CHAPTER

2

The Economic Outlook

The pace of recovery in output and employment has been slow since the recession ended in June 2009, and the economy remains in a severe slump. The Congressional Budget Office (CBO) expects that, under current laws governing federal taxes and spending, economic activity will continue to grow slowly over the next two years. As measured by the change from the fourth quarter of the previous year, real (inflation-adjusted) gross domestic product (GDP) is projected to increase by 2.0 percent this year and by 1.1 percent next year. According to CBO's estimates, slow growth in output will hold down the growth of employment, and as a result, the unemployment rate will remain above 8 percent both this year and next. The large amount of unused resources in the economy for the next two years will help to keep the rate of inflation below 2 percent, CBO expects, and interest rates on federal borrowing will stay quite low.

Although CBO projects the growth in real GDP to pick up after 2013, the agency expects that the economy's output will remain below its potential—a level that corresponds to a high rate of use of labor and capital—until the first half of 2018. Thereafter, through 2022, CBO's economic projection is based on the assumption that real GDP will grow at its potential rate because the agency does not attempt to predict the timing or magnitude of fluctuations in the business cycle so far into the future. Under that assumption, the annual unemployment rate is projected to fall to 5.3 percent by 2022, and inflation is expected to remain close to 2 percent. Interest rates in the coming years will rise, CBO projects, as the economy strengthens and approaches its potential level.

That economic forecast reflects the stance of federal fiscal policy as specified by current law. Specifically, the forecast incorporates the expiration at the end of February of the payroll tax cut and emergency unemployment benefits that were extended for two months by the Temporary Payroll Tax Cut Continuation Act of 2011 (Public Law 112-78); the expiration of tax cuts that were extended by the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (P.L. 111-312, referred to here as the 2010 tax act), as well as various other expiring tax provisions; and the constraints on spending imposed by the Budget Control Act of 2011 (P.L. 112-25). Altogether, according to CBO's forecast, federal fiscal policy under current law will restrain economic growth this year and significantly restrain growth in 2013, but the resulting reduction in budget deficits will boost output and income later in the decade.

The recovery to date has had unusual features that have been hard to predict, and the path of the economy in coming years is also likely to be surprising in various ways. Many developments, such as the evolution of banking and fiscal problems in Europe, could cause economic outcomes to differ substantially, in one direction or the other, from those CBO has projected.

CBO's current economic forecast differs in some respects from its previous one, which was issued in August, as well as from the January *Blue Chip* consensus forecast (which is based on about 50 forecasts by private-sector economists) and the consensus of January forecasts by Federal Reserve Board members and Federal Reserve Bank presidents.[1] Compared with what it forecast in August, CBO is currently projecting weaker growth of real GDP in 2012 and 2013 but slightly stronger economic growth over the remainder of the decade, leaving real GDP 1.6 percent lower in 2021 than it was in the August forecast. The current forecast also includes a higher unemployment rate and lower interest rates through 2021. CBO's current projections for the growth of real GDP in 2012 and 2013 are also weaker than those

1. For CBO's previous forecast, see Congressional Budget Office, *The Budget and Economic Outlook: An Update* (August 2011).

by the *Blue Chip* consensus and the Federal Reserve—perhaps owing to different assumptions about federal fiscal policy—and CBO's projections for the unemployment rate are higher.

The Economic Outlook Through 2017

According to CBO's forecast, the pace of economic expansion will remain quite modest over the next two years because of the lingering effects of the financial crisis and the recession as well as the path of federal fiscal policy under current law (see Table 2-1).[2] The agency expects the growth of the economy to be a little faster in 2012 than it was last year but then to slow noticeably in 2013 given the restraint from fiscal policy embodied in current law. On average, over this year and next, CBO expects solid growth in business investment in equipment and software and an upturn in residential investment but weak growth in consumer spending and only small increases in net exports. CBO expects economic activity to pick up after 2013 but real GDP to remain below the economy's potential until 2018.

A large portion of the economic and human costs of the recession and slow recovery remains ahead. In late 2011, according to CBO's estimates, the economy was about halfway through the cumulative shortfall in output that will result from the recession and its aftermath. From the first quarter of the recession through the third quarter of 2011, the cumulative difference between GDP and estimated potential GDP amounted to $2.6 trillion; by the time the nation's output rises back to its potential level, the cumulative shortfall is expected to equal $5.7 trillion (see Figure 2-1). Not only are the costs associated with the output gap immense, but they are also borne unevenly. Those costs fall disproportionately on people who lose their jobs, who are displaced from their homes, or who own businesses that fail.

2. The growth of output and, particularly, the growth of employment have been much slower during this recovery than the average for recoveries from recessions since World War II. That weakness largely reflects the nature of the recession, whose immediate causes included a large decline in house prices and a financial crisis, events unlike anything this country has seen since the Great Depression. For further discussion of the slow recovery, see the statement of Douglas W. Elmendorf, Director, Congressional Budget Office, before the Senate Committee on the Budget, *Policies for Increasing Economic Growth and Employment in 2012 and 2013* (November 15, 2011), pp. 5–10.

Fiscal Policy

Federal fiscal policy specified in current law will reduce the growth of output slightly in 2012 and significantly in 2013 through a combination of lower federal spending and higher tax receipts (as discussed in detail in Chapter 1). Economic output would be greater in the next few years under an alternative fiscal scenario reflecting a combination of possible changes to current law, including changes that would maintain major polices that have been in place for a number of years, and it would be even higher with a further extension of the temporary payroll tax cut and emergency unemployment insurance benefits.

Current Law. CBO projects that, under current law, the budget deficit will drop from 8.7 percent of GDP in 2011 to 7.0 percent in 2012 and 3.7 percent in 2013. That reduction comes in part from the expiration of various tax and spending provisions that were extended by the 2010 tax act and the Temporary Payroll Tax Cut Continuation Act, from spending limits specified in the Budget Control Act, and from the winding down of the budgetary effects of the American Recovery and Reinvestment Act of 2009 (ARRA, P.L. 111-5). Some of those sources of fiscal restraint come from the expiration of provisions that have been in effect for a number of years and that are widely expected to be extended in whole or in part:

- The 2010 tax act temporarily extended numerous tax reductions that had been slated to expire at the end of 2010 and included new provisions that are scheduled to expire at the end of this year. For example, it continued through December 2012 various tax reductions enacted in the Economic Growth and Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003, and it extended through December 2011 provisions limiting the reach of the alternative minimum tax (AMT).[3]

- The Temporary Payroll Tax Cut Continuation Act extended the current structure of physicians' fees under Medicare through February 29, 2012. Under current law, those physicians' fees will be reduced by

3. The AMT is intended to curtail the extent to which higher-income people can reduce their tax liability through the use of preferences in the tax code. If no further legislation limiting the reach of the AMT is enacted, CBO expects that the economic impact of higher taxes under the AMT will largely be delayed until 2013, when most of those additional taxes will be paid.

Table 2-1.

CBO's Economic Projections for Calendar Years 2012 to 2022

	Estimated, 2011	Forecast 2012	Forecast 2013	Projected Annual Average 2014-2017	Projected Annual Average 2018-2022
		Fourth Quarter to Fourth Quarter (Percentage change)			
Gross Domestic Product					
Real	1.6	2.0	1.1	4.1	2.5
Nominal	3.8	3.3	2.6	5.8	4.5
Inflation					
PCE price index	2.6	1.2	1.3	1.7	2.0
Core PCE price index[a]	1.8	1.2	1.4	1.6	2.0
Consumer price index[b]	3.3 [c]	1.4	1.5	1.9	2.3
Core consumer price index[a]	2.2 [c]	1.4	1.6	1.9	2.2
GDP price index	2.1	1.2	1.4	1.6	2.0
Employment Cost Index[d]	1.7	2.2	3.8	3.5	3.7
		Fourth-Quarter Level (Percent)			
Unemployment Rate	8.7 [c]	8.9	9.2	5.6 [e]	5.3 [f]
		Year to Year (Percentage change)			
Gross Domestic Product					
Real	1.7	2.2	1.0	4.0	2.5
Nominal	3.9	3.6	2.4	5.6	4.6
Inflation					
PCE price index	2.4	1.4	1.3	1.6	2.0
Core PCE price index[a]	1.4	1.4	1.3	1.6	2.0
Consumer price index[b]	3.1 [c]	1.7	1.5	1.9	2.3
Core consumer price index[a]	1.7 [c]	1.7	1.5	1.8	2.2
GDP price index	2.1	1.3	1.4	1.6	2.0
Employment Cost Index[d]	1.7	2.0	3.3	3.5	3.7
		Calendar Year Average			
Unemployment Rate (Percent)	9.0 [c]	8.8	9.1	7.0	5.4
Interest Rates (Percent)					
Three-month Treasury bills	0.1 [c]	0.1	0.1	2.0	3.7
Ten-year Treasury notes	2.8 [c]	2.3	2.5	3.8	5.0
Tax Bases (Percentage of GDP)					
Wages and salaries	44.0	44.0	43.5	44.2	45.2
Domestic economic profits	9.9	9.8	9.3	9.4	7.5

Source: Congressional Budget Office.

Notes: Economic projections for each year from 2012 to 2022 appear in Appendix E.

PCE = personal consumption expenditures; GDP = gross domestic product.

a. Excludes prices for food and energy.

b. The consumer price index for all urban consumers.

c. Actual value for 2011.

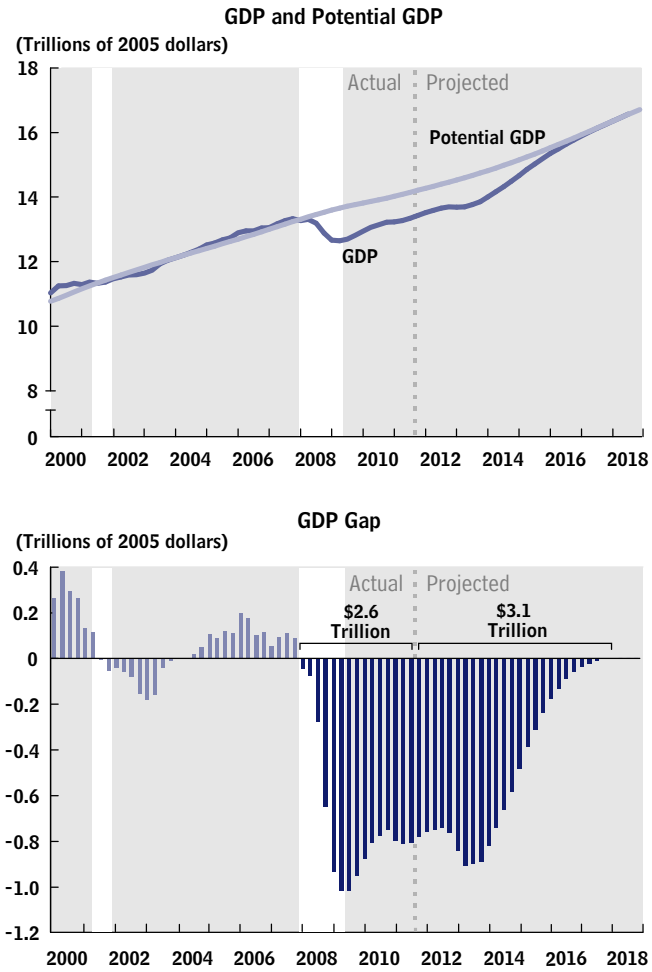
d. The employment cost index for wages and salaries of workers in private industries.

e. Value for 2017.

f. Value for 2022.

Figure 2-1.

Real Gross Domestic Product



Sources: Congressional Budget Office; Department of Commerce, Bureau of Economic Analysis.

Notes: Real gross domestic product (GDP) is the output of the economy adjusted to remove the effects of inflation.

Potential GDP is CBO's estimate of the output the economy would produce with a high rate of use of its capital and labor resources.

The GDP gap is the difference between actual GDP and potential GDP.

Data are quarterly. Actual data are plotted through the third quarter of 2011; projections are plotted through the fourth quarter of 2018.

In the bottom panel, the dark shaded bars indicate the $5.7 trillion cumulative loss of output during the recession and subsequent slump. The bars show quarterly values at an annual rate.

27 percent in March 2012 and by additional amounts in subsequent years, CBO projects.

In contrast, restraint produced by the Budget Control Act will come from implementing newly established policies. That law put in place caps on discretionary funding for fiscal years 2012 through 2021, and it introduced automatic procedures to reduce cumulative noninterest spending in fiscal years 2013 to 2021 by nearly $1 trillion, CBO estimates.

Other sources of restraint reflect the expiration of policies that have been widely viewed as temporary:

- The Temporary Payroll Tax Cut Continuation Act extended (through February 29, 2012) the reduction of payroll taxes that was originally enacted in the 2010 tax act, and it continued emergency unemployment compensation. The expiration of those provisions will decrease the deficit by about $135 billion this calendar year compared with what it would be if the provisions remained in place through 2012, CBO estimates.

- The winding down of the budgetary effects of ARRA will continue to reduce fiscal support for economic activity. CBO estimates that ARRA's direct impact on the deficit will fall from $145 billion in fiscal year 2011 to about $50 billion in 2012 and $30 billion in 2013.

In contrast with those restraining factors of fiscal policy, the government's automatic fiscal stabilizers will provide about as much support for the economy this year as last year and will provide more in 2013 (see Appendix C). Those stabilizers are the automatic responses of revenues and outlays to cyclical movements in real GDP and unemployment. For example, when GDP falls relative to potential GDP during a recession, the reduction in income causes tax liabilities (and, therefore, revenues) to decrease automatically. In addition, some outlays—for such things as unemployment insurance and federal nutrition benefits—automatically increase. Those automatic responses provide fiscal support when the economy is below its potential, and they provide fiscal restraint when the economy is above its potential.[4]

4. CBO also projects that the economic effects of continued cutbacks in spending by state and local governments to balance their budgets will be moderated by the automatic stabilizing effects of lower taxes paid to those governments because of the slack in the economy and deflated property values.

Alternative Fiscal Scenario. Future fiscal policy is likely to differ from that embodied in current law in at least some respects. To illustrate how some changes to current law would affect the economy over the next decade, CBO examined an alternative path for fiscal policy, including certain policies that have previously been extended and are widely viewed as not being temporary. That alternative fiscal scenario incorporates the assumptions that all expiring tax provisions (other than the payroll tax reduction), including those that expired at the end of December 2011, are instead extended; that the AMT is indexed for inflation after 2011 (starting at the 2011 exemption amount); that Medicare's payment rates for physicians' services are held constant at their current level; and that the automatic enforcement procedures specified by the Budget Control Act do not take effect (but the original caps on discretionary appropriations in that legislation remain in effect). Under that scenario, budget deficits as a percentage of GDP would be larger by 0.2 percent in 2012, 2.5 percent in 2013, and 4.0 percent on average over the 2014–2022 period.

Those possible changes do not represent a prediction or recommendation about future policies; they are just one combination of many possible policy changes that might be adopted. Under that set of policies, budget deficits would be significantly larger than those in CBO's baseline budget projections, and federal debt held by the public would accumulate much more rapidly (see Chapter 1).

That alternative set of policies would lead to significantly different economic outcomes than those resulting from the policies embodied in current law. In particular, under those alternative assumptions, real GDP would be higher in the first few years of the projection period than in CBO's baseline economic forecast, primarily as a result of increased aggregate demand (see Table 2-2). CBO estimates that real GDP would be greater than projected under current law by between 0.2 percent and 0.8 percent in the fourth quarter of 2012 and by between 0.5 percent and 3.7 percent in the fourth quarter of 2013. Higher GDP would result in a lower unemployment rate and somewhat higher interest rates over the next few years.

The projected impact on GDP in later years reflects two opposing forces. The lower marginal tax rates under those alternative assumptions would increase people's incentives to work and save, but the larger budget deficits would reduce (or "crowd out") private investment in productive capital. In calculating the net effect of those two forces, CBO employed a range of estimates of the impact of marginal tax rates on labor supply and the impact of deficits on investment. By the end of 2022, real GDP would be between 2.1 percent smaller and 0.2 percent larger than it would be under current law, CBO estimates, depending on the particular assumptions employed.[5] In years beyond 2022, the impact on GDP would tend to become more negative, as the projected impact of the alternative fiscal scenario on deficits, and therefore investment, rose.

That alternative set of policies would also lead to different levels of gross national product (GNP). GNP excludes foreigners' earnings on investments in the domestic economy but includes U.S. residents' earnings overseas; thus, changes in GNP are a better measure of a policy's effects on U.S. residents' income than are changes in GDP.[6] CBO estimates that the effects of the alternative fiscal scenario on GNP would be similar to its effects on GDP in 2012 and 2013. Real GNP would be greater than projected under current law by between 0.2 percent and 0.7 percent in the fourth quarter of 2012 and by between 0.5 percent and 3.5 percent in the fourth quarter of 2013. By the end of 2022, real GNP would be between 3.7 percent and 1.0 percent smaller than it would be under current law.

Monetary Policy and Interest Rates

CBO projects that interest rates will remain very low for the next several years and then will rise to more-normal levels as output approaches its potential (see Figure 2-2). That forecast reflects CBO's view that the demand for credit will be restrained and the rate of inflation will be low while the economy has so many unused productive resources and that investors will continue to seek the relative safety provided by U.S. Treasury securities while banking and fiscal problems continue in Europe.

As a consequence, in CBO's forecast, the interest rate on three-month Treasury bills remains largely unchanged

5. The additional growth in federal debt under those alternative assumptions would have other damaging effects, including increasing the risk of a fiscal crisis; see Congressional Budget Office, *Federal Debt and the Risk of a Fiscal Crisis*, Issue Brief (July 2010).

6. For a more detailed discussion, see Congressional Budget Office, *CBO's 2011 Long-Term Budget Outlook* (June 2011), pp. 27–28.

Table 2-2.

Economic Effects of Policies in CBO's Baseline and Under an Alternative Fiscal Scenario

	2012	2013	2022
	Difference Between Fourth-Quarter Level and Baseline (Percent)		
Real GDP (Percentage difference from baseline)	0.2 to 0.8	0.5 to 3.7	-2.1 to 0.2
	Fourth Quarter to Fourth Quarter (Percent)		
Growth in Real GDP			
CBO's January 2012 baseline	2.0	1.1	2.4
Alternative fiscal scenario	2.3 to 2.8	1.4 to 4.1	2.1 to 2.3
Difference (Percentage points)	0.2 to 0.8	0.3 to 2.9	-0.2 to -0.1
	Fourth-Quarter Level (Percent)		
Unemployment Rate (Fourth-quarter level, in percent)			
CBO's January 2012 baseline	8.9	9.2	5.3
Alternative fiscal scenario	8.7 to 8.8	7.4 to 8.9	5.3
Difference (Percentage points)	-0.2 to -0.1	-1.8 to -0.3	0
Interest Rate on Three-Month Treasury Bills			
CBO's January 2012 baseline	0.1	0.2	3.8
Alternative fiscal scenario	0.1 to 0.1	0.2 to 0.2	4.0 to 4.5
Difference (Percentage points)	0 to 0	0 to 0	0.3 to 0.7
Interest Rate on Ten-Year Treasury Notes			
CBO's January 2012 baseline	2.4	2.6	5.0
Alternative fiscal scenario	2.4 to 2.7	2.6 to 2.9	5.3 to 5.7
Difference (Percentage points)	0 to 0.3	0 to 0.3	0.3 to 0.7
Memorandum:			
Real GNP (Percentage difference between fourth-quarter level and baseline)[a]	0.2 to 0.7	0.5 to 3.5	-3.7 to -1.0

Source: Congressional Budget Office.

Notes: The alternative fiscal scenario incorporates the assumptions that all expiring tax provisions (other than the payroll tax reduction), including those that expired at the end of December 2011, are instead extended; that the alternative minimum tax is indexed for inflation after 2011 (starting at the 2011 exemption amount); that Medicare's payment rates for physicians' services are held constant at their current level; and that the automatic enforcement procedures specified by the Budget Control Act of 2011 do not take effect.

Ranges of estimated effects are shown for the alternative fiscal scenario to reflect the uncertainty that exists about many of the economic relationships that are important in the models used to calculate those effects.

GDP = gross domestic product; GNP = gross national product.

a. Changes in GNP exclude foreigners' earnings on investments in the domestic economy but include U.S. residents' earnings overseas and are therefore a better measure of the effects on U.S. residents' income than are changes in gross domestic product.

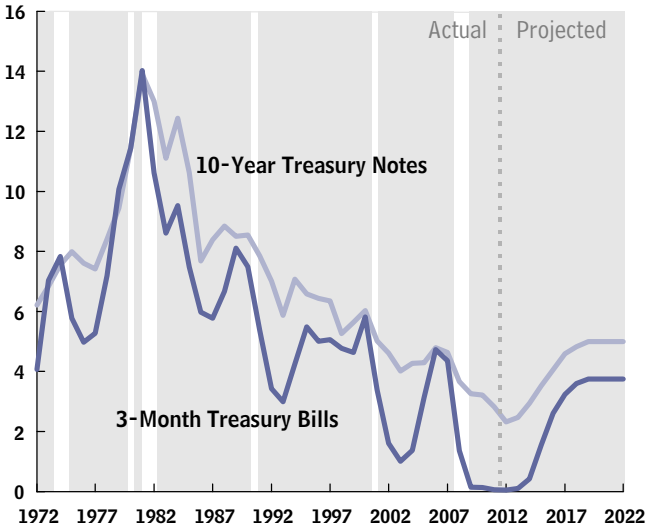
through 2013 from its average value in 2011. That forecast is consistent with the Federal Reserve's announced intention—at the time the forecast was completed in early December—to keep its target for the federal funds rate (an interest rate on overnight lending among banks that the Federal Reserve adjusts to conduct monetary policy) exceptionally low at least through mid-2013.[7] It is also consistent with the projected path of short-term rates implied by financial markets when CBO completed its forecast.

7. On January 25, 2012, the Federal Reserve announced that it expects economic conditions to warrant exceptionally low levels for the federal funds rate at least through late 2014; see www.federalreserve.gov/newsevents/press/monetary/20120125a.htm.

Figure 2-2.

Interest Rates

(Percent)



Sources: Congressional Budget Office; Federal Reserve.

Note: Data are annual. Actual data are plotted through 2011; projections are plotted through 2022.

Similarly, CBO expects the interest rate on 10-year Treasury notes to remain very low for the next two years and then to rise through 2018. The rates that CBO projects for 2012 and 2013 are lower than the average rate in 2011 because the rate fell sharply over the course of the year amid growing unease about economic and financial conditions in Europe and the potential for weaker economic activity in the United States. In CBO's forecast, the rate remains low for the next two years owing to the fiscal restraint that will occur under current law and a modest pace of economic expansion. As the pace of expansion picks up, CBO expects the rate for 10-year Treasury notes to rise steadily. That path for the note rate over the next few years is generally consistent with the path implied by prices in financial markets in early December.

The Household Sector

CBO's forecast for the household sector in the next few years includes weak growth in consumer spending and an upturn in residential investment—reflecting moderate growth in disposable personal income, slowly improving household net worth and consumer confidence, and more favorable conditions for borrowing by consumers. In particular, CBO expects consumer spending to grow by 2 percent in 2012 but to slow considerably in the first half of 2013—as tax cuts expire and the automatic spending cuts specified by the Budget Control Act take effect under current law—before picking up noticeably thereafter. CBO also expects spending on residential construction to accelerate in both 2012 and 2013. However, it will take several years for the economy to absorb the large existing stock of vacant homes and bring the construction of new housing units back to levels consistent with population growth and the demand for replacement units.

Income, Net Worth, and Confidence. According to CBO's projections, real disposable (after-tax) personal income will grow by more than 3 percent this year (as measured by the change from the fourth quarter of last year), after falling slightly in 2011—reflecting a lower rate of inflation in consumer prices and faster growth in wages and salaries. In 2013, real disposable income will decline as a result of the fiscal restraint under current law but will rebound in 2014.

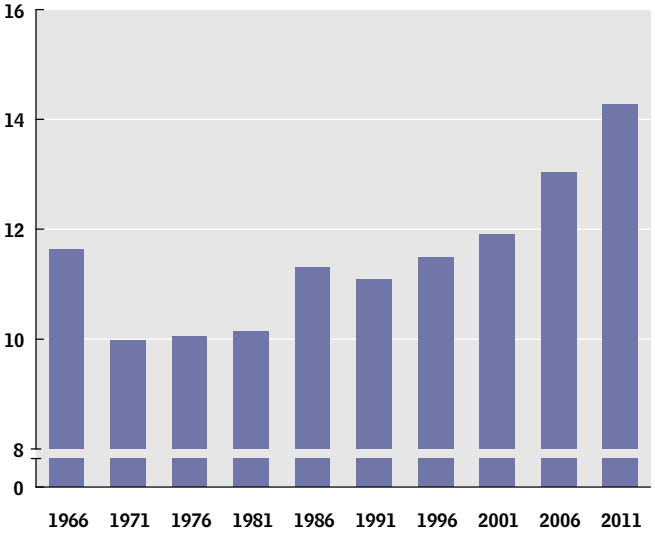
Improvement in households' net worth (assets minus liabilities) relative to disposable personal income has been modest in the past two years and is likely to remain so over the next two years. CBO projects that the value of households' assets will grow slowly, with small gains in house prices and in the value of corporate shares. On the liability side, the total amount of home mortgages has fallen by $730 billion since its peak in 2008, from $10.6 trillion to $9.9 trillion. The value of households' liabilities is likely to continue to decline slightly for some time, as mortgage defaults continue at still high, though declining, rates, and as households pay down existing debt and avoid new debt, a process commonly known as deleveraging. Borrowing by households also will be limited by standards and terms for borrowing that are tighter than they were before the financial crisis, as discussed below.

The economic impact of the decline in the total amount of home mortgages is uncertain. Defaults generally reduce housing-related costs for the households involved, which may boost their spending on other goods and services, but that increase in spending is offset to some degree by a decline in spending by the investors holding those mortgages. In addition, to the extent that the decline in mortgage balances reflects, at least in part, an ongoing desire among households to reduce their liabilities—independent of the value of their assets—saving would continue to be boosted and spending dampened.

Figure 2-3.

Vacant Housing Units

(Percentage of total units)



Sources: Congressional Budget Office; Department of Commerce, Census Bureau.

Notes: Housing units comprise occupied units and vacant units, including units intended for year-round use and seasonal units.

Data are annual. The value for 2011 equals the average for the first three quarters of that year.

Consumer confidence will improve further, CBO expects, as the economy continues to expand over the next few years. Confidence often reflects movements in such factors as employment and households' net worth, but it can also exert its own influence on consumer spending and households' willingness to incur debt—and many analysts believe the weak level of confidence has slowed the economic recovery. Consumer confidence fell sharply during much of last year, but rebounded substantially near the year's end. Its continued improvement will probably support consumer spending going forward.

Credit Conditions. CBO expects that lenders will continue to ease their standards and terms on loans to consumers over the next few years. According to the Federal Reserve's survey of senior loan officers at commercial banks, banks eased their lending standards and loan terms for consumers in 2011.[8] Nevertheless, banks are likely to remain more cautious in their lending than they were before the financial crisis—in part because the losses they are experiencing on mortgage and consumer loans made in earlier years are still exceptionally high.

The market for home mortgages remains impaired, with the great majority of new loans provided with support from the federal government, but CBO expects the private market to improve over the next few years.[9] Loans carrying government guarantees accounted for 88 percent of the mortgages issued in the first nine months of 2011, down slightly from 94 percent in 2009. Interest rates on such mortgages with 30-year maturities were near historic lows of around 4 percent in the second half of 2011. CBO expects those rates to remain unusually low for the next several years. Still, lending standards remain strict compared with those during the housing boom, and borrowers with credit histories that are less than stellar or who owe more than their homes are worth continue to have trouble obtaining new credit or refinancing.

Moreover, private securitization—the process used by banks to convert pools of loans that do not carry a federal guarantee into marketable mortgage-backed securities—which flourished before the financial crisis, has yet to revive. CBO expects banks to slowly begin to issue increasing numbers of those mortgage-backed securities as the economy continues to expand.

The Housing Market. According to CBO's projections, construction of new homes will remain restrained in the next few years, in part because an unusually large share of housing units remains vacant (see Figure 2-3). Even in normal market conditions, the number of vacant homes is substantial, but currently the number far exceeds what would be expected under those conditions. Indeed, CBO estimates that there were roughly 2.1 million excess vacant housing units, or 1.6 percent of the total stock, in the third quarter of 2011. In the agency's projections, excess vacant units are gradually eliminated over the next two years, largely because of a rebound in household formation combined with subdued rates of new construction. That boost in household formation, which fell markedly during the recession and has remained low, is expected to occur as economic activity strengthens, the unemployment rate falls, credit conditions for

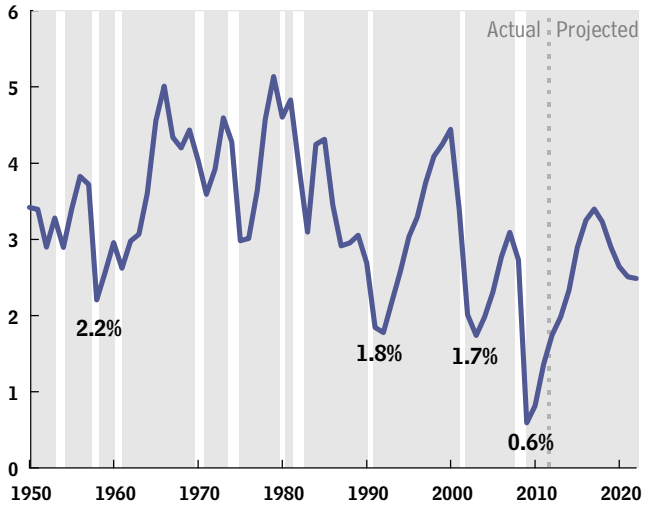
8. Board of Governors of the Federal Reserve System, *The October 2011 Senior Loan Officer Opinion Survey on Bank Lending Practices* (November 7, 2011), www.federalreserve.gov/boarddocs/snLoanSurvey/201111/default.htm.

9. The federal government supports mortgage financing by guaranteeing loans through Fannie Mae, Freddie Mac, and agencies such as the Federal Housing Administration for borrowers who meet those organizations' qualifications.

Figure 2-4.

Net Business Fixed Investment

(Percentage of gross domestic product)



Sources: Congressional Budget Office; Department of Commerce, Bureau of Economic Analysis.

Notes: Business fixed investment consists of businesses' spending on nonresidential structures, equipment, and software. It is shown here net of depreciation.

Data are annual. Actual data are plotted through 2010, and the value for 2011 is CBO's estimate; projections are plotted through 2022.

mortgages improve, and confidence returns.[10] Gradually, as excess vacant units are absorbed, housing construction will recover.

House prices are nearing the end of their decline, in CBO's estimation, but a sustained increase will probably not begin until the second half of this year, when the agency expects there to be fewer foreclosures and distressed sales. Nevertheless, the growth of house prices will be dampened by the continuing excess of vacant units. As measured by the Federal Housing Finance Agency's price index for home purchases, house prices will grow on average by 1.1 percent this year and next, CBO projects, but will not be back to their prerecession peak until 2018.

10. The decrease in household formation has dampened not only homebuilding but also consumer spending, because the formation of a new household is usually accompanied by spending on furniture, appliances, and other goods and services.

The Business Sector

CBO projects that real business investment will grow by an average of about 6 percent per year (as measured from fourth quarter to fourth quarter) over the next two years and at an even faster pace for a few years thereafter. Although business investment makes up only about one-tenth of GDP, it will continue to account for a large share of the growth of real GDP in the next few years, as it did in 2010 and 2011. Such growth will be concentrated in fixed investment, meaning investment in structures, equipment, and software; in contrast, investment in inventories (the other component of business investment), which provided the most support for the growth of output early in the recovery, will probably provide less support this year and next year now that firms have rebuilt their stocks to more-normal levels.

A key reason why fixed investment by businesses is projected to grow substantially, especially after 2013, is that net fixed investment (gross fixed investment minus depreciation) currently remains low relative to GDP (see Figure 2-4). During the recession, net fixed investment by businesses fell sharply as a share of GDP when the costs of financing investment rose and the demand for goods and services fell. Businesses had little need to expand their productive capacity when so much of their existing capacity was idle and commercial real estate was vacant. By 2009, net fixed investment as a share of GDP was at its lowest level in more than half a century. Since then, that share has risen as businesses have responded to some recovery in the demand for goods and services, and CBO expects that trend to continue over the next two years. When the growth of economic activity picks up after 2013, investment will continue to grow faster than GDP as businesses make up for the investment they postponed during the recession.

Given the improvements in demand for goods and services and the cost of capital, business investment might have been expected to grow even more rapidly in 2011 than it did. It may be that many firms have been unusually uncertain about the prospects for demand for their products, their access to credit, and government policy. As one sign of that uncertainty, corporations have built up large holdings of cash and bank deposits. But, CBO projects, as economic activity continues to improve and those uncertainties are resolved, businesses will feel more confident about the future and increase their investment in structures, equipment, and software.

Figure 2-5.

Economic Growth in the United States and Among Its Leading Trading Partners

(Percentage change from same quarter of previous year)

Sources: Congressional Budget Office; Department of Commerce, Bureau of Economic Analysis; Consensus Forecasts.

Notes: Growth among the leading trading partners is calculated using a weighted average of the rates of growth of their gross domestic products. The weights are their shares of U.S. exports, and the trading partners are Australia, Brazil, Canada, China, the euro zone, Hong Kong, Japan, Korea, Mexico, Singapore, Switzerland, Taiwan, and the United Kingdom.

Data are quarterly. The last actual data are for the third quarter of 2011 for the United States but vary for other countries; projections are plotted through the fourth quarter of 2022.

Improved conditions in lending markets will provide further support for business investment. According to the Federal Reserve's survey of senior loan officers, banks continued to ease their lending standards and loan terms for medium-sized and large firms in 2011.[11] Even if those standards and terms remain tighter for some time than they were before the recession, borrowing by larger firms should not be hindered because they generally have direct access to financial markets, where interest rates on corporate securities have fallen to levels last seen almost 50 years ago.

Although banks' lending to small businesses has increased since mid-2009, it is still far below its prerecession level. The extent to which that situation results from constraints on the supply of loans versus lower demand for loans is hard to quantify. On the supply side, bank loans have recently become easier for owners of small businesses to obtain, but they remain less available than before the financial crisis because of strains on banks' capital and a tightening of underwriting criteria that have been only partly reversed. On the demand side, according to responses from a recent survey, owners of small businesses are limiting their borrowing because of poor sales rather than constraints on their ability to borrow.[12]

International Trade

CBO expects that an increase in real net exports will make a small contribution to the growth of real GDP this year and next, on average. A primary reason for that projection is that average growth among the nation's leading trading partners will probably be stronger than that in the United States over the period, driven largely by growth in emerging economies (see Figure 2-5). Another reason is that, on average over the next two years, CBO expects the exchange value of the dollar will remain below what it averaged in 2009 and 2010, despite its recent increase partly in response to the banking and fiscal problems in Europe.

CBO expects a shallow recession in the euro zone (comprising the 17 members of the European Union that use the euro as their currency) to slow the average growth among the advanced economies. A consensus of private forecasters expects the average growth in the European Union to slow from an already weak 1.6 percent in 2011 to zero this year, mainly reflecting a sharp downgrade of the forecasters' projections of growth in the euro zone.[13] Economic growth in the United Kingdom, France, and Germany is expected to be below 1 percent, while the countries most affected by Europe's banking and fiscal problems—Greece, Italy, Portugal, and Spain—are expected to be in recession. The sharp downgrade in the outlook for the euro zone reflects at least

11. Board of Governors of the Federal Reserve System, *The October 2011 Senior Loan Officer Opinion Survey.*

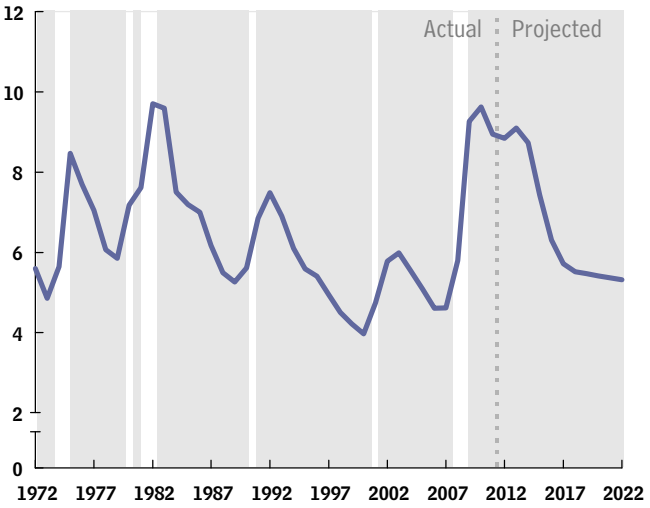
12. Participants in the survey ranked credit close to the bottom of a 10-item list. See William C. Dunkelberg and Holly Wade, *NFIB Small Business Economic Trends* (National Federation of Independent Business Research Foundation, January 2012), www.nfib.com/Portals/0/PDF/sbet/sbet201201.pdf.

13. Consensus Economics, *Consensus Forecasts* (January 2012).

Figure 2-6.

Unemployment Rate

(Percent)



Sources: Congressional Budget Office; Department of Labor, Bureau of Labor Statistics.

Notes: The unemployment rate is a measure of the number of jobless people who are available for work and are actively seeking jobs, expressed as a percentage of the labor force.

Data are annual. Actual data are plotted through 2011; projections are plotted through 2022.

three factors: investors' concerns about mounting government debt, government austerity programs aimed at slowing the growth of that debt, and a sharp curtailing of lending by European banks to reduce their exposure to risk.

The outlook is brighter for emerging economies, particularly those in Asia. A consensus forecast has the economies of that area expanding at a robust rate of 6.7 percent in 2012, just a bit slower than the 7.2 percent growth during 2011.[14] Continued growth in spending by the domestic sectors of those economies and in trade among them is expected to offset much of the reduction in growth from weaker exports to the advanced economies.

CBO projects that the exchange value of the dollar (weighted to account for trading partners' shares of U.S. trade) will decline at a moderate pace, on average, over the next 10 years. That value fell for most of the past decade, as international investors became less willing to add to their increasingly large holdings of U.S. dollar assets. However, the value of the dollar turned sharply upward during the global financial crisis, when international investors purchased large amounts of U.S. Treasury securities to reduce their exposure to volatile or steadily falling prices of other assets. The value of the dollar resumed its decline, as the worst of the financial crisis passed, but has strengthened again since last July, as concerns have escalated about the banking and fiscal problems in Europe. In CBO's forecast, the dollar returns to its downward trend when the European problems fade in the next few years.

The Labor Market

Although conditions in the labor market have improved somewhat in recent months, considerable slack remains, largely as a consequence of the continued weakness in the demand for goods and services. In CBO's forecast, the unemployment rate in 2012 and 2013 remains largely unchanged from its value last year.[15] However, in the forecast, as growth picks up after 2013, the unemployment rate falls to 6.9 percent by the end of 2015 and 5.6 percent by the end of 2017 (see Figure 2-6). According to the agency's projections, the growth of wages and salaries will remain modest through 2017, and—owing largely to demographic factors—the rate of participation in the labor force will fall by about 1 percentage point by 2017.[16]

Cyclical and Structural Unemployment. In CBO's view, most of the 3.5 percentage-point rise in the unemployment rate since the onset of the recession can be directly attributed to a cyclical decline in the demand for goods and services, and hence for workers.[17] However, CBO estimates that part of that rise—roughly 1 percentage point—reflects structural factors associated with the recession but not directly linked to the current level of aggregate demand. Those structural factors include a mismatch between the requirements of existing job openings

14. Consensus Economics, *Asia Pacific Consensus Forecasts* (January 2012).

15. Other measures also show a great deal of weakness in the labor market; see the statement of Douglas W. Elmendorf, *Policies for Increasing Economic Growth and Employment*, pp. 12–13.

16. The rate of participation in the labor force is the share of the civilian noninstitutionalized population age 16 or older that is either working or actively seeking work.

17. The unemployment rate was 8.5 percent in December 2011, up from 5.0 percent at the end of the previous economic expansion in December 2007. The recession pushed the unemployment rate to a high of 10.0 percent in October 2009.

and the characteristics of job seekers, including their skills and locations; the lasting effect of long-term unemployment on individual workers' ability to find and hold a job; and the effect of extended unemployment insurance benefits on incentives to continue searching for work (as opposed to either accepting a job offer or dropping out of the labor force).[18] Although quantifying the relative importance of these factors is quite difficult, CBO estimates that in late 2011 the rate of unemployment attributable to sources other than the current level of demand for goods and services—the so-called natural rate of unemployment—was about 6 percent, up from about 5 percent before the recession. In CBO's projections, most of the effect of those structural factors on the unemployment rate fades by 2022.

Roughly half of the 1 percentage-point rise in unemployment that CBO attributes to structural factors reflects mismatches between the skills and locations of available unemployed workers and the needs of employers, CBO estimates. One important source of such mismatches is the decline in demand for construction workers that followed the collapse of the housing market. The effect of mismatches on the unemployment rate is projected to diminish gradually over the next five years—as people acquire new skills and, in some cases, relocate to faster-growing regions and as some older workers who lost their jobs during the recession leave the labor force.

About a quarter of the 1 percentage-point increase due to structural factors can be attributed to the effects that extended unemployment insurance benefits have had on the supply of labor. Such benefits induced some unemployed people to search for work less intensively or to reject unsatisfactory job offers. The benefits also encouraged some unemployed people who would otherwise have stopped looking for a job and dropped out of the labor force to stay in it to remain eligible for benefits.[19] If extended unemployment insurance benefits expire on February 29, as scheduled under current law, those effects will dissipate by the summer of 2012.

The remaining roughly one-quarter of a percentage point reflects the difficulties that the long-term unemployed (people who have gone without a job for at least six months) face in finding work. Such workers may encounter difficulties resulting from the stigma attached to long-term unemployment—that is, employers' perception that the long-term unemployed would be low-quality workers—and from the erosion of their skills while they are unemployed. As a result, some workers who have been unemployed for a long time, especially those displaced from a long-tenured job, are likely to have trouble landing another stable job. Consequently, they could remain unemployed for an extended period; moreover, even after they are reemployed, many will remain more vulnerable than before to additional future spells of unemployment.[20] As a factor boosting unemployment, such difficulties for the long-term unemployed will, in CBO's view, increase in importance over the next two years (as some people who are currently out of work stay out of work longer) and then persist for several more years, before gradually diminishing but not completely disappearing by 2022.

Participation in the Labor Force. The unemployment rate would be even higher than it is now had participation in the labor force not declined as much as it has over the past few years. The rate of participation in the labor force fell from 66 percent in 2007 to an average of 64 percent in the second half of 2011, an unusually large decline over so short a time. About a third of that decline reflects factors other than the downturn, such as the aging of the baby-boom generation. But even with those factors removed, the estimated decline in that rate during the past four years is larger than has been typical of past downturns, even after accounting for the greater severity of this downturn. Had that portion of the decline in the labor force participation rate since 2007 that is attributable to neither the aging of the baby boomers nor the downturn in the business cycle (on the basis of the experience in previous downturns) not occurred, the unemployment rate in the fourth quarter of 2011 would

18. For further details, see the discussion of structural unemployment in Congressional Budget Office, *The Budget and Economic Outlook: An Update* (August 2011), pp. 46–47.

19. At the same time, by increasing recipients' spending and thus the demand for goods and services in the economy as a whole, those benefits on net have boosted employment, in CBO's estimation. For a fuller discussion of the effects that extended unemployment insurance benefits have had on the labor market, see the statement of Douglas W. Elmendorf, *Policies for Increasing Economic Growth and Employment in 2012 and 2013*, pp. 26–27.

20. For a broader discussion of the costs of job loss, see Congressional Budget Office, *Losing a Job During a Recession,* Issue Brief (April 2010).

have been about 1¼ percentage points higher than the actual rate of 8.7 percent.[21]

By CBO's estimates, the rate of labor force participation will fall to slightly above 63 percent by 2017. The dampening effects of the increase in tax rates in 2013 scheduled under current law and additional retirements by baby boomers are projected to more than offset the strengthening effects of growing demand for labor as the economy recovers further.[22]

Labor Compensation. The weak demand for labor has restrained and will probably continue to restrain the growth of labor compensation over the next few years. Real income from wages and salaries in late 2011 remained more than 4 percent below its prerecession level and was little changed from early in the year. That pattern largely reflects the sharp decline and subdued recovery in employment, along with stagnant real average hourly wages over the past several years. (The modest growth in real compensation during 2011 also reflects a higher rate of inflation in consumer prices.) In CBO's forecast, wage and salary income grows in real terms at an average rate of 3.6 percent a year between 2012 and 2017, reflecting the projected growth of employment (which picks up considerably after 2013) and an average increase of about 1¾ percent per year in real hourly wages.

Inflation

CBO projects that prices will rise at a subdued pace over the next few years. The rate of consumer price inflation slowed significantly in the second half of 2011, after temporary factors boosted it earlier in the year. According to the agency's projections, the price index for personal consumption expenditures (PCE) will increase by 1.2 percent in 2012 (as measured by the change from the fourth quarter of the previous year) and by 1.3 percent in 2013 (see Figure 2-7). The core PCE price index—which excludes prices for food and energy—is projected to increase by a similar amount because prices in futures markets for crude oil and agricultural commodities suggest that inflation in food and energy prices will be modest. The consumer price index for all urban consumers (CPI-U) and its core version are expected to increase a little more rapidly than their PCE counterparts (reflecting both different methods used to calculate that index and a larger role for housing rents in that index).

Underlying CBO's projections for inflation is the large amount of excess productive capacity (underused labor and capital resources and vacant housing) that exists in the economy. In particular, the high rate of unemployment has constrained workers' ability to obtain increases in their wages and salaries, an important cost of business. In the third quarter of 2011, unit labor costs (wages and benefits per unit of output) in the nonfarm business sector were about 2 percent lower than in the same quarter three years earlier. With the unemployment rate anticipated to remain high, CBO expects wage growth to remain subdued for the next several years, thus restraining pressure on firms to raise prices. In addition, the manufacturing sector was using about 75 percent of its capacity in late 2011, up from a low of 64 percent in mid-2009 but still below the prerecession figure of about 79 percent. Such a low rate of capacity utilization indicates that production shortages are unlikely to emerge in the near term and push prices up.

CBO expects the inflation rate to slowly rise toward 2 percent, as measured by the PCE price index, after 2013. That projection is consistent with the Federal Reserve's longer-run goal for inflation in that index of 2 percent.

Some analysts have expressed concern that the large amount of excess bank reserves created by the Federal Reserve's extraordinary purchases of assets during the financial crisis will push inflation above 2 percent. Because those reserves are in excess of the amount of reserves that banks need to hold for regulatory and other reasons, banks can lend out those reserves when loan demand picks up. The main worry appears to be that the Federal Reserve may be too slow to draw down those reserves, leading to excessive borrowing and spending by consumers and firms. In particular, some analysts fear that the central bank may be unwilling to risk retarding economic growth and destabilizing financial markets by selling its assets quickly. However, even if the Federal Reserve is reluctant to sell assets when economic growth picks up, it has several other policy tools for restraining borrowing, such as raising the federal funds rate and raising the interest rate paid on excess reserves.

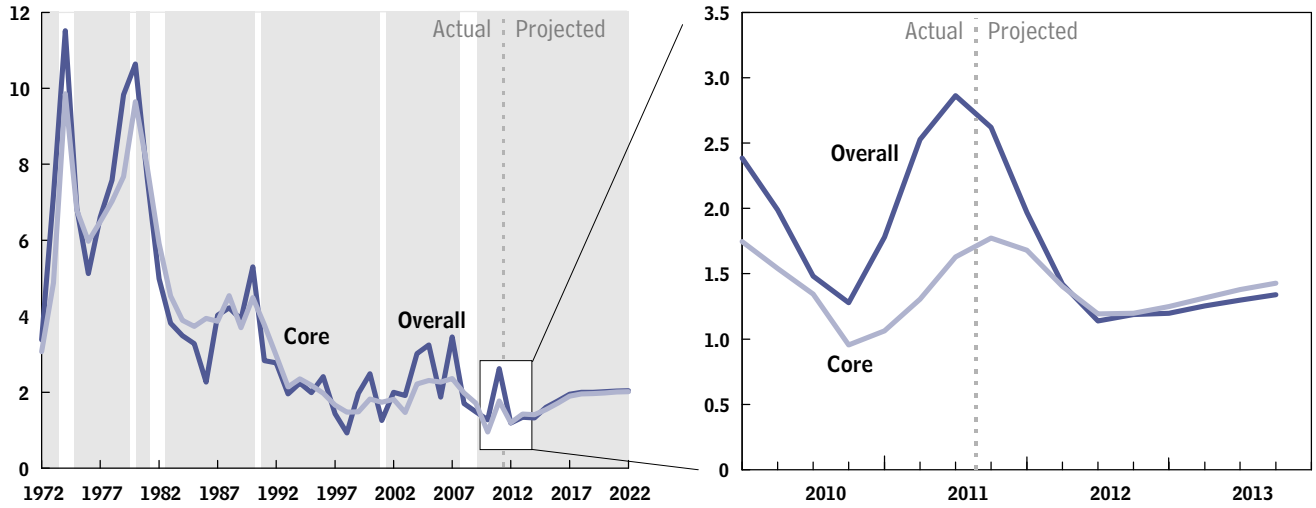
21. That calculation assumes that the unexplained shortfall in labor force participation had no effect on total employment.

22. See Congressional Budget Office, *CBO's Labor Force Projections Through 2021*, Background Paper (March 2011).

Figure 2-7.

Inflation

(Percentage change in prices from previous year)



Sources: Congressional Budget Office; Department of Commerce, Bureau of Economic Analysis.

Notes: The overall inflation rate is based on the price index for personal consumption expenditures; the core rate excludes prices for food and energy.

The left-hand panel shows annual data, as measured by the change from the fourth quarter of the previous year. Actual data are plotted through 2010, and the value for 2011 is CBO's estimate; projections are plotted through 2022.

The right-hand panel shows quarterly data, as measured by the change from the same quarter of the previous year. Actual data are plotted through the third quarter of 2011; projections are plotted through the fourth quarter of 2013.

Some Uncertainties in the Economic Outlook Through 2017

Economic forecasts are always subject to a considerable degree of uncertainty, but the uncertainty surrounding CBO's current forecast through 2017 is especially great because the present business cycle has been unusual in a variety of ways. Following the agency's usual practice, CBO constructed its current forecast to lie in the middle of the distribution of possible future outcomes for the economy, assuming the fiscal policy embodied in current law. Actual outcomes will undoubtedly differ from CBO's forecast in at least some respects.

On the upside, the economy could grow considerably faster than CBO has forecast if the forces that have restrained the recovery fade more rapidly than the agency anticipates. A faster pace of household formation, combined with a rapid easing of borrowing constraints in mortgage markets, for example, could support stronger residential investment, accelerating the recovery in the housing market and a return to rising house prices. Households' increased wealth could then buttress consumer spending. Those conditions could, in turn, speed up the growth of employment and boost businesses' spending on structures, equipment, and software, potentially leading to a self-reinforcing cycle of increased spending, hiring, and income.

Another possible catalyst for increased spending and economic growth would be unexpectedly rapid improvement in businesses' confidence. That situation could quicken the pace of business investment and hiring, especially because many corporations have large cash reserves on hand. Those conditions could then increase wages and consumer spending, encouraging businesses to undertake further spending and hiring.

However, outcomes that are considerably worse than CBO's forecast are also possible. A significant worsening of the banking and fiscal problems in Europe, for example, could lead to further turmoil in international financial markets that could spill over to U.S. financial markets—reducing wealth, severely constraining the

availability of credit, reducing hiring, and causing higher unemployment. Those conditions could trigger a self-reinforcing downward spiral, weakening the growth of households' income and diminishing consumers' and businesses' confidence and, in turn, lessening spending by households and businesses and therefore the need for workers.

Other events could also lead to outcomes worse than CBO projects. A surge in oil prices or drop in households' wealth could decrease the demand for goods and services. Those conditions could discourage businesses from investing and hiring, possibly triggering another downward spiral of lower spending, confidence, and employment.

The Economic Outlook for 2018 to 2022

The outlook for real GDP after 2017, when GDP is projected to equal its potential level, is based not on estimates of cyclical movements in the economy but on projections of trends in the factors that underlie potential output, namely, the size of the labor force, the stock of productive capital, and the productivity of those factors. Those projections take into account the predicted effects that the slow economic recovery will have on investment in productive capital and that current-law fiscal policy will have on the labor supply and capital investment. They also incorporate the expectation that the Federal Reserve will aim to keep inflation low and stable.

In CBO's projections, the growth of real GDP averages 2.5 percent a year between 2018 and 2022, and the unemployment rate averages 5.4 percent—a level consistent with CBO's estimate of the natural rate of unemployment, which declines from 5.5 percent to 5.3 percent during that period. Both inflation and core inflation as measured by the PCE price index average 2.0 percent over that five-year period; inflation as measured by the CPI-U is slightly higher. The interest rates on 3-month Treasury bills and 10-year Treasury notes average 3.7 percent and 5.0 percent, respectively, during those years. By the end of the projection period, labor income as a share of gross domestic income (GDI, or the total income earned in the production of gross domestic product in the United States) approaches, but remains below, its long-run historical average. In addition, domestic economic profits (corporations' domestic profits adjusted to remove distortions in depreciation allowances caused by tax rules and to exclude the effect of inflation on the value of inventories) as a share of GDI decline to a level below their historical average.

Potential Output

Potential output will grow at an average annual rate of 2.3 percent during the 2012–2022 period as a whole and by 2.5 percent for years between 2018 and 2022, CBO projects (see Table 2-3). Those rates are substantially lower than the average rate since 1950—3.3 percent—largely because, according to the agency's projections, the growth of the potential labor force (the labor force adjusted for variations caused by the business cycle) will continue to decline during the next 10 years. In addition, CBO expects the growth of capital services (the flow of services available for production from the stock of capital goods) and the growth of productivity to be slightly slower over the next decade than they have been, on average, since 1950.

In CBO's projections, growth of the potential labor force averages 0.7 percent annually during the 2012–2022 period, about half of the average growth rate since 1950 and a little below the average rate since 2002. The tempered pace in the coming decade stems from a projected further decline in participation in the labor force resulting primarily from the aging of the baby-boom generation. Policy changes incorporated in current law are also expected to slow the growth of the labor supply in the next 10 years. Those changes—which include the expiration of various tax cuts in 2012 and 2013—will raise marginal tax rates on personal income above those of the past decade and thus will modestly reduce people's incentive to work. In addition, the major health care legislation enacted in 2010 is anticipated to reduce the supply of labor slightly in the latter part of the decade.[23]

Capital services are projected to grow at an average rate of 3.6 percent a year in the 2012–2022 period—0.3 percentage points lower than the average rate since 1950 but more than a percentage point higher than the average rate from 2002 to 2011. Two major factors account for the lower projected growth in capital services relative to the long-term average. First, projected increases in federal debt are likely to displace some private capital investment. Second, the slower-than-average growth rate

23. For details about the effects of that legislation on the labor market, see Congressional Budget Office, *The Budget and Economic Outlook: An Update* (August 2010), Box 2-1, pp. 48–49.

Table 2-3.

Key Assumptions in CBO's Projection of Potential GDP

(By calendar year, in percent)

	Average Annual Growth						Projected Average Annual Growth		
	1950-1973	1974-1981	1982-1990	1991-2001	2002-2011	Total, 1950-2011	2012-2017	2018-2022	Total, 2012-2022
Overall Economy									
Potential GDP	3.9	3.2	3.1	3.2	2.3	3.3	2.2	2.5	2.3
Potential Labor Force	1.6	2.5	1.6	1.2	0.8	1.5	0.7	0.7	0.7
Potential Labor Productivity[a]	2.3	0.7	1.5	1.9	1.4	1.8	1.5	1.8	1.7
Nonfarm Business Sector									
Potential GDP	4.0	3.5	3.2	3.5	2.5	3.5	2.7	2.9	2.8
Potential Hours Worked	1.4	2.3	1.6	1.2	0.5	1.3	0.6	0.7	0.7
Capital Services	3.8	4.3	4.1	4.7	2.4	3.9	3.4	3.8	3.6
Potential TFP	1.9	0.7	0.8	1.3	1.4	1.4	1.2	1.3	1.2
Potential TFP excluding adjustments	1.9	0.7	0.8	1.3	1.3	1.4	1.3	1.3	1.3
Total adjustments (Percentage points)	0	0	0	*	0.2	*	-0.1	0	**
Effects of the recession[b]	0	0	0	0	**	**	-0.1	0	**
Temporary adjustment[c]	0	0	0	*	0.2	*	0	0	0
Contributions to the Growth of Potential GDP (Percentage points)									
Potential Hours Worked	0.9	1.6	1.2	0.8	0.3	0.9	0.4	0.5	0.5
Capital Input	1.2	1.3	1.2	1.4	0.7	1.2	1.0	1.1	1.1
Potential TFP	1.9	0.7	0.8	1.3	1.4	1.4	1.2	1.3	1.2
Total Contributions	4.0	3.5	3.2	3.5	2.5	3.5	2.7	2.9	2.8
Potential Labor Productivity[d]	2.6	1.3	1.6	2.3	2.0	2.2	2.1	2.2	2.1

Source: Congressional Budget Office.

Note: GDP = gross domestic product; TFP = total factor productivity; * = between zero and 0.05 percent; ** = between -0.05 percent and zero.

a. The ratio of potential GDP to the potential labor force.

b. An adjustment to reflect the effects of the recession on potential GDP beyond its impact on capital accumulation and labor supply.

c. An adjustment for the unusually rapid growth of TFP between 2001 and 2003.

d. The estimated trend in the ratio of potential GDP to potential hours worked in the nonfarm business sector.

projected for the potential labor force means that smaller increases in the stock of structures, equipment, and software will be needed to equip the workforce with the same amount of capital per worker, resulting in less business investment than would otherwise occur. However, growth in capital services should pick up from its average pace of the past decade as businesses make up for some of the investment they postponed during the recession.

In CBO's projections, the growth rate of potential total factor productivity (average real output per unit of combined labor and capital services) in the nonfarm business sector averages 1.2 percent per year from 2012 through 2022, 0.2 percentage points lower than both the average since 1950 and the average since 2002. The projected growth rate is lower than those averages in part because CBO views the unusually rapid growth of total factor

productivity in the early 2000s as a temporary phenomenon.

Recessions in the United States typically affect potential output only by reducing capital investment. However, studies have found that recoveries from recessions that stemmed from financial crises tend to be significantly more protracted than other recoveries.[24] On the basis of such studies and other analysis, CBO has incorporated some persistent effects of the recession into its projections of potential labor supply and potential total factor productivity. Taking into account all of the effects of the financial crisis and the recession, CBO projects that potential output will be about 1¼ percent lower in 2022 than it would have been without them (see Box 2-1 on page 44).

Income

Economic outcomes and federal tax revenues depend not only on the amount of total income in the economy but also on how it is divided among its constituent parts: wages and salaries, domestic economic profits, proprietors' income, interest and dividend income, and other categories. CBO forecasts various categories of income by projecting their shares of total gross domestic income. (In principle, GDI equals GDP, but in practice they differ because of difficulties in measuring both aggregates.[25])

Labor income has fallen sharply as a share of GDI since 2009. Much of the weakness of labor income has derived from the fact that wages and salaries have grown more slowly than the other components of GDI in the past two years.[26] In CBO's projections, labor income grows faster than GDI over the next decade, bringing its share from about 59 percent of GDI in late 2011 to about 62 percent by 2022, approaching its historical average since 1980 (see Figure 2-8).[27]

Domestic economic profits have rebounded sharply during the recovery from the recession. As a percentage of GDI, they fell from a 40-year high of 10.2 percent in the second half of 2006 to a low of 4.4 percent in late 2008. By mid-2011, they had nearly recovered to their prerecession peak. Both the decline and subsequent rebound of corporate profits were particularly dramatic in the financial sector, but they were also apparent in the nonfinancial sector. In CBO's projections, profits' share of GDI declines modestly between now and 2022 because of higher interest rates (after 2013) and the rise in labor income's share of GDI.

Comparison with Other Economic Projections

Compared with its previous forecast, which was published in August, CBO's current one projects growth of real output that is slower in the next few years but slightly faster for the rest of the coming decade (see Table 2-4). The changes since the previous forecast reflect several factors, including downward revisions to historical data on GDP and diminished near-term prospects for economic growth in other countries. As a result of those changes, CBO's projection of real output in 2021 is about 1.6 percent lower now than it was in the August forecast.

The unemployment rate is higher throughout the projection period in this forecast than in the previous one. That difference reflects both a weaker near-term outlook for

24. See, for example, Carmen M. Reinhart and Kenneth S. Rogoff, "The Aftermath of Financial Crises," *American Economic Review*, vol. 99, no. 2 (May 2009), pp. 466–472; and Carmen M. Reinhart and Vincent R. Reinhart, "After the Fall," in Federal Reserve Bank of Kansas City, *Macroeconomic Challenges: The Decade Ahead* (Kansas City: Federal Reserve Bank, 2011).

25. The national income and product accounts, compiled by the Department of Commerce's Bureau of Economic Analysis, track the amount and composition of GDP, the prices of its components, and the distribution of the costs of production as income; the sum of those costs is GDI.

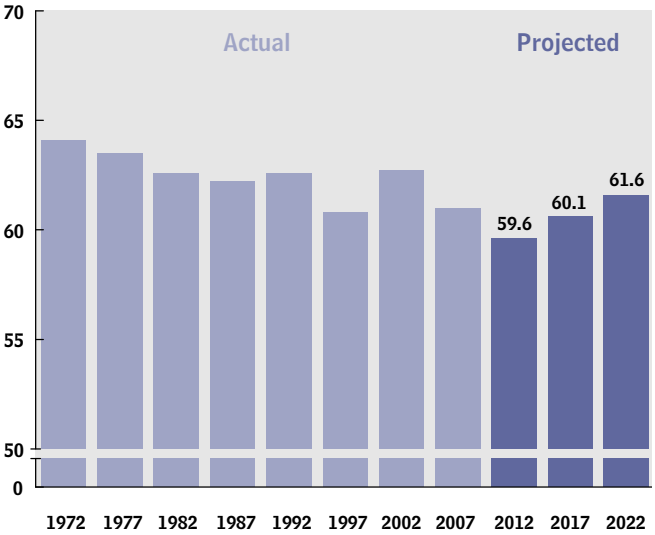
26. Labor income also includes supplemental benefits, which consist of employers' contributions to pensions, health insurance premiums, and social insurance (such as Social Security and Medicare) on behalf of their employees. In addition, CBO attributes 65 percent of the income of sole proprietorships and partnerships to labor income.

27. Labor income's share of GDI has been on a downward trend since 1970, when it was about 65 percent. There is no consensus among analysts about why that decline has occurred, but several possible explanations have been offered. See, for example, Ann Harrison, "Has Globalization Eroded Labor's Share? Some Cross-Country Evidence" (draft, Department of Agricultural and Resource Economics, University of California at Berkeley, October 2002); Adreas Hornstein, Per Krusell, and Giovanni Violante, "Technology–Policy Interaction in Frictional Labor Markets," *Review of Economic Studies,* vol. 74, no. 4 (October 2007), pp. 1089–1124; and Anastasia Guscina, *Effects of Globalization on Labor's Share in National Income,* Working Paper 06/294 (International Monetary Fund, December 2006).

Figure 2-8.

Labor Income

(Percentage of gross domestic income)



Sources: Congressional Budget Office; Department of Commerce, Bureau of Economic Analysis.

Notes: Labor income is defined as labor compensation plus 65 percent of proprietors' income. Gross domestic income is the sum of all income earned in the production of gross domestic product.

Data are annual. Values for 2012, 2017, and 2022 are projected.

the demand for labor than CBO projected in August and a reassessment of the natural rate of unemployment. Because the unemployment rate has been high for so long and is expected to remain elevated for the next few years, more people than CBO previously estimated can be expected to face lasting difficulties in the labor market. Consequently, the agency has boosted its estimate of the natural rate of unemployment during the latter years of the projection period—from a constant 5.2 percent beginning in 2017 to 5.5 percent in 2018 and to rates diminishing to 5.3 percent by 2022.

The current forecast also includes lower interest rates over the coming decade. During the first half of the projection period, the lower rates reflect primarily the drop in rates that has occurred since the last forecast was completed. Over the second half of the projection period, the lower rates reflect a weaker outlook for the economy and a decline in the rates predicted for the medium term by many private-sector forecasters, as well as the drop in rates that has occurred.

CBO has also compared its current projections with the *Blue Chip* consensus forecast published in January and the Federal Reserve's forecasts from the January 2012 meeting of the Federal Open Market Committee. The Federal Reserve reports two sets of forecasts—a range (reflecting the forecasts of the members of the Board of Governors and the presidents of the Federal Reserve Banks) and a central tendency (the range excluding the three highest and three lowest projections). CBO's projections for real GDP growth are below those of the *Blue Chip* and the low end of the Federal Reserve's range for 2012 and 2013 (see Table 2-5 on page 46). CBO's projection for the unemployment rate is above that of the *Blue Chip* and the high end of the Federal Reserve's range for 2012 and 2013. Those differences probably stem from a variety of factors, including varying assumptions about the government's future tax and spending policies (many other forecasters may be assuming changes to current law); the economic news available when the forecasts were completed; and the economic and statistical models used by the different forecasters.

Table 2-4.

Comparison of CBO's Current and Previous Economic Projections for Calendar Years 2012 to 2021

	Estimated, 2011	Forecast 2012	Forecast 2013	Projected Annual Average 2014-2017	Projected Annual Average 2018-2021
		Fourth Quarter to Fourth Quarter (Percentage change)			
Real GDP					
January 2012	1.6	2.0	1.1	4.1	2.5
August 2011	2.3	2.7	1.5	3.9	2.4
Nominal GDP					
January 2012	3.8	3.3	2.6	5.8	4.5
August 2011	3.8	4.0	3.0	5.6	4.4
PCE Price Index					
January 2012	2.6	1.2	1.3	1.7	2.0
August 2011	2.4	1.3	1.3	1.7	2.0
Consumer Price Index[a]					
January 2012	3.3 [b]	1.4	1.5	1.9	2.3
August 2011	2.8	1.3	1.3	2.0	2.3
GDP Price Index					
January 2012	2.1	1.2	1.4	1.6	2.0
August 2011	1.4	1.3	1.4	1.7	2.0
Employment Cost Index[c]					
January 2012	1.7	2.2	3.8	3.5	3.7
August 2011	2.2	2.9	3.2	3.5	3.5
Real Potential GDP					
January 2012	1.7	1.8	1.9	2.5	2.5
August 2011	2.0	2.0	2.3	2.6	2.4
		Calendar Year Average			
Unemployment Rate (Percent)					
January 2012	9.0 [b]	8.8	9.1	7.0	5.4
August 2011	8.9	8.7	8.7	6.2	5.2
Interest Rates (Percent)					
Three-month Treasury bills					
January 2012	0.1 [b]	0.1	0.1	2.0	3.7
August 2011	0.1	0.1	0.2	2.5	4.0
Ten-year Treasury notes					
January 2012	2.8 [b]	2.3	2.5	3.8	5.0
August 2011	3.3	3.2	3.3	4.6	5.3
Tax Bases (Percentage of GDP)					
Wages and salaries					
January 2012	44.0	44.0	43.5	44.2	45.1
August 2011	43.5	44.1	44.0	44.7	45.2
Domestic economic profits					
January 2012	9.9	9.8	9.3	9.4	7.7
August 2011	8.6	8.5	8.1	8.2	7.2

Source: Congressional Budget Office.

Note: GDP = gross domestic product; PCE = personal consumption expenditures.

a. The consumer price index for all urban consumers.

b. Actual value for 2011.

c. The employment cost index for wages and salaries of workers in private industry.

Box 2-1.

Lasting Effects of the Recent Recession on Potential Output

The financial crisis that began in 2007 and the decline in house prices that began a year earlier had a sharp impact on the U.S. economy, nearly freezing credit markets and pushing the economy into the most severe recession since World War II. International experience shows that downturns following such crises tend to last longer than other downturns, and the return to high employment tends to be slower.[1] It also shows that such recessions—more so than other recessions—dampen investment, raise the level and average duration of unemployment, and reduce the number of hours that employees work. As a result, recessions following such financial crises tend not only to reduce output below what it would have been otherwise, but also to reduce the economy's potential to produce output even after all resources are productively employed. Researchers who have studied past recessions induced by such financial crises have not arrived at a consensus about the magnitude of their effects on potential output. The estimate developed by the Congressional Budget Office (CBO) for the current U.S. experience is within the range estimated by other researchers.

CBO projects that the recession will have a lasting negative effect on the quantity of productive capital. Investment plunged during the recession because of a spike in financing costs and a decline in demand for goods and services. Although investment is currently on the rise—and CBO projects it to grow more strongly in the next few years—not all of the capital investment that was forgone during the recession and early recovery will have been recouped even a decade from now. Moreover, CBO expects that the large government deficits during the recession and afterward will raise the cost of capital in the future, further constraining investment.

The recession will also have lingering negative effects on the labor market. The shortage of jobs has led some people to retire earlier than they might have otherwise or to leave the labor force in other ways (by applying for and receiving disability benefits, for instance).[2] In addition, the high level of long-term

1. See, for example, Carmen M. Reinhart and Kenneth S. Rogoff, "The Aftermath of Financial Crises," *American Economic Review*, vol. 99, no. 2 (May 2009), pp. 466–472; and Carmen M. Reinhart and Vincent R. Reinhart, "After the Fall," in Federal Reserve Bank of Kansas City, *Macroeconomic Challenges: The Decade Ahead* (Kansas City: Federal Reserve Bank, 2011).

2. Applications for disability benefits tend to rise in recessions. See Congressional Budget Office, *Losing a Job During a Recession,* Issue Brief (April 2010).

Continued

Box 2-1. **Continued**

Lasting Effects of the Recent Recession on Potential Output

unemployment will impede the recovery because when people are out of work—especially for a protracted period—their skills and connection to the workforce tend to erode, and they therefore may have more difficulty moving into new jobs. CBO has incorporated those factors into its economic forecast. As a result, the levels projected for the potential labor force, potential employment, and potential hours worked through 2022 are slightly lower than CBO would have forecast in the absence of the recession, and the projected unemployment rate is higher. The lower potential labor force, in turn, will further constrain investment in productive capital.

The recession could also reduce the growth of potential total factor productivity (average real output per unit of combined labor and capital services) over the next several years by delaying how quickly resources are reallocated to their most productive uses, slowing the rate at which workers gain new skills as technologies evolve, and curtailing businesses' spending on research and development. To account for the possibility of such effects, CBO has trimmed its estimate of the growth rate of potential total factor productivity by a small amount—0.1 percentage point a year between 2010 and 2014. As with the reduction in the potential labor force, lower potential total factor productivity will further constrain investment.

Combining estimates of the effects on the quantity of productive capital, potential hours worked, and potential total factor productivity, potential output will be about 1¼ percent lower in 2022 than it would have been without the financial crisis and the recession, CBO projects. About 0.4 percentage points of that effect arises directly from the smaller labor supply, a similar amount stems directly from lower total factor productivity, and about 0.5 percentage points comes from the smaller capital stock.[3]

3. CBO has revised this estimate downward since last August. The change reflects a reassessment of the effect of the recession on the quantity of productive capital that was partly offset by an upward revision to CBO's estimate of the natural rate of unemployment at the end of the coming decade.

Table 2-5.

Comparison of Economic Projections by CBO, the *Blue Chip* Consensus, and the Federal Reserve

	2012	2013	2014	Longer Run [a]
Real GDP				
CBO	2.0	1.1	4.6	2.4
Blue Chip	2.3	2.8	n.a.	n.a.
Federal Reserve				
Range	2.1 to 3.0	2.4 to 3.8	2.8 to 4.3	2.2 to 3.0
Central tendency	2.2 to 2.7	2.8 to 3.2	3.3 to 4.0	2.3 to 2.6
PCE Price Index				
CBO	1.2	1.3	1.3	2.0
Federal Reserve				
Range	1.3 to 2.5	1.4 to 2.3	1.5 to 2.1	2.0
Central tendency	1.4 to 1.8	1.4 to 2.0	1.6 to 2.0	2.0
Core PCE Price Index[b]				
CBO	1.2	1.4	1.4	2.0
Federal Reserve				
Range	1.3 to 2.0	1.4 to 2.0	1.4 to 2.0	n.a.
Central tendency	1.5 to 1.8	1.5 to 2.0	1.6 to 2.0	n.a.
Consumer Price Index[c]				
CBO	1.4	1.5	1.5	2.3
Blue Chip	2.0	2.2	n.a.	n.a.
GDP Price Index				
CBO	1.2	1.4	1.4	2.0
Blue Chip	1.8	1.9	n.a.	n.a.
Unemployment Rate				
CBO	8.9	9.2	8.3	5.3
Blue Chip	8.5	8.0	n.a.	n.a.
Federal Reserve				
Range	7.8 to 8.6	7.0 to 8.2	6.3 to 7.7	5.0 to 6.0
Central tendency	8.2 to 8.5	7.4 to 8.1	6.7 to 7.6	5.2 to 6.0
Interest Rates				
Three-month Treasury bills				
CBO	0.1	0.2	0.8	3.8
Blue Chip	0.1	0.6	n.a.	n.a.
Ten-year Treasury notes				
CBO	2.4	2.6	3.2	5.0
Blue Chip	2.6	3.3	n.a.	n.a.

Sources: Congressional Budget Office; Aspen Publishers, Blue Chip Economic Indicators (January 10, 2012); Board of Governors of the Federal Reserve System, "Economic Projections of Federal Reserve Board Members and Federal Reserve Bank Presidents, January 2012" (January 25, 2012), www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20120125.pdf.

Notes: The Blue Chip consensus is the average of about 50 forecasts by private-sector economists. The range of estimates from the Federal Reserve reflects the forecasts of the members of the Board of Governors and the presidents of the Federal Reserve Banks. The central tendency is that range with the three highest and three lowest projections.

The Blue Chip consensus does not provide forecasts of the PCE or core PCE price index. The Federal Reserve does not provide forecasts of the consumer price index, the GDP price index, nominal GDP, or interest rates.

GDP = gross domestic product; PCE = personal consumption expenditures; n.a = not applicable.

a. For CBO, values are for 2022. For the Federal Reserve, values represent assessments of the rate that each variable would be expected to converge to under appropriate monetary policy and in the absence of further shocks to the economy.

b. Excludes prices for food and energy.

c. The consumer price index for all urban consumers.