



C H A P T E R 2

THE YEAR IN REVIEW AND THE YEARS AHEAD

The U.S. economy continued to recover in 2011 from the deep recession that began at the end of 2007. The real value of goods and services produced in the economy, as measured by gross domestic product adjusted for changes in prices (real GDP), has now grown in each of the past 10 quarters. In the third quarter of 2011, real output surpassed the level last reached at the business-cycle peak in the fourth quarter of 2007. Employment continued to expand in 2011, and the private sector created more than 3 million new jobs in 2010 and 2011, about in line with the recovery from the 1991 recession and faster than the recovery from the 2001 recession.

However, the level of unemployment remains too high, and the pace of the recovery in output and employment would in all likelihood be faster if it were not for the lingering effects of the financial crisis. The destruction of household wealth during the financial crisis and the deep recession that followed appears to have restrained the growth of consumption during the recovery, particularly in services. Investment in new residential construction also remains much weaker than in typical recoveries, a reflection of soft demand since the recession as well as the vast amount of overbuilding of houses during the years leading up to the crisis. Growth in other components of demand, such as business investment and exports, has followed trajectories more typical of business-cycle recoveries, and in some cases has been even stronger than average.

To put the current U.S. recovery in historical and international context, this chapter presents an overview of the influential work by Charles Kindleberger (1978) and Carmen Reinhart and Kenneth Rogoff (2009), who argue that recessions associated with financial crises are typically deeper than normal downturns and that the recoveries that follow tend to take longer. As severe as the recession was, the drop in U.S. real GDP after the financial crisis of 2008 was smaller than the average decline in recessions associated with other severe, systemic financial crises in various countries

over the past 40 years. Similarly, the rise in U.S. unemployment was less extreme than the average experience following these financial crises, and it peaked earlier. As of January 2012, the unemployment rate has fallen by 1.7 percentage points since peaking in October 2009.

This chapter also reviews the developments of 2011 for individual sectors of the U.S. economy. In the household sector, credit conditions continued to improve, and purchases of durable goods—such as motor vehicles—rose at a robust pace. Households continued to work down debt in 2011. As noted, growth in consumption remained somewhat restrained, however, as households continued to pay down debt and growth in nominal income slowed. In the business sector, investment in equipment and software posted solid gains in 2011, and global demand for U.S. goods and services was strong. The growth in U.S. exports supported job creation in 2011 as well as the continued expansion of manufacturing output. Conditions in residential real estate markets continued to stabilize in 2011, with a modest uptick toward the end of the year, but demand for new housing remained weak. Spending by State and local governments was also severely restrained in 2011 by tight budgets. Much of the weakness in these areas can be tied directly to the financial crisis and the problems that precipitated the crisis.

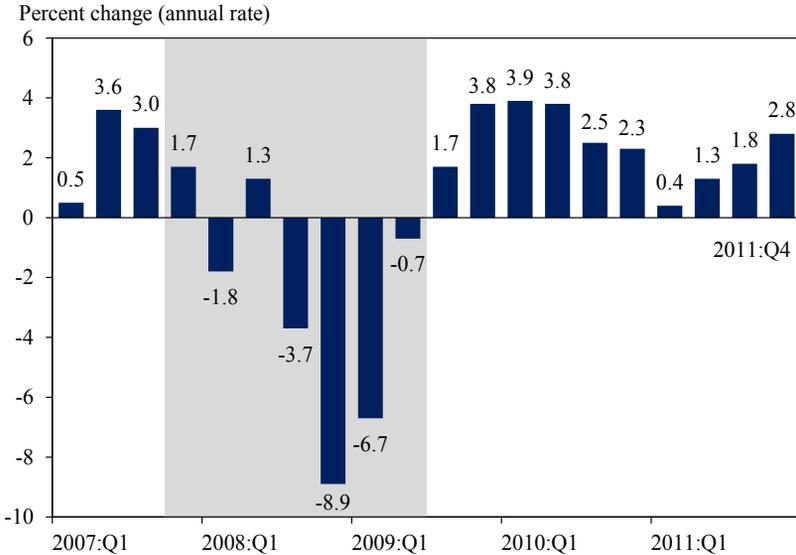
AN ECONOMY IN RECOVERY: KEY EVENTS OF 2011

Real GDP rose 1.6 percent over the four quarters of 2011 after having risen 3.1 percent in 2010. Output expanded at an annual rate of only 0.8 percent in the first half of the year, when a series of shocks—among them a sharp rise in the price of oil due to turmoil in the Middle East—appeared to reduce consumer and business sentiment and dampen economic activity. As the effects of the transitory shocks waned in the second half of the year, real GDP growth picked up to an average annual rate of 2.3 percent (Figure 2-1).

Nonfarm private payroll employment expanded by 2.1 million jobs during the twelve months of 2011, having added 1.3 million jobs in the last 10 months of 2010. The recovery in payroll employment, like that in real output, was uneven over the months of 2011. Payrolls expanded moderately near the beginning of the year, but job creation slowed in the spring and summer before picking up again in the fall. The unemployment rate fell over the course of the year, from 9.4 percent in December 2010 to 8.5 percent in December 2011, and then to 8.3 percent in January 2012.

A Series of Global Shocks and Revised GDP Data. A succession of global shocks turned 2011 into a turbulent year for the U.S. economy. The collapse of Libyan crude oil production during that nation's revolution caused world oil markets to tighten near the beginning of the year. The price

Figure 2-1
Real GDP Growth by Quarter, 2007–2011



Note: Shaded area represents recession.

Source: Bureau of Economic Analysis, National Income and Product Accounts.

refiners paid for crude oil rose from an average of \$78 a barrel in the second half of 2010 to \$101 a barrel in the first half of 2011. The \$23 per-barrel increase led to higher gasoline prices, eroded the real purchasing power of disposable personal income by more than \$50 billion at an annual rate, and dampened consumer confidence. Consumers appear to have reacted with a combination of reduced spending on other goods and services and a lower saving rate than might otherwise have been the case. The 2 percentage point cut in the payroll tax for workers that President Obama proposed and the Congress passed near the end of 2010 helped offset the impact of higher oil prices.

Another supply shock hit the world economy in March 2011, when an earthquake struck northeastern Japan and set off a tsunami, a disaster that resulted in a devastating human toll and required a massive rebuilding effort. Economic activity across the globe slowed because damage to Japan’s electrical grid disrupted industrial output throughout the country. As a result, global supply chains in some industries faced shortages of key parts. In the United States, vehicle assembly plants were forced to cut production when supplies of critical parts produced in Japan became scarce. U.S. motor vehicle production fell 21.2 percent at an annual rate in the second quarter before rebounding in the third and fourth quarters.

In the summer, concerns mounted over sovereign debts and financial institutions in Europe and the likelihood of a global slowdown in economic

growth. In addition, the contentious debate in Congress over raising the statutory debt ceiling kept financial markets on edge and appeared to weigh on equity markets over the summer and fall.

In addition, revised estimates of U.S. real GDP released by the Bureau of Economic Analysis (BEA) in July 2011 revealed that the 2007–09 recession was more severe than had been originally reported. Real GDP fell at an average annual rate of 7.8 percent in the fourth quarter of 2008 and the first quarter of 2009, the sharpest two-quarter contraction since quarterly GDP data began being collected in 1947. The change to the estimate for the fourth quarter of 2008 was particularly stark. The BEA originally estimated that output contracted at an annual rate of 3.8 percent that quarter, but its July 2011 revised estimate showed an 8.9 percent rate of contraction. The downward change of 5.1 percentage points was the largest downward adjustment to the quarterly data ever reported. The BEA also revised down the average annual rate of growth during the recovery (from the second quarter of 2009 through the first quarter of 2011) by 0.2 percentage point, to 2.6 percent.

Policy Developments in late 2010 and 2011. Supportive policies enacted near the end of 2010—the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act (TRUIRJCA)—cushioned the adverse shocks experienced in 2011. Provisions in the legislation included a 2 percentage point reduction in workers’ payroll taxes and a continuation of the extended and emergency unemployment benefit programs through the end of 2011. In the absence of this legislation, real GDP growth over the four quarters of 2011 would have been lower by 0.9 to 2.8 percentage points, according to the Congressional Budget Office (CBO 2011b). Because the legislative package was constructed to be temporary (including mostly one- and two-year provisions), it had little effect on the long-term deficit.

The American Recovery and Reinvestment Act (Recovery Act), enacted in early 2009 when real GDP was contracting at an annual rate of more than 6 percent and employment was falling by more than 700,000 jobs a month, also continued to support the level of real GDP in 2011, although its effect, which had been designed to be strongest during 2009 and 2010, was gradually declining. In 2011, Recovery Act–related outlays, obligations, and tax cuts totaled \$117 billion, down from \$350 billion a year earlier, as measured in the National Income and Product Accounts. The Council of Economic Advisers (CEA 2011) estimates that the Recovery Act increased GDP as of the second quarter of 2011, relative to what it otherwise would have been, by 2.0 to 2.9 percent and raised employment by between 2.2 million and 4.2 million jobs. The CBO and outside analysts have also presented estimates in this range.

In 2011, the Administration proposed additional steps to strengthen and sustain the economic recovery in the wake of world events that posed increasing risks to growth. Before a joint session of Congress on September 8, 2011, the President proposed the American Jobs Act to strengthen the current recovery and spur the creation of new jobs. The American Jobs Act incorporated a number of proposals that some independent economists estimated could have boosted payrolls by 1.3 million to 1.9 million jobs by the end of 2012 (for example, Macroeconomic Advisers 2011). Equally important, the American Jobs Act would not have added to the long-term Federal Budget deficit. The CBO (2011a) estimated that revenue raisers recommended by the President in September would have more than offset the cost of the proposed tax cuts and investments. Specifically, the bill proposed limiting deductions and exclusions for upper-income taxpayers, taxing carried interest earned on private equity and hedge fund investments at the same rate as ordinary income, and eliminating certain tax provisions for oil and gas production companies.

The full American Jobs Act did not pass Congress in the form that the President proposed. Nevertheless, the President kept pressing for measures to support economic growth and job creation and will keep doing so until every American looking for work can get a job. In November, the President won enactment of one element of the American Jobs Act: a new tax credit for America's veterans that provides up to \$5,600 to businesses that hire veterans who have been unemployed for more than 26 weeks and \$9,600 for businesses that hire a veteran with a service-related disability.

And, in the waning days of 2011, the President signed into law a 2-month extension of the 2 percentage point reduction in workers' payroll taxes and of the emergency and extended unemployment insurance programs. Those initiatives were mostly paid for by an increase in guarantee fees charged to lenders by Fannie Mae and Freddie Mac. The President has called on Congress to extend these policies for the entire calendar year. The extension of the payroll tax cut for the rest of 2012 would help approximately 160 million full-time and part-time workers and provide a typical worker with an additional \$40 in each bi-weekly paycheck. The full-year extension of unemployment insurance programs would prevent 5 million unemployed workers from exhausting benefits this year and help support the equivalent of about 500,000 cumulative job-years of employment by the end of 2014 as these benefits are spent.

Policy actions by the Federal Reserve also supported the recovery in 2011. Monetary policy remained accommodative throughout the year, with the Federal Open Market Committee (FOMC) maintaining a target range for the federal funds rate of 0 to 0.25 percent. During the first half

of the year, the FOMC continued to advise that economic conditions were “likely to warrant exceptionally low levels for the federal funds rate for an extended period.” In June, the Federal Reserve completed the program first announced in November 2010 under which it purchased \$600 billion of longer-term Treasury securities, and the FOMC maintained its policy of reinvesting principal payments from its holdings of debt and mortgage-backed securities issued by Fannie Mae and Freddie Mac.

The FOMC took steps in the second half of 2011 and in the early part of 2012 to further ease conditions in financial markets and to provide additional support to the recovery. In the statement released following its August 2011 meeting, the FOMC said that it expected economic conditions to warrant exceptionally low levels for the federal funds rate at least through mid-2013. In January 2012, the committee extended this period until at least late-2014. The committee voted at its September 2011 meeting to extend the average maturity of the Federal Reserve’s holdings of Treasury securities in order to lower longer-term interest rates. In response to the escalation of the sovereign debt crisis in Europe, the FOMC approved an extension of the temporary U.S. dollar liquidity swap arrangements with a number of foreign central banks in June and again in November.¹

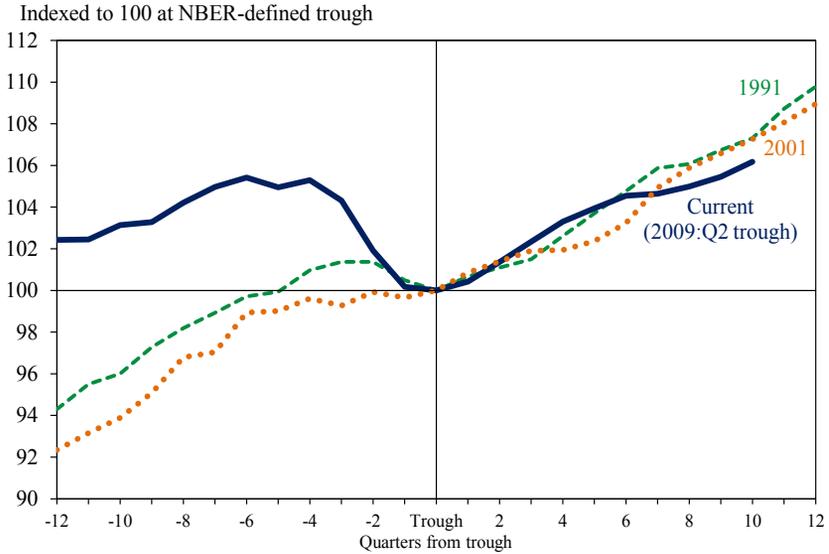
AN ECONOMY IN RECOVERY: THE LINGERING EFFECTS OF FINANCIAL CRISES

The 2007–08 financial crisis and the drop in economic activity during the recession were unprecedented. In the two and a half years that have elapsed since the official end of the recession, real U.S. GDP has risen 6.2 percent, enough to recoup the 5.1 percent loss of real output recorded during the recession. The pace of GDP growth during the recovery has been almost the same as the rates of growth observed during the recoveries that followed the 1991 and 2001 recessions (Figure 2-2), although private employment has grown at a faster pace than in the 2001 recession.

A major reason that the rate of real GDP growth has not been faster during the current recovery involves the lingering effects of the financial crisis. As argued by Kindleberger (1978) and Reinhart and Rogoff (2009), recessions linked with financial crises tend to be deeper than other recessions, and the subsequent recoveries take longer. Hall (2010) and Woodford (2010) argue that recessions around financial crises are worse, in part,

¹ The Federal Reserve receives collateral in the form of foreign currency during the life of the transaction. The exchange rate used for the transaction is based on the market exchange rate at the time of the transaction. The swap is unwound at the same exchange rate, so the Fed is not exposed to any currency risk resulting from the transaction.

Figure 2-2
Real GDP During Recoveries



Source: Bureau of Economic Analysis, National Income and Product Accounts; National Bureau of Economic Research; CEA calculations.

because the critical intermediation role played by the financial sector is disrupted. Financial crises also tend to spread across countries, temporarily reducing the volume of world trade and restraining growth of output during the recovery, as noted by Reinhart and Rogoff (2009) and IMF (2009). Housing slumps are also typically associated with slower growth during recoveries (Howard, Martin, and Wilson 2011).

Some sectors of the U.S. economy are recovering at a moderate pace, while growth in other sectors continues to be restrained by the lingering effects of the financial crisis. In the current recovery, real U.S. exports have risen at a robust pace and have exceeded their average rate of growth in the preceding eight recoveries. Business fixed investment has been about as strong in the current recovery as in the average U.S. recovery. Real residential investment, in contrast, had barely returned to its level at the business-cycle trough by the very end of 2011, whereas this type of investment in a typical U.S. recovery would have increased roughly 34 percent over a comparable period. In addition, real expenditures by State and local governments have continued to decline, on balance, during the current recovery, instead of rising, as they had in every other postwar recovery.

Personal consumption expenditures have risen more slowly in the current recovery than in the average U.S. recovery. The slower recovery in consumer spending may partly reflect the sharp losses in household net worth caused by the financial crisis and the high levels of consumer

debt—including mortgage debt—taken on during the period leading up to the financial crisis. After the collapse in house prices destroyed large amounts of household net worth, households have reduced their consumption as they work down debt taken on before the crisis.

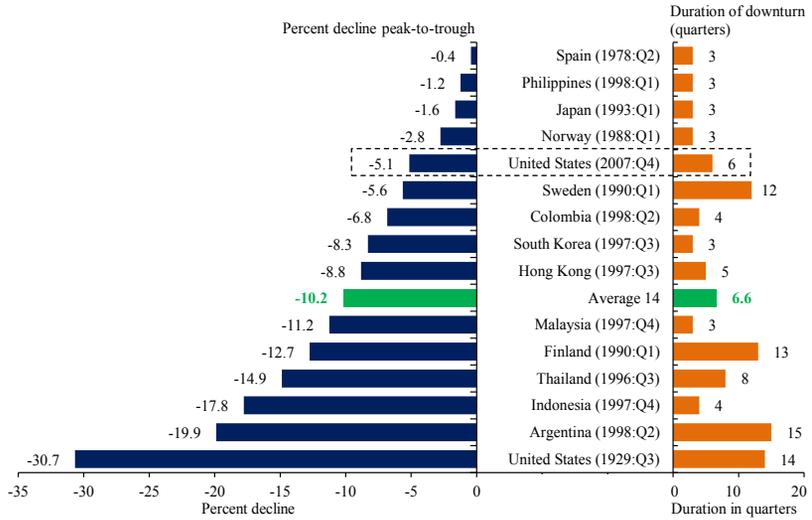
To put the 2007–09 U.S. recession in international and historical contexts, Figure 2-3 compares the depth and duration of the 2007-09 recession in the United States with 14 recessions including the 1929 downturn in the United States, a group of recessions categorized by Reinhart and Rogoff (2009) as occurring near major systemic banking crises.² The horizontal bars on the left of the figure refer to the decline in real output measured in each of the recessions, and the bars on the right report the length of each recession, measured as the number of quarters between the peak and trough of real output.

While the drop in real U.S. GDP reached as high as 8.9 percent at an annual rate in the last quarter of 2008, the figure shows that the cumulative decline in GDP was 5.1 percent during the recession. This was the biggest drop in U.S. output during any business-cycle contraction since the Great Depression, although it was less drastic than the declines in output experienced in most other financial crises, and well below the average decline of 10.2 percent. The duration of the recent U.S. downturn, which measured six quarters, was about 10 percent shorter than the average. The breadth and speed of the emergency economic recovery measures that were put in place to address the financial and economic crisis, including the Recovery Act and Financial Stability Plan, as well as extraordinary actions by the Federal Reserve Board, are the main reasons why the economy avoided a steeper and more prolonged decline, with growth returning by the middle of 2009.

Figure 2-4 compares the rise in the unemployment rate in the United States between the fourth quarter of 2007 and January 2012 with the average rise in unemployment following the business-cycle peaks for the 14 financial crises shown in Figure 2-3. Between the fourth quarter of 2007 and the fourth quarter of 2009, the U.S. unemployment rate rose more sharply than the average cumulative rise over the first 8 quarters after these business-cycle peaks, but then it peaked and declined over the next two years—an outcome less severe than the average rise in unemployment around other financial crises. If the United States had followed the path of the average country during a financial crisis recession, the unemployment rate would have been 10.4 percent in January 2012 instead of 8.3 percent.

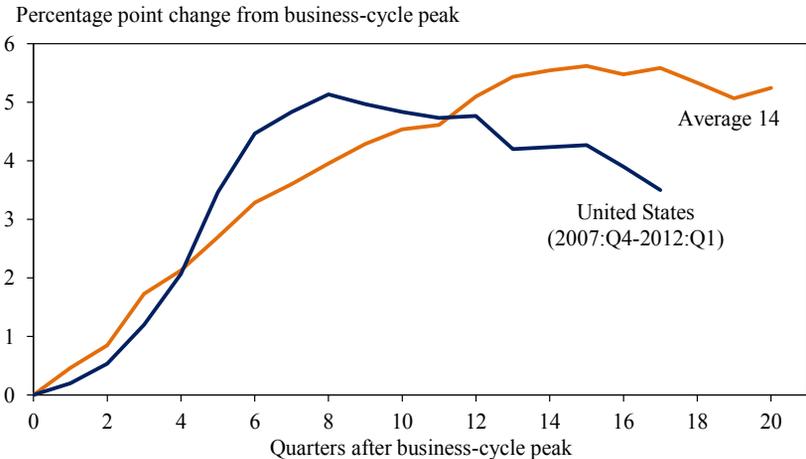
² The crises shown in Figure 2-3 are the major, systemic banking crises included in Reinhart and Rogoff (2009) Table 14-3. The analysis here differs from Reinhart and Rogoff (2009) in that we use seasonally adjusted quarterly real GDP rather than annual real GDP per capita.

Figure 2-3
Real GDP in Recessions Associated with Financial Crises



Note: Financial crisis dates are from Reinhart and Rogoff (2009). U.S. business cycles are defined by the National Bureau of Economic Research, and the business cycles of other countries refer to the peaks and troughs of real GDP. "Average 14" excludes current U.S. cycle.
Source: Reinhart and Rogoff (2009); National Bureau of Economic Research; International Monetary Fund, World Economic Outlook (2010) and data from authors; Gordon and Krenn (2010); national sources; CEA calculations.

Figure 2-4
Unemployment Rate Increases in Recessions
Associated with Financial Crises



Note: "Average 14" shows the average rise in the unemployment rate in each quarter after the business-cycle peaks identified by Reinhart and Rogoff (2009) as being associated with major, systemic financial crises. Financial crises are shown in Figure 2-3. U.S. business-cycle peaks are defined by the National Bureau of Economic Research, and the business-cycle peaks of other countries refer to the peaks of real GDP. Quarterly unemployment rates for Argentina, Colombia, Indonesia, Malaysia, and Thailand are based on annual data. The 2012:Q1 value for the United States is through January 2012.
Source: Reinhart and Rogoff (2009); National Bureau of Economic Research; International Monetary Fund, International Financial Statistics, World Economic Outlook (2010), and data from authors; Moore (1961); national sources; CEA calculations.

According to analysis by the Congressional Budget Office and private-sector forecasters, the Recovery Act, the Financial Stability Plan, and the extraordinary and exigent actions taken by the Federal Reserve had sizable, positive effects on U.S. GDP and employment in 2009. Rather than plunging into what many think could have been a second Great Depression, the U.S. economy began to grow again in the second half of 2009. As a result, the 2007–09 recession was shallower and shorter in duration than the average recession experienced by a country after a major financial crisis, and unemployment started to come down sooner and swifter.

DEVELOPMENTS IN 2011 AND THE NEAR-TERM OUTLOOK

Consumption and Saving

Consumer spending—a category that makes up about 70 percent of GDP—rose moderately in 2011, as credit conditions continued to ease, household liabilities fell relative to income, and the labor market continued to recover. Gains over the year were uneven, however, in the face of upheavals at the beginning of the year. Partly reflecting these shocks, real consumer spending rose at an annual rate of only 1.4 percent in the first half of 2011, having increased more than 3 percent at an annual rate in the second half of 2010. The slowdown in spending growth would have been more severe in the absence of the workers' payroll tax cut, which offset oil price shocks early in the year and supported household consumption.

The disturbances that slowed consumption growth in the early part of the year proved transitory, and their effects dissipated in the second half of the year; oil prices stabilized over the summer, and by the fourth quarter, production (and availability) of motor vehicles had returned to levels that prevailed before the earthquake in Japan disrupted supply chains. The second half of 2011 brought new challenges, however. Concerns about the weakening pace of growth in several industrialized economies—most notably in Europe—escalated during the summer, and the contentious debates held in Congress over raising the statutory debt ceiling unsettled equity markets. The stock market and consumer confidence both fell in the third quarter before rebounding in the fourth quarter and early 2012. Despite these headwinds, the growth rate of real consumer spending picked up in the third and fourth quarters to an average annual rate of 1.9 percent.

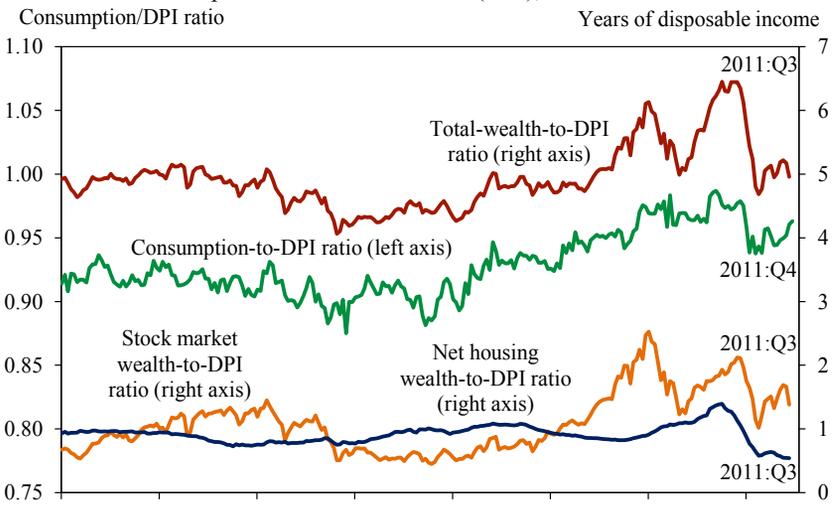
Several key developments in 2011 shaped the contours of consumer spending.

Household Income in 2011. Nominal personal income grew 3.9 percent during the four quarters of 2011, a somewhat slower pace of growth

than in 2010. Growth in nominal personal income was held down in 2011 by a slowdown in job growth near the middle of the year. Real disposable personal income, which is personal income less personal taxes and adjusted for price changes, edged down 0.1 percent over the four quarters of 2011 after having risen 3.5 percent in the year-earlier period. The purchasing power of wages and salaries was curtailed somewhat in 2011 by a run-up in food and energy prices in the first half of the year, which appeared to have passed through to the prices of some other goods and services as well. As noted, tax policies passed near the end of 2010 helped cushion some of the effects of these price increases on consumers while providing an additional boost to income. The Administration seeks to extend the workers' payroll tax cut in 2012 and to provide additional immediate support for aggregate demand through the continuation of extended unemployment insurance benefits and other measures initially proposed in the American Jobs Act.

Household Wealth and Saving in 2011. The wealth-to-income ratio, depicted in Figure 2-5, declined in the third quarter of 2011 after rising, on balance, since the beginning of 2009. The consumption rate (shown in the figure as the share of disposable income consumed) tends to fluctuate with the wealth-to-income ratio. As a rule of thumb, a one dollar drop in wealth tends to reduce annual consumer spending by about two to five cents, although the source of the wealth change (housing or equities, for example)

Figure 2-5
Consumption and Wealth Relative to
Disposable Personal Income (DPI), 1952–2011



Source: Bureau of Economic Analysis, National Income and Product Accounts; Federal Reserve Board, Z.1; CEA calculations.

also may matter. The decline in the wealth-to-income ratio from the second quarter of 2007 to its low point in the first quarter of 2009 amounted to 1.8 years of income. (In other words, household wealth declined by the amount of income earned in 1.8 years). The drop in the wealth-to-income ratio over this period was the deepest sustained decline since 1952, when these data began to be compiled. Of the total decline, 1.1 years were lost from the decline in stock market wealth, and about 0.6 year from net housing wealth. All told, a drop in wealth of this magnitude could be expected to reduce personal consumption expenditures by about 6.7 percent.

Equity prices fell during the summer of 2011 before regaining most of the losses toward the end of the year. Driven in part by the rise in uncertainty during the debt ceiling debate as well as external events in Japan and Europe, consumer sentiment also dropped to low levels in the summer before partially rebounding toward year's end.

Households continued to work down their debt through the third quarter of 2011 (the latest data available as this report goes to press). The personal saving rate—expressed in the National Income and Product Accounts as a share of disposable personal income—fluctuated around 5 percent for the first half of 2011, about the same rate as in 2010 but below the average rate of about 6 percent observed in the first half of 2009. The personal saving rate fell in the second half of 2011 to 3.8 percent, a decline from the first half of 2011 that may have partially reflected the pick up in purchases of consumer durables, especially new vehicles. Purchases of new motor vehicles, are counted as a consumption outlay in the National Income and Product Accounts even though households view these purchases as investment, and so a rise in vehicle purchases reduces the personal saving rate.

Looking ahead, the personal saving rate appears roughly consistent at current levels with household wealth. As a consequence, while some further drops in the saving rate are possible, the growth rate of real consumer spending in the years ahead would be expected to largely mirror the growth rate of income, barring a dramatic change in asset prices. Even so, further increases in household purchases of durable goods, perhaps reflecting pent-up demand for motor vehicle purchases that were deferred during the recession, may reduce the saving rate temporarily.

Some of the recent patterns in aggregate spending and saving behavior—including the sluggish growth in consumer spending—may reflect the sharp rise over the past 30 years in the inequality in the income distribution in the United States. As the Congressional Budget Office recently noted, the top 1 percent of families had a 278 percent increase in their real after-tax income from 1979 to 2007, while the middle 60 percent had an increase of less than 40 percent. As a result of these trends, the very top income earners

have pulled much further ahead of everyone else. (See Chapter 6 for a discussion of shifts in the income distribution.)

The effects of this dramatic shift in the income distribution on aggregate demand are hard to document, although some of the spending patterns in the Consumer Expenditure Survey reveal evidence of the increasing inequality of income. For example, the share of income spent on luxury goods and services, such as entertainment, relative to necessities, such as food, is higher for high-income households than for low-income households, and this gap has widened over time (Aguiar and Bils 2011).

Several authors have argued that increases in inequality have likely adversely affected the economy.³ For example, the rise in income inequality may have reduced aggregate demand, because the highest income earners typically spend a lower share of their income—at least over intermediate horizons—than do other income groups. The following calculation illustrates the potential magnitude of this effect. As shown in recent research by Piketty and Saez (2003, 2010), the share of all income going to the top 1 percent has risen sharply over the past three decades, rising by 13.5 percentage points, from 10 percent to 23.5 percent, between 1979 and 2007. This is the equivalent of about \$1.2 trillion of annual income in 2007. Research on the saving rate (or marginal propensity to consume) of families at the very top of the income distribution is scarce, but one study (Dynan, Skinner, and Zeldes 2004) implies that the top 1 percent of households save about half of their total current income, while the population at large has a saving rate of about 10 percent of their total income.⁴ This finding implies that if another \$1.2 trillion had been earned by the bottom 99 percent instead of the top 1 percent of income earners, annual consumption could have been about \$480 billion—or about 5 percent—higher.

There are many caveats to this calculation, because the marginal propensity to consume is not well established for the extreme upper end of the income distribution. In addition, aggregate consumption may not have been reduced by a full 5 percent because the dramatic shift in the income distribution likely led many households to accrue more debt. In his book *Fault Lines*, Raghuram Rajan (Rajan 2010) argues that slow income growth for the middle class led, in part, to the rising levels of debt and the overleveraging that played a central role in the 2007–08 financial crisis.⁵

³ See Rajan (2010) and Reich (2010). Kaldor (1956) provides some early research in this area.

⁴ The saving rate cited here refers to the change in real net worth as a share of real pre-tax income, a measure that differs from the personal saving rate reported in the National Income and Product Accounts.

⁵ Note that the increase in leverage by the middle class may explain why the aggregate saving rate did not rise despite the shift in income to high savers.

Increases in the inequality of income have been developing for some time, but their effects on aggregate demand may have become more pronounced in the wake of the financial crisis. Increasing levels of debt during 1979–2007 may have masked the influence of the rising inequality of incomes on aggregate consumer spending, because increased access to credit card debt, other consumer loans, and mortgage loans allowed the growth of purchases to outpace the growth of income for most income groups. With the onset of the recession and financial crisis, however, the scope for this level of borrowing came to an abrupt end. Access to credit, particularly for mortgages, was severely restricted, and the average consumer was left with elevated levels of debt taken on before the crisis. Since the crisis, the process of deleveraging appears to have reduced consumption below what it would have been otherwise. By targeting support to a broad group of American workers—including those with a higher propensity to spend additional income—the measures the President put forward in the American Jobs Act, like the payroll tax cut and extension of unemployment benefits, are likely to have a greater impact on consumption and aggregate demand than alternative measures.

Other Influences on Consumption in 2011. For the second consecutive year, lending standards eased, as reported in the Federal Reserve’s senior loan officer survey, and consumer credit expanded modestly over the first three quarters of 2011. The level of overall household debt fell in 2011, reflecting a decline in mortgage debt. The decline in real household debt outstanding in the current recovery has been unprecedented, which suggests that the process of deleveraging has played a sizable role in household consumption decisions in recent years.

Reflecting, in part, the improvement in credit availability since 2009, household consumption of durable goods, including items such as new and used automobiles as well as household electronics, furniture, and other appliances has risen at a solid pace in the current recovery and somewhat more strongly than the rates of growth observed during the recoveries that followed the 1991 and 2001 recessions. Household consumption of nondurable goods and services, in contrast, has risen at a slower pace in the current recovery than in most previous U.S. recoveries. Real consumer spending on services has increased only 2.9 percent so far in the current recovery, whereas this type of spending grew by an average of 10.7 percent over the first ten quarters of the previous eight recoveries. Consumer spending on services has been particularly weak in categories such as housing services, financial services, and insurance, likely reflecting the continuing effects of

the financial crisis, and on categories that are more discretionary, such as recreation and gambling.⁶

Restrained demand for services may have implications for the labor market, because the production of services accounts for about two-thirds of U.S. GDP and a larger share of U.S. employment. (For a discussion of the measurement of services see Data Watch 2-1.) Although it is difficult to tie final consumption of a particular type of good or service to employment in that industry (the purchase of a new motor vehicle creates jobs in a number of service industries, for example), jobs in service-producing sectors accounted for about 68 percent of total nonfarm payroll employment in 2007.⁷

Developments in Housing Markets

After posting steep declines during the 2007-09 recession, activity in the housing sector remained at subdued levels in the first half of 2011 before edging up in the second half of the year. New housing starts were about 607,000 units in 2011, an increase of 3.7 percent from the level in 2010. New housing starts remain well below the long-run trend in U.S. housing demand. According to researchers at the Joint Center for Housing Studies at Harvard University, projected rates of household formation and immigration for the period 2010 through 2020 are consistent with housing starts in the range of 1.6 million to 1.9 million units a year (Masnick, McCue, and Belsky 2010). Activity in the housing sector is likely to remain below these levels for some time, however, as new construction continues to be restrained by a sizable overhang of vacant properties for sale.

House prices, discussed in more detail in Chapter 4, fell 4.7 percent, on net, during the twelve months of 2011, according to the CoreLogic home price index. Distressed sales—which include short sales and sales of properties owned by lenders (real-estate owned, or REO)—remained a headwind in 2011: CoreLogic estimates that 1.6 million properties were seriously delinquent, in foreclosure, or owned by lenders in October 2011, equal to about five months of supply at the current pace of sales. The modest rates of growth in personal income and the tighter mortgage underwriting standards observed in recent years also kept sales and starts below their long-run trend levels.

⁶ Consumption of services is more difficult to measure than is consumption of goods, and estimates for 2011 may be revised considerably when the Services Annual Survey is incorporated into the *National Income and Product Accounts*. Nonetheless, the pattern of weaker-than-normal growth in services consumption in the current recovery has been quite pronounced through 2010, a period for which estimates reflect the latest annual survey.

⁷ Industries counted in this figure include professional and business services, education and health services, leisure and hospitality, other services, and government services.

Data Watch 2-1: The Data Implications of the Transition to a Services-Based Economy

In 1947, services represented less than 40 percent of U.S. gross domestic product (GDP). Today, service industries account for almost 70 percent of total U.S. domestic output. For many years, however, the measurement of service activity lagged the sector's growing importance.

A fundamental challenge in measuring the value of services is the disparate range of activities encompassed within the service sector. The Bureau of Economic Analysis (BEA) defines services as “products that cannot be stored and are consumed at the place and time of their purchase.” This includes, for instance, medical consultations, admission to movie theaters, Internet subscriptions, haircuts, and apartment rents, but also some less apparent things such as meals at restaurants, check clearing by banks, and the “rental value” of homeownership. (Although the purchase of a newly constructed home is categorized under residential investment, the BEA estimates the amount homeowners would have had to pay to rent similar houses and classifies this imputed rent under housing services.)

A major breakthrough in the measurement of service output came with the introduction of the North American Industry Classification System (NAICS) beginning in 1997 to replace the Standard Industrial Classification (SIC) system. Originally developed during the 1930s and reflecting the economy of its time, the SIC provided far more detail for goods-producing industries such as manufacturing and mining than for service-producing industries. The 1997 NAICS added more than 149 new services industries. Just as important, a process was put in place to add new industries to NAICS as they develop. A parallel effort carried out over the past decade, the development of the North American Product Classification System, similarly will provide a consistent basis for categorizing the rich array of outputs produced in the growing service sector.

The quality of the source data on the volume of service transactions also has improved over time. Since the 1980s, the BEA has collected data on international trade in services. In 2004, the Census Bureau introduced the Quarterly Services Survey (QSS) to provide more timely data on domestic consumption of services. The QSS, normally published about 2½ months after the end of each quarter, allows the BEA to incorporate actual survey data on many services into its quarterly estimates of GDP, rather than relying on “judgmental trends.” Furthermore, the Census Bureau has expanded the scope of its annual surveys of the service sector. In fact, the Services Annual Survey and the Quarterly Services Survey both now capture 55 percent of U.S. GDP—equaling the

coverage of services in the Economic Census and marking substantial improvement relative to even just a few years ago.

Measurement of real activity in the service sector requires appropriate price deflators for service outputs. In 1990, the Producer Price Index (PPI) covered less than 5 percent of U.S. service output. Today, thanks to a concerted effort by the Bureau of Labor Statistics, PPI deflators are available for more than three-quarters of domestically provided services. This has translated directly into more accurate estimates of real GDP.

Nevertheless, as the U.S. economy continues to evolve, the work of accurately measuring service activity grows accordingly. Despite recent innovations in the collection of primary source data, there are still conceptual issues pertaining to the appraisal and definition of services that remain unresolved. As an example, improvements in health care have contributed to longer life spans and better quality of life, but there is not a consensus about how to value and incorporate these benefits in a national income accounting framework. Similarly, industries such as finance largely produce intangible outputs that are difficult even to identify, much less quantify. Furthermore, although estimates of international trade in services are now more detailed than was the case before the 1980s, the statistics still could and should be improved. Data on the prices of traded services are extremely limited, and even the most disaggregated data collected by the BEA on services extend to only 36 categories, in contrast to thousands of categories for manufactured goods. Continued research and investment in the development of data on services are needed to ensure timely and accurate measurement of the U.S. economy.

Although home prices in some parts of the country have stabilized, CoreLogic estimates that more than 20 percent of homeowners with mortgages remained underwater at the end of the third quarter of 2011 (that is, the value of the mortgage exceeds the house price). The share of mortgages in the foreclosure process remained elevated by historical standards in 2011 and changed little from the level in 2010, as reported by the Mortgage Bankers Association.

For a description of the Administration's housing policy proposals, see Chapter 4.

Business Fixed Investment

Business fixed investment grew at a solid 7.3 percent annual rate during the four quarters of 2011, after rising 11.1 percent at an annual rate

in the four quarters of 2010. Among the two main components of business fixed investment, spending on equipment and software investment grew 9.0 percent over the four quarters of 2011, and investment in nonresidential structures increased 2.7 percent.

Within equipment and software, purchases of transportation equipment rose at a brisk 22.7 percent annual rate over the four quarters of 2011, after having surged at a 68.1 percent annual rate in 2010. Business outlays on information technology rose at a 4.1 percent annual rate over the four quarters of 2011, a third consecutive year of solid growth. Investment in industrial equipment also grew notably, posting a four-quarter increase of 15.2 percent. (For more information on how investment is defined, see Data Watch 2-2.)

Investment growth among the categories of nonresidential structures was mixed in 2011. On one hand, investment in mining and drilling structures was strong, reflecting elevated oil prices as well as some advances in technology that have enabled drilling at new sites. (See Chapter 8.) Investment in commercial and health care structures, on the other hand, edged down over the four quarters of 2011.

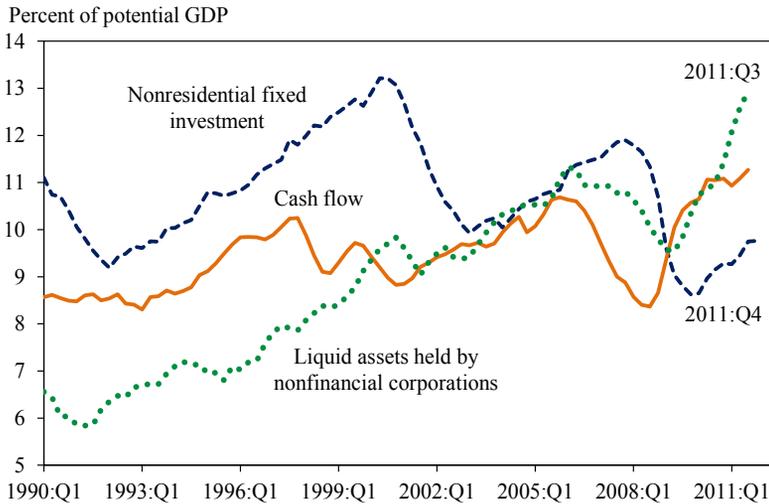
The strength of business fixed investment since mid-2009 reflects several developments. Investment fell sharply during the recession, and, as the prospects for sales have begun to improve, businesses have invested in recent years to replace aging equipment. In addition, the Administration's 100 percent business expensing policy boosted business investment by allowing firms to take an immediate deduction on investments made in new equipment in 2011. The President has proposed extending this provision into 2012.

Business investment may be positioned to grow rapidly if demand accelerates because corporations have plenty of internal funds (Figure 2-6). Corporate profits continued to rise in 2011 and were above their pre-recession level, while corporate dividends have returned roughly to pre-recession levels. Largely as a result, corporate cash flow, a measure that includes undistributed profits and depreciation and represents the internal funds available for investment, has also risen substantially during the recovery. A large share of these investable funds has been channeled to financial investments rather than to new physical capital, as can be seen by the rising level of liquid assets held by nonfinancial corporations.

Manufacturing Output

The real output of U.S. factories rose 3.7 percent over the twelve months of 2011 after having risen 6.4 percent in 2010, according to the manufacturing component of the industrial production index published

Figure 2-6
Business Fixed Investment and Cash Flow, 1990–2011



Note: Potential GDP is a CBO estimate. Cash flow, from the National Income and Product Accounts, and nonfinancial liquid assets are plotted using three-quarter moving averages.

Source: Bureau of Economic Analysis, National Income and Product Accounts; Federal Reserve Board (Flow of Funds L.102); Congressional Budget Office.

by the Federal Reserve Board. The manufacturing sector has been growing faster than the rest of the economy during the recovery, with real output rising at an average annual rate of 5.7 percent since its low in June of 2009—its fastest pace of growth in a decade.

The rise in manufacturing output during the recovery has provided a considerable boost to the U.S. economy. Following two decades of shrinking employment—a trend that reflected both increases in automation and the lower labor costs in emerging-market economies—manufacturers in the United States have added more than 400,000 jobs since employment in the sector reached its low in January 2010. These numbers reflect an emerging trend of some companies bringing jobs back to the United States, as discussed in the special report, *Investing in America: Building an Economy that Lasts* (White House 2012). This nascent trend likely reflects, in part, the improvement in unit labor costs in the United States relative to many of our trading partners in recent years. (See Chapter 5 for more discussion of the rising competitiveness of U.S. industry.)

The robust gains in manufacturing output during the recovery appear to reflect rising investment demand for domestically-produced capital goods from both domestic and foreign customers. The rebound of the U.S. motor vehicle industry has played a particularly large role, with the production of motor vehicles and parts directly accounting for about 23 percent of the increase in manufacturing output since mid-2009. As U.S. demand for new

Data Watch 2-2: Investment in Intangibles

Investment can be defined as devoting resources to produce a durable asset that will yield a future flow of services. Until recently, measures of investment in the National Income and Product Accounts (NIPAs) were restricted to investments in physical capital such as buildings, machinery, and equipment; new residential construction; and net additions to inventories. In today's knowledge economy, however, intangible assets such as computer software and scientific innovations make increasingly important contributions to economic growth.

The Bureau of Economic Analysis (BEA) has begun to incorporate investments in intangible capital into the NIPAs. The first step in this direction, taken in 1999, was to treat spending on computer software as an investment outlay, which enters GDP directly, rather than as a business expense, which is considered an intermediate input rather than a part of final demand; the treatment of government spending on computer software was changed at the same time. Because business and government spending on computer software had been growing rapidly compared to other types of spending, these changes raised the measured growth rate of GDP slightly. In 2013, BEA plans to begin treating spending on scientific research and development as an investment rather than an expense; had this treatment been in effect historically, it too would have raised the average measured rate of growth of GDP in recent decades.

Some researchers have argued that investment in intangibles should be defined even more broadly (Corrado, Hulten, and Sichel 2009; Corrado and Hulten 2010). In addition to research and development that builds on a scientific base of knowledge, for example, there is an argument for treating as investment the money firms spend on other sorts of new product development, such as the development of new motion pictures or new financial services products. Businesses also spend money on strategic planning, the implementation of new business processes, and employee training, all of which may add significantly to future productivity and thus arguably should be treated as investment as well. Taking an even broader perspective, time and money devoted to formal education add to the human capital of the American workforce and thus to its future productivity. While accounting accurately for the value of these investments poses some difficult measurement challenges (Abraham 2010), their importance to future economic growth should not be overlooked. According to some research (Krueger 1999), returns on human capital generate the lion's share of national income.

vehicles has recovered, the Detroit auto companies along with the foreign-domiciled auto companies have been expanding U.S. production to serve both U.S. and foreign markets. Over the past two years, the entire U.S. auto industry—including dealerships and suppliers of auto parts—has added nearly 160,000 jobs. General Motors was the world’s top-selling automaker in 2011, Ford is investing in new American plants, and sales at Chrysler grew faster in 2011 than in recent years.

In addition to rescuing the American auto industry, the Administration has more broadly supported American manufacturing through its efforts to reduce barriers for American businesses to sell products all over the world. To build on the progress already made, the President laid out in his 2012 State of the Union address a Blueprint for an America Built to Last, which included proposals to encourage companies to create manufacturing jobs in the United States while removing tax deductions for shipping jobs overseas.

Business Inventories

Businesses continued to build inventories during 2011, and inventories in the manufacturing and trade sectors remained lean relative to sales. Inventory investment—measured as the change in inventories from one quarter to the next—is typically an important contributor to the changes in real GDP during recessions and the early stages of recoveries.

Over the course of 2011, real inventory investment stepped up in the first quarter and then slowed in the second and third quarters, but closed out the year on a high note. The slower pace of inventory investment in the second quarter reflected, in part, the reduced rate of motor vehicle production caused by disruptions to the flow of auto parts following the earthquake and tsunami in Japan. Altogether, real inventory investment added roughly 0.2 percentage point to real GDP growth between the fourth quarter of 2010 and the fourth quarter of 2011.

Government Outlays, Consumption, and Investment

The Federal budget deficit during Fiscal Year 2011—which ended on September 30—was \$1.3 trillion, roughly unchanged from the year before. As a share of GDP, the deficit fell to 8.7 percent in FY 2011 from 9.0 percent in FY 2010. Federal receipts rose 6.5 percent during FY 2011, largely driven by a 21.5 percent increase in individual income tax receipts. Corporate tax receipts fell 5.4 percent in FY 2011, partly reflecting the introduction of 100 percent depreciation for business equipment investment in calendar year 2011 (up from 50 percent in calendar year 2010), which pulls forward deductions that businesses would otherwise receive over several years. Corporate tax receipts in FY 2011 were only about half what they were in FY 2007,

even as domestic corporate profits (excluding Federal Reserve Banks) were roughly unchanged.⁸ In contrast, individual income tax receipts in FY 2011 were more than 90 percent of their FY 2007 level.

Federal outlays rose 4.2 percent in FY 2011 from FY 2010 but remained steady as a share of GDP at 24.1 percent. According to the CBO, approximately half of the year-over-year increase in Federal outlays reflects re-evaluations of the cumulative cost of the Troubled Asset Relief Program (TARP).⁹ The President's FY 2013 Budget estimates that the cumulative cost of TARP will be \$67.8 billion, well below the Administration's 2009 estimate of \$341 billion.

Nominal spending on defense grew more slowly in FY 2011 than in recent years. Combined total spending on Social Security, Medicare, and Medicaid rose in FY 2011, though at a slower pace than the average over the past three years. According to the Department of Labor, extended unemployment benefits and emergency unemployment benefits are on track to be about \$60 billion in 2011, following total benefits of \$80 billion in 2010. The past three years of unemployment benefits stabilized consumer spending at a level higher than would have occurred absent this income support. In addition, the 2 percentage point reduction in payroll taxes through the end of 2011 lowered tax liabilities by about \$114 billion.

During the four quarters of calendar year 2011, real Federal expenditures on consumption and gross investment, as measured in the National Income and Product Accounts, declined 3.3 percent; federal defense spending fell 3.7 percent over the four quarters of 2011, and federal nondefense spending declined 2.6 percent.

As projected in the Administration's FY 2013 Budget, which includes demand-supporting initiatives for FY 2012 that have not yet been approved by the Congress, the deficit as a share of GDP will fall from 8.7 percent in FY 2011 to 5.5 percent in FY 2013, and to 3.4 percent in FY 2015. The full-employment deficit as a share of GDP (the budget deficit that would exist if the economy were at full employment) would be roughly unchanged in FY 2012 and fall by about 3 percentage points in FY 2013 and by another 1.5 percentage points in FY 2014. This fiscal consolidation will restrain the

⁸ The divergence of corporate profits and corporate tax receipts between 2007 and 2011 reflects changes in tax policy and differences in how profits in the National Income and Product Accounts (NIPA) and corporate taxable income are calculated. Business credits for corporations have increased between 2007 and 2011. The components of NIPA profits that are not counted in taxable income include capital gains, bad debt, and Federal Reserve profits.

⁹ The CBO (2011c) estimates the net present value of the cumulative cost of TARP each year and—if costs are revised down—records the changes in these valuations in the Budget as a negative outlay. The CBO adjusted down the total cost of the program in FY 2010 and FY 2011, but the downward adjustment in FY 2011 was smaller than in FY 2010.

growth of demand in those years, but an increase in private-sector demand in those years is projected to fill in the gap.

Looking further ahead, the deficit reduction from the cuts mandated by the Budget Control Act of 2011 and the expiration of the tax cuts on upper-income Americans enacted between 2001 and 2003, combined with the winding down of operations in Afghanistan and Iraq, will bring deficits down to approximately 2.8 percent of GDP near the end of the 10-year budget window. Policy changes recommended in the FY 2013 Budget put the debt on a stable or declining path as a share of the economy and would—if enacted—place the budget in a fiscally sustainable position in the ten-year budget window.

State and Local Governments

State and local governments remained under severe fiscal pressure in 2011, and, as noted, declines in this sector's revenues have forced sharper declines in real State and local consumption and gross investment than in earlier U.S. recoveries. Although nominal State and local government tax receipts continued to increase in 2011, Federal funds from the Recovery Act—which helped support State and local governments during 2009 and 2010—declined, and employment continued to contract.

State and local tax revenues rose about 4 percent, or \$50 billion, during the four quarters through the third quarter of 2011, roughly the same pace as during the year-earlier period. About half of the rise came from personal income taxes. State and local taxes on production and imports—a category that includes sales and property taxes—increased about \$32 billion over this period, while corporate taxes were down \$8 billion. Federal grants-in-aid to the states plunged \$87.8 billion during the four quarters of 2011 after rising notably during 2009 and 2010; both the earlier increase and the 2011 decline were attributable to the Recovery Act, which was designed to offer temporary support to State and local governments.

Current State and local government expenditures—which include transfers to individuals as well as government consumption—fell 0.2 percent over the four quarters of 2011, following a 4.4 percent increase in the year-earlier period. Reflecting, in part, the decline in Federal grants-in-aid between the third quarters of 2010 and 2011, the operating position of State and local governments deteriorated to an aggregate deficit of \$83 billion by the third quarter of 2011, the fourth consecutive year of operating deficits for the State and local sector.

Employment in State and local government declined by 235,000 in 2011, and employment in the sector fell 660,000 from its peak in August

2008 to December 2011. About 36 percent of the jobs lost over this period were in education.

Real investment by State and local governments in structures, such as schools, roads, and bridges, fell 9.9 percent during the four quarters of 2011, a decline notably steeper than those of the preceding three years. Some of the decline is attributable to the expiration of the Build America Bonds program at the end of 2010. Part of the Recovery Act, the program subsidized municipal bonds issued for infrastructure development and helped finance \$181 billion worth of capital projects, including schools, bridges, and hospitals (Department of Treasury 2011).

State and local governments have made tough budget decisions during the past four years. They will likely continue doing so in 2012 as Federal transfers diminish, and past declines in house prices erode the property tax base. The Administration took important steps in 2010 and 2011 to help State and local governments maintain critical services in public safety and education. In addition to the grants-in-aid components of the Recovery Act, the Administration eased the burden on State and local governments in August 2010 by establishing a new teacher job fund and by extending the enhanced Federal matching formula for certain social services and medical insurance expenditures covered by the States. In 2011, the President proposed additional funds as part of the American Jobs Act to prevent layoffs of teachers, police, and firefighters. To support infrastructure investment, the Administration also included funds in the American Jobs Act to modernize more than 35,000 schools.

Real Exports and Imports

Real exports grew 5.2 percent during the four quarters of 2011 after jumping 8.8 percent in 2010. As noted, the rebound in exports since the trough of the recession has been strong and reflects rising demand for U.S. goods and services abroad. Total exports rose at an average rate of almost 16 percent per year between 2009 and the twelve-month period that ended in November 2011, an increase that creates jobs for U.S. workers and puts U.S. exports on track to meet the President's goal of doubling nominal exports between 2009 and the end of 2014. Meeting this goal depends, in part, on healthy growth of the world economy; world growth, however, may falter in the near term for reasons related to the sovereign debt crisis in Europe. Maintaining robust exports is a key to building an American economy that can prosper in the global economy in the years to come (see Chapter 5).

Real imports also grew in 2011, expanding 3.8 percent over the four quarters of the year. The rise in real imports over the past year likely reflects

the increase in consumer spending on goods, the rise in real business fixed investment, and the continued recovery in industrial production in 2011.

All told, real net exports—exports less imports—made a small positive contribution to the rise in real GDP over the four quarters of 2011, after subtracting from real GDP growth in the year-earlier period.

Labor Market Trends

The job market continued to heal in 2011, adding a total of 1.8 million jobs. The private-sector added 2.1 million jobs during the twelve months of 2011, while State and local government employment fell by 235,000. The growth in private-sector jobs was the strongest since 2005. Private sector payroll employment has grown in each month since February 2010, and layoffs—as measured by the four-week average of initial claims for unemployment insurance—have come down considerably over this period (Figure 2-7). The four-week average of initial claims continued to recede through the end of January 2012.

Private-sector job growth during the current recovery has been similar to that in the 1991 recovery and faster than that in the 2001 recovery, as illustrated in Figure 2-8. As is typical, the recovery in jobs since 2009 has lagged the recovery in output. Growth in private nonfarm jobs in the current recovery began nine months after the business-cycle trough. By comparison,

Figure 2-7
Weekly Initial Unemployment Insurance Claims, 2004–2012

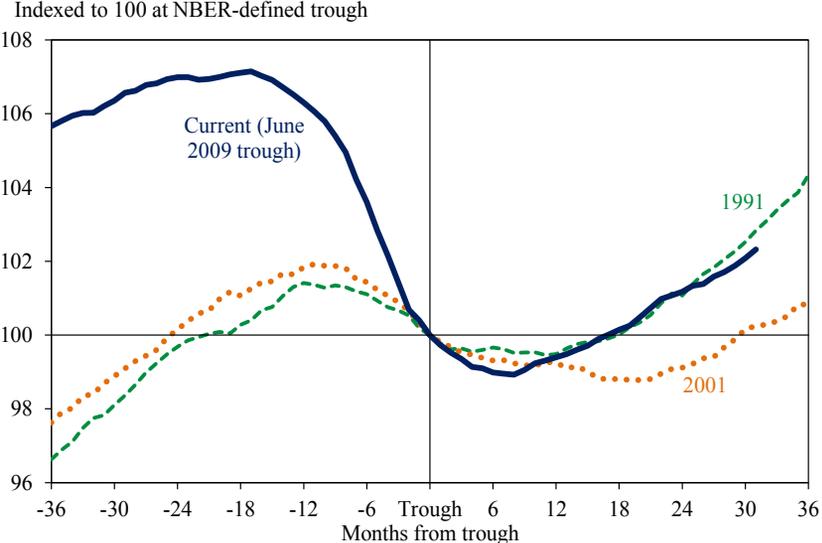


payrolls first began expanding consistently twelve months into the 1990–91 recovery, and sustained private-sector job growth in the 2001 recovery did not begin until 21 months after the official end date of the recession. Thus, although the 2007–09 recession lasted longer and featured job losses much deeper than those in the recessions of 1990–91 and 2001, recovery in the labor market began somewhat sooner.

Nonetheless, the steep rate of job loss during the recession has left the rate of unemployment high. During the recovery the unemployment rate receded from its peak of 10.0 percent in October 2009 to 8.3 percent by January 2012. The unemployment rate dropped by 0.6 percentage point between October 2011 and January 2012 (Figure 2-9). Other measures of labor market slack—such as the “U-6” unemployment rate published by the Bureau of Labor Statistics—have also declined over the past year. The U-6 measure includes in the pool of unemployed workers those who are underemployed or are marginally attached to the labor force, that is, would like a job but are not currently searching for work. The U-6 unemployment rate in January 2012 was a percentage point below its year-earlier level.

In addition to tracking the number of jobs added in 2011, other margins of labor market adjustment such as the workweek also contain important information about the pace of the recovery. At the business-cycle peak in the fourth quarter of 2007, the workweek for all private-sector employees

Figure 2-8
Private Nonfarm Employment During Recoveries



Source: Bureau of Labor Statistics, Current Employment Statistics; National Bureau of Economic Research; CEA calculations.

Figure 2-9
Unemployment Rate, 1979–2012



Note: Shaded areas represent recessions.

Source: Bureau of Labor Statistics, Current Population Survey.

averaged 34.6 hours. By the second quarter of 2009, it had shortened 0.8 hour. By the fourth quarter of 2011, the workweek increased to 34.4 hours, recovering most of the hours lost during the recession. A 0.1 hour lengthening of the workweek is roughly equivalent, in terms of labor input, to an increase in employment of more than 300,000 jobs.

Wages, Labor Productivity, and Prices

Hourly compensation rose at about the same pace in 2011 as in 2010. The employment cost index for private-sector workers, including wages and benefits, rose 2.1 percent over the twelve months of 2011, roughly the same as the year-earlier increase. Nominal hourly compensation in the nonfarm business sector—a measure based primarily on compensation in the National Income and Product Accounts—rose 1.7 percent during the four quarters of 2011, up slightly from the pace during 2010 but well below the average increase of about 4.0 percent in 2006 and 2007.

Labor productivity in the nonfarm business sector (that is, real output per hour worked) rose about 0.5 percent during the four quarters of 2011, a slower pace of growth than during the preceding two years. Averaged over the nearly four years since the business-cycle peak, labor productivity grew at a 1.8 percent annual rate.

Consumer prices—as measured by the consumer price index (CPI)—rose almost 3 percent during the twelve months of 2011, 1.6 percentage points more than they did in 2010 (Figure 2-10). The cost of food, crude oil, and many other commodities rose sharply in the first half of 2011, and some of these increases were passed through to consumer prices for food and energy products. Excluding food and energy products, the core CPI rose a more moderate 2.2 percent during the 12 months of 2011 after rising at an unusually slow pace of 0.8 percent in 2010.

Over the second half of 2011, overall consumer price inflation fell considerably as the price pressures from the earlier increases in energy and commodity prices waned. After rising at an annual rate of 3.8 percent in the first six months of the year, consumer price inflation fell to 2.2 percent between June and December.

Most of the inflation in nonfarm business prices during the past four years has been due to a rise in the price markup over unit labor costs rather than to rising unit labor costs. Hourly compensation has risen at a roughly 2 percent annual rate during the four years since the business-cycle peak, but this growth has been offset by growth of labor productivity also by an annual rate of about 2 percent during the same period, leaving unit labor costs essentially unchanged. Over the long run, prices of nonfarm business output rise in a roughly parallel fashion to unit labor costs, so the markup of prices relative to unit labor costs has been flat, although it has certainly fluctuated in the short run. As can be seen in Figure 2-11, this long-term property of the U.S. economy appears to have broken down over the past decade. The markup has now risen to its highest level in post-World War II history, with much of that increase taking place over the past four years. Because the markup of prices over unit labor costs is the inverse of the labor share of output, saying that an increase in the price markup is the highest in postwar history is equivalent to saying that the labor share of output has fallen to its lowest level.

The Administration expects consumer prices to rise slightly below 2 percent a year for the next few years, edging up to a 2.1 percent annual rate in the long run. The long-run projection is in line with the levels of inflation deemed by the Federal Reserve as consistent with stable prices and full employment, and only slightly below survey measures of long-run inflation expectations and the 5-year forward inflation rate implied by the yields on inflation-protected Treasury securities.¹⁰ Moreover, because slack in the labor market remains, the economy has considerable room to expand without increasing price pressures.

¹⁰ The Survey of Professional Forecasters projects the CPI will grow at an average annual rate of 2.5 percent from 2011 through 2020.

Figure 2-10
Consumer Price Inflation, 2004–2011

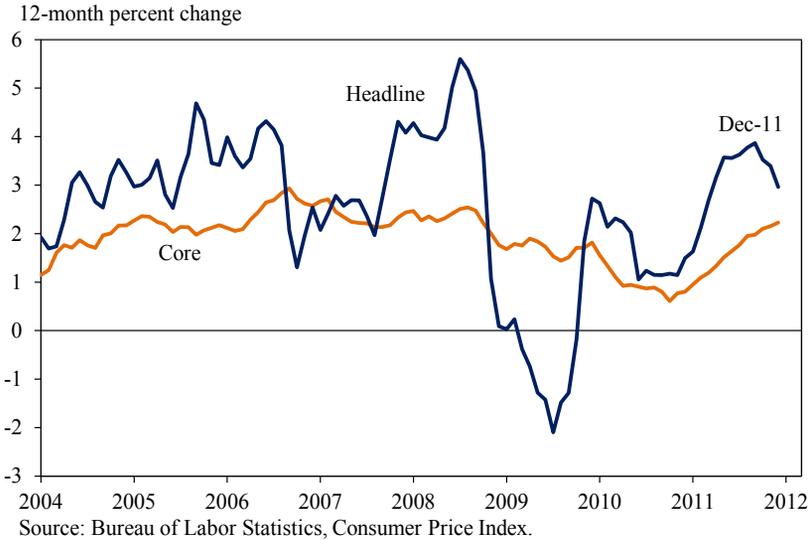
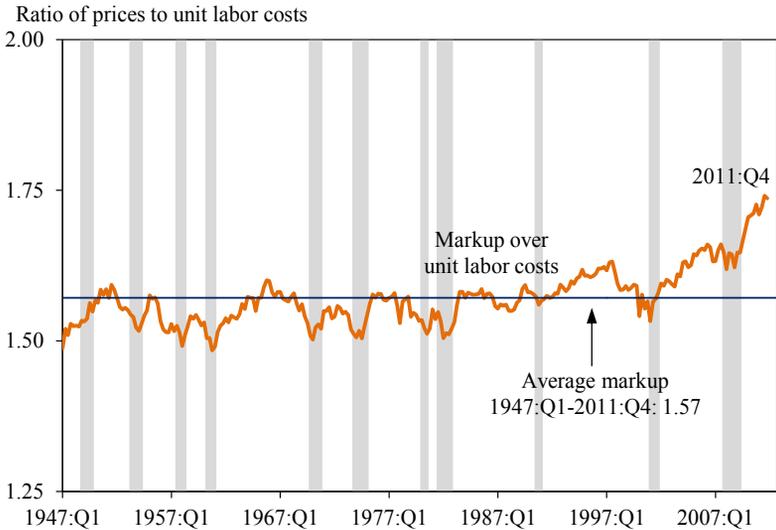


Figure 2-11
Price Markup over Unit Labor Costs, Nonfarm Business, 1947–2011



Note: Shading denotes recession.

Source: Bureau of Economic Analysis, National Income and Product Accounts; Bureau of Labor Statistics, Productivity and Costs; CEA calculations.

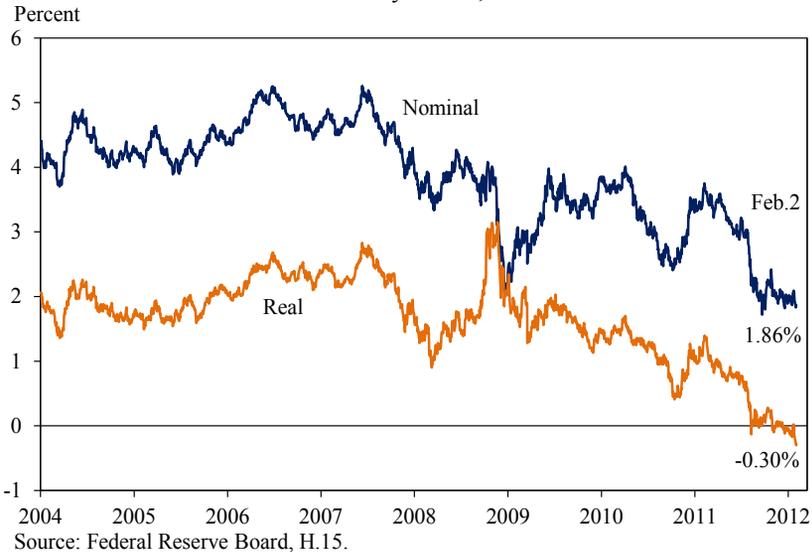
Financial Markets

The past year was a volatile one for financial markets. Concerns that had arisen late in 2009 over sovereign debt in Greece and Portugal continued into 2011 and spread to several larger countries in the European Union, with effects that were felt worldwide.

Following a 12.8 percent gain in 2010, U.S. equity prices—as measured by the Standard and Poor’s 500 Composite Index—were essentially flat in 2011. External factors weighed heavily on investor sentiment at times over the course of the year. After rising more than 8 percent from the end of 2010 through April, equity values plunged during the summer, reflecting the uncertainty surrounding the European sovereign debt problems and the protracted negotiations over raising the statutory U.S. Federal debt ceiling. Measures of market volatility—such as the Market Volatility Index (VIX)—rose sharply in mid-2011 before retreating near the end of the year. The VIX reached levels in 2011 that were about equal to those in mid-2009 but remained well below record levels in late 2008. The day-to-day changes in the S&P index exceeded 1 percentage point on 96 days in 2011, 20 days more than in 2010. In 2005 and 2006, swings in the S&P index exceeded a percentage point only 30 times per year on average.

Yields on 10-year Treasury notes were 1.98 percent in December 2011, down from 3.29 percent in December 2010 (Figure 2-12). Ten-year yields rose to a monthly high of 3.58 percent in February of 2011, as investors

Figure 2-12
10-Year Treasury Yields, 2004–2012



elevated their outlook for the U.S. economy. Renewed concerns about sovereign debt issues in Europe, however, triggered a flight to safety that pushed down long-term rates, on balance, during the remainder of 2011. The Federal Reserve System's program to lengthen the maturity of the portfolio of their U.S. government debt also held down long-term rates. Over the final five months of the year, 10-year Treasury yields fluctuated around 2 percent, and real long-term interest rates at the same maturity, as indicated by the market for Treasury Inflation-Protected Securities, fluctuated around zero.

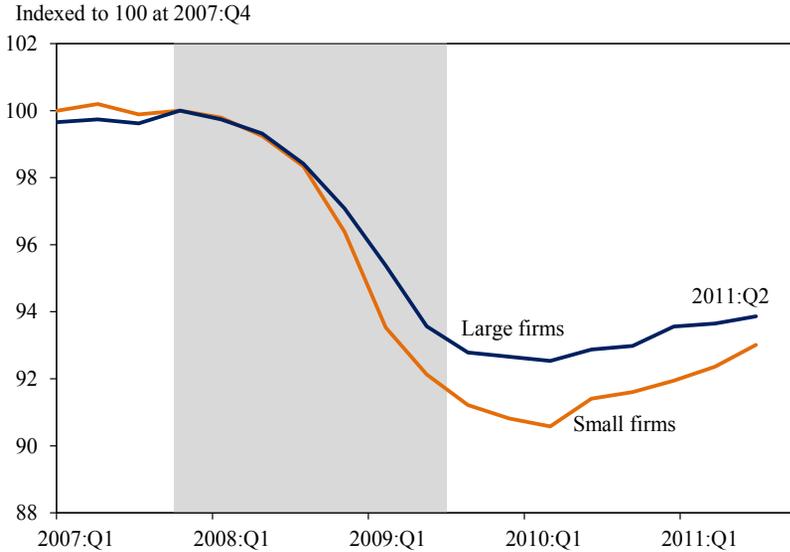
When the Administration's economic forecast was finalized in mid-November 2011, interest rates, both short- and long-term, were recognized as being in the low end of their historical range. Yet, in light of the Federal Reserve's August 9 announcement that "economic conditions ... are likely to warrant exceptionally low levels for the federal funds rate at least through mid-2013," the Administration did not foresee any material changes in short-term interest rates over the near term. Thus, the Administration's projected path for 91-day Treasury bills, calibrated from rates in the market for federal funds futures, anticipated that these rates would remain extremely low until the second half of 2013. The FOMC forecasted in January 2012 that these rates would remain low at least through late 2014.

Small Businesses and the Recovery

Small firms—with fewer than 500 employees—account for about half of private-sector nonfarm employment. Between 1993 and 2010, more than half of firms in the private sector had 1 to 4 employees, and nearly 98 percent had fewer than 100 employees. Figure 2-13 illustrates that small firms experienced proportionately larger job losses than large firms during the recession and until early 2010. Similarly, the number of bank loans to small firms fell dramatically during the recession and—although it has stabilized since—still has not returned to pre-recession levels (see Figure 2-14). In 13 consecutive quarters between 2007:Q1 and 2010:Q1, respondents to the Federal Reserve's Senior Loan Officer Opinion Survey reported that credit tightened or remained tight for small firms (those with less than \$50 million in annual sales) and that, since 2010, credit standards for large firms eased at a faster rate than for small firms.

Small firms depend more on banks for financing than do larger firms, in part because larger firms have access to other forms of finance, including public debt and equity markets, typically unavailable to small firms. Petersen and Rajan (1994) have documented the critical relationship between banks and small firms and showed that over half of financing for small firms came

Figure 2-13
Private Sector Job Recovery by Firm Size, 2007–2011



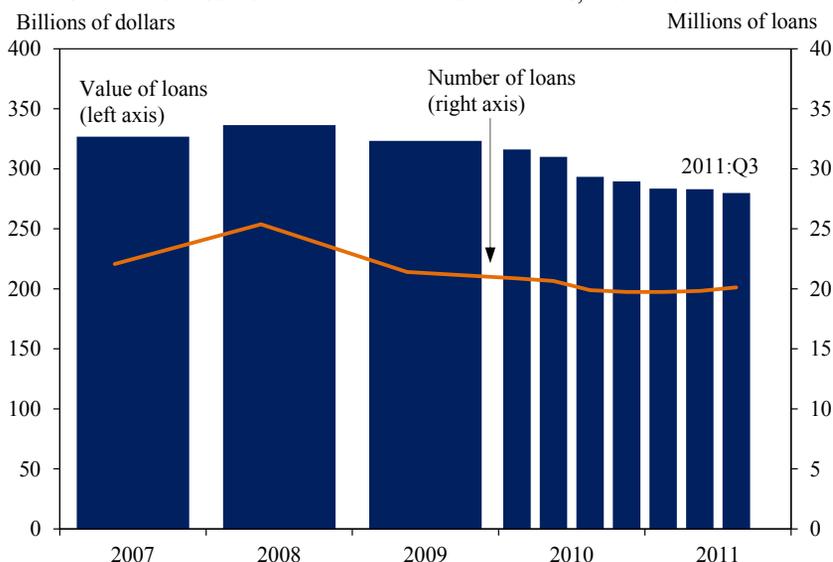
Note: Small firms have fewer than 500 employees. Shaded area denotes recession.
Source: Bureau of Labor Statistics, Business Employment Dynamics.

from bank finance.¹¹ Economists have modeled a link between the supply of credit and macroeconomic activity (Bernanke 1983; Holmstrom and Tirole 1997; and Peek and Rosengren 2000). Credit conditions have been shown to affect a variety of specific macroeconomic outcomes, including investment spending, inventories, and economic growth and development (Fazzari, Hubbard, and Petersen 1988; King and Levine 1993; Kashyap, Lamont, and Stein 1994; Levine and Zervos 1998; Rajan and Zingales 1998; and Guiso, Sapienza, and Zingales 2004). Gertler and Gilchrist (1994) find that smaller manufacturing firms respond more to money supply conditions than larger firms, and Kroszner, Laeven, and Klingebiel (2007) use cross-country evidence to show that banking crises negatively affect bank-dependent firms more than they affect firms less dependent on bank finance.

The credit-contraction hypothesis has been used to explain the steeper loss of employment in small firms. Until recently, however, the literature from the recent financial crisis has largely been unable to disentangle the contributions of credit-supply and aggregate-demand conditions. Duygan-Bump, Levkov, and Montoriol-Garriga (2011) use data from the Current Population Survey, Compustat, and the National Survey of Small Business

¹¹ Small firms in their paper are the smallest 10 percent of the sample measured by the book value of assets. Their sample, which is drawn from the Federal Reserve’s National Survey of Small Business Finances conducted in 1988 and 1989, contains 3,404 firms with fewer than 500 employees.

Figure 2-14
Small Business Commercial and Industrial Loans, 2007–2011



Note: Loans with original amounts of less than \$1 million.

Source: Federal Deposit Insurance Corporation, Statistics on Banking.

Finances to separate the contributions of these two factors. They find that, as in previous recessions involving banking crises, following the crisis of 2007–09, the likelihood of becoming unemployed was greater in sectors that were more dependent on external finance. Further, among firms highly dependent on banks for financing, the likelihood that an employee will become unemployed is greater in small firms (defined as those with 99 or fewer employees).¹² The authors do not observe such a divergence in unemployment incidence in firms with low dependence on external finance.

Prior to the financial crisis, the share of lending to small businesses by the largest banks—those with assets of over \$50 billion—had risen substantially (Corner and Bhaskar 2010). Since 2009, however, financing has been constrained and it remains so for small firms seeking funding. Simultaneously, the data show that other financial institutions—smaller banks, credit unions, and other alternative lenders—and government-sponsored programs have filled part of this gap. Between January and December 2011, Biz2Credit, a private firm that matches over 1.5 million small businesses seeking loans to nearly 500 lenders and loan intermediaries, reports that loan-approval rates by large banks fell 3.1 percentage points, while increasing 3.6 percentage points at small banks, 8.5 percentage points

¹² This evidence does not address whether the credit-supply conditions are due to factors related to lower credit quality.

Box 2-1: SBA's Role in Financing Small Firms During the Recovery

The Small Business Administration (SBA) was created by Congress in 1953 to aid and provide technical support for small businesses.¹ Many SBA programs seek to minimize the riskiness of small-business loans for lenders by guaranteeing a portion of these loans against default. SBA collaborates with federal agencies and the White House to ensure that at least 23 percent of Federal Government contract opportunities, worth nearly \$100 billion, are available to small businesses.

Traditional SBA programs, the 7(a) and 504 loans, target small firms. These programs have been found to have a positive impact on local economic performance (Craig, Jackson, and Thomson 2005). In response to ongoing tight credit conditions facing small firms during the recovery, the Small Business Jobs Act of 2010 increased the loan limits for SBA loan guarantees. The limits for equipment and real estate loans were increased permanently and the limits for working capital loans through the SBA Express program were increased temporarily. Between FY2010 and FY2011, the number of SBA loans approved increased 12.5 percent, while the value of SBA loans approved increased 45.4 percent (see box figure). SBA increased overall lending supported to \$30.5 billion in FY 2011, the highest ever lending year in its 60-year history.²

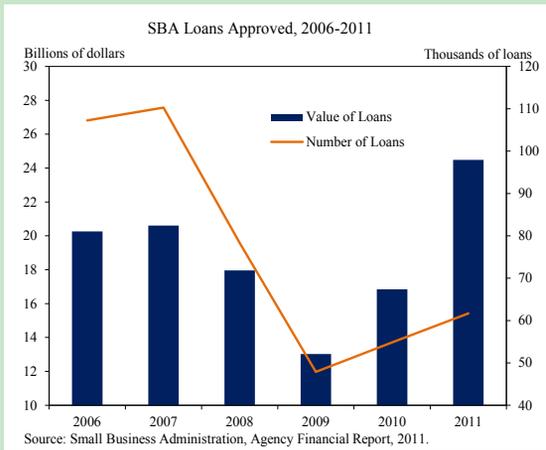
Recent economic research shows that new and young firms contribute disproportionately to job growth in the U.S. (see Chapter 6). The Obama Administration has created the Startup America initiative to support the role that startups play in economic growth and job creation. The initiative aims to accelerate high-growth entrepreneurship through policies that unlock access to capital for high-growth companies, create mentoring programs, accelerate lab-to-market innovation, and make government work better for entrepreneurs.

As a part of the Startup America initiative, SBA is improving access to capital for high-growth small businesses. The SBA has launched two new Small Business Investment Company (SBIC) programs, each seeking to guarantee an additional \$1 billion in private investment within five years: the Early-Stage Innovation Fund for seed- and early-stage companies and the Impact Investment Fund for companies in areas of national priority, including underserved markets and emerging

¹The Small Business Administration's definition of a small business uses guidelines that reflect, among other things, sales, employment levels, and sector of economic activity. These guidelines are available online at http://www.sba.gov/sites/default/files/Size_Standards_Table.pdf.

² Lending supported includes gross loan approvals for SBA's 7(a) and 504 programs as well as third-party loans that are made by commercial lenders as part of the 504 funding package. The box figure depicts the value of loans 7(a) and 504 loans approved, which will be smaller than the value of loans supported.

sectors, such as energy and education. SBA licensed the first SBIC Impact Investment Fund in Michigan in July 2011. The InvestMichigan! Mezzanine Fund, with resources of \$130 million, is a public-private partnership between SBA, Dow Chemical Company, and Michigan Growth Capital Partners that will be managed privately and will focus on funding new and small firms with plans to expand their operations and create jobs. SBA also deepened its commitment to underserved markets in 2011 with the implementation of the Underserved Markets Initiative, which will disseminate SBA resources to youth, rural, veteran, low-income, and other communities.



SBA augmented its role as a coordinator of federal agencies in supporting small businesses in 2011. As is common after financial crises, small firms are experiencing difficulties managing cash flow due to adverse credit conditions. To improve access to working capital for thousands of small firms, in September, President Obama issued an executive order to institute the QuickPay program, which requires an agency to pay its contractors within 15 days and, at a maximum, within 30 days. As with the QuickPay program, SBA plays a coordinating role for the Small Business Innovation Research (SBIR) program, which focuses on small high-technology firms and includes 11 granting agencies. Evidence suggests that SBA and SBIR involvement make a difference to young firms. Between 1983 and 1997 awardees of the SBIR program subsequently had substantially higher employment and sales growth compared to a matched sample of similar firms (Lerner 1999). In December, Congress passed a long-term reauthorization of the SBIR program that will increase its funding.

at credit unions, and 12.9 percentage points at other alternative lenders, such as CDFIs, microlenders, and accounts-receivable financiers.¹³

In 2009, the Obama Administration increased the amount of capital invested in financial institutions and other entities to support small-business lending. This lending evolved along two lines: investing capital directly into financial institutions that provide small business loans and adding funding to new and existing programs that provide credit support to small business loans. In terms of direct investment that strengthened small-business lending, the Administration invested more than \$11 billion in over 1,000 financial institutions, most of which were small banks but also including credit unions, Community Development Financial Institutions (CDFIs), and business loan funds. The programs that provide small-business credit support include the new State Small Business Credit Initiative (SSBCI), which is expected to channel \$15 billion in new small-business lending, as well as existing programs, such as loan-guarantee programs housed at the Small Business Administration (SBA), the Department of Agriculture, and the Export-Import Bank. Other Administration initiatives also helped small firms gain access to capital at a critical period. For example, the Financial Stability program was modified in 2009 to protect auto parts suppliers, 82 percent of which employ less than 100 workers, to ensure that they would be paid for any parts they shipped, regardless of the fate of the recipient car company. Given the integral role auto-parts manufacturers play in the manufacturing supply chain, systemic failure in this sector would have had a substantial effect on the auto industry, the manufacturing supply chain, output, and employment.¹⁴

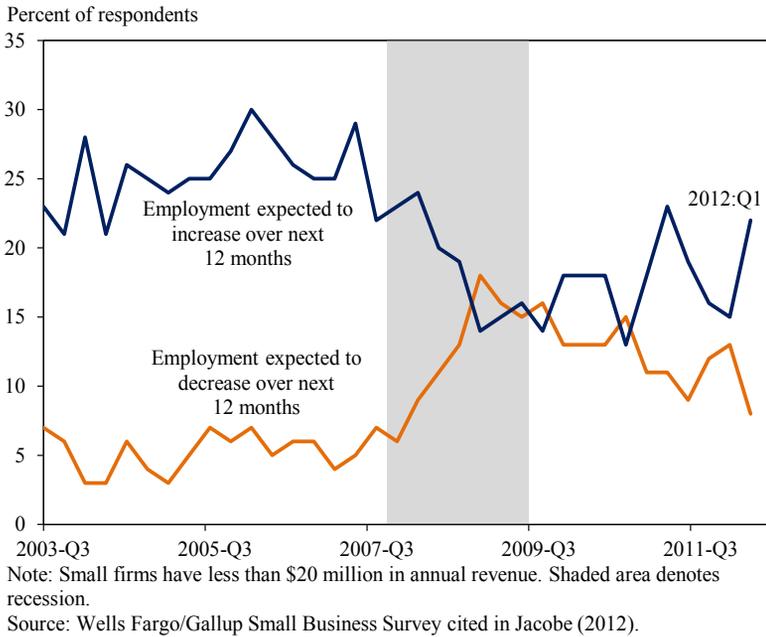
By the end of FY2011, marked increases in these capital-access programs were partly due to the introduction of two new programs administered by Treasury—the Small Business Lending Fund (SBLF) and the SSBCI—and increases in the scope of the aforementioned loan-guarantee programs. As of the beginning of January, institutions participating in the SBLF have increased lending to small businesses by roughly \$3.5 billion over their baseline, and, in Fiscal Year 2011, SBA supported over \$30 billion in loans. (Box 2-1 further describes the Administration’s efforts to address credit constraints among small businesses through the SBA’s loan-guarantee programs administered through bank finance and Startup America.)

The most recent data on the expectations of small businesses concerning financing and future job growth suggest that these efforts, along with

¹³ Small firms in the Biz2Credit sample are firms with fewer than 500 employees and under \$6 million in annual revenue. Loan-approval rates are based on a random sample of 1,000 firms in the Biz2Credit database reported each month between January 2011 and December 2011.

¹⁴ It is estimated that intervention in the auto industry broadly averted a loss of approximately 1.1 million jobs and hundreds of small businesses (White House 2010).

Figure 2-15
Employment Outlook for Small Businesses, 2003–2012



the ongoing economic recovery, are having a positive effect. Small-business owners who responded to the Wells Fargo-Gallup survey conducted from January 9 to 13, 2012, for example, report being more optimistic than at any time since July 2008. This sentiment is largely attributed to sharp increases in their expectations related to their firms’ financial situation, i.e., revenue and cash flow.¹⁵ Moreover, respondents’ hiring plans have become more optimistic than at any point since January 2008, as Figure 2-15 illustrates. In early 2012, more small businesses expected to add new employees in the next 12 months (22 percent) than expected to let them go (8 percent). This is the biggest margin by which small businesses’ expectations for increasing jobs have exceeded those for decreasing jobs since the start of the financial crisis in 2008.

THE LONG-TERM OUTLOOK

Looking ahead, the Administration projects that the economic recovery that began in 2009 will continue and gather speed (Table 2-1). In the economic forecast, which was used to estimate the FY 2013 Budget, inflation

¹⁵ The Wells Fargo-Gallup telephone survey was based on a nationally representative sample of 604 firms extracted from the Dun & Bradstreet database of firms earning \$20 million in annual revenue or less. See Jacobe (2012).

remains moderate, interest rates rise gradually, and the rate of unemployment recedes. The Administration projects real GDP growth to rise to 3 percent in 2012 and 2013 after growing 1.6 percent during the four quarters of 2011.

The Administration also expects the employment situation to continue to improve in coming years: The Administration’s unemployment rate forecast—also completed in mid-November 2011, when the latest-available reading on the unemployment rate was 9.0 percent for October, is shown in the first column of Table 2-2. The Budget forecast does not reflect the improvement in the job market since the forecast was finalized. Since that forecast was completed, the unemployment rate has fallen to 8.3 percent, beginning 2012 well below the 8.9 percent unemployment rate that had been forecast for the year as a whole. This should not be interpreted as a projection that the unemployment rate will rise: instead, it is the result of an out-of-date forecast. The second, third, and fourth columns of Table 2-2 show a range of forecasts that were completed more recently so as to illustrate a plausible range through which the unemployment rate is likely to evolve.

Table 2-1
Administration Economic Forecast

| | Nominal GDP | Real GDP (chain-type) | GDP price index (chain-type) | Consumer price index (CPI-U) | Interest rate, 91-day Treasury bills (percent) | Interest rate, 10-year Treasury notes (percent) |
|---------------|--------------------------|-----------------------|------------------------------|------------------------------|--|---|
| | Percent change, Q4-to-Q4 | | | | Level, calendar year | |
| 2010 (actual) | 4.7 | 3.1 | 1.6 | 1.2 | 0.1 | 3.2 |
| 2011 | 4.0 | 1.7 | 2.2 | 3.6 | 0.1 | 2.8 |
| 2012 | 4.6 | 3.0 | 1.6 | 1.9 | 0.1 | 2.8 |
| 2013 | 4.7 | 3.0 | 1.6 | 1.9 | 0.2 | 3.5 |
| 2014 | 5.8 | 4.0 | 1.7 | 2.0 | 1.4 | 3.9 |
| 2015 | 6.1 | 4.2 | 1.8 | 2.0 | 2.7 | 4.4 |
| 2016 | 5.8 | 3.9 | 1.8 | 2.1 | 3.8 | 4.7 |
| 2017 | 5.7 | 3.8 | 1.8 | 2.1 | 4.1 | 5.0 |
| 2018 | 4.6 | 2.8 | 1.8 | 2.1 | 4.1 | 5.1 |
| 2019 | 4.4 | 2.6 | 1.8 | 2.1 | 4.1 | 5.1 |
| 2020 | 4.3 | 2.5 | 1.8 | 2.1 | 4.1 | 5.1 |
| 2021 | 4.3 | 2.5 | 1.8 | 2.1 | 4.1 | 5.3 |
| 2022 | 4.3 | 2.5 | 1.8 | 2.1 | 4.1 | 5.3 |

Note: 2011-2022 forecasts were based on data available as of November 15, 2011, and were used for the FY 2013 Budget. The interest rate on 91-day T-bills is measured on a secondary-market discount basis.

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

Table 2-2
Alternative Labor Market Forecasts, as of February 2012

| | Unemployment rate (percent) | | | | Nonfarm payroll employment ^e (average monthly change, Q4-to-Q4, thousands) Feb-2012 |
|------|---|------------------------------|--|---|---|
| | Annual average | | | Fourth quarter | |
| | FY 2013 Budget ^a Nov-2011 | CBO ^b Dec-2011 | Blue Chip ^c low-high Feb-2012 | FOMC ^d low-high Jan-2012 | |
| 2011 | 9.0 | 9.0 | — | — | 146 |
| 2012 | 8.9 | 8.8 | 8.0 – 8.6 | 8.2 – 8.5 | 167 |
| 2013 | 8.6 | 9.1 | 7.4 – 8.4 | 7.4 – 8.1 | 220 |
| 2014 | 8.1 | 8.7 | — | 6.7 – 7.6 | 264 |
| 2015 | 7.3 | 7.4 | — | — | 284 |
| 2016 | 6.5 | 6.3 | — | — | 259 |
| 2017 | 5.8 | 5.7 | — | — | 251 |
| 2018 | 5.5 | 5.5 | — | — | 131 |
| 2019 | 5.4 | 5.5 | — | — | 101 |
| 2020 | 5.4 | 5.4 | — | — | 92 |
| 2021 | 5.4 | 5.4 | — | — | 97 |
| 2022 | 5.4 | 5.3 | — | — | 89 |

^a The Administration Budget forecast (done jointly by the Council of Economic Advisers, the Office of Management and Budget, the Department of the Treasury, and the Department of Commerce) was based on data available as of November 15, 2011.

^b The Congressional Budget Office forecast was completed in early December.

^c The Blue Chip Economic Indicators for February 2012 was based on a survey of more than 50 professional forecasters conducted on February 6-7, 2012. The high-10 and low-10 forecasts are the average of the ten highest and ten lowest forecasts.

^d The high and low end of the central tendency of the Federal Open Market Committee announced on January 25, 2012.

^e Based on data available on February 5, 2012.

Source: Aspen Publishers, Blue Chip Economic Indicators; Federal Reserve, Federal Open Market Committee.

In early February, the ten forecasters with the lowest unemployment rate forecasts on the Blue Chip panel of professional forecasters projected that the unemployment rate would average 8.0 percent in 2012 and 7.4 percent in 2013 while the highest ten projected 8.6 and 8.4 percent for those two years. Similarly, the members of the Federal Reserve's Open Market Committee projected a central-tendency band of 8.2 percent to 8.5 percent for the fourth quarter of 2012 and 7.4 to 8.1 percent for 2013. And it should be noted that the CBO and FOMC forecasts are somewhat out of date in view of the encouraging January labor market report.

The Council of Economic Advisers' forecast for the gain in payroll employment was finalized in early February, after the labor market report was released showing growth of 157,000, 203,000, and 243,000 in November, December, and January, respectively. Looking ahead, the average monthly change in payroll employment is projected to rise from 146,000 in 2011 to

about 167,000 in 2012. At this pace, two million jobs will be created during 2012, an increase from the 1.8 million created last year.

Despite shocks that slowed growth in 2011, the Administration expects an upturn in economic growth. With the economy now operating below its capacity and many resources still underutilized, we forecast that the recovery will continue to gain strength.

Growth in GDP over the Long Term

The growth rate of the economy over the long run is determined by the growth of its supply-side components, although growth rates over shorter periods can vary considerably. 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, because actual GDP tends to gravitate toward its potential in the long run. Between 2011:Q3 and 2022:Q4—the projection period for the FY 2013 Budget—potential real GDP is projected to grow at a 2.5 percent annual rate.

Table 2-3 shows the Administration’s forecast for the contribution of each supply-side factor to the growth in potential real GDP. The factors include the population, the rate of labor force participation, the employed share of the labor force, the ratio of nonfarm business employment to household employment, the workweek, labor productivity, and the ratio of real GDP to nonfarm output. Each column in Table 2-3 shows the average annual growth rate for each component 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 and to reveal long-run trends. The second column shows average growth rates between 2007:Q4 and 2011:Q3, a period that includes the 2007-09 recession and the recovery so far. The third column shows the Administration’s projection for the 11-year period from 2011:Q3 to 2022:Q4, and the fourth column shows average projected growth rates between 2007:Q4 and 2022:Q4, a blended forecast period over which the effects of the recession and recovery are offsetting.

The working-age population is projected to grow 1.0 percent a year, on average, over the projection period (line 1, column 3), the same rate of growth that is projected by the Census Bureau. Over this same period, the labor force participation rate is projected to decline 0.1 percent a year (line 2, column 3), primarily because of longstanding demographic trends. The projected moderate decline in the labor force participation rate reflects the balance of opposing influences. The entry of the baby-boom generation into its retirement years is expected to reduce the participation rate in the

Table 2-3
Components of Actual and Potential Real GDP Growth, 1952–2022

| Component | Growth rate ^a | | | |
|--|---------------------------------|----------------------------|--------------------|----------------------------------|
| | History, peak-to-peak | Recent history, since peak | Forecast | History and forecast, since peak |
| | 1953:Q2 to 2007:Q4 ^b | 2007:Q4 to 2011:Q3 | 2011:Q3 to 2022:Q4 | 2007:Q4 to 2022:Q4 |
| 1 Civilian noninstitutional population aged 16+ | 1.4 | 1.1 | 1.0 | 1.0 |
| 2 Labor force participation rate | 0.2 | -0.8 | -0.1 | -0.3 |
| 3 Employed share of the labor force | -0.0 | -1.2 | 0.4 | -0.0 |
| 4 Ratio of nonfarm business employment to household employment | 0.0 | -1.0 | 0.1 | -0.2 |
| 5 Average weekly hours (nonfarm business) | -0.3 | -0.1 | 0.0 | -0.0 |
| 6 Output per hour (productivity, nonfarm business) | 2.1 | 1.9 | 2.3 | 2.2 |
| 7 Ratio of real GDP to nonfarm business output | -0.2 | 0.2 | -0.5 | -0.3 |
| 8 Sum: Actual real GDP | 3.2 | 0.1 | 3.1 | 2.4 |
| 9 Memo: Potential real GDP | 3.2 | 2.5 | 2.5 | 2.5 |

^a All contributions are in percentage points at an annual rate.

^b 1953:Q2 and 2007:Q4 are business-cycle peaks.

Note: Population, labor force, and household employment have been adjusted for discontinuities in the population series. Nonfarm business employment, workweek, and productivity come from the Labor Productivity and Costs database maintained by the Bureau of Labor Statistics.

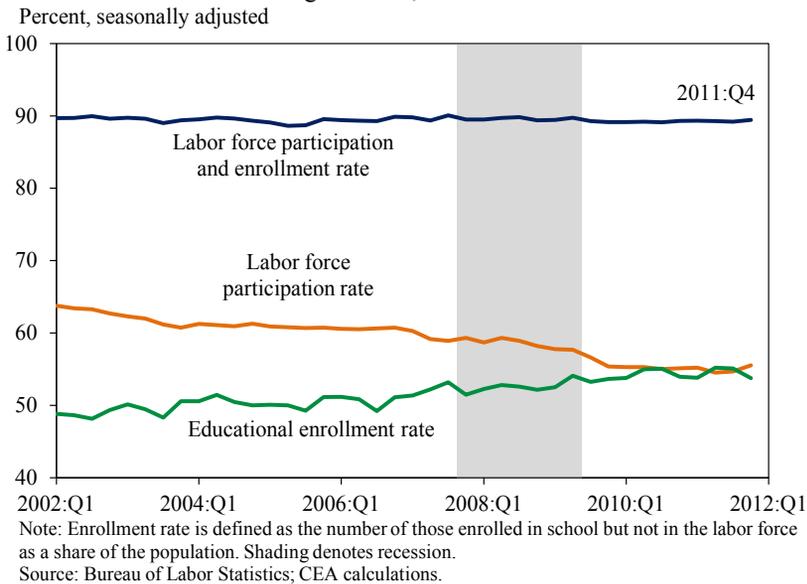
Source: Bureau of Labor Statistics, Current Population Survey, Labor Productivity and Costs; Bureau of Economic Analysis, National Income and Product Accounts; Department of the Treasury; Office of Management and Budget; CEA calculations.

coming years, but some of this reduction is projected to be offset as the labor market improves. The labor force participation rate may also receive a boost during the forecast period from the recent increase in the share of young adults enrolled in school. The share of young adults aged 16 to 24 enrolled in school rose well above its trend between January 2008 and December 2011, sufficient to account for the entire decline in the labor force participation rate for this age group over this period (Figure 2-16). As these young adults complete their education, they are expected to re-enter the labor force. Taking into account all of these effects, the labor force participation rate is projected to recede about 0.1 percent a year between now and 2022.

The employed share of the labor force—which is equal to 1 minus the unemployment rate—is expected to increase 0.4 percent per year over the next 11 years (line 3, column 3) but to be nearly unchanged, on balance, between 2007 and 2022 (line 3, column 4).¹⁶ Because of the recession, the employed share of the labor force has contributed negatively to GDP growth

¹⁶ To be precise, changes in the employment ratio reduce growth in real GDP by 0.04 percentage point per year between 2007:Q4 and 2022:Q4, because the unemployment rate in 2007:Q4 (4.8 percent) was below the level consistent with stable inflation, which is expected to remain stable at around 5.4 percent from 2007 through the end of the projection period.

Figure 2-16
 Labor Force Participation and Educational Enrollment,
 Ages 16–24, 2002–2011



during the past four years, but the contribution is projected to turn positive during the projection period.

The workweek is projected to remain roughly unchanged during the projection period (line 5, column 3) even though it has declined 0.3 percent a year, on average, over the long run (line 5, column 1). The workweek is expected to hold steady as a natural labor-market adaptation to the anticipated decline in the labor force participation rate.

Labor productivity is projected to increase 2.3 percent a year over the forecast horizon (line 6, column 3), a slight increase over the average growth rate from 1953–2007 (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. On the other hand, 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 other sectors, such as government, households, and nonprofit institutions, reflecting an accounting convention that holds productivity growth to zero for government.

Summing each of these pieces, real GDP is projected to rise at an average 3.1 percent a year over the projection period (line 8, column 3), notably faster than the 2.5 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 workers who are currently unemployed find jobs. Smoothing through the effects of the recent business cycle, real GDP is expected to rise 2.4 percent a year, on average, over the 15-year period from 2007 to 2022, just short of the growth rate of potential real GDP of 2.5 percent because the economy in 2007 is estimated to have been above its trend.

Real potential GDP is projected to rise 2.5 percent a year in 2007–2022 (line 8, column 4), more slowly than the long-term historical growth rate of 3.2 percent a year (line 8, column 1). The projected slowdown in real potential GDP growth reflects the lower projected growth rate of the working-age population and the aging of the baby-boom cohort into retirement. The effects of the financial crisis and the 2007–09 recession, in contrast, are expected to have little effect on the level of potential real GDP by the end of the projection, because the recession is not expected to permanently reduce any of the demographically-determined elements of long-term growth.

An important question addressed in the budget outlook, however, is how quickly real GDP will return to its potential level. In the Administration’s 2013 Budget forecast, the U.S. economy catches up to potential real GDP in the second half of the forecast period. The historical record supports this forecast. The full recovery of real GDP during the decade following the Great Depression suggests that the U.S. economy can recover from a severe shock to return to this underlying trend level.

CONCLUSION

The U.S. economy continued to recover in 2011 from the severe effects of the financial crisis and the deep recession that followed. The rise in real GDP since the beginning of the recovery has been roughly similar to the trend in both following the 1991 and 2001 recessions, while private payroll growth came sooner and more swiftly than in the beginning of the recovery from the 2001 recession. The housing market began to show signs of life in 2011, and is likely to have a positive effect on the economy, though from a low base.

As 2012 begins, the recovery appears most likely to proceed at a moderate pace over the coming year, with the gains in output and employment increasing in subsequent years, as credit conditions continue to ease

and confidence improves. Ensuring this outcome requires policies that both restore balance to the economy by increasing aggregate demand and guard against the types of excesses that led to the crisis in the first place. With millions of Americans still unemployed, much work remains to restore the U.S. economy to full health. Only a prolonged and robust expansion can eliminate the large jobs deficit that opened up during the recession, and the economy as a whole has considerable room to grow. The fact that private job growth has closely tracked the pattern of the early 1990s expansion is encouraging, and highlights the importance of sustaining the recovery.