CHAPTER 2

THE YEAR IN REVIEW AND THE YEARS AHEAD

The economy continued to recover and strengthen in 2013, nearly five years after the worst of the financial crisis. Building on the progress of the previous two years, businesses added 2.4 million jobs over the 12 months of 2013: in total, the private sector added 8.5 million jobs during 47 months of consecutive job growth. The unemployment rate fell 1.2 percentage points in 2013, a larger decline than in previous years and more than was forecast by most private-sector economists. Output growth started the year slowly, largely because of headwinds from fiscal drag and slow growth among many of our trading partners that reduced demand for U.S. exports. Output strengthened, however, in the second half of the year. Overall, real gross domestic product (GDP) grew 2.5 percent during the four quarters of the year, up from the 2.0 percent growth during each of the preceding two years. Growth in consumer spending, homebuilding, and exports supported aggregate demand growth. Inventory investment was also a positive factor, partially due to an increase in agricultural production reflecting a plentiful crop in 2013 following a year of drought in 2012. Federal fiscal policy was a drag on the economy because of the tightening due to the expiration of the temporary payroll tax cut and sequester-related spending cuts beginning in March, and because of the uncertainty caused by a partial government shutdown in October and the brinksmanship over the debt limit. Inflation remained low and roughly stable, with the consumer price index (CPI) up 1.5 percent during the 12 months of 2013, and the CPI excluding food and energy up 1.7 percent over this period, slightly below the year-earlier pace.

Looking ahead, a wide variety of indicators suggest that the economy is well situated for a pickup in growth in 2014. Following the largest four-year reduction in the Federal deficit as a share of GDP since the post-WWII demobilization, Federal fiscal policy will be much less of a drag in 2014 and thus will likely constrain overall growth by less than during the preceding years. State and local government spending appears to have turned the

corner, with purchases increasing during the second and third quarters of 2013. The mid-February action of Congress to suspend the debt limit until March 2015 relaxes a situation that had been headed towards unwelcome uncertainty.

Although the economy still remains challenging for many, households—on average—are in an improved position to increase spending as they have further reduced their debt burden and seen a substantial increase in housing and stock-market wealth. More household wealth will facilitate an increase in spending on consumer durables such as motor vehicles, which are showing their age and due for replacement. Homebuilding, which grew rapidly last year, is likely to continue growing on a path up to levels consistent with the demographic forces of the next decade, with mortgage interest rates still below their pre-recession levels, despite a mid-2013 rise. Business fixed investment also has potential to accelerate after relatively slow growth in 2013 as aggregate demand picks up and businesses can take advantage of their sizeable cash flows.

Nevertheless, several downside risks to economic growth remain in 2014 as unforeseen events both domestically and internationally may pose a risk to the economy. Recently, for example, severe cold weather and storms in the United States and a global reduction in asset prices have contributed to some economic activity falling below trend rates of growth in the last few months.

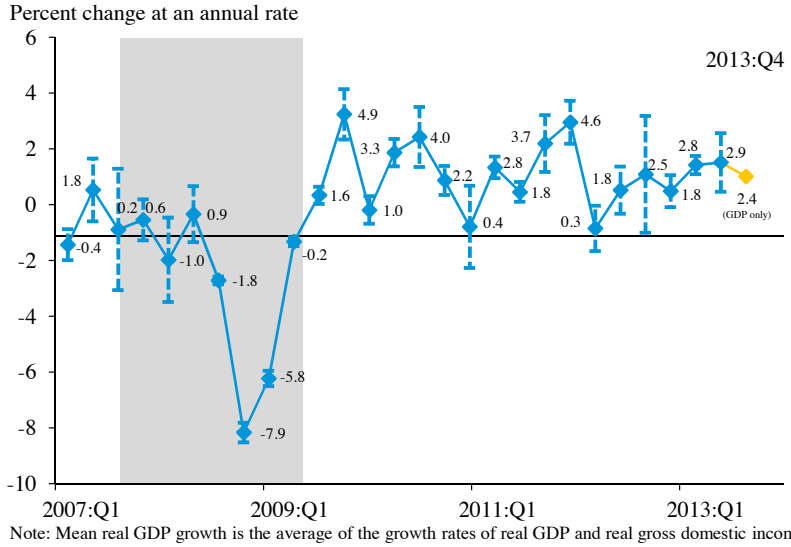
The pace of the recovery will depend, in part, on policy choices. Additional measures that increase aggregate demand would add impetus to the economy in 2014. In particular, the Budget also includes the Opportunity, Growth, and Security initiative, which will finance additional discretionary investments in areas such as education, research, infrastructure, and national security. The $56 billion initiative is evenly split between defense and non-defense and is fully paid for with mandatory spending reforms and tax loophole closers. In addition, investments in infrastructure or extending emergency unemployment benefits would expand demand immediately while measures like business tax reform would help the economy by increasing certainty.

Key Events of 2013

Aggregate Output Growth During the Year

Growth in aggregate economic activity was fairly steady during 2013, with quarterly growth rates between 1.8 and 3.0 percent at an annual rate for the first three quarters of the year, as measured by the average of the

Figure 2-1
Mean GDP Growth, 2007–2013



Note: Mean real GDP growth is the average of the growth rates of real GDP and real gross domestic income (GDI). The bullets show mean GDP and the bars show the GDP and GDI growth in each quarter. The estimate for 2013:Q4 is for GDP only. Shading denotes recession.
Source: Bureau of Economic Analysis, National Income and Product Accounts; CEA calculations.

income- and product-side of real GDP (Figure 2-1).[1] During the four quarters of the year, growth was strong in exports (4.9 percent) and in residential investment (6.6 percent), and moderate in business fixed investment (3.0 percent) and consumer spending (2.1 percent). State and local purchases edged up slightly following four years of decline, while Federal spending fell 6.2 percent.

Fiscal Policy

Federal fiscal policy evolved through several near- or after-deadline Congressional actions that made fiscal policy uncertain and created a difficult planning environment for businesses and consumers.

Toward the end of 2012, policy focused on the potential negative effects of the "fiscal cliff," a confluence of expiring tax cuts and scheduled spending declines that were on track to occur simultaneously, which might have resulted in a sharp fiscal-policy tightening on January 1, 2013. The Congressional Budget Office (CBO) estimated that these policies, if allowed to occur, would have lowered real GDP growth by about 2.25 percent during

[1] Research shows that an average of the two growth rates is better correlated with a wide variety of economic indicators than either the product-side measure (which is headlined in the Commerce Department reports) or the income-side measure alone (Nalewaik 2010, Economic Report of the President 1997, pp. 72-74).

the four quarters of 2013, or enough to cause a decline in real GDP. On the tax side, the 2001 tax cuts, previously extended through 2012, were expiring. Also expiring at the end of 2012 was a 2-percentage point cut in the Social Security payroll tax that was first instituted for one year in 2011, and an increase of the threshold for the Alternative Minimum Tax (AMT). On the spending side, defense and nondefense spending were each scheduled for across-the-board cuts (sequestration) of $55 billion. Medicare payments to physicians and emergency unemployment benefits were among other spending programs scheduled to be cut in January 2013.

On January 1, 2013, Congress passed the American Taxpayer Relief Act of 2012 (ATRA). The ATRA addressed the revenue side of the fiscal cliff by making permanent the middle-class tax cuts, indexing the AMT to inflation permanently, and raising revenues over 10 years by allowing high-income tax cuts to expire. The ATRA also allowed the temporary payroll tax cut to lapse. On the spending side, the ATRA extended Emergency Unemployment Compensation and delayed the Medicare physician cuts for an additional year, but the Act delayed sequestration only until March 1, 2013.

When Congress failed to reach a budget agreement by March 1, allowing the sequester to go into effect, cuts to discretionary and non-exempt mandatory programs were distributed over the remaining seven months of the fiscal year (rather than the full fiscal year in the sequester's original design). As a result, many Federal agencies furloughed civil servants, which reduced Federal compensation by $0.6 billion at an annual rate in the second quarter and by $5.5 billion at an annual rate during the third quarter of 2013 (a total of $1.5 billion not at an annual rate). The CBO projected that the sequester would cut 750,000 jobs and reduce growth during the four quarters of 2013 by a 0.6-percentage point.

The debt ceiling had technically been reached on December 31, 2012 when the Treasury Department commenced "extraordinary measures" to enable the continued financing of the government through mid-February. Around the end of February, however, Congress passed and the President signed a bill that suspended the debt limit though May 18. The next day, on May 19, the debt ceiling was reinstated at a level that reflected borrowing during the suspension period, but no more. As a result, the Treasury began applying extraordinary measures once again and, in late September, the Treasury announced that these extraordinary measures would be exhausted by October 17.

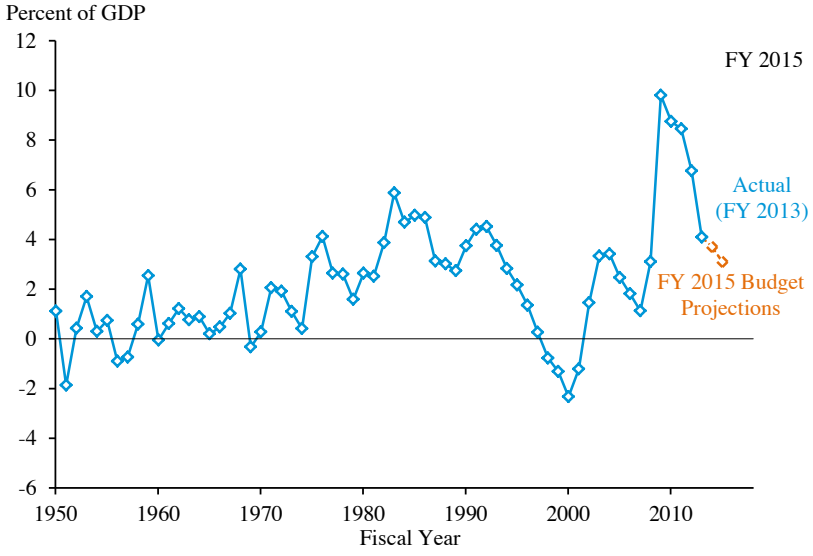
Adding to the debt-ceiling stress, more uncertainty arose in early October when the continuing resolution needed to fund the government was not extended into the new fiscal year beginning on October 1. As a

result, the U.S. Government went into a partial shutdown. About 850,000 Federal civilian employees were initially put on temporary leave, but many civilian Defense Department employees were recalled during the second week of the shutdown. An agreement for a continuing resolution to end the shutdown and extend the debt ceiling was reached on October 16, and the Federal government returned to normal operations the next day. The Bureau of Economic Analysis (BEA) has estimated that the shutdown was directly responsible for a 0.3 percentage point reduction in the annualized GDP growth rate for the fourth quarter, although this estimate does not incorporate indirect effects that operate through reductions in private activity dependent on government services, reductions in confidence, or increases in uncertainty. Confidence in government policy, as measured by the Thompson Reuters-University of Michigan Survey, fell to a level in October which was in the bottom 5 percent of the monthly series since it began in 1978.

The agreement to end the shutdown (the Continuing Appropriations Act of 2014) funded the government through January 15, 2014, and suspended the debt ceiling until February 7, 2014, after which time it was suspended again until March 2015. In mid-December, Congress passed an agreement to provide partial relief from the automatic sequestration of discretionary spending in FY 2014 and 2015, and offset those increases with increased pension contributions from new Federal civilian employees, as well as a variety of higher fees and spending reductions. The bill provided only an overall discretionary cap and, in January, Congress passed FY 2014 appropriations bills consistent with these spending levels. Notably, the bill would fully restore cuts to Head Start programs, which provide early childhood education to children from low-income families, partially restore cuts to medical research and job training programs, and finance new programs to combat sexual assault in the military.

As a result of this fiscal stringency and continued GDP growth, the Federal deficit-to-GDP ratio fell 2.7 percentage points to 4.1 percent in FY 2013 and ranks among one of the largest year-over-year declines ever (Figure 2-2). The deficit-to-GDP ratio in FY 2009 was elevated by the steep recession as well as the fiscal stimulus to combat that recession (See Chapter 3). Since then, the four-year decline in the deficit-to-GDP ratio of 5.7 percentage points was the largest since the demobilization at the end of World War II. Overall fiscal support substantially raised the level of output and employment since 2009, as discussed in Chapter 3. But the reduction in the deficit, especially in 2013, has acted as a drag on growth rates. One reason for the fiscal drag was the winding down of various countercyclical fiscal policies taken during the recession. Fiscal drag is likely to moderate substantially in

Figure 2-2
Federal Budget Deficit, 1950–2015



Source: Bureau of Economic Analysis, National Income and Product Accounts; Office of Management and Budget.

FY 2014, with a projected further 0.4 percentage point decline to 3.7 percent in the deficit to GDP ratio under the President's policies.

Monetary Policy

In 2013, the Federal Open Market Committee (FOMC) continued to provide substantial policy accommodation. With its usual tool—the federal funds rate—near its effective lower bound, the Committee employed both forward guidance for the federal funds rate and additional purchases of longer-term securities.

The FOMC made clear its intention to keep the target range for the federal funds rate "exceptionally low" and maintained throughout the year the forward guidance it issued in December 2012 indicating that the Committee will maintain the current level of the federal funds rate at least "as long as the unemployment rate remains above 6.5 percent, inflation between one and two years ahead is projected to be no more than half a percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored." Moreover, in its December 2013 statement, the FOMC added to its forward guidance, stating that "The Committee now anticipates, based on its assessment of these factors (labor market conditions, inflation, and inflation expectations), that

it likely will be appropriate to maintain the current target range [of 0 to ¼ percent] for the federal funds rate well past the time that the unemployment rate declines below 6-1/2 percent (emphasis added), especially if projected inflation continues to run below the Committee's 2 percent longer-run goal." This additional information was intended to provide greater clarity on the Committee's policy intentions once the unemployment threshold is crossed.

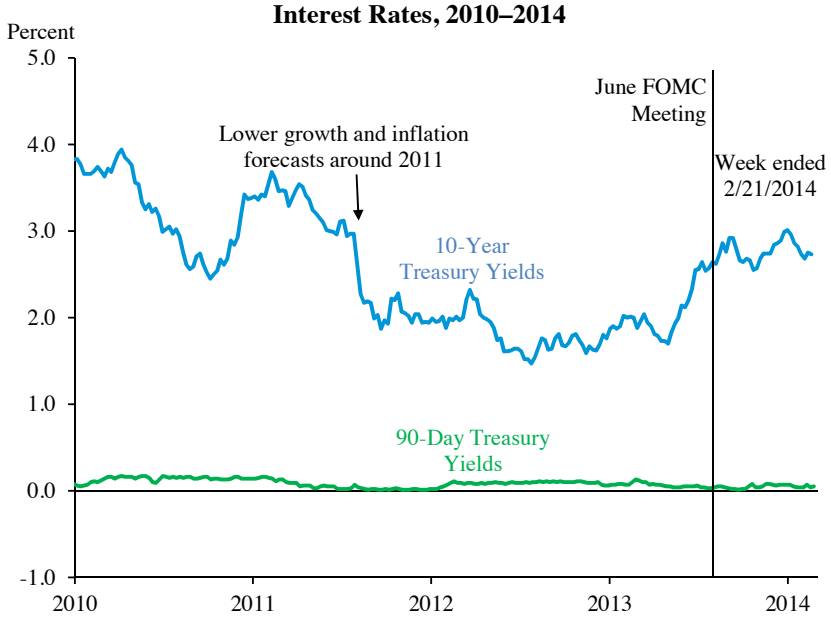
With regard to asset purchases during 2013, the Federal Reserve continued expanding its holding of mortgage-backed securities at a rate of $40 billion a month and longer-term Treasury securities at a pace of $45 billion a month in an attempt to "support a stronger economic recovery and to help ensure that inflation, over time, is at the rate most consistent with its dual mandate," to achieve "maximum employment and price stability." In the period leading up to the June FOMC meeting, financial market participants interpreted some Federal Reserve communications as implying an earlier-than-expected reduction in the pace of purchases. This interpretation contributed to an increase in market volatility and a marked rise in longer-term Treasury yields over the summer that were only partly reversed in the fall, as the Federal Reserve continued to purchase assets at an unchanged pace. However, at its December meeting the FOMC decided to begin reducing the pace of its purchases in January, cutting the monthly increase in its holdings by $10 billion to $75 billion. In addition, the Committee indicated that if incoming information broadly supports its expectation of ongoing improvement in labor market conditions and inflation moving back toward its longer-run objective, it will likely reduce the pace of asset purchases in further measured steps at future meetings. This tapering of asset purchases was continued in January 2014 as announced in the FOMC meeting that month.

Financial Markets

Financial developments over the course of the year reflected the evolving economic outlook as well as Federal Reserve communications. In the spring and the summer, speculation about a possible reduction in the pace of Federal Reserve asset purchases contributed to a sizeable increase in longer-term interest rates (Figure 2-3).

Yields on 10-year Treasury notes were 1.7 percent at the start of May before rising to 2.6 percent in July, and yields continued to rise to about 2.9 percent just before the September FOMC meeting. In response to the Committee's decision to leave the pace of purchases unchanged in September, the 10-year yield retraced part of the summer increase, dropping to 2.6 percent for the month of October. In addition, Federal Reserve

Figure 2-3
Interest Rates, 2010–2014



Source: Federal Reserve Board, H.15.

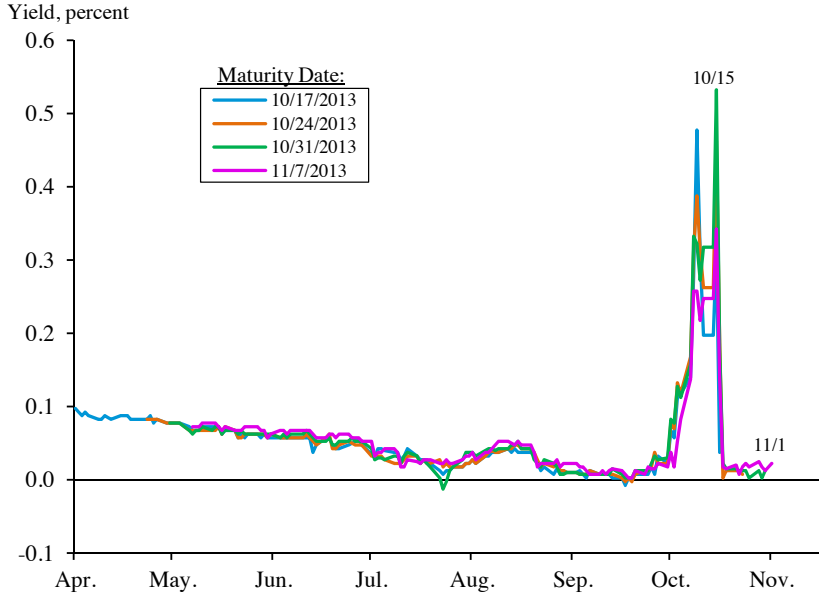
communications appeared to lead investors to push back their expectations for the timing of the first increase in the federal funds rate during the fall. Toward the end of the year, however, the better-than-expected readings on payroll employment and on other economic indicators, followed by the FOMC's decision to reduce the pace of its asset purchases, boosted longer-term Treasury yields in the final weeks of 2013. The 10-year Treasury yield closed 2013 at roughly 3 percent. Short-term rates (such as the rate on federal funds, and the 91-day Treasury bill rate) were more stable throughout the year—remaining under 0.2 percent—although expectations of future short-term rates fluctuated.

In October, brinksmanship over the debt ceiling—which was expected to be hit soon after October 17—and the two-week government shutdown weighed heavily on financial markets. Through September and early October, several indicators of financial stress reflected market participants' concerns about the debt limit. As shown in Figure 2-4, yields on specific Treasury bills maturing around that time increased in anticipation of potential delayed payments.

Moreover, institutional money market funds saw a sizeable $86 billion of outflows (about 5 percent of assets) in the three-week period that ended October 16. Fidelity Investments—the nation's largest manager of money market mutual funds—declared publicly in early October its decision not

Figure 2-4

Treasury Bills Maturing in Late October–Early November, 2013



Source: Bloomberg.

to hold U.S. government debt set to mature around the date of the potential debt ceiling breach. Finally, interest rates on overnight repurchase agreements, or repos, collateralized by Treasury securities, a common source of funding for financial institutions, spiked in early October. With the resolution of the debt ceiling debate, all such indicators returned to normal levels.

Reflecting the ongoing economic recovery and the improved outlook over the course of the year, U.S. equity markets remained on a general upward path despite the increase in interest rates. The Standard and Poor's 500 rose by 30 percent in 2013, reaching a record high in nominal terms at year-end. When adjusted for GDP price inflation, however, it remained below its March 2000 peak. The Standard and Poor's edged up slightly during the first two months of 2014.

International Developments

The past year also saw the beginnings of a recovery in Europe, with real GDP edging up between 1.0 and 1.6 percent annual rate in the second, third, and fourth quarters of 2013. These were the first three consecutive quarters of positive real GDP growth for the 28-country European Union since 2011. Concerns about the stability of the European monetary union (the 17-country "euro area") that surfaced in 2011 and 2012 have subsided.

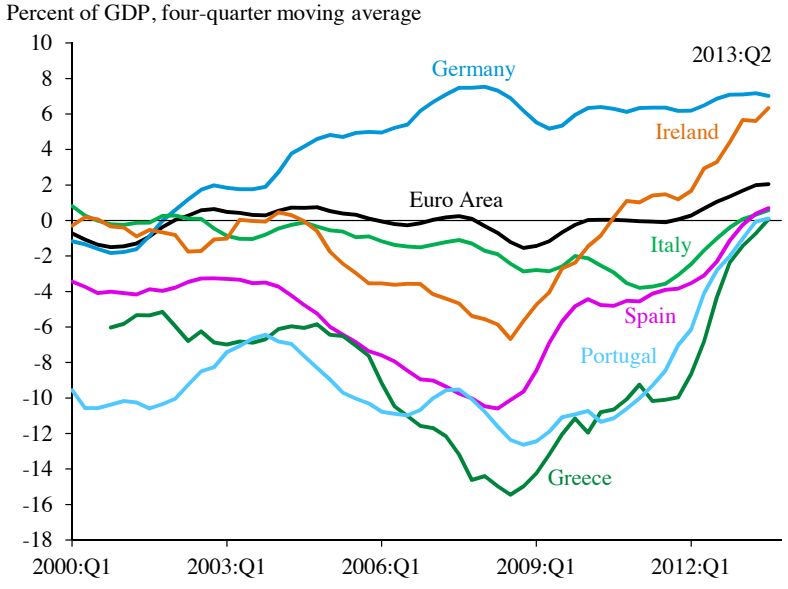
In the euro area, the unemployment rate stabilized at a record high of 12.1 percent from April to September before ticking down to 12.0 percent in the fourth quarter. Euro area inflation was subdued, declining to only 0.8 percent during the 12 months of 2013 from 2.2 percent a year earlier. The recent low rate of inflation has fueled concerns about possible deflation. The European Central Bank policy target for price stability is "below, but close to, 2 percent." The Central Bank's Outright Monetary Transactions program, first announced in August 2012, has helped bring a measure of stability to European sovereign debt markets, with Italy and Spain's 10-year yields ending the year right around a manageable 4 percent. During the year, euro area states made substantial progress to centralize and harmonize bank supervision and regulation at the euro level.

There were notable developments in several European countries as well. In the runup to the euro area crisis, countries including Greece, Spain and Portugal saw a large runup in their current account deficits to finance private and public borrowing that supported consumption and investment. In the wake of the euro area crisis, these countries have adjusted, largely eliminating their current account deficits through reductions in unit labor costs and improved price competiveness, as shown in Figure 2-5. Nevertheless, unemployment rates remain particularly high in these countries.

Japan's real GDP grew a solid 2.7 percent during the four quarters of 2013 following a 0.4 percent decline during 2012. Japan's core consumer price index (that is, excluding food and energy) turned positive, 0.7 percent during the 12 months of 2013, up from a 0.6 percent decline during 2012. This follows in the wake of the election of Shinzo Abe in December 2012, the appointment of a new governor of the Bank of Japan in March, and the announcement in April that the Bank intended to double the monetary base by the end of 2014. Under this policy, bond purchases amount to about $80 billion a month (basically, the same pace as the Federal Reserve but in a smaller economy). Expansionary monetary policy was part of a three-prong strategy that initially included fiscal stimulus and structural reforms meant to support positive growth and to keep Japan from slipping back into a period of deflation.

China's real GDP grew 7.7 percent during the four quarters of 2013, slightly below the year-earlier pace, but noticeably slower than 10 percent and 9 percent growth rates during 2010 and 2011, respectively. Xi Jinping assumed the presidency in March and presided over the Third Plenary Session of the Communist Party, which resulted in a raft of economic reform proposals. China's interbank lending rates have spiked on several occasions this year. During these episodes, the People's Bank of China was

Figure 2-5
Current Account Balance by Country, 2000–2013

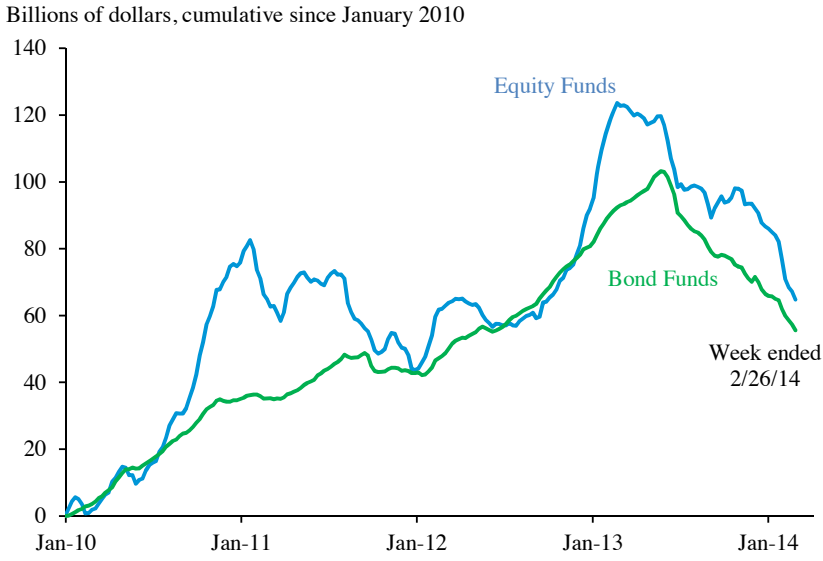


Source: Eurostat; national sources.

slow to inject liquidity, which many interpreted as a warning to banks that have increased off-balance sheet commitments to bypass administrative and regulatory controls and expand lending.

Among other emerging market economies, the pace of real GDP growth fell in Indonesia, Malaysia, Mexico, South Africa and Thailand. But growth also increased in a few, such as Brazil, India, and Turkey. Low interest rates in the United States since the recession coupled with higher investment return prospects in emerging market economies prompted an increase in capital flows toward emerging markets. As interest rates in the United States began to rise and growth prospects abroad waned, however, investors started adjusting their portfolios, which in some cases had adverse effects on emerging-market currencies and interest rates. Foreign mutual funds withdrew $53 billion from emerging markets between mid-May and August, leading to sharp drops in a number of currencies and emerging market equity indexes and causing central banks in several affected countries (India, Indonesia, Turkey, Brazil, and Pakistan) to raise domestic policy interest rates. Nevertheless, even with the withdrawals, investment holdings remained well above the levels of just a few years ago as shown in Figure 2-6. In some instances, currencies and bond markets have retraced their earlier losses, especially as global investors have increasingly differentiated

Figure 2-6
Cumulative Flows into Mutual and Exchange-Traded Funds Investing in Emerging Markets, 2010–2014



Source: EPFR Global, a subsidiary of Informa plc.

debt by country according to the underlying economic fundamentals of each country's economy.

Developments in 2013 and the Near-Term Outlook

Consumer Spending

Real consumer spending grew about 2 percent during each of the past three years. With consumer spending constituting 68 percent of GDP, that stability explains much of the stability of the growth of aggregate demand during those three years. Yet the stability of consumption growth during 2013 results from several offsetting developments. The termination of the temporary 2-percentage point cut in payroll taxes reduced disposable income during 2013 by $115 billion relative to 2012. This subtracted about 0.9 percent from disposable income, and held down consumption growth by about half a percent. Higher taxes on high-income households from the American Taxpayer Relief Act likely had little impact on spending due to their smaller aggregate size and the relatively low marginal propensities to consume for high-income households. Also, by reducing the medium- and

long-term budget deficit, the higher tax rates on high-income households will contribute to stronger and more-sustainable growth over time.

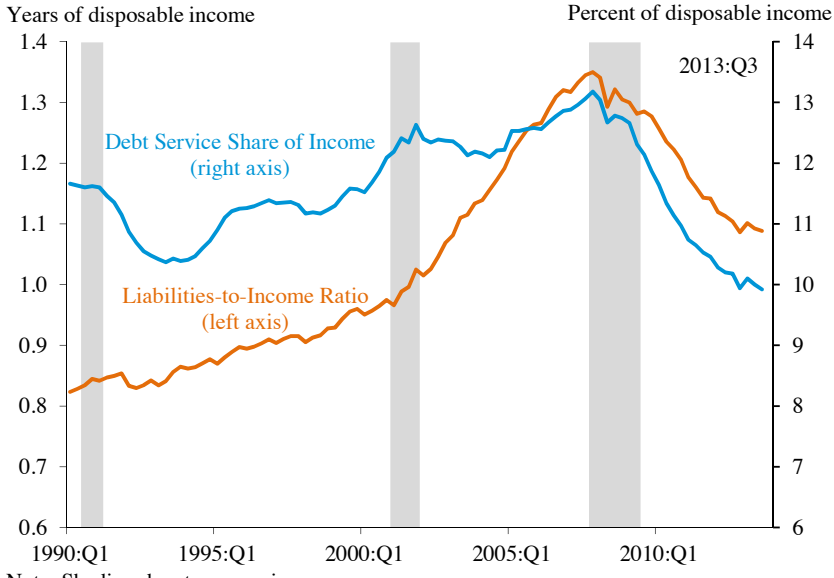
Strong gains in aggregate household net worth—both an increase in assets and a decline in the debt burden—have supported aggregate consumer spending. Debt service (that is, required minimum payments on household debt) has fallen from 13 percent of disposable income at the end of 2008 to 10 percent by the third quarter of 2013 (the latest data available, Figure 2-7). Some of the decline in debt service is due to declines in interest rates on mortgages and consumer credit, but some of the decline is due to declines in the ratio of household debt to income, a process called deleveraging. Debt has fallen from about 1.3 times annual income in 2008 to 1.1 times annual income by the third quarter of 2013—with most of the decline in this ratio due to rising nominal incomes, although nominal debt has edged down 5 percent. Together, these declines in household debt and debt-service relative to income show that the household sector as a whole has progressed in reducing these burdens. Although these figures are relevant for projecting aggregate output and consumption growth, they do not reflect the change in debt and debt service for moderate-income and median-income households who, in many cases, continued to face challenges in 2013.

Overall wealth also grew in 2013, as shown in Figure 2-8. Although these wealth increases were in all categories of holdings, wealth likely increased substantially more for high-income households (which have a larger share of their wealth in equities) than for the typical household (which has more of their wealth in housing that appreciated more slowly than equities in 2013). As a result, this suggests that wealth inequality continued to grow as middle-class families faced persistent economic challenges. While gains in stock-market wealth have been happening since the trough of the recession in 2009, those increases were particularly sharp during 2013, when the Wilshire 5000 stock market index increased 31 percent. During the four quarters of 2013, stock market wealth is estimated to have increased by an amount equivalent to 39 percent of annual disposable income. Housing wealth (net of mortgage liability) also increased notably during the year. Housing prices, as measured by the CoreLogic National House Price Index, hit bottom around March 2011 and have increased 11 percent during the 12 months of 2013. As a result, net housing wealth is on track to increase by another 13 percent of annual disposable income in 2013.

The increases in stock market and housing assets point to an increase in the ratio of net worth to income amounting to 52 percent of annual disposable income. An increase in wealth raises annual consumer spending by about 3 percent of that increase. As a result, the expansion of wealth alone

Figure 2-7

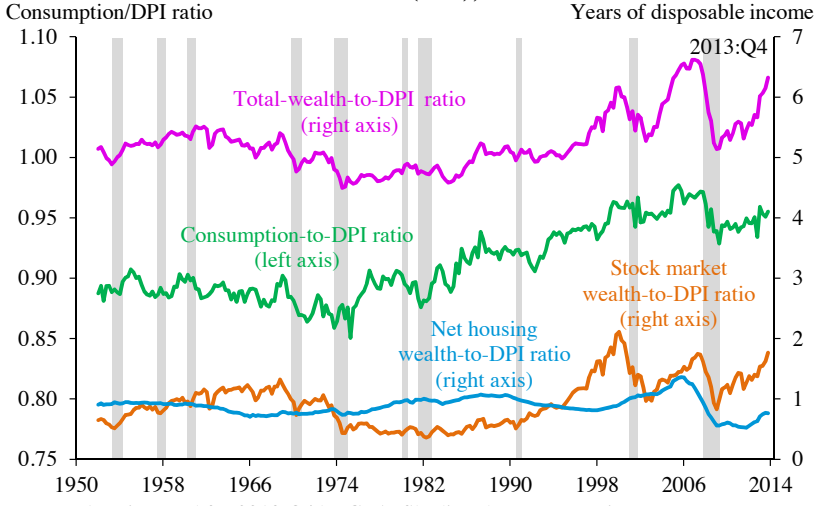
Household Deleveraging, 1990–2013



Note: Shading denotes recession.
Source: Federal Reserve Board, Financial Accounts of the United States.

Figure 2-8

Consumption and Wealth Relative to Disposable Personal Income (DPI), 1952–2013



Note: Values imputed for 2013:Q4 by CEA. Shading denotes recession.
Source: Bureau of Economic Analysis, National Income and Product Accounts; Federal Reserve Board, Financial Accounts of the United States; CEA calculations.

could support a rise in consumption of 1.7 percent of disposable income, or more than enough to offset the rise in taxes in 2013.

Looking ahead, consumer spending in 2014 is likely to grow faster than its 2-percent rate during the past three years. The rise in wealth and the progress in deleveraging have created a more-stable platform on which to base the growth of consumer spending. The rapid growth of consumer durables during 2013 (5.6 percent) is likely to continue or increase further. The average age of light motor vehicles on the road has risen to 11.4 years and it appears likely that some pent-up demand remains for motor vehicles and other durables whose purchases have been delayed during the recession and the slow recovery.

Business Investment

Business Fixed Investment. Real business fixed investment grew moderately, 3.0 percent during the four quarters of 2013, down from a 5.0 percent increase during 2012. The slower pace of business investment during 2013 was concentrated in structures and equipment investment, while investment in intellectual property products grew faster in 2013 than the year earlier. Investment in nonresidential structures declined 0.2 percent following robust growth of 9.2 percent during 2012. Investment in equipment slowed to 3.8 percent, following a 4.5 percent increase in 2012. In contrast, investment in intellectual property products picked up to 4.0 percent during 2013 from 2.9 percent in 2012. (In July 2013, as part of a comprehensive revision to the National Income and Product Accounts, the Bureau of Economic Analysis revised its classifications for business fixed investment to include 1) Research and Development and 2) Entertainment, Literary, and Artistic originals in a new category of Intellectual Property Products, which also includes software investment. See Box 2-1 on the July 2013 benchmark of the National Income and Product Accounts.)

Within equipment investment, major components such as information processing equipment and transportation equipment posted less robust growth in 2013 than in 2012, offsetting stronger growth in industrial equipment investment. Within investment in information processing equipment, declines were posted in investment in computers and photocopy equipment. Within transportation equipment, growth was not as fast as 2012 for investment in autos, aircraft, and ships.

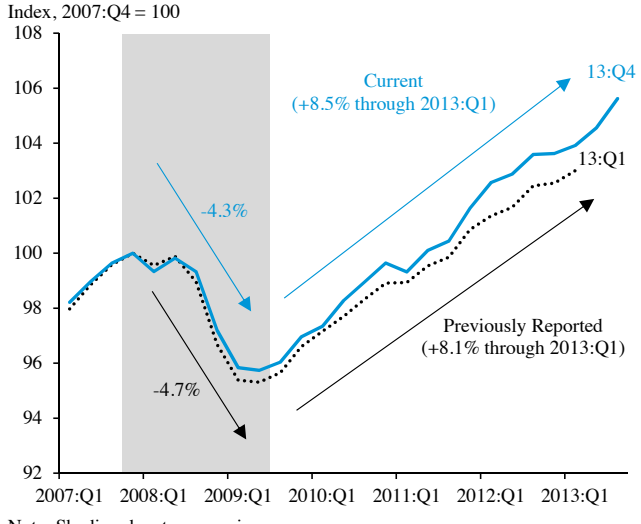
Real investment in nonresidential structures edged down 0.2 percent during the four quarters of 2013, down from growth of 9.3 percent in 2012. Solid growth in petroleum and natural gas drilling was offset by declines in the construction of manufacturing structures and power and communication facilities.

Box 2-1: The 2013 Comprehensive Revision to the National Income and Product Accounts

In July 2013, the Commerce Department released the results of the first comprehensive revision to its National Income and Product Accounts—the raw material underlying the calculation of gross domestic product (GDP)—since 2009. These revisions, which reach back to 1929, include additional source data as well as methodological changes designed to reflect the evolving nature of the U.S. economy. In particular, the Bureau of Economic Analysis has expanded its definition of business investment to include spending on research and development (R&D) and the creation of original works of art like movies, all of which are now recorded as intellectual property products. The Commerce Department also recognized the increase in pension obligations as savings for households and a liability for governments and businesses. In the Federal Reserve's Financial Accounts of the United States, the cumulative values of these liabilities are now recognized as assets of the household sector and liabilities of governments and businesses.

All told, these and other changes effectively increased the size of the economy as measured in the first quarter of 2013 by $551 billion dollars at an annual rate (or 3.4 percent). The changes also held implications for the path of growth of GDP over time, with the statistical updates from the new annual source data affecting mainly more recent years, while

Real GDP Before and After the 2013 Comprehensive Revision, 2007–2013



Note: Shading denotes recession.
Source: Bureau of Economic Analysis, National Income and Product Accounts.

the methodological revisions (such as intellectual property) affected the entire historical series. Real GDP growth during the 16 quarters following the end of the recession in the second quarter of 2009 was revised up by an average of 0.1 percentage point to 2.2 percent a year, and the decline in GDP observed during the recession (starting in the fourth quarter of 2007) was revised up 0.3 percentage point to -2.9 percent at an annual rate, making the recession less steep and the recovery stronger than what was previously reported. The cumulative decline in real GDP during the recession is now reported at 4.3 percent rather than 4.7 percent, followed by an increase during the expansion of 8.5 percent through the first quarter of 2013, as opposed to 8.1 percent published previously (see Figure).

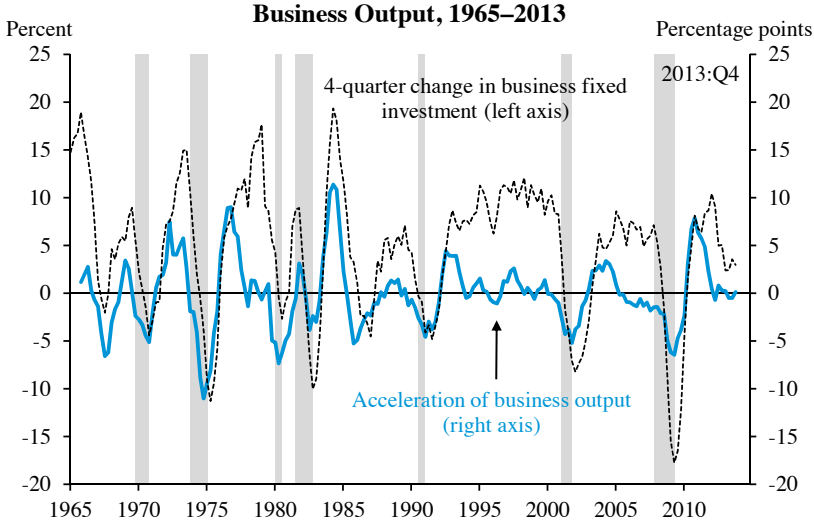
Since the beginning of 2009, the average absolute revision (without regard to sign) from the advance quarterly estimate of real GDP growth to the latest data was 1.3 percentage points. The magnitude of these changes highlights the difficulty in measuring economic performance real-time.

The pace of growth of business fixed investment is puzzling because interest rates are low and the internal funds available for investment are high. Interest rates on corporate Baa bonds were low in both nominal and real terms. Nominal Baa rates averaged 5 percent during 2013, and adjusted for expected inflation of about 2 percent, this translates into a real rate of 3 percent, substantially below the 60-year average of about 4.7 percent.

Funds for investment were also easily available from internal sources such as undistributed profits and depreciation. For the nonfinancial business sector, the sum of these sources, known as cash flow in national income accounting, was 10.1 percent of GDP in the first three quarters of 2013, well above the historical average of 8.7 percent. Historically, nonfinancial corporate investment averages 103 percent of cash flow, with the sector as a whole borrowing from banks and the public for the rest. In contrast, during the first three quarters of 2013, investment was only 90 percent of cash flow. The cash flow that was not available for investment appears to have been spent on share repurchases, a way of returning funds to shareholders that is similar to dividends, but more volatile.

With interest rates low and internal funds readily available, the growth rate of investment might be attributable to low expectations of output growth. In a relationship known as "the accelerator," the growth of investment is related to the change in growth (that is, the acceleration) of output, as shown in Figure 2-9. For example, when output accelerated in 2010 (that is, when output growth increased from negative in 2009 to

Figure 2-9
Business Investment and the Acceleration of Business Output, 1965–2013



Note: The accelerator is the 6-quarter percent change in business output (AR) less the 6-quarter ago 6-quarter percent change in business output (AR). Shading denotes recession.
Source: Bureau of Economic Analysis, National Income and Product Accounts.

positive in 2010), investment increased very fast so that the capital stock could service the new level of demand. But when business output growth settled down to an annual rate of roughly 3 percent during the three years through 2013, investment did not need to grow so fast, and indeed it has slowed, as shown in Figure 2-9.

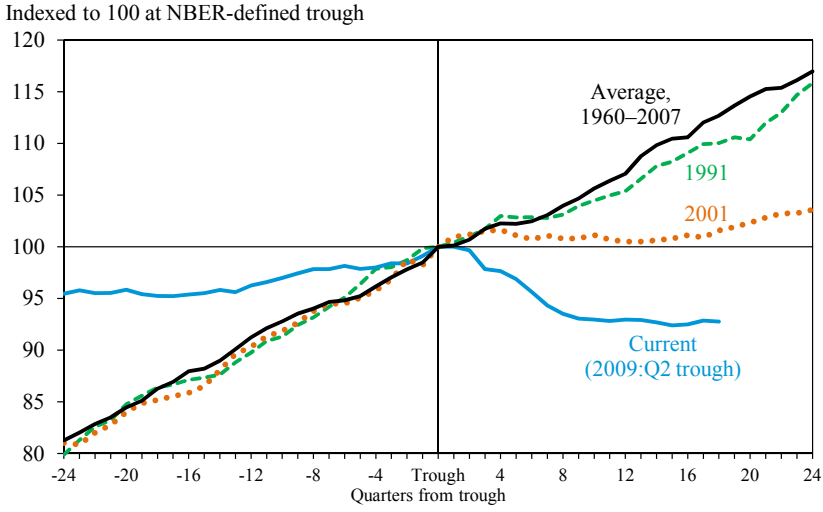
Inventory Investment. Inventory investment made a substantial contribution to real GDP growth during the four quarters of 2013 when it accounted for 0.8 percentage point of the 2.5 percent total growth. An increase in agricultural inventory investment accounts for 0.3 percentage point of that overall 0.8 percentage-point contribution and reflects the rebound to a strong harvest following a severe drought in 2012. In the manufacturing and trade sector, the buildup of inventories through the year was no faster than sales, so that by December, inventory stocks were at a 1.30 months' supply, roughly the same level as at year-end 2012.

State and Local Governments

Although State and local governments continued to experience fiscal pressure in 2013, the four-year contraction in the sector—measured in terms of both purchases (consumption and investment) and employment—finally appears to have ended. State and local purchases, which had generally

Figure 2-10

Real State and Local Government Purchases During Recoveries



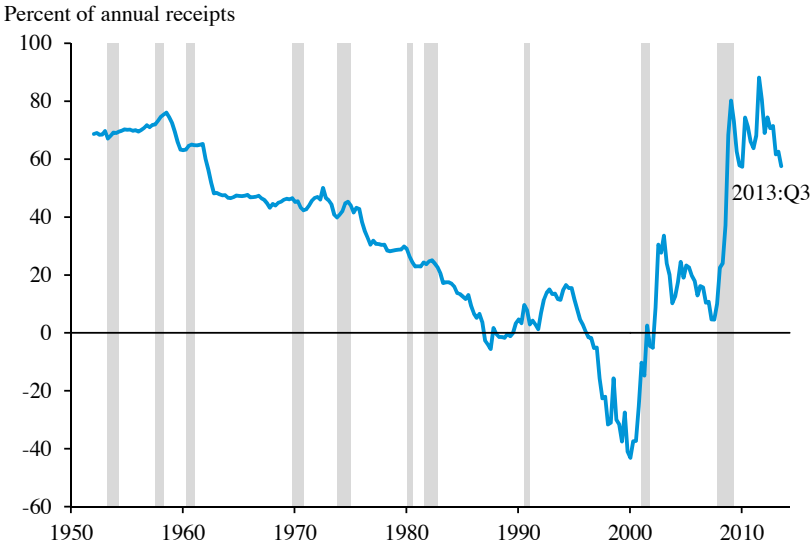
Note: The 1960–2007 average excludes the 1980 recession due to overlap with the 1981–82 recession.
Source: Bureau of Economic Analysis, National Income and Product Accounts; National Bureau of Economic Research; CEA calculations.

declined for 13 quarters through the first quarter of 2013, ended the year at a higher level than in the first quarter, marking its first increase over three quarters since 2009. The cumulative decline in State and local purchases during this recovery contrasts with the usual experience during recoveries (Figure 2-10). In a typical recovery, growth in State and local government bolsters the economic recovery. In contrast, declines in State and local government have been a headwind to private-sector growth and hiring during the first four years of this recovery.

Similar to the 2013 pickup in spending, State and local employment has begun to show signs of life, adding 32,000 jobs during the 12 months of 2013, after shedding almost 700,000 jobs from the end of the recession through year-end 2012.

Despite these positive signals during 2013, major obstacles to growth remain: in particular, the burden of unfunded pension obligations of State and local governments. In its benchmark revision to the National Income and Product Accounts of the United States in July 2013, the Commerce Department, in cooperation with the Federal Reserve, began to measure State and local defined-benefit plans on an accrual basis rather than a cash basis, thereby tracking funded and unfunded pension liabilities. As can be seen in Figure 2-11, the size of these liabilities relative to State and local receipts ballooned immediately after the recession and remains elevated at a

Figure 2-11
State and Local Pension Fund Liabilities, 1952–2013



Note: Shading denotes recession.
Source: Federal Reserve Board, Financial Accounts of the United States.

level that is currently at about 60 percent of a year's revenue for the sector. Adding in State and local bond liabilities does not change the shape of the plot shown in the figure, although they elevate the level of the liabilities-to-receipts ratio to about two hundred percent of a year's revenue.

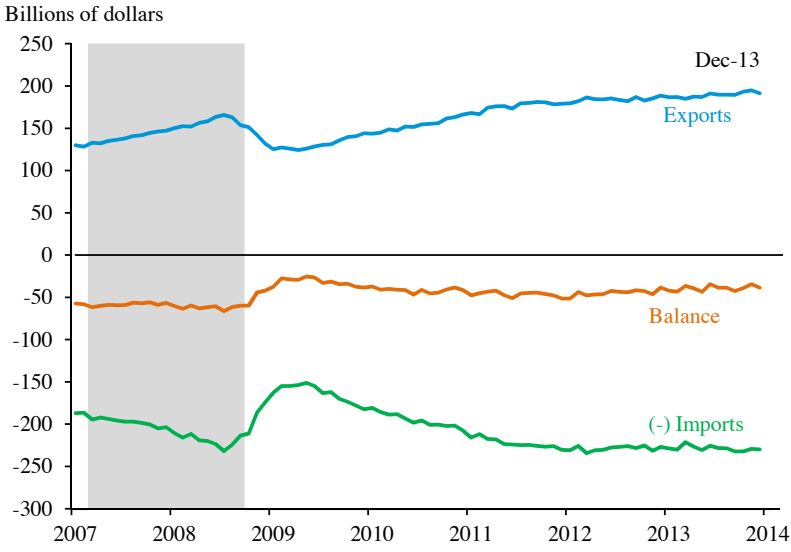
International Trade

In 2013, U.S. exports of goods and services to the world averaged nearly $189 billion a month and imports averaged nearly $229 billion a month (Figure 2-12). Exports accounted for 13.5 percent of U.S. production (GDP) in 2013, the same as in 2011 and 2012.

The U.S. trade deficit, the excess of the Nation's imports over its exports, averaged nearly $40 billion a month in 2013. Import demand fell during the recession and, as a result, the trade deficit fell from $66 billion in July 2008 to $25 billion in May 2009. Exports fell too because of recession-related declines in domestic demand abroad (see Figure 2-13), but the recession was not as severe in many parts of the global economy as in the United States. Since May 2009, growth rates of exports and imports have each been averaging about 0.8 percent a month.

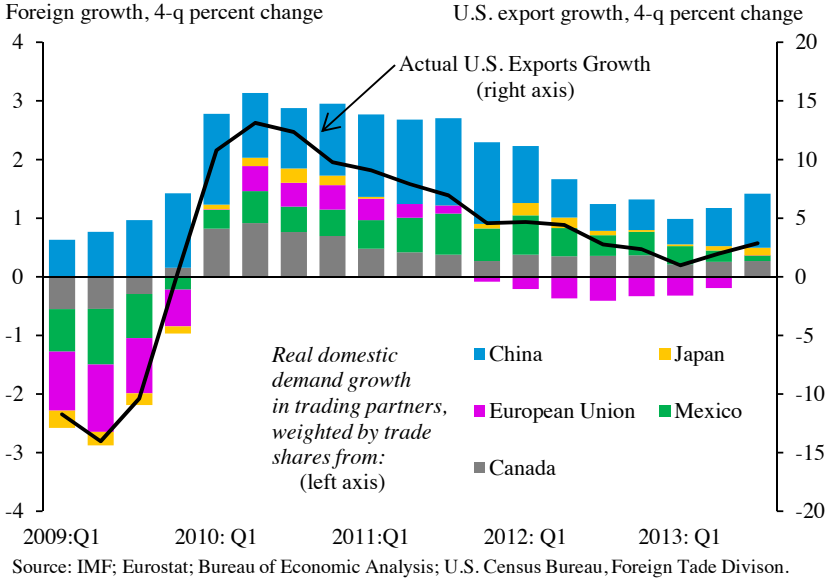
Figure 2-13 suggests that slower economic growth among our main trading partners dampens U.S. export growth. In recent years, the top five

Figure 2-12
Trade in Goods and Services, 2007–2013



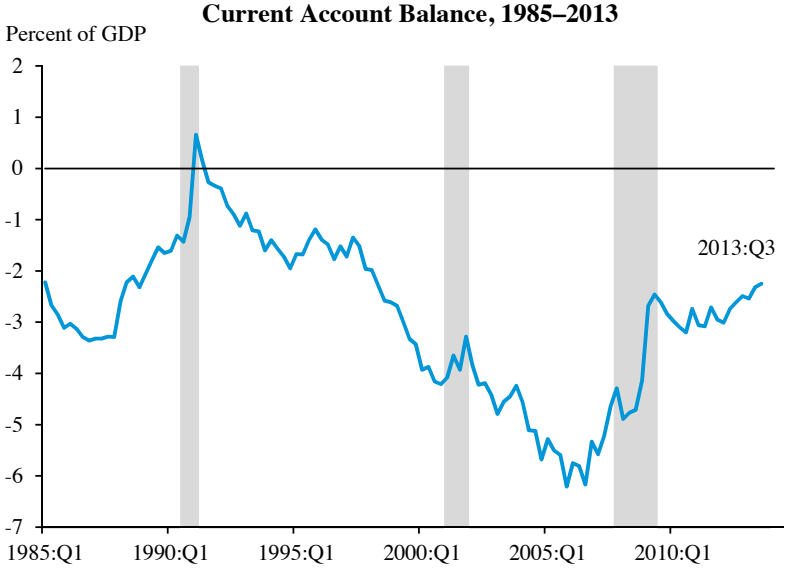
Source: U.S. Census Bureau, Foreign Trade Division.

Figure 2-13
U.S. Exports Growth, 2009–2013



Source: IMF; Eurostat; Bureau of Economic Analysis; U.S. Census Bureau, Foreign Tade Divison.

Figure 2-14
Current Account Balance, 1985–2013



Note: Shading denotes recession.
Source: Bureau of Economic Analysis, National Income and Product Accounts.

destinations for U.S. exports, in order from highest to lowest typically were: Canada, the European Union, Mexico, China, and Japan. While growth generally slowed in all these trading partners, it actually turned to recession for a time in our No.2 (European Union) and No. 5 (Japan) export recipients, and their recoveries look to be gradual. In the European Union, real GDP fell 0.7 percent during the four quarters of 2012, then grew 1.1 percent during 2013, and is forecasted to grow 1.4 percent during 2014 (European Commission 2013). Japan's real GDP fell 0.4 percent during the four quarters of 2012, but grew 2.7 percent during 2013, but is projected to edge up only 0.6 percent in 2014 (OECD 2013).

The trade balance is the major component of the current account balance. Other components of the current account balance include net income on overseas assets and unilateral transfers such as foreign aid and remittances. The United States has run a current account deficit in all but two quarters since 1985; however, the trend from 1990 through the mid-2000s of ever-increasing deficits appears to have reversed. Figure 2-14 shows the current account balance as a percentage of GDP since 1985. Since peaking at more than 6 percent of GDP in the fourth quarter of 2005, the current account balance has fallen as a share of GDP by more than 3 percentage points. The sharpest decrease occurred during the recession of 2008-09, and although there have been some periods of increase since then, the current

account deficit recently reached a 15-year low in the third quarter of 2013 of 2.3 percent. An important driver of the decrease in current account deficit in recent years is the increased domestic production of oil and gas, and the associated reduced demand for imported oil, a shift discussed in more detail later in the chapter. Removing oil, which depends on prices that are set on world markets, the U.S. current account deficit is substantially smaller.

The United States has one of the most open and transparent trade and investment regimes in the world, with a trade weighted applied tariff of 1.3 percent, making it a friendly market for imports and foreign investment. A prime motivation behind U.S. trade policy initiatives is to ensure that our accommodative trade and business environment is reciprocated when U.S. actors have the same opportunities to compete in other markets that foreign exporters and investors have in the United States. U.S. trade policy also seeks to level the playing field, including by seeking to raise standards abroad so they are closer to our own in key areas such as intellectual property, labor, and environment. Box 2-2 discusses Administration trade policy initiatives.

Housing Markets

Housing activity continued its recovery in 2013 despite headwinds from mortgage interest rates that rose approximately 1 percentage point in mid-summer, continued tight credit conditions, and waning investor demand for foreclosed properties. On the production side, new housing starts for both single-family and multi-family structures continued their 2012 growth during 2013, despite relatively higher mortgage rates. For 2013 as a whole, starts were roughly 930,000 units, up from 780,000 in 2012, and up from an all-time low of 554,000 units in 2009 (Figure 2-15).

Demand for housing increased, with new and existing home sales reaching their highest levels in 2013 since the Great Recession. With the lowest level of mortgage delinquencies and foreclosure completions in five years, the composition of sales shifted markedly to non-foreclosure properties as fewer households sold homes under distressed conditions.

Supported by a tight supply of homes for sale, housing prices climbed further in 2013, according to every major measure of house prices (Figure 2-16). As of November 2013, quality-adjusted house prices—as measured by the FHFA index—were 7.7 percent higher than their year-ago level and 15.3 percent higher than at their trough in early 2011. Two considerations provide some context for the brisk growth in house prices in 2013. First, such behavior appears to be typical following recessions. Even though house prices bottomed out well after the end of the Great Recession, the recovery since then has, on net, been at a rate just below the average growth rate in house prices seen during the aftermath of the eight post-war recessions of

Box 2-2. Administration Trade Policy Initiatives

The United States has been pursuing the most ambitious trade agenda in a generation. In the President's first term, this included upgrading, passing and implementing market-opening trade agreements with Korea, Panama, and Colombia. U.S. tariffs on imports from those countries were generally much lower than were the tariffs on U.S. exports to those countries at the start of negotiations, and while the United States did further lower tariff barriers as a result of the agreements, the larger barriers were removed by U.S. trading partners.

In December 2013, the United States played a leadership role, working with the 159 countries of the World Trade Organization (WTO), to conclude a Trade Facilitation Agreement, the first multilateral trade agreement concluded by that body in its 20-year history. This global agreement will expedite the movement of goods and services across borders and improve customs cooperation among WTO Members, making it easier to support jobs through trade. Among other things, the Agreement seeks to reduce documentary requirements, require transparency in customs regulations and procedures, encourage countries to accept electronic payments of customs duties and charges, and ensure the quick release of perishable goods. Streamlined procedures and enhanced transparency reduce the costs to businesses of exporting and particularly assist small business for which logistical complexity can be particularly challenging.[1]

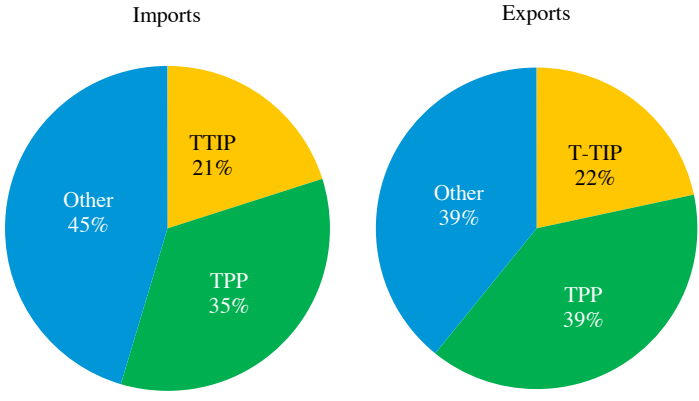
The United States is currently pursuing two comprehensive, high-standard regional trade agreements that are ambitious in the size of the overall markets that they seek to affect and in the scope of provisions to be covered under the agreements. Negotiations are nearing completion on the Trans-Pacific Partnership Agreement (TPP), which includes 12 nations that rim the Asia-Pacific region. Negotiations between the United States and the 28-country European Union (EU) for the Transatlantic Trade and Investment Partnership (T-TIP) are at an earlier stage.

The Figure in this box demonstrates the importance of the regions encompassed by these two proposed agreements to U.S. trade. Together, the partner countries in the TPP and the T-TIP buy around 60 percent of all U.S. exports and provide about 53 percent of U.S imports. The TPP and T-TIP therefore seek to build on already robust trading relationships.

[1] USTR. 2013a. "Weekly Trade Spotlight: The Benefits of the WTO Trade Facilitation Agreement to Small Business." (http://www.ustr.gov/about-us/press-office/blog/2013/December/Benefits-of-WTO-Trade-Facilitation-Agreement-to-Small-Business).

According to the Office of the United States Trade Representative (USTR 2013a), the TPP "… is the foundation of the Obama Administration's economic policy in the Asia-Pacific Region" and "promotes regional integration by establishing a common set of trade and investment commitments, and also addresses 21st century issues like state-owned enterprises, intellectual property rights, regulatory convergence, and global supply chains."[2]

U.S. Good and Services Imports and Exports, 2012



Notes: Services trade data for TPP nations Brunei, Peru, and Vietnam are not available..
Source: Bureau of Economic Analysis; International Trade Commission.

The T-TIP seeks to strengthen trade and investment linkages between the United States and the European Union and to set a template for raising standards across the global trading system. It aims to create new openings for service providers and to make regulations and standards more compatible between the two parties. The T-TIP should also create new channels of cooperation to address shared interests in global trade (USTR 2013b).[3]

[2] USTR. 2013b. "Acting Deputy U.S. Trade Representative Wendy Cutler discusses Japan and the TPP at the Peterson Institute for International Economics." ("http://www.ustr.gov/about-us/press-office/blog/2013/November/Cutler-TPP-Japan-PIIE"). The TPP participants are: Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, Vietnam, and the United States.

[3] USTR. 2013b. "Ambassador Froman discusses the Transatlantic Trade and Investment Partnership at the Munich Security Conference." ("http://www.ustr.gov/about-us/press-office/blog/2013/November/Froman-Munich-Security-Conference").

Upon completion, the TPP and T-TIP agreements, together, will place the United States at the center of an open trade zone representing around two thirds of global economic output. The United States is also in the process of negotiating several other agreements: an International Services Agreement that would liberalize trade in services among countries representing nearly 70 percent of the global services market; another agreement that would further liberalize trade in information technology products among countries representing 90 percent of that market; and an agreement that would liberalize trade in environmental goods among countries representing 86 percent of that market.

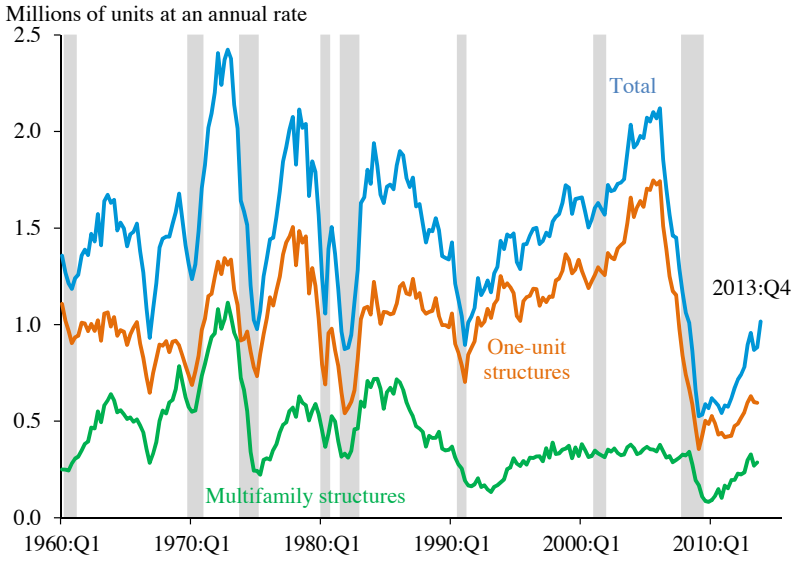
The Administration's trade policy initiatives provide production and consumption opportunities otherwise not available to the American economy, and serve the ultimate goals of promoting growth, supporting higher-paying jobs, and thus strengthening the middle class.

the 20th century. Second, house prices at the end of 2013 appear close to their long-run relationship with rents, one measure of housing's fundamental value. During the mid-2000s, house prices increased much more rapidly than did rents before plummeting. The recent growth in house prices has left prices broadly in line or perhaps above their long-run relationship with rents, which suggests that much of these increases have been tied to improving economic fundamentals.

Home sales, construction, and prices generally appear to be on firm footing in spite of higher mortgage rates, which increased about 100 basis points to 4.4 percent, on net, after the May-July interest rate rise (discussed earlier in this chapter) and remained close to that level for the remainder of 2013. Although nominal mortgage rates remain low by historical standards, all else equal, higher rates raise the cost of financing a home purchase, which puts downward pressure on housing demand and residential investment. Also, builders' capacity for funding new construction falls, albeit sometimes with a delay, when interest rates rise. Indeed, residential investment, which grew 15.5 percent during the four quarters of 2012, slowed to a 6.7 percent rate of growth during 2013. The slowdown is accounted for by diminishing increases in starts as well as a drop in commissions in the fourth quarter of 2013 due to a decline in sales of existing homes. But for the year as a whole, new home sales increased 17 percent in 2013, while housing starts rose by a comparable amount.

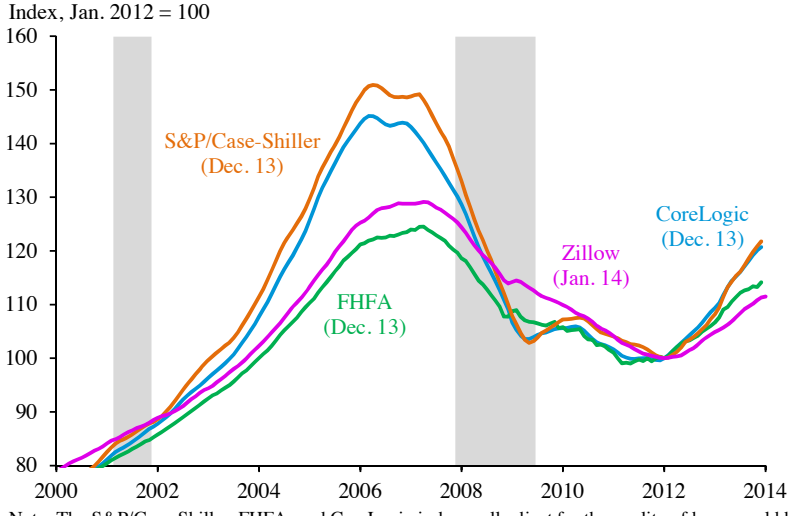
Another indication that housing market activity is holding steady: households remain optimistic about home prices, according to the Reuters/Michigan Survey of Consumers. Housing affordability remains high and 77

Figure 2-15
Housing Starts, 1960–2013



Note: Shading denotes recession.
Source: Census Bureau, New Residential Construction.

Figure 2-16
National House Price Indexes, 2000–2013



Note: The S&P/Case-Shiller, FHFA, and CoreLogic indexes all adjust for the quality of homes sold but only cover homes that are bought or sold, whereas Zillow reflects prices for all homes on the market. Shading denotes recession.
Source: Zillow; CoreLogic; FHFA; S&P/Case-Shiller.

percent of households report that it is a "good time to buy a house" (Reuters/Michigan Survey of Consumers).

At a more fundamental level, pent-up demand for housing due to suppressed levels of household formation since 2009 is likely to boost housing demand and to help absorb the large supply of vacant homes and homes still in the foreclosure process. During the Great Recession, the number of new households forming each year dropped to below 1 million a year and has remained low ever since. As Figure 2-17 shows, during the housing bubble of the mid-2000s more homes were built than were consistent with the underlying rate of household formation based on demographic trends that would call for about 1.6 million new housing units a year. This oversupply peaked in 2007 and—because of low levels of home construction—this oversupply began to fall. And by 2011, the oversupply turned into an undersupply. The increase in the stock of homes now lags behind the usual rates of household formation.

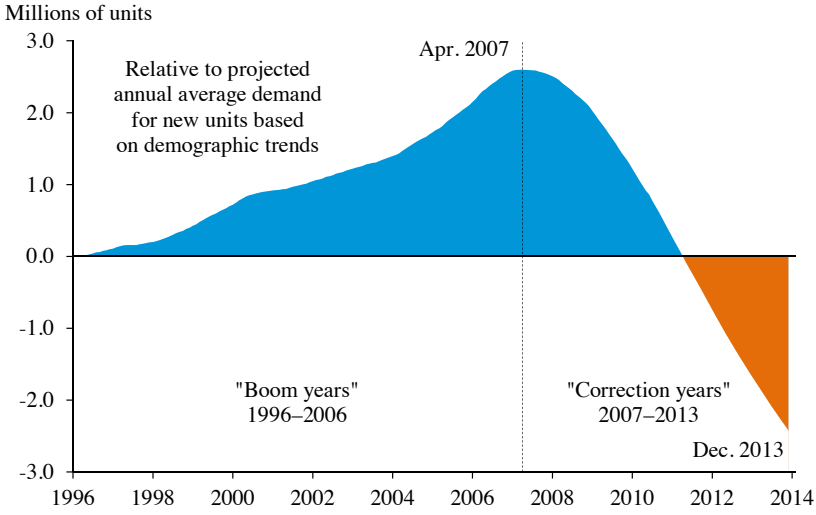
As employment prospects improve, household formation is likely to pick up. However, the extent to which the increase in the number of households translates into stronger housing demand depends critically on the easing of credit standards (that might have been over-tightened following the financial crisis), particularly for first-time homebuyers. In 2013, lending standards eased somewhat for prime residential mortgages, according to the Federal Reserve's Senior Loan Officer Opinion Survey, and this easing helped support a rise in mortgage purchase originations from the low levels seen in recent years.

Energy

In 2013, the United States continued to benefit from developments in the oil and gas sectors, as well as from growth in energy efficiency and the production and integration of renewable energy. As shown in Figure 2-18, net petroleum imports have fallen from more than 12 million barrels a day in 2005 to approximately 6.2 million barrels a day in 2013. Moreover, as shown in Figure 2-19, beginning in October 2013, domestic crude oil production exceeded crude oil imports for the first time since 1995.

Crude and refined oil products constitute the vast majority of the country's energy imports. This reduction in energy imports has multiple benefits: it has been a major driver of the improvement in the U.S. balance of trade, it reduces the vulnerability of the U.S. economy to foreign oil supply disruptions, and it supports American jobs both in energy production and in manufacturing. The dramatic increase in domestic oil and natural gas production added about 0.2 percentage point to U.S. GDP growth in both 2012 and 2013.

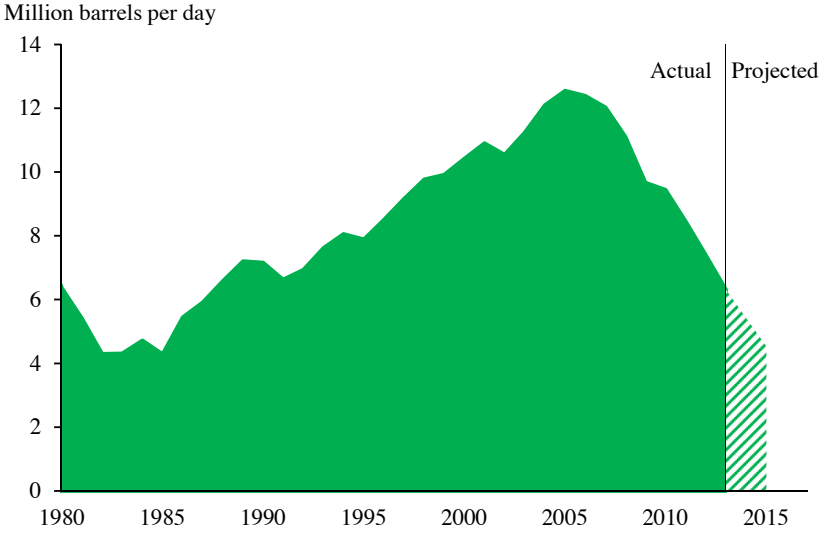
Figure 2-17
Cumulative Over- and Under-Building of Residential and Manufactured Homes, 1996–2013



Source: Census Bureau, New Residential Construction (completions) and Manufactured Homes Survey (placements); CEA (1998); CEA calculations.

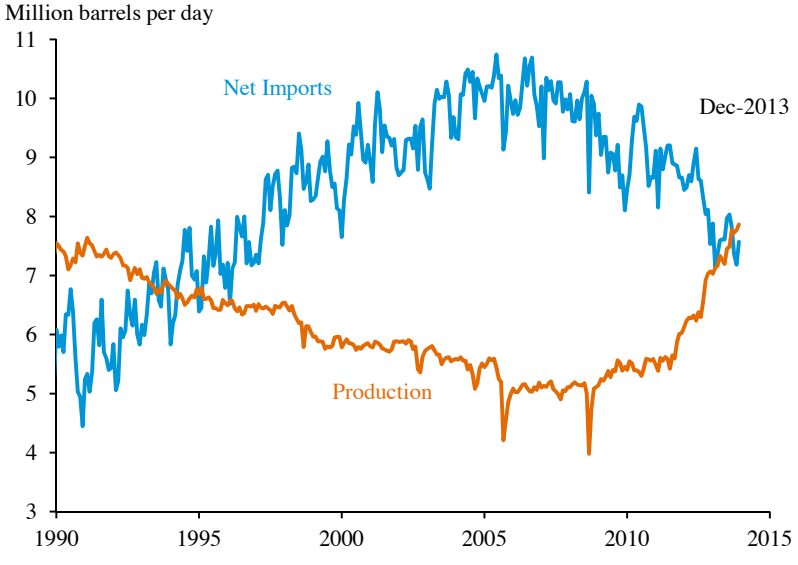
The ongoing trend toward reduced energy imports is driven both by roughly stable energy demand and increases in domestic energy supply. Overall, economy-wide energy use has declined 0.8 percent at an annual rate since 2007. The increase in domestic energy supply reflects major gains in unconventional oil and natural gas production. The sharp increase in unconventional domestic gas production has led to a 73 percent drop in the wholesale (Henry Hub) price of natural gas from a high of $13.42 in October 2005 to $3.68 in October 2013. The United States is now the largest producer of natural gas in the world, and the 2013 International Energy Outlook projects that the United States will remain the largest producer through 2030 (U.S. Energy Information Administration 2013). Since 2007, over 50,000 jobs have been created in oil and natural gas extraction alone, with more than 160,000 jobs being created along the oil and natural gas supply chain. Low natural gas prices also help manufacturing as discussed below, and have been an important driver in the reduction of U.S. carbon dioxide emissions as electricity production has shifted from coal to cleaner-burning natural gas. Indeed, between 2010 and 2013, the total U.S. carbon dioxide emissions from energy consumption decreased by 4.3 percent. In addition to providing cost savings to consumers today, this reduction in greenhouse gas emissions will benefit future generations.

Figure 2-18
Petroleum Net Imports, 1980–2015



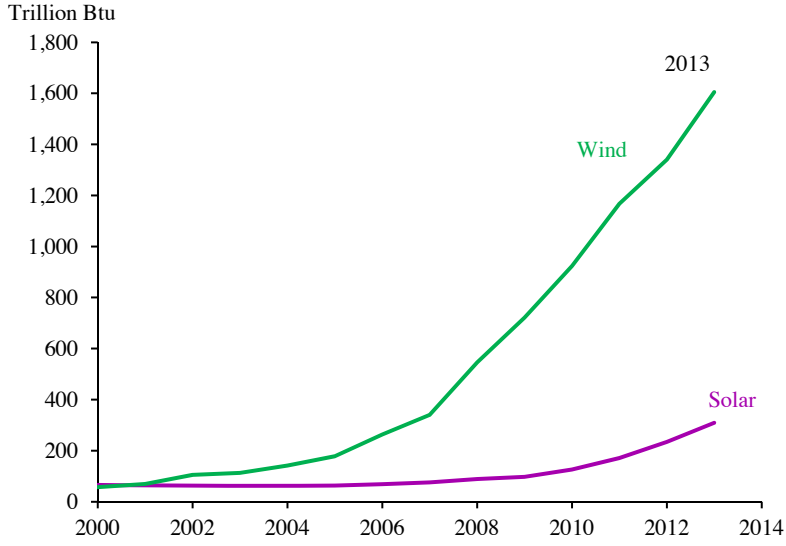
Source: Energy Information Admnistration, Monthly Energy Review, Short-Term Energy Outlook.

Figure 2-19
Monthly Crude Oil Production and Net Imports, 1990–2013



Note: This data is not seasonally adjusted.
Source: Energy Information Administration, Petroleum Supply Monthly.

Figure 2-20
Wind and Solar Energy Production, 2000–2013

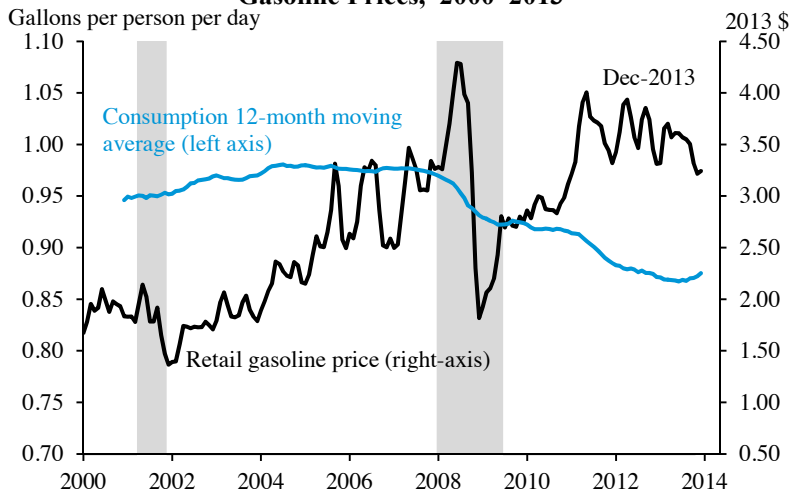


Note: Data for 2013 are projections.
Source: Energy Information Adminstration, Monthly Energy Review, Short-Term Energy Outlook.

The other part of the energy supply story, shown in Figure 2-20, is the dramatic growth in wind and solar electricity production, which have each more than doubled since President Obama took office. In 2012, a record 13 gigawatts of new wind power capacity was installed, roughly double the amount of newly installed capacity in 2011. More than 5 gigawatts were installed in December 2012 alone as firms scrambled to take advantage of the expiring 2.3 cent per kilowatt-hour production tax credit (Congress later extended the tax credit for 2013). These 13 gigawatts of new wind capacity represented the largest share of additions to total U.S. electric generation capacity in 2012.

In addition to increased domestic supply, energy imports have declined because of reduced energy demand across all the main energy sectors. As shown in Figure 2-21, gasoline demand per capita rose through the early 2000s and plateaued in the mid-2000s before dropping substantially during the recession. As the economy has recovered, however, gasoline demand per capita has continued to fall. Some of this continued decline in gasoline demand stems from the relatively high real gasoline prices shown in Figure 2-21, but that is only a partial explanation. Increasing fuel efficiency brought about by Federal fuel efficiency standards also played a role; and, in 2012, the Administration finalized fuel economy standards that, together with the Administration's first round of standards, will nearly double the

Figure 2-21
U.S. Per Capita Consumption of Gasoline and Real Gasoline Prices, 2000–2013



Note: Retail gasoline prices deflated using PCE chain price index. Consumption includes residential, commercial, industrial and transporation sectors.
Source: Energy Information Administration, Monthly Energy Review; Census Bureau; CEA calculations.

fuel economy of light- duty vehicles to the equivalent of 54.5 miles per gallon by the 2025 model year from 2010 levels. Further, beginning in model year 2014, medium- and heavy-duty trucks must meet new energy efficiency standards as well, which will increase their fuel efficiency by 10 to 20 percent by 2018.

Despite these significant improvements in energy efficiency and reductions in energy-related carbon dioxide emissions, continued work is needed to reduce greenhouse gas emissions. In June 2013, the President laid out his Climate Action Plan (summarized in Box 2-3), which aims to reduce both greenhouse gas emissions and the impact of climate change on future generations.

Labor Markets

The major U.S. labor market indicators continued to recover during 2013 even as the unemployment rate remained unacceptably high. As shown in Figure 2-22, the unemployment rate dropped 1.2 percentage points during the 12 months of 2013, somewhat faster than the average 0.9 percentage point annual drop during the three preceding years. Similarly, as shown in Figure 2-23, establishment employment finished its third year of growth at

Box 2-3: The Climate Action Plan

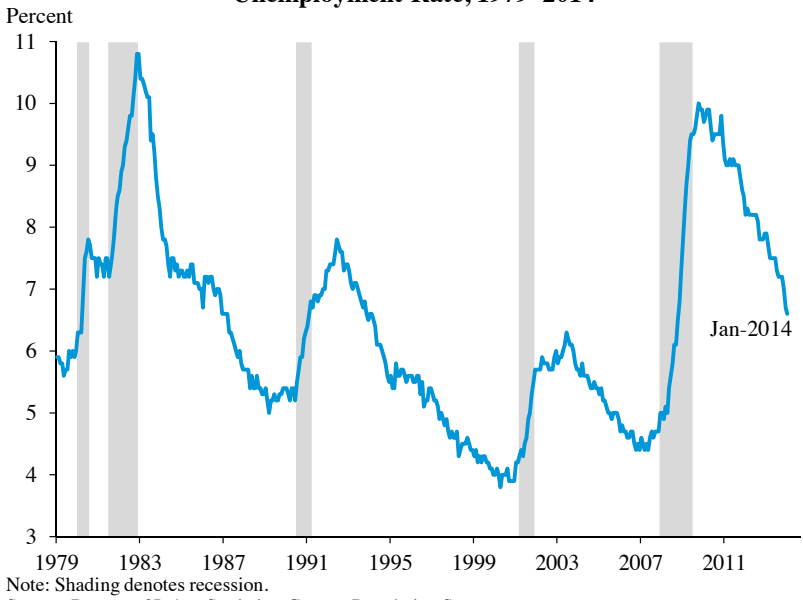
In 2009, the President committed the United States to cut greenhouse gas emissions by approximately 17 percent below 2005 levels by 2020. The President's June 25, 2013 Climate Speech noted that, "Climate change represents one of our greatest challenges of our time, but it is a challenge uniquely suited to America's strengths." Following that speech, the President laid out a three-pronged approach to addressing the challenges of climate change: 1) reduce carbon emissions in the United States; 2) prepare America for the impacts of climate change; and 3) lead international efforts to fight climate change and adapt to its impacts.

The United States has already made substantial progress toward the 2020 emissions reduction goal. In 2012, U.S. carbon emissions declined to their lowest levels in nearly 20 years while the economy continued to grow. The Administration has continued to build on this progress by proposing tough new rules to cut carbon pollution from new fossil-fuel-fired power plants and by developing new rules to reduce carbon pollution from existing power plants, as well as by proposing new energy efficiency standards for appliances, announcing new funding for advanced fossil-energy projects, and other important actions. These steps will help to protect the welfare of future generations and will put America in a position to achieve sustainable economic growth by relying on the Nation's clean energy sources.

The Climate Action Plan also lays out steps to ensure that the country is ready to manage the inevitable and already realized impacts of climate change. For example, the Administration will lead an effort to assist State and local governments to make our infrastructure, communities, and natural resources more resilient, including through strengthening our roads, bridges, and shorelines to better protect people's homes, businesses and everyday lives from severe weather worsened by climate change.

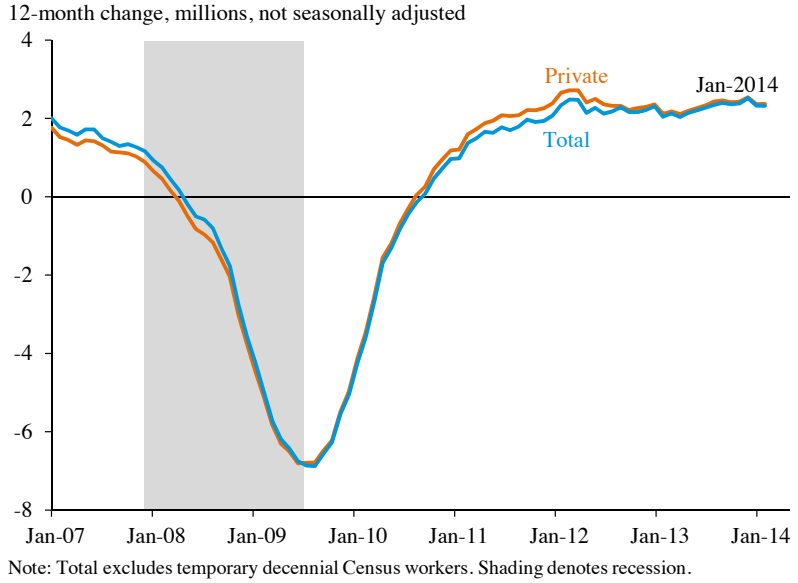
Climate change is a global challenge that cannot be solved by any single country; therefore, it is imperative for the United States to couple action at home with leadership internationally. America must help forge a truly global solution to this global challenge by galvanizing international action to significantly reduce emissions (particularly among the major emitting countries), preparing for climate impacts, and driving progress through international negotiations.

Figure 2-22
Unemployment Rate, 1979–2014



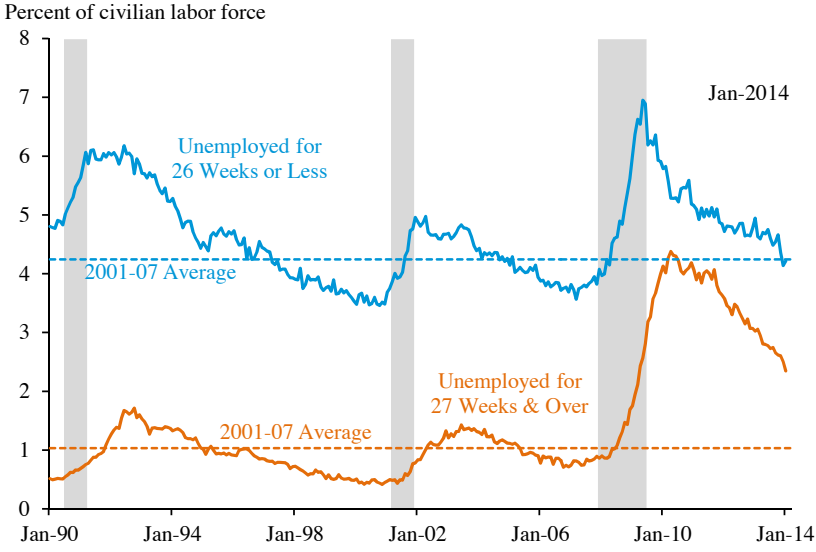
Note: Shading denotes recession.
Source: Bureau of Labor Statistics, Current Population Survey.

Figure 2-23
Nonfarm Payroll Employment, 2007–2014



Note: Total excludes temporary decennial Census workers. Shading denotes recession.
Source: Bureau of Labor Statistics, Current Employment Statistics.

Figure 2-24
Unemployment Rate by Duration, 1990–2014



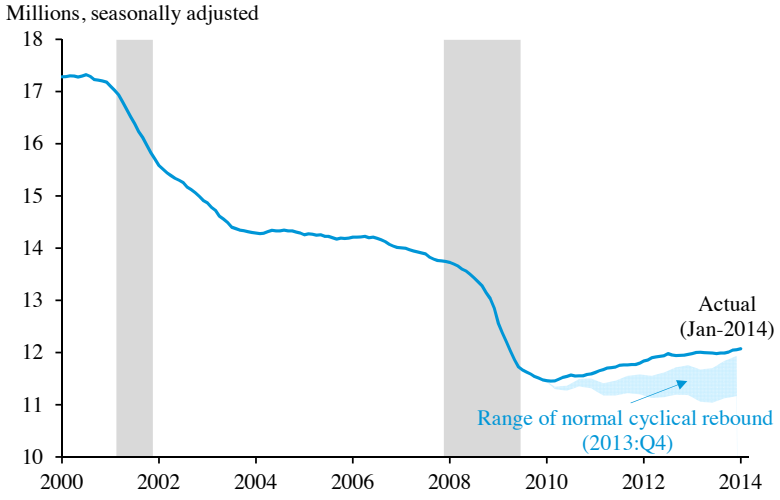
Note: Shading denotes recession.
Source: Bureau of Labor Statistics, Current Population Survey.

roughly 2.3 million a year (or about 190,000 a month)[2]. The strength of the labor market was not matched by the growth of output, with some puzzling developments in the relation between the unemployment rate and GDP, and also the relationship between employee-hours and output (productivity).

The current elevation of the unemployment rate is entirely due to long-term unemployment. In December 2013, the unemployment rate for workers unemployed 26 weeks or less fell to lower than its average in the 2001-07 period, while the unemployment rate for workers unemployed 27 weeks or more remained higher than at any time prior to the Great Recession. But the long-term unemployment rate has declined by 1.1 percentage points in the last two years, a steeper decline than the 0.5 percentage point drop in the short-term unemployment rate over that period (Figure 2-24).

[2] The Department of Labor conducts several labor market surveys. The household survey—conducted in cooperation with the Bureau of Census—queries 60,000 households every month with a variety of questions including whether members of that household were working or looking for a job, and this survey is the source of the unemployment rate, among other important statistics. The Establishment (or Payroll) survey queries employers about how many workers they employed, how many hours did they work, and what they were paid. The Establishment survey is the source of the most quoted figures for job growth. The Job Openings and Labor Turnover Survey (JOLTS) (a relatively new survey, begun in 2000) also queries employers about their job openings (vacancies) as well as their hiring, quits, and layoffs.

Figure 2-25
Predicted vs. Actual Manufacturing Payroll Employment, 2000–2014



Note: Gray shading denotes recession. Blue shading denotes the 95% confidence interval of the normal cyclical rebound.
Source: Bureau of Labor Statistics, Current Employment Statistics; CEA calculations.

Of the 2.3 million increase in payroll employment during the 12 months of 2013, about 4 percent was in manufacturing, 7 percent was in construction, and 90 percent was in the private service-providing industries. Within the service-providing industries, the sectors showing the strongest job growth were professional and business services (29 percent of total employment growth), retail trade (15 percent) and health care (9 percent of the total).

Over the course of the recovery, manufacturing has added 622,000 jobs since its trough. Some have pointed to this growth, following a decade of job losses, as indicating a resurgence in manufacturing, while others have suggested that this rebound simply reflects the normal cyclical pattern given the depth of the recession. The Council of Economic Advisers (CEA) analysis suggests that while the overall recovery did in fact contribute to the stabilization of manufacturing job losses, the job gains are about 500,000 above and beyond what would be associated with the historical cyclical pattern (Figure 2-25).

Further evidence of the healing of the job market comes from the number of job vacancies, which increased 6 percent during the 12 months through November (the latest available at press time). There are now 2.6 unemployed workers for each job vacancy, less than half of the number

following the business-cycle trough in 2009, but still in excess of the average two-to-one ratio from 2001 to 2007.

Wage Growth and Price Inflation

Hourly compensation (including non-wage benefits) increased 2.0 percent during the 12 months of 2013, the fourth consecutive year of growth at around a 2-percent rate, according the Employment Cost Index. Prices in the nonfarm business sector increased at a 1.6 percent annual rate during these four years; so from the viewpoint of a typical employer, the real product hourly compensation increased 0.4 percent at an annual rate. These four-year growth rates for real hourly compensation were less than the 1.2 percent increase in labor productivity, and as a result, the labor share of nonfarm business output (and of gross domestic income) declined.

Growth in real wages (that is, take-home wages not including benefits) of production workers picked up to 0.7 percent in 2013 from a 0.1 percent decline a year earlier. Nominal wages increased 2.2 percent in 2013 (up from a year earlier) while prices for wage earners rose 1.5 percent (down from a year earlier).

Consumer prices excluding food and energy (the core CPI) rose 1.7 percent during the 12 months of 2013, down from 1.9 percent during 2012. Overall, consumer prices rose just 1.5 percent during the year as food prices increased only 1.1 percent and energy prices inched up 0.5 percent.

Although inflation edged lower in 2013, the relative stability of inflation during the recession and slow recovery presents a puzzle. During this period, the unemployment rate has been much higher than its long-term average, and higher than the rate that is generally considered consistent with stable inflation. Under these circumstances, conventional economic theory and historical experience would have expected declining inflation and perhaps even negative inflation. In contrast, inflation has remained fairly stable since the business-cycle peak with the 12-month change in core CPI inflation never falling below 0.6 percent, raising a puzzle of missing disinflation. Standard explanations of the missing disinflation focus on anchored expectations arising from increased Federal Reserve credibility associated with targeting an inflation rate of approximately 2 percent (for example, Fuhrer and Olivei 2010, Stock and Watson 2010, Ball and Mazumder 2011).

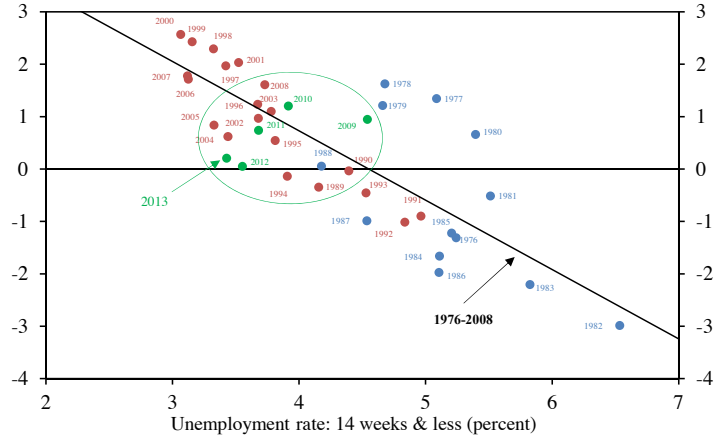
In addition to anchored expectations, a second factor behind the lack of disinflation appears to be the unusually high fraction of the long-term unemployed in this recovery. Those unemployed for only short durations search more intensely for a new job (Krueger and Mueller 2011) and are also potentially more likely to match with a good job, which suggests that the short-term unemployed put more downward pressure on wages than those

Box 2-4: Unemployment Duration and Inflation

A standard wage-price Phillips curve relates wage inflation, minus expected price inflation, to the unemployment rate. A benchmark specification uses previous-year price inflation as a proxy for expected price inflation (for example, Gordon 1990). In this specification, 2009-13 represents a cluster of outliers in which wages fell less than would have been expected based on historical relationships and the very-elevated unemployment rate. But some research, both older and recent, suggests that the composition of unemployment by duration can be important, in particular that the short-term unemployment rate might be a better measure of wage pressure than the total unemployment rate, perhaps because employers prefer to hire those who have spent less time since their last job or because job-search intensity declines with the duration of unemployment (Layard, Nickell, and Jackman 1991, Blanchard and Diamond 1994, Krueger and Mueller 2011, Stock 2011, Gordon 2013). In fact, as is shown in the Figure below, if this wage-price Phillips relation is expressed in terms of the short-term unemployment rate rather than the overall unemployment rate, the recovery is no longer an outlier.

Growth in Expected Average Hourly Earnings vs. Short-Term Unemployment, 1976–2013

Wage inflation minus preceding year's price inflation (percentage points)



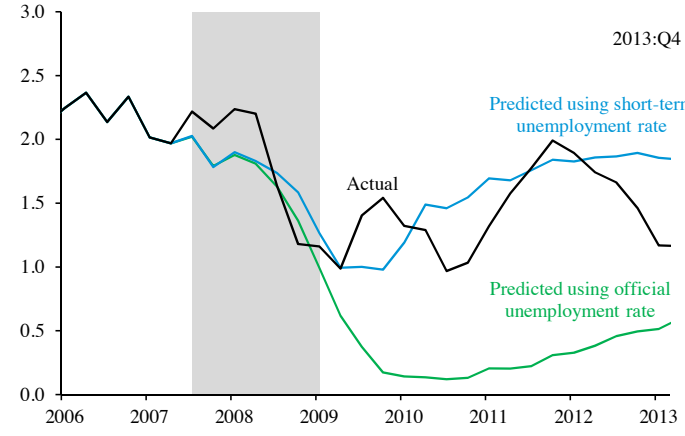
Unemployment rate: 14 weeks & less (percent)

Note: Average hourly earnings covers production and nonsupervisory workers.
Source: Bureau of Labor Statistics, Current Population Survey; Bureau of Economic Analysis, National Income and Product Accounts.

A second way to illustrate the lack of disinflation is to consider dynamic forecasts produced by a standard backwards-looking Phillips curve, in which the change in core price inflation depends on past core

price inflation and a measure of economic slack. Estimating this model through 2007, then simulating it using the actual unemployment rate post-2007, but not using prices during that period (a method referred to as a dynamic simulation), permits judging whether the actual inflation path accords with what would have been predicted based on historical experience. As the Figure below shows, when the dynamic simulation is conducted using the total unemployment rate, the historical relationship would have predicted substantially more disinflation than actually occurred. In contrast, there is no missing disinflation when the measure of economic slack is the short-term unemployment rate. The wage-price Phillips curve in the figure above, and the dynamic price Phillips curve forecasts in the figure below, suggest that the short-term unemployment rate might be a better measure of effective economic slack than the long-term unemployment rate.

Core Consumer Price Inflation: Actual vs. Predicted, 2006–2013



Note: Dynamic simulation of price-price Phillips Curve. Core consumer price inflation is measured by the price index for consumer spending excluding food and energy in the National Income Accounts. Shading denotes recession.
Source: Bureau of Labor Statistics, Current Population Survey; Bureau of Economic Analysis, National Income and Product Accounts; CEA calculations.

who have been unemployed for more than six months. While the relationship between the overall unemployment rate and inflation in recent years is puzzling, the relationship between short-term unemployment and inflation is less so, as discussed in Box 2-4.

The 11-Year Forecast

Although real GDP has grown at a roughly 2 percent rate for each of the past three years, a foundation is in place for faster growth during 2014, as most components of demand point to faster growth while the supply side does not appear constraining. Although fiscal policy has generally increased the level of output, it has been a drag on GDP growth in the last several years and especially in 2013. The rate of decline in the deficit-to-GDP ratio will likely moderate in 2014 under the President's Budget policy as well as under current law, as noted earlier in this chapter. Consumer spending likely has adjusted by now to the expiration of the payroll tax cut, but it probably has not adjusted to the gains in housing and stock market wealth. End-of-2013 indicators suggest that growth among our European trading partners is looking up, suggesting stronger exports in 2014 than in 2013. While not much growth can be expected from real State and local spending, the latest quarterly data suggest that it will no longer be a substantial drag on overall growth. As discussed earlier in the chapter, firms appear ready to step up business investment if consumer spending picks up. Business investment will grow if everything else does. With the unemployment rate in January 2014 at 6.6 percent and the capacity utilization rate in manufacturing at about 77 percent, the economy has room to grow.

The Administration's economic forecast, as finalized on November 21, 2013 is presented in Table 2.1, and is the forecast that underpins the President's FY 2015 Budget. The Administration expects real GDP to accelerate from a 2.3 rate during the four quarters of 2013 to 3.3 percent during 2014. (Data released after the forecast was finalized show a slightly faster-than expected growth rate during 2013, 2.5 percent rather than 2.3 percent.) These projections, as is standard for the Administration's budget forecast, assume enactment of the President's Budget—including the Opportunity, Growth and Security initiative.

The forecast assumed that the unemployment rate would fall 0.5 percentage point in the four quarters of 2014. Since the forecast was finalized in November the unemployment rate has fallen from 7.3 percent (as first published for October) to 6.6 percent in January 2014, considerably faster than the pace forecasted by the Administration or by the consensus of private sector forecasters. As a result, the Administration's budget forecast of an unemployment rate averaging 6.9 percent in 2014 does not reflect the latest information and an updated projection would forecast a continued decline in the unemployment rate over the course of the year. A revised

Table 2–1
Administration Economic Forecast

	Nominal GDP	Real GDP (chain-type)	GDP price index (chain-type)	Consumer price index (CPI-U)	Unemployment rate (percent)	Interest rate, 91-day Treasury bills (percent)	Interest rate, 10-year Treasury notes (percent)
	Percent change, Q4-to-Q4				Level, calendar year		
2012 (actual)	3.8	2.0	1.8	1.9	8.1	0.1	1.8
2013	3.6	2.3	1.3	1.1	7.5	0.1	2.3
2014	5.0	3.3	1.6	1.9	6.9	0.1	3.0
2015	5.2	3.4	1.8	2.1	6.4	0.3	3.5
2016	5.3	3.3	2.0	2.2	6.0	1.2	4.0
2017	5.3	3.2	2.0	2.3	5.6	2.3	4.3
2018	4.7	2.6	2.0	2.3	5.4	3.2	4.6
2019	4.6	2.5	2.0	2.3	5.4	3.6	4.7
2020	4.5	2.4	2.0	2.3	5.4	3.7	4.9
2021	4.4	2.3	2.0	2.3	5.4	3.7	5.0
2022	4.4	2.3	2.0	2.3	5.4	3.7	5.1
2023	4.4	2.3	2.0	2.3	5.4	3.7	5.1
2024	4.4	2.3	2.0	2.3	5.4	3.7	5.1

Note: These forecasts were based on data available as of November 21, 2013, and were used for the FY 2015 Budget. The interest rate on 91-day T-bills is measured on a secondary-market discount basis.

Source: The forecast was done jointly with the Council of Economic Advisers, the Department of Commerce, (the Bureau of Economic Analysis) and the Department the Treasury, and the Office of Management and Budget.

Administration forecast will be released in the Mid-Session Review of the Budget over the summer.

Real GDP is projected to grow in the 3.2-to-3.4 percent range during the four years through 2017, as the economy gradually uses up the slack suggested by the current elevated level of the unemployment rate. By the fourth quarter of 2017, the unemployment rate is expected to fall to 5.5 percent.

Nominal interest rates are currently low due to the fact that the economy has not fully healed together with monetary policy that has kept rates low across a wide range of Treasury securities. Consistent with the forward policy guidance at the time that the forecast was made, interest rates are projected to increase for maturities that extend through periods covering dates when the unemployment rate is expected to fall below 6.5 percent. Interest rates are expected to continue to climb as the economy approaches full employment. After that point, projected real interest rates (that is, nominal rates less the projected rate of inflation) will be close to their historical average. These interest-rate paths are close to those projected by the consensus of professional economists.

Growth in GDP over the Long Term

As discussed earlier, the growth rate of the economy over the long run is determined by the growth of its supply-side components, demographics, and technological change. The growth rate that characterizes the long-run trend in real U.S. GDP—or potential GDP—plays an important role in guiding the Administration's long-run forecast. Through 2020, potential real GDP is projected to grow at a 2.4 percent annual rate, before slowing to 2.3 percent during the three-year period 2021–24. These growth rates are slower than in the past because of the movement of the baby-boom generation into the retirement years. These growth rates for potential real GDP are based on the assumption of no change to immigration law. If, however, immigration law were to be revised along the lines of the Border Security, Economic Opportunity, and Immigration Modernization Act (S.744) that the Senate approved in June, the growth rate of potential real GDP would be higher, because of faster growth of the working-age population and increased total factor productivity growth (Box 2-5). The Budget totals reflect the effects of immigration reform by incorporating the CBO score directly into the Budget. This CBO score incorporates both direct policy effects and the broader economic impact. In order to avoid double counting with this estimate, the economic forecast does not reflect the effects of immigration reform.

Table 2-2 shows the Administration's forecast for the contribution of each supply-side factor to the growth in potential real GDP: the working-age population, the rate of labor force participation, the employed share of the labor force, the ratio of nonfarm business employment to household employment, the length of the workweek, labor productivity, and the ratio of real GDP to nonfarm output. Each column in Table 2-2 shows the average annual growth rate for each factor over a specific period of time. The first column shows the long-run average growth rates between the business-cycle peak of 1953 and the business-cycle peak of 2007, with business-cycle peaks chosen as end points to remove the substantial fluctuations within cycles. The second column shows average growth rates between the fourth quarter of 2007 and the third quarter of 2013, a period that includes the 2007–09 recession and the recovery so far. The third column shows the Administration's projection for the entire 11-year forecast period, from the third quarter of 2013 to the fourth quarter of 2024. And the fourth column shows average projected growth rates between the fourth quarter of 2020 and the fourth quarter of 2024; that is, the last four years of the forecast interval when the economy is assumed to settle into steady-state growth.

Table 2–2
Supply-Side Components of Actual and Potential Real GDP Growth, 1952–2024

Component	Growth rate[a]			
	History, peak-to-peak	Recent history, since peak	Forecast	Out-year forecast
	1953:Q2 to 2007:Q4[b]	2007:Q4 to 2013:Q3	2013:Q3 to 2024:Q4	2020:Q4 to 2024:Q4
1. Civilian noninstitutional population aged 16+	1.4	1.1	1.0	0.9
2. Labor force participation rate	0.2	–0.7	–0.2	–0.3
3. Employed share of the labor force	0.0	–0.5	0.2	0.0
4. Ratio of nonfarm business employment to household employment	0.0	–0.5	0.0	–0.4
5. Average weekly hours (nonfarm business)	–0.3	0.0	0.0	0.0
6. Output per hour (productivity, nonfarm business)[c]	2.2	1.7	2.1	2.2
7. Ratio of real GDP to nonfarm business output[c]	–0.2	–0.1	–0.3	–0.1
8. Sum: Actual real GDP[c]	3.3	1.1	2.7	2.3
9. Memo: Potential real GDP	3.3	2.0	2.3	2.3

a. All contributions are in percentage points at an annual rate, forecast finalized in November 2013. Total may not add up due to rounding.
b. 1953:Q2 and 2007:Q4 are business-cycle peaks.
c. Real GDP and real nonfarm business output are measured as the average of income- and product-side measures.
Note: Population, labor force, and household employment have been adjusted for discontinuities in the population series. Nonfarm business employment, and the workweek, come from the Labor Productivity and Costs database maintained by the Bureau of Labor Statistics.
Source: Bureau of Labor Statistics, Current Population Survey, Labor Productivity and Costs; Bureau of Economic Analysis, National Income and Product Accounts; Department of the Treasury; Office of Management and Budget; CEA calculations.

The population is projected to grow 1.0 percent a year, on average, over the projection period (line 1, column 3), following the projection published by the Social Security Administration. Over this same period, the labor force participation rate is projected to decline 0.2 percent a year (line 2, column 3). This projected moderate decline in the labor force participation rate reflects a balance of opposing influences: a negative demographic trend partially offset by increasing demand. The entry of the baby-boom generation into its retirement years is expected to reduce the participation rate trend by about 0.4 percent a year through 2020 and by about 0.3 percent during the 2020-24 period (as can be seen in column 4). During the next several years, however, rising labor demand due to the continuing business-cycle recovery is expected to offset some of this downward trend. Young adults, in particular, have been preparing themselves for labor-force entry through additional education. The share of young adults aged 16 to 24 enrolled in school between January 2008 and December 2012 rose well above its trend, enough to account for the entire decline in the labor force participation rate for this age group over this period. As these young adults

Box 2-5: Immigration Reform and Potential GDP Growth

Immigration reform would boost real GDP growth during the 10-year budget window and for the 10 years through 2034 too. Immigration reform would directly raise the growth of the working-age population. As a result, the labor force would grow faster as well. According to the Congressional Budget Office (CBO), the labor force would grow 0.35 percentage point a year faster through 2033 than without the legislation. The faster growth of the labor force would be the prime reason supporting an additional 0.3 percent a year of real GDP growth.

In addition, CBO also assumes that immigration reform would add to real GDP growth by boosting investment and raising the productivity of labor and capital (known as total factor productivity). Although immigrants constituted just 12 percent of the population in 2000, they accounted for 26 percent of the U.S.-based Nobel Prize winners between 1990 and 2000. Immigrants also comprised 25 percent of the founders of public-venture–backed companies started between 1990 and 2005, and they received patents at twice the rate of the native-born population.

complete their education, most are expected to enter or reenter the labor force.

The employed share of the labor force—which is equal to one minus the unemployment rate—is expected to increase at an average 0.2 percent a year over the next 11 years. It is expected to be unchanged after 2018 when the unemployment rate converges to the rate consistent with stable inflation. The workweek is projected to be roughly flat during the forecast period, somewhat less of a decline than its long-term historical trend of -0.3 percent. The workweek is expected to stabilize because some of the demographic forces pushing it down are largely spent, and because a longer workweek is projected to compensate for the anticipated decline in the labor force participation rate.

Labor productivity is projected to increase 2.1 percent a year over the forecast interval and 2.2 percent in the long run (line 6, columns 3 and 4), roughly the same as the average growth rate from 1953 to 2007 (line 6, column 1). The elevated rate of long-term unemployment poses some risk to the projection insofar as the human capital of workers may deteriorate with prolonged unemployment. That said, higher rates of school enrollment among young adults in recent years, as noted, should contribute to productivity growth in the coming years.

The ratio of real GDP to nonfarm business output is expected to subtract from GDP growth over the projection period (line 7, column 3), consistent with its long-run trend. The nonfarm business sector generally grows faster than government, households, and nonprofit institutions, where an accounting convention holds productivity growth to zero.

Summing the growth rates of all of its components, real GDP is projected to rise at an average 2.7 percent a year over the projection period (line 8, column 3), somewhat faster than the 2.3 percent annual growth rate for potential real GDP (line 9, column 3). Actual GDP is expected to grow faster than potential GDP primarily because of the projected rise in the employment rate (line 3, column 3) as millions of currently unemployed workers find jobs.

Real potential GDP (line 9, column 4) is projected to grow more slowly than the long-term historical growth rate of 3.3 percent a year (line 9, column 1). As discussed earlier, the projected slowdown in real potential GDP growth primarily reflects the lower projected growth rate of the working-age population and the retirement of the baby-boom cohort. If the effects of immigration reform were incorporated into this forecast, however, then it would show a higher real potential GDP growth rate.

Conclusion

As of December 2013, private payroll employment had increased for 46 months, and more gains are expected during the coming year. The economy is well situated for a pickup in growth, with households having made progress in deleveraging and building wealth, with housing demand gathering momentum, with inflation that is low and stable, and especially with the four-year period of fiscal consolidation now largely behind us. This past year's budget brinksmanship has receded into legislation that will provide some stability during the coming year. If international economies and markets are stable or improving, that would support exports. The energy sector has also supported sustainable growth with substantial increases in domestic energy supply, declines in energy imports, and progress toward reducing carbon dioxide emissions. With these foundations, the Administration forecast projects an increase in growth during the next few years. The growth rate over the budget window will be limited, however, by demographic forces that lower the participation rate, although immigration reform would both raise the participation rate and raise the growth rate of the working-age population.

Even with this growth, however, the economy would remain below its full potential and the unemployment rate would remain unacceptably high. Additional sound policies would speed the return of the economy to its full potential, including policies like investments in infrastructure and increasing certainty through business tax reform. Conversely, adverse policy developments in the United States or adverse shocks in the United States or abroad could impede this favorable scenario.