

12. ECONOMIC ASSUMPTIONS

The U.S. economy completed its sixth consecutive year of economic expansion as 2007 drew to a close.¹ Although some uncertainty exists about the short-run outlook, the Administration's economic forecast projects sustained growth in the years ahead. Since 2001, the U.S. economy has repeatedly demonstrated its resilience to shocks and setbacks while benefiting from pro-growth policies, including tax relief and ongoing efforts to promote investment in innovative technologies and to liberalize international trade. Federal Reserve monetary policy actions have also played a constructive role in prolonging the expansion.

The economy has successfully overcome a series of shocks, including large declines in the stock market and business equipment spending; the terrorist attacks of September 11, 2001 followed by the onset of the Global War on Terror; sharp increases in prices for crude oil; and substantial damage and disruptions during the 2005 hurricane season. In the last two years a new set of shocks has troubled the economy. A housing market slowdown began in 2006 and is continuing into 2008. In 2007, many high-risk mortgages went into default, causing losses at financial institutions. The heightened uncertainty resulting from these losses has threatened to curtail credit availability for many borrowers.

Despite these unfavorable recent events, the U.S. economy continued to expand in 2007, with gains in productivity, incomes, and employment. More than 8 million net new payroll jobs have been added since August 2003. The Administration's economic forecast projects that the current expansion will continue, providing a solid foundation of sustained non-inflationary real growth to underlie the Federal budget outlook. Nonetheless, facing mixed economic signals and the risk of slower economic growth, in January 2008 the President called for the enactment of an economic growth package to bolster business investment and consumer spending thus promoting growth and job creation.

Recent Economic Performance

At the end of 2007, as the 2009 Budget was being prepared, U.S. real gross domestic product (GDP) had been increasing for 24 consecutive quarters, at an average annual rate of 2.8 percent. Over the most recent four quarters, real GDP also grew 2.8 percent. Increases in employment and gains in the productive efficiency of the U.S. workforce have combined to generate this sustained growth in real output.

- In labor markets, nonfarm payroll employment has increased by nearly 8.4 million net new jobs since the post-recession low in August 2003, with

about 1.3 million of those job gains occurring during the most recent twelve months (through December).

- Reflecting the expanding job market, the unemployment rate was 5.0 percent at the end of 2007, which is up from its low point in March—4.4 percent—but noticeably lower than its average during each of the past three decades.
- Labor productivity gains—the increase in output per hour of labor—were especially strong earlier in the expansion, providing a substantial boost to growth in real GDP. On average, output per hour in the nonfarm business sector has increased at a 2.5 percent rate during the current expansion (since the final quarter of 2001).²
- These productivity gains have extended the strong productivity performance of the previous decade. Since the end of 1995, labor productivity in the nonfarm business sector has increased at a 2.6 percent average annual rate, more than a percentage point higher than the average growth rate from 1973 to 1995—1.5 percent.

Strong growth in labor productivity is a fundamental building block for long-term economic performance and is the basis for rising real wages and an increasing standard of living for American workers and families.

- Reflecting labor gains from stronger productivity growth, real hourly earnings of production workers have risen at an average annual rate of 0.5 percent over the past two years.
- Real disposable personal income per capita is up 11.7 percent in the current expansion, compared with 8.6 percent during the equivalent period of the 1990s expansion.

Other indicators also point to the sustained solid performance of the U.S. economy in recent years:

- Through the third quarter, real consumer spending had increased at a 2.6 percent annual rate so far in 2007, following increases of 3.4 percent during 2006 and 2.8 percent during 2005.
- Business investment in nonresidential structures continued to make strong real gains in 2007, rising at a 16 percent annual rate through the third quarter of the year, on track to being the strongest increase in more than two decades.
- Real business investment in durable equipment and software increased at a healthy 3.7 percent annual rate through the third quarter of 2007, following increases of 2.5 percent during 2006 and 7.1 percent during 2005.

¹ Economic performance is discussed in terms of calendar years. Budget figures are in terms of fiscal years.

²The nonfarm business sector accounts for about three-fourths of the value of GDP, with households, nonprofit institutions, and government accounting for the remainder. The nonfarm business sector serves as the reference standard for productivity.

- Real net exports continued to improve during 2007 as real exports grew 9.0 percent at an annual rate through the third quarter, while import growth slowed to just 1.8 percent. For the first time in over a decade, real net exports contributed positively to real GDP growth in 2006–2007.

Although the overall performance of the U.S. economy has been good and the gains have translated into solid growth of income and wealth, the economy faces important challenges that have become more serious as 2008 begins:

- *The housing market* and residential investment activity began to slow in 2006 and continued to fall throughout 2007, subtracting significantly from real GDP growth. Housing starts peaked at an annual rate of nearly 2.3 million units early in 2006, but have since fallen to about 1.0 million units—the lowest level in over a decade. During the first three quarters of 2007, real residential investment spending was on track to subtract about 0.9 percentage point from overall real GDP growth. It now appears that the effects of the housing slump on real GDP growth will persist into 2008, holding down growth and delaying the expected rebound in activity.
- *Financial uncertainty* has increased as the effects of the housing slump spread to the subprime segment of the mortgage market, and then to financial markets more generally. The Federal Reserve has acted decisively to expand credit and to lower interest rates, and the Department of Treasury has also taken steps to restore confidence. These measures have helped maintain liquidity, but uncertainty remains high. Higher risk premiums on all but the most secure loans may exact a growth penalty in the near term that would be moderated by the President's proposals to promote economic growth.
- *Energy prices*—notably crude oil and gasoline prices—have increased sharply. The benchmark price for West Texas Intermediate crude oil increased from under \$30 a barrel in September 2003 to near \$100 a barrel in January 2008. Over the same period, the average retail price of gasoline nationwide rose from around \$1.50 a gallon to over \$3.00 a gallon. Higher energy prices slow growth, but the recent increase in prices has had a much smaller overall effect on growth than previous oil price shocks in the 1970s and 1980s.
- *Large imbalances in U.S. international accounts* persisted into 2007 with the current account deficit at 5.1 percent of GDP in the third quarter. Even so, the international imbalances have begun to improve for the first time in several years. A year earlier the current account deficit was 6.6 percent of GDP.

During 2007, the economy continued to grow in the face of these challenges. Growth appears to have slowed in the final quarter of 2007 as the combination of weak housing markets, financial uncertainty, and higher en-

ergy prices have combined to limit demand. There are positive factors, however, that could help offset these negative developments and provide a foundation for revived growth by the end of 2008, especially if augmented by passage of the President's proposals to promote economic growth.

- *Inflation* has increased along with the rise in food and energy prices, but *core inflation*, excluding the volatile food and energy components, subsided from around 2.6 percent in 2006 to 2.4 percent during 2007. With core inflation under control the prospects are good for a lower inflation rate in the long run when energy prices stabilize.
- *Faster economic growth abroad* has helped U.S. exports, and contributed to the decline in the current account deficit. The improvement in net exports has been large enough to offset the decline in growth from housing investment over the last four quarters.
- *Employment* growth slowed in 2007, but gains continued through the end of the year. The unemployment rate crept up from 4.5 percent to 5.0 percent, but unemployment remains well below its average level in earlier periods of slow growth.

Policy Background

The fiscal and monetary policies of the past seven years contributed to good economic performance. Looking back, timely tax relief and reductions in interest rates promoted the economy's recovery from recession and helped the Nation overcome the adverse effects from the various shocks it has faced since 2001. Those policies augmented by short-term proposals to promote economic growth continue to provide a solid foundation for future economic performance.

Fiscal Policy: Beginning in 2001, the Administration proposed, and the Congress enacted, significant tax relief designed to promote recovery in output, income, and jobs—and to provide a strong basis for continued economic expansion in the long term. Key tax relief legislation included:

- *The Economic Growth and Tax Relief and Reconciliation Act of 2001* lowered marginal income tax rates; reduced the marriage tax penalty; and created a new, lower 10 percent tax bracket, among other changes.
- *The Jobs and Growth Tax Relief Reconciliation Act of 2003* lowered income tax rates, reduced the marriage penalty, raised the child tax credit, and raised the exemption amount for the individual Alternative Minimum Tax. The Act also reduced tax rates on dividend income and capital gains and expanded bonus depreciation and small business expensing of equipment purchases.

Additional legislation of recent years extended tax relief, helping to ensure that key provisions would continue and not expire. The quick adoption of an effective growth package of broad-based tax relief would bolster consumption and investment and help keep instability

and uncertainty from causing additional harm to the overall economy.

Monetary Policy and Interest Rates: As 2008 begins, the Federal Reserve has oriented monetary policy toward sustaining non-inflationary real economic growth. Beginning in 2004, as the expansion strengthened, the Federal Reserve raised the Federal funds rate in a steady series of increases from 1 percent eventually reaching 5.25 percent in 2006. The Federal funds rate remained at 5.25 percent for over a year. In September 2007, the Federal Reserve announced a fifty basis point reduction in its target rate in response to the threats to liquidity unfolding in financial markets. This was a preemptive action intended to maintain the level of aggregate demand in the economy and sustain the recovery. At the time of this action, the Federal Reserve stated:

Economic growth was moderate during the first half of the year, but the tightening of credit conditions has the potential to intensify the housing correction and to restrain economic growth more generally. Today's action is intended to help forestall some of the adverse effects on the broader economy that might otherwise arise from the disruptions in financial markets and to promote moderate growth over time.

Since then, the Federal Reserve has lowered interest rates further. The Administration's forecast for interest rates, presented below, is consistent with market expectations for the interest rate outlook at the time the forecast was completed in mid-November. It anticipates that rates will gradually recover when the current financial situation stabilizes. Long-term interest rates, notably the yield on 10-year Treasury notes, have been low by historical standards for many years. The 10-year rate has been less than 5.0 percent, except for brief intervals, for seven years. The forecast anticipates that the yield spread between short-term and long-term rates will eventually widen.

Trade and Regulatory Policies and Competitiveness Initiatives: The Administration has sought to advance a comprehensive set of policies to promote the short- and long-term performance of the U.S. economy, including trade and regulatory policies and initiatives aimed at boosting competitiveness in domestic and international markets. Expanding opportunities in international trade and investment has been one of the Administration's top priorities. Efforts to negotiate and implement bilateral, regional, and multilateral agreements to promote international trade and investment with countries around the world are intended to create and expand markets for U.S. exports and strengthen the U.S. economy while also creating new economic opportunities for our trading partners. These policies will also help to alleviate poverty in the developing world and promote democratic reform. The Administration's American Competitiveness Initiative is targeted at advancing U.S. competitiveness through promoting technological innovation, opening new markets, increasing

research in the physical sciences and engineering, and protecting intellectual property. Efforts also continue to streamline and simplify Federal regulations that can hinder economic growth and job creation.

Economic Projections

The Administration's economic projections are summarized in Table 12-1. The assumptions are based on information available as of mid-November 2007 and are close to those of the Congressional Budget Office and the consensus of private-sector forecasters, as shown in Table 12-2 and discussed in more detail below.

Real GDP, Potential GDP, and Unemployment Rate: Real GDP, which is estimated to have increased 2.7 percent during 2007 on a fourth quarter-over-fourth quarter basis, is also projected to increase 2.7 percent this year. This is somewhat below the economy's potential growth rate and reflects the growth penalty exacted by the housing slowdown and the energy price runup. As a result, the unemployment rate is projected to average 4.9 percent in 2008, up from 4.6 percent in 2007. In 2009, the rate of growth is projected to recover to 3.0 percent, and the unemployment rate to settle in on its long-run level of 4.8 percent, which is near the center of the range thought to be consistent with stable inflation. Beyond 2009, growth slows gradually as slower labor force growth lowers the economy's potential growth rate.

The main sources of growth in demand in coming years are likely to be net exports, business investment, and, to a lesser extent, consumer spending. The contributions to overall growth from residential investment and the government sector are expected to be modest, although beyond 2008, housing should cease to be a negative influence on growth.

Potential growth of real GDP (including the government sector) is projected to be about 3.0 percent over the next two years, trending down to 2.8 percent by 2013, because of an expected slowing in labor force growth. The labor force is projected to grow about 0.9 percent per year on average from 2006 through 2009, slowing to about 0.6 percent per year on average during 2009-2013 as increasing numbers of baby boomers retire.

Trend productivity growth in the nonfarm business sector is assumed to be 2.5 percent per year. This is equal to the average pace of productivity growth so far in the current expansion, which began in the final quarter of 2001, and equal to the average pace of growth from 1995 through 2000. It is also not far from the average growth rate throughout the post-World War II period since the end of 1948—2.2 percent.

Inflation: Inflation was volatile in 2007, in large part because of fluctuations in energy prices. With the projected easing of these prices, inflation is likely to be lower. On a year-over-year basis, the CPI is projected to have increased 2.8 percent in 2007 and to increase by 2.7 percent this year but to settle down at a 2.3 percent rate in 2010 through 2013. This infla-

Table 12-1. ECONOMIC ASSUMPTIONS ¹

(Calendar years; dollar amounts in billions)

	Actual 2006	Projections						
		2007	2008	2009	2010	2011	2012	2013
Gross Domestic Product (GDP):								
Levels, dollar amounts in billions:								
Current dollars	13,195	13,837	14,480	15,215	15,987	16,782	17,603	18,462
Real, chained (2000) dollars	11,319	11,573	11,886	12,245	12,615	12,982	13,351	13,727
Chained price index (2000=100), annual average	116.6	119.6	121.8	124.2	126.7	129.3	131.8	134.5
Percent change, fourth quarter over fourth quarter:								
Current dollars	5.4	5.1	4.8	5.1	5.0	5.0	4.9	4.9
Real, chained (2000) dollars	2.6	2.7	2.7	3.0	3.0	2.9	2.8	2.8
Chained price index (2000=100)	2.7	2.3	2.0	2.0	2.0	2.0	2.0	2.0
Percent change, year over year:								
Current dollars	6.1	4.9	4.6	5.1	5.1	5.0	4.9	4.9
Real, chained (2000) dollars	2.9	2.2	2.7	3.0	3.0	2.9	2.8	2.8
Chained price index (2000=100)	3.2	2.6	1.9	2.0	2.0	2.0	2.0	2.0
Incomes, billions of current dollars:								
Corporate profits before tax	1,806	1,896	1,920	1,971	1,970	1,947	1,950	1,981
Wages and salaries	6,018	6,405	6,710	7,057	7,434	7,824	8,217	8,623
Other taxable income ²	2,858	3,053	3,247	3,450	3,630	3,776	3,917	4,102
Consumer Price Index: ³								
Level (1982-84=100), annual average	201.6	207.3	212.8	217.3	222.3	227.4	232.6	238.0
Percent change, fourth quarter over fourth quarter	2.0	3.9	2.1	2.2	2.3	2.3	2.3	2.3
Percent change, year over year	3.2	2.8	2.7	2.1	2.3	2.3	2.3	2.3
Unemployment rate, civilian, percent:								
Fourth quarter level	4.5	4.8	4.9	4.8	4.8	4.8	4.8	4.8
Annual average	4.6	4.6	4.9	4.9	4.8	4.8	4.8	4.8
Federal pay raises, January, percent:								
Military ⁴	3.1	2.7	3.5	3.4	NA	NA	NA	NA
Civilian ⁵	3.1	2.2	3.5	2.9	NA	NA	NA	NA
Interest rates, percent:								
91-day Treasury bills ⁶	4.7	4.4	3.7	3.8	4.0	4.1	4.1	4.1
10-year Treasury notes	4.8	4.7	4.6	4.9	5.1	5.2	5.3	5.3

NA = Not Available.

¹ Based on information available as of November 15, 2007.² Dividends, rent, interest and proprietors' income components of personal income.³ Seasonally adjusted CPI for all urban consumers.⁴ Percentages apply to basic pay only; percentages to be proposed for years after 2009 have not yet been determined.⁵ Overall average increase, including locality pay adjustments. Percentages to be proposed for years after 2009 have not yet been determined.⁶ Average rate, secondary market (bank discount basis).

tion rate projection extends the generally well-contained inflation experience of the last decade. The GDP price index is projected to have increased 2.6 percent in 2007, and to moderate to 2.0 percent by 2009, slightly less than the projected rate of CPI inflation, which is the usual pattern.

The low inflation projection reflects the low core rate of inflation in 2007, well-contained inflation expectations, and the maintenance of low inflation in the long run consistent with Federal Reserve monetary policy objectives.

Interest Rates: Interest rates declined sharply in the second half of 2007. Short-term rates are projected to remain below 4 percent for the next two years and then to rise to 4.1 percent in 2011. The yield on the 10-year Treasury note has also fallen as investors have sought the security of Treasury debt during the recent period of heightened financial uncertainty. In the projection period, long-term rates rise again as financial concerns are alleviated and a more normal historical

relationship is restored. The 10-year rate is projected to increase to 5.3 percent by 2012.

These forecast rates are historically low, reflecting lower inflation in the forecast. After adjusting for inflation, the projected real interest rates are close to their historical averages.

Income Shares: The share of labor compensation in GDP was low by historical standards in 2007 and is expected to increase, while the share of corporate profits is projected to decline from the unusually high levels it has reached. So far in the current expansion, the growth of hourly compensation adjusted for inflation has lagged the growth of productivity. During the projection period, however, real hourly labor compensation is expected to exceed productivity growth, which would raise the labor share in GDP back closer to its historical average, while constraining profits.

While the overall share of labor compensation is expected to increase by about 1 percentage point of GDP, the wage share is expected to rise proportionately less

than the share of supplements to wages and salaries. Rising health insurance costs will put upward pressure on the share of supplements while holding down the expected rise in the cash wage share.

Corporate profits before tax have risen sharply as a share of GDP since their recent low point in 2001. Profits have benefited from lower interest rates and moderate wage growth. The sharp increase in productivity growth in 2001–2003 also gave a boost to profits. More recently, corporate earnings overseas have helped raise the profits of American corporations. Some of these factors are not likely to continue at the same pace in future years, and profits relative to GDP are expected to moderate over the forecast period, ending much closer to their historical average in 2013.

Comparison with CBO and Private-Sector Forecasts

In addition to the Administration, the Congressional Budget Office (CBO) and many private-sector forecasters also make economic projections. CBO develops its projections to aid Congress in formulating budget policy. In the executive branch, this function is performed jointly by the “Troika” consisting of the Depart-

ment of Treasury, the Council of Economic Advisers, and the Office of Management and Budget. Private-sector forecasts are often used by businesses for current decision-making and in long-term planning, and the “consensus” or average serves as a useful benchmark for comparison. Table 12–2 compares the 2009 Budget assumptions with projections as of January 2008 by CBO and by the Blue Chip Consensus, an average of about 50 private-sector forecasts.

The three sets of economic assumptions are based on different underlying assumptions concerning economic policies. The Administration forecast generally assumes that the President’s Budget proposals will be enacted. In contrast, the CBO baseline projection assumes that current law as of the time the estimates are made remains unchanged. The 50 or so private forecasters in the Blue Chip Consensus make differing policy assumptions. Despite these differences, the three sets of economic projections, shown in Table 12–2, are fairly close. The similarity of the Budget’s economic projections to both the CBO baseline projections and the Consensus forecast underscores the conservative nature of the Administration forecast.

Table 12–2. COMPARISON OF ECONOMIC ASSUMPTIONS

(Calendar years)

	Projections						Average, 2008–13
	2008	2009	2010	2011	2012	2013	
GDP (billions of current dollars):							
2009 Budget	14,480	15,215	15,987	16,782	17,603	18,462	
CBO January	14,330	14,997	15,812	16,651	17,453	18,243	
Blue Chip Consensus January ²	14,448	15,150	15,906	16,705	17,551	18,428	
Real GDP (chain-weighted):¹							
2009 Budget	2.7	3.0	3.0	2.9	2.8	2.8	2.9
CBO January	1.7	2.8	3.5	3.4	2.9	2.6	2.8
Blue Chip Consensus January ²	2.2	2.7	2.8	2.9	2.9	2.8	2.7
Chain-weighted GDP Price Index:¹							
2009 Budget	1.9	2.0	2.0	2.0	2.0	2.0	2.0
CBO January	1.9	1.8	1.8	1.8	1.9	1.9	1.8
Blue Chip Consensus January ²	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Consumer Price Index (all-urban):¹							
2009 Budget	2.7	2.1	2.3	2.3	2.3	2.3	2.3
CBO January	2.9	2.3	2.2	2.2	2.2	2.2	2.3
Blue Chip Consensus January ²	2.9	2.3	2.3	2.3	2.3	2.3	2.4
Unemployment rate:³							
2009 Budget	4.9	4.9	4.8	4.8	4.8	4.8	4.8
CBO January	5.1	5.4	5.1	4.8	4.8	4.8	5.0
Blue Chip Consensus January ²	5.0	5.0	4.8	4.8	4.8	4.8	4.9
Interest rates:³							
91-day Treasury bills:							
2009 Budget	3.7	3.8	4.0	4.1	4.1	4.1	4.0
CBO January	3.2	4.2	4.6	4.7	4.7	4.7	4.3
Blue Chip Consensus January ²	3.4	3.9	4.5	4.5	4.5	4.5	4.2
10-year Treasury notes:³							
2009 Budget	4.6	4.9	5.1	5.2	5.3	5.3	5.1
CBO January	4.2	4.9	5.2	5.2	5.2	5.2	5.0
Blue Chip Consensus January ²	4.3	4.8	5.2	5.2	5.2	5.2	5.0

Sources: Congressional Budget Office; Blue Chip Economic Indicators, Aspen Publishers, Inc.

¹ Year-over-year percent change.

² January 2008 Blue Chip Consensus forecast for 2008 and 2009; Blue Chip October 2007 long-run extension for 2010–2013.

³ Annual averages, percent.

The biggest differences in the forecasts are for real GDP growth in 2008. The Administration, CBO, and the Blue Chip Consensus all anticipate slow to moderate growth this year, but the Administration projects 2.7 percent growth on a year-over-year basis, while the Consensus projects 2.2 percent growth, and CBO forecasts a 1.7 percent growth rate. For calendar year 2009, the forecasts are closer. The Administration forecasts 3.0 percent real growth, while the Consensus forecast is for 2.7 percent and CBO expects 2.8 percent. In 2010–2011, the Administration expects growth to average 3.0 percent, while the Consensus projects an average of 2.9 percent. For this period, CBO is the outlier, expecting a relatively sharp bounce-back that pushes up the growth rate to an average of 3.5 percent. In the final two years of the forecast period, the Administration expects growth to slow with the decline in the potential growth rate as the baby-boom cohort begins to retire in large numbers. CBO also expects the growth rate to decline for this reason (and because they assume a negative effect from the current-law expiration of the 2001–2003 tax cuts), but so far the Consensus has not incorporated the likely demographic slowdown in its long-range projections. Over the six-year span as a whole, the Administration, CBO, and the Consensus all project average annual growth rates in a narrow range of 2.7 to 2.9 percent, with the Administration forecast being the highest.

The three inflation forecasts are much closer. All three forecasts anticipate a slowdown in inflation in 2008–2009 followed by continued low inflation in the range of 1.8 to 2.1 percent as measured by the GDP price index and between 2.2 and 2.3 percent as measured by the CPI. CBO has a lower forecast than the Administration and the Consensus. The three unemployment rate projections are also similar with projected rates converging on 4.8 percent following somewhat higher unemployment over the next 2 to 3 years. All three forecasts recognize the sharp decline in Treasury interest rates at the end of 2007. All three forecasts anticipate that long-term rates will rise between 2008 and 2009 and converge on a higher level in 2011 and beyond. That long-term stable value is 5.2 percent for CBO and the Consensus and 5.3 percent for the Administration. There are more differences in the forecasts of short-term interest rates. The Administration expects lower short-term rates to persist for some time before rising to 4.1 percent. CBO and the Consensus expect short-term rates to rise to 4.7 percent and 4.5 percent, respectively, within three years. This would elevate real short-term interest rates above their historical average and in combination with the long-term interest rate forecasts would generate a tightly compressed yield curve. The Administration forecast anticipates a gradual restoration of a more normal yield curve spread.

Changes in Economic Assumptions

The economic assumptions underlying this Budget for 2009 are similar to those of the 2008 Budget, as shown in Table 12–3.

Real GDP growth is now expected to be 2.2 percent in 2007, 2.7 percent in 2008, and 3.0 percent in 2009 on a year-over-year basis, moderating gradually to 2.8 percent by 2012 and 2013. In comparison, last year's Budget projections implied 2.6 percent real growth for 2007, 3.0 percent growth in 2008, 3.1 percent in 2009, and moderating to 2.9 percent by 2012. The lower real growth forecast in this year's budget combined with a slightly lower inflation forecast lowers the projected level of nominal GDP compared with the 2008 Budget projection.

The long-run unemployment rate projection is unchanged from the 2008 Budget at 4.8 percent. The 3-month Treasury bill rate is expected to remain well below last year's forecast for most of the projection period but to end at the same place, 4.1 percent. The 10-year Treasury note rate is again projected to rise to 5.3 percent.

Structural and Cyclical Balances

An alternative budget measure called the structural balance provides a useful perspective on the stance of fiscal policy compared with the unadjusted budget balance. The unadjusted balance is affected by the cyclical performance of the economy. When the economy operates below potential, the unemployment rate exceeds the long-run sustainable average consistent with price stability. As a result, receipts are lower and outlays for unemployment-sensitive programs (such as unemployment compensation and food stamps) are higher than they would be if all the resources were employed at their normal levels; and the deficit is larger (or the surplus smaller) than if the unemployment rate were at its sustainable long-run average. The portion of the deficit (or surplus) that can be traced to this factor is called the cyclical component. The remaining portion of the deficit is then called the structural deficit (or structural surplus). It represents the deficit that would prevail if all resources were employed at their normal long-run levels. The structural balance provides a gauge of the surplus or deficit that would persist if the economy were operating at the sustainable level of unemployment.

Estimates of the structural balance are based on the historical relationship between changes in the unemployment rate and real GDP growth, known as "Okun's Law," as well as relationships of unemployment and real GDP growth with receipts and outlays. These estimated relationships take account of the major cyclical changes in the economy and their effects on the budget, but they do not reflect all possible cyclical relationships. For example, the sharply rising stock market during the second half of the 1990s boosted capital gains-related receipts and pulled down the deficit. The subsequent fall in the stock market reduced receipts and added to the deficit. Some of this rise and fall was cyclical in nature, but economists have not been able to pin down the cyclical component of the stock market exactly, and for that reason, all of the stock market's

Table 12-3. COMPARISON OF ECONOMIC ASSUMPTIONS IN THE 2008 AND 2009 BUDGETS

(Calendar years; dollar amounts in billions)

	2007	2008	2009	2010	2011	2012	2013
Nominal GDP:							
2008 Budget assumptions ¹	13,903	14,665	15,458	16,265	17,094	17,946	18,840
2009 Budget assumptions	13,837	14,480	15,215	15,987	16,782	17,603	18,462
Real GDP (2000 dollars):							
2008 Budget assumptions ¹	11,623	11,975	12,346	12,718	13,100	13,484	13,878
2009 Budget assumptions	11,573	11,886	12,245	12,615	12,982	13,351	13,727
Real GDP (percent change):²							
2008 Budget assumptions	2.6	3.0	3.1	3.0	3.0	2.9	2.9
2009 Budget assumptions	2.2	2.7	3.0	3.0	2.9	2.8	2.8
GDP price index (percent change):²							
2008 Budget assumptions	2.5	2.3	2.2	2.1	2.0	2.0	2.0
2009 Budget assumptions	2.3	2.0	2.0	2.0	2.0	2.0	2.0
Consumer Price Index (percent change):²							
2008 Budget assumptions	2.1	2.6	2.5	2.4	2.3	2.3	2.3
2009 Budget assumptions	2.8	2.7	2.1	2.3	2.3	2.3	2.3
Civilian unemployment rate (percent):³							
2008 Budget assumptions	4.6	4.8	4.8	4.8	4.8	4.8	4.8
2009 Budget assumptions	4.6	4.9	4.9	4.8	4.8	4.8	4.8
91-day Treasury bill rate (percent):³							
2008 Budget assumptions	4.7	4.6	4.4	4.2	4.1	4.1	4.1
2009 Budget assumptions	4.4	3.7	3.8	4.0	4.1	4.1	4.1
10-year Treasury note rate (percent):³							
2008 Budget assumptions	5.0	5.1	5.2	5.3	5.3	5.3	5.3
2009 Budget assumptions	4.7	4.6	4.9	5.1	5.2	5.3	5.3

¹ Adjusted for July 2007 NIPA revisions.² Year-over-year.³ Calendar year average.

contribution to receipts is counted in the structural balance.

No two business cycles are alike and some factors unique to the current economic cycle also appear to affect the deficit in ways not reflected in the usual cyclical adjustments. The fall-off in labor force participation, from 67.1 percent of the U.S. population in 1997–2000 to 66.1 percent in 2004–2007, may be at least partly cyclical in nature. Since the official unemployment rate does not include workers who have left the labor force, the conventional measures of potential GDP, incomes, and Government receipts understate the extent to which potential work hours have been underutilized in the current expansion because of the decline in labor force participation.

Another factor in the current cycle is the fall-off in the wage and salary share of GDP, from 49.2 percent in 2000 to 46.0 percent in 2007 (through the third

quarter). This change may also be at least partly cyclical. Since Federal tax collections depend heavily on wage and salary income, the decline in the wage share of GDP suggests that the true cyclical component of the deficit could be understated for this reason as well.

There are also lags in the collection of tax revenue that can delay the impact of cyclical effects beyond the year in which they occur. The result is that even after the unemployment rate has fallen, receipts may remain cyclically depressed for some time until these lagged effects have dissipated.

For all these reasons, the current estimates of the level of the cyclical deficit are probably understated. The current unemployment gap is near zero, and the Administration forecasts that it will rise only slightly and temporarily, but in the broader sense discussed above, the cyclical gap is likely to be larger.

Table 12-4. ADJUSTED STRUCTURAL BALANCE

(Fiscal years; in billions of dollars)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Unadjusted surplus or deficit (-)	128.2	-157.8	-377.6	-412.7	-318.3	-248.2	-162.0	-410.0	-407.4	-160.0	-94.8	48.0	29.3
Cyclical component	39.4	-85.1	-127.2	-82.1	-32.0	15.0	15.4	-12.6	-12.4	-2.6	-0.1
Structural surplus or deficit (-)	88.8	-72.7	-250.3	-330.7	-286.4	-263.2	-177.4	-397.4	-395.0	-157.4	-94.7	48.0	29.3
Deposit insurance outlays	1.6	1.0	1.4	2.0	1.4	1.1	1.5	1.9	3.5	5.2	5.4	5.6	5.3
Adjusted structural surplus or deficit (-)	87.2	-71.7	-248.9	-328.7	-285.0	-262.1	-175.9	-395.5	-391.6	-152.3	-89.3	53.7	34.7

NOTE: The NAIRU is assumed to be 4.8%.

During fiscal year 2001 the unemployment rate appears to have been lower than could be sustained in the long run. Therefore, as shown in Table 12–4, in that year the structural surplus was smaller than the actual surplus, which was enlarged by the boost to receipts and the reduction in outlays associated with the low level of unemployment. Similarly, in 2006 and 2007 the unemployment rate appeared to be slightly lower than the “natural rate,” rendering the structural deficit for those years slightly higher than the actual deficit. For 2008–2009, the unemployment rate is slightly higher than the “natural rate,” and the structural deficit falls slightly below the actual deficit.

Sensitivity of the Budget to Economic Assumptions

Both receipts and outlays are affected by changes in economic conditions. This sensitivity complicates budget planning because errors in economic assumptions lead to errors in the budget projections. It is therefore useful to examine the implications of possible changes in economic assumptions. Many of the budgetary effects of such changes are fairly predictable, and a set of rules of thumb embodying these relationships can aid in estimating how changes in the economic assumptions would alter outlays, receipts, and the surplus or deficit. These rules of thumb should be understood as suggesting orders of magnitude; they ignore a long list of secondary effects that are not captured in the estimates.

Economic variables that affect the budget do not usually change independently of one another. Output and employment tend to move together in the short run: a high rate of real GDP growth is generally associated with a declining rate of unemployment, while slow or negative growth is usually accompanied by rising unemployment. In the long run, however, changes in the average rate of growth of real GDP are mainly due to changes in the rates of growth of productivity and the labor force, and are not necessarily associated with changes in the average rate of unemployment. Inflation and interest rates are also closely interrelated: a higher expected rate of inflation increases interest rates, while lower expected inflation reduces interest rates.

Changes in real GDP growth or inflation have a much greater cumulative effect on the budget over time if they are sustained for several years than if they last for only one year. Highlights of the budgetary effects of the above rules of thumb are shown in Table 12–5.

For real growth and employment:

- As shown in the first block, if in 2008 for one year only, real GDP growth is lower by one percentage point and the unemployment rate permanently rises by one-half percentage point relative to the Budget assumptions, the fiscal year 2008 deficit is estimated to increase by \$16.4 billion; receipts in 2008 would be lower by \$13.8 billion, and outlays would be higher by \$2.6 billion, primarily for unemployment-sensitive programs. In fiscal year 2009, the estimated receipts shortfall

would grow further to \$28.9 billion, and outlays would increase by \$8.2 billion relative to the base, even though the growth rate in calendar year 2009 equaled the rate originally assumed. This is because the level of real (and nominal) GDP and taxable incomes would be permanently lower, and unemployment permanently higher. The budget effects (including growing interest costs associated with larger deficits) would continue to grow slightly in each successive year. During 2008–2013, the cumulative increase in the budget deficit is estimated to be \$251 billion.

- The budgetary effects are much larger if the real growth rate is permanently reduced by one percentage point and the unemployment rate is unchanged, as shown in the second block. This scenario might occur if trend productivity were permanently lowered. In this example, during 2008–2013, the cumulative increase in the budget deficit is estimated to be \$706 billion.

For inflation and interest rates:

- The third block shows the effect of a one percentage point higher rate of inflation and one percentage point higher interest rates during calendar year 2008 only. In subsequent years, the price level and nominal GDP would be one percent higher than in the base case, but interest rates and future inflation rates are assumed to return to their base levels. In 2008 and 2009, outlays would be above the base by \$12.5 billion and \$20.7 billion, respectively, due in part to lagged cost-of-living adjustments. Receipts would rise by \$21.2 billion in 2008, but then would rise by \$40.9 billion above the base in 2009 due to the sustained effects of the elevated price level on the tax base, and to the temporary effect of higher 2008 interest rates on individuals' incomes and taxes and financial corporations' profits and taxes, resulting in a \$20.2 billion improvement in the 2009 budget balance. In subsequent years, the amounts added to receipts would continue to be larger than the additions to outlays. During 2008–2013, cumulative budget deficits would be \$114 billion smaller than in the base case.
- In the fourth block, the rate of inflation and the level of interest rates are higher by one percentage point in all years. As a result, the price level and nominal GDP rise by a cumulatively growing percentage above their base levels. In this case, the effects on receipts and outlays mount steadily in successive years, adding \$390 billion to outlays over 2008–2013 and \$793 billion to receipts, for a net decrease in 2008–2013 deficits of \$402 billion.
- The outlay effects of a one percentage point increase in interest rates alone are shown in the fifth block. The receipts portion of this rule-of-thumb is due to the Federal Reserve's deposit of earnings on its securities portfolio and the effect of interest rate changes on both individuals' in-

come (and taxes) and financial corporations' profits (and taxes).

- The sixth block shows that a sustained one percentage point increase in the GDP price index and in CPI inflation decreases cumulative deficits by a substantial \$444 billion during 2008–2013. This large effect is because the additional receipts from a higher tax base exceed the combination of higher outlays from mandatory cost-of-living adjustments and lower receipts from CPI indexation of tax brackets. Outlays for discretionary programs are assumed to be unchanged in spite of the higher inflation rate. The separate effects of higher inflation and higher interest rates in the fifth and sixth blocks do not sum to the effects for simultaneous changes in both in the fourth block. This

occurs largely because the gains in budget receipts due to higher inflation result in higher debt service savings when interest rates are assumed to be higher as well (the combined case) than when interest rates are assumed to be unchanged (the separate case).

The last entry in the table shows rules of thumb for the added interest cost associated with changes in the budget deficit, holding interest rates and other economic assumptions constant.

The effects of changes in economic assumptions in the opposite direction are approximately symmetric to those shown in the table. The impact of a one percentage point lower rate of inflation or higher real growth would have about the same magnitude as the effects shown in the table, but with the opposite sign.

Table 12–5. SENSITIVITY OF THE BUDGET TO ECONOMIC ASSUMPTIONS

(Fiscal years; in billions of dollars)

Budget effect	2008	2009	2010	2011	2012	2013	Total of Effects, 2008–2013
Real Growth and Employment							
Budgetary effects of 1 percent lower real GDP growth:							
(1) For calendar year 2008 only: ¹							
Receipts	-13.8	-28.9	-32.6	-35.2	-36.2	-38.1	-184.8
Outlays	2.6	8.2	10.5	12.7	15.0	17.1	66.0
Increase in deficit (-)	-16.4	-37.1	-43.1	-47.9	-51.2	-55.2	-250.9
(2) Sustained during 2008–2018, with no change in unemployment:							
Receipts	-14.0	-45.3	-83.8	-128.3	-170.5	-219.2	-661.1
Outlays	0.1	1.0	3.3	7.5	13.4	19.2	44.4
Increase in deficit (-)	-14.1	-46.3	-87.1	-135.8	-183.8	-238.4	-705.5
Inflation and Interest Rates							
Budgetary effects of 1 percentage point higher rate of:							
(3) Inflation and interest rates during calendar year 2008 only:							
Receipts	21.2	40.9	38.0	36.0	36.9	38.8	211.9
Outlays	12.5	20.7	17.4	16.3	15.3	15.2	97.4
Decrease in deficit (+)	8.7	20.2	20.6	19.7	21.6	23.7	114.5
(4) Inflation and interest rates, sustained during 2008–2018:							
Receipts	21.2	64.5	108.3	153.8	197.3	247.6	792.7
Outlays	12.9	38.2	60.3	77.9	92.1	108.9	390.2
Decrease in deficit (+)	8.4	26.3	48.0	75.9	105.2	138.7	402.5
(5) Interest rates only, sustained during 2008–2018:							
Receipts	7.4	19.9	27.0	30.1	33.1	35.7	153.2
Outlays	8.9	24.8	36.4	42.2	45.9	48.5	206.7
Increase in deficit (-)	-1.5	-5.0	-9.4	-12.1	-12.8	-12.8	-53.5
(6) Inflation only, sustained during 2008–2018:							
Receipts	13.8	44.5	81.1	123.4	163.7	211.3	637.9
Outlays	4.1	13.7	24.7	37.4	49.0	64.8	193.7
Decrease in deficit (+)	9.8	30.9	56.4	86.0	114.7	146.5	444.2
Interest Cost of Higher Federal Borrowing							
(7) Outlay effect of \$100 billion increase in borrowing in 2008	2.0	4.1	4.5	4.9	5.1	5.3	25.9

* \$50 million or less.

¹ The unemployment rate is assumed to be 0.5 percentage point higher per 1.0 percent shortfall in the level of real GDP.