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Monetary Policy Report

June 21, 2016

Board of Governors of the Federal Reserve System

Letter of Transmittal

Board of Governors of the
Federal Reserve System

Washington, D.C., June 21, 2016

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

Adopted effective January 24, 2012; as amended effective January 26, 2016

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. The Committee would be concerned if inflation were running persistently above or below this objective. Communicating this symmetric 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, the median of FOMC participants' estimates of the longer-run normal rate of unemployment was 4.9 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 stated otherwise, the time series in the figures extend through, for daily data, June 16, 2016; for monthly data, May 2016; and, for quarterly data, 2016: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

Labor market conditions clearly continued to strengthen during the early months of this year: Payrolls expanded at a solid pace of almost 200,000 per month in the first quarter, and while the unemployment rate flattened out at close to 5 percent, the labor force participation rate moved up strongly. More recently, the signals regarding labor market improvement have become more mixed: Payroll gains are reported to have slowed to an average of 80,000 per month in April and May (or about 100,000 after adjustment for the effects of a strike). The unemployment rate dropped in May to 4.7 percent, its lowest level since late 2007; however, the labor force participation rate fell back again and was little changed from its year-ago level. All told, the latest readings suggest that labor markets are tighter than they were at the end of last year but that the pace of improvement has slowed. Whether those signs of slowing will be confirmed by subsequent data, and how persistent any such slowing will be, remains to be seen.

Consumer price inflation has continued to be held down by lower prices for energy and imports, and the price index for personal consumption expenditures (PCE) increased only about 1 percent over the 12 months ending in April. Changes in the PCE price index excluding food and energy items, which provide a better indication than the headline figure of where overall inflation will be in the future, also remained modest; this index, which rose 1½ percent over the 12 months ending in April, was partly restrained by lower prices for non-oil imported goods. However, both the headline and core inflation measures have picked up somewhat from a year earlier. Meanwhile, some survey-based measures of longer-run inflation expectations have remained relatively stable, while others have moved down; market-based measures of inflation compensation also are at low levels.

Although real gross domestic product is reported to have increased at a sluggish rate in the first quarter of 2016, the available data for the second quarter point to a noticeable step-up in the pace of growth. On average, consumer spending so far this year appears to be expanding at a moderate pace, supported by solid income gains and the ongoing effects of the increases in wealth and the declines in oil prices of the past two years. The housing market continues its gradual recovery, and fiscal policy at all levels of government is now modestly boosting economic activity after exerting a considerable drag in recent years. One area of concern, however, is the softening in business fixed investment in recent quarters even beyond those sectors most directly affected by the plunge in energy prices. In addition, the weakness of exports—following the significant appreciation of the dollar over the past two years and the subdued pace of foreign economic growth—continues to hold back overall output growth.

On balance, household and business credit conditions in the United States have remained accommodative so far this year. Following a period of heightened global financial market volatility earlier this year in which risk spreads for U.S. corporate bonds rose, financial conditions have eased somewhat in recent months, and corporate bond yields have returned to historically low levels. Mortgage rates once again have approached their all-time lows, and mortgage credit appears widely available to borrowers with solid credit profiles, though less so to would-be borrowers with imperfect credit histories. Student and auto loans are broadly available, including to borrowers with nonprime credit scores, and the availability of credit card loans for such borrowers appears to have expanded somewhat over the past several quarters. Broad measures of U.S. equity prices have increased slightly, on net, since the beginning of the year. Meanwhile, foreign financial markets appear to have stabilized following the period of volatility earlier this year, with foreign equity prices higher and risk spreads lower. That said, the potential remains for spillovers to the U.S. economy from shocks to foreign economic activity and financial markets, including possible reverberations from the U.K. referendum this week on membership in the European Union.

Turning to the stability of the U.S. financial system, financial vulnerabilities have remained at a moderate level this year. Domestic financial institutions and markets functioned well during the period of heightened volatility early in the year. Large banking firms have kept their capital and liquidity ratios at high levels relative to historical standards, capital at other financial firms also appears to be elevated, and financial firms' use of short-term wholesale funding remains subdued. Debt growth in the household sector has been modest. However, leverage of nonfinancial corporations is elevated by historical standards, and lower-rated firms are potentially vulnerable to adverse developments. In particular, the performance of firms in the energy sector has been especially weak due to the prolonged period of low oil prices. In equity markets, valuation pressures have increased somewhat as expectations for corporate earnings have been revised downward; valuation pressures have remained notable in the commercial real estate sector, to which some small banks have substantial exposures.

After having raised the target range for the federal funds rate to between ¼ and ½ percent last December, the Committee maintained that target range over the first half of the year. The Committee's decisions to leave the stance of policy unchanged were supported by its assessments earlier in the year that global economic and financial developments posed risks to the economic outlook and that growth in economic activity appeared to have slowed. In June, the Committee noted that recent information indicated that the pace of improvement in the labor market had slowed, while growth in economic activity appeared to have picked up. In addition, the Committee's policy stance so far this year reflected its expectation that inflation would remain low in the near term, in part due to earlier declines in energy prices and in the prices of non-energy imports. The Committee stated that its accommodative stance of policy is intended to support further improvements in labor market conditions and a return to 2 percent inflation.

The Committee continued to emphasize that, in determining the timing and size of future adjustments to the target range for the federal funds rate, it will assess realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. These judgments will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee expects that economic conditions will evolve in a manner that will warrant only gradual future increases in the federal funds rate, and that the federal funds rate will likely remain, for some time, below levels that are expected to prevail in the longer run. Consistent with this outlook, in the most recent Summary of Economic Projections (SEP), which was compiled at the time of the June meeting of the Federal Open Market Committee (FOMC), FOMC participants projected that the appropriate level of the federal funds rate would be below its longer-run level through 2018. (The June SEP is discussed in more detail in Part 3 of this report.)

The Federal Reserve continued to use interest paid on reserve balances and employ an overnight reverse repurchase agreement facility to manage the federal funds rate, and these tools were effective in keeping the federal funds rate within its target range. The Federal Reserve also continued to test the operational readiness of other policy implementation tools.

Part 1
Recent Economic and Financial Developments

Labor market conditions have improved this year, though recent data suggest there has been a loss of momentum. Payroll gains averaged about 200,000 per month in the first quarter but then only 80,000 per month in April and May. The unemployment rate has edged down to 4¾ percent, a level that is near the midpoint of the Federal Open Market Committee (FOMC) participants' estimates of its longer-run rate. That said, a few indicators suggest that some slack in the labor market remains. Despite persistently weak productivity growth, measures of labor compensation show some tentative signs of acceleration. Overall consumer price inflation has continued to be held down by lower prices for energy and imports, but both overall inflation and inflation excluding food and energy items, a useful gauge of where overall inflation will be in the future, have picked up a bit over the past year. Some survey-based measures of longer-run inflation expectations have moved down; market-based measures of inflation compensation have declined noticeably since last summer.

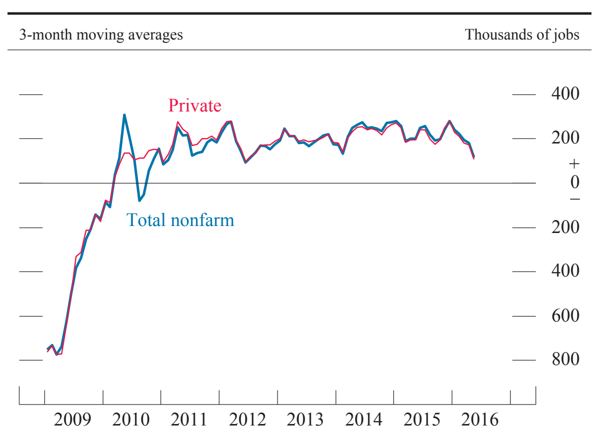
Real gross domestic product (GDP) is estimated to have increased at a sluggish rate in the first quarter, but more recent data point to a noticeable step-up in the pace of growth in the second quarter. Consumer spending appears to be expanding at a moderate pace so far this year, while the housing market continues its gradual recovery, and fiscal policy at all levels of government is now modestly boosting economic activity after exerting a considerable drag in recent years. An area of concern, however, is the softening in business fixed investment in recent quarters, even beyond those sectors most directly affected by the plunge in energy prices. In addition, weak exports are providing little boost to overall output growth. Heightened global financial market volatility early this year damped confidence both domestically and abroad, but financial conditions have generally eased somewhat in recent months; in the United States, credit conditions for both households and businesses have remained generally accommodative.

Domestic Developments

Early this year, the labor market continued to improve . . .

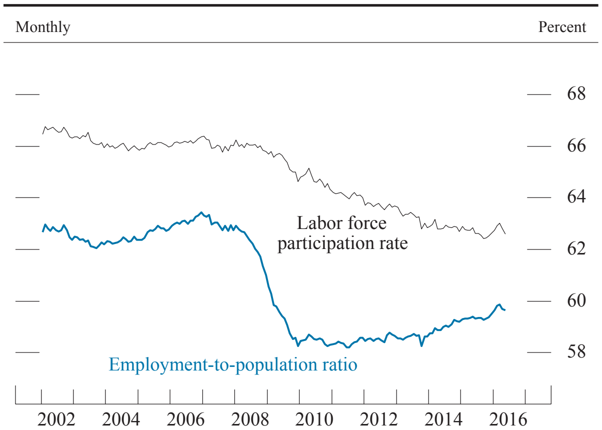
The labor market continued to improve in the first few months of this year. Payrolls expanded at an average rate of around 200,000 per month from January through March, modestly below the average of 230,000 jobs per month last year but still well above the number needed to absorb the trend number of new entrants into the workforce (figure 1). The unemployment rate held at about 5 percent, where it had been since the fall, but both labor force participation and the employment-to-

1. Net change in payroll employment



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.

population ratio rose noticeably (figure 2). The rise in the labor force participation rate was encouraging because it seemed to suggest that labor supply was responding significantly to the strengthening labor market.

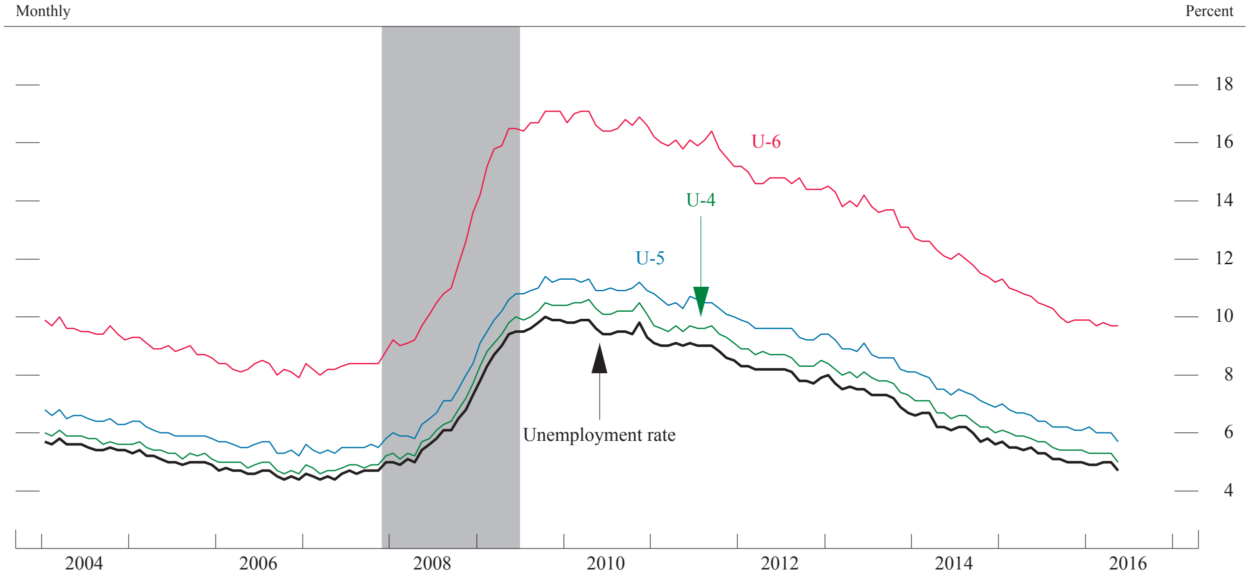
. . . but recently there may have been a loss of momentum . . .

The data for April and May, however, suggest that the pace of labor market improvement has slowed. Payroll growth is reported to have averaged a pace of only 80,000 per month (about 100,000 after adjustment for the effects of a strike).[1] And although the unemployment rate fell to 4.7 percent in May, that decline occurred as both labor force participation and the employment-to-population ratio fell back somewhat from their levels in March. On net, the participation rate in May was little changed from a year earlier (a position that should nonetheless be viewed as a strengthening relative to a trend that is probably declining because of demographic changes, especially the aging of the baby-boom generation).

Despite these disappointing data, other labor market indicators are consistent with a job market that has continued to strengthen. In particular, initial claims for unemployment insurance, now available through early June, remain very low—and therefore at odds with the weaker tenor of the recent payroll figures. In addition, according to the Job Openings and Labor Turnover Survey, the rate of job openings as a share of private employment remains at a very high level; the quits rate has continued to trend up and is now fairly high, the latter measure indicating that workers feel increasingly confident about their employment opportunities.

1. According to the Labor Department, payroll employment in May was reduced by about 35,000 because of workers on strike at Verizon. These employees have returned to work and are expected to be included in payroll figures for June.

3. 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.

. . . and a few signs of labor underutilization remain

Although the May level of the unemployment rate is near the midpoint of the FOMC participants' estimates of its longer-run rate, a few indicators suggest that some slack in labor resource utilization remains. Most notably, the share of workers who are employed part time but would like to work full time is still elevated; accordingly, the more comprehensive U-6 measure of labor underutilization, which includes these underemployed individuals, has remained well above its pre-recession level (figure 3). Meanwhile, jobless rates for African Americans and Hispanics are high relative to the aggregate, though these rates have also improved during the economic recovery (figure 4). (For additional discussion, see the box "Have the Gains of the Economic Expansion Been Widely Shared?")

Have the Gains of the Economic Expansion Been Widely Shared?

The financial crisis resulted in massive job losses and falling income for American households. However, not all households suffered to the same extent during the downturn, nor have they benefited to the same extent during the subsequent recovery. This discussion reviews the labor market situation and household incomes for Americans of different races and ethnicities during the Great Recession and the ensuing economic expansion.[1]

A figure in the main text shows that unemployment rates for blacks and Hispanics rose more during the recession, and have declined more during the expansion, than for the nation as a whole (text figure 4).[2] Rates for these groups remain higher than for whites; the differentials among these rates are now roughly the same as prior to the recession. A similar result is true for employment-to-population ratios of prime-age individuals (ages 25 to 54).[3] Prime-age employment rates are lower for blacks and fell more sharply during the financial crisis, dropping nearly 8 percentage points between mid-2008 and the end of 2011, compared with declines of between 4 and 5 percentage points for whites, Asians, and Hispanics (figure A). Since 2011, however, blacks have experienced the largest rebound in employment. Thus far in 2016, blacks continue to have the lowest prime-age employment rates among these four groups, and the racial differences in employment-to-population ratios are very similar to pre-recession levels.

Among the working population, blacks and Hispanics suffered the greatest losses in *full-time* employment share during the recession, and, even as overall employment has recovered, the full-time share remains significantly depressed for these workers (figure B). By early 2016, white and Asian prime-age workers had nearly returned to their pre-recession rates of full-time work, but the share of full-time employment among black and Hispanic workers remains several percentage points lower than their previous high levels. Prior to the Great Recession, black workers were the most likely to report usually working 35 hours per week or more, closely followed by Hispanics. By 2016, Hispanic workers had slightly lower rates of full-time employment than whites, and the full-time share of black workers was slightly lower than that of Asians.

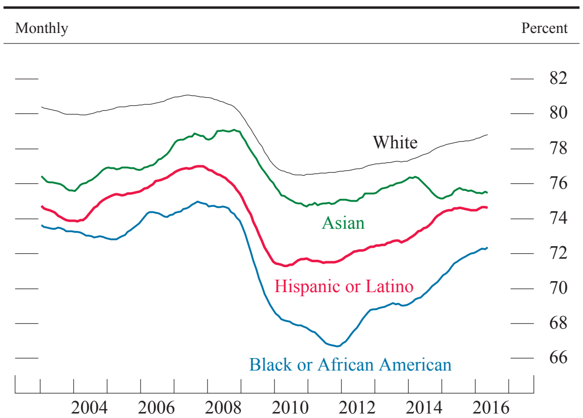
In the period of sustained high unemployment following the financial crisis, household incomes for all groups of Americans fell sharply and did not begin to recover until 2012. The decline in median household income was particularly large for black households—16 percent, compared with approximately

1. The employment-to-population ratio and full-time share of employed individuals are calculated using data from the monthly Current Population Survey (CPS). Median household income and the income composition are calculated using data from the March CPS Annual Social and Economic Supplement (ASEC). Monthly data are available through April 2016, while the most recent ASEC data (March 2015 CPS) are for 2014.

2. The Hispanic ethnicity and race categories are not mutually exclusive. Some individuals are, for example, both Hispanic and white, and they are represented in both lines in the figures in the box.

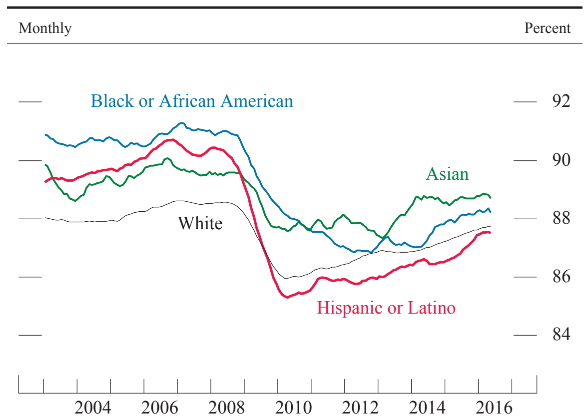
3. The unemployment rate shows the number of unemployed individuals actively looking for work as a share of the total labor force. The employment-to-population ratio ignores the distinction between those actively seeking work or not and simply measures the number of employed individuals as a share of the total population. We use the prime-age population because we want to focus on the labor market recovery and do not want income to include Social Security and other sources of retirement income that are largely independent of economic conditions.

A. Prime-age employment-to-population ratio, by race



NOTE: The data are 12-month moving averages. Prime age is defined as those aged 25 to 54.
SOURCE: Department of Labor, Bureau of Labor Statistics.

B. Full-time share of all prime-age employed persons, by race



NOTE: The data are 12-month moving averages. Prime age is defined as those aged 25 to 54.
SOURCE: Department of Labor, Bureau of Labor Statistics.

8 percent for white, Hispanic, and Asian households (figure C).[4]

By 2014 (latest data available), median household incomes of Asian, white, and Hispanic households had improved and were at least 94 percent of pre-recession levels, but median income for black households remained only 88 percent of the 2007 level. Racial and ethnic differences in income were sizable before the financial crisis and have only grown larger since then, with the median black household income at $40,000 in 2014, compared with $67,000 for white and $85,000 for Asian households (figure D).

Losses in wage income account for the bulk of the decline in income for households during the downturn. Between 2007 and 2011, mean wage income for households in the middle quintile of the income distribution fell just over $5,000 for white households, $4,000 for Hispanic households, $8,000 for black households, and $7,000 for Asian households (figure E).[5] Wages and salaries are the single largest source of income and have provided most of the increase in total income since 2011. Mean wage income for 2014 had returned to pre-recession levels for Asian households and had made up some of the lost ground among white and Hispanic households. Wage income for black households, however, remained substantially below levels experienced prior to the financial crisis.

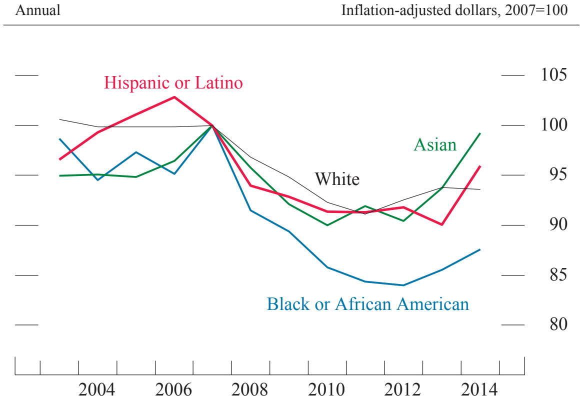
Transfer income rose substantially during the recession because of federal economic stimulus programs and automatic stabilizers, but the increases only offset a modest portion of the overall decline in income.[6] Transfer income has receded very slowly since 2011, with mean transfers in 2014 remaining above pre-recession levels for all racial and ethnic groups.

4. Percentages are based on an analysis of income data from the March CPS ASEC. Household race was determined by answers to the Hispanic ethnicity question and the first racial category selected by household heads between the ages of 25 and 54. Income of all household members is included. Any household head identifying as Hispanic is coded as Hispanic, regardless of race. Incomes for a very small group of households (less than 2 percent in 2014) that are identified as some other race group are not shown here, as the estimates are somewhat volatile and not very precise.

5. To show changes in the composition of income for "typical" households, we switch here to using mean income of households in the middle quintile of the distribution.

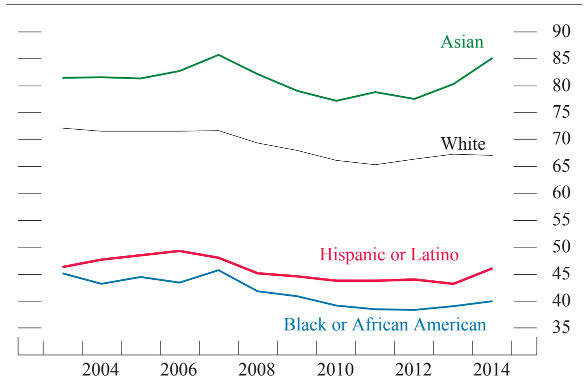
6. Transfer income includes Social Security income, welfare, Supplemental Security Income, unemployment benefits, and educational assistance. Other income includes business income; farm income; income from interest, dividends, rent, alimony, and contributions; retirement income; trusts; workers' compensation; veterans', survivors', and disability benefits; educational assistance from nongovernment sources; assistance from friends and family; and other sources.

C. Indexed median prime-age household income, by race



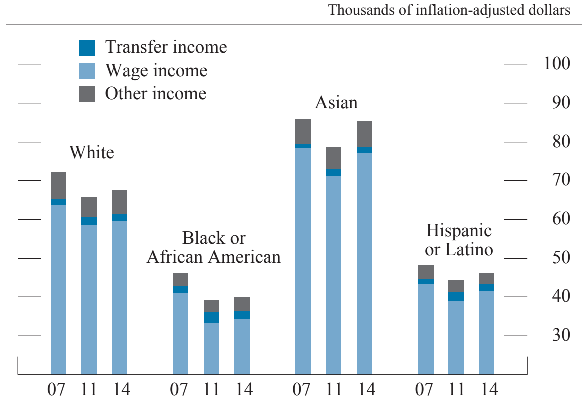
NOTE: Prime-age households are defined as households led by those aged 25 to 54. Race refers to the race of the head of household. The data extend through 2014.
SOURCE: U.S. Census Bureau, Current Population Survey, March 2016.

D. Median prime-age household income, by race



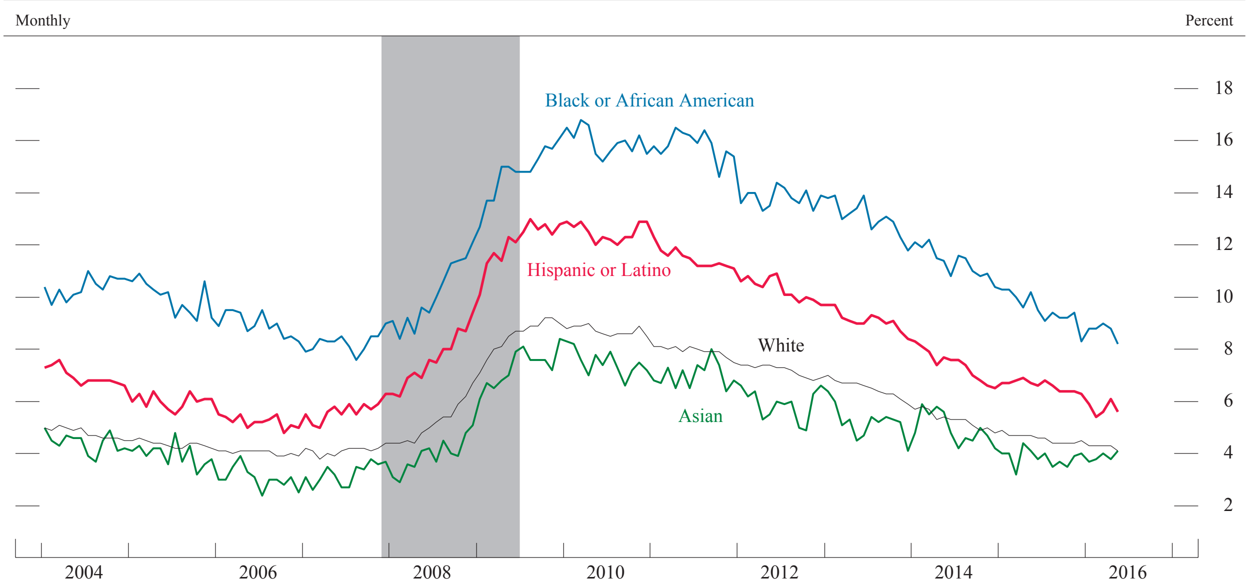
NOTE: Prime-age households are defined as households led by those aged 25 to 54. Race refers to the race of the head of household. The data extend through 2014.
SOURCE: U.S. Census Bureau, Current Population Survey, March 2016.

E. Changing composition of income for middle quintile of prime-age households, by race group and key year



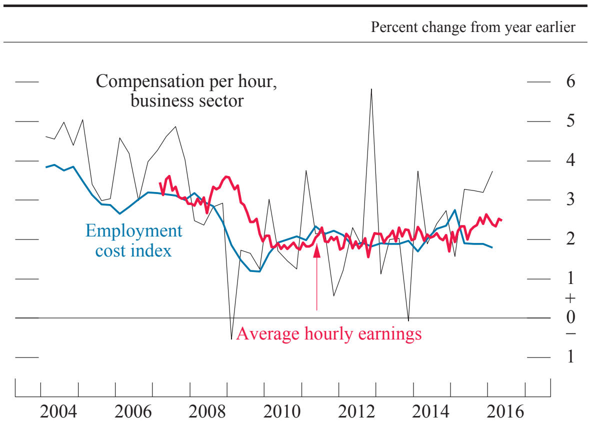
NOTE: Prime-age households are defined as households led by those aged 25 to 54. Race refers to the race of the head of household. The data are grouped according to key years 2007, 2011, and 2014.
SOURCE: U.S. Census Bureau, Current Population Survey, March 2016.

4. Unemployment by race and ethnicity



NOTE: Persons whose ethnicity is identified as Hispanic or Latino may be of any race. 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.

5. Measures of change in hourly compensation



NOTE: The average hourly earnings data series begins in March 2007 and extends through May 2016. The compensation per hour and employment cost index data extend through 2016:Q1. For business-sector 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 from 12 months earlier.
SOURCE: Department of Labor, Bureau of Labor Statistics.

Compensation growth has shown tentative signs of a pickup . . .

By most measures, the growth of labor compensation has remained modest, though recently there have been some signs of faster increases. The employment cost index (ECI) for private-industry workers, which includes the cost of employer-provided benefits as well as wages, registered a rise of only 1¾ percent over the 12 months ending in March (figure 5). However, two other prominent measures of labor compensation—average hourly earnings for all private-sector employees and business-sector compensation per hour—recorded larger increases than the ECI over the past year, and the increases in both series were above their corresponding averages over the preceding several years. In addition, according to the Federal Reserve Bank of Atlanta's Wage Growth Tracker, the median of 12-month changes in individuals' hourly wages (from the monthly survey of households) has been gradually trending higher, reaching 3½ percent in May.

. . . amid persistently weak productivity growth

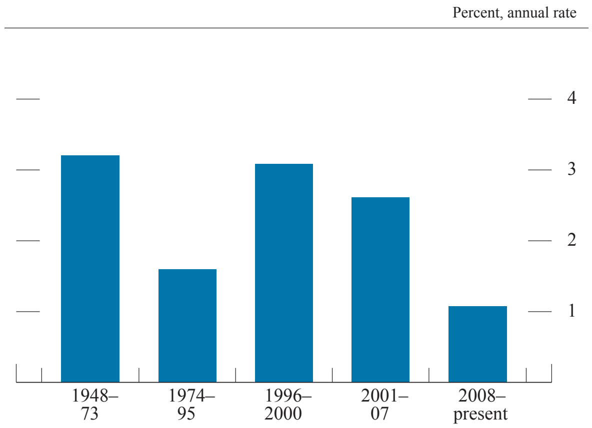
The relatively slow gains in labor compensation in recent years have occurred against a backdrop of persistently weak productivity growth. Since 2008, labor productivity gains have averaged around 1 percent per year, far below the pace that prevailed before the recession (figure 6). Indeed, in the past five years, productivity growth has averaged only ½ percent per year. The relatively slow pace of productivity growth is at least in part a consequence of the sustained weakness in capital investment over the recession and early recovery period. Productivity gains may improve in the future as investment in productivity-enhancing capital equipment and in research and development strengthens.

Falling energy prices have held down consumer price inflation

Overall consumer price inflation has moved up from the lows recorded last year, but it remains well below the FOMC's longer-run objective of 2 percent. In April, the 12-month change in the price index for personal consumption expenditures (PCE) was around 1 percent, higher than the ¼ percent rate recorded in April 2015 (figure 7). The pickup over this period was largely due to a slower rate of decline in both energy prices and non-energy import prices.

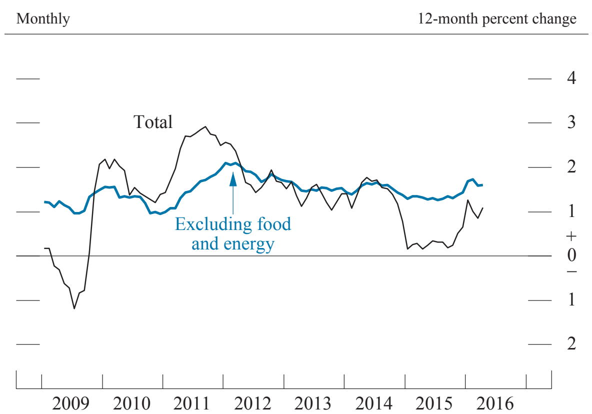
Low oil prices have reduced global investment in the oil sector and have led to some cutbacks in production, particularly in the United States. These declines, firming global demand, and some temporary supply disruptions—including in Canada due to wildfires—have recently pushed crude oil prices higher after they reached a 12-year low in mid-January (figure 8). Nonetheless, at a bit below $50 per barrel, the spot price of Brent crude oil remains less than half its mid-2014 peak. Moreover, the continued low level of oil futures prices suggests that market participants expect only a modest increase in oil prices over

6. Change in business sector output per hour



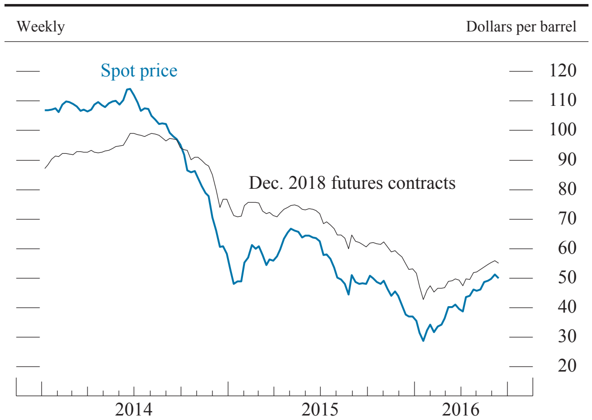
NOTE: Changes are measured from Q4 of the year immediately preceding the period through Q4 of the final year of the period. The final period is measured from 2007:Q4 through 2016:Q1.
SOURCE: Department of Labor, Bureau of Labor Statistics.

7. Change in the price index for personal consumption expenditures



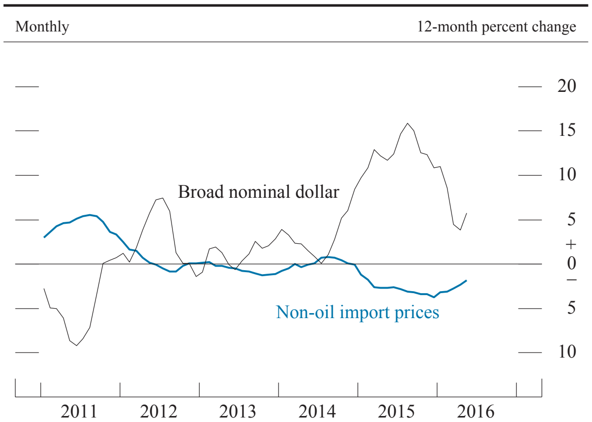
NOTE: The data extend through April 2016; changes are from one year earlier.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

8. Brent spot and futures prices



NOTE: The data are weekly averages of daily data and extend through June 16, 2016.
SOURCE: NYMEX via Bloomberg.

9. Non-oil import prices and U.S. dollar exchange rate



SOURCE: Department of Labor, Bureau of Labor Statistics; Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

the next couple of years, given the historically high global inventories of crude oil. The large cumulative drop in crude oil prices had mostly passed through to lower retail prices for gasoline and other energy products by early this year; despite some increases thereafter, prices at the pump remain at levels substantially below those of last summer.

Similar to the price of crude oil, prices of metals and agricultural goods have moved higher since early this year. The rise in the prices of agricultural goods followed several quarters of declines that have held down retail food prices for consumers so far this year. The rise in many nonfuel commodities prices, together with a weaker dollar, helped push non-oil import prices higher in May—the first increase since 2014 (figure 9).

Outside of the energy and food categories, inflation has picked up a little bit

Inflation for items other than food and energy (so-called core inflation) has picked up a little. Core PCE prices rose about 1½ percent over the 12 months ending in April, up about ¼ percentage point from its year-earlier pace.[2] The increase in the trimmed mean PCE price index, an alternative indicator of underlying inflation, has also picked up a bit over the past year; as is typically the case, this measure has run somewhat above core inflation over this period. Because the slack in labor and product markets appears to have been mostly taken up, and given the recent upward movements in oil prices and non-oil import prices—after months of declines—the downward pressure on inflation from these factors is likely waning.

2. Data from the consumer price index and the producer price index point to a similar reading for the 12-month change in core PCE prices in May.

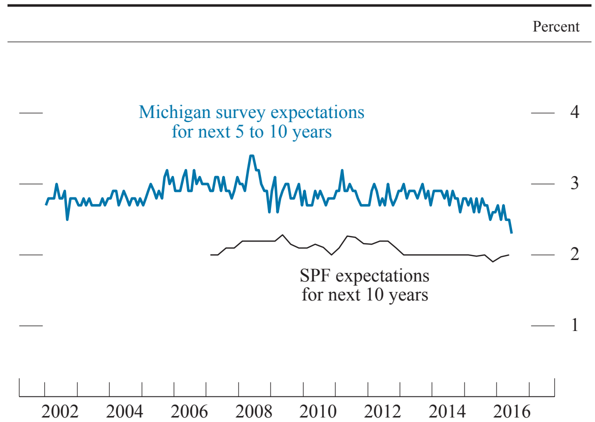
Some survey-based measures of expected inflation have drifted downward . . .

The FOMC devotes careful attention to indicators of long-run inflation expectations, as these expectations are believed to be an important factor underlying many wage- and price-setting decisions. The latest readings from surveys of longer-term inflation expectations have sent mixed signals (figure 10). In the Survey of Professional Forecasters, conducted by the Federal Reserve Bank of Philadelphia, the median second-quarter reading on expected annual PCE price inflation over the next 10 years was again 2 percent. The distribution of inflation expectations 5 to 10 years ahead derived from surveys of primary dealers has remained similarly stable. But in the University of Michigan Surveys of Consumers, the median reading on inflation expectations over the next 5 to 10 years has drifted down over the past two years and recorded a new low in early June. To the extent that this downward drift is a reaction to energy-driven declines in overall inflation, it could reverse over time as energy prices stop declining.

. . . and market-based measures of inflation compensation have remained low

Market-based measures of longer-term inflation compensation—derived either from differences between yields on nominal Treasury securities and Treasury Inflation-Protected Securities or from inflation swaps—have continued to decline and now stand at very low levels (figure 11). Deducing the sources of changes in inflation compensation is challenging because such movements reflect not only expected inflation, but also an inflation risk premium—the compensation that holders of nominal securities demand for bearing inflation risk—and other factors. Nevertheless, one cannot rule out a decline in inflation expectations among market participants since last summer.

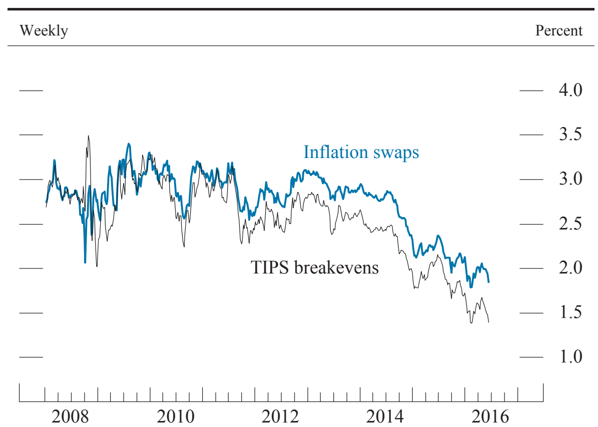
10. Median inflation expectations



NOTE: The Michigan survey data are monthly and extend through June 2016. The SPF data for inflation expectations for personal consumption expenditures are quarterly and extend from 2007:Q1 through 2016:Q2. Michigan survey data for June are preliminary.

SOURCE: University of Michigan Surveys of Consumers; Federal Reserve Bank of Philadelphia, Survey of Professional Forecasters (SPF).

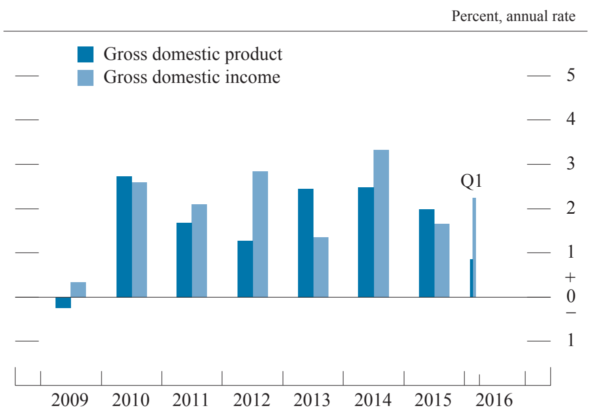
11. 5-to-10-year-forward inflation compensation



NOTE: The data are weekly averages of daily data and extend through June 17, 2016. TIPS is Treasury Inflation-Protected Securities.

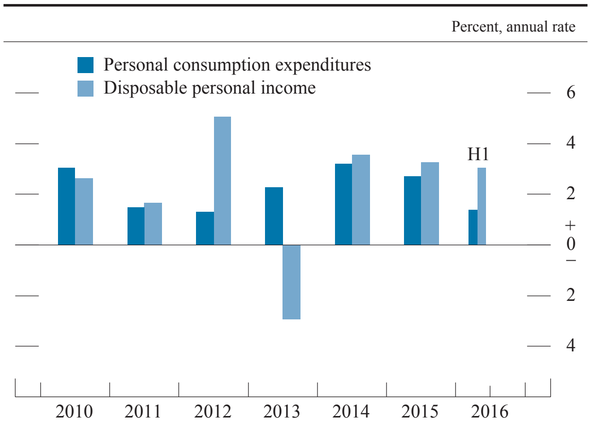
SOURCE: Federal Reserve Bank of New York; Barclays; Federal Reserve Board staff estimates.

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



SOURCE: Department of Commerce, Bureau of Economic Analysis.

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



NOTE: The reading for 2016:H1 is the annualized April/Q4 change.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

Economic activity has been expanding at a moderate pace

Real GDP is currently reported to have increased at an annual rate of just ¾ percent in the first quarter, but with several signs of faster growth in the current quarter, real GDP appears on track to record a moderate overall gain in the first half of this year (figure 12).[3] Consumer spending is advancing further, and housing activity continues to strengthen gradually. Meanwhile, government expenditures have maintained momentum. Although inventory investment exerted a sizable drag on GDP growth in the latter half of last year, it has been less of an influence in the first half of this year.

Nevertheless, several of the headwinds that were apparent last year have continued to restrain growth in activity this year. In particular, a substantial appreciation of the dollar over the past couple of years, along with continued sluggish foreign growth, is weighing on the demand for U.S. exports. In addition, the sizable drop in oil prices since 2014—notwithstanding the substantial benefit to households—has led to marked cutbacks in production and investment in the energy sector of our economy. These negative factors have had particularly pronounced effects on activity in the industrial sector.

Gains in income and wealth continue to support consumer spending

Consumption growth was lackluster early in 2016, but data on retail sales and motor vehicle sales suggest that spending has picked up appreciably so far this quarter. Smoothing through the monthly fluctuations, consumer spending is reported to have increased at an annual rate of nearly 3 percent over the first four months of this year, only a little slower than the pace in 2015 (figure 13).

3. While it appears likely that residual seasonality—a predictable seasonal pattern remaining in data that have already been seasonally adjusted—in some components of GDP held down measured GDP growth in the first quarter, this factor would imply an offsetting boost in measured GDP growth over the remainder of the year.

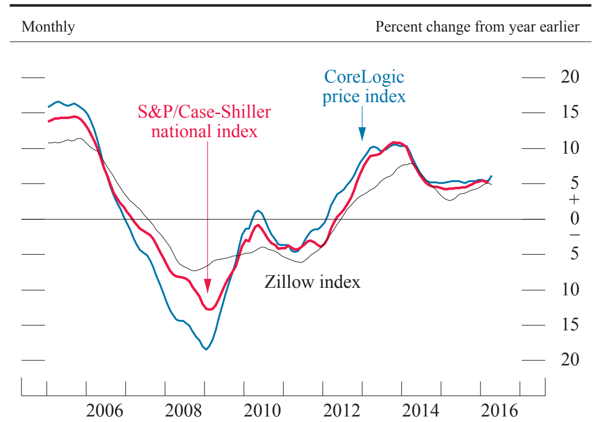
The improvement in the labor market has continued to support income growth, and low energy prices are boosting households' purchasing power. As a result, real disposable personal income—that is, income after taxes and adjusted for inflation—was reported to have advanced at an annual rate of about 3¼ percent over the first four months of this year, just a touch below the pace in 2015.

Ongoing gains in household net worth likely have also supported growth in consumer spending. House prices, which are of particular importance for the balance sheet positions of a broad set of households, have continued to move higher, with the CoreLogic national index showing a rise of about 6 percent over the 12 months ending in April (figure 14). Elsewhere, although equity prices have only increased slightly, on net, so far this year, the prior gains of the past few years have helped improve households' financial positions. In the first quarter of this year, the ratio of aggregate household net worth to disposable income, which had previously returned to its pre-recession highs, ticked down slightly but remained far above its long-run historical average (figure 15).

Consumers are upbeat about their economic prospects . . .

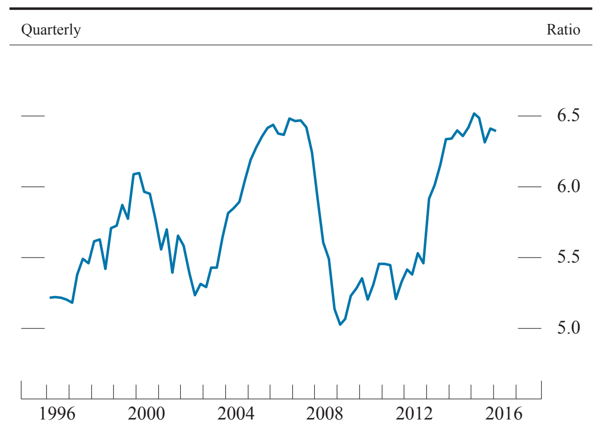
The solid pace of income growth over the past year has helped households retain fairly upbeat perceptions about their economic prospects. The Michigan survey's composite index of consumer sentiment—which incorporates households' views about their own financial situations as well as economic conditions more broadly—has improved again recently following a moderate deterioration earlier in the year, and the latest readings were near the upper end of the range of values recorded during the previous economic expansion (figure 16). After having lagged behind improvements in headline sentiment earlier in the recovery, the survey measures of households' expectations for real income changes over the next year or two have also improved noticeably and now stand close to their pre-recession levels.

14. Prices of existing single-family houses



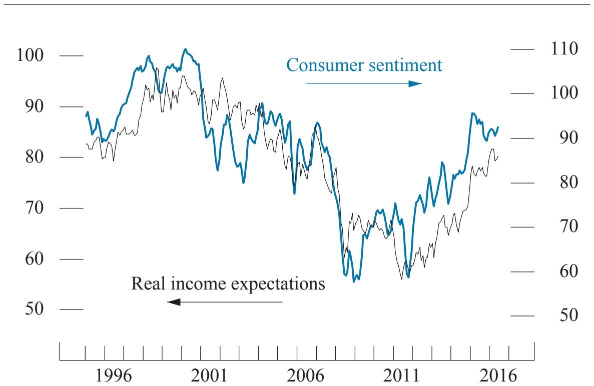
NOTE: The data for the S&P/Case-Shiller index extend through March 2016. The data for the Zillow and CoreLogic indexes extend through April 2016. For Dow Jones Indices licensing information, see the note on the Contents page.
SOURCE: CoreLogic Home Price Index; Zillow; S&P/Case-Shiller U.S. National Home Price Index ("Index"). The S&P/Case-Shiller Index is a product of S&P Dow Jones Indices LLC and/or its affiliates.

15. Wealth-to-income ratio



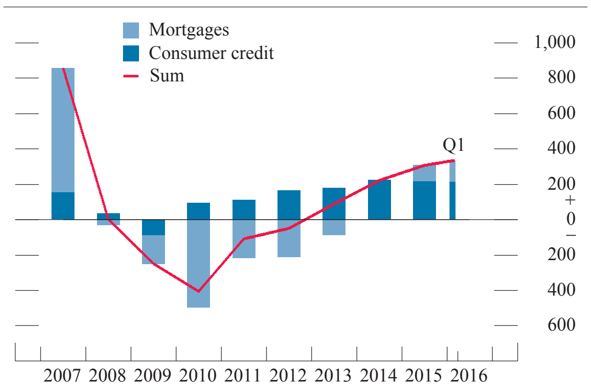
NOTE: The series is the ratio of household net worth to disposable personal income.
SOURCE: For net worth, Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States"; for income, Department of Commerce, Bureau of Economic Analysis.

16. Indexes of consumer sentiment and income expectations



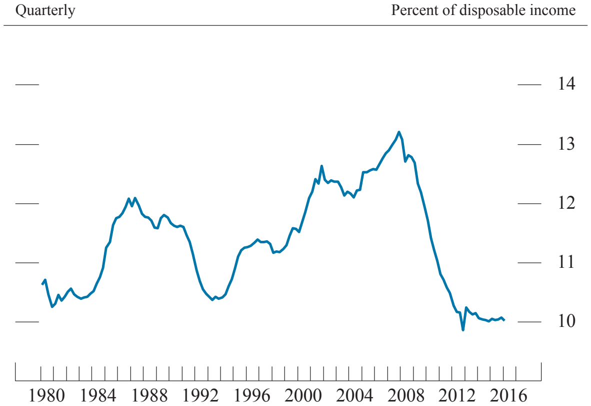
NOTE: The data are three-month moving averages and extend through June 2016. June data are preliminary. Consumer sentiment is indexed to 100 in 1966. Real income expectations are calculated as the net percent of survey respondents expecting family income to go up more than prices during the next year or two, plus 100.
SOURCE: University of Michigan Surveys of Consumers.

17. Changes in household debt



SOURCE: Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

18. 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."

. . . and household credit availability is generally favorable

Consumer credit has continued to expand this year amid stable credit performance (figure 17). Auto and student loans remain widely available, even to borrowers with lower credit scores, and outstanding balances of these types of loans expanded at a robust pace. Credit card borrowing has also accelerated a bit, on balance, and the outstanding balance in April was 5½ percent above its level a year earlier. Although there have been some tentative signs of easing overall, credit card standards have remained tight for nonprime borrowers.

Low interest rates and rising incomes have enabled many households to lower 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—has remained at a very low level by historical standards (figure 18). Interest rates on 30-year fixed-rate mortgages are down about ½ percentage point from the level at the December liftoff date, and rates on auto loans, on net, have been little changed since then. Going forward, the effect of any policy rate tightening on mortgage rates and, in turn, on households' debt burdens will likely show through only gradually, as the current stock of household debt is disproportionately held in loan products with fixed interest rates.

Residential construction activity has improved at a gradual pace

The recovery in residential construction activity has maintained a moderate pace. Single-family starts continued to edge up slowly over the past year, while multifamily starts receded a little from their elevated levels in the middle of 2015 (figure 19). Looking further back, the rise in multifamily starts over the past five years has been substantial and has far exceeded the percent gain in single-family housing starts. The relative strength in multifamily construction partly reflects a shift in demand away from owner-occupied housing toward rental housing since the recession. Elsewhere, outlays for improvements to existing homes increased more than 10 percent over the past year, and commissions and fees paid on the sale of residential real estate rose moderately, in line with the uptrend in sales of existing homes and contracts for new homes (figure 20). In all, residential investment rose almost 10 percent in 2015 and appears on track to maintain a similar pace in the first half of this year.

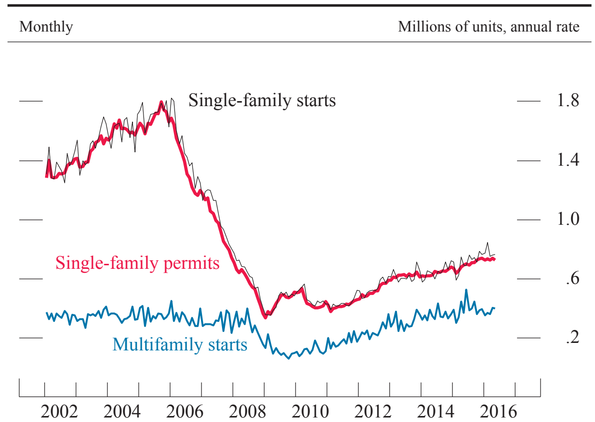
Low interest rates and an ongoing easing in mortgage credit standards have continued to support the expansions in housing demand and construction activity. In the April Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS), banks reported having eased lending standards and experienced stronger demand for most types of residential real estate loans in the first quarter.[4] Even so, for individuals with relatively low credit scores, mortgages remain difficult to obtain. With mortgage interest rates having again moved down close to their all-time lows, housing affordability has remained favorable despite the moderate growth in house prices over the past year (figure 21).

Business fixed investment has declined . . .

A worrisome development in recent quarters has been the weakening in business fixed investment (private nonresidential fixed investment). Over the past year, real outlays in the nonresidential structures category—which constitutes roughly one-fourth of total business fixed investment—have fallen sharply, as investment in oil wells and other drilling and mining structures has followed the steep drop in oil prices (figure 22). The decline in the number of drilling rigs in operation has been so pronounced that investment in drilling and mining structures has shrunk to

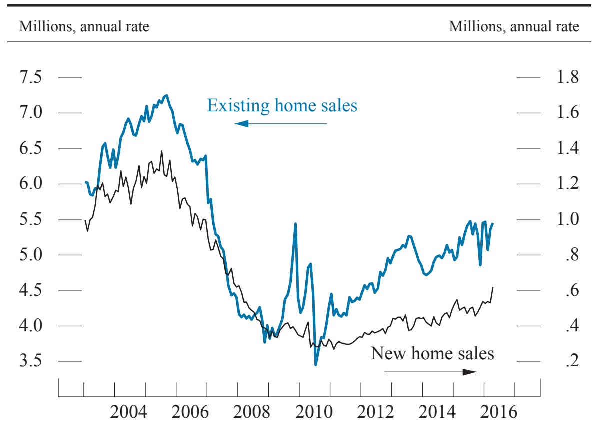
4. The SLOOS is available on the Board's website at www.federalreserve.gov/boarddocs/snloansurvey.

19. Private housing starts and permits



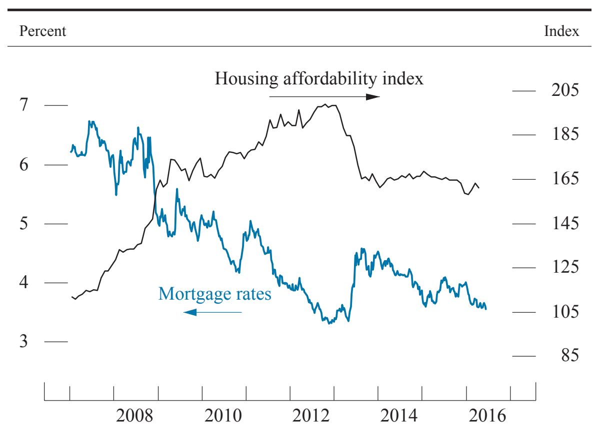
SOURCE: Department of Commerce, Bureau of the Census.

20. New and existing home sales



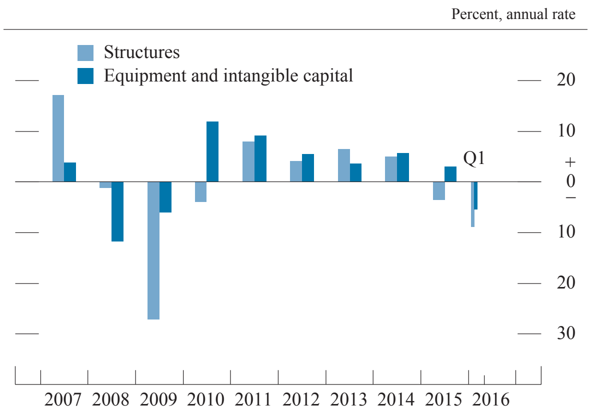
NOTE: The data extend through April 2016. "Existing home sales" includes single-family, condo, townhome, and co-op sales.
SOURCE: For new single-family home sales, Census Bureau; for existing home sales, National Association of Realtors.

21. Mortgage rates and housing affordability



NOTE: The housing affordability index data are monthly through April 2016, and the mortgage rate data are weekly through June 15, 2016. 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 rates, Freddie Mac Primary Mortgage Market Survey.

22. Change in real private nonresidential fixed investment



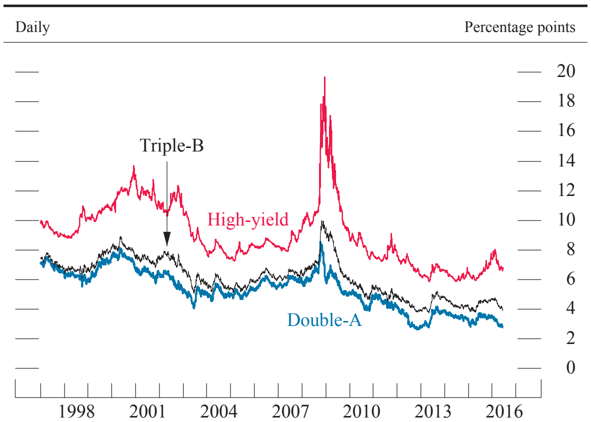
SOURCE: Department of Commerce, Bureau of Economic Analysis.

less than one-third its peak in 2014, and the ongoing contraction has subtracted nearly ½ percentage point from real GDP growth over the past four quarters. Outside of the energy sector, business outlays for structures recorded relatively modest increases following the sizable gains observed in the first half of 2015. Meanwhile, business spending on equipment and intellectual property products moved down in the fourth quarter of last year and the first quarter of 2016, and the available indicators, such as orders and shipments of capital goods and surveys of business conditions, point to continued softness in the current quarter.

Although investment spending continues to be supported by low interest rates and generally accommodative financial conditions, spending is likely being restrained by a slowing in actual and expected business output growth. Weak foreign demand and the stronger dollar are already having an adverse effect on domestic businesses, and analysts' forecasts for year-ahead corporate earnings have been revised down considerably, even outside of the energy sector. Meanwhile, as reported by the Bureau of Economic Analysis, corporate profits recorded only a slight increase in the first quarter after falling sharply at the end of last year, although here, too, the weakness was heavily concentrated in the energy sector.

. . . while corporate financing conditions have remained generally accommodative

23. 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.

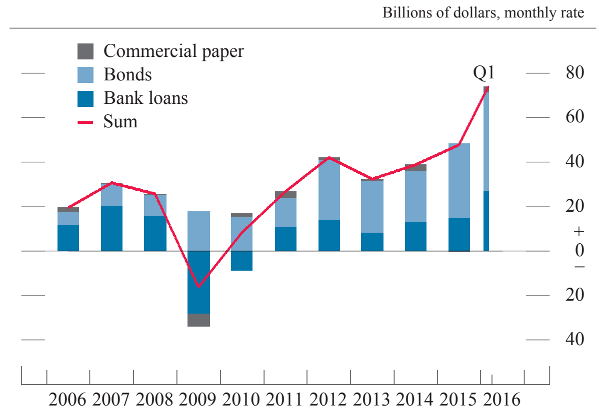
Corporate financing conditions remained generally accommodative in the first half of this year, although ongoing oil market developments and episodes of global financial stress led to sporadic periods of heightened perceptions of risk. In particular, corporate bond markets showed strains early in the year, especially for those firms most affected by the low energy prices. In recent months, however, pressures in bond markets have eased somewhat, and corporate bond yields overall have returned to historically low levels (figure 23). In the April SLOOS, banks indicated that they had tightened their standards on commercial and industrial (C&I) loans to large and middle-market firms in the first quarter, but even so, such financing remained broadly available. For the first quarter as a whole, corporate bond issuance and the growth of C&I loans on banks' balance sheets were quite strong (figure 24). Firms' equity issuance was also generally solid, though initial public offerings have been weak. Meanwhile, the growth of small business loans was subdued.

Financing conditions in the commercial real estate (CRE) sector have remained accommodative overall, but here, too, there have been some signs of tightening. Growth of CRE loans at banks remained strong during the first half of the year. However, banks indicated that they had further tightened their lending standards on CRE loans in the first quarter of 2016, according to the April SLOOS. In addition, spreads on interest rates for CRE loans relative to 10-year swap rates and to yields on commercial mortgage-backed securities rose sharply further early this year, and although they have retreated significantly since then, these measures remain well above their historical average levels.

Exports and imports have both been weak this year

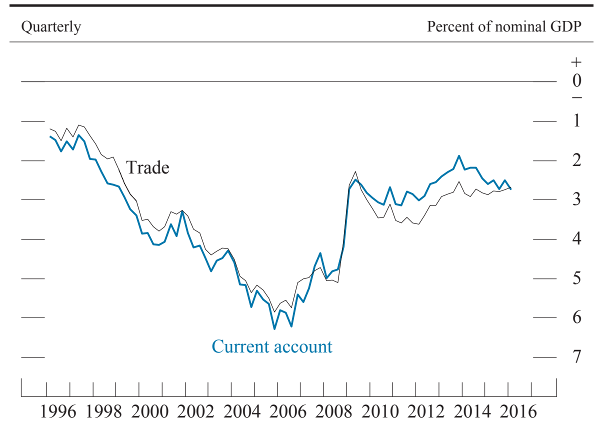
Based on recently released trade prices and the nominal census trade data, it appears that real exports were roughly flat in the first quarter of 2016, held back by slow foreign growth and the considerable appreciation of the dollar over the past two years. Despite the appreciation of the dollar, real imports looked to have declined in the first quarter, with weakness in both capital- and consumer-goods categories. Overall, the net export contribution to GDP growth was about neutral. While the nominal trade deficit narrowed a little in the first quarter, the current account deficit widened a touch to 2.7 percent of nominal GDP (figure 25). The April trade data suggest that net exports will be a small drag on GDP growth in the current quarter, as the trade deficit increased, with imports rebounding from a very weak March level.

24. Selected components of net debt financing for nonfinancial businesses



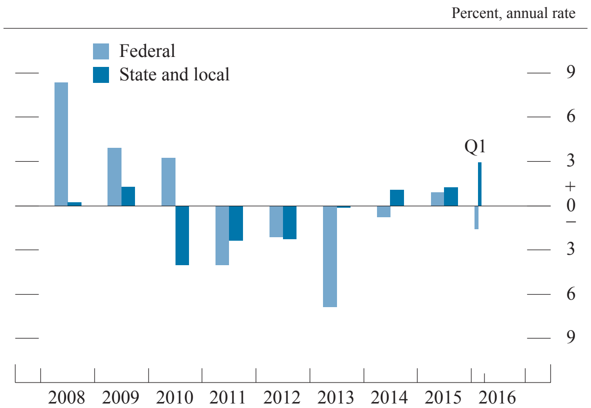
SOURCE: Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

25. U.S. trade and current account balances



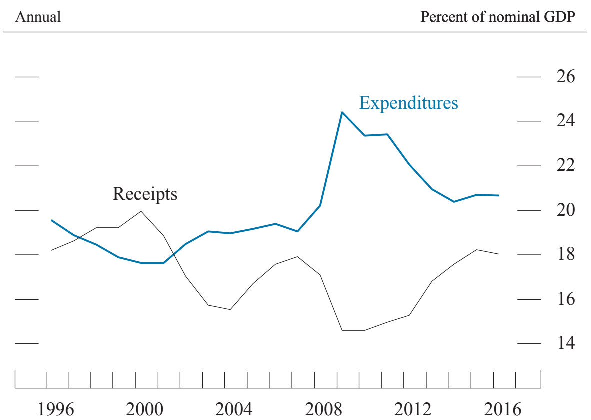
NOTE: GDP is gross domestic product.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

26. Change in real government expenditures on consumption and investment



SOURCE: Department of Commerce, Bureau of Economic Analysis.

27. Federal receipts and expenditures



NOTE: Through 2015, receipts and expenditures are for fiscal years (October to September); gross domestic product (GDP) is for the four quarters ending in Q3. For 2016, receipts and expenditures are for the 12 months ending in May, and GDP is the average of 2015:Q4 and 2016:Q1. Receipts and expenditures are on a unified-budget basis.
SOURCE: Office of Management and Budget.

The drag from federal fiscal policy has ended . . .

Fiscal policy at the federal level had a roughly neutral influence on GDP growth in 2015, as the substantial contractionary effects of earlier fiscal consolidation have abated. Policy actions had little effect on taxes, while transfers and federal purchases of goods and services merely edged up (figure 26). Going forward, if the increased spending authority enacted in last year's budget agreement is fully utilized, federal fiscal policy would likely be mildly supportive of GDP growth over 2016 and 2017.

After narrowing significantly over the past several years, the federal unified budget deficit has recently widened slightly. At 18 percent of GDP, receipts have remained high relative to the recession and early recovery period (figure 27). At 21 percent, expenditures as a share of GDP are above the levels that prevailed before the start of the most recent recession. Although the ratio of federal debt held by the public to nominal GDP is already quite elevated, the deficit currently remains small enough to roughly stabilize this ratio at around 75 percent (figure 28).

. . . and state and local government expenditures are rising

The expansion of economic activity and further gains in house prices continue to support a gradual improvement in the fiscal position of most state and local governments. Consistent with their improving finances, states and localities significantly expanded real construction spending in 2015 and in the early part of this year. By contrast, employment growth in the state and local sector was muted last year, but the pace has stepped up somewhat so far in 2016 (figure 29).

Financial Developments

Financial conditions tightened early in the year but then eased

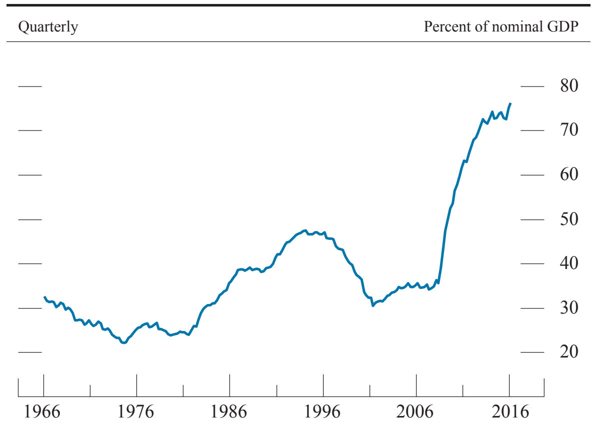
Early in 2016, domestic financial conditions tightened, as uncertainty about the outlook for the Chinese economy, lower oil prices, and weak data on economic activity in several economies contributed to concerns about the prospects for global economic growth and to a pullback from risky assets. At that time, Treasury yields declined across maturities, equity prices fell steeply, equity price volatility rose, and risk spreads on corporate bonds widened notably. In addition, investors came to expect a more gradual increase in the target range for the federal funds rate than they had previously anticipated. However, investors' concerns appeared to diminish beginning in mid-February, and since then, amid mixed U.S. economic data, domestic financial conditions have generally eased on balance: Stock prices rose notably, equity price volatility declined, and credit spreads on corporate bonds narrowed. (For a discussion of financial stability developments over this same period, see the box "Developments Related to Financial Stability.")

On balance to date this year, the expected path for the federal funds rate over the next several years declined . . .

The path of the federal funds rate implied by market quotes on interest rate derivatives flattened, on net, since December. The turbulence in global financial markets early in the year, the FOMC's communications, and some indications of a slowing in the pace of improvement in the labor market of late contributed to market participants' expectation that U.S. monetary policy would be more accommodative than they had anticipated late last year.

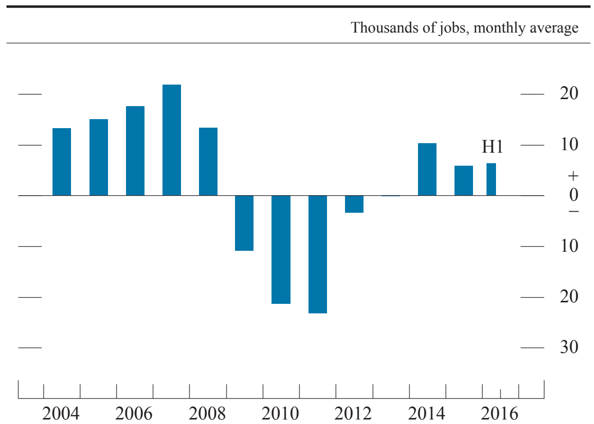
Survey-based measures of the expected path of policy also moved down this year. Respondents to the Survey of Primary Dealers and to the Survey of Market Participants in June expected fewer 25 basis point increases in the FOMC's target range for the federal funds rate this year than they projected in December. Market-based measures of uncertainty about the policy rate approximately one to two years ahead declined, on balance, from their year-end levels.

28. Federal government debt held by the public



NOTE: The data for gross domestic product (GDP) are at an annual rate. Federal debt held by the public equals federal debt less Treasury securities held in federal employee defined benefit retirement accounts, evaluated at the end of the quarter.
SOURCE: For GDP, Department of Commerce, Bureau of Economic Analysis; for federal debt, Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

29. State and local government employment change



NOTE: The value for 2016:H1 is calculated with data extending through May. The value for 2013 is -0.08.
SOURCE: Department of Labor, Bureau of Labor Statistics.

Developments Related to Financial Stability

Financial vulnerabilities in the United States overall remain at a moderate level. This assessment is supported by the resilience demonstrated by domestic financial firms and markets during the period of heightened financial volatility near the start of the year. Capital and liquidity ratios at large banks have stayed at high levels relative to historical standards, and debt growth in the household sector has been modest. However, leverage of nonfinancial corporations continues to be elevated by historical standards, leaving lower-rated firms potentially vulnerable to adverse developments. Stresses on energy firms remain high given the low level of oil prices. Valuation pressures have increased somewhat in equity markets as expected profits have been marked down. Commercial real estate (CRE) prices are near or above their previous peaks. Even given moderate financial vulnerabilities, a number of possible external shocks, including if the United Kingdom chooses to leave the European Union in a pending referendum, could pose risks to financial stability.

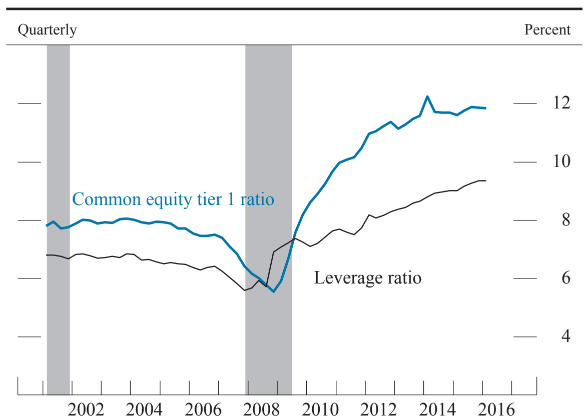
Stronger capital positions at domestic banking organizations have substantially contributed to the improved resilience of the U.S. financial system (figure A). The results of the stress tests mandated by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 and the accompanying Comprehensive Capital Analysis and Review are scheduled to be released June 23 and June 29, 2016, respectively.[1] In addition, large domestic banks have continued to hold high levels of liquid assets and have shifted the composition of their liabilities toward more-stable funding sources. However, measures of profitability, such as return on assets and return on equity, declined noticeably in the first quarter as many banking firms increased provisions for loan losses. The pickup in provisions to date primarily reflects rising delinquencies for loans to energy-related firms. Energy exposures for most banks appear manageable, but some small domestic banks still have significant exposure to the oil sector, and others could be affected by spillovers from the energy sector to other business lines. A few large domestic banks have material ties to global banks that appear to be more susceptible to low oil prices due to their significant exposures to oil-producing emerging market economies.

1. The exercise tests the ability of the 34 participating bank holding companies to maintain adequate capital ratios and continue to provide intermediary services in the face of a hypothetical severe recession. For descriptions of the scenarios, see Board of Governors of the Federal Reserve System (2016), *2016 Supervisory Scenarios for Annual Stress Tests Required under the Dodd-Frank Act Stress Testing Rules and the Capital Plan Rule* (Washington: Board of Governors, January), https://www.federalreserve.gov/newsevents/press/bcreg/bcreg20160128a2.pdf.

Capital positions also have remained relatively elevated at insurance companies and broker-dealers. In addition, net secured borrowing by dealers—primarily used to finance their own portfolios of securities—has stayed near its lowest levels since 2001. Margin credit extended by dealers—which funds clients' positions in traded stocks—has fluctuated within the upper part of its historical range, but margin calls reportedly were met without disruption or a marked increase in disputes during the heightened market volatility at the start of the year.

The stock of private, short-term, money-like instruments, which form funding intermediation chains that are vulnerable to runs, has continued to trend down relative to gross domestic product (GDP) and total nonfinancial debt, suggesting vulnerabilities from maturity transformation have continued to fall. Assets in money market mutual funds (MMFs) have been relatively stable this year, though assets in institutional prime MMFs have been declining, primarily because Securities and Exchange Commission (SEC) reforms aimed at mitigating the funds' susceptibility to investor runs have induced conversions of prime funds into government-only funds. Nevertheless, some structural vulnerabilities are expected to persist in MMFs even after SEC reforms go fully into effect in October 2016. For open-end mutual funds, the Financial Stability Oversight Council highlighted potential risks to financial stability from liquidity transformation

A. Regulatory capital ratios at the top 25 bank holding companies



NOTE: The common equity tier 1 ratio equals core equity capital divided by risk-weighted assets, while the leverage ratio equals tier 1 capital divided by average total consolidated assets. Exact calculations for the two regulatory capital ratios can be found in schedule HC-R of the Federal Reserve Board's reporting form FR Y-9C. Before 2014:Q1, the numerator of the common equity tier 1 ratio is tier 1 common capital. Beginning in 2014:Q1 for advanced approaches bank holding companies and in 2015:Q1 for all other bank holding companies, the numerator is common equity tier 1 capital. The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research.

SOURCE: Federal Reserve Board, Form FR Y-9C, Consolidated Financial Statements for Bank Holding Companies.

through funds that hold less liquid assets and could face elevated redemptions, and the council suggested possible actions to mitigate those risks.

Valuation pressures have generally stayed at a moderate level since January, though they rose for a few asset classes. Forward price-to-earnings ratios for equities have increased to a level well above their median of the past three decades. Although equity valuations do not appear to be rich relative to Treasury yields, equity prices are vulnerable to rises in term premiums to more normal levels, especially if a reversion was not motivated by positive news about economic growth. In contrast, valuation pressures in corporate bond markets—which manifest in low yields and credit spreads—were about unchanged. Credit spreads for 10-year investment- and speculative-grade bonds changed little, on balance, and far-term forward spreads on speculative-grade corporate bonds have risen slightly, suggesting only a small decrease in investors' risk appetite. Although respondents to the Board's Senior Credit Officer Opinion Survey on Dealer Financing Terms reported some deterioration in market liquidity during the heightened financial volatility near the start of the year, standard measures of liquidity in corporate bond markets decreased only about in line with what might be expected given historical relationships between liquidity and volatility.

Valuations in the CRE sector appear increasingly vulnerable to negative shocks, as CRE prices have continued to outpace rental income and exceed, by some measures, their pre-crisis peaks. However, leverage in the sector does not appear excessive, and some evidence points to a recent reduction in risk appetite among CRE investors. Overall growth of CRE debt is moderate, and the ratio of debt backed by nonfarm nonresidential property to GDP is below an estimate of its long-run historical trend. In addition, according to the January and April results of the Board's Senior Loan Officer Opinion Survey on Bank Lending Practices, banks tightened lending standards in the fourth quarter of 2015 and first quarter of 2016.

The private nonfinancial-sector credit-to-GDP ratio has stayed near the levels that prevailed in the mid-2000s, though it is below conventional estimates of its long-term upward trend. In addition, debt growth in the household sector remained modest and mostly attributable to prime borrowers. In contrast, leverage for the nonfinancial corporate sector has stayed elevated and indicators of corporate credit quality, though still solid overall, continued to show signs of deterioration for lower-rated firms, especially in the energy sector. Even so, the risks posed by the elevated indebtedness of nonfinancial corporations may be attenuated by substantial cash holdings of investment-grade firms, relatively low interest expenses, and limited short-term debt.

The Federal Reserve Board has taken several further steps to improve the resilience of financial institutions and overall financial stability, including three proposals that apply only to large banking organizations and increase in stringency with the systemic footprint of the organization. First, the Board issued for public comment a proposed rule that would impose single-counterparty credit limits to help constrain interconnectedness within the financial system.[2] Second, the Board and the other federal banking agencies issued for public comment a proposed rule that would require large U.S. banking organizations to maintain a minimum net stable funding ratio (NSFR).[3] The proposal would require those institutions to maintain sufficient levels of stable funding relative to the liquidity of their assets, derivatives, and commitments over a one-year period, reducing liquidity risk in the banking system. The NSFR proposal would also serve as a complement to the liquidity coverage ratio rule. Third, the Board issued for public comment a proposed rule that would reduce the threat of disorderly liquidation of financial firms by requiring U.S. global systemically important banks (G-SIBs) and the U.S. operations of foreign G-SIBs to restrict the ability of counterparties to terminate qualified financial contracts early if the firm enters bankruptcy or a resolution process.[4]

In addition, the Board and the Federal Deposit Insurance Corporation announced their determinations and provided firm-specific feedback on the 2015 resolution plans of eight U.S. G-SIBs.[5] The two agencies ordered five of the firms to address identified deficiencies in their plans by October 1, 2016, or possibly be subjected to more stringent prudential requirements.

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2. See Board of Governors of the Federal Reserve System (2016), "Federal Reserve Board Proposes Rule to Address Risk Associated with Excessive Credit Exposures of Large Banking Organizations to a Single Counterparty," press release, March 4, https://www.federalreserve.gov/newsevents/press/bcreg/20160304b.htm.

3. See Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, and Office of the Comptroller of the Currency (2016), "Agencies Propose Net Stable Funding Ratio Rule," joint press release, May 3, https://www.federalreserve.gov/newsevents/press/bcreg/20160503a.htm.

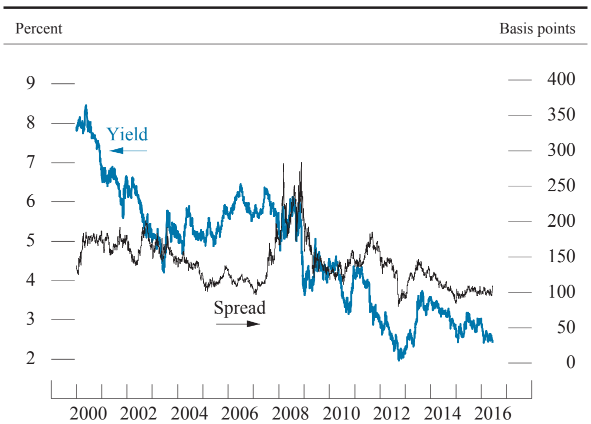
4. See Board of Governors of the Federal Reserve System (2016), "Federal Reserve Board Proposes Rule to Support U.S. Financial Stability by Enhancing the Resolvability of Very Large and Complex Financial Firms," press release, May 3, https://www.federalreserve.gov/newsevents/press/bcreg/20160503b.htm.

5. See Board of Governors of the Federal Reserve System and Federal Deposit Insurance Corporation (2016), "Agencies Announce Determinations and Provide Feedback on Resolution Plans of Eight Systemically Important, Domestic Banking Institutions," joint press release, April 13, https://www.federalreserve.gov/newsevents/press/bcreg/20160413a.htm.

30. Yields on nominal Treasury securities

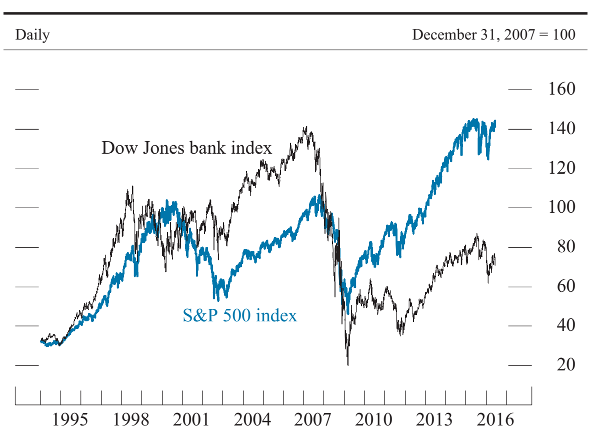
NOTE: The Treasury ceased publication of the 30-year constant maturity series on February 18, 2002, and resumed that series on February 9, 2006.
SOURCE: Department of the Treasury.

31. 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.

32. Equity prices



NOTE: For Dow Jones Indices licensing information, see the note on the Contents page.
SOURCE: Standard and Poor's Dow Jones Indices via Bloomberg.

. . . longer-term nominal Treasury yields decreased . . .

Yields on 5-, 10-, and 30-year nominal Treasury securities declined in the first half of the year on balance (figure 30). Treasury yields decreased most notably in the early part of the year amid an increase in safe-haven demands and a pullback from risky assets. Yields changed little since then, on net, as risk sentiment generally improved but concerns about longer-term economic growth remained. Consistent with the change in yields on Treasury securities, yields on 30-year agency mortgage-backed securities (MBS)—an important determinant of mortgage interest rates—decreased, on balance, in the first half of 2016 (figure 31).

. . . broad equity price indexes increased slightly, and those of companies linked to energy sectors rose substantially . . .

After incurring sharp declines early in the year, broad equity price indexes rebounded as risk sentiment improved, resulting in levels that were slightly higher, on net, than at year-end (figure 32). In addition, reflecting the rebound in oil prices since the turn of the year, stock prices of companies in the energy sector outperformed broad equity market indexes over the first half of 2016. Meanwhile, implied volatility of the S&P 500 index increased through mid-February and then declined, ending the period above its year-end level.

. . . while risk spreads on corporate bonds narrowed

Similar to the movements in equity markets, spreads on corporate bonds over comparable-maturity Treasury securities widened early in the year but later retraced those moves, leaving spreads generally little changed, on net, over the first half of the year. Spreads on the lowest-rated speculative-grade issues declined appreciably. Nonetheless, corporate bond spreads stayed notably above their historical median levels, consistent with some deterioration in credit quality in the corporate sector.

Bank credit continued to expand, but profitability declined

Aggregate credit provided by commercial banks increased at a solid pace through May (figure 33). The expansion in bank credit reflected strong loan growth coupled with a modest increase in banks' holdings of securities. The growth of loans on banks' books was generally consistent with banks' reports in the April SLOOS of stronger demand for most loan categories and easier lending standards for loans to households.

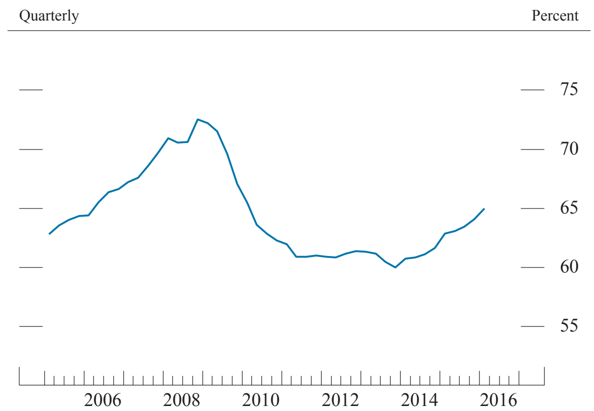
Measures of bank profitability remained below their historical averages and declined in the first quarter of 2016, pressured by higher provisioning for losses on loans to borrowers in the oil and gas sectors, reduced trading and investment banking revenues, and continued low net interest margins (figure 34). However, with the exception of C&I loans, loan delinquency and charge-off rates continued to decline across most major loan types and remained near or at their lowest levels since the financial crisis. Stock prices of large bank holding companies decreased over the first half of the year, while banks' credit default swap spreads increased and stayed above their average level over the past two years.

Measures of liquidity conditions and functioning in financing markets were generally stable

Available indicators of Treasury market functioning have remained broadly stable over the first half of 2016. A variety of liquidity metrics—including bid-asked spreads and bid sizes in secondary markets for Treasury securities—have displayed no notable signs of liquidity pressures over the same period. In addition, Treasury auctions generally continued to be well received by investors.

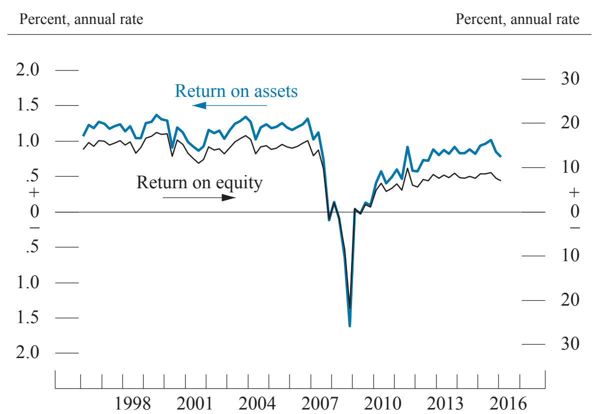
Liquidity conditions in the agency MBS market also appeared to be generally stable. Dollar-roll-implied financing rates for production coupon MBS—an indicator of the scarcity of agency MBS for settlement—

33. Ratio of total commercial bank credit to nominal gross domestic product



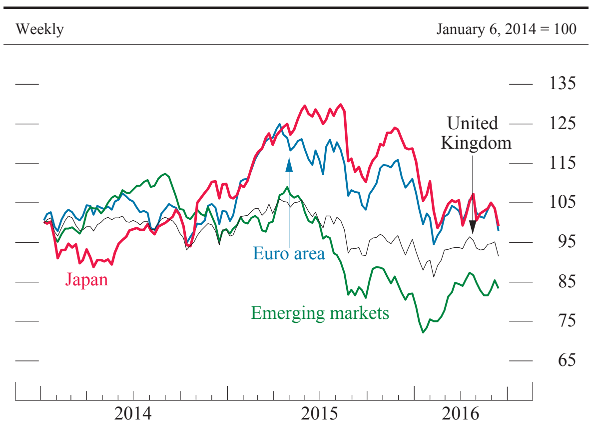
SOURCE: Federal Reserve Board, Statistical Release H.8, "Assets and Liabilities of Commercial Banks in the United States"; Department of Commerce, Bureau of Economic Analysis.

34. Profitability of bank holding companies



NOTE: The data are quarterly and are seasonally adjusted.
SOURCE: Federal Reserve Board, Form FR Y-9C, Consolidated Financial Statements for Bank Holding Companies.

35. Equity indexes for selected foreign economies



NOTE: The data are weekly averages of daily data and extend through June 16, 2016. For Dow Jones Indices licensing information, see the note on the Contents page.

SOURCE: For Japan, Tokyo Stock Price Index (TOPIX); for the euro area, Dow Jones Euro STOXX Index; for the United Kingdom, FTSE 350 Index; for emerging markets, Morgan Stanley Emerging Markets MXEF Capital Index; all via Bloomberg.

suggested limited settlement pressures over the first half of 2016. In addition, measures of corporate bond market liquidity, such as gauges of the effect of trades on market prices, stayed at levels comparable with those seen prior to the financial crisis. However, accurately measuring liquidity in fixed-income markets can be challenging, and liquidity conditions may vary in certain segments of the market or during times of stress.

Short-term dollar funding markets also continued to function smoothly during the first half of 2016. There were generally no signs of stress in either secured or unsecured money markets, including at March quarter-end.

Municipal bond markets functioned smoothly despite recent developments on Puerto Rico's debt

Credit conditions in municipal bond markets continued to be stable even as the situation facing Puerto Rico and its creditors deteriorated further. Gross issuance of municipal bonds remained solid in the first quarter, and yield spreads on general obligation (GO) municipal bonds over comparable-maturity Treasury securities increased a bit on net. Puerto Rico's Government Development Bank missed a substantial debt payment due in early May, and investors remained focused on the next sizable payment of GO bonds due in July.

International Developments

Foreign financial market conditions improved after tightening early in the year

Foreign financial market conditions tightened early in the year, with bond spreads rising and equity markets falling in most countries as investor concerns about global economic growth increased, particularly with regard to China (figure 35). Since mid-February, in response to the release of some positive foreign data, reassuring moves by Chinese policymakers, and a market perception that

U.S. monetary policy would be somewhat more accommodative than previously expected, financial conditions generally improved. A rebound in oil prices also seemed to reassure investors, possibly by diminishing financial stability concerns around oil-producing firms and oil-exporting economies. Bond yields, however, have generally moved lower since February, both because of low readings on inflation and in response to the U.S. employment report in June (figure 36).

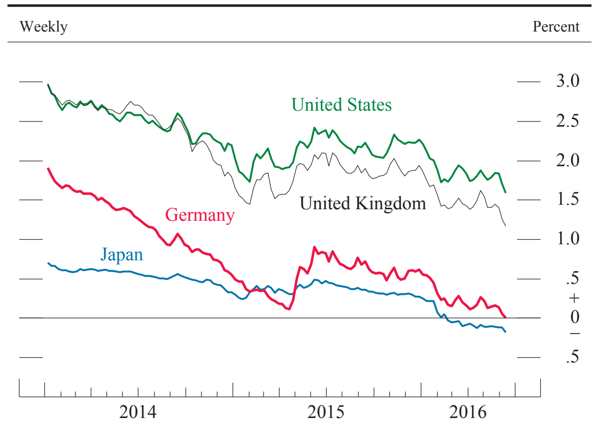
The dollar depreciated early in the year but has risen, on balance, more recently

After increasing more than 20 percent from mid-2014 through its recent peak in January of this year, the broad dollar index—a measure of the trade-weighted value of the dollar against foreign currencies—has declined about 4 percent on balance (figure 37). The exchange value of the dollar fluctuated importantly over the first half of this year in response to shifting views about the path of U.S. monetary policy—falling early on, rising starting in May, and declining again more recently. On net, the dollar declined significantly against currencies of some commodity exporters, including Canada, as higher oil prices provided support for those currencies. In contrast, the British pound appreciated less against the dollar than other currencies, likely reflecting investor concerns about the upcoming referendum on whether the United Kingdom should leave the European Union. The Chinese renminbi was under considerable depreciation pressure late last year and very early in 2016 but stabilized as fears that Chinese policymakers would allow the renminbi to fall considerably further were allayed by reassuring statements of Chinese authorities, positive macroeconomic data, and decreased capital outflows (figure 38).

Economic growth remained modest in most advanced foreign economies

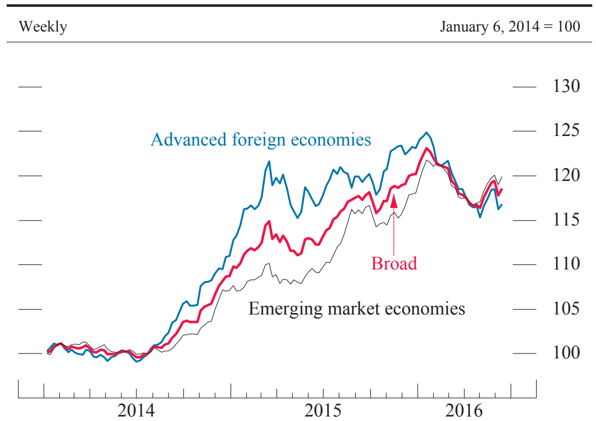
In the euro area, Canada, and Japan, economic growth picked up in the first quarter of 2016 (figure 39). The euro-area economy was supported by the European Central Bank's

36. 10-year nominal benchmark yields in selected advanced economies



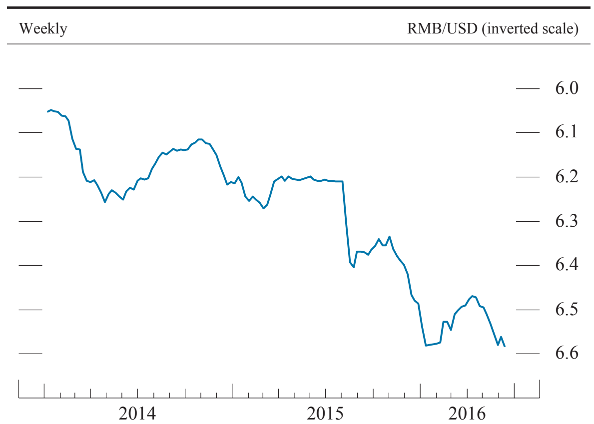
NOTE: The data are weekly averages of daily data and extend through June 16, 2016.
SOURCE: Bloomberg.

37. U.S. dollar exchange rate indexes



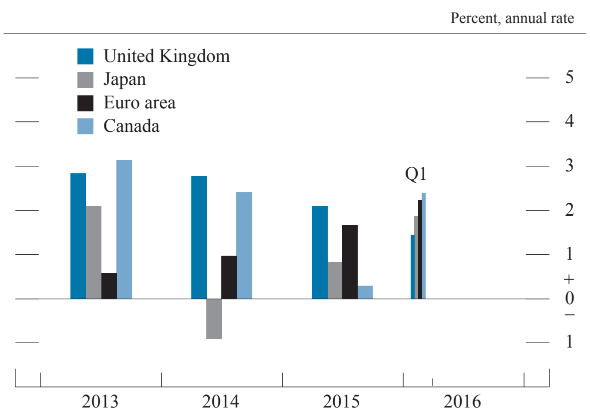
NOTE: The data, which are in foreign currency units per dollar, are weekly averages of daily data and extend through June 16, 2016.
SOURCE: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

38. Chinese renminbi exchange rate



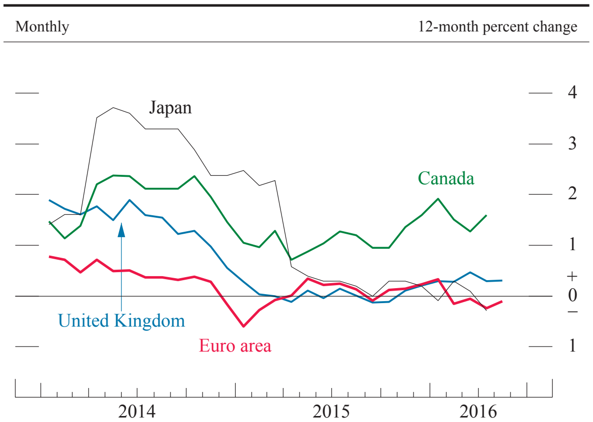
NOTE: The data are weekly averages of daily data and extend through June 16, 2016. The line plots the number of Chinese renminbi per U.S. dollar (RMB/USD). Given the inverted scale, the line moving up indicates an appreciation of the renminbi against the dollar.
SOURCE: Bloomberg.

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



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

40. Inflation in selected advanced foreign economies



NOTE: The data for Canada and Japan extend through April 2016.
SOURCE: For the United Kingdom, Office of National Statistics; for Japan, Ministry of International Affairs and Communications; for euro area, Statistical Office of the European Communities; for Canada, Statistics Canada; all via Haver Analytics.

highly accommodative monetary policies, and the Canadian economy continued to recover from a brief recession in early 2015, with past depreciation of the Canadian dollar providing some support. However, GDP growth in the second quarter is likely to be hampered in Japan (as a result of an earthquake in April) and in Canada (on account of massive wildfires that have disrupted oil production). In addition, uncertainty related to the forthcoming U.K. referendum appears to have contributed to a step-down in U.K. growth this year.

Inflation also remained low . . .

In most advanced foreign economies (AFEs), core inflation remained subdued, reflecting continued economic slack in some countries and generally subdued wage growth. As a result, despite the recent rebound in oil prices and the inflationary effects of past sizable depreciations of some currencies, headline inflation remained well below central bank targets in Canada, the euro area, Japan, and the United Kingdom (figure 40).

. . . leading AFE central banks to maintain highly accommodative monetary policies

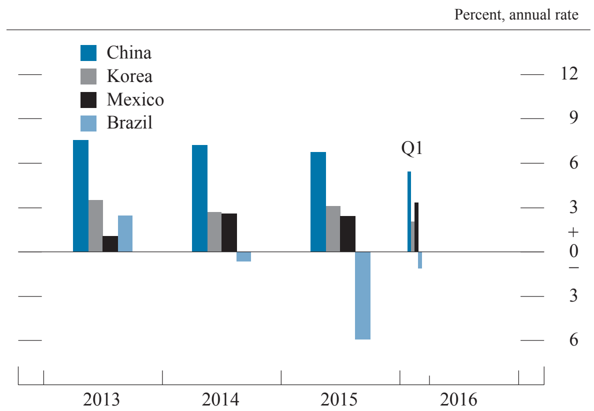
In late January of this year, the Bank of Japan adopted a negative policy rate, and in March, the European Central Bank reduced its deposit rate further into negative territory, increased the pace and scope of its asset purchases, and announced a new program of four-year loans—potentially at slightly negative rates—to euro-area banks. Meanwhile, the Bank of Canada, the Bank of England, and many other AFE central banks maintained their policy rates at historically low levels.

In emerging markets, economic growth picked up from late last year but remains subpar

The Chinese economy slowed in the first quarter (figure 41). However, recent indicators suggest that more accommodative fiscal and monetary policies are providing a lift to economic activity, particularly in the property market, where easier credit conditions have fueled a sharp turnaround. Elsewhere in emerging Asia, weak external demand from both the advanced economies and China weighed on growth in the first quarter, but exports and manufacturing have improved more recently.

Mexico's economy was a bright spot in Latin America in the first quarter, as GDP growth picked up despite lackluster exports to the United States; however, it appears economic activity decelerated in the second quarter. In Brazil, the recession continued in the first quarter, reflecting long-standing structural problems, low commodity prices, and a political crisis, subsequently resulting in a change in government. However, the contraction was smaller than in previous quarters, as commodity prices recovered somewhat and the sharp depreciation of the currency last year helped boost exports. Growth was mixed in the rest of South America, with Chilean GDP rebounding sharply while Venezuela's economy continued to experience a deep recession.

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



NOTE: The data for China are seasonally adjusted by staff. The data for Mexico, Brazil, and Korea are seasonally adjusted by their respective government agencies.

SOURCE: For China, China National Bureau of Statistics; for Korea, Bank of Korea; for Mexico, Instituto Nacional de Estadistica Geografia e Informatica; for Brazil, Instituto Brasileiro de Geografia e Estadistica; all via Haver Analytics.

Part 2
Monetary Policy

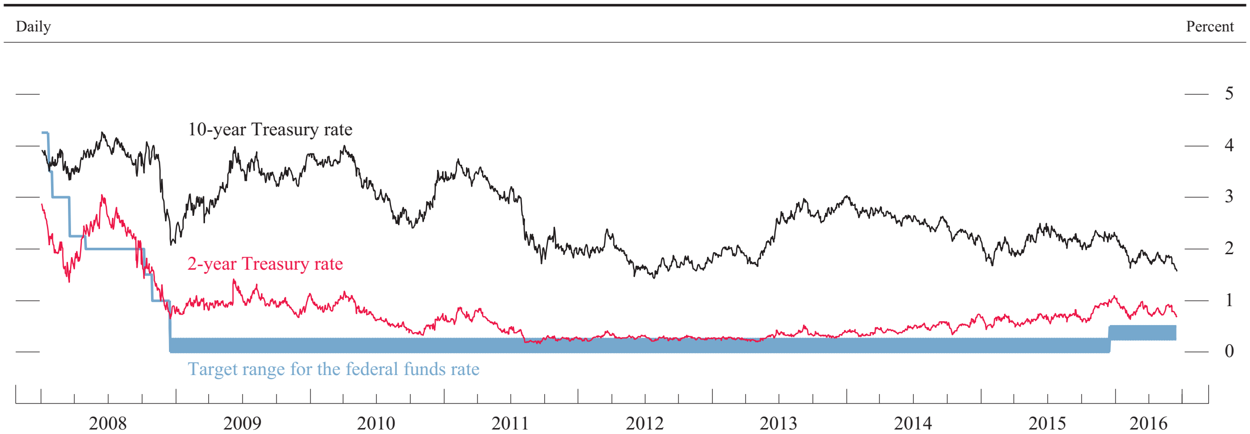
Over the first half of the year, monetary policy remained accommodative to support further improvement in labor market conditions and a return to 2 percent inflation. In particular, the Federal Open Market Committee (FOMC) maintained the target range for the federal funds rate at ¼ to ½ percent. This unchanged policy stance was supported, among other factors, by the FOMC's assessments in the first months of the year that global economic and financial developments posed risks to the economic outlook, and in June that recent information indicated that the pace of improvement in the labor market had slowed. In addition, the Committee's policy stance reflected its expectation that inflation would remain low in the near term. Looking ahead, the FOMC expects that economic conditions will warrant only gradual increases in the federal funds rate. In determining future adjustments to the federal funds rate, the Committee will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments.

The FOMC maintained the federal funds rate target range at ¼ to ½ percent in the first half of the year . . .

After raising the target range for the federal funds rate last December to between ¼ and ½ percent, the Committee has maintained that range over the first half of the year (figure 42). This unchanged policy stance was supported initially by the Committee's assessment that global economic and financial developments posed risks to the economic outlook, as expressed in its March 2016 statement, and by its judgment in April that growth in domestic economic activity appeared to have slowed.[5] In June, the Committee noted that recent information indicated that the pace of improvement in the labor market had slowed, while growth in domestic economic activity

5. See Board of Governors of the Federal Reserve System (2016), "Federal Reserve Issues FOMC Statement," press release, March 16, https://www.federalreserve.gov/newsevents/press/monetary/20160316a.htm; and Board of Governors of the Federal Reserve System (2016), "Federal Reserve Issues FOMC Statement," press release, April 27, https://www.federalreserve.gov/newsevents/press/monetary/20160427a.htm.

42. Selected interest rates



Note: The 2-year and 10-year Treasury rates are the constant-maturity yields based on the most actively traded securities.
Source: Department of the Treasury; Federal Reserve Board.

appeared to have picked up in the spring.[6] The decision to maintain the target range for the federal funds rate also reflected the Committee's expectation that inflation would stay low in the near term, partly because of earlier declines in energy prices and in the prices of non-energy imports, as well as recently elevated uncertainty about the possible consequences of the U.K. referendum on European Union membership for the U.S. economic outlook.

Over the first half of 2016, the Committee remained particularly attentive to risks to the U.S. economic outlook posed by global economic and financial developments. The Committee noted earlier in the year that it was closely monitoring such developments and assessing their implications for the labor market and inflation and for the balance of risks to the outlook. The Committee subsequently indicated that these concerns had attenuated, but that it would continue to closely monitor inflation indicators and global economic and financial developments.

. . . indicated that the stance of monetary policy was likely to remain accommodative . . .

The Committee continued to expect that the federal funds rate was likely to remain, for some time, below levels that were expected to prevail in the longer run, and that with gradual adjustments in the stance of monetary policy, economic activity would expand at a moderate pace and labor market indicators would continue to strengthen. The Committee also continued to expect inflation to remain low in the near term but to rise to 2 percent over the medium term as the transitory effects of past declines in energy and import prices dissipate and the labor market strengthens further.

Consistent with this outlook, in the most recent Summary of Economic Projections, which was compiled at the time of the June FOMC meeting, FOMC participants projected that the appropriate level of the federal funds rate would be below its longer-run level through 2018.

. . . and stressed that future changes in the target range for the federal funds rate will depend on the economic outlook as informed by incoming data

The FOMC continued to emphasize that, in determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee would assess realized and expected economic conditions, as informed by incoming data, relative to its objectives of maximum employment and 2 percent inflation. This assessment would take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. In light of the current shortfall of inflation from 2 percent, the Committee indicated that it would carefully monitor actual and expected progress toward its inflation goal. Stronger growth or a more rapid increase in inflation than the Committee currently anticipates would likely call for faster increases in the federal funds rate; conversely, if conditions prove weaker, a lower path of the federal funds rate would likely be appropriate.

The size of the Federal Reserve's balance sheet has remained stable

To help maintain accommodative financial conditions, the Federal Reserve kept its holdings of longer-term securities at sizable levels over the first half of the year. In particular, the Committee maintained its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction, and it anticipates doing so until normalization of the level of the federal funds rate is well under way.

With the continuation of the Committee's reinvestment policy, the Federal Reserve's total

6. See Board of Governors of the Federal Reserve System (2016), "Federal Reserve Issues FOMC Statement," press release, June 15, https://federalreserve.gov/newsevents/press/monetary/20160615a.htm.

assets have held steady at around $4.5 trillion (figure 43). Holdings of U.S. Treasury securities in the System Open Market Account (SOMA) have remained at $2.5 trillion, and holdings of agency debt and agency mortgage-backed securities at approximately $1.8 trillion. Consequently, total liabilities on the Federal Reserve's balance sheet were mostly unchanged.

Interest income on the SOMA portfolio has continued to support substantial remittances to the U.S. Treasury Department. The Federal Reserve provided $117.1 billion of such distributions to the Treasury in 2015, which included a one-time transfer of $19.3 billion made in December 2015 to reduce aggregate Reserve Bank capital surplus to $10 billion, as required by the Fixing America's Surface Transportation Act, and a transfer of $24.8 billion during the first quarter of 2016.[7]

The Federal Reserve's remittances to the Treasury have totaled over $600 billion on a cumulative basis since 2008.

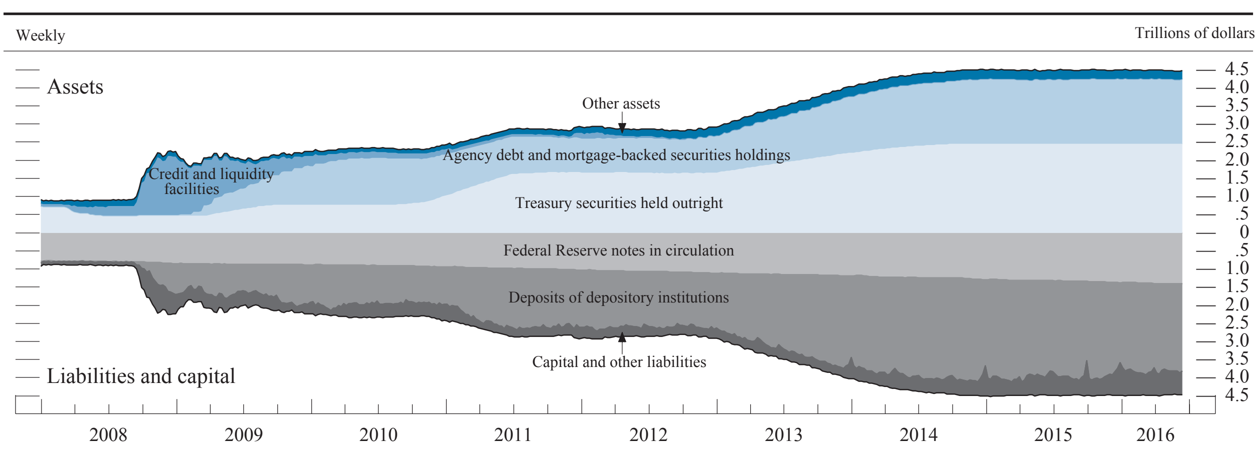
The Federal Reserve's implementation of monetary policy has continued smoothly

Consistent with the FOMC's Policy Normalization Principles and Plans published on September 17, 2014, and augmented with additional operational information at the March 2015 FOMC meeting, the Federal Reserve continued to use interest paid on reserve balances and employ an overnight reverse repurchase agreement (ON RRP) facility to manage the federal funds rate, and the effective federal funds rate has remained in its target range.[8] Specifically, the Board of Governors left the interest rate paid on required and excess reserve balances unchanged at ½ percent, while the FOMC continued to authorize daily ON RRP

7. See Board of Governors of the Federal Reserve System (2016), "Federal Reserve System Publishes Annual Financial Statements," press release, March 18, https://www.federalreserve.gov/newsevents/press/other/20160317a.htm; and Board of Governors of the Federal Reserve System (2016), *Quarterly Report on Federal Reserve Balance Sheet Developments* (Washington: Board of Governors, May), https://www.federalreserve.gov/monetarypolicy/files/quarterly_balance_sheet_developments_report_201605.pdf.

8. See Board of Governors of the Federal Reserve System (2014), "Federal Reserve Issues FOMC Statement on Policy Normalization Principles and Plans," press release, September 17, www.federalreserve.gov/newsevents/press/monetary/20140917c.htm; and Board of Governors of the Federal Reserve System (2015), "Minutes of the Federal Open Market Committee, March 17–18, 2015," press release, April 8, www.federalreserve.gov/newsevents/press/monetary/20150408a.htm.

43. Federal Reserve assets and liabilities



NOTE: "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. "Capital and other liabilities" includes reverse repurchase agreements, the U.S. Treasury General Account, and the U.S. Treasury Supplementary Financing Account. The data extend through June 15, 2016.

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

operations at an offering rate of ¼ percent. In addition, the Board of Governors took no action to change the discount rate (the primary credit rate), which remained at 1 percent.

The FOMC also continued to indicate that the Federal Reserve's daily ON RRP operations would be undertaken in amounts limited only by the value of Treasury securities held outright in the SOMA that are available for such operations and by a per-counterparty limit of $30 billion per day. The total take-up at ON RRP operations with the Federal Reserve generally decreased in the first half of the year and remained at levels below those observed prior to the increase in the target range for the federal funds rate in December. The Committee has stated that it intends to phase out the ON RRP facility when it is no longer needed to help control the federal funds rate.

The Federal Reserve also continued to test the operational readiness of other policy tools. In particular, two Term Deposit Facility operations were conducted in the first half of 2016; seven-day deposits were offered at both operations at a floating rate of 1 basis point over the interest rate on excess reserves. In these operations, term deposit volumes were broadly in line with those in previous tests with similar parameters. In addition, the Open Market Desk conducted several small–dollar value exercises solely for the purpose of maintaining operational readiness.

Part 3
Summary of Economic Projections

In conjunction with the Federal Open Market Committee (FOMC) meeting held on June 14–15, 2016, meeting participants submitted their projections of the most likely outcomes for real output growth, the unemployment rate, inflation, and the federal funds rate for each year from 2016 to 2018 and over the longer run.[9] Each participant's projection was based on information available at the time of the meeting, together with his or her assessment of appropriate monetary policy and assumptions about the factors likely to affect economic outcomes. The longer-run projections represent each participant's assessment 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.

The median of participants' projections for the growth of real gross domestic product (GDP) was 2 percent for each year from 2016 through 2018, in line with the median estimate of the longer-run growth rate of real GDP (table 1 and figure 1). The median of growth projections in 2016 and 2017 was slightly lower than the median of near-term projections made at the time of the March FOMC meeting. The range of participants' projections

9. One participant did not submit longer-run projections in conjunction with the June 2016 FOMC meeting.

Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, under their individual assessments of projected appropriate monetary policy, June 2016

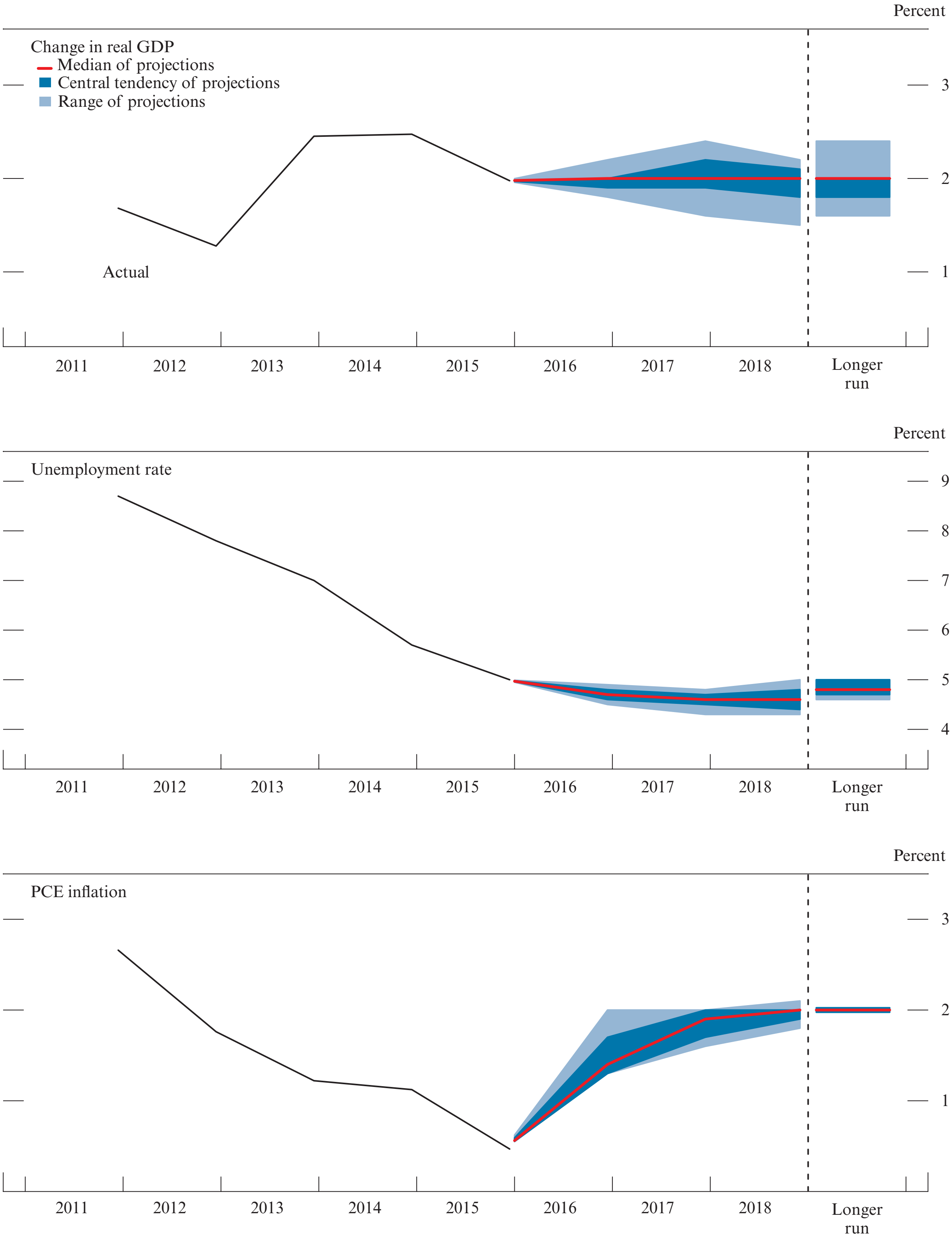
Percent

Variable	Median[1]				Central tendency[2]				Range[3]			
	2016	2017	2018	Longer run	2016	2017	2018	Longer run	2016	2017	2018	Longer run
Change in real GDP	2.0	2.0	2.0	2.0	1.9–2.0	1.9–2.2	1.8–2.1	1.8–2.0	1.8–2.2	1.6–2.4	1.5–2.2	1.6–2.4
March projection	2.2	2.1	2.0	2.0	2.1–2.3	2.0–2.3	1.8–2.1	1.8–2.1	1.9–2.5	1.7–2.3	1.8–2.3	1.8–2.4
Unemployment rate	4.7	4.6	4.6	4.8	4.6–4.8	4.5–4.7	4.4–4.8	4.7–5.0	4.5–4.9	4.3–4.8	4.3–5.0	4.6–5.0
March projection	4.7	4.6	4.5	4.8	4.6–4.8	4.5–4.7	4.5–5.0	4.7–5.0	4.5–4.9	4.3–4.9	4.3–5.0	4.7–5.8
PCE inflation	1.4	1.9	2.0	2.0	1.3–1.7	1.7–2.0	1.9–2.0	2.0	1.3–2.0	1.6–2.0	1.8–2.1	2.0
March projection	1.2	1.9	2.0	2.0	1.0–1.6	1.7–2.0	1.9–2.0	2.0	1.0–1.6	1.6–2.0	1.8–2.0	2.0
Core PCE inflation[4]	1.7	1.9	2.0		1.6–1.8	1.7–2.0	1.9–2.0		1.3–2.0	1.6–2.0	1.8–2.1	
March projection	1.6	1.8	2.0		1.4–1.7	1.7–2.0	1.9–2.0		1.4–2.1	1.6–2.0	1.8–2.0	
Memo: Projected appropriate policy path												
Federal funds rate	0.9	1.6	2.4	3.0	0.6–0.9	1.4–1.9	2.1–2.9	3.0–3.3	0.6–1.4	0.6–2.4	0.6–3.4	2.8–3.8
March projection	0.9	1.9	3.0	3.3	0.9–1.4	1.6–2.4	2.5–3.3	3.0–3.5	0.6–1.4	1.6–2.8	2.1–3.9	3.0–4.0

Note: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are percent changes 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 projections for the federal funds rate are the value of the midpoint of the projected appropriate target range for the federal funds rate or the projected appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. The March projections were made in conjunction with the meeting of the Federal Open Market Committee on March 15–16, 2016. One participant did not submit longer-run projections in conjunction with the June 14–15, 2016, meeting.

1. For each period, the median is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.
2. The central tendency excludes the three highest and three lowest projections for each variable in each year.
3. The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year.
4. Longer-run projections for core PCE inflation are not collected.

Figure 1. Medians, central tendencies, and ranges of economic projections, 2016–18 and over the longer run



NOTE: Definitions of variables and other explanations are in the notes to the projections table. The data for the actual values of the variables are annual.

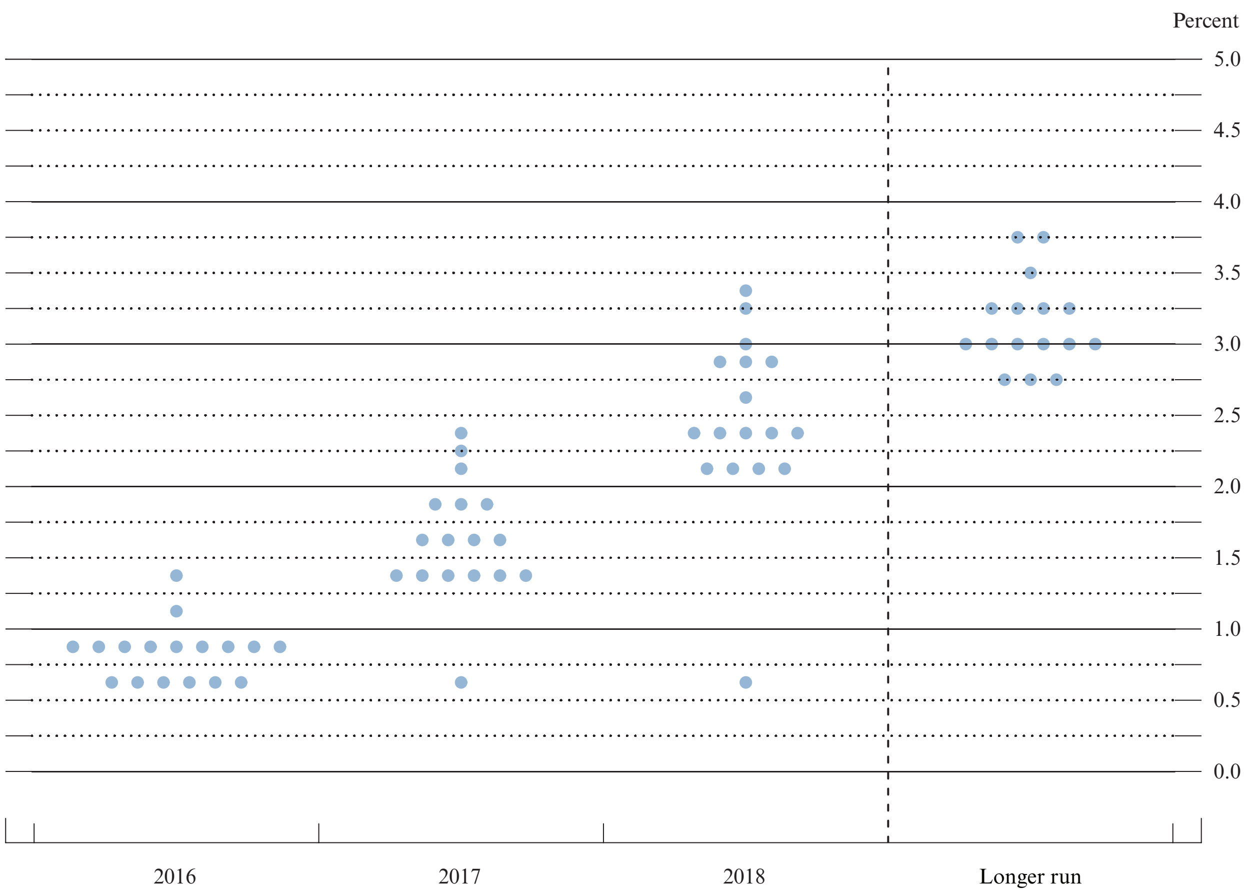
for real GDP growth in 2017, 2018, and over the longer run widened somewhat relative to March.

The median of projections for the unemployment rate edges down from 4.7 percent at the end of 2016 to 4.6 percent in 2017 and 2018, modestly below the median assessment of the longer-run normal unemployment rate of 4.8 percent. The medians and ranges of the unemployment rate projections for 2016 to 2018 were nearly unchanged from March.

The median of projections for inflation as measured by changes in the price index for personal consumption expenditures (PCE) in 2016 stands at 1.4 percent, a bit higher than in March; the median rises to 1.9 percent for 2017 and to the Committee's objective of 2 percent for 2018 and over the longer run. The medians of projections for core PCE inflation also rise gradually over the next two years.

With regard to participants' projections of appropriate monetary policy, the median projection for the federal funds rate rises only gradually from ⅞ percent in 2016 to 1⅝ percent at the end of 2017 and 2⅜ percent by the end of 2018, somewhat below the 3 percent median of participants' estimates of its longer-run normal level (figure 2).

Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



NOTE: Each shaded circle indicates the value (rounded to the nearest ⅛ percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. One participant did not submit longer-run projections.

Although the median federal funds rate at the end of 2016 is unchanged from the March projection, a number of participants revised down their projections. For 2017 and 2018, the median projections are ¼ percentage point and ⅝ percentage point lower, respectively, than in March. The median estimate of the longer-run level of the federal funds rate was revised down ¼ percentage point. These projections represent participants' individual assessments of appropriate policy consistent with their projections of economic growth, employment, inflation, and other factors. However, the economic outlook is inherently uncertain; thus, each participant's assessment of appropriate policy is also necessarily uncertain, especially at longer time horizons, and will change in response to changes to the economic outlook and associated risks.

A more complete description of the Summary of Economic Projections will be released with the minutes of the June 14–15, 2016, FOMC meeting on July 6.

Abbreviations

AFE	advanced foreign economy
C&I	commercial and industrial
CRE	commercial real estate
ECI	employment cost index
FOMC	Federal Open Market Committee; also, the Committee
GDP	gross domestic product
GO	general obligation
MBS	mortgage-backed securities
Michigan survey	University of Michigan Surveys of Consumers
ON RRP	overnight reverse repurchase agreement
PCE	personal consumption expenditures
SEP	Summary of Economic Projections
SLOOS	Senior Loan Officer Opinion Survey on Bank Lending Practices
SOMA	System Open Market Account
S&P	Standard & Poor's