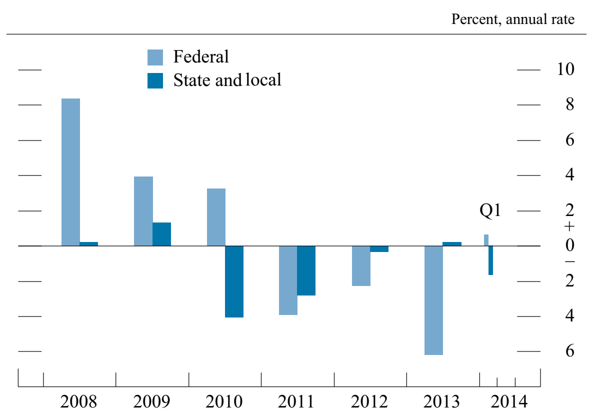
The drag from federal fiscal restraint is waning . . .

Fiscal policy has been a contractionary force through most of the past three years and was especially so in 2013, when the temporary payroll tax cut expired, taxes increased for high-income households, and federal purchases were pushed down by the sequestration and caps on discretionary spending (figure 23). Moreover, in the fourth quarter of last year, disruptions related to the government shutdown led to a sharp but temporary reduction in federal purchases. For 2013 as a whole, real federal purchases (as measured in the national income and product accounts) fell 6¼ percent, twice as large as the average decline in the previous two years.

This year, however, fiscal policy has become somewhat less restrictive for GDP growth, as the effects of the 2013 tax and spending changes are fading. While the expiration of emergency unemployment compensation at the beginning of the year has exerted a drag on consumer spending, medical benefits provided for under the Affordable Care Act will likely support increased consumption of medical services.

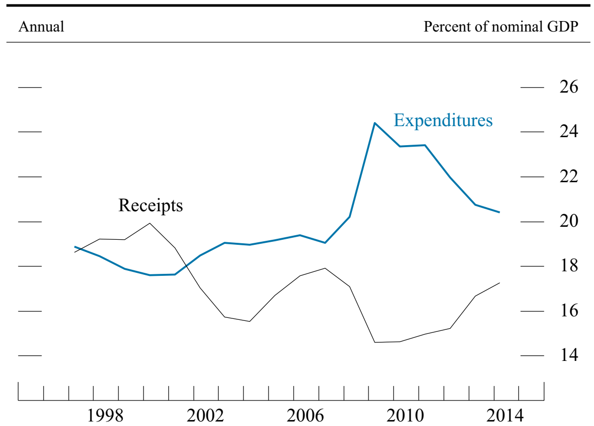
With few major changes in tax policy in 2014, federal receipts have edged up to around 17 percent of GDP, their highest level since before the recession (figure 24). Meanwhile, nominal federal outlays as a share of GDP

23. Change in real government expenditures on consumption and investment



SOURCE: Department of Commerce, Bureau of Economic Analysis.

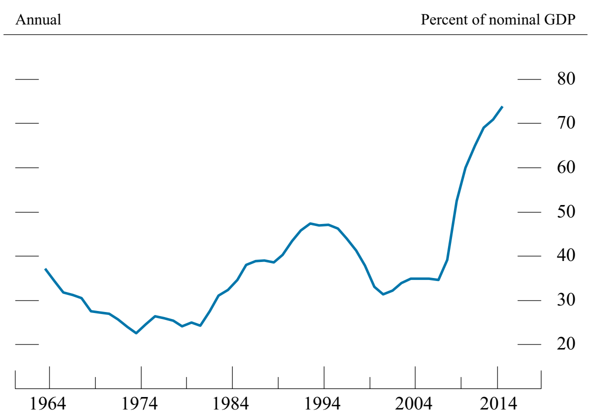
24. Federal receipts and expenditures



NOTE: Through 2013, receipts and expenditures are for fiscal years (October to September); gross domestic product (GDP) is for the four quarters ending in Q3. For 2014, receipts and expenditures are for the 12 months ending in June, and GDP is the average of 2013:Q4 and 2014:Q1. Receipts and expenditures are on a unified-budget basis.

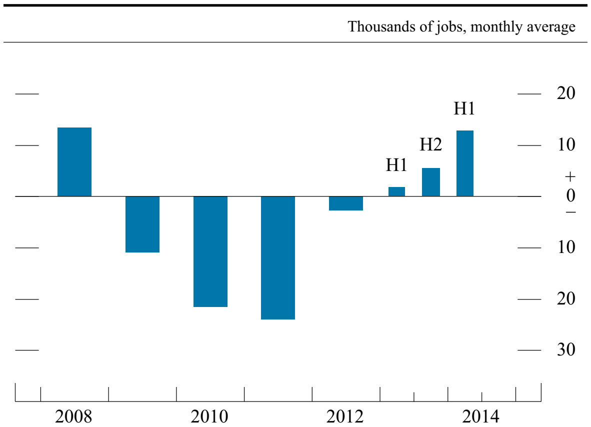
SOURCE: Office of Management and Budget.

25. Federal government debt held by the public



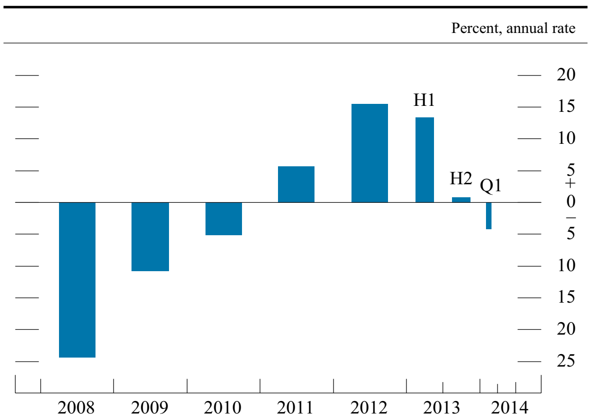
NOTE: The data are for the third quarter of each year. The data for gross domestic product (GDP) are at an annual rate.
SOURCE: Department of Commerce, Bureau of Economic Analysis; Department of the Treasury, Financial Management Service.

26. State and local government employment change



SOURCE: Department of Labor, Bureau of Labor Statistics.

27. Change in residential investment



SOURCE: Department of Commerce, Bureau of Economic Analysis.

have continued to trend downward but have remained above the levels observed before the start of the recession. Thus, the federal unified budget deficit has narrowed again this year; the Congressional Budget Office projects that the budget deficit for fiscal year 2014 as a whole will be 3 percent of GDP, compared with the fiscal 2013 deficit of 4 percent of GDP. Overall federal debt held by the public has continued to rise, and the ratio of nominal federal debt to GDP moved up to near 75 percent in early 2014 (figure 25).

. . . and state and local government expenditures are turning up

At the state and local level, the ongoing strengthening in economic activity, as well as previous spending cuts, has helped foster a gradual improvement in the budget situations of most jurisdictions. Consistent with improving sector finances, states and localities have been expanding their workforces; employment accelerated in the first half of the year after rising modestly in the second half of 2013 (figure 26). Construction expenditures by those governments, however, have yet to show a sustained recovery.

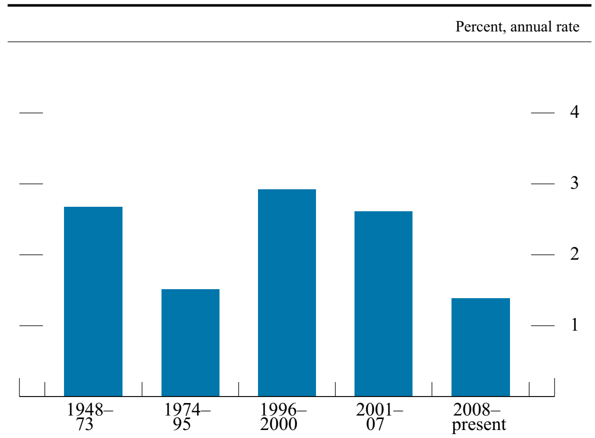
The recovery in the housing market has lost traction

After proceeding briskly in 2012 and the first half of 2013, the recovery in residential construction seems to have faltered. Real residential investment declined for two successive quarters around the turn of the year, and the available data point to only a modest gain in the second quarter (figure 27). The renewed softness of late has proven more extensive and persistent than would have been expected given the rise in mortgage interest rates around the middle of last year (see the box “The Slow Recovery of Housing Activity”). That said, household formation remains depressed relative to demographic norms, and the ongoing improvement in labor market conditions could help spur a more decisive return to those norms.

Productivity growth has been modest

In general, gains in labor productivity have been modest in recent years. Output per hour in the nonfarm business sector has risen at an annual rate of less than 1½ percent since 2007, well below the pace of gains observed over the late 1990s and early 2000s (figure 28). The relatively slow pace of productivity growth likely reflects, in part, the sustained weakness in capital investment over the recession and recovery period, and productivity gains may be better supported in the future as outlays for productivity-enhancing capital equipment strengthen.

28. Change in output per hour



NOTE: The data are for the nonfarm business sector. Changes for the first four periods are measured from Q4 of the year immediately preceding the period through Q4 of the final year of the period. The final period is measured from 2007:Q4 through 2014:Q1.
SOURCE: Department of Labor, Bureau of Labor Statistics.

Financial Developments

The expected path for the federal funds rate edged down

Market-based measures of the expected path of the federal funds rate through late 2017 edged down, on balance, over the first half of the year. After accounting for transitory factors such as weather, market participants appeared to judge the incoming economic data as somewhat better than they had expected but as still continuing to point to subdued inflationary pressures and an accommodative policy stance by the FOMC. The relatively small movements of the market-based measures are consistent with the results of the most recent Survey of Primary Dealers and the pilot survey of market participants, each conducted just prior to the June FOMC meeting by the Open Market Desk at the Federal Reserve Bank of New York. Those surveys suggest that dealers and buy-side respondents both anticipate that the initial increase in the target federal funds rate from its current range will occur in the third quarter of 2015, slightly earlier than dealers had anticipated at the beginning of this year and about the same as what buy-side respondents had anticipated.[7]

7. The results of the Survey of Primary Dealers and of the pilot survey of market participants are available on the Federal Reserve Bank of New York's website at www.newyorkfed.org/markets/primarydealer_survey_questions.html and www.newyorkfed.org/markets/pilot_survey_market_participants.html, respectively.

The Slow Recovery of Housing Activity

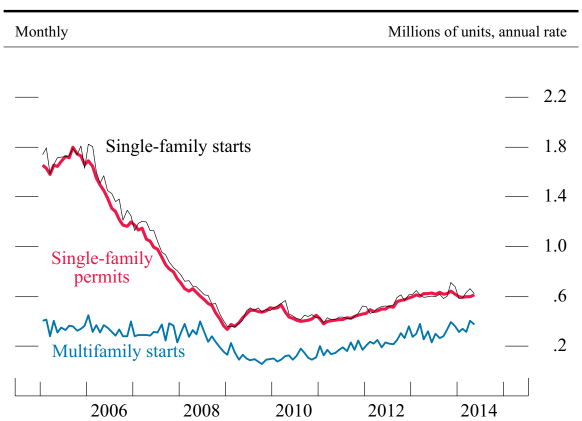
Partly because of its sensitivity to interest rates, investment in residential structures has often played an important role in jump-starting economic recoveries, even though it has constituted less than 5 percent of gross domestic product (GDP), on average, since World War II. For example, in 1983, coming out of a severe double-dip recession, residential investment rose 50 percent and contributed 1.7 percentage points to GDP growth. But the recent recovery period has been quite different from previous episodes, even with interest rates at historically low levels. In 2010 and 2011, the first two years of the recovery, residential investment contributed essentially nothing, on average, to the growth of real GDP. Even after rising noticeably in 2012 and the first half of 2013, real residential investment remains 45 percent below its pre-recession peak. The lack of a rapid housing recovery has also affected the labor market: Employment in the construction sector is still more than 1.6 million lower than the average level in 2006.

The failure of residential construction to significantly boost the current recovery likely reflects a number of headwinds. First, a much tighter supply of mortgage credit in the aftermath of the housing bubble, particularly for prospective borrowers with low credit scores, has crimped demand for owner-occupied housing. Second, the slow recovery of the labor market has significantly reduced the pace of new household formation, as young adults in particular have become more likely to live with their parents or other relatives. Third, the relatively rapid recovery of house prices, even as construction remains far below trend, suggests that constraints on new housing supply also have played a role. These constraints may include shortages of skilled labor and buildable lots, implying that some time may be required to shift resources back into the sector.

Despite these headwinds, housing activity began to recover in late 2011, supported by declining unemployment, record-low longer-term interest rates, and improving confidence in the economic recovery. Single-family housing starts and sales of existing homes both trended up in 2012 and continued to do so through mid-2013 (figures A and B). During this period, multifamily construction recovered to its average pace in the 1990s and early 2000s, supported by a shift in the composition of demand toward rental units driven by many of the same factors that have constrained the single-family, owner-occupied sector. All told, from the fourth quarter of 2011 through the second quarter of 2013, residential investment (as measured in the national income and product accounts) grew at an average annual rate of nearly 15 percent. All of the major components of residential investment—including construction of new single-family and multifamily homes, improvements to existing structures, and brokers' commissions and fees—made sizable positive contributions to investment growth over the period (figure C).

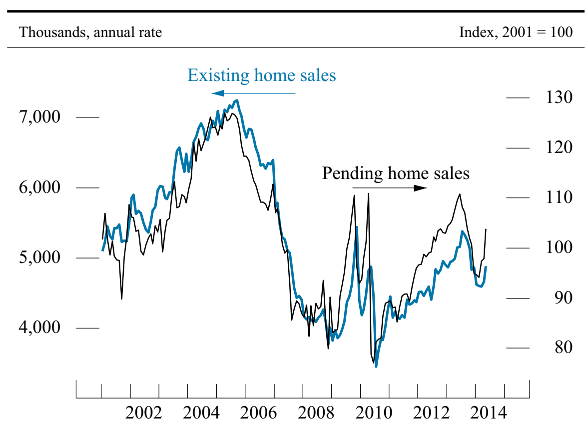
In spite of this positive momentum, the recovery stalled in mid-2013 in the wake of a spike in mortgage interest rates that sharply reduced housing affordability (figure D). Permits for single-family construction—the best gauge of underlying activity in the sector—have been roughly flat over the past year. Meanwhile, existing home sales have fallen almost 10 percent from their recent highs. Residential investment turned sharply negative for two successive quarters around the turn of the year. Measures of builder, real estate agent, and homebuyer sentiment have also deteriorated. Arguably, the only bright spot of late has been the data on multifamily starts and permits, which are noisy but appear to have continued to trend higher on net.

A. Private housing starts and permits



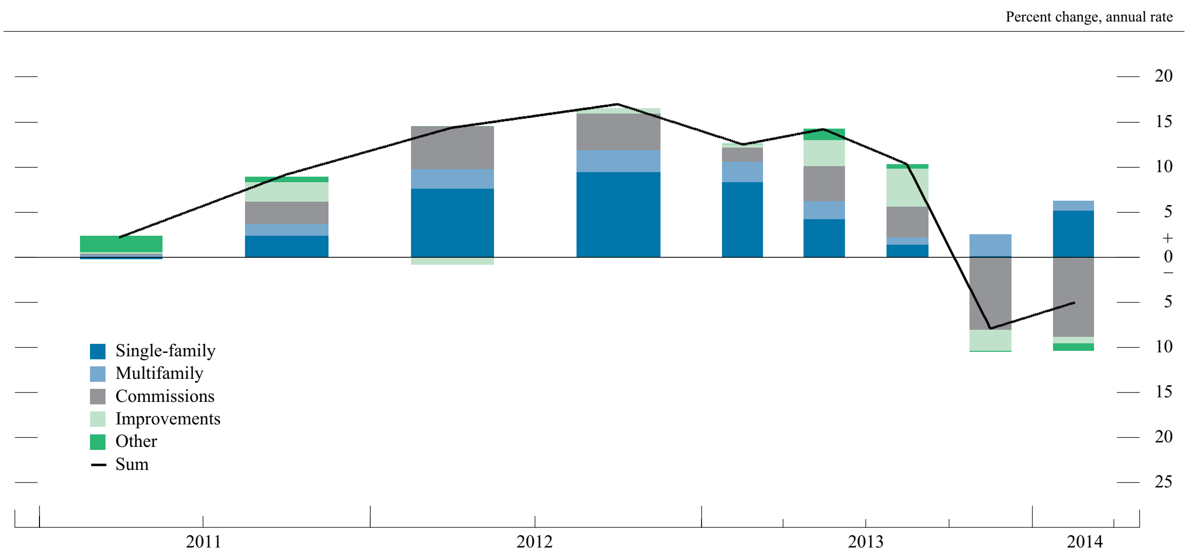
Note: The data extend through May 2014.
Source: Department of Commerce, Bureau of the Census.

B. Pending home sales index and existing home sales



Note: The data are monthly and extend through May 2014. Total existing home sales includes single-family and condo and co-op sales.
Source: National Association of Realtors.

C. Contribution to growth in total residential investment

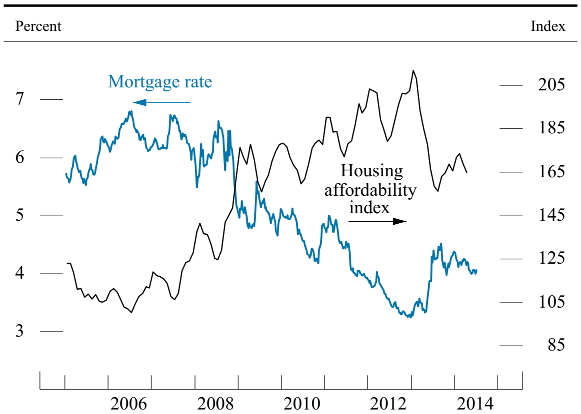


SOURCE: Department of Commerce, Bureau of Economic Analysis.

While the most obvious explanation for the weakness in the housing market over the past year is the run-up in mortgage rates during the spring and summer of 2013, it seems unlikely that interest rates are the whole story. Historical correlations between mortgage rates and residential investment suggest that the effects of last year's run-up should have begun to fade by now, but housing activity has yet to pick up. Moreover, since last summer, mortgage rates have retraced a portion of their earlier increases without any noticeable improvement in activity.

Even so, it is possible that the interest rate spike may have had a larger and longer-lasting effect than would be suggested by historical experience, especially because an interest rate rise of that magnitude, with rates so low and housing activity so depressed, is unprecedented. Alternatively, ongoing increases in house prices may indicate that constraints on the supply of new housing are binding more significantly than seemed to be the case in 2012, when residential investment rose fairly rapidly. Finally, the downturn in existing home sales, which has had a particularly pronounced effect on total residential investment via brokers' commissions, may reflect factors specific to the resale market; in particular, short sales and sales of foreclosed properties have declined markedly over the past couple of years.

D. Mortgage rates and housing affordability



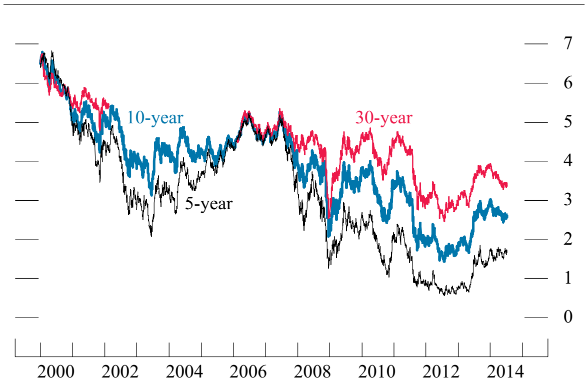
NOTE: The housing affordability index data are monthly through April 2014 and the mortgage rate data are weekly through July 9, 2014. At an index value of 100, a median-income family has exactly enough income to qualify for a median-priced home mortgage. Housing affordability is seasonally adjusted by Board staff.

SOURCE: For housing affordability index, National Association of Realtors; for mortgage rate, Freddie Mac Primary Mortgage Market Survey and Loansifter.

Regardless of what explains the recent weakness, the level of new home construction likely remains much too low to be sustainable. Prior to the housing boom and bust, an average of roughly 1¾ million housing units were started per year.[1] In comparison, only about 1 million units were started in 2013, despite the recovery of multifamily starts to pre-recession levels. It is difficult to judge when construction will resume its upward trend or, given all of the changes in the housing market in recent years, at what level it will stabilize. That said, the Census Bureau projects that the adult population will continue to grow by roughly 2 million per year over the next two decades; with that rate of population growth, the pace of construction seems likely to rise from current levels.

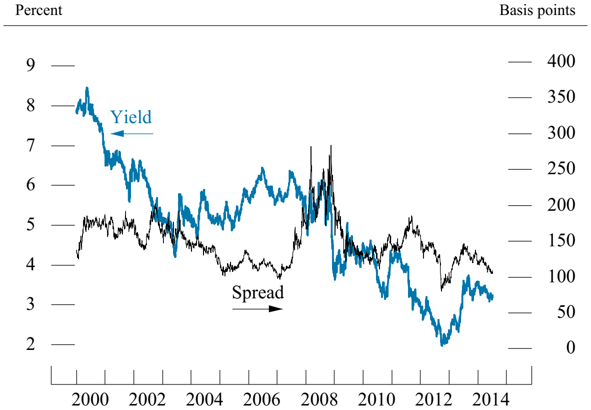
1. This figure is calculated using data from 1960 to 2000 and includes single-family and multifamily construction as well as shipments of new mobile homes.

29. Yields on nominal Treasury securities



NOTE: The Treasury ceased publication of the 30-year constant maturity series on February 18, 2002, and resumed that series on February 9, 2006.
SOURCE: Department of the Treasury.

30. Yield and spread on agency mortgage-backed securities



NOTE: The data are daily. Yield shown is for the Fannie Mae 30-year current coupon, the coupon rate at which new mortgage-backed securities would be priced at par, or face, value. Spread shown is to the average of the 5- and 10-year nominal Treasury yields.
SOURCE: Department of the Treasury; Barclays Live.

Finally, while some forward measures of policy rate uncertainty have risen, overall policy rate uncertainty has generally remained relatively low.

However, Treasury yields declined significantly, especially at longer maturities, as have sovereign bond yields in other advanced economies

After rising notably over the spring and summer months of 2013, yields on longer-term Treasury securities drifted down over the first half of 2014 and now stand at fairly low levels by historical standards (figure 29). In particular, while the yield on 5-year nominal Treasury securities edged down only about 5 basis points from its level at the end of December 2013, the yields on the 10- and 30-year securities decreased about 50 basis points and 60 basis points, respectively. The decline in longer-term yields reflects a notable reduction in longer-horizon forward rates, with the 5-year-forward rate 5 years ahead dropping about 105 basis points since year-end. Five-year-forward inflation compensation over this period declined 20 basis points, implying that much of this reduction in nominal forward rates was concentrated in forward real rates. Yields on 30-year agency mortgage-backed securities (MBS) decreased about 35 basis points, on balance, over the same period (figure 30).

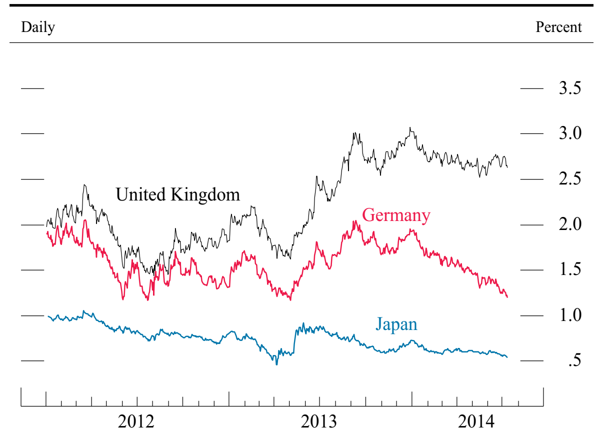
Long-term benchmark sovereign yields in advanced foreign economies (AFEs) have also moved down since late last year, with particularly marked reductions in the euro area (figure 31). Market participants have pointed to several potential explanations for the declines in U.S. and foreign yields. One possible explanation is that market participants have lowered their expectations for future short-term interest rates around the globe. This downward adjustment in expectations may be due to a combination of a lower assessment of the global economy's long-run potential growth rate and a decrease in long-run inflation expectations. Indeed, the lower yields in the euro area are consistent with indications of declining inflation and weak growth in the euro area in recent months, bolstering expectations that the European Central Bank (ECB) would loosen its monetary policy, as it eventually did at its meeting in early June.

In addition, term premiums—the extra return investors expect to obtain from holding longer-term securities as opposed to holding and rolling over a sequence of short-term securities for the same period—may have come down, reflecting several potential factors. One potential factor is a reduction in the amount of compensation for interest rate risk that investors require to hold fixed-income securities, likely due in part to perceptions that uncertainty about the outlook for monetary policy and economic growth has decreased; indeed, swaption-implied volatility on longer-term rates has fallen noticeably since the beginning of the year. Another potential factor is increased demand for Treasury securities from price-insensitive investors, such as pension funds and commercial banks. Lastly, in light of the notable co-movements between forward interest rates at longer horizons in the United States and other advanced economies, it appears likely that there is a global component of term premiums that is affected not only by U.S. developments, but also by foreign developments, such as investors becoming increasingly confident that policy rates at the major foreign central banks will remain low for an extended period.

Broad equity price indexes increased further, and risk spreads on corporate debt declined

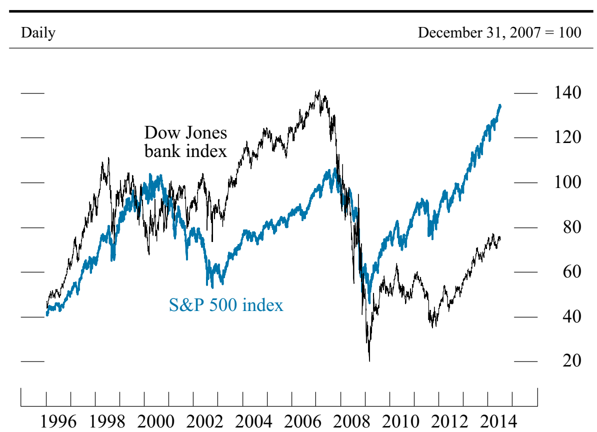
Although equity investors appeared to pull back from the market for a time early in the year in reaction to concerns about the strength of some EMEs and the possible implications for global growth, broad measures of U.S. equity prices have posted solid gains of 6 percent since the beginning of 2014, on balance, after having risen 30 percent in 2013 (figure 32). Overall, equity investors appeared

31. 10-year nominal benchmark yields in advanced foreign economies



SOURCE: Bloomberg.

32. Equity prices



SOURCE: Dow Jones bank index; Standard & Poor's 500 index via Bloomberg.

to become more confident in the near-term economic outlook amid somewhat better-than-expected economic data releases, declining longer-term interest rates, and upward revisions to expected year-ahead earnings per share for firms in the S&P 500 index.

Some broad equity price indexes have increased to all-time highs in nominal terms since the end of 2013. However, valuation measures for the overall market in early July were generally at levels not far above their historical averages, suggesting that, in aggregate, investors are not excessively optimistic regarding equities. Nevertheless, valuation metrics in some sectors do appear substantially stretched—particularly those for smaller firms in the social media and biotechnology industries, despite a notable downturn in equity prices for such firms early in the year. Moreover, implied volatility for the overall S&P 500 index, as calculated from option prices, has declined in recent months to low levels last recorded in the mid-1990s and mid-2000s, reflecting improved market sentiment and, perhaps, the influence of "reach for yield" behavior by some investors.

Credit spreads in the corporate sector have also declined, on balance, in recent months. After having temporarily increased early in the year, the spreads of yields on corporate bonds to yields on Treasury securities of comparable maturities ended the first half of the year about unchanged or a bit narrower. Credit spreads on high-yield corporate bonds are near the bottom of their range over the past decade. While spreads on syndicated loans have changed little this year, they are also relatively low. For further discussion of asset prices and other financial stability issues, see the box "Developments Related to Financial Stability."

Treasury market functioning and liquidity conditions in the MBS market were generally stable . . .

Indicators of Treasury market functioning remained stable amid ongoing reductions in the pace of the Federal Reserve's asset purchases over the first half of 2014. In particular, liquidity conditions in Treasury markets remained stable, with bid–asked spreads in the Treasury market staying in line with recent averages. In addition, the Treasury's first-ever auction of a Floating Rate Note in January was well received, as were subsequent auctions of those notes.

Liquidity conditions in the MBS markets were also generally stable, though there have been some signs of scarcity of certain securities, as evidenced by somewhat low levels of implied financing rates in the production-coupon "dollar roll" markets during the first half of this year. However, the implied financing rates rose in recent days, suggesting easing of settlement pressures in these markets of late (figure 33).[8] Gross issuance of these securities remained somewhat lower than in the past two years, reflecting relatively low mortgage originations.

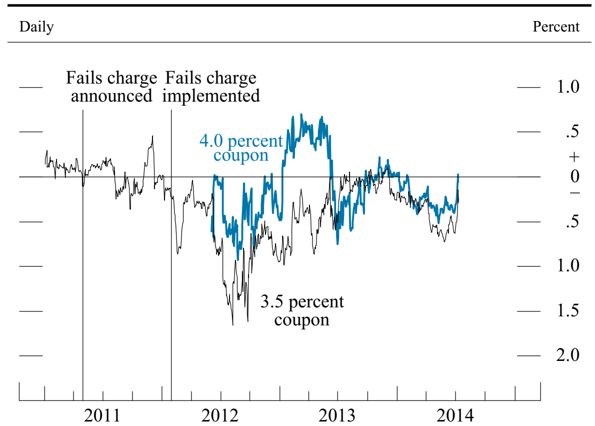
. . . and short-term funding markets also continued to function well

Conditions in short-term dollar funding markets also remained stable during the first half of 2014. Early in the year, yields on Treasury bills maturing between late February and mid-March of 2014—those that could have been affected by delayed payments if a debt ceiling agreement had not been reached—were elevated for a time, but those yields declined in mid-February in response to news of pending legislation to suspend the debt ceiling until March 2015. The federal funds rate remained at very low levels, and broader measures of unsecured dollar bank funding costs, such as the LIBOR, or London

8. Dollar roll transactions consist of a purchase or sale of agency MBS with the simultaneous agreement to sell or purchase substantially similar securities on a specified future date. The Federal Reserve engages in these transactions as necessary to facilitate settlement of its agency MBS purchases.

During April and May, the Open Market Desk transitioned purchases of agency MBS to FedTrade, the Desk's proprietary trading system that uses multiple-price competitive auctions.

33. Dollar-roll-implied financing rates (front month), Fannie Mae 30-year



NOTE: The 4.0 percent coupon data series begins on June 1, 2012.
SOURCE: J.P. Morgan.

Developments Related to Financial Stability

Pressures within the U.S. financial system that could leave it vulnerable to adverse events do not appear to have increased appreciably this year. In the current economic environment, the Committee views low interest rates as necessary to support progress toward price stability and maximum sustainable employment. Policymakers have noted the possibility that a prolonged period of low interest rates may provide incentives for some investors to "reach for yield," and those actions could increase vulnerabilities in the financial system. Asset prices for real estate, equities, and corporate bonds have risen and valuation measures have increased, but valuations have remained generally in line with historical norms. Moreover, despite brisk borrowing by the business sector, aggregate private nonfinancial debt has increased at only a moderate pace, and the financial strength of the banking sector has continued to improve. Substantial progress has been made to reduce structural vulnerabilities in the financial system, although this work is ongoing.

With regard to asset valuations, house prices have continued to increase, but, for the most part, these increases have left aggregate price-to-rent ratios within historical norms. Moreover, growth in residential mortgage debt has remained anemic, suggesting that the recent increases are not fueled by excessively aggressive lending conditions. More broadly, aggregate measures of the household debt burden appear reasonable despite recent rapid growth in auto lending and student loans, which has strained some borrowers, particularly those in the lower half of the income distribution.

However, signs of risk-taking have increased in some asset classes. Equity valuations of smaller firms as well as social media and biotechnology firms appear to be stretched, with ratios of prices to forward earnings remaining high relative to historical norms. Beyond equities, risk spreads for corporate bonds have narrowed and yields have reached all-time lows. Issuance of speculative-grade corporate bonds and leveraged loans has been very robust, and underwriting standards have loosened. For example, average debt-to-earnings multiples have risen, and the share rated B or below has moved up further for leveraged loans. The Federal Reserve continues to closely monitor developments in the leveraged lending market and, in conjunction with other federal agencies, is working to enhance compliance with previous guidance on issuance, pricing, and underwriting standards.[1]

The financial strength of the banking sector has continued to improve. Bank holding companies (BHCs) have pushed up their regulatory capital ratios, continuing a trend seen since the first set of government stress tests in 2009. The sector's aggregate Tier 1 common equity ratio, which compares high-quality capital to risk-weighted assets for all BHCs, has more than doubled, from 5.5 percent in the fourth quarter of 2008 to 11.7 percent in the first quarter of 2014. In addition, all of the domestic systemically important banking organizations met their minimum Tier 1 common equity ratios, including the capital surcharge, required under Basel III rules. Moreover, BHCs have continued to strengthen their liquidity positions in recent quarters and have become less reliant on wholesale short-term funding.

Strong capital and liquidity positions help ensure that banking organizations have the ability to lend to households and businesses and to continue to meet their financial obligations, even in times of economic difficulty. Results of the most recent set of stress tests were released in March 2014. Thirty BHCs participated in the stress tests. These institutions have a combined $13.5 trillion in assets, or approximately 80 percent of all U.S. BHC assets. The Dodd-Frank Act stress test (DFAST), mandated by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, and the Comprehensive Capital Analysis and Review (CCAR) continue to enhance supervisors' understanding of the underlying processes used by each BHC to assess the adequacy of the size and composition

1. In March 2013, the Federal Deposit Insurance Corporation, the Federal Reserve, and the Office of the Comptroller of the Currency issued joint supervisory guidance on leveraged lending practices, which became effective in May 2013. Since that time, there has been strong supervisory follow-up to ensure compliance, in the form of supervisory reviews throughout 2014 and the issuance of supervisory letters, including specific Matters Requiring Attention. See Board of Governors of the Federal Reserve System, Division of Banking Supervision and Regulation (2013), "Interagency Guidance on Leveraged Lending," Supervision and Regulation Letter SR 13-3 (March 21), www.federalreserve.gov/bankinforeg/srletters/sr1303.htm.

of its capital relative to the risks it faces. Under the "severely adverse" DFAST scenario, all but one of the participating BHCs exceeded minimum capital requirements. Furthermore, under CCAR, the Federal Reserve Board granted nonobjections to the capital plans of 24 BHCs.[2]

Recent results from the Senior Credit Officer Opinion Survey on Dealer Financing Terms indicate that the use of financial leverage by respondents' counterparties to purchase securities has not changed notably in recent quarters, although demand for financing commercial mortgage-backed securities and collateralized loan obligations (CLOs) has been rising recently. However, aggregate measures of the use of short-term wholesale funding to finance assets remained roughly unchanged over the past couple of years. Similarly, securitization, which continues to be an important means of financing, has been modest, though issuance of CLOs has increased.

Moving beyond recent developments, important structural vulnerabilities remain that could leave the U.S. financial system exposed to adverse events. Despite the increase in resilience within the banking sector highlighted by the stress tests, the broader financial system remains highly interconnected. While stronger capital and liquidity positions in the banking sector should help reduce the consequences of this structural vulnerability, the Federal Reserve nevertheless continues to encourage firms to better manage their exposures to large counterparties and to improve their recovery and resolution plans. The Federal Reserve is also working to strengthen the infrastructure of derivatives markets—for instance, by working with other agencies on rules to establish initial and variation margin requirements for over-the-counter derivatives transactions. The potential for runs on money market mutual funds in the event of a severe liquidity or credit shock remains significant, and this risk will continue to pose a threat to financial stability until further structural reforms are adopted, as recommended by the Financial Stability Oversight Council.

The Federal Reserve has taken a number of steps to continue improving the resiliency of the financial system. Some regulatory reforms taken since the previous *Monetary Policy Report* are highlighted here. Pursuant to section 165 of the Dodd-Frank Act, the Federal Reserve Board approved a final rule strengthening the supervision and regulation of large U.S. BHCs and foreign banking organizations. The rule establishes enhanced prudential standards with respect to capital, liquidity, and risk management. It also requires foreign banking organizations with a significant U.S. presence to establish an intermediate holding company over their U.S. subsidiaries, which will facilitate consistent supervision and regulation of the U.S. operations of these foreign banks.

Furthermore, together with other federal agencies, the Federal Reserve Board adopted a final rule to strengthen the leverage ratio standards for the largest, most interconnected U.S. banking organizations. The final rule applies to top-tier U.S. BHCs with more than $700 billion in consolidated total assets or more than $10 trillion in assets under custody and to their insured depository institution subsidiaries. These BHCs must maintain a leverage buffer greater than 2 percentage points above the minimum supplementary leverage ratio requirement of 3 percent, for a total of more than 5 percent, to avoid restrictions on capital distributions and discretionary employee bonus payments. Insured depository institution subsidiaries of these BHCs must maintain at least a 6 percent supplementary leverage ratio to be considered "well capitalized" under the agencies' prompt corrective action framework. The final rule has an effective date of January 1, 2018. The Federal Reserve Board is also working on proposals for additional risk-based capital surcharges and long-term debt requirements for global, systemically important banking organizations based in the United States.

The Federal Reserve Board also issued a notice of proposed rulemaking to implement section 622 of the Dodd-Frank Act. Section 622 establishes a financial-sector concentration limit that prohibits a financial company from merging with, acquiring, or consolidating with another company if the ratio of the resulting financial company's liabilities to the aggregate consolidated liabilities of all financial companies exceeds 10 percent. The proposed rule spells out the details involved in calculating the limit.

2. Initially, the Federal Reserve Board granted nonobjections to the capital plans of 25 firms, but the nonobjection granted to the 25th firm was withdrawn after that firm restated its capital position.

interbank offered rate, remain at very low levels, reflecting the absence of major funding pressures.

Money market participants continued to focus on the Federal Reserve's testing of its monetary policy tools. Daily awards at the overnight reverse repurchase agreement (ON RRP) exercise have ranged between about $50 billion and about $340 billion since early 2014. The number of counterparties participating and the dollar volume of take-up have been sensitive to the spread between market rates for repurchase agreements and the fixed ON RRP rate offered in the exercise.[9] Indeed, take-up has been large at quarter-ends, when balance sheet adjustments by financial institutions tend to limit other investment options. Experience to date suggests that ON RRP operations have helped establish a floor on money market interest rates. Testing of the Term Deposit Facility, as well as take-up of and participation in its test offerings, has expanded during the first half of 2014. (For further discussion of the testing of monetary policy tools, see the box "Planning for Monetary Policy Implementation during Normalization" in Part 2.)

The condition of financial institutions improved further, although profitability remained below its historical average

Regulatory capital ratios at bank holding companies (BHCs) increased further during the first half of 2014, and measures of bank liquidity remained robust. In addition, credit quality at BHCs continued to improve across major loan categories, and the ratios of loss reserves to delinquencies and to charge-offs each edged up. At the same time, standard

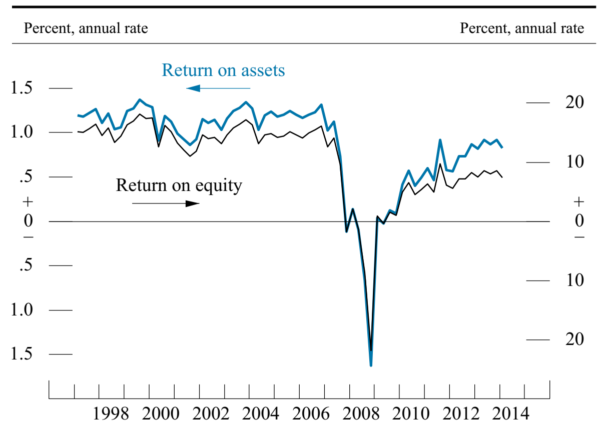
9. Fixed-rate ON RRP operations were first authorized by the FOMC at the September 2013 meeting, and were reauthorized in January 2014, for the purpose of assessing operational readiness. The Committee authorized the Open Market Desk to conduct such operations involving U.S. government securities and securities that are direct obligations of, or fully guaranteed as to principal and interest by, any agency of the United States.

measures of the profitability of BHCs have been little changed for the past six months (figure 34). Profitability of these companies remained below its historical average, in part because of subdued income from mortgage and trading businesses and compressed net interest margins at large banks. A few large banks have also incurred sizable costs from legal settlements associated with the origination of mortgages prior to the recent financial crisis. Aggregate credit provided by commercial banks grew at a solid pace in the first half of 2014 (figure 35). The increase was driven by a pickup in loan growth and a rise in holdings of U.S. Treasury securities that was reportedly influenced by banks' efforts to meet new liquidity regulations. Equity prices of large domestic banks increased a bit from the beginning of the year, on net, but underperformed the overall market, as shown in figure 32. Credit default swap (CDS) spreads for large BHCs remain low.

Among nonbank financial institutions, equity prices of insurance companies have also increased slightly, on net, since the beginning of the year. Nonbank financial institutions continued to grow at a very strong pace, as assets under management at hedge funds and private equity groups each reached record highs, reflecting modest increases in asset values as well as net inflows. Nevertheless, in response to the Federal Reserve Board's Senior Credit Officer Opinion Survey on Dealer Financing Terms for March and June, most dealers indicated that hedge funds had not changed their use of leverage since the beginning of the year (figure 36).[10] In the same survey, some dealers noted that the use of financial leverage by trading REITs, or real estate investment trusts, had decreased, continuing a trend that began in the summer of 2013. Assets under management at bond mutual funds also reached a record high.

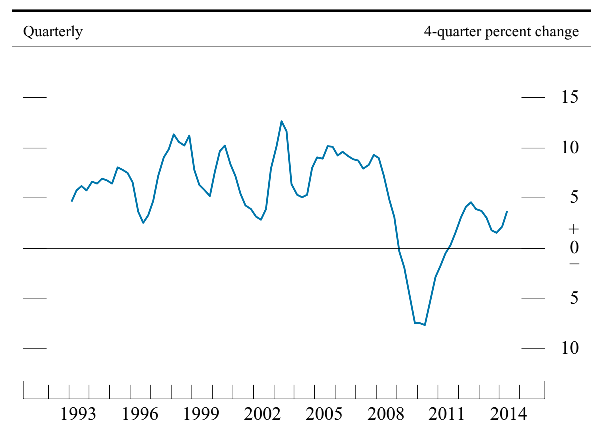
10. The Senior Credit Officer Opinion Survey on Dealer Financing Terms is available on the Board's website at www.federalreserve.gov/econresdata/releases/scoos.htm.

34. Profitability of bank holding companies



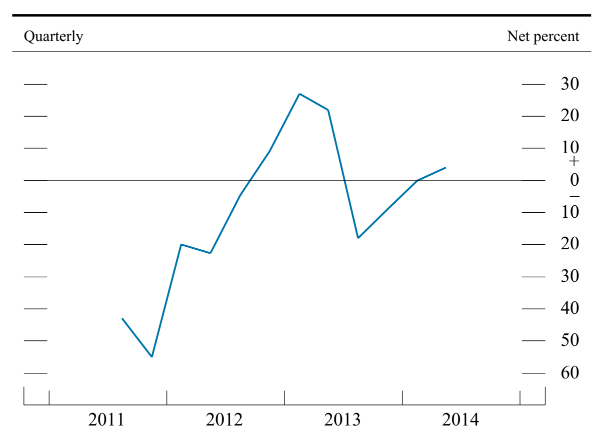
Note: The data, which are seasonally adjusted, are quarterly.
Source: Federal Reserve Board, Reporting Form FR Y-9C, Consolidated Financial Statements for Bank Holding Companies.

35. Change in total bank credit



Note: The data are seasonally adjusted and extend through 2014:Q2.
Source: Federal Reserve Board, Statistical Release H.8, "Assets and Liabilities of Commercial Banks in the United States."

36. Change in use of financial leverage by hedge funds



Note: The data begin in 2011:Q3 and extend through 2014:Q2. Net percent equals the percent of dealers that reported an increase in the use of leverage (chose the response "increased considerably" or "increased somewhat") minus the percent of dealers that reported a decrease in the use of leverage (chose the response "decreased considerably" or "decreased somewhat").
Source: Federal Reserve Board, Senior Credit Officer Opinion Survey on Dealer Financing Terms.

Municipal bond markets functioned smoothly, but some issuers remained strained

Credit conditions in municipal bond markets generally appeared to remain stable over the first half of the year. Yields on 20-year general obligation municipal bonds have declined slightly since the beginning of the year, and the MCDX, an index of CDS for a broad portfolio of municipal bonds, has also moved down. However, the ratio of an index of municipal bond yields to Treasury yields has increased a bit.

Nevertheless, significant financial strains have been evident for some issuers. Standard & Poor's, Moody's Investors Service, and Fitch Ratings downgraded Puerto Rico's general obligation bonds from investment grade to speculative grade in February. In addition, the City of Detroit continues to negotiate the terms of its bankruptcy plan.

Liquid deposits in the banking sector continued to advance briskly, boosting M2

M2 has increased at an annual rate of about 7 percent since December, about the same pace registered in the second half of 2013 and somewhat faster than the pace of nominal GDP. The growth in M2 has been driven by an increase in liquid deposits as well as an uptick in demand for currency.

International Developments

As in the United States, foreign bond yields declined and asset prices increased, on net . . .

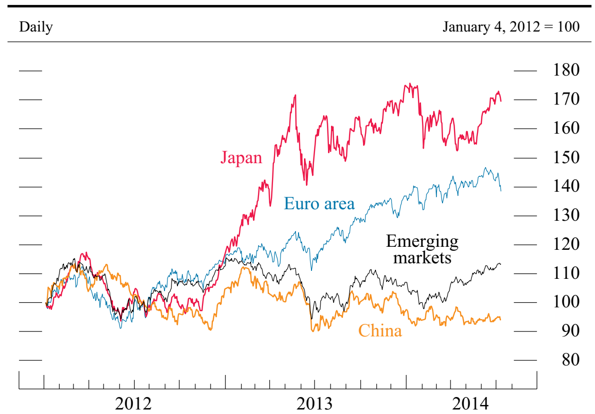
As noted earlier, foreign long-term benchmark sovereign yields have moved significantly lower since the beginning of the year. Factors contributing to the decline include expectations for lower policy interest rates, a decline in the required compensation for risk, and increased demand by price-insensitive investors for these assets. Similarly, foreign corporate and sovereign yield spreads have also declined since the start of the year. In particular, peripheral euro-area sovereign yield spreads narrowed substantially, on balance, as financial stresses in the euro area have eased and central banks in the advanced economies have emphasized that they will keep monetary policy accommodative for some time, though spreads in a few economies have moved up more recently. Sovereign yield spreads in EMEs have also declined, on net, consistent with measures adopted by EME central banks to reduce vulnerabilities and with the general increase in the prices for risky assets.

Foreign equity indexes rose, on net, during the first half of the year (figure 37). Stock prices increased, on balance, in most of the AFEs. Japanese equities underperformed early in the year, but they have moved up recently on stronger-than-expected incoming economic data. And European bank stock prices declined lately in part on concerns over troubles at several banks. Equities in most EMEs have also moved higher, as market sentiment toward these economies has continued to improve. However, the Chinese stock market fell on concerns over the economic outlook. Realized volatility across most financial markets and countries has declined since January, in part as sentiment toward risky assets generally improved.

. . . and the dollar is about unchanged

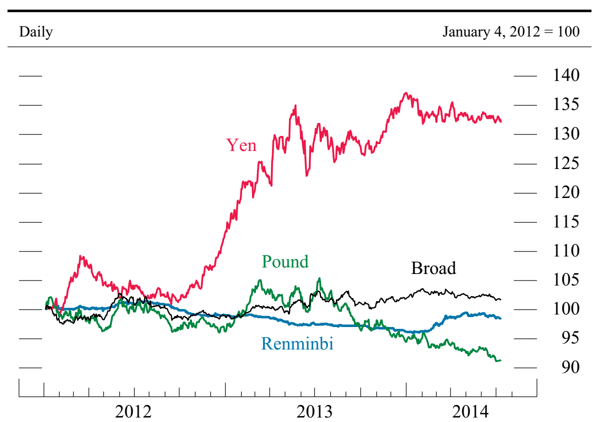
The broad nominal value of the dollar is little changed, on net, since the beginning of the year (figure 38). The U.S. dollar appreciated notably against the Chinese renminbi in the first months of the year. However, the People's Bank of China has since kept the value of the renminbi steady. In contrast, the dollar depreciated against most other emerging market currencies, as financial stresses earlier in the year unwound. In addition, the dollar depreciated against the British pound, as macroeconomic conditions improved in the United Kingdom and markets moved forward their expectations for the first rate hike by the Bank of England, and also depreciated against the Japanese yen, as investors reduced their expectations for stronger policy accommodation in Japan.

37. Equity indexes for selected foreign economies



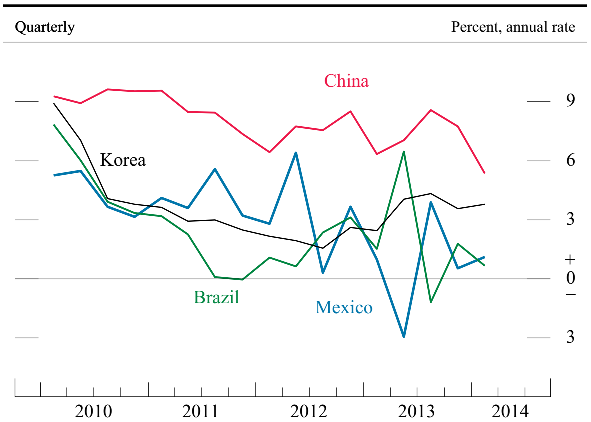
SOURCE: For emerging markets, Morgan Stanley Emerging Markets MXEF Capital Index; for the euro area, Dow Jones Euro STOXX Index; for Japan, Tokyo Stock Price Index (TOPIX); for China, Shanghai Composite Index; all via Bloomberg.

38. U.S. dollar exchange rate against broad index and selected major currencies



NOTE: The data are in foreign currency units per dollar.
SOURCE: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

39. Real gross domestic product growth in selected emerging market economies



SOURCE: For China, CEIC Data; for Korea, Bank of Korea via ECOS Economic Statistics System; for Brazil, Brazilian Institute of Geography and Statistics; for Mexico, Haver Analytics.

Activity in the emerging market economies slowed in the first quarter but showed signs of picking up in the second quarter . . .

Aggregate real GDP growth in the EMEs slowed in the first quarter of this year, led by a step-down in China's economy that also weighed on activity in many of its trading partners, especially in emerging Asia (figure 39). The slowing in China reflected a sharp fall in exports, as well as a restraint on domestic demand from tighter financial conditions, as the government attempted to rein in credit. In Mexico, growth remained weak in the first quarter, likely restrained by hikes in tax rates and administered fuel prices and softer U.S. demand for Mexican exports. Brazilian real GDP rose at a tepid pace in the first quarter, extending the lackluster performance of the past two years.

Recent indicators, notably exports, suggest that EME growth picked up in the second quarter. In particular, Chinese exports grew robustly in the second quarter, reversing most of the sharp decline in February, and the authorities announced a series of small targeted stimulus measures to support growth. The improvement in Chinese growth, along with firmer growth in the advanced economies, will help boost global economic activity in the rest of emerging Asia. Growth in Mexico is also expected to step up in the second quarter, in line with U.S. manufacturing output, and recent data in Brazil point to some, albeit modest, improvement.

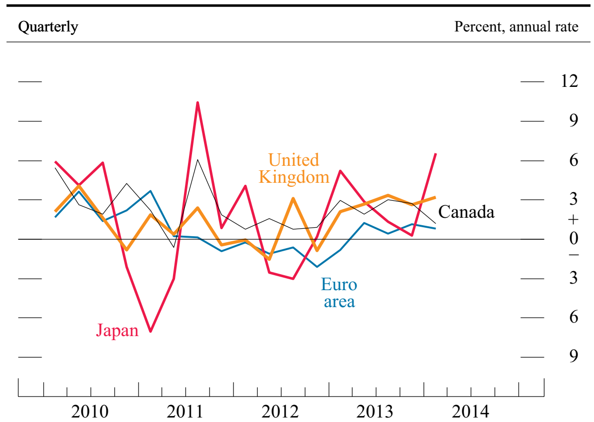
Inflation remained subdued in most EMEs, and central banks in some countries, such as Chile, Mexico, and Thailand, cut rates to support growth. In contrast, the central banks of a few EMEs, such as Brazil and India, where inflation remained elevated, raised policy rates.

. . . while economic growth in most advanced foreign economies remained moderate

Indicators suggest that average economic growth in the AFEs remained moderate in the first half of 2014 (figure 40). The severe winter weather that hampered growth in the United States also weighed on real GDP in Canada, where growth slowed to an annualized 1¼ percent pace in the first quarter. However, data including the purchasing managers index are consistent with Canadian growth bouncing back in the second quarter. In Japan, GDP growth surged in the first quarter at a nearly 7 percent pace, led by household spending ahead of the April hike in the Japanese consumption tax, but recent retail sales data suggest that activity fell back sharply in April. In the United Kingdom, GDP growth remained robust in the first quarter at 3¼ percent, and the unemployment rate fell about 1 percentage point between mid-2013 and the first quarter of 2014. The euro area's recovery continued at a subdued pace—with GDP rising at an annual rate of around ¾ percent in the first quarter—and recent indicators point to a firming in growth in the second quarter as financial and credit conditions continue to normalize.

Inflation during the first half of the year has been around 2 percent in Canada and somewhat below that level in the United Kingdom. In Japan, the April tax hike as well as rising import prices in response to recent yen depreciation pushed up the 12-month rate of consumer price inflation in April. However, inflation excluding taxes remained much lower, and the Bank of Japan continued its aggressive program of asset purchases aimed at achieving its inflation target of 2 percent in a stable manner. In the euro area, inflation slowed to just ½ percent in May, and the ECB responded in June by cutting its key policy rates—taking the deposit rate into negative territory—and by announcing measures to ease credit conditions. (For further discussion of monetary policy at foreign central banks, see the box "Prospects for Monetary Policy Normalization in the Advanced Economies.")

40. Real gross domestic product growth in selected advanced foreign economies



SOURCE: For Canada, Statistics Canada; for the euro area, Eurostat; for Japan, Cabinet Office of Japan; for the United Kingdom, Office for National Statistics.

Prospects for Monetary Policy Normalization in the Advanced Economies

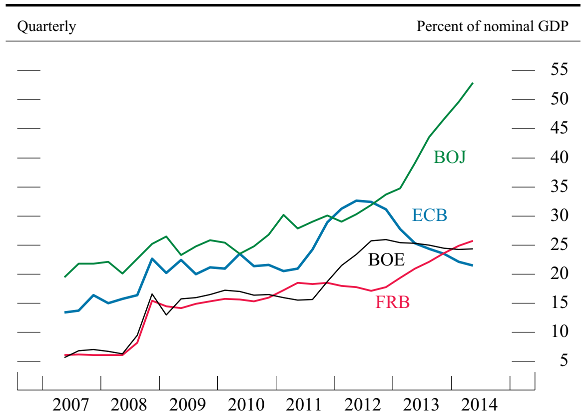
Five years after the global financial crisis, policy rates in the advanced economies remain at or near record lows, and the asset holdings of several central banks remain elevated (figure A). Even as recently as mid-2013, market expectations, as implied by quotes for overnight index swaps, suggested that policy normalization in the advanced economies would occur more or less in tandem (figure B).

Since that time, however, market views on the prospective policies of the major central banks seem to have diverged. Over the past 15 months, markets have progressively revised upward, on net, the policy rate expected at the end of 2015 in the United Kingdom. These expectations, along with those for the United States, have decoupled from those for the euro area and Japan. Market expectations of policy rates in the euro area have decreased steadily over the past year, while in Japan policy rates are expected to remain low.

In part, this divergence is due to the differences in inflation and growth outlooks across these economies. The recovery has gained footing in the United Kingdom and remains on track in the United States, with the unemployment rate continuing to fall in both countries. In contrast, euro-area inflation has declined markedly, and medium-term expectations for inflation, measured both from surveys and from inflation swaps, have also edged down. Gross domestic product in the euro area has grown more slowly than in other economies. In Japan, survey-based expectations for inflation over the next 10 years have risen more than 1 percentage point since early 2013 but are still below the 2 percent target.

Indeed, recent monetary policy actions across major central banks appear to have diverged. Some

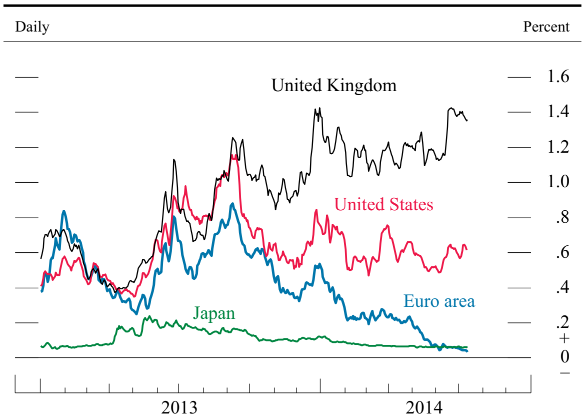
A. Central bank assets in selected advanced economies



NOTE: The data extend through 2014:Q2. The 2014:Q2 central bank assets are divided by 2014:Q1 gross domestic product (GDP).

SOURCE: For the euro area, European Central Bank (ECB) and Eurostat; for Japan, Bank of Japan (BOJ) and Cabinet Office of Japan; for the United Kingdom, Bank of England (BOE) and Office for National Statistics; for the United States, Federal Reserve Board (FRB) and Bureau of Economic Analysis.

B. December 2015 expected policy rates



NOTE: The data are three-day moving averages of one-month forward rates from overnight index swap quotes.

SOURCE: Overnight index swap quotes are from Bloomberg.

central banks are beginning to take steps to prepare for normalization, though monetary policy remains accommodative. The Bank of England (BOE) stopped asset purchases in 2012, though it has maintained its asset holdings by reinvesting the proceeds of maturing assets. In addition, the BOE issued forward guidance laying out the conditions under which it will begin to raise its policy rate, and the unemployment rate has already fallen below its initially announced threshold. The Federal Reserve has reduced the pace of its asset purchases in recent months and continues to provide forward guidance regarding the eventual liftoff of the federal funds rate and its subsequent path.

In contrast, the Bank of Japan (BOJ) and the European Central Bank (ECB) continue to ease policy. The BOJ announced a substantial expansion of its asset purchases in April 2013 with its Quantitative and Qualitative Monetary Easing program and committed to continuing purchases “as long as necessary” to achieve its 2 percent inflation target, though its stated aim is to achieve that goal by April 2015. As part of the program, the BOJ is doubling the monetary base and its holdings of Japanese government bonds and exchange-traded funds. Likewise, the ECB announced a new round of stimulus measures in its June 2014 policy meeting. The ECB cut its policy rates, lowering its main lending rate to 15 basis points and its deposit rate to negative 10 basis points. The ECB also increased the provision of short-term liquidity and announced targeted longer-term refinancing operations, or TLTROs, at fixed interest rates through 2018, thus reinforcing its forward guidance that it will keep rates low for an extended period. Moreover, the ECB announced it will intensify preparatory work related to purchases of asset-backed securities.

Part 2
Monetary Policy

To support further progress toward maximum employment and price stability, monetary policy has remained highly accommodative. The Federal Reserve kept the target federal funds rate at its effective lower bound, updated its forward guidance regarding the path of the federal funds rate, and added to its sizable holdings of longer-term securities, albeit at a reduced pace. The Federal Reserve has also continued to plan for the eventual normalization of monetary policy.

The Federal Open Market Committee continued to use large-scale asset purchases and forward rate guidance to support further progress toward maximum employment and price stability

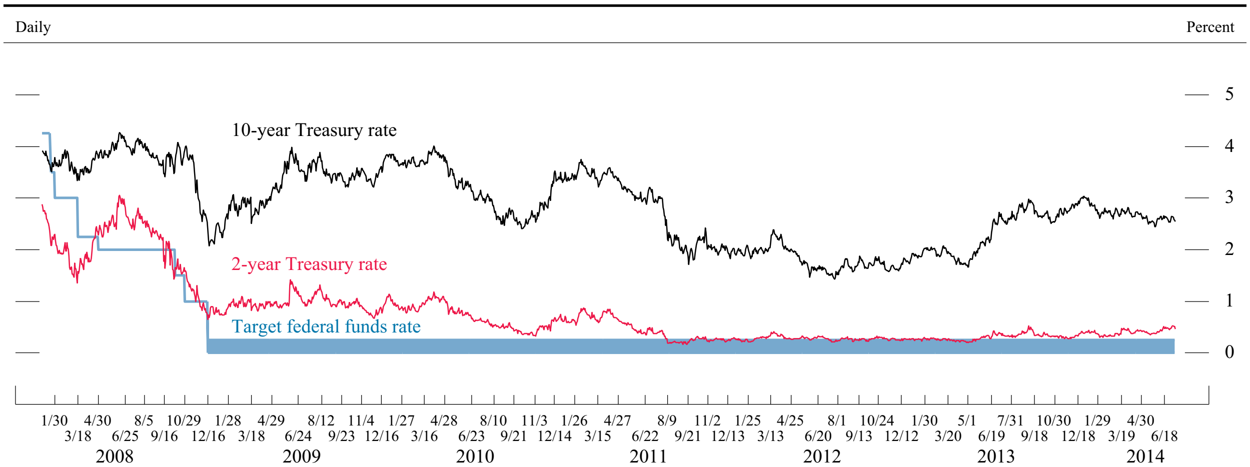
The Committee has continued to judge that a highly accommodative stance of monetary policy remains warranted to support progress toward its dual mandate of maximum employment and price stability. With the target range for the federal funds rate remaining at its effective lower bound, the Federal Open Market Committee (FOMC) has made further use of nontraditional policy tools to provide appropriate monetary stimulus (figure 41). In particular, the FOMC has used large-scale asset purchases to put downward pressure on longer-term interest rates and to ease financial conditions more broadly so as to promote the more rapid achievement of its dual objectives. In addition, the FOMC has provided guidance about the likely future path of the federal funds rate in an effort to give greater clarity to the public about its policy outlook and intentions. In light of the cumulative progress toward its monetary policy objectives and the outlook for further progress over coming years, the Committee made adjustments during the first half of 2014 to both its asset purchase program and its forward guidance about the path of the federal funds rate.

The FOMC made further measured reductions in the pace of its asset purchases . . .

During the first half of 2014, the Committee made further measured reductions in the pace of its asset purchases, following the initial modest reduction announced at the December 2013 meeting.[11] These actions

11. See Board of Governors of the Federal Reserve System (2013), "Federal Reserve Issues FOMC Statement," press release, December 18, www.federalreserve.gov/newsevents/press/monetary/20131218a.htm.

41. Selected interest rates



Note: The 2-year and 10-year Treasury rates are the constant-maturity yields based on the most actively traded securities. The dates on the horizontal axis are those of regularly scheduled Federal Open Market Committee meetings.
Source: Department of the Treasury; Federal Reserve Board.

reflected the cumulative progress toward maximum employment and the improvement in the outlook for labor market conditions since the inception of the current asset purchase program in the fall of 2012 as well as the Committee's judgment that there was sufficient underlying strength in the broader economy to support ongoing improvement in labor market conditions and inflation moving back toward its longer-run objective.

Specifically, at its four meetings in the first half of 2014, the Committee reduced the monthly pace of its purchases of agency mortgage-backed securities (MBS) and of longer-term Treasury securities by $5 billion each. Accordingly, beginning in July, the Committee is adding to its holdings of agency MBS at a pace of $15 billion per month (compared with $35 billion per month at the beginning of the year) and is adding to its holdings of longer-term Treasury securities at a pace of $20 billion per month (compared with $40 billion per month at the beginning of the year). The FOMC also maintained its existing policy of reinvesting principal payments from its holdings of agency debt and agency MBS in agency MBS and of rolling over maturing Treasury securities at auction.

While making measured reductions in the pace of its purchases, the Committee noted that its sizable and still-increasing holdings of longer-term securities should maintain downward pressure on longer-term interest rates, support mortgage markets, and help make broader financial conditions more accommodative. More accommodative financial conditions, in turn, should promote a stronger economic recovery, a further improvement in labor market conditions, and a return of inflation, over time, toward the Committee's 2 percent objective.

At each of its meetings so far this year, the FOMC reiterated that it would closely monitor incoming information on economic and financial developments, and that it would continue asset purchases and employ its other policy tools as appropriate until the outlook for the labor market had improved substantially in a context of price stability. The Committee also noted that if incoming information broadly supports its expectation of ongoing improvement in labor market conditions and inflation moving back toward its longer-run objective, it would likely reduce the pace of asset purchases in further measured steps at future meetings. However, the Committee also emphasized that asset purchases are not on a preset course, and that decisions about their pace would remain contingent on the Committee's outlook for the labor market and inflation as well as its assessment of the likely efficacy and costs of such purchases.

. . . updated its forward guidance with a qualitative description of the factors that will influence its decision to begin raising the federal funds rate . . .

As 2014 began, the Committee's forward guidance included quantitative thresholds, stating that the exceptionally low target range for the federal funds rate of 0 to ¼ percent would be appropriate at least as long as the unemployment rate remained above 6½ percent, inflation between one and two years ahead was projected to be no more than a half percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continued to be well anchored.[12] The Committee also indicated that in determining how long to maintain a highly accommodative stance of monetary policy, it would consider not only the unemployment rate but also other indicators, including additional measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial developments. Based on its assessment of these factors, the Committee noted that it likely would be appropriate to maintain the current target range for the federal funds rate well past the time the unemployment rate declines below 6½ percent, especially if

12. See Board of Governors of the Federal Reserve System (2014), "Federal Reserve Issues FOMC Statement," press release, January 29, www.federalreserve.gov/newsevents/press/monetary/20140129a.htm.

projected inflation continues to run below the Committee's 2 percent longer-run goal.

At the time of the March meeting, with the unemployment rate quickly approaching the threshold of 6½ percent, the FOMC decided to update its forward guidance by providing a qualitative description of the factors that would influence its decision regarding the appropriate time of the first increase in the target federal funds rate from its current 0 to ¼ percent target range.[13] The Committee agreed that while reliance on a single indicator—the unemployment rate—had been useful for communications purposes when employment conditions were much further from mandate-consistent levels, with labor market conditions improving, the Committee would base its judgment concerning progress in the labor market on a much broader set of indicators from that point forward. Specifically, the Committee indicated that in determining how long to maintain the current target range, it would assess progress—both realized and expected—toward its objectives of maximum employment and 2 percent inflation. This assessment would take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial developments. Based on its assessment of these factors, the Committee indicated that it likely would be appropriate to maintain the current target range for the federal funds rate for a considerable time after the asset purchase program ends, especially if projected inflation continued to run below the Committee's 2 percent longer-run goal and provided that longer-term inflation expectations remained well anchored. To help forestall misinterpretation of the new forward guidance, the Committee noted that the change in its guidance did not indicate any change in its policy intentions as set forth in its recent statements.

13. See Board of Governors of the Federal Reserve System (2014), "Federal Reserve Issues FOMC Statement," press release, March 19, www.federalreserve.gov/newsevents/press/monetary/20140319a.htm.

. . . and added information regarding the likely behavior of the target federal funds rate after the rate is raised above its effective lower bound

The Committee also stated that, when it 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. In addition, the Committee indicated its anticipation that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.

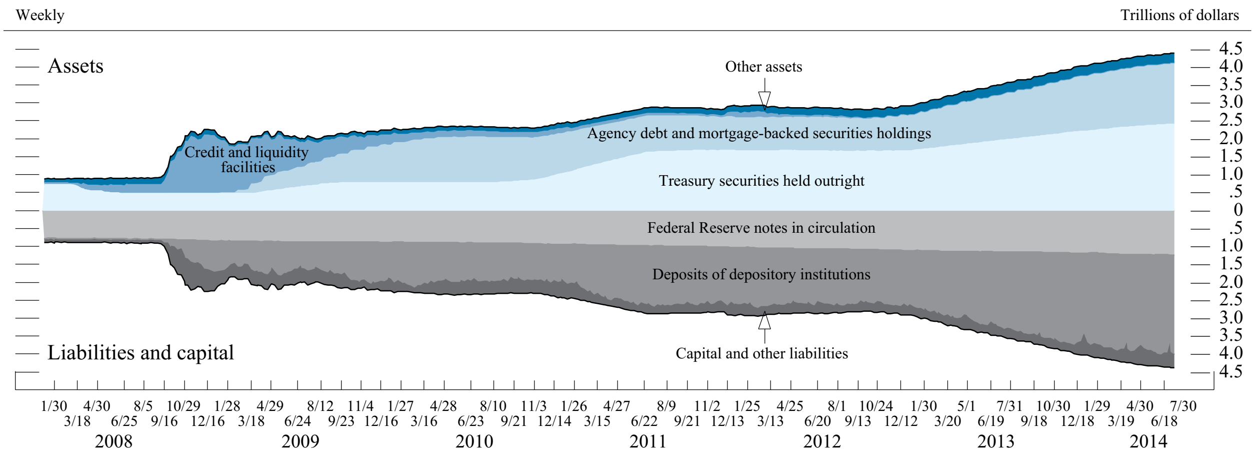
Committee participants have noted that a prolonged period of low interest rates could lead investors to take on excessive risk, potentially posing risks to longer-term financial stability. The Federal Reserve will continue to monitor the financial system for any signs of the buildup of such risks and will take appropriate steps to address such risks as needed (see the box "Developments Related to Financial Stability" in Part 1).

The Committee's large-scale asset purchases led to a further increase in the size of the Federal Reserve's balance sheet

As a result of the FOMC's ongoing large-scale asset purchase program, Federal Reserve assets have increased further since the end of last year (figure 42). Holdings of U.S. Treasury securities in the System Open Market Account (SOMA) increased $200 billion to $2.4 trillion, and holdings of agency debt and MBS increased $160 billion, on net, to $1.7 trillion.[14] On the liability side of the balance sheet, the increase in the Federal Reserve's assets was largely matched

14. The changes in the par value of SOMA holdings, noted earlier, can differ from the amount of securities purchased over the same period, largely because of lags in the settlement of the purchases. Among other assets, the outstanding amount of dollars provided through the temporary U.S. dollar liquidity swap arrangements with foreign central banks edged lower since the end of last year and remains close to zero, reflecting the continued stability in offshore U.S. dollar funding markets.

42. Federal Reserve assets and liabilities



NOTE: The data extend through July 9, 2014. Credit and liquidity facilities consists of primary, secondary, and seasonal credit; term auction credit; central bank liquidity swaps; support for Maiden Lane, Bear Stearns, and AIG; and other credit facilities, including the Primary Dealer Credit Facility, the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility, the Commercial Paper Funding Facility, and the Term Asset-Backed Securities Loan Facility. Other assets includes unamortized premiums and discounts on securities held outright. Other liabilities includes reverse repurchase agreements, the U.S. Treasury General Account, and the U.S. Treasury Supplementary Financing Account. The dates on the horizontal axis are those of regularly scheduled Federal Open Market Committee meetings.

SOURCE: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances."

by increases in reserve balances, currency in circulation, deposits with Federal Reserve banks, and reverse repurchase agreements.

Given the Federal Reserve's large and growing balance sheet, interest income on the SOMA portfolio continued to support substantial remittances to the U.S. Treasury. Last year, remittances totaled $80 billion, and remittances over the first quarter of this year remained very high. Cumulative remittances to the Treasury from 2008 through the first quarter of 2014 exceeded $420 billion.[15]

The Federal Reserve continued to plan for the eventual normalization of monetary policy

At its April meeting, the FOMC discussed issues associated with the eventual normalization of the stance and conduct of monetary policy during a period when the Federal Reserve's balance sheet will be very large.[16] The Committee's discussion of this topic was undertaken as part of prudent planning and did not imply that normalization will begin soon. The Committee discussed various tools that could be used to raise short-term interest rates—and to control the level of short-term interest rates once they are above the effective lower bound—even while the balance sheet of the Federal Reserve remains very large. Those tools included the rate of interest paid on excess reserve balances, fixed-rate overnight reverse repurchase agreement (ON RRP) operations, term reverse repurchase agreements, and the Term Deposit Facility (TDF). Participants considered how various combinations of tools could have different implications for the degree of control over short-term interest rates, the Federal Reserve's balance sheet and remittances to the Treasury, the functioning of the federal funds market, and financial stability in both normal times and periods of stress.

15. See Board of Governors of the Federal Reserve System (2014), *Quarterly Report on Federal Reserve Balance Sheet Developments* (Washington: Board of Governors, May), www.federalreserve.gov/monetarypolicy/files/quarterly_balance_sheet_developments_report_201405.pdf.

16. See Board of Governors of the Federal Reserve System (2014), "Minutes of the Federal Open Market Committee, April 29–30, 2014," press release, May 21, www.federalreserve.gov/newsevents/press/monetary/20140521a.htm.

At the June FOMC meeting, participants continued their discussion of normalization issues and considered some possible strategies for implementing and communicating monetary policy during that process.[17] Most participants agreed that adjustments in the rate of interest on excess reserves (IOER) should play a central role during the normalization process. It was generally agreed that an ON RRP facility with an interest rate set below the IOER rate could play a useful supporting role by helping to firm the floor under money market interest rates. A few participants commented that the Committee should also be prepared to use its other policy tools, including term deposits and term reverse repurchase agreements, if necessary. Most participants thought that the federal funds rate should continue to play a role in the Committee's operating framework and communications during normalization, with many of them indicating a preference for continuing to announce a target range. While generally agreeing that an ON RRP facility could play an important role in the policy normalization process, participants discussed several possible concerns about using such a facility, including the potential for substantial shifts in investments toward the facility and away from financial and nonfinancial firms in times of financial stress, the potential expansion of the Federal Reserve's role in financial intermediation, and the extent to which monetary policy operations might be conducted with nontraditional counterparties. Participants discussed design features that could help address these concerns. Several participants emphasized that, although the ON RRP rate would be useful in controlling short-term interest rates during normalization, they did not anticipate that such a facility would be a permanent part of the Committee's longer-run operating framework. Overall, participants generally expressed a preference for a simple and clear approach to normalization, and it was observed that it would be useful for the Committee to develop its plans and communicate them to the public later this year, well before the first steps in normalizing policy become appropriate, and to maintain flexibility about the evolution of the normalization process as well as the Committee's longer-run operating framework.

The Federal Reserve has continued to test the operational readiness of its policy tools, conducting daily ON RRP operations and several tests of the TDF during the first half of 2014. To date, testing has progressed smoothly, and, in recent months, short-term market rates have generally traded above the ON RRP rate. (For more discussion of the Federal Reserve's preparations for the eventual normalization of monetary policy, see the box "Planning for Monetary Policy Implementation during Normalization.")

17. See Board of Governors of the Federal Reserve System (2014), "Minutes of the Federal Open Market Committee, June 17–18, 2014," press release, July 9, www.federalreserve.gov/newsevents/press/monetary/20140709a.htm.

Planning for Monetary Policy Implementation during Normalization

As noted in recent communications by the Federal Open Market Committee (FOMC), if the economy continues to evolve as anticipated, the Federal Reserve's asset purchase program will likely be concluded following the October meeting. At that time, the size of the Federal Reserve's balance sheet will stand at about \$4.5 trillion, and reserve balances in the banking system will be close to \$3 trillion, an extraordinarily elevated level relative to the average level of reserve balances prior to the onset of the financial crisis—about \$25 billion. As a result, when the FOMC eventually chooses to begin removing policy accommodation, it will do so with a level of reserves in the banking system far in excess of that during any prior period of policy tightening.

In the past, the Federal Reserve tightened policy by draining small amounts of reserve balances through open market operations. The resulting scarcity of reserves in the banking system effectively raised the value to banks of their holdings of reserve balances as a means of satisfying reserve requirements and meeting clearing needs. The higher value of reserve balances then led banks to bid up the rate in the federal funds market and other short-term funding markets as they bolstered their reserve positions.

This traditional, quantity-based mechanism for tightening policy will not be feasible during the normalization period given the very elevated level of reserves in the banking system. Nonetheless, the Federal Reserve is confident that it has the tools necessary to tighten policy at the appropriate time. The basic tools at the Federal Reserve's disposal during the period of policy normalization include adjustments to the interest on excess reserves (IOER) rate; overnight reverse repurchase agreement (ON RRP) operations; and term operations, including the offer of term deposits issued through the Term Deposit Facility (TDF) and term reverse repurchase agreements (term RRPs).

Alternative Policy Tools

As discussed in the minutes of recent FOMC meetings, adjustments to the IOER rate will be a particularly important tool during the normalization period. Banks should be unwilling to lend to any private counterparty at a rate lower than the rate they can earn on balances maintained at the Federal Reserve. As a result, an increase in the IOER rate will put upward pressure on a range of short-term interest rates. In effect, raising the IOER rate allows the Federal Reserve to increase the value that banks place on reserve balances, which will have market effects similar to those associated with a reduction in the quantity of reserves in the traditional, quantity-based mechanism for tightening the stance of monetary policy.

As a complement to the IOER rate, the Federal Reserve could also employ ON RRP operations to put additional upward pressure on short-term interest rates. In an ON RRP operation, eligible Federal Reserve counterparties, importantly including many nonbank financial institutions, may invest funds with the Federal Reserve overnight at a given rate. Consequently, these institutions should be unwilling to lend to private counterparties in money markets at a rate below that available to them on ON RRP transactions with the Federal Reserve. As a result, ON RRP operations should complement the IOER rate in helping to establish a floor on money market interest rates. Finally, the Federal Reserve could also employ term operations—term deposits issued through the TDF and term RRPs—to help drain reserves in the banking system and put further upward pressure on short-term interest rates.

As noted in the minutes of the April and June FOMC meetings, policymakers have considered a number of possible ways that these tools could be employed in combination during the normalization period.[1] These discussions have considered a range of issues, such as the extent of control over short-term interest rates, potential effects on trading in the federal funds market, financial stability considerations, costs to the Federal Reserve, and potential changes in patterns of financial intermediation. The Committee expects to provide the public with more information about its normalization plans later this year.

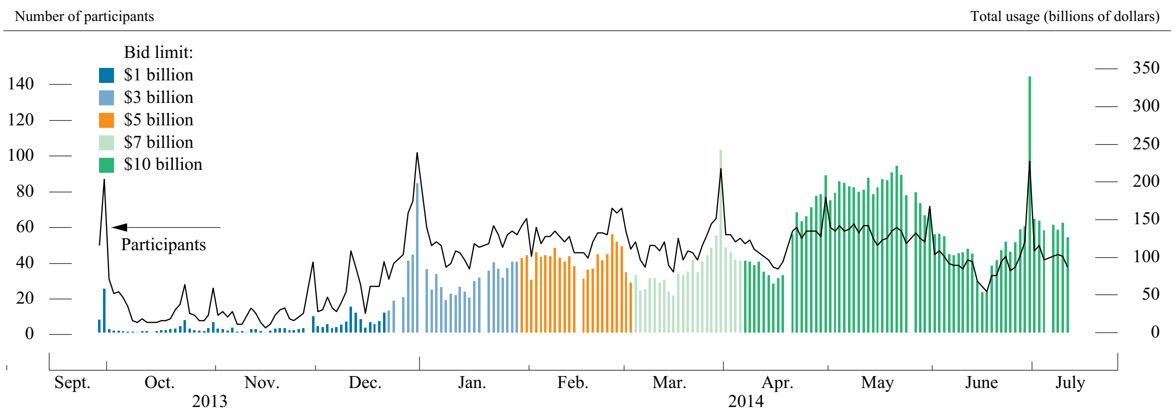
Ongoing Testing of the Alternative Policy Tools

At the same time, as part of prudent planning, the Federal Reserve has continued to test the operational readiness of its policy tools. The testing of these normalization tools has been ongoing for some time and has evolved in terms of the offering formats, tenors and rates offered, maximum awards or allotment amounts, and eligible counterparties.[2]

1. See Board of Governors of the Federal Reserve System (2014), "Minutes of the Federal Open Market Committee, April 29–30, 2014," press release, May 21, www.federalreserve.gov/newsevents/press/monetary/20140521a.htm; and Board of Governors of the Federal Reserve System (2014), "Minutes of the Federal Open Market Committee, June 17–18, 2014," press release, July 9, www.federalreserve.gov/newsevents/press/monetary/20140709a.htm.

2. The types of counterparties that are currently eligible to participate in the Federal Reserve's ON RRP operations include depository institutions, money market funds, government-sponsored enterprises, and primary dealers, while

A. Overnight reverse repurchase agreement operations

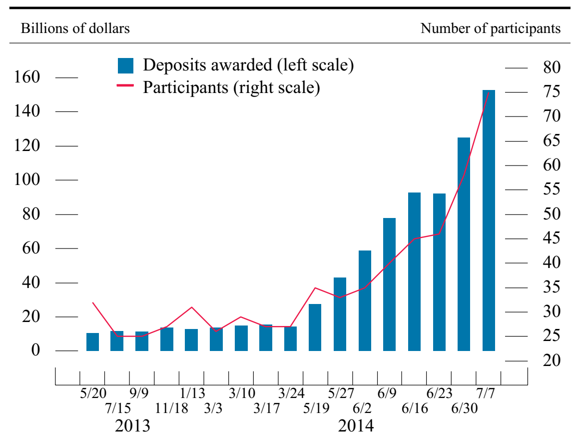


Note: The data are daily and begin on September 23, 2013.
Source: Federal Reserve Bank of New York, temporary open market operations data.

Since September 2013, the Open Market Desk has been conducting daily fixed-rate, capped-allotment ON RRP operations as authorized by the FOMC. In general, daily take-up of ON RRPs has ranged between about $50 billion and about $340 billion since early this year, with the variation in usage primarily reflecting three factors: (1) changes in the daily counterparty allotment limit; (2) changes in the spread between market repurchase agreement rates and the rate offered in the Federal Reserve's ON RRP operations; and (3) calendar effects, including those related to month- and quarter-ends (figure A). Since the introduction of the exercise, the daily counterparty allotment limit has been gradually raised from $0.5 billion to $10 billion, the fixed rate offered on ON RRP operations has been changed within the authorized limits and currently stands at 5 basis points, and the collateral accepted in the operations has been limited to U.S. Treasury securities. Money market funds have accounted for most of the daily participants and most of the daily volume of take-up. All operations to date have proceeded smoothly. The availability of the ON RRP operations reportedly has helped establish a floor on overnight interest rates.[3]

The Federal Reserve's testing of the TDF has been ongoing since June 2010 and evolved in the first half of this year. The incremental changes to the terms and format of the facility this year were aimed at improving the participation of depository institutions as well as operational readiness.[4] Most recently, the Federal Reserve conducted a series of eight TDF test operations, during which the maximum award amount per institution and the interest rate paid at the facility were raised gradually. As a result, the level of activity in these operations increased considerably relative to such levels in test operations conducted over recent years (figure B).

B. Term Deposit Facility operations



Source: Federal Reserve Board.

only depository institutions may participate in TDF operations. Results of ON RRP operations can be found on the Federal Reserve Bank of New York's website at www.newyorkfed.org/markets/omo/dmm/temp.cfm, and results of the TDF operations can be found on the Federal Reserve Board's website at www.federalreserve.gov/monetarypolicy/tdf.htm.

3. Between December 2009 and April 2013, the Open Market Desk also conducted a series of small-scale term RRP test operations. Those testing operations used a multi-price auction format and a term of two to six days; accepted collateral included U.S. Treasury securities, direct agency debt, and agency mortgage-backed securities. The number of eligible counterparties was extended over this period. The amount awarded in these test operations peaked at about $3.3 billion.

4. Authority to operate the TDF comes from section 19(b)(12) of the Federal Reserve Act, which allows eligible institutions to receive earnings on balances maintained at Federal Reserve Banks and authorizes the Board of Governors to prescribe regulations concerning the payment of such earnings. Within this authority, the Board created the TDF and has adjusted the parameters of the facility from time to time.

Part 3
Summary of Economic Projections

The following material appeared as an addendum to the minutes of the June 17–18, 2014, meeting of the Federal Open Market Committee.

In conjunction with the June 17–18, 2014, Federal Open Market Committee (FOMC) meeting, meeting participants submitted their assessments of real output growth, the unemployment rate, inflation, and the target federal funds rate for each year from 2014 through 2016 and over the longer run.[18] 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.

18. Four members of the Board of Governors and the presidents of the 12 Federal Reserve Banks submitted projections. Governor Brainard took office on June 16, 2014, and participated in the June 17–18, 2014, FOMC meeting; she was not able to submit economic projections.

Overall, FOMC participants expected that, under appropriate monetary policy, economic growth would pick up notably in the second half of 2014 and remain in 2015 and 2016 above their estimates of the longer-run normal rate of economic growth. Consistent with that outlook, the unemployment rate was projected to continue to decline toward its longer-run normal level over the projection period (table 1 and figure 1). The majority of 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 slightly below the Committee's 2 percent objective in 2016.

The majority of participants expected that highly accommodative monetary policy would

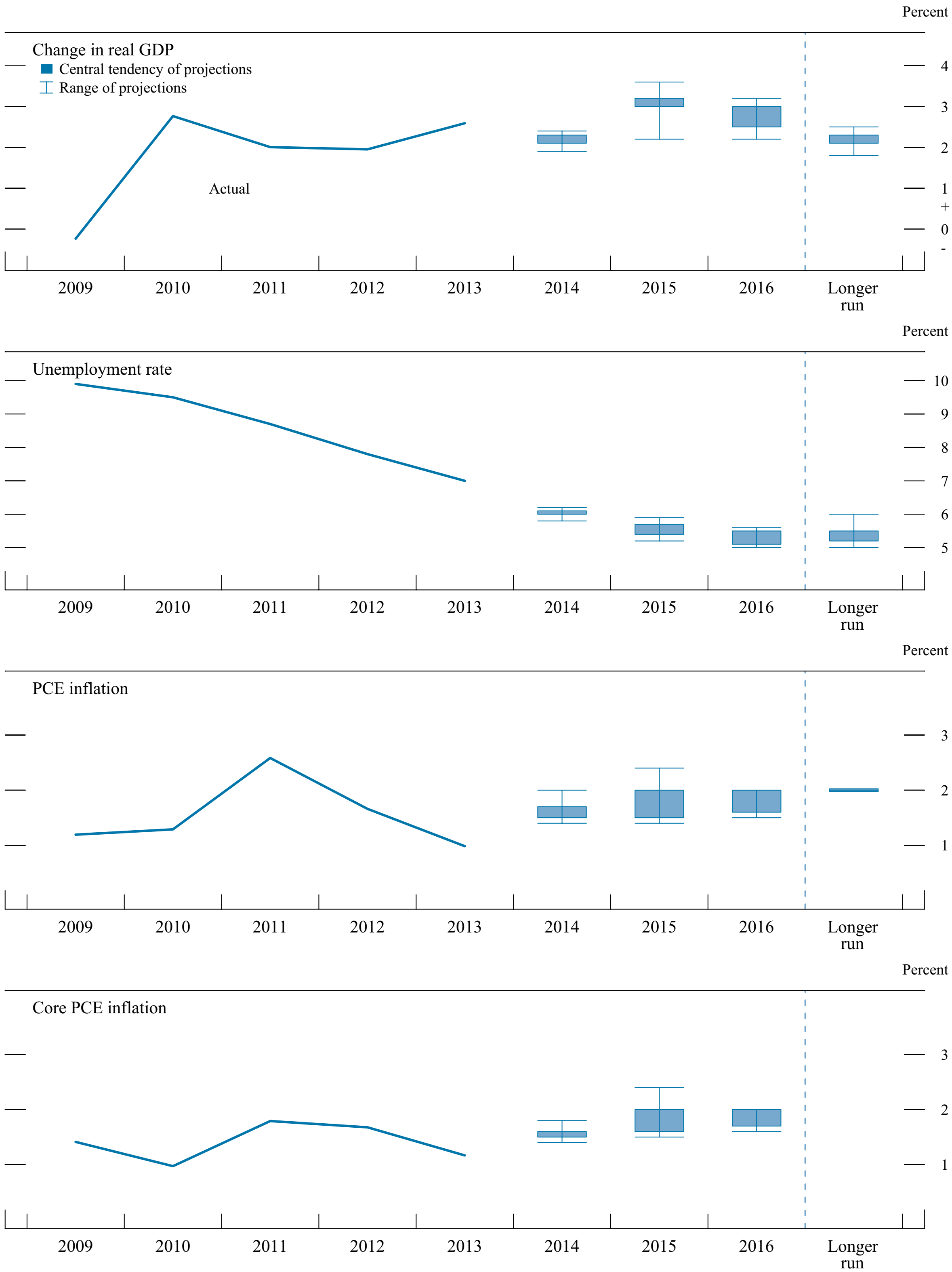
Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, June 2014
Percent

Variable	Central tendency[1]				Range[2]			
	2014	2015	2016	Longer run	2014	2015	2016	Longer run
Change in real GDP	2.1 to 2.3	3.0 to 3.2	2.5 to 3.0	2.1 to 2.3	1.9 to 2.4	2.2 to 3.6	2.2 to 3.2	1.8 to 2.5
March projection	2.8 to 3.0	3.0 to 3.2	2.5 to 3.0	2.2 to 2.3	2.1 to 3.0	2.2 to 3.5	2.2 to 3.4	1.8 to 2.4
Unemployment rate	6.0 to 6.1	5.4 to 5.7	5.1 to 5.5	5.2 to 5.5	5.8 to 6.2	5.2 to 5.9	5.0 to 5.6	5.0 to 6.0
March projection	6.1 to 6.3	5.6 to 5.9	5.2 to 5.6	5.2 to 5.6	6.0 to 6.5	5.4 to 5.9	5.1 to 5.8	5.2 to 6.0
PCE inflation	1.5 to 1.7	1.5 to 2.0	1.6 to 2.0	2.0	1.4 to 2.0	1.4 to 2.4	1.5 to 2.0	2.0
March projection	1.5 to 1.6	1.5 to 2.0	1.7 to 2.0	2.0	1.3 to 1.8	1.5 to 2.4	1.6 to 2.0	2.0
Core PCE inflation[3]	1.5 to 1.6	1.6 to 2.0	1.7 to 2.0		1.4 to 1.8	1.5 to 2.4	1.6 to 2.0	
March projection	1.4 to 1.6	1.7 to 2.0	1.8 to 2.0		1.3 to 1.8	1.5 to 2.4	1.6 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 March projections were made in conjunction with the meeting of the Federal Open Market Committee on March 18–19, 2014.

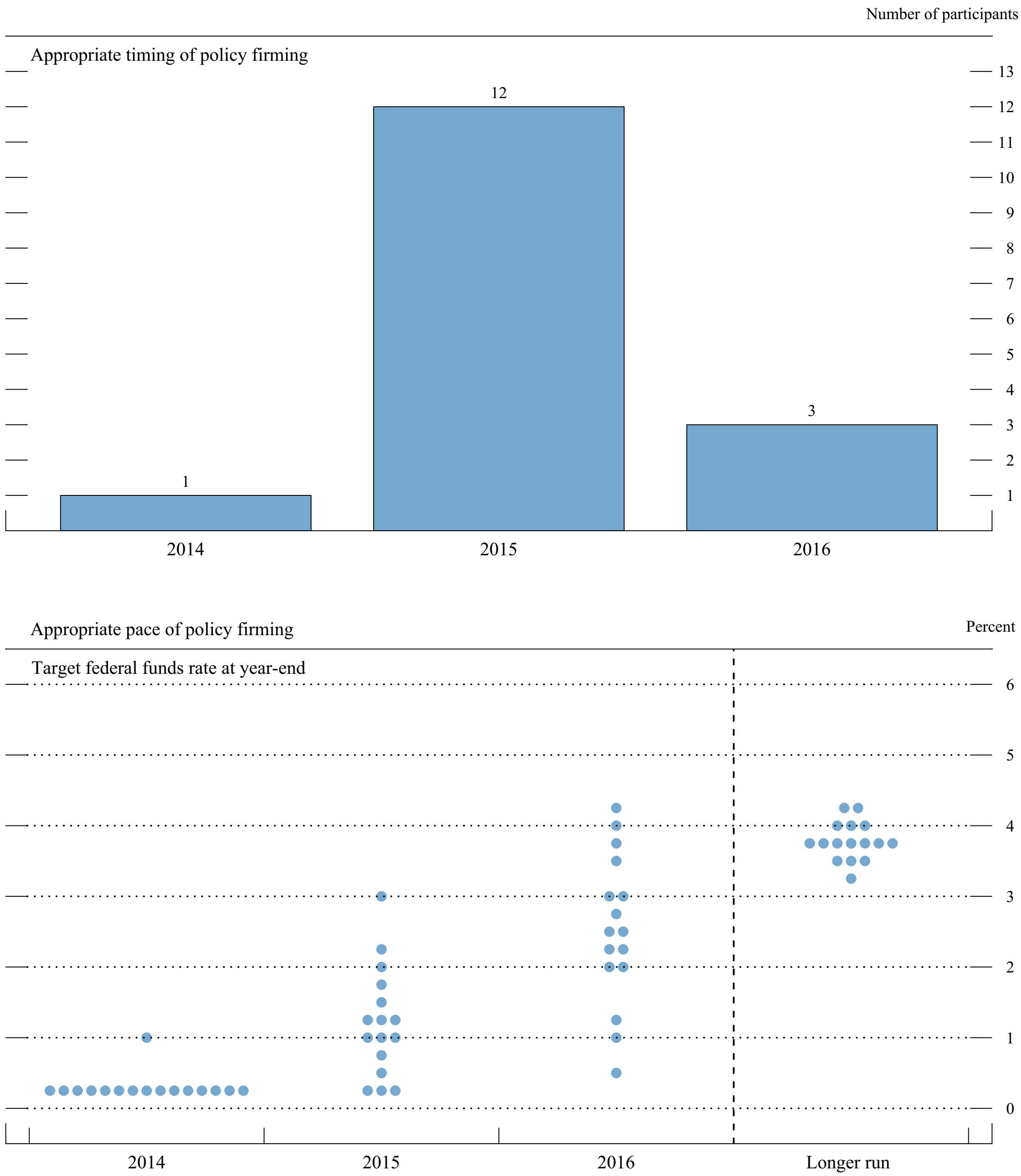
1. The central tendency excludes the three highest and three lowest projections for each variable in each year.
2. The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year.
3. Longer-run projections for core PCE inflation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

Figure 1. Central tendencies and ranges of economic projections, 2014–16 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 ¼ percent will occur in the specified calendar year. In March 2014, the numbers of FOMC participants who judged that the first increase in the target federal funds rate would occur in 2014, 2015, and 2016 were, respectively, 1, 13, and 2. In the lower panel, each shaded circle indicates the value (rounded to the nearest ¼ 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.

remain appropriate over the next few years to foster progress toward the Federal Reserve's longer-run objectives. As shown in figure 2, all but one of the participants anticipated that it would be appropriate to wait at least until 2015 before beginning to increase the federal funds rate, and most projected that it would then be appropriate to raise the target federal funds rate fairly gradually. Given their economic outlooks, most participants judged that it would be appropriate to continue gradually slowing the pace of the Committee's purchases of longer-term securities and complete the asset purchase program later this year.

Most participants saw the uncertainty associated with their outlooks 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 real GDP growth and the unemployment rate to be broadly balanced, and a majority saw the risks to inflation as broadly balanced. However, some saw the risks to their forecasts for economic growth or inflation as tilted to the downside, and a couple saw the risks to their forecasts for inflation as tilted to the upside.

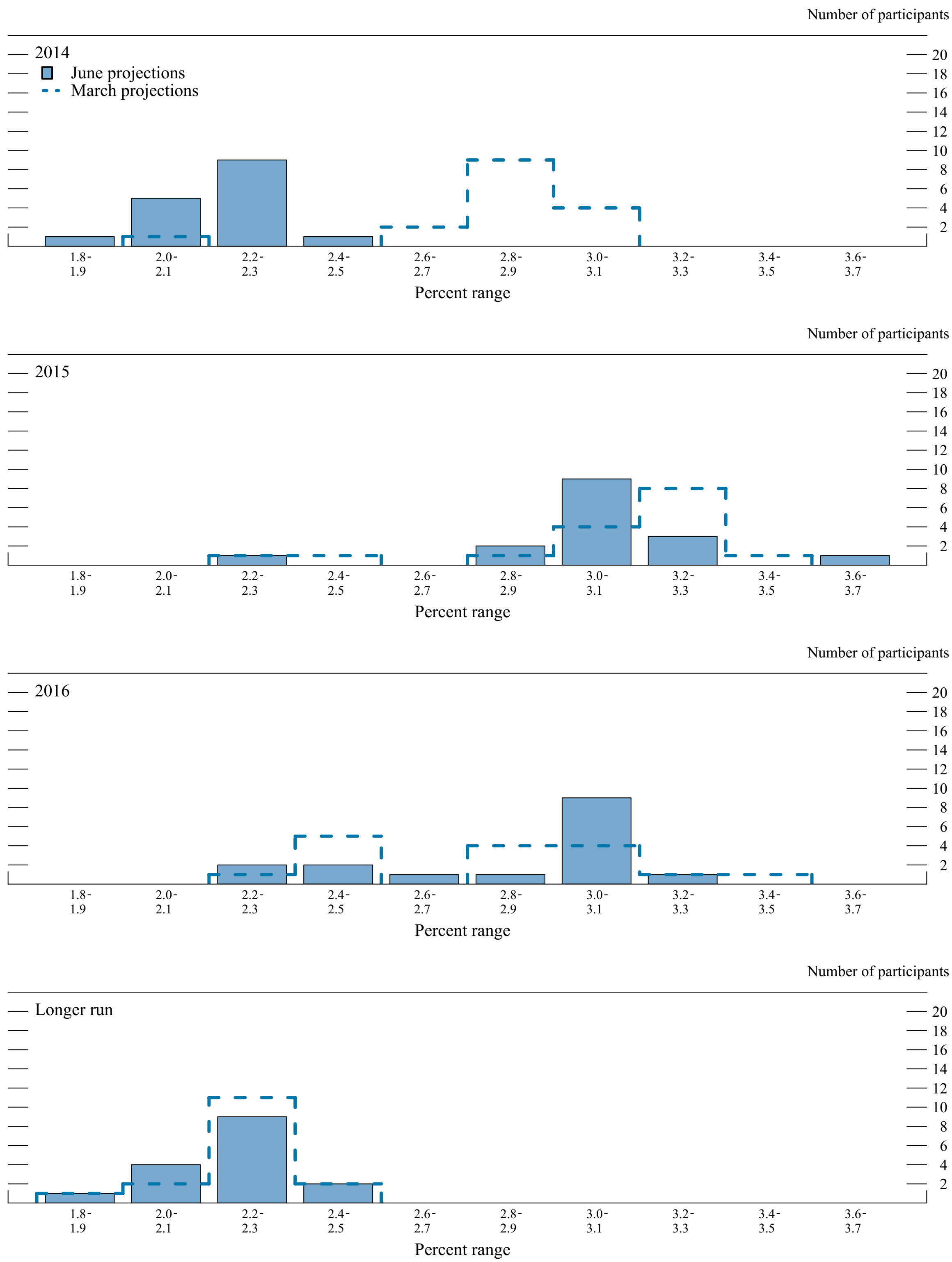
The Outlook for Economic Activity

Participants generally projected that, conditional on their individual assumptions about appropriate monetary policy, real GDP growth would pick up notably in the second half of this year and remain in 2015 and 2016 above their estimates of the longer-run normal rate of output growth. All participants revised down their projections of real GDP growth for the first half of 2014 compared with their projections in March, but most left their forecasts for the remainder of the projection period largely unchanged. Participants generally judged that real GDP growth in the first half of this year was held down by transitory factors depressing output early in the year, and they pointed to a number of factors that they expected would continue to contribute to a pickup in economic growth later this year and next, including rising household net worth, diminished restraint from fiscal policy, improving labor market conditions, and highly accommodative monetary policy. The central tendencies of participants' projections for real GDP growth were 2.1 to 2.3 percent in 2014, 3.0 to 3.2 percent in 2015, and 2.5 to 3.0 percent in 2016. The central tendency for the longer-run normal rate of growth of real GDP was 2.1 to 2.3 percent, only slightly lower than in March.

Participants continued to anticipate 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 6.0 to 6.1 percent in 2014, 5.4 to 5.7 percent in 2015, and 5.1 to 5.5 percent in 2016. Nearly all participants revised down their projected paths for the unemployment rate this year and next relative to their March projections, with the majority pointing to the decline in the unemployment rate in recent months as a reason for the downward revision. 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 also edged down, to 5.2 to 5.5 percent. Most participants projected that the unemployment rate would be close to their individual estimates of its longer-run level at the end of 2016.

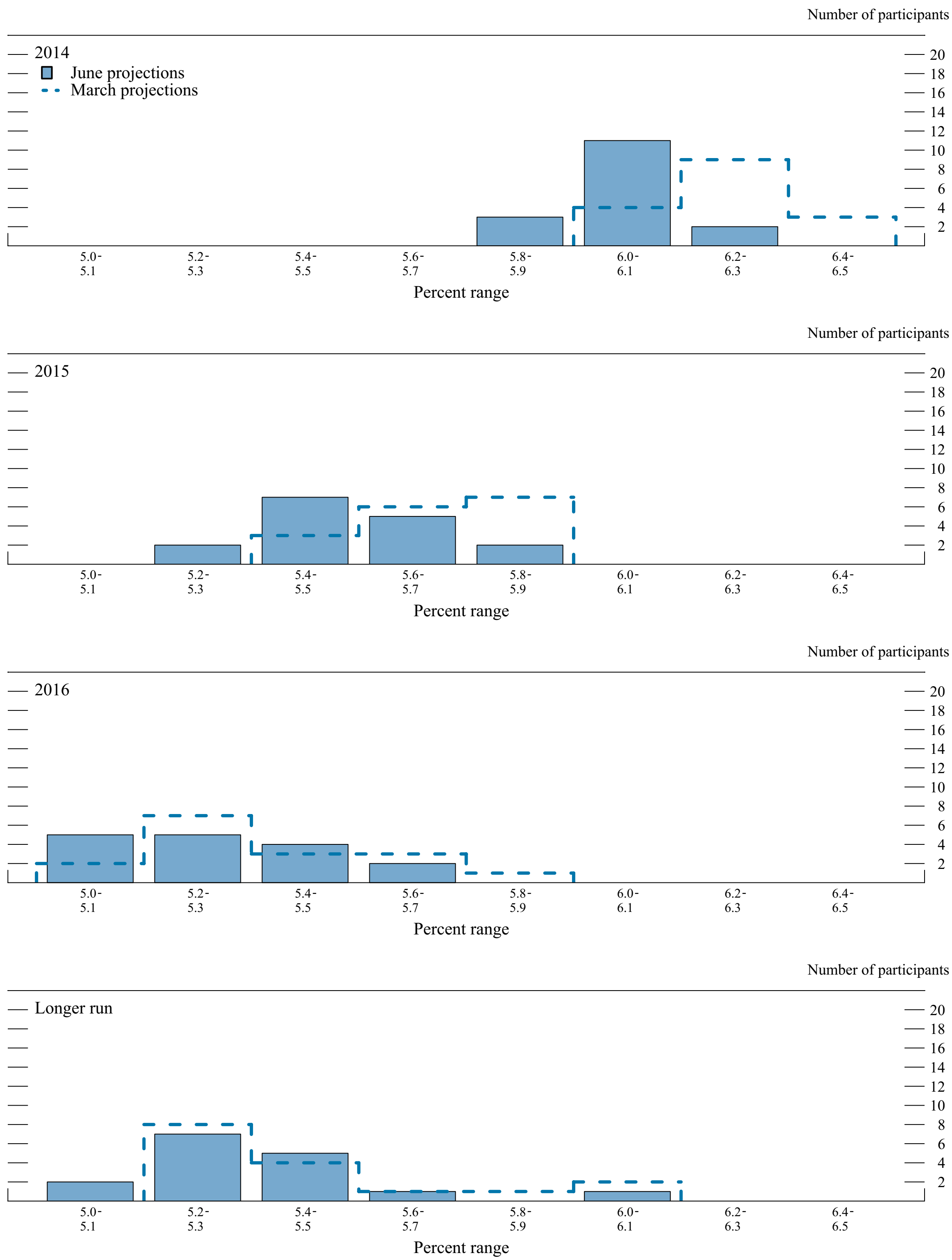
Figures 3.A and 3.B show that participants continued to hold a range of views regarding the likely outcomes for real GDP growth and the unemployment rate over the next two years. The diversity of views reflected their individual assessments of the rate at which the headwinds that have been holding back the pace of the economic recovery would abate and of the anticipated path for foreign economic activity, the trajectory for growth in household net worth, and the appropriate path of monetary policy. Relative to March, the dispersion of participants' projections for real GDP growth narrowed a bit in 2014

Figure 3.A. Distribution of participants' projections for the change in real GDP, 2014–16 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, 2014–16 and over the longer run



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

but was largely unchanged over the next two years, and the dispersion of projections for the unemployment rate over the entire projection period was little changed.

The Outlook for Inflation

Compared with March, the central tendencies of participants' projections for inflation were largely unchanged for all years in the projection period, although many participants marked up a bit their projections for inflation in 2014. The vast majority of participants anticipated that, on average, both headline and core inflation would rise gradually over the next few years, and the majority of participants expected headline inflation to be at or slightly below the Committee's 2 percent objective in 2016. Specifically, the central tendencies for PCE inflation were 1.5 to 1.7 percent in 2014, 1.5 to 2.0 percent in 2015, and 1.6 to 2.0 percent in 2016. The central tendencies of the forecasts for core inflation were broadly similar to those for the headline measure. It was noted that some combination of stable inflation expectations and steadily diminishing resource slack was likely to contribute to a gradual rise of inflation back toward the Committee's longer-run objective of 2 percent.

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 were little changed relative to March. The forecasts for PCE inflation in 2016 were at or below the Committee's longer-run objective. Similar to the projections for headline inflation, the projections for core inflation in 2016 were concentrated at or below 2 percent.

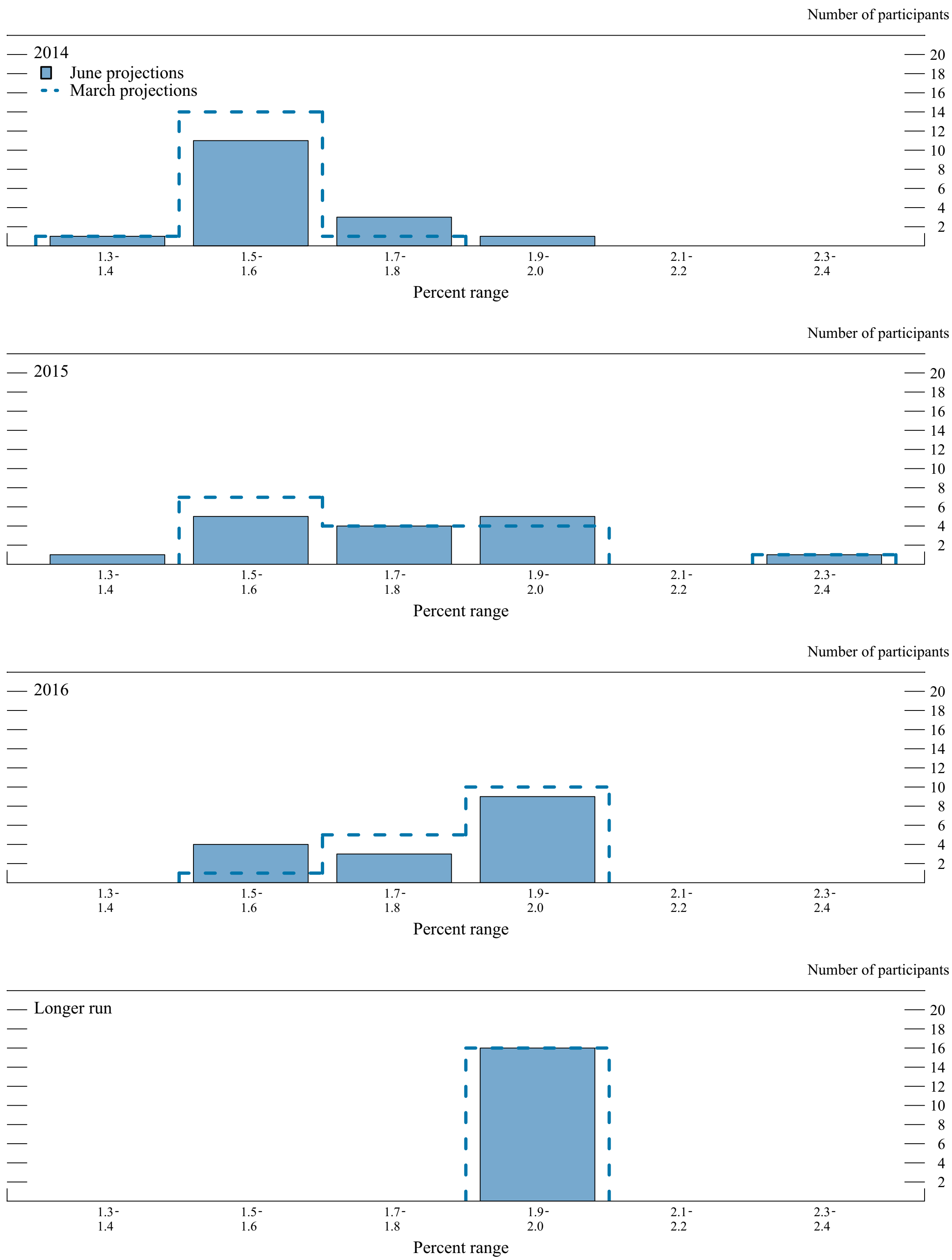
Appropriate Monetary Policy

As indicated in figure 2, nearly all participants judged that 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 3 judged that policy firming would likely not be appropriate until 2016. Only 1 participant thought that an increase in the federal funds rate would be warranted in 2014.

All participants projected that the unemployment rate would be below 6 percent at the end of the year in which they judged the initial increase in the federal funds rate to be warranted, and all but one anticipated that inflation would be at or below the Committee's longer-run objective at that time. Most participants projected that the unemployment rate would remain above their estimates of its longer-run normal level at the end of the year in which they saw the federal funds rate increasing from its effective lower bound.

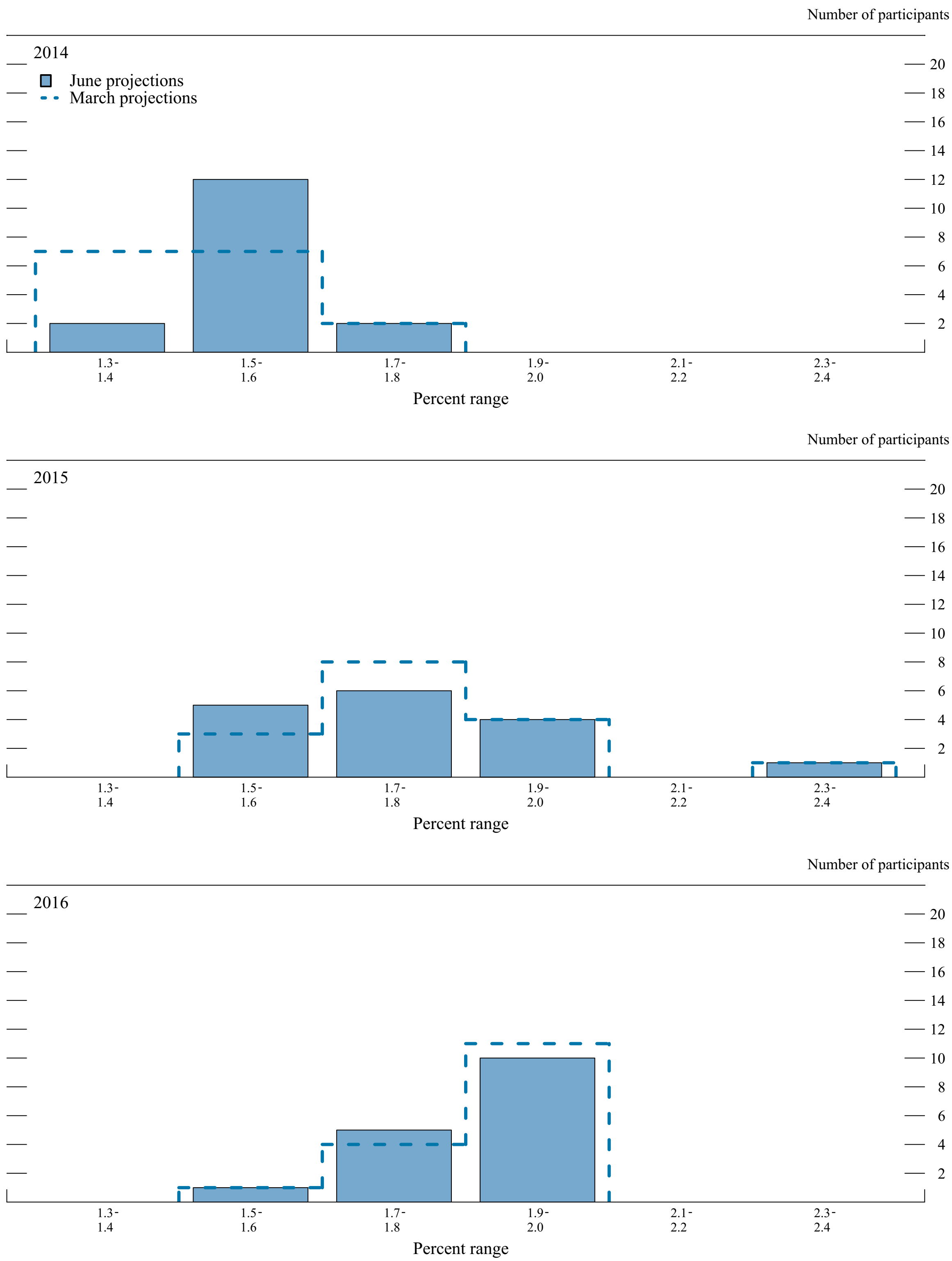
Figure 3.E provides the distribution of participants' judgments regarding the appropriate level of the target federal funds rate at the end of each calendar year from 2014 to 2016 and over the longer run. As noted earlier, nearly all participants judged that economic conditions would warrant maintaining the current exceptionally low level of the federal funds rate at least until 2015. Relative to their projections in March, the median values of the federal funds rate at the end of 2015 and 2016 increased 13 basis points and 25 basis points to 1.13 percent and 2.50 percent, respectively, while the mean values rose 7 basis points and 11 basis points to 1.18 percent and 2.53 percent, respectively. The dispersion of projections for the value of the federal funds rate was little changed in 2015 but widened slightly in 2016. Most participants expected that the federal funds rate at the end of 2016 would still be significantly below their individual assessments of its longer-run level. For about half of these participants, the low level of the federal funds rate at that time was associated with inflation well below the Committee's 2 percent objective. In contrast, the rest of these participants saw the federal funds rate at the end of 2016 as still significantly low despite their projections that the unemployment rate would be close

Figure 3.C. Distribution of participants' projections for PCE inflation, 2014–16 and over the longer run



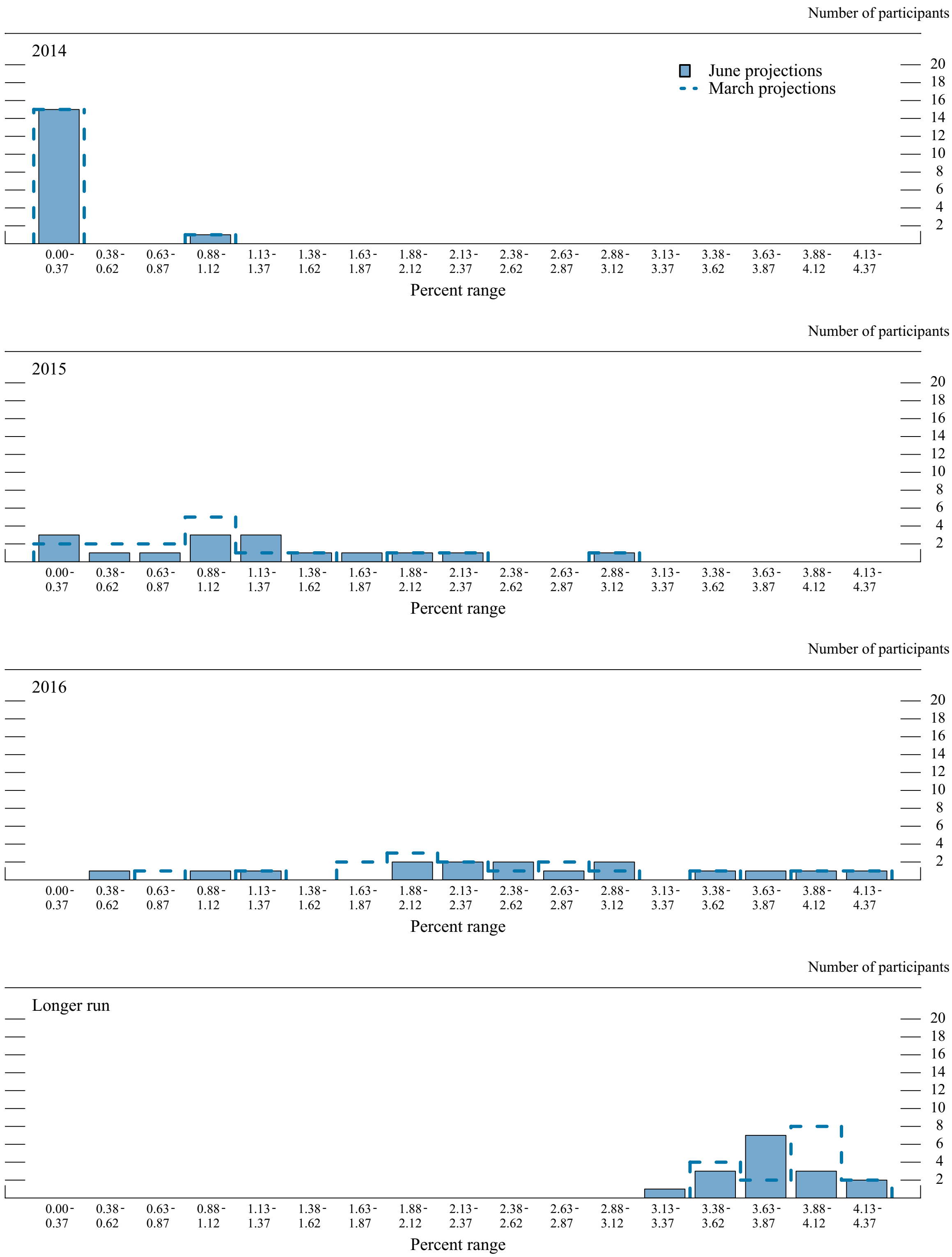
NOTE: Definitions of variables are in the general note to table 1.

Figure 3.D. Distribution of participants' projections for core PCE inflation, 2014–16



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

Figure 3.E. Distribution of participants' projections for the target federal funds rate, 2014–16 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.

to or below their individual longer-run projections and inflation would be at or close to 2 percent at that time. These participants cited some combination of a lower equilibrium real interest rate, continuing headwinds from the financial crisis and subsequent recession, and a desire to raise the federal funds rate at a gradual pace after liftoff as explanations for the still-low level of the projected federal funds rate at the end of 2016. A couple of participants also mentioned broader measures of labor market slack that may take longer to return to their normal levels than the unemployment rate. Estimates of the longer-run level of the federal funds rate ranged from 3¼ to about 4¼ percent, reflecting the Committee's inflation objective of 2 percent and participants' individual judgments regarding the appropriate longer-run level of the real federal funds rate in the absence of further shocks to the economy. Compared with March, some participants revised down their estimates of the longer-run federal funds rate, with a lower assessment of the longer-run level of potential output growth cited as a contributing factor for the majority of those revisions. As a result, the median estimate of the longer-run federal funds rate shifted down to 3.75 percent from 4 percent in March, while its mean value declined 11 basis points to 3.78 percent.

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 be appropriate to continue to reduce the pace of the Committee's purchases of longer-term securities in measured steps and to conclude the purchases later this year. A couple of participants judged that a more rapid reduction in the pace of purchases and an earlier end to the asset purchase program would be appropriate.

Participants' views of the appropriate path for monetary policy were informed by their judgments about 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 return to the Committee's longer-term objective of 2 percent, and the balance of risks around the outlook. Many participants also mentioned the prescriptions of various monetary policy rules as factors they considered in judging the appropriate path for the federal funds rate.

Table 2. Average historical projection error ranges
Percentage points

Variable	2014	2015	2016
Change in real GDP[1]	±1.4	±2.0	±2.1
Unemployment rate[1]	±0.4	±1.2	±1.8
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 1994 through 2013 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. For more information, see 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), available at http://www.federalreserve.gov/pubs/feds/2007/200760/200760abs.html; and and Board of Governors of the Federal Reserve System, Division of Research and Statistics (2014), "Updated Historical Forecast Errors," memorandum, April 9, http://www.federalreserve.gov/foia/ files/20140409-historical-forecast-errors.pdf.

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

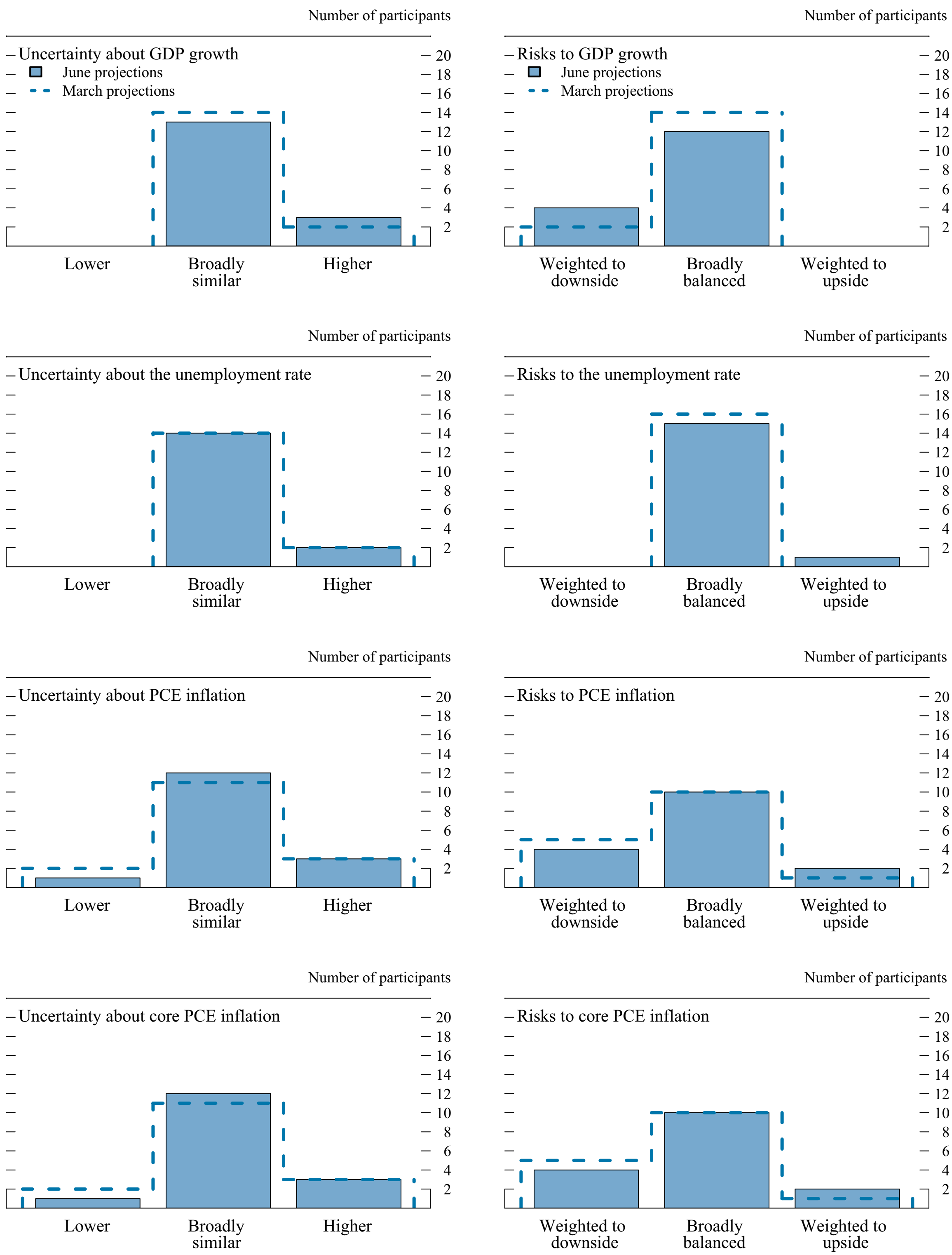
2. Measure is the overall consumer price index, the price measure that has been most widely used in government and private economic forecasts. Projection is percent change, fourth quarter of the previous year to the fourth quarter of the year indicated.

Uncertainty and Risks

The vast majority of participants continued to judge the levels of uncertainty about their projections for real GDP growth and the unemployment rate as broadly similar to the norms during the previous 20 years (figure 4).[19]

19. 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 1994 through 2013. 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.

Most participants continued to judge the risks to real GDP growth and the unemployment rate to be broadly balanced, although a few participants viewed the risks as weighted to the downside, reflecting, for example, their concerns about the limited ability of monetary policy at the zero lower bound to respond to negative shocks to the economy as well as external economic and geopolitical risks. Similar to March, nearly all participants continued to judge the risks to the unemployment rate to be broadly balanced.

Almost all participants saw the level of uncertainty and the balance of risks around their forecasts for overall PCE inflation and core inflation as little changed from March. Most participants continued to judge the levels of uncertainty associated with their forecasts for the two inflation measures to be broadly similar to historical norms, and a majority continued to see the risks to those projections as broadly balanced. A few participants, however, viewed the risks to their inflation forecasts as tilted to the downside, reflecting, for example, the possibilities that the recent low levels of inflation could prove more persistent than anticipated, and that the upward pull on prices from inflation expectations might be weaker than assumed. Conversely, two participants saw upside risks to inflation, with one citing uncertainty about the timing and efficacy of the Committee's withdrawal of accommodation.

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 Report*s 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 1.6 to 4.4 percent in the current year, 1.0 to 5.0 percent in the second year, and 0.9 to 5.1 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.

Abbreviations

AFE	advanced foreign economy
BHC	bank holding company
CDS	credit default swaps
C&I	commercial and industrial
CRE	commercial real estate
ECB	European Central Bank
E&I	equipment and intangible
EME	emerging market economy
FOMC	Federal Open Market Committee; also, the Committee
GDP	gross domestic product
IOER	interest on excess reserves
LIBOR	London interbank offered rate
MBS	mortgage-backed securities
ON RRP	overnight reverse repurchase agreement
PCE	personal consumption expenditures
REIT	real estate investment trust
SLOOS	Senior Loan Officer Opinion Survey on Bank Lending Practices
SOMA	System Open Market Account
S&P	Standard & Poor's
TDF	Term Deposit Facility