

11. ECONOMIC ASSUMPTIONS

Introduction

The economic outlook appears brighter now than at any time in recent years. Expansionary fiscal and monetary policies, combined with the inherent resilience of the American economy, have finally succeeded in overcoming the forces of restraint that have held growth back. Barring adverse shocks, over the near-term there is good reason to believe that a self-sustaining and on-going expansion is at hand, one that will create more jobs, more income, and more consumer spending and business investment.

From a longer-term perspective, the expansion should proceed briskly in the years ahead due to strengthened productivity growth and improvements in the tax system that will make it easier for markets to reward work and investment. A healthy economy will raise living standards and shrink the budget deficit when combined with restraint in Federal spending.

Economic growth began to slow in 2000 following the stock market downturn that began in March. The decline showed up first in manufacturing, where employment peaked in July 2000. The overall economy contracted in the third quarter of 2000, and the slowdown turned into a brief, mild recession in early 2001 that was over by the end of the year. Although the economy began to expand in the fourth quarter of 2001, the pace of growth was initially well shy of that of a normal recovery and the labor market weakened further. In a typical business recovery, employment begins to rise soon after the recession ends, but in this instance payroll employment sagged for many months following the recession trough.

Beginning in mid-2003, however, there were gathering signs of self-reinforcing economic growth. In such a virtuous circle, rising employment adds to workers' incomes and supports consumer spending, which leads to additional increases in output and further gains in employment. Growing consumer confidence contributes to new spending and is further strengthened by continued growth and prosperity. Meanwhile, as businesses experience increased sales, orders, and profits, they are encouraged to boost capital spending, which creates still more jobs and income. Improved business conditions strengthen investor confidence in the economy's future, which drives up the stock market, boosting household wealth and reducing the cost of capital to business, which helps spur further growth.

The process can continue as long as inflation and interest rates remain low and the economy does not bump up against supply constraints. With inflation and interest rates at their lowest levels in decades, there is good reason to expect that the strengthening eco-

nomical forces now emerging will return the economy to high levels of labor and capital resource use.

Productivity growth accelerated in the last half of the 1990s and has stepped up still further in the last three years. Some of the recent acceleration is very likely a temporary gain: cyclical pressures pushed firms to cut labor and other costs in the face of weak sales. Even taking such cyclical factors into account, however, the underlying pace of productivity growth appears to have improved significantly. If more rapid productivity growth is sustained, then future economic growth would be considerably stronger than most forecasters currently expect. Consistent with conservative forecasting, the Administration assumes productivity growth that is slower than recent experience and close to the average pace of the last four decades.

The Administration's economic near- and medium-term projections reflect a reasonably sanguine view of the outlook, which is shared by most forecasters. The Administration's economic projections are similar to those of private sector forecasters and the Congressional Budget Office. However, after several years of generally disappointing economic news, it would not be surprising if the gathering positive cyclical forces propelled the economy forward even faster than is now generally anticipated.

Policy Actions

Fiscal Policy: During the first three years of this Administration, the President proposed and Congress passed three important tax relief measures that have helped pull the economy out of recession and provide a foundation for future growth.

- In June 2001, the President signed the Economic Growth and Tax Relief and Reconciliation Act (EGTRRA). It provided significant income tax rate reductions including lower marginal income tax rates; a reduction in the marriage tax penalty; and a new, lower, 10 percent tax bracket. Beginning in July 2001, 85 million taxpayers received rebate checks totaling \$36 billion reflecting the new 10 percent bracket. The rebate and lower withholding rates bolstered consumer spending at a critical juncture, helping to return the economy to growth by the end of 2001.
- In March 2002, the President signed the Job Creation and Worker Assistance Act (JCWAA). The main provision of JCWAA reduced the tax disincentive for business to invest by permitting expensing on 30 percent of the value of qualified new capital assets, primarily equipment and software. This expensing provision created a temporary period of lower capital costs until the provision originally expired in September 2004. JCWAA

was aimed directly at weak capital spending, a key reason why the business cycle recovery was much slower than usual. The Act also provided additional unemployment benefits for long-term unemployed workers who exhausted their regular unemployment insurance benefits.

- In May 2003, the President signed another extension of unemployment insurance benefits for individuals who had exhausted their regular benefits. He also signed the Jobs and Growth Tax Relief Reconciliation Act (JGTRRA) to provide additional stimulus to the subpar recovery. This legislation:

1) Advanced the date at which the 2001 tax bill's lower marginal individual income tax rates were to take effect and made them retroactive to January 2003; raised the child tax credit for 2003 and 2004, with the 2003 increase given to families in the form of rebate checks during the summer; advanced the reduction in the marriage penalty; and raised the exemption amount for the individual Alternative Minimum tax (AMT) in 2003 and 2004. (Taxpayers pay the higher of their tax liability as determined by the regular income tax and the AMT calculation.)

2) Reduced the individual income tax rates on dividend income and capital gains. The tax bill reduced to 15 percent the maximum tax rate on dividends which previously were taxed at the taxpayer's marginal tax rate, and it reduced the maximum tax rate on net capital gains (the excess of net long-term gains over net short-term losses) from 20 percent to 15 percent. Tax rates on capital income were also reduced for those lower income families paying less than the maximum rate. The reductions in the tax rates on capital gains and dividends reduced a longstanding distortion in the tax code: the double taxation of corporate earnings that had lowered business investment and biased corporate financing against equity and in favor of debt.

3) Raised the expensing provision of the 2002 tax bill from 30 percent to 50 percent and extended the window for eligible investments from September 11, 2004 to the end of the year. Also, the maximum amount of new investment that a small business can expense was raised from \$25,000 to \$100,000.

All told, the three tax relief bills provided \$68 billion in tax stimulus in fiscal year 2001, \$89 billion in 2002, \$159 billion in 2003, \$272 billion in 2004, and \$171 billion in 2005. The total stimulus, including assistance to States and long-term unemployed workers, was even larger.

Tax relief played a crucial role in ending the 2001 recession and then invigorating the recovery. It took two years, but the stimulus in the tax bills is finally producing the rapid economic growth that the economy needs and that will eventually generate new jobs and higher incomes. In addition to the near-term stimulus, the 2001 and 2003 Acts also made fundamental im-

provements in the Nation's tax system that will raise the long-term level of economic activity by reducing the disincentives and distortions in the system.

- The reductions in marginal tax rates mean that individuals, sole proprietorships, and partnerships will have more incentive to produce more, earn more, save more, and invest more.
- Lower tax rates on dividends and capital gains will lower the after-tax cost of purchasing capital equipment and software, thus raising the rate of investment. Lower tax rates will also shift investment to more productive uses by reducing distortions in the pattern of investment caused by the tax system. By reducing the bias in favor of debt over equity finance, lower tax rates on dividends and capital gains will encourage corporations to maintain stronger balance sheets.
- The reduction in the individual capital gains tax rates will encourage more high-risk, high-payoff investments essential to maintaining a dynamic economy and ensuring U.S. competitiveness in the world economy.
- Lower tax rates on capital income will help raise asset values and thereby improve household and business balance sheets.

The short-term benefits of fiscal stimulus are already evident in the quick end to the recession in 2001 and the further surge in economic growth that occurred in the second half of 2003. The tax cuts have helped to transform an ailing economy into a healthier one. The longer-term benefits from an improved tax system will be evident in the years ahead as new incentives alter the behavior of individuals and businesses in ways that augment economic growth.

Monetary Policy: Since early 2001 the Federal Reserve has aggressively pursued a policy aimed at restoring strong, self-sustaining growth. As it became clear that the abrupt slowing of growth in late 2000 would likely turn into a recession in early 2001, the Federal Reserve cut the federal funds rate sharply. Eventually, it lowered this key interest rate eight times, bringing it down from 6¹/₂ percent at the start of 2001 to 3¹/₂ percent by August. In the months following the terrorist attacks of September 11th, the Federal Reserve cut the rate four more times bringing it to just 1³/₄ percent by the end of the year, the lowest level since the early 1960s.

As the economy began to expand beginning in the fourth quarter of 2001, the Federal Reserve held the federal funds rate constant, but as the pace of growth proved disappointing and payrolls continued to contract, the Federal Reserve reduced the funds rate to 1¹/₄ percent in November 2002 and to 1 percent in June 2003. Even as growth accelerated in the second half of 2003, the Federal Reserve indicated that it intended to maintain an accommodative monetary policy for a considerable period of time.

At the longer end of the maturity spectrum, interest rates declined sharply in late 2000 as markets perceived the slowdown in the economy. They remained

about unchanged during 2001, and then resumed their decline in 2002 and the first half of 2003. At its low point in June 2003, the yield on the 10-year Treasury note fell to 3.1 percent, three percentage points below its level three years earlier and the lowest level since the late 1950s. The yield rose during the second half of 2003 and finished the year at 4.3 percent. With the exception of the past year and a half, this is the lowest level for the 10-year note since 1965.

The decline in long-term interest rates that continued until mid-2003 reflected slack credit demand, a reduction in inflation and in inflation expectations, and the easing of monetary policy. The final phase of the decline in rates in May through June 2003 also reflected some apparent confusion in financial markets regarding the Federal Reserve's intentions. The rise in long-term rates during the second half of 2003 reflected a better understanding by market participants of Federal Reserve policy, along with the pickup in economic activity, and the expectation of further strengthening of the expansion in 2004.

The trend in yields on long-term private sector instruments was similar to that of Treasury notes, declining to very low levels by mid-2003 and then rising to still relatively low levels by year's end. The yield on corporate AAA bonds closed the year at 5.6 percent, the lowest level since 1967. The rate on 30-year fixed rate mortgages finished the year at 5.8 percent, the lowest level since the early 1960s.

Recent Developments

The economic expansion that began in late 2001 was restrained by a number of special factors. The stock market decline, which lasted from early 2000 until early 2003, was much longer—and much steeper—than in a typical business cycle. The market decline was prolonged by the corporate accounting scandals in 2002 that shook investor confidence. The erosion of consumer confidence was another negative factor that persisted until early 2003, well beyond the normal cyclical correction. Confidence was sapped not only by economic conditions in 2001–2002, but also by the terrorist attacks on September 11, 2001, and subsequent developments in the War on Terror which periodically heightened anxiety. Another factor holding back growth was the business capital stock overhang that had emerged in late 2000 and needed to be worked off. The overhang held down investment spending until mid-2003. Finally, slow growth, or even recession, in other leading industrial nations curtailed U.S. exports.

These obstacles to growth had been overcome or greatly reduced by mid-2003. The stock market was on the rise again as the uncertainties surrounding the 2002 accounting scandals subsided and new legislation passed in 2002 led to wide-ranging reforms of corporate governance. Consumers and investors became more optimistic as the Administration and the American people together successfully met the domestic and international threats to the Nation's security at home and overseas. Businesses had largely eliminated the excess

capital stock by mid-2003, and investment began increasing again. Growth abroad also picked up modestly. The attenuation of these special factors permitted the highly stimulative fiscal and monetary policies put in place in 2001–2003 to operate to full effect, restoring the economy to a healthy growth rate.

The economy surged in the third quarter of 2003 as real GDP growth soared to an 8.2 percent annual rate, the fastest quarterly advance since 1983. Growth in the fourth quarter undoubtedly moderated from this stellar pace, but it appears to have remained robust. (The official estimate of fourth quarter growth was not available until after the Budget had gone to press.)

A telling indication that the expansion has become healthier and more self-sustaining is the more balanced mix of the growth of GDP components. Unlike the initial phase of the expansion, which was dominated by consumer and Government spending, growth is now being propelled by business and consumer spending as Government spending growth slows.

Components of Aggregate Demand: Business investment in equipment and software, adjusted for inflation, increased at an 18 percent annual rate in the third quarter, the fastest growth in 5½ years. Rising shipments of nondefense capital goods in October and November suggest that equipment investment made a substantial contribution to GDP growth in the fourth quarter as well. Business investment in structures has leveled off instead of declining as it had earlier. Given the usual lags, an upturn in spending on structures is increasingly likely this year.

The stalwart of the expansion has been consumer spending, and it continued to expand rapidly at nearly a 7 percent annual rate in the third quarter. Consumption probably remained strong in the fourth quarter, as well. Individuals' discretionary spending, such as for new cars, has been especially robust. Residential investment has been the other mainstay of the expansion so far, spurred by relatively low mortgage rates. Residential investment spending rose at over a 20 percent rate in the third quarter, the fastest pace in a decade. Housing starts in November reached the highest level in almost twenty years, which suggests another double-digit rise in residential investment in the fourth quarter.

Other Indications of Stronger Growth:

- The Nation's payrolls have begun increasing again, and unemployment is on the decline. The unemployment rate fell from 6.3 percent in June to 5.7 percent in December. From July to December, employers added 278,000 workers to their payrolls, reversing the trend of shrinking payrolls of the prior months. However, the gain in December of only 1,000 jobs suggests that job creation at the end of the year was still well shy of the usual expansion pace. Further significant payroll gains are likely in 2004, although recent experience suggests that job growth may remain uneven through the early part of the year.

- Output in the hard-hit manufacturing sector turned around in 2003. Manufacturing production during September through December rose at the fastest pace in nearly four years. The Purchasing Managers' Index, a forward looking indicator of manufacturing activity, reached 66 in December, the highest level in 20 years. A reading above 50 indicates an expanding manufacturing sector.
- Consumer and investor confidence has risen sharply. From their low points in March 2003, the University of Michigan Index of Consumer Sentiment increased nearly 20 percent through December and the Conference Board measure advanced almost 50 percent. A survey of investor confidence conducted by UBS/Gallup rose from a low reading of 5 in March to 104 in December.
- Corporate profit margins and overall profits expanded briskly in 2003, which should help foster further increases in business hiring and capital spending in 2004. In the third quarter, the share of profits in GDP reached 10 percent, the highest level since late 1997. Strong productivity growth, well in excess of the growth of labor compensation, has contributed to the growth of profits by lowering unit labor costs and raising profit margins.
- Stock markets have soared since March 2003. The S&P 500 and the Dow Jones Industrial average each gained about 30 percent during the last nine months of 2003; the NASDAQ, with its predominance of high-tech companies, rose 50 percent. The increase in equity values added almost \$3 billion to household wealth from the end of March to the end of December and reduced the cost of equity capital to businesses.
- At the same time that economic activity has been picking up, inflation has been drifting lower. The core Consumer Price Index, which excludes the volatile food and energy components, increased a mere 1.1 percent in the 12 months ending in December 2003. That is the lowest rate in 40 years and well below the 2.7 percent increase at the recession's trough in November 2001. The rise in the overall CPI was 1.9 percent during the most recent 12 months. This was higher than the core rate mainly because of a jump in energy prices. The GDP price index increased 1.7 percent in the year ending in the third quarter of 2003. The absence of any significant inflationary pressures suggests that the Federal Reserve should be able to maintain an accommodative monetary policy for some time yet.

Productivity and the Longer Run Outlook: Since the fourth quarter of 2000, productivity in the nonfarm business sector has risen at a 4.4 percent annual rate. That is much faster than the 1.4 percent average from 1974 to 1995 and faster even than the accelerated 2.5 percent pace during the latter half of the 1990s. While some of the recent step up is likely attributable to intense cost cutting during the recession and the subsequent slow recovery, and therefore transitory, a consid-

erable part of the productivity improvement is likely to prove to be permanent. Strong productivity growth is the best foundation for continued economic growth.

In summary, the accommodative stances of fiscal and monetary policy have combined to ignite a more vigorous expansion. Growth is likely to be above average this year, accompanied by further declines in unemployment and stronger employment gains. Beyond this year, solid productivity growth, low inflation, and an improved tax framework offer the prospect of a new, extended period of robust economic growth.

Economic Projections

The Administration's economic projections are summarized in Table 11-1. These assumptions are close to those of the Congressional Budget Office and the average of private sector forecasters, as described in more detail below. The assumptions were based on information available as of late November. In December, the Bureau of Economic Analysis released a comprehensive revision of the National Income and Product Accounts. The Addendum to Table 11-1 presents the assumptions on a basis comparable to the revised national accounts.

As the foregoing discussion suggests, the Administration is projecting the economy to improve steadily. The major contributors to economic growth this year are likely to be business investment and consumer spending, spurred by stronger income growth, the tax relief legislation of the past three years, the rise in stock market, and increased housing wealth. Spending on equipment and software could surge later this year as firms take advantage of the expensing provision scheduled to expire at year's end. To the extent that the timing of investment is shifted forward from 2005 to 2004, capital spending in early 2005 may be temporarily weakened. Businesses are also likely to add to their inventories in 2004, which were lean at the end of 2003.

The foreign sector may once again make at least a modest positive contribution to growth because of an expected pick up of economic activity abroad and the recent decline in the value of the dollar, both of which should help U.S. exports. From February 2002 to the end of 2003, the dollar declined 23 percent against the currencies of the major U.S. trading partners.

Residential investment may not maintain the exceptionally high levels reached in late 2003 and so may make little, if any, contribution to growth. The contribution to real GDP growth from Government spending is also likely to be at most modest. At the Federal level, growth in spending on security requirements will be partly offset by more moderate spending growth in areas of lower priority. At the State and local level, growth of outlays will continue to be restrained as these governments strive to achieve balanced budgets.

Real GDP and Unemployment: The economy is projected to grow 4.4 percent in 2004 measured on a calendar year-over-year basis, compared with 3.1 percent in 2003. During the next few years, real growth is

Table 11-1. ECONOMIC ASSUMPTIONS ¹

(Calendar years; dollar amounts in billions)

	Actual 2002	Projections						
		2003	2004	2005	2006	2007	2008	2009
Gross Domestic Product (GDP):								
Levels, dollar amounts in billions:								
Current dollars	10,446	10,939	11,566	12,139	12,746	13,396	14,096	14,831
Real, chained (1996) dollars	9,440	9,730	10,163	10,528	10,886	11,248	11,607	11,969
Chained price index (1996=100), annual average	110.7	112.4	113.8	115.3	117.1	119.1	121.4	123.9
Percent change, fourth quarter over fourth quarter:								
Current dollars	4.3	5.8	5.2	4.9	5.0	5.2	5.2	5.2
Real, chained (1996) dollars	2.9	4.2	4.0	3.4	3.3	3.3	3.1	3.1
Chained price index (1996=100)	1.3	1.5	1.2	1.4	1.6	1.8	2.0	2.0
Percent change, year over year:								
Current dollars	3.6	4.7	5.7	4.9	5.0	5.1	5.2	5.2
Real, chained (1996) dollars	2.4	3.1	4.4	3.6	3.4	3.3	3.2	3.1
Chained price index (1996=100)	1.1	1.6	1.2	1.3	1.5	1.7	2.0	2.0
Incomes, billions of current dollars:								
Corporate profits before tax	665	756	891	1,181	1,134	1,134	1,175	1,222
Wages and salaries	4,996	5,101	5,356	5,686	6,008	6,347	6,687	7,030
Other taxable income ²	2,411	2,487	2,609	2,681	2,727	2,791	2,888	3,016
Consumer Price Index: ³								
Level (1982-84=100), annual average	179.9	184.0	186.6	189.4	192.8	196.8	201.5	206.6
Percent change, fourth quarter over fourth quarter	2.2	2.0	1.4	1.6	1.9	2.2	2.5	2.5
Percent change, year over year	1.6	2.3	1.4	1.5	1.8	2.1	2.4	2.5
Unemployment rate, civilian, percent:								
Fourth quarter level	5.9	5.9	5.5	5.3	5.2	5.1	5.1	5.1
Annual average	5.8	6.0	5.6	5.4	5.2	5.1	5.1	5.1
Federal pay raises, January, percent:								
Military ⁴	6.9	4.7	4.15	3.5	NA	NA	NA	NA
Civilian ⁵	4.6	4.1	4.1	1.5	NA	NA	NA	NA
Interest rates, percent:								
91-day Treasury bills ⁶	1.6	1.0	1.3	2.4	3.3	4.0	4.3	4.4
10-year Treasury notes	4.6	4.0	4.6	5.0	5.4	5.6	5.8	5.8
ADDENDUM: ⁷								
Gross Domestic Product (GDP), revised:								
Levels, dollar amounts in billions:								
Current dollars	10,481	10,984	11,612	12,187	12,796	13,449	14,151	14,890
Real, chained (2000) dollars	10,083	10,397	10,858	11,248	11,630	12,017	12,401	12,788
Chained price index (2000=100), annual average	103.9	105.7	107.0	108.4	110.0	111.9	114.1	116.4
Percent change, fourth quarter over fourth quarter:								
Current dollars	4.2	5.9	5.2	4.9	5.0	5.2	5.2	5.2
Real, chained (2000) dollars	2.8	4.3	4.0	3.4	3.3	3.3	3.1	3.1
Chained price index (2000=100)	1.4	1.5	1.2	1.4	1.6	1.8	2.0	2.0
Percent change, year over year:								
Current dollars	3.8	4.8	5.7	4.9	5.0	5.1	5.2	5.2
Real, chained (2000) dollars	2.2	3.1	4.4	3.6	3.4	3.3	3.2	3.1
Chained price index (2000=100)	1.5	1.6	1.2	1.3	1.5	1.7	2.0	2.0
Incomes, billions of current dollars, revised:								
Corporate profits before tax	745	845	992	1,313	1,261	1,262	1,307	1,359
Wages and salaries	4,975	5,092	5,352	5,682	6,004	6,342	6,682	7,025
Other taxable income ²	2,349	2,401	2,515	2,587	2,634	2,701	2,796	2,923

NA = Not Available.

¹Based on information available as of late November 2003.²Dividends, rent, interest and proprietors' income components of personal income.³Seasonally adjusted CPI for all urban consumers.⁴Percentages apply to basic pay only; 2002, 2003, and 2004 figures are averages of various rank- and longevity- specific adjustments; percentages to be proposed for years after 2005 have not yet been determined.⁵Overall average increase, including locality pay adjustments. Percentages to be proposed for years after 2005 have not yet been determined.⁶Average rate, secondary market (bank discount basis).⁷Assumptions adjusted to reflect comprehensive revisions to GDP and incomes released by the Bureau of Economic Analysis in December 2003.

expected to exceed the long-run potential growth rate. As a result, the unemployment rate is projected to decline gradually from its 5.7 percent level in December 2003 to 5.1 percent in 2007. This rate is in the center of the range that is thought to be consistent with stable inflation.

Potential GDP: The growth of potential GDP is assumed to be 3.1 percent per year. Potential growth is approximately equal to the sum of the trend growth rates of the labor force and of productivity. The labor force is projected to grow about 1.0 percent per year on average, a combination of a 1.1 percent increase in the working-age population and a slight decline in the labor force participation rate. Trend productivity growth in the nonfarm business sector is assumed to average 2.3 percent per year, about the average during the past four decades, an extended period that encompasses rapid and slow productivity growth trends. The productivity assumption is a cautious one, especially in light of the 4.4 percent average growth rate in nonfarm productivity since the fourth quarter of 2000.

Inflation: Inflation is expected to edge up slightly from its low levels in 2003. The GDP chain-weighted price index is projected to increase 1.2 percent this year, rising to 2.0 percent in 2008 and 2009. The CPI is expected to increase 1.4 percent this calendar year, and then move up to 2.5 percent in 2009. The difference between inflation measured by the CPI and the GDP price index in the outyears is consistent with historical experience.

The forecast for low inflation in the coming years reflects the current very low inflation, the absence of inflationary expectations, the additional downward pressure on wages and prices that will persist until stronger growth eventually eliminates excess slack in the economy, and the demonstrated ability of the Federal Reserve in recent years to assure a reasonable degree of price stability. Not since the mid-1960s has there been a 10-year period with average inflation as low as is projected for 2000–2009.

Interest Rates: As is usual during an expansion, interest rates are projected to rise. The 3-month Treasury bill rate ended 2003 at 0.9 percent. It is expected to increase to 4.4 percent by 2009. The yield on the 10-year Treasury note ended last year at 4.3 percent. It is projected to increase to 5.8 percent by 2009.

The larger increase at the short end of the maturity spectrum than at the longer end is the usual cyclical experience and reflects an assumed less accommodative monetary policy as the expansion matures. Rates start from such a low level currently that, despite their projected increase, interest rates on average during 2003 through 2009 are likely to be lower than during any other seven-year period since the mid-1960s. Adjusted for inflation, the outyear real interest rates are close to their historical averages.

Income Shares: The share of taxable income in nominal GDP is projected to rise through 2005 and decline thereafter. The wage and salary share is projected to rise steadily through 2007 from a relatively low level

in the third quarter of 2003. The share of the non-taxable component of labor compensation in GDP is expected to rise significantly over the forecast horizon. This component, called supplements to wages and salaries in the national income accounts, is composed of employer contributions for social insurance and employer-paid benefits, such as health insurance and pension contributions. Both health insurance and pension contributions are projected to rise more rapidly than taxable wages and salaries.

The cost of health insurance purchased by employers rose at a double-digit pace in both 2002 and 2003. Employers have shifted some of the rise in insurance costs on to employees, and are likely to continue to do so. Nonetheless, the upward pressure on the employers' share of insurance premiums is expected to be substantial. Also, employers' contributions to defined-benefit pension plans are expected to increase significantly over the next few years. Firms must reduce the large underfunding of plans created by the fall in the stock market between 2000 and 2003, lower assumed rates of return on fund assets, and the ongoing obligations for their workforce.

The share of corporate profits before tax will be affected by the strength of the economy and the end of the temporary expensing provisions for qualified capital by the end of 2004. Healthy economic growth will help sustain the corporate profits share. On the other hand, the expensing provision will lower profits before tax this year compared to what they otherwise would have been by allowing firms to write off more of their investment sooner. After 2004, however, corporate profits before tax will increase both because new investments will not qualify for the temporary expensing provision and because the remaining depreciation on expensed investments will be lower. Taking these various factors into account, the corporate profits share is expected to increase slightly this year, jump sharply in 2005 when the receipts payback for expensing will begin, and then decline gradually thereafter.

Among the other components of the tax base, the share of personal interest income in GDP is projected to decline significantly reflecting the relatively low nominal interest rates during the next six years. The remaining shares of the tax base (proprietors' income, rental income, and dividend income) are projected to remain relatively stable at around their 2003 levels.

Summary: The economic news since the assumptions were finalized has generally been favorable, although job growth in December fell well below expectations. On balance, at the start of 2004, the upside risks to the near-term forecast may exceed the downside risks. Moreover, if the strong productivity performance of recent years continues at even a somewhat more moderate pace, then long-run growth may also be stronger than assumed here. On the other hand, growth may also be weaker than forecast if, for example, the economy is subjected to additional and significant adverse shocks.

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 Treasury, the Council of Economic Advisers, and the Office of Management and Budget. Private-sector forecasts are often used by businesses for long-term planning. Table 11-2 compares the 2005 Budget assumptions with projections by the CBO and 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 private-sector forecasts are based on their appraisals of the most likely policy outcomes, which vary among the forecasters. The Administration forecast assumes that all Budget proposals will be enacted. The CBO baseline projection assumes that current law as of the time the estimates are made will remain forever unchanged. Despite their differing policy

assumptions, the three sets of economic projections, shown in Table 11-2, are very close. The similarity of the Budget economic projection to both the CBO baseline projection and the Consensus forecast underscores the cautious nature of the Administration forecast.

For real GDP, the Administration, CBO, and the Blue Chip consensus anticipate strong growth this year. The Administration projects 4.4 percent growth, slightly below the CBO and private sector consensus. For calendar year 2005, the Administration, at 3.6 percent, is again slightly below the Consensus (at 3.7 percent), and significantly less than CBO's 4.2 percent. Thereafter, the Administration's forecast remains close to the consensus growth rate. Over the six-year span as a whole, the Administration and the private sector consensus both project an average 3.5 percent annual growth rate, CBO 3.4 percent.

All three forecasts anticipate continued low inflation of between 1 and 2 percent as measured by the GDP chain-weighted price index, and between 1¹/₂ and 2¹/₂ percent as measured by the CPI. The unemployment rate projections are also similar. All three forecasts en-

Table 11-2. COMPARISON OF ECONOMIC ASSUMPTIONS
(Calendar years)

	Projections						Average,
	2004	2005	2006	2007	2008	2009	2004-09
GDP (billions of current dollars):							
CBO January	11,629	12,243	12,814	13,389	14,023	14,686	
Blue Chip Consensus January ²	11,660	12,291	12,929	13,588	14,292	15,045	
2005 Budget	11,612	12,187	12,796	13,449	14,151	14,890	
Real GDP (chain-weighted):¹							
CBO January	4.8	4.2	3.1	2.7	2.8	2.8	3.4
Blue Chip Consensus January ²	4.6	3.7	3.3	3.1	3.2	3.2	3.5
2005 Budget	4.4	3.6	3.4	3.3	3.2	3.1	3.5
Chain-weighted GDP Price Index:¹							
CBO January	1.1	1.1	1.5	1.8	1.9	1.9	1.5
Blue Chip Consensus January ²	1.4	1.6	1.8	1.9	2.0	2.0	1.8
2005 Budget	1.2	1.3	1.5	1.7	2.0	2.0	1.6
Consumer Price Index (all-urban):¹							
CBO January	1.6	1.7	2.0	2.2	2.2	2.2	2.0
Blue Chip Consensus January ²	1.7	2.1	2.3	2.4	2.4	2.4	2.2
2005 Budget	1.4	1.5	1.8	2.1	2.4	2.5	2.0
Unemployment rate:³							
CBO January	5.8	5.3	5.0	5.1	5.2	5.2	5.3
Blue Chip Consensus January ²	5.8	5.4	5.4	5.3	5.3	5.2	5.4
2005 Budget	5.6	5.4	5.2	5.1	5.1	5.1	5.3
Interest rates:³							
91-day Treasury bills:							
CBO January	1.3	3.0	4.0	4.6	4.6	4.6	3.7
Blue Chip Consensus January ²	1.3	2.6	3.7	3.9	4.1	4.1	3.3
2005 Budget	1.3	2.4	3.3	4.0	4.3	4.4	3.3
10-year Treasury notes:³							
CBO January	4.6	5.4	5.5	5.5	5.5	5.5	5.3
Blue Chip Consensus January ²	4.7	5.4	5.5	5.6	5.6	5.6	5.4
2005 Budget	4.6	5.0	5.4	5.6	5.8	5.8	5.4

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

All forecasts adjusted to reflect December 2003 comprehensive revisions to the National Income and Product Accounts.

¹ Year over year percent change.

² January 2004 Blue Chip Consensus forecast for 2004 and 2005; Blue Chip October 2003 long run extension for 2006 - 2009.

³ Annual averages, percent.

visage slightly rising interest rates during the next few years. For short-term rates, the consensus forecast is slightly below the Administration's in the outyears, while CBO is higher. The three long-term interest rate projections are very close.

Changes in Economic Assumptions

As shown in Table 11–3, the economic assumptions underlying this Budget have been revised significantly from those of the 2004 Budget.

Real GDP growth accelerated beyond expectation in the latter part of 2003 and for the year as a whole was a bit stronger, overall, than projected in last year's Budget. A year ago, the economic recovery appeared to be losing momentum; now, it is gaining speed. Consequently, the level of real GDP projected for this year is now a full percentage point higher than anticipated in last year's Budget, and the year-over-year growth rate is 0.8 percentage points higher. From 2005 onwards, moreover, real GDP growth in this budget is projected to be slightly above last year's projected rates.

The level of nominal GDP is projected to be about one percentage point higher in each year, 2004–2009, than in last year's budget. That is primarily because actual real GDP was significantly higher in 2003, and is now expected to grow slightly faster during 2004–2008, than in last year's budget. The unemployment rate is expected to be somewhat higher than in last year's assumptions but ultimately to decline to 5.1 percent, as before. Interest rates are projected to be lower during the next few years than was envisaged

in last year's Budget, reflecting their current low levels. The short-term rate is expected to gradually approach last year's outyear assumptions, but long-term rates are now projected to be slightly higher. Adjusted for inflation, the real long-term rate is the same as in last year's budget.

Sources of Change in the Budget since Last Year

The sources of the change in the budget outlook from the 2004 Budget to the 2005 Budget are shown in Table 11–4. The second block shows that proposed and enacted legislation increases the deficit in 2004 and 2005 but has little effect thereafter.

The third block shows the effects on receipts and outlays from changes in economic assumptions. These include the effects of changes in assumptions for real growth, inflation, interest rates, unemployment, and the various taxable incomes.

Technical factors (block 4) are all changes in budget estimates that are not due to changes in economic assumptions or legislation. Examples of technical factors are revised demographic data from the 2000 Census and changes in estimating methodologies, including changes in the relationship between economic variables, income reported on tax returns, and actual tax collections.

Table 11–3. COMPARISON OF ECONOMIC ASSUMPTIONS IN THE 2004 AND 2005 BUDGETS

(Calendar years; dollar amounts in billions)

	2003	2004	2005	2006	2007	2008	2009
Nominal GDP: ¹							
2004 Budget assumptions	10,884	11,447	12,031	12,637	13,263	13,919	14,608
2005 Budget assumptions	10,939	11,566	12,139	12,746	13,396	14,096	14,831
Real GDP (1996 dollars): ¹							
2004 Budget assumptions	9,710	10,061	10,414	10,760	11,102	11,446	11,801
2005 Budget assumptions	9,730	10,163	10,528	10,886	11,248	11,607	11,969
Real GDP (percent change): ²							
2004 Budget assumptions	2.9	3.6	3.5	3.3	3.2	3.1	3.1
2005 Budget assumptions	3.1	4.4	3.6	3.4	3.3	3.2	3.1
GDP price index (percent change): ²							
2004 Budget assumptions	1.3	1.5	1.5	1.7	1.7	1.8	1.8
2005 Budget assumptions	1.6	1.2	1.3	1.5	1.7	2.0	2.0
Consumer Price Index (percent change): ²							
2004 Budget assumptions	2.2	2.1	2.1	2.2	2.2	2.3	2.3
2005 Budget assumptions	2.3	1.4	1.5	1.8	2.1	2.4	2.5
Civilian unemployment rate (percent): ³							
2004 Budget assumptions	5.7	5.5	5.2	5.1	5.1	5.1	5.1
2005 Budget assumptions	6.0	5.6	5.4	5.2	5.1	5.1	5.1
91-day Treasury bill rate (percent): ³							
2004 Budget assumptions	2.0	3.6	4.3	4.4	4.4	4.5	4.5
2005 Budget assumptions	1.0	1.3	2.4	3.3	4.0	4.3	4.4
10-year Treasury note rate (percent): ³							
2004 Budget assumptions	4.2	5.0	5.3	5.4	5.5	5.6	5.6
2005 Budget assumptions	4.0	4.6	5.0	5.4	5.6	5.8	5.8

¹ Not adjusted for December 2003 comprehensive revisions to the National Income and Product Accounts.

² Year over year.

³ Calendar year average.

Table 11-4. SOURCES OF CHANGE IN BUDGET TOTALS

(In billions of dollars)

	2004	2005	2006	2007	2008	2009
(1) 2004 Budget						
Receipts	1,922	2,135	2,263	2,398	2,521	2,649
Outlays	2,229	2,343	2,464	2,576	2,711	2,843
Unified budget deficit (-)	-307	-208	-201	-178	-190	-194
(2) Changes due to policy:						
Receipts	-17	15	38	33	23	19
Outlays	92	62	34	39	27	14
Deficit increase (-), policy	-109	-48	4	-5	-5	4
(3) Changes due to economic assumptions:						
Receipts	-39	-37	-41	-27	-10	4
Outlays	-22	-37	-33	-24	-14	-6
Deficit increase (-), economic	-18	1	-8	-4	4	10
(4) Changes due to technical factors:						
Receipts	-68	-77	-55	-53	-48	-56
Outlays	19	31	8	-1	1	2
Deficit increase (-), technical	-87	-108	-63	-54	-48	-57
(5) Total changes from 2004 Budget:						
Receipts	-124	-99	-57	-47	-36	-33
Outlays	89	56	10	16	14	10
Total deficit increase (-)	-213	-155	-67	-63	-49	-43
(6) 2005 Budget						
Receipts	1,798	2,036	2,206	2,351	2,485	2,616
Outlays	2,319	2,400	2,473	2,592	2,724	2,853
Unified budget deficit (-)	-521	-364	-268	-241	-239	-237

Note: Changes in interest costs due to receipts changes included in outlay lines.

Structural and Cyclical Balances

When the economy is operating below potential and the unemployment rate exceeds the long-run sustainable average, as is projected to be the case for the next few years, receipts are lower than they would be if resources were more fully employed, and outlays for unemployment-sensitive programs (such as unemployment compensation and food stamps) are higher. As a result, the deficit is larger (or the surplus is smaller) than would be the case if the unemployment rate were at the sustainable long-run average. The portion of the deficit (or surplus) that can be traced to this factor is called the cyclical component. The portion that would remain if the unemployment rate was at its long-run value is called the structural deficit (or structural surplus).

The structural balance can often provide a clearer understanding of the stance of fiscal policy than the unadjusted budget balance including the cyclical component. The structural balance shows the surplus or deficit that will persist even when the economy is operating at the sustainable level of unemployment.

The estimates of the structural balance are based on the relationship between changes in the unemployment rate and real GDP growth on the one hand, and receipts and outlays on the other. As such, the relationships do not take into account other possible changes

in the economy that might also be cyclically related. For example, the sharply rising stock market during the second half of the 1990s boosted capital gains-related receipts, and the subsequent fall in the stock market reduced receipts. Some of this rise and fall was cyclical in nature. It is not possible, however, to estimate this cyclical component accurately. As a result, both the unadjusted and structural balances are affected by cyclical stock market movements.

From 1998 to 2001, the unemployment rate appears to have been lower than could be sustained in the long run. Therefore, as shown in Table 11-5, in 1998 the structural surplus of \$22 billion was less than the actual surplus of \$69 billion. Likewise, in 1999-2001, the structural surplus continued to be 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.

On the other hand, in 2002, the unemployment rate was above what is currently thought to be the sustainable level and the actual deficit of \$158 billion exceeded the structural deficit of \$104 billion. Similarly in 2003, the actual deficit of \$375 billion contained a cyclical component of about \$74 billion. The structural deficit for that year was \$302 billion. As the projected unemployment rate declines toward the sustainable level in the next few years, the projected unadjusted deficit is

expected to decline to be about equal to the structural deficit in 2007 and thereafter.

In the early 1990s, large swings in net outlays for deposit insurance (the saving and loan bailouts) had substantial impacts on deficits, but had little concurrent impact on economic performance. It therefore became customary to estimate an adjusted structural balance that removed deposit insurance outlays as well as the cyclical component of the budget balance from the actual balance. Deposit insurance net outlays are projected to be very small negative numbers in the coming years. Therefore, the adjusted structural deficit and the structural deficit are nearly identical over the forecast horizon.

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 moderate 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 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 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 11–6.

For real growth and employment:

- As shown in the first block, if in 2004 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 2004 deficit is estimated to increase by \$12.2 billion; receipts in 2004 would be lower by \$9.3 billion, and outlays would be higher by \$2.9 billion, primarily for unemployment-sensitive programs. In fiscal year 2005, the estimated receipts shortfall would grow further to \$20.8 billion, and outlays would increase by \$7.4 billion relative to the base, even though the growth rate in calendar 2005 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 2004–2009, the cumulative increase in the budget deficit is estimated to be \$187 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 2004–2009, the cumulative increase in the budget deficit is estimated to be \$511 billion.
- 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 2004 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 2005, outlays would be above the base by \$22.2 billion, due in part to lagged cost-of-living adjustments; receipts would rise \$22.3 billion above the base, however, resulting in a \$0.1 billion improvement in the budget balance. In subsequent years, the amounts added to receipts would continue to be larger than the additions to outlays. During 2004–2009, cumulative

Table 11–5. ADJUSTED STRUCTURAL BALANCE

(In billions of dollars)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Unadjusted surplus or deficit (–)	69.2	125.6	236.4	127.4	–157.8	–375.3	–520.7	–363.6	–267.6	–241.3	–239.0	–237.1
Cyclical component	47.5	72.8	110.2	49.0	–53.4	–73.6	–39.1	–15.3	–5.1	–1.4	–.1	.....
Structural surplus or deficit (–)	21.7	52.7	126.3	78.4	–104.4	–301.7	–481.6	–348.3	–262.6	–239.9	–239.0	–237.1
Deposit insurance outlays	–4.4	–5.3	–3.1	–1.4	–1.0	–1.4	–1.5	–1.5	–1.0	–1.2	–1.9	–2.0
Adjusted structural surplus or deficit (–)	17.4	47.4	123.2	77.0	–105.5	–303.1	–483.1	–349.8	–263.6	–241.1	–240.8	–239.1

Note: The NAIRU is assumed to be 5.2% through calendar year 1998 and 5.1% thereafter.

budget deficits would be \$23 billion smaller than in the base case.

- In the fourth block example, 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 \$365 billion to outlays over 2004–2009 and \$442 billion to receipts, for a net decrease in the 2004–2009 deficits of \$78 billion.

The table also shows the interest rate and the inflation effects separately. These separate effects for interest rates and inflation rates do not sum to the effects for simultaneous changes in both. 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 outlay effects of a one percentage point increase in interest rates alone is 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.

- The sixth block shows that a sustained one percentage point increase in the GDP chain-weighted price index and in CPI inflation decrease cumulative deficits by a substantial \$257 billion during 2004–2009. This large effect is because the receipts from a higher tax base exceeds the combination of higher outlays from mandatory cost-of-living adjustments and lower receipts from CPI indexation of tax brackets.

The last entry in the table shows rules of thumb for the added interest cost associated with changes in the budget deficit.

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 11-6. SENSITIVITY OF THE BUDGET TO ECONOMIC ASSUMPTIONS

(In billions of dollars)

Budget effect	2004	2005	2006	2007	2008	2009	Total of Effects, 2004-2009
Real Growth and Employment							
Budgetary effects of 1 percent lower real GDP growth:							
(1) For calendar year 2004 only: ¹							
Receipts	-9.3	-20.8	-23.8	-24.9	-26.1	-27.5	-132.6
Outlays	2.9	7.4	7.8	9.7	12.0	14.3	54.1
Increase in deficit (-)	-12.2	-28.3	-31.6	-34.6	-38.2	-41.8	-186.7
(2) Sustained during 2004-2009, with no change in unemployment:							
Receipts	-9.5	-32.5	-61.1	-91.6	-124.7	-160.7	-480.1
Outlays	-0.1	0.1	1.4	4.5	9.4	15.7	31.0
Increase in deficit (-)	-9.3	-32.6	-62.5	-96.0	-134.1	-176.5	-511.1
Inflation and Interest Rates							
Budgetary effects of 1 percentage point higher rate of:							
(3) Inflation and interest rates during calendar year 2004 only:							
Receipts	10.6	22.3	22.8	21.6	22.7	23.9	123.9
Outlays	11.3	22.2	19.1	16.9	16.2	15.3	101.0
Decrease in deficit (+)	-0.6	0.1	3.7	4.7	6.5	8.6	22.9
(4) Inflation and interest rates, sustained during 2004-2009:							
Receipts	10.6	34.1	59.4	84.4	111.8	142.2	442.5
Outlays	11.5	34.3	53.9	71.3	88.2	105.7	364.8
Decrease in deficit (+)	-0.9	-0.1	5.6	13.1	23.6	36.5	77.7
(5) Interest rates only, sustained during 2004-2009:							
Receipts	1.8	4.4	5.7	6.4	7.0	7.7	33.0
Outlays	9.4	25.1	35.3	42.9	49.8	56.9	219.4
Increase in deficit (-)	-7.6	-20.7	-29.7	-36.5	-42.8	-49.2	-186.5
(6) Inflation only, sustained during 2004-2009:							
Receipts	8.8	29.6	53.6	77.7	104.4	134.0	408.2
Outlays	2.1	9.4	19.1	29.4	40.1	51.4	151.4
Decrease in deficit (+)	6.7	20.2	34.5	48.3	64.3	82.7	256.7
Interest Cost of Higher Federal Borrowing							
(7) Outlay effect of \$100 billion increase in the 2004 unified deficit	0.6	2.2	3.4	4.3	5.1	5.5	21.2

* \$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.

12. STEWARDSHIP

Introduction

The budget is an essential tool for allocating resources within the Federal Government and between the public and private sectors; but current outlays, receipts, and the surplus or deficit do not provide enough information to evaluate fully the Government's financial and investment decisions. Indeed, changes in the annual budget deficit or surplus can be misleading indicators of the Government's financial condition. For example, the temporary shift from annual deficit to surplus in the late 1990s did nothing to correct the long-term deficiencies in the Nation's major entitlement programs, which are the major source of the long-run shortfall in Federal finances. This would have been more apparent if greater attention had focused on long-term measures such as appear in this chapter. As important as the current budget surplus or deficit is, other indicators are also needed to properly judge the Government's fiscal condition.

For the Federal Government, there is no single number that corresponds to the bottom line in a business balance sheet or income statement. The Government is ultimately judged by how its actions affect the country's security and well-being, and that cannot be summed up with a single statistic. Although its financial condition is important, the Government does not and is not expected to earn a profit. Instead, its fiscal status is best evaluated using a broad range of data and several complementary perspectives. This chapter presents a framework for such analysis. Because there are serious limitations on the available data and the future is uncertain, this chapter's findings should be interpreted with caution; its conclusions are subject to future revision.

PART I—HOW TO EVALUATE FEDERAL FINANCES

No single framework can encompass all of the factors that affect the financial condition of the Federal Government. Nor can any framework serve as a substitute for actual analysis. Nevertheless, the framework presented here offers a useful way to examine the financial aspects of Federal policies that goes beyond the standard measures of outlays, receipts and the surplus/deficit. It includes information that would appear on a balance sheet, but it goes beyond that to include long-run projections of the budget that can be used to show where future fiscal strains are most likely to appear. It also includes measures that indicate some of what society has gained economically and socially from Federal programs funded through this and past budgets.

The chapter consists of four parts:

- Part I explains how the separate pieces of analysis link together. Chart 12–1 presents the linkages in a schematic diagram.
- Part II presents the Government's physical and financial assets and its legal liabilities, which are all collected in Table 12–1. This table is similar to a business balance sheet, but for that reason it misses some of the Government's unique fiscal characteristics. That is why it needs to be supplemented by information in Parts III and IV.
- Part III shows possible paths for the Federal budget extending well beyond the normal budget window and describes how these projections vary depending on key economic and demographic assumptions. The projections are summarized in Table 12–2 and in a related set of charts. This part also presents discounted present value estimates of the funding shortfall in Social Security and Medicare in Table 12–3. Together such data indicate the full range of the Government's future responsibilities and resources under current law and policy. In particular, they show the looming challenge that Federal entitlement programs create for the budget in the long run.
- Part IV returns the focus to the present. It features information on national economic and social conditions that are affected by what the Government does. The private economy is the ultimate source of the Government's resources. Table 12–4 presents summary data for total national wealth, while highlighting the Federal investments that have contributed to that wealth. Table 12–5 presents a small sample of economic and social indicators.

The Government's legally binding obligations—its liabilities—consist in the first place of Treasury debt owed to the public. Other liabilities include the pensions and other benefits owed to retired Federal employees and veterans. These employee obligations are a form of deferred compensation; they have counterparts in the business world, and would appear as liabilities on a business balance sheet. Accrued obligations for Government insurance policies and the estimated present value of failed loan guarantees and deposit insurance claims are also analogous to private liabilities. These Government liabilities are discussed further in Part II along with the Government's assets. They are collected in Table 12–1. Although they are important, the obligations shown in Table 12–1 are only a subset

of the Government's total financial responsibilities. Indeed, the full extent of the Government's fiscal exposure through its various programmatic commitments dwarfs the outstanding debt held by the public or even the total of all acknowledged Federal liabilities. The commitment to Social Security and Medicare alone amounts to many times the value of outstanding Federal debt.

In addition to Social Security and Medicare, the Government has a broad range of programs that dispense cash and other benefits to individual recipients. It also provides a wide range of other public services that must be financed through the tax system. The Government is not constitutionally obligated to continue operating any of these programs without change, and specific benefits and services may be modified or even ended at any time, subject to the decisions of Congress and the President. Indeed, such changes are a regular part of the legislative cycle. For such reasons, these programmatic commitments are not "liabilities" in a legal or accounting sense, and they would not appear on a balance sheet, but they remain Federal responsibilities and will have a claim on budgetary resources for the foreseeable future. All of these programs are reflected in the long-run budget projections in Part III. It would be misleading to leave out any of these programmatic commitments in projecting future claims on the Government or in calculating the Government's long-run fiscal balance.

The Federal Government also has resources that go beyond the assets that would appear on a business's balance sheet. These additional resources include most importantly the Government's sovereign power to tax. Because of these additional responsibilities and resources, the best way to analyze the future strains on the Government's fiscal position is to make a long-run projection of the entire Federal budget, as is done in Part III of this chapter, which provides a comprehensive measure of the Government's future cash flows.

Over long periods of time, the spending the Government does must be financed by the taxes and other receipts it collects. Although the Government can borrow for temporary periods, it must pay interest on any such borrowing, which adds to future spending. In the long run, under normal financial conditions, a solvent Government must pay for its spending out of its receipts. The projections in Part III show that under an extension of the estimates in this budget, long-run balance in this sense is not achieved, mostly because projected spending for Social Security, Medicare, and Medicaid grow faster than the revenue available to pay for them.

The long run budget projections and the table of assets and liabilities are silent on the question of whether the public is receiving value for its tax dollars or whether Federal assets are being used effectively. Information on those points requires performance measures for Government programs supplemented by appropriate information about conditions in the economy and society. Recent changes in budgeting practices will contribute to the goal of more complete information about Govern-

ment programs and permit a closer alignment of the cost of programs with performance measures. These changes are described in detail in the main *Budget* volume itself, in chapter 2 of this volume, and in the accompanying material that describes results obtained with the Program Assessment Rating Tool (PART). This Stewardship chapter complements the detailed exploration of Government performance with an assessment of the overall impact of Federal policy as reflected in some general measures of economic and social well-being.

Relationship with FASAB Objectives

The framework presented here meets the stewardship objective¹ for Federal financial reporting recommended by the Federal Accounting Standards Advisory Board (FASAB) and adopted for use by the Federal Government in September 1993.

Federal financial reporting should assist report users in assessing the impact on the country of the Government's operations and investments for the period and how, as a result, the Government's and the Nation's financial conditions have changed and may change in the future. Federal financial reporting should provide information that helps the reader to determine:

3a. Whether the Government's financial position improved or deteriorated over the period.

3b. Whether future budgetary resources will likely be sufficient to sustain public services and to meet obligations as they come due.

3c. Whether Government operations have contributed to the nation's current and future well-being.

The presentation here is an experimental approach for meeting this objective at the Government-wide level. It is especially intended to meet the broad interests of economists and others in evaluating trends over time, including both past and future trends. The annual *Financial Report of the United States Government* presents related information, but from a different perspective. The *Financial Report* includes a standard business-type balance sheet. The assets and liabilities on that balance sheet are all based on transactions that have already occurred. A somewhat similar table can be found in Part II of this chapter. The *Report* also includes a Statement of Social Insurance and it reviews a substantial body of information on the condition and sustainability of the Government's social insurance programs. However, the *Report* does not try to extend that review to the condition or sustainability of the Government as a whole, which is the main focus of this chapter.

Connecting the Dots: The presentation that follows consists in large part of a series of tables and charts. Taken together, they serve similar functions to a business's balance sheet. The schematic diagram, Chart 12-1, shows how the different pieces fit together. The tables and charts should be viewed as an ensemble, the main elements of which are grouped in two broad

¹ Statement of Federal Financial Accounting Concepts, Number 1, *Objectives of Federal Financial Reporting*, September 2, 1993. Other objectives are budgetary integrity, operating performance, and systems and controls.

categories—assets/resources and liabilities/responsibilities.

- Reading down the left-hand side of Chart 12–1 shows the range of Federal resources, including assets the Government owns, tax receipts it can expect to collect based on current and proposed law, and national wealth that provides the base for Government revenues.
- Reading down the right-hand side reveals the full range of Federal obligations and responsibilities,

beginning with Government's acknowledged liabilities based on past actions, such as the debt held by the public, and going on to include future budget outlays that maintain present policies and trends. This column ends with a set of indicators highlighting areas where Government activity affects society or the economy.

Chart 12-1. A Presentation of the Federal Government's Financial Condition

Assets/Resources		Liabilities/Responsibilities
Federal Assets Financial Assets Monetary Assets Mortgages and Other Loans Other Financial Assets Less Expected Loan Losses Physical Assets Fixed Reproducible Capital Defense Nondefense Inventories Non-reproducible Capital Land Mineral Rights	Federal Governmental Assets and Liabilities (Table 12-1)	Federal Liabilities Debt Held by the Public Guarantees and Insurance Deposit Insurance Pension Benefit Guarantees Loan Guarantees Other Insurance Pension and Post-Employment Health Liabilities Other Liabilities Net Balance
Resources/Receipts Projected Receipts	Long-Run Federal Budget Projections (Table 12-2)	Responsibilities/Outlays Projected Outlays Surplus/Deficit 75-Year Actuarial Deficiencies in Social Security and Medicare
National Assets/Resources Federally Owned Physical Assets State & Local Govt. Physical Assets Federal Contribution Privately Owned Physical Assets Education Capital Federal Contribution R&D Capital Federal Contribution	National Wealth (Table 12-4)	National Needs/Conditions Indicators of economic, social, educational, and environmental conditions
	Social Indicators (Table 12-5)	

QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S STEWARDSHIP

1. According to Table 12-1, the Government's liabilities exceed its assets. No business could operate in such a fashion. Why does the Government not manage its finances more like a business?

The Federal Government has fundamentally different objectives from a business enterprise. The primary goal of every business is to earn a profit, and the Federal Government properly leaves almost all activities at which a profit could be earned to the private sector. For the vast bulk of the Federal Government's operations, it would be difficult or impossible to charge prices—let alone prices that would cover expenses. The Government undertakes these activities not to improve its balance sheet, but to benefit the Nation.

For example, the Federal Government invests in education and research. The Government earns no direct return from these investments; but people are made richer if they are successful. The returns on these investments show up not as an increase in the Government assets but as an increase in the general state of knowledge and in the capacity of the country's citizens to earn a living and lead a fuller life. A business's motives for investment are quite different; business invests to earn a profit for itself, not others, and if its investments are successful, their value will be reflected in its balance sheet. Because the Federal Government's objectives are different, its balance sheet behaves differently, and should be interpreted differently.

2. Table 12-1 seems to imply that the Government is insolvent. Is it?

No. Just as the Federal Government's responsibilities are of a different nature than those of a private business, so are its resources. Government solvency must be evaluated in different terms.

What the table shows is that those Federal obligations that are most comparable to the liabilities of a business corporation exceed the estimated value of the assets actually owned by the Federal Government. The Government, however, has access to other resources through its sovereign powers. These powers, which include taxation, allow the Government to meet its present obligations and those that are anticipated from future operations even though the Government's current assets are less than its current liabilities.

The financial markets clearly recognize this reality. The Federal Government's implicit credit rating is the best in the world; lenders are willing to lend it money at interest rates substantially below those charged to private borrowers. This would not be true if the Government were really insolvent or likely to become so. Where governments totter on the brink of insolvency, lenders are either unwilling to lend them money, or do so only in return for a substantial interest premium.

QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S STEWARDSHIP

3. *Why are Social Security and Medicare not shown as Government liabilities in Table 12-1?*

Future Social Security and Medicare benefits may be considered as promises or responsibilities of the Federal Government, but these benefits are not a liability in a legal or accounting sense. The Government has unilaterally decreased as well as increased these benefits in the past, and future reforms could alter them again. These benefits are not ignored in this presentation of the Government's finances, but they are shown elsewhere than in Table 12-1. They appear in two ways: Budget projections as a percent of GDP from now through 2080, in Table 12-2, and the actuarial deficiency estimates over roughly the same period in Table 12-3.

Other Federal programs exist that are similar to Social Security and Medicare in the promises they make—Medicaid—for example. Few have suggested counting the future benefits expected under these programs as Federal liabilities, yet it would be difficult to justify a different accounting treatment for them if Social Security or Medicare were to be classified as a liability. There is no bright line dividing Social Security and Medicare from other programs that promise benefits to people, and all the Government programs that do so should be accounted for similarly.

Furthermore, if future Social Security or Medicare benefits were to be treated as a liability, then future payroll tax receipts earmarked to finance those benefits ought to be treated as a Government asset. This treatment would be essential to correctly gauge the future claim. Tax receipts, however, are not generally considered Government assets, and for good reason: the Government does not own the wealth on which future taxes depends. Including taxes on the balance sheet would be wrong for this reason, but without counting taxes the balance sheet would overstate the drain on net assets from Social Security and Medicare. Furthermore, treating taxes for Social Security or Medicare differently from other taxes would be highly questionable.

Finally, under Generally Accepted Accounting Principles (GAAP), Social Security is not considered to be a liability, so not counting it as such in this chapter is consistent with the accounting standards.

4. *Why can't the Government keep a better set of books?*

The Government is not a business, and accounting standards designed to illuminate how much a business earns and how much equity it has could provide misleading information if applied naively to the Government. The Government does not have a "bottom line" comparable to that of a business corporation, but the Federal Accounting Standards Advisory Board (FASAB) has developed, and the Government has adopted, a conceptual accounting framework that reflects the Government's distinct functions and answers many of the questions for which Government should be accountable. This framework addresses budgetary integrity, operating performance, stewardship, and systems and controls. FASAB has also developed, and the Government has adopted, a full set of accounting standards. Federal agencies now issue audited financial reports that follow these standards and an audited Government-wide financial report is issued as well. In short, the Federal Government does follow generally accepted accounting principles (GAAP) just as businesses and State and local governments do for their activities, although the relevant principles differ depending on the circumstances. This chapter is intended to address the "stewardship objective"—assessing the interrelated condition of the Federal Government and the Nation. The data in this chapter illuminate the trade-offs and connections between making the Federal Government "better off" and making the Nation "better off."

QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S STEWARDSHIP

5. *When the baby-boom generation begins to retire in large numbers beginning within the next ten years, the deficit could become much larger than it ever was before. Should this not be reflected in evaluating the Government's financial condition?*

The aging of the U.S. population will become dramatically evident when the baby-boomers begin to retire, and this demographic transition poses serious long-term problems for Federal entitlement programs and the budget. Both the long-range budget projections and the actuarial projections presented in this chapter indicate how serious the problem is. It is clear from this information that reforms are needed in these programs to meet the long-term challenges.

6. *Would it make sense for the Government to borrow to finance needed capital—permitting a deficit in the budget—so long as the borrowing did not exceed the amount spent on investments?*

This rule might not actually permit much extra borrowing. If the Government were to finance new capital by borrowing, it should plan to pay off the debt incurred to finance old capital as the capital is used up. The net new borrowing permitted by this rule would not then exceed the amount of net investment the government does after adjusting for capital consumption. But, as discussed in Chapter 6, Federal net investment in physical capital is usually not very large and has even been negative, so little if any deficit spending would have been justified by this borrowing-for-investment criterion, at least in recent years.

The Federal Government also funds substantial amounts of physical capital that it does not own, such as highways and research facilities, and it funds investment in intangible "capital" such as education and training and the conduct of research and development. A private business would never borrow to spend on assets that would be owned by someone else. However, such spending is today a principal function of Government. It is not clear whether this type of capital investment would fall under the borrowing-for-investment criterion. Certainly, these investments do not create assets owned by the Federal Government, which suggests they should not be included for this purpose, even though they are an important part of national wealth.

There is another difficulty with the logic of borrowing to invest. Businesses expect investments to earn a return large enough to cover their cost. In contrast, the Federal Government does not generally expect to receive a direct payoff from its investments, whether or not it owns them. In this sense, investments are no different from other Government expenditures, and the fact that they provide services over a longer period of time is no justification for excluding them when calculating the surplus or deficit.

Finally, the Federal Government must pursue policies that support the overall economic well-being of the Nation and its security interests. For such reasons, the Government may deem it desirable to run a budget surplus, even if this means paying for its own investments from current receipts, and there are times when it is necessary to run a deficit, even one that exceeds Government net investment. Considerations in addition to the size of Federal investment must be weighed in choosing the right level of the surplus or deficit.

PART II—THE FEDERAL GOVERNMENT'S ASSETS AND LIABILITIES

Table 12–1 takes a backward look at the Government's assets and liabilities summarizing what the Government owes as a result of its past operations netted against the value of what it owns. The table gives some perspective by showing these net asset figures for a number of years beginning in 1960. To ensure comparability across time, the assets and liabilities are measured in terms of constant FY 2003 dollars. Government liabilities have exceeded the value of assets (see chart 12–2) over this entire period, but, in the late 1970s, a speculative run-up in the prices of oil and other real assets temporarily boosted the value of Federal holdings. When those prices subsequently declined, Federal asset values declined and only recently have they regained the level they had reached temporarily in the mid-1980s.

Currently, the total real value of Federal assets is estimated to be 50 percent greater than it was in 1960. Meanwhile, Federal liabilities have increased by over 200 percent in real terms. The decline in the Federal net asset position has been due partly to persistent Federal budget deficits that have boosted debt held by the public most years since 1960. Other factors have also been important in reducing net Federal assets such as the large increases in health benefits for Federal retirees and the sharp rise in veterans' disability compensation. The slower growth in Federal assets compared with liabilities also helped reduce the net asset position.

The shift from budget deficits to budget surpluses in the late 1990s temporarily checked the decline in Federal net assets, but only for a few years. Currently, the net excess of liabilities over assets is about \$4.9 trillion or nearly \$17,000 per capita. As a ratio to GDP, the excess of liabilities over assets reached a peak of 51 percent in 1995; it declined to 38 percent in 2000 and was 45 percent in 2003. The average since 1960 has been 34 percent.

Assets

Table 12–1 offers a comprehensive list of the financial and physical resources owned by the Federal Government.

Financial Assets: According to the Federal Reserve Board's Flow-of-Funds accounts, the Federal Government's holdings of financial assets amounted to \$0.6 trillion at the end of FY 2003. Government-held mortgages and other loans (measured in constant dollars) reached a peak in the early 1990s as the Government acquired mortgages from savings and loan institutions that had failed. The Government subsequently liquidated most of the mortgages it acquired from bankrupt savings and loans in the 1990s. The face value of mortgages and other loans overstates their economic worth. OMB estimates that the discounted present

value of future losses and interest subsidies on these loans was about \$40 billion as of 2003. These estimated losses are subtracted from the face value of outstanding loans to obtain a better estimate of their economic worth.

Reproducible Capital: The Federal Government is a major investor in physical capital and computer software. Government-owned stocks of such capital have amounted to about \$1.0 trillion in constant dollars for most of the last 40 years (OMB estimate). This capital consists of defense equipment and structures, including weapons systems, as well as nondefense capital goods. Currently, slightly less than two-thirds of the capital is defense equipment or structures. In 1960, defense capital was about 90 percent of the total. In the 1970s, there was a substantial decline in the real value of U.S. defense capital and there was another large decline in the 1990s after the end of the Cold War. Meanwhile, nondefense Federal capital has increased at an average annual rate of around 2–1/2 percent. The Government also holds inventories of defense goods and other items that in 2003 amounted to about 20 percent of the value of its fixed capital.

Non-reproducible Capital: The Government owns significant amounts of land and mineral deposits. There are no official estimates of the market value of these holdings (and of course, in a realistic sense, many of these resources would never be sold). Researchers in the private sector have estimated what they are worth, however, and these estimates are extrapolated in Table 12–1. Private land values fell sharply in the early 1990s, but they have risen since 1993. It is assumed here that Federal land shared in the decline and the subsequent recovery. Oil prices have been on a roller coaster since the mid-1990s. They declined sharply in 1997–1998, rebounded in 1999–2000, fell again in 2001, and rose in 2002–2003. These fluctuations have caused the estimated value of Federal mineral deposits to fluctuate as well. In 2003 as estimated here, the real value of Federal land and mineral rights was higher than at any time since 1982.

These estimates are limited to land and mineral rights. They, thus, omit some valuable assets owned by the Federal Government, such as works of art and historical artifacts partly because there is no realistic basis for valuing such unique assets and also because, as part of the Nation's historical heritage, these objects are never likely to be sold.

Total Assets: The total value of Government assets measured in constant dollars has been increasing for the past five years, but it was still lower in 2003 than it was in the early 1980s. The Government's asset holdings are vast. As of the end of FY 2003, Government assets were estimated to be worth about \$3.0 trillion, about 27 percent of GDP.

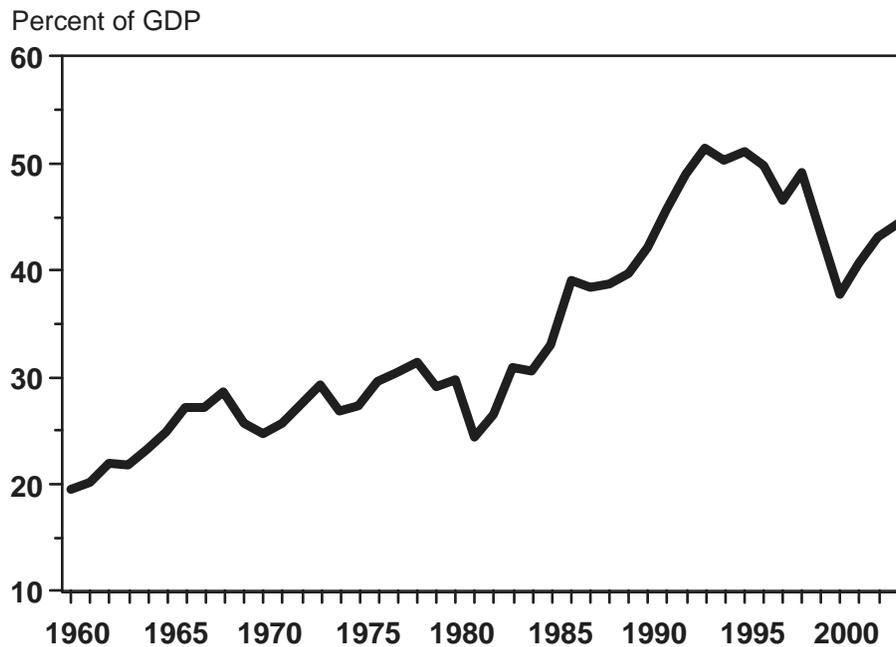
Table 12-1. GOVERNMENT ASSETS AND LIABILITIES*

(As of the end of the fiscal year, in billions of 2003 dollars)

	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003
ASSETS												
Financial Assets:												
Cash and Checking Deposits	44	63	39	32	49	32	43	44	59	52	79	53
Other Monetary Assets	1	1	1	1	2	2	2	1	7	12	19	9
Mortgages	28	27	40	42	78	80	102	70	81	78	76	74
Other Loans	104	143	179	179	230	301	214	163	137	129	121	118
less Expected Loan Losses	-1	-3	-5	-9	-18	-18	-20	-25	-39	-39	-46	-47
Other Treasury Financial Assets	63	79	69	62	87	129	206	247	226	241	258	292
Total	239	310	324	307	428	526	546	511	539	553	603	589
Nonfinancial Assets:												
Fixed Reproducible Capital:												
Defense	1,030	1,021	1,062	1,029	974	1,102	1,143	1,149	1,007	994	992	998
Nondefense	890	836	845	772	693	806	827	808	661	640	630	631
Inventories	140	185	217	257	281	297	316	341	346	354	362	367
Nonreproducible Capital:												
Land	274	237	221	197	244	279	247	191	196	190	195	194
Mineral Rights	443	455	436	646	1,035	1,110	876	666	998	1,058	1,045	1,202
Land	96	133	168	266	340	353	363	282	438	457	526	553
Mineral Rights	347	322	268	380	696	757	513	384	560	601	519	649
Subtotal	1,747	1,713	1,719	1,873	2,254	2,491	2,267	2,005	2,200	2,241	2,232	2,394
Total Assets	1,986	2,023	2,043	2,180	2,682	3,018	2,813	2,515	2,739	2,795	2,835	2,984
LIABILITIES												
Debt held by the Public	1,194	1,228	1,093	1,111	1,381	2,284	3,112	4,135	3,601	3,423	3,600	3,915
Insurance and Guarantee Liabilities:												
Deposit Insurance					2	10	75	5	1	3	2	1
Pension Benefit Guarantee				45	33	45	45	22	43	53	82	71
Loan Guarantees	*	1	2	7	13	11	16	31	39	40	38	36
Other Insurance	33	29	23	21	28	17	21	18	17	16	16	16
Subtotal	33	30	25	73	76	83	157	76	100	112	139	124
Pension and Post-Employment Health Liabilities:												
Civilian and Military Pensions	836	1,051	1,256	1,423	1,889	1,874	1,832	1,776	1,810	1,819	1,861	1,886
Retiree Health Insurance Benefits	200	252	301	341	453	449	439	426	406	795	820	842
Veterans Disability Compensation	198	249	298	330	339	280	252	275	584	713	863	955
Subtotal	1,234	1,552	1,855	2,094	2,680	2,603	2,523	2,477	2,800	3,328	3,544	3,684
Other Liabilities:												
Trade Payables and Miscellaneous	29	35	44	56	86	112	154	128	104	106	104	116
Benefits Due and Payable	21	26	35	43	53	66	74	80	82	89	97	99
Subtotal	50	61	79	99	138	178	228	208	187	195	201	215
Total Liabilities	2,511	2,870	3,052	3,377	4,276	5,148	6,020	6,896	6,687	7,058	7,484	7,937
Net Assets (Assets Minus Liabilities)	-525	-847	-1,009	-1,197	-1,594	-2,130	-3,207	-4,380	-3,948	-4,263	-4,649	-4,953
Addenda:												
Net Assets Per Capita (in 2003 dollars)	-2,911	-4,365	-4,929	-5,550	-6,988	-8,921	-12,797	-16,406	-13,958	-14,908	-16,084	-16,961
Ratio to GDP (in percent)	-19.8	-25.4	-25.3	-26.5	-29.5	-33.0	-42.5	-51.4	-37.9	-41.0	-43.4	-44.6

* This Table shows assets and liabilities for the Government as a whole, excluding the Federal Reserve System. Data for 2003 are extrapolated in some cases.

Chart 12-2. Net Federal Liabilities



Liabilities

Table 12–1 includes Federal liabilities that would also be listed on a business balance sheet. All the various forms of publicly held Federal debt are counted, as are Federal pension and health insurance obligations to civilian and military retirees and the disability compensation that is owed the Nation’s veterans. The estimated liabilities stemming from Federal insurance programs and loan guarantees are also shown. The benefits that are due and payable under various Federal programs are also included, but these are short-term obligations not long-term responsibilities.

Other obligations, including future benefit payments that are likely to be made through Social Security and other Federal income transfer programs, are not shown in this table. These are not Federal liabilities in a legal or accounting sense. They are Federal responsibilities, and it is important to gauge their size, but they are not binding in the same way that a liability is. That is why a simple balance sheet can give a misleading impression of the Federal financial position. The budget projections and other data in Part III are designed to provide a sense of these broader responsibilities and their claim on future budgets.

Debt Held by the Public: The Federal Government’s largest single liability is the debt owed to the public. It amounted to about \$3.9 trillion at the end of 2003, down from a peak value of \$4.2 trillion (in constant 2003 dollars) in 1996. Publicly held debt declined for several years in the late 1990s because of the unified budget surplus that had emerged at that time, but as the deficit has returned, publicly held debt has begun

to increase again, while remaining below its previous peak level measured in real terms.

Insurance and Guarantee Liabilities: The Federal Government has contingent liabilities arising from the loan guarantees it has made and its insurance programs. When the Government guarantees a loan or offers insurance, cash disbursements are often small initially, and if a fee is charged, the Government may even collect money; but the risk of future cash payments associated with such commitments can be large. The figures reported in Table 12–1 are estimates of the current discounted value of prospective future losses on outstanding guarantees and insurance contracts. The present value of all such losses taken together is about \$0.1 trillion. As is true elsewhere in this chapter, this estimate does not incorporate the market value of the risk associated with these contingent liabilities; it merely reflects the present value of expected losses. Although individually many of these programs are large and potential losses can be a serious concern, relative to total Federal liabilities or even the total debt held by the public, these insurance and guarantee liabilities are fairly small. They were less than 2 percent of total liabilities in 2003.

Pension and Post-Employment Health Liabilities: The Federal Government owes pension benefits as a form of deferred compensation to retired workers and to current employees who will eventually retire. It also provides civilian retirees with subsidized health insurance through the Federal Employees Health Benefits program and military retirees receive similar benefits. Veterans are owed compensation for their service related

disabilities. While the Government's employee pension obligations have risen slowly, there has been a sharp increase in the liability for future health benefits and veterans compensation. The discounted present value of all these benefits was estimated to be around \$3.7 trillion at the end of FY 2003 up from \$2.8 trillion in 2000.² There was a large expansion in Federal military retiree health benefits legislated in 2001.

Net Assets

The Government need not maintain a positive balance of net assets to assure its fiscal solvency, and the buildup in net liabilities since 1960 has not significantly damaged Federal creditworthiness. Long-term Government interest rates in 2003 reached their lowest

levels in 45 years, although by year end rates were substantially above their low point in May. For the year as a whole, the average level of long term rates were lower than in any year since 1963. Despite the continued good performance of interest rates, there are limits to how much debt the Government can assume without putting its finances in jeopardy. Over an extended time horizon, the Federal Government must take in enough revenue to cover all of its spending including debt service. A Government that borrows must eventually pay for what it has borrowed. The Government's ability to service its debt in the long run, however, cannot be gauged from a balance sheet alone. To judge the prospects for long-run solvency it is necessary to project the budget into the future.

PART III—THE LONG-RUN BUDGET OUTLOOK

A balance sheet with its focus on obligations arising from past transactions can only show so much information. For the Government, it is important to anticipate what future budgetary requirements might flow from future transactions as implied by current law. Despite their uncertainty, very long-run budget projections can be useful in sounding warnings about potential problems. Federal responsibilities extend well beyond the next five or ten years, and problems that may be small in that time frame can become much larger if allowed to grow.

Programs like Social Security and Medicare are intended to continue indefinitely, and so long-range projections for Social Security and Medicare have been prepared for decades. Budget projections for individual programs, even ones as important as Social Security and Medicare, do not reveal the Government's overall budgetary position. Only by projecting the entire budget is it possible to anticipate whether sufficient resources will be available to meet all the anticipated requirements for individual programs. It is also necessary to estimate how the budget's future growth compares with that of the economy to judge how well the economy might be able to support future budgetary needs.

To assess the overall financial condition of the Government, it is necessary to examine the future prospects for all Government programs including the revenue sources that support Government spending. Such an assessment reveals that the key drivers of the long-range deficit are, not surprisingly, Social Security and Medicare along with Medicaid, the Federal program that helps States provide health coverage for low-income people and nursing home care for the elderly. Medicaid, like Medicare and Social Security, is projected to grow more rapidly than the economy over the next several decades and to add substantially to the overall budget deficit. Under current law, there is no offset anywhere in the budget that is large enough

to cover all the demands that will eventually be imposed by Social Security, Medicare, and Medicaid.

Future budget outcomes depend on a host of unknowns—constantly changing economic conditions, unforeseen international developments, unexpected demographic shifts, the unpredictable forces of technological advance, and evolving political preferences to name a few. The uncertainty increases the further into the future projections are extended. Such uncertainty, while making accuracy more difficult, actually *enhances* the importance of long-term projections. People are generally averse to risk, but it is not possible to assess the likelihood of future risks without projections. Although a full treatment of risks is beyond the scope of this chapter, the chapter is able to show how the budget projections respond to changes in some of the key economic and demographic parameters. Given the uncertainties, the best that can be done is to work out the implications of expected developments on a "what if" basis.

The Impending Demographic Transition

In 2008, the first members of the huge generation born after World War II, the so-called baby-boomers, will reach age 62 and become eligible for early retirement under Social Security. In the years that follow, the elderly population will skyrocket, putting serious strains on the budget because of increased expenditures for Social Security and for the Government's health programs serving this population.

The pressures are expected to persist even after the baby-boomers are gone. The Social Security actuaries project that the ratio of workers to Social Security beneficiaries will fall from around 3¹/₂ currently to a little over 2 by the time most of the baby-boomers have retired. Because of lower fertility and improved mortality, that ratio is expected to continue to decline slowly from there. With fewer workers to pay the taxes needed to

²The pension liability is the actuarial present value of benefits accrued-to-date based on past and projected salaries. The 2003 liability was extrapolated. The retiree health insurance liability is based on actuarial calculations of the present value of benefits promised under existing programs. Estimates are only available since 1997. For earlier years the

liability was assumed to grow in line with the pension liability, and for that reason may differ significantly from what the actuaries would have calculated for this period. Veterans' disability compensation was taken from the 2002 *Financial Report of the United States Government and Reports from earlier years*.

support the retired population, the budgetary pressures will continue to grow. The problem posed by the demographic transition is a permanent and a growing one.

Currently, the three major entitlement programs—Social Security, Medicare and Medicaid—account for 43 percent of non-interest Federal spending, up from 30 percent in 1980. By 2040, when most of the remaining baby-boomers will be in their 80s, these three programs could easily account for 70 percent of non-interest Federal spending. At the end of the projection period, the figure rises to nearly 80 percent of non-interest spending. In other words, under an extension of current-law formulas and the policies in the budget, almost all of the budget would go to these three programs alone. That would severely reduce the flexibility of the budget, and the Government's ability to respond to new challenges.

An Unsustainable Path

These long-run budget projections show clearly that the budget is on an unsustainable path, although the rise in the deficit unfolds gradually. The budget deficit is projected to decline as the economy expands over the next several years, while most of the baby-boomers will remain in the work force. As the baby-boomers begin to reach retirement age in large numbers, the deficit begins to rise steadily. This process is projected to begin about 10 years from now, i.e., in about 10 years, the deficit as a share of GDP reaches a low point and then begins an inexorable increase. By the end of the projection period for this chapter in 2080, rising deficits would drive publicly held Federal debt to levels several times the size of GDP.

The revenue projections in this section start with the budget's estimate of receipts under the Administration's proposals. They assume that individual income tax receipts will rise somewhat relative to GDP. This increase reflects the higher marginal tax rates that people will face as their real incomes rise in the future (the tax code is indexed for inflation, but not for real economic growth). In terms of total receipts collected relative to GDP, those income tax increases are partly offset by declines in Federal excise tax receipts, which are generally not indexed for inflation. Payroll taxes also are

projected to decline relative to GDP because the base for these taxes—cash wages and salaries—has shown a tendency to decline relative to total compensation, which again partly offsets the increase in income tax receipts. Even so, the overall share of Federal receipts in GDP is projected to rise above the average of 17 to 19 percent that prevailed from 1960 through the mid-1990s and approaches 22 percent by 2080.

The long-run budget outlook is highly uncertain (see the technical note at the end of this chapter for a discussion of the forecasting assumptions used to make these budget projections). With pessimistic assumptions, the fiscal picture deteriorates even sooner than in the base projection. More optimistic assumptions imply a longer period before the pressures of rising entitlement spending overwhelm the budget. But despite the unavoidable uncertainty, these projections show that under a wide range of reasonable forecasting assumptions, the resources generated by the programs themselves will be insufficient to cover the long-run costs of Social Security and Medicare. The recently passed Medicare Prescription Drug, Improvement, and Modernization Act of 2003, which added a vital new prescription drug benefit to Medicare, will put additional cost pressures on the program. However, this legislation made other important changes to Medicare, including a significant increase in private sector participation and new fiscal safeguards, which may help address Medicare's long-run shortfall. Despite these improvements, Medicare's long-run financial outlook remains uncertain, and it is likely that further reforms will be necessary to sustain both Medicare and Social Security in the future.

Alternative Economic and Technical Assumptions

The quantitative results discussed above are sensitive to changes in underlying economic and technical assumptions. Some of the most important of these alternative economic and technical assumptions and their effects on the budget outlook are discussed below. Each highlights one of the key uncertainties in the outlook. All show that there are mounting deficits under most reasonable projections of the budget.

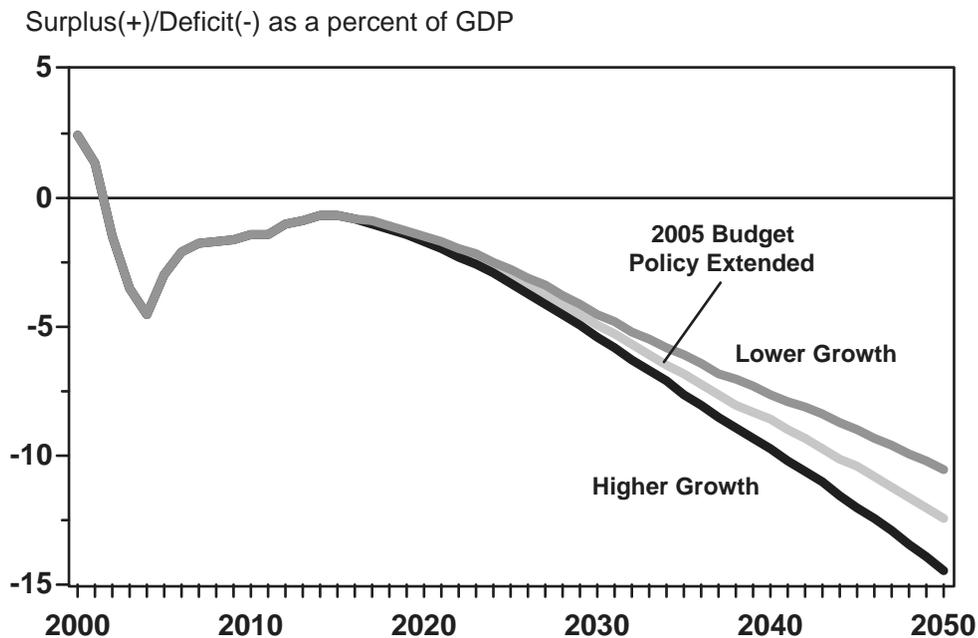
Table 12-2. LONG-RUN BUDGET PROJECTIONS OF 2005 BUDGET POLICY
(Percent of GDP)

	2000	2010	2020	2030	2040	2060	2080
Discretionary Spending Grows with GDP:							
Receipts	20.9	17.9	18.6	19.0	19.5	20.6	21.6
Outlays	18.4	19.3	20.3	24.1	28.2	37.7	53.2
Discretionary	6.3	6.2	5.4	5.4	5.4	5.4	5.4
Mandatory	9.8	11.0	13.0	15.9	17.9	20.6	24.6
Social Security	4.2	4.2	5.0	6.0	6.2	6.5	6.8
Medicare	2.0	2.9	3.9	5.9	7.4	9.6	12.5
Medicaid	1.2	1.7	2.1	2.4	2.7	3.3	4.1
Other	2.4	2.3	1.9	1.7	1.5	1.2	1.1
Net Interest	2.3	2.1	1.8	2.7	4.9	11.7	23.2
Surplus or Deficit (-)	2.4	-1.4	-1.7	-5.0	-8.7	-17.2	-31.6
Primary Surplus or Deficit (-)	4.7	0.7	0.1	-2.3	-3.8	-5.5	-8.4
Federal Debt Held by the Public	35.1	39.3	34.0	51.3	92.2	219.3	432.3

1. *Health Spending:* The projections for Medicare over the next 75 years are based on the actuarial projections in the 2003 Medicare Trustees' Report, as adjusted for the effects of the Medicare prescription drug and modernization bill enacted in December 2003. Following the recommendations of its Technical Review Panel, the Medicare trustees assume that over the long-run "age- and gender-adjusted, per-beneficiary spending growth exceeds the growth of per-capita GDP by 1 percentage point per year." This implies that total Medicare spending will rise faster than GDP throughout the projection period.

Eventually, the rising trend in health care costs for both Government and the private sector will have to end, but it is hard to know when and how that will happen. "Eventually" could be a long way off. Improved health and increased longevity are highly valued, and society may be willing spend a much larger share of income on them than it has heretofore. Whether society will be willing to devote the large share of resources to health care implied by these projections is an open question. The alternatives highlight the effect of raising the projected growth rate in per capita health care costs by 1/4 percentage point and the effect of lowering it by the same amount.

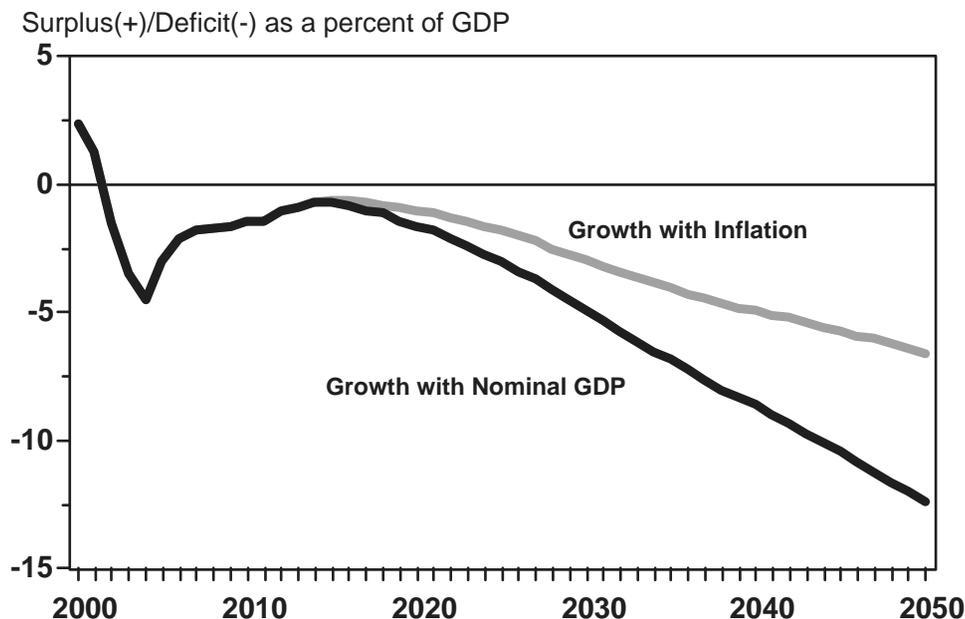
Chart 12-3. Health Care Cost Alternatives



2. *Discretionary Spending:* The assumption used to project discretionary spending is essentially arbitrary, because discretionary spending is determined annually through the legislative process, and no formula can dictate future spending in the absence of legislation. Alternative assumptions have been made for discretionary spending in past budgets. Holding discretionary spending unchanged in real terms is the “current services” assumption used for baseline budget projections when there is no legislative guidance on future spending levels. Extending this assumption over many decades, however, is not necessarily realistic. When the population and economy are expected to grow, the demand

for public services is likely to expand, although not necessarily as fast as GDP. The current base projection assumes that discretionary spending keeps pace with the growth in GDP in the long run, so that spending increases in real terms whenever there is real economic growth. An alternative assumption would be that discretionary spending increases only for inflation. In other words, real inflation-adjusted level of discretionary spending holds constant. This alternative moderates the long-run rise in the deficit because the shrinkage in discretionary spending as a share of GDP partially offsets the rise in entitlement outlays.

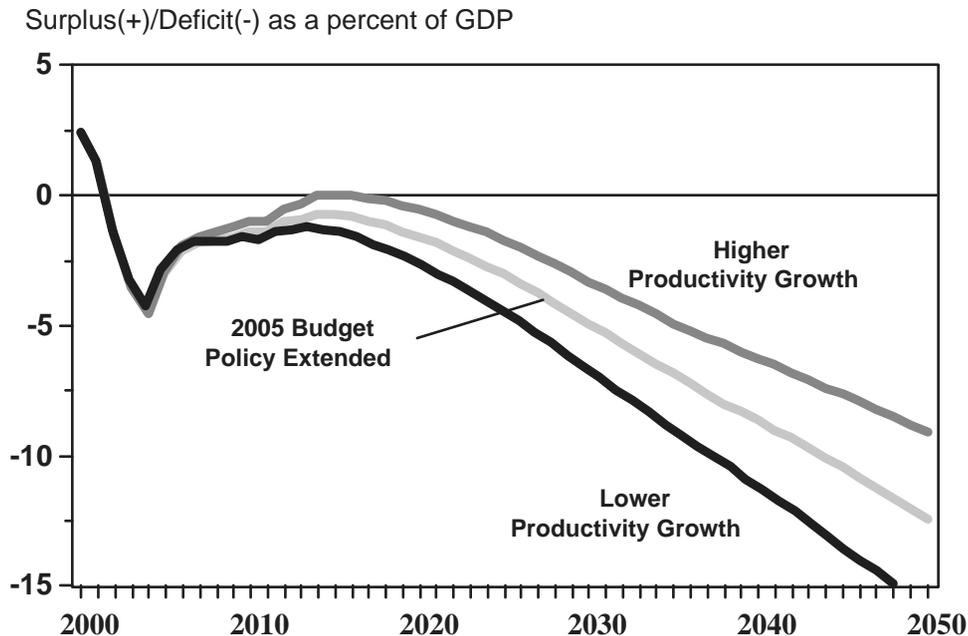
Chart 12-4. Alternative Discretionary Spending Assumptions



3. *Productivity:* The rate of future productivity growth has an important effect on the long-run budget outlook. It is also highly uncertain. Over the next few decades an increase in productivity growth would reduce the projected budget deficits appreciably. Higher productivity growth adds directly to the growth of the major tax bases, while it has only a delayed effect on outlay growth even assuming that in the long-run discretionary outlays rise with GDP. In the latter half of the 1990s, after two decades of much slower growth, productivity growth increased unexpectedly and it has increased again during the first three years of the new

century. The increase in productivity growth is one of the most welcome developments of the last several years. Although the long-run growth rate of productivity is inherently uncertain, it has averaged 2.3 percent since 1948, and the long-run budget projections assume that real GDP per hour will also grow at a 2.3 percent annual rate over most of this century. The alternatives highlight the effect of raising the projected productivity growth rate by 1/4 percentage point and the effect of lowering it by a same amount.

Chart 12-5. Alternative Productivity Assumptions



4. *Population:* The key assumptions for projecting long-run demographic developments concern fertility, immigration, and mortality.

- The demographic projections assume that fertility will average around 1.9 births per woman in the future, just slightly below the replacement rate needed to maintain a constant population—2.1 births.
- The rate of immigration is assumed to average around 900,000 per year in these projections. Higher immigration relieves some of the downward pressure on population from low fertility and allows total population to expand throughout the

projection period, although at a much slower rate than has prevailed historically in the United States.

- Mortality is projected to decline; i.e., people are expected to live longer. The average female life-span is projected to rise from 79.5 years in 2002 to 85.5 years by 2080, and the average male life-span is projected to increase from 74.2 years in 2002 to 81.6 years by 2080. A technical panel to the Social Security Trustees recently reported that the improvement in longevity might even be greater.

Chart 12-6. Alternative Fertility Assumptions

Surplus(+)/Deficit(-) as a percent of GDP

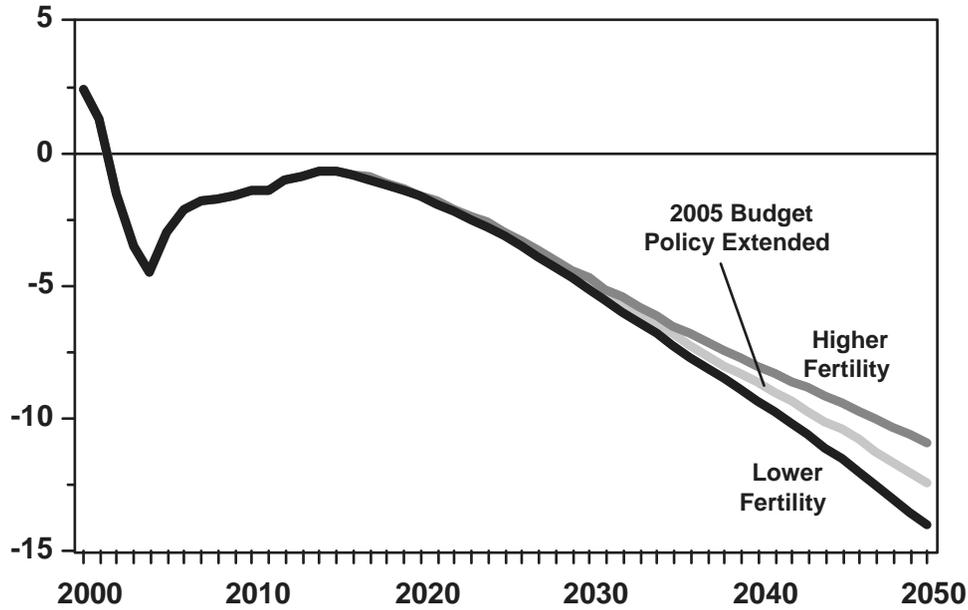


Chart 12-7. Alternative Mortality Assumptions

Surplus(+)/Deficit(-) as a percent of GDP

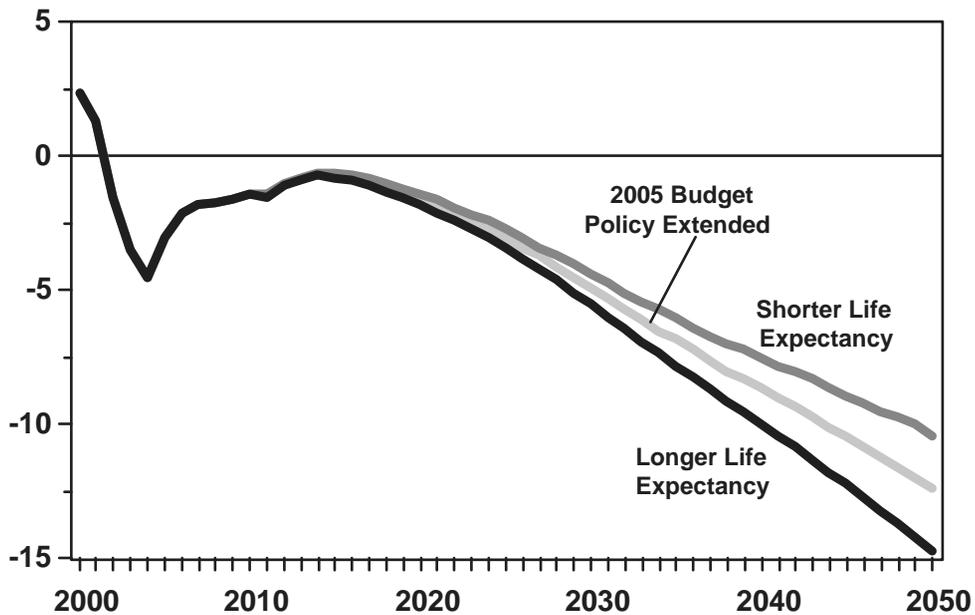
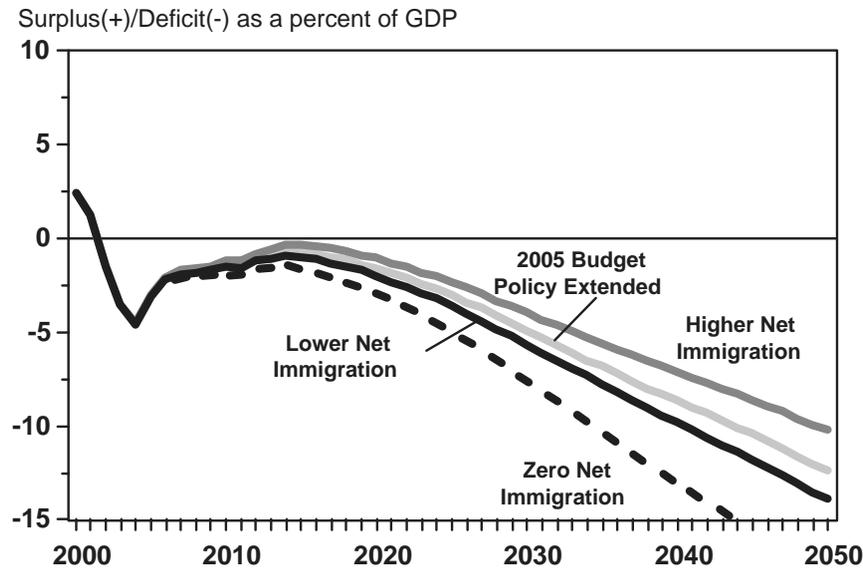


Chart 12-8. Alternative Immigration Assumptions



Actuarial Projections for Social Security and Medicare

Social Security and Medicare are the Government's two largest entitlement programs. Both rely on payroll tax receipts from current workers and employers for at least part of their financing, while the programs' benefits largely go to those who are retired. The importance of these programs for the retirement security of current and future generations makes it essential to understand their long-range financial prospects. Although Social Security and Medicare's Hospital Insur-

ance (HI) program are currently in surplus, actuaries for both programs have calculated that they face long-run deficits. How best to measure the long-run imbalances in Social Security and in the consolidated Medicare program, including Supplementary Medical Insurance (SMI) as well as HI, is a challenging analytical question, but reasonable calculations suggest that each program faces such a huge financial deficiency that it will be very difficult for the Government as a whole to maintain control of the budget without addressing each of these program's financial problems.

Social Security: The Long-Range Challenge

Social Security provides retirement security and disability insurance for tens of millions of Americans through a system that is intended to be self-financing over time. The principle of self-financing is important because it compels corrections in the event that projected benefits consistently exceed dedicated receipts.

While Social Security is running surpluses today, it will begin running cash deficits in about 15 years. Social Security's spending path is unsustainable under current law. The impending retirement of the baby-boom generation, born following World War II, will greatly increase the number of Social Security beneficiaries beginning within ten years. Demographic trends toward lower fertility rates and longer life spans mean that the ratio of retirees to the working population will remain permanently higher. The number of workers available to support each retiree will decline from 3.3 today to 2.2 in 2030 and continue to drift down slowly from there. This means that the Government will not be able to meet current-law benefit obligations at current payroll tax rates.

The future size of Social Security's shortfall cannot be known with any precision, but a gap between Social Security receipts and outlays emerges under a wide range of reasonable forecasting assumptions. Long-range uncertainty underscores the importance of creating a system that is financially stable and self-contained. Otherwise, if the pessimistic assumptions turn out to be more accurate, the demands created by Social Security could compromise the rest of the budget and the Nation's economic health.

The current structure of Social Security leads to substantial generational differences in the average rate of return people can expect from the program. While previous generations have fared extremely well, the average individual born today can expect to receive less than a two percent annual real rate of return on their payroll taxes (including the employer's portion, which most economists believe is borne by labor). Moreover, such estimates in a sense overstate the expected rate of return for future retirees, because they assume no changes in current-law taxes or benefits, even though such changes are needed to meet Social Security's financing shortfall. As an example, a 1995 analysis found that for an average worker born in 2000 a 1.7 percent rate of return would turn into a 1.5 percent rate of return after adjusting revenues to keep the system solvent.

One way to address the issues of uncertainty and declining rates of return, while protecting national savings, would be to allow individuals to invest some of their payroll taxes in personal retirement accounts. The President's Commission to Strengthen Social Security presented various options that would include personal accounts within the Social Security framework.

Medicare: The Long-Range Challenge

Medicare provides health insurance for tens of millions of Americans, including most of the nation's seniors. It is composed of two programs: Hospital Insurance (HI) or Part A, which covers medical expenses relating to hospitalization, and Supplementary Medical Insurance (SMI) or Part B, which pays for physician and outpatient services, and will now also pay for the new prescription drug benefit.

Like social security, HI is self-financing through dedicated taxes. According to the Medicare trustees' most recent report, projected spending for HI under current law will exceed taxes going into the HI trust fund after 2012, and the fund is projected to be depleted by 2026. Looking at the long run, the Medicare actuaries project a 75-year unfunded promise to Medicare's HI trust fund of around \$6 trillion. However, this measure tells less than half the story because it does not include the deficiency in Medicare's SMI trust fund. SMI's only source of dedicated revenues is beneficiary premiums, which generally cover about one-quarter of its expenses. SMI's funding structure creates an enormous financing gap for the program, and is the largest contributor to the total Medicare program shortfall of \$15.8 trillion (or \$15.6 trillion including trust fund assets). (These estimates are as of the 2003 Medicare trustees' report and do not reflect the effects of the recent Medicare prescription drug and reform legislation.)

SMI's financing shortfall is covered by an unlimited tap on general revenues, the ultimate source of which is the Federal taxpayer. The new Medicare prescription drug legislation builds in fiscal safeguards to monitor Medicare's use of general revenues. The trustees are required to analyze Medicare's reliance on these funds, and issue a warning if Medicare's reliance on general revenues is projected to exceed 45 percent of total Medicare expenditures at any point during the following six years. Current projections indicate that Medicare's reliance on general revenues may exceed this threshold as early as 2014. If the trustees issue a warning in two consecutive years, the bill provides special legislative procedures to allow the President and Congress to address the shortfall in advance of financial crises in the Medicare trust funds.

The 75-Year Horizon: In their annual reports and related documents, the Social Security and Medicare trustees typically present calculations of the 75-year actuarial imbalance or deficiency for Social Security and Medicare. The calculation covers current workers and retirees, as well as those projected to join the program within the next 75 years (this is the so-called "open-group" calculation; the "closed-group" covers only current workers and retirees". These estimates measure the present discounted value of each program's future benefits net of future income. They are complementary to the flow projections described in the preceding section.

The present discounted value of the Social Security imbalance was estimated to be about \$5 trillion at the beginning of 2003, and the comparable estimate for Medicare was around \$16 trillion. (The estimates in Table 12-3 were prepared by the Social Security and Medicare actuaries, and they are based on the intermediate economic and demographic assumptions used for the 2003 trustees' reports. These differ in some respects from the assumptions used for the long-run budget projections described in the preceding section, but the basic message of Table 12-3 would not change if OMB assumptions had been used for the calculations.)

Limiting the calculations to 75 years understates the deficiencies, because the actuarial calculations omit the large deficits that continue to occur beyond the 75th year. The understatement is significant, even though values beyond the 75th year are discounted by a large

amount. The current deficiency in Social Security is essentially due to the excess benefits paid to past and current participants compared with their taxes. For current program participants, the present value of expected future benefits exceeds the present value of expected future taxes by about \$12 trillion. By contrast, future participants—those who are now under age 15 or not yet born—are projected to pay in present value about \$7 trillion more over the next 75 years than they will collect in benefits over that period. In fixing the horizon at 75 years, most of the taxes of these future participants are counted without a full accounting for their expected benefits, much of which will be received beyond the 75th year. For Social Security, the present value of benefits less taxes in the 76th year alone is nearly \$0.1 trillion. Altogether, the far distant benefits, estimated in perpetuity, add about \$7 trillion to the imbalance, which essentially offsets the expected net contribution from future participants over the next 75 years.

Medicare: A significant portion of Medicare's deficiency is caused by the rapid expected increase in future benefits due to rising health care costs. Some, perhaps most, of the projected increase in relative health care costs reflects improvements in the quality of care, although there is also evidence that medical errors and waste add unnecessarily to health care costs. Even though the projected increases in Medicare spending are likely to contribute to longer life-spans and safer treatments, the financial implications remain the

Table 12-3. ACTUARIAL PRESENT VALUES OVER A 75-YEAR PROJECTION PERIOD

(Discounted Present Value of Expected Benefit Payments in Excess of Future Earmarked Taxes and Premiums as of Jan. 1, 2003, Trillions of Dollars)

	2000	2001	2002	2003
Social Security				
Future benefits less future taxes for those age 15 and over	9.6	10.5	11.2	11.7
Future benefits less taxes for those age 14 and under and those not yet born	-5.8	-6.3	-6.7	-6.8
Net present value for past, present and future participants	3.8	4.2	4.6	4.9
Medicare				
Future benefits less future taxes and premiums for those age 15 and over	9.9	12.5	12.9	15.0
Future benefits less taxes and premiums for those age 14 and under and those not yet born	-0.7	0.3	0.4	0.8
Net present value for past, present and future participants	9.2	12.8	13.3	15.8
Social Security and Medicare				
Future benefits less future taxes and premiums for those age 15 and over	19.5	23.0	24.1	26.7
Future benefits less taxes and premiums for those age 14 and under and not yet born	-6.5	-6.0	-6.3	-6.0
Net present value for past, present and future participants	13.0	17.0	17.8	20.7
Addendum:				
Actuarial deficiency as a percent of the discounted payroll tax base:				
Social Security	-1.89	-1.86	-1.87	-1.92
Medicare HI	-1.21	-1.97	-2.02	-2.40

same. As long as medical costs continue to outpace the growth of GDP and other expenditures, as assumed in these projections, the financial pressure on the budget will mount.

The rapid projected growth of Medicare spending is reflected in the estimates in Table 12-3. For current participants, the difference between the discounted value of benefits and taxes plus premiums is \$15 trillion, which is larger than the similar gap for Social Security. For future participants over the next 75 years, Medicare benefits are projected to be roughly equal in magnitude to future taxes and premiums. Unlike Social Security, the discounted value of future taxes does not exceed benefits during this period even though benefits beyond the 75th year are not counted. Extending the calculation beyond the 75th year would add many trillions of dollars in present value to Medicare's actuarial deficiency, just as it would for Social Security. Passage of the Medicare Prescription Drug, Improvement and Modernization Act added to Medicare's actuarial deficiency, but it is uncertain how large the final impact will be given that the legislation increased private sector participation and added new fiscal safeguards which may help address Medicare's financial shortfall. The 2004 Medicare trustees' report will provide actuarial estimates of long-run Medicare income and expenditures that reflect the new law.

General revenues have historically covered about 75 percent of SMI program costs, with the rest being covered by premiums paid by the beneficiaries. In Table 12-3, only the receipts explicitly earmarked for financing these programs have been included. The intragovernmental transfer is not financed by dedicated tax revenues, and the share of general revenues that would have to be devoted to SMI to close the gap increases substantially under current projections. Other Government programs also have a claim on these gen-

eral revenues, and SMI has no priority in the competition for future funding. From the standpoint of the Government as a whole, only receipts from the public can finance expenditures.

The Trust Funds and the Actuarial Deficiency: The simple fact that a trust fund exists does not mean that the Government necessarily saved the money recorded there. To have saved the Social Security and HI trust fund surpluses as they accumulated would have required the Government to set aside the surpluses reducing the unified budget deficit dollar for dollar with the change in the trust fund balance (or adding dollar for dollar to a unified budget surplus). It is an open question whether this happened or not. The large unified budget deficits that prevailed during most of the time when the trust funds were increasing suggests that the Government did not do this, although to know this for sure it would be necessary to know what the unified deficit would have been in the absence of those trust fund surpluses, and that is not really knowable.

The assets in the trust funds are special purpose financial instruments issued by the Treasury Department. At the time Social Security or Medicare redeems these instruments to pay future benefits not covered by future income, the Treasury will have to turn to the public capital markets to raise the funds to finance the benefits, just as if the trust funds had never existed. From the standpoint of overall Government finances, the trust funds do not reduce the future burden of financing Social Security or Medicare benefits.

In any case, the trust funds remain small in size compared with the programs' future obligations and well short of what would be needed to pre-fund future benefits as indicated by the programs' actuarial deficiencies. Historically, Social Security and Medicare's HI program were financed mostly on a pay-as-you-go basis, whereby workers' payroll taxes were immediately used

to pay retiree benefits. For the most part, workers' taxes have not been used to pre-fund their own future benefits, and taxes were not set at a level sufficient to pre-fund future benefits even had they been saved.

The Importance of Long-Run Measures in Evaluating Policy Changes: Consider a proposed policy change in which payroll taxes paid by younger workers were reduced by \$100 this year while the expected present value of these workers' future retirement benefits were also reduced by \$100. The present discounted value of future benefit payments would decrease by the same amount as the reduction in revenue. On a cash flow basis, however, the lost revenue occurs now, while the decrease in future outlays is in the distant future beyond the budget window, and the Federal Government must increase its borrowing to make up for the lost revenue in the meantime. If policymakers only focus on the Government's near-term borrowing needs, a re-

form such as this would appear to worsen the Government's finances, whereas the policy actually has a neutral impact. Extending the forecast horizon to 75 years, as in this chapter, can help to avoid such a false impression, although any fixed horizon, even 75 years, can give rise to a distorted comparison if budget effects continue past that point.

Now suppose that future outlays were instead reduced by a little more than \$100 in present value. In this case, the actuarial deficiency would actually *decline*, even though the Government's borrowing needs would again increase. Focusing on the Government's near-term borrowing alone, therefore, can lead to a bias against policies that could improve the Federal Government's overall fiscal condition. Taking a longer view of policy changes and considering measures of the Government's fiscal condition other than the unified budget surplus or deficit can correct for such mistakes.

PART IV—NATIONAL WEALTH AND WELFARE

Unlike a private corporation, the Federal Government routinely invests in ways that do not add directly to its assets. For example, Federal grants are frequently used to fund capital projects by State or local governments for highways and other purposes. Such investments are valuable to the public, which pays for them with its taxes, but they are not owned by the Federal Government and would not show up on a conventional balance sheet for the Federal Government. It is true, of course, that by encouraging economic growth in the private sector, the Government augments future Federal tax receipts. However, the fraction of their returns that comes back to the Government in higher taxes is far less than what a private investor would require before undertaking a similar investment.

The Federal Government also invests in education and research and development (R&D). These outlays contribute to future productivity and are analogous to an investment in physical capital. Indeed, economists have computed stocks of human and knowledge capital to reflect the accumulation of such investments. Nonetheless, such hypothetical capital stocks are obviously not owned by the Federal Government, nor would they appear on a typical balance sheet as a Government asset, even though these investments may contribute to future tax receipts.

To show the importance of these kinds of issues, Table 12-4 presents a national balance sheet. It includes estimates of national wealth classified into three categories: physical assets, education capital, and R&D capital. The Federal Government has made contributions to each of these categories of capital, and these contributions are shown separately in the table. At the same time, the private wealth shown in Table 12-4 can be drawn on by Government to finance future public activities. The Nation's wealth sets the ultimate limit on the resources available to the Government. Data in this table are especially uncertain, because of

the strong assumptions needed to prepare the estimates.

The conclusion of the table is that Federal investments are responsible for about 7 percent of total national wealth including education and research and development. This may seem like a small fraction, but it represents a large volume of capital—\$6.0 trillion. The Federal contribution is down from near 9 percent in the mid-1980s and from around 11 percent in 1960. Much of this reflects the shrinking size of defense capital stocks, which have declined from around 12 percent of GDP in the mid-1980s to 6 percent in 2003.

Physical Assets: The physical assets in the table include stocks of plant and equipment, office buildings, residential structures, land, and the Government's physical assets such as military hardware and highways. Automobiles and consumer appliances are also included in this category. The total amount of such capital is vast, around \$46 trillion in 2003, consisting of \$39 trillion in private physical capital and \$7 trillion in public physical capital (including capital funded by State and local governments); by comparison, GDP was about \$11 trillion in 2003. The Federal Government's contribution to this stock of capital includes its own physical assets of \$2.4 trillion plus \$1.1 trillion in accumulated grants to State and local governments for capital projects. The Federal Government has financed about one-fourth of the physical capital held by other levels of government.

Education Capital: Economists have developed the concept of human capital to reflect the notion that individuals and society invest in people as well as in physical assets. Investment in education is a good example of how human capital is accumulated.

This table includes an estimate of the stock of capital represented by the Nation's investment in formal education and training. The estimate is based on the cost of replacing the years of schooling embodied in the U.S.

Table 12-4. NATIONAL WEALTH
(As of the end of the fiscal year, in trillions of 2003 dollars)

	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003
ASSETS												
Publicly Owned Physical Assets:												
Structures and Equipment	2.0	2.3	2.9	3.5	3.8	4.0	4.4	4.8	5.5	5.6	5.6	5.6
Federally Owned or Financed	1.2	1.3	1.4	1.6	1.6	1.9	2.0	2.1	2.1	2.1	2.2	2.2
Federally Owned	1.0	1.0	1.1	1.0	1.0	1.1	1.1	1.1	1.0	1.0	1.0	1.0
Grants to State and Local Governments	0.2	0.2	0.3	0.5	0.6	0.8	0.8	0.9	1.1	1.1	1.2	1.2
Funded by State and Local Governments	0.9	1.1	1.5	2.0	2.2	2.1	2.4	2.7	3.4	3.5	3.4	3.3
Other Federal Assets	0.7	0.7	0.7	0.8	1.3	1.4	1.1	0.9	1.2	1.2	1.2	1.4
Subtotal	2.8	3.0	3.5	4.4	5.1	5.4	5.5	5.6	6.7	6.8	6.8	6.9
Privately Owned Physical Assets:												
Reproducible Assets	7.1	8.2	10.0	12.8	16.7	17.6	20.0	21.9	26.5	27.0	27.9	28.7
Residential Structures	2.7	3.2	3.8	4.9	6.7	6.9	7.8	8.8	10.9	11.3	11.8	12.4
Nonresidential Plant and Equipment	2.9	3.3	4.1	5.4	6.9	7.6	8.4	9.2	11.1	11.3	11.6	11.8
Inventories	0.6	0.7	0.9	1.1	1.4	1.3	1.4	1.4	1.6	1.5	1.5	1.5
Consumer Durables	0.9	1.0	1.3	1.5	1.8	1.9	2.3	2.5	2.8	2.9	3.0	3.1
Land	2.1	2.5	2.9	3.7	5.7	6.5	6.7	5.2	8.0	8.4	9.7	10.2
Subtotal	9.2	10.7	12.9	16.5	22.4	24.1	26.6	27.1	34.5	35.4	37.5	38.9
Education Capital:												
Federally Financed	0.1	0.1	0.2	0.3	0.5	0.6	0.8	0.9	1.2	1.2	1.3	1.4
Financed from Other Sources	6.2	8.0	10.8	13.3	17.4	20.8	26.9	30.1	39.1	40.7	42.2	44.0
Subtotal	6.3	8.1	11.0	13.6	17.8	21.4	27.7	31.0	40.3	41.9	43.5	45.4
Research and Development Capital:												
Federally Financed R&D	0.2	0.3	0.5	0.6	0.6	0.7	0.8	0.9	1.0	1.0	1.1	1.1
R&D Financed from Other Sources	0.1	0.2	0.3	0.4	0.5	0.7	0.9	1.1	1.5	1.6	1.7	1.7
Subtotal	0.3	0.6	0.8	0.9	1.1	1.4	1.7	2.1	2.5	2.6	2.7	2.9
Total Assets	18.6	22.3	28.2	35.5	46.4	52.2	61.5	65.8	84.0	86.8	90.6	94.1
Net Claims of Foreigners on U.S. (+)	-0.1	-0.2	-0.2	-0.1	-0.4	0.0	0.9	1.5	2.8	2.7	3.1	4.2
Net Wealth	18.7	22.5	28.4	35.6	46.7	52.2	60.6	64.3	81.1	84.1	87.5	89.9
ADDENDA:												
Per Capita Wealth (thousands of 2003 dollars)	103.6	115.9	138.5	165.1	204.8	218.6	242.0	240.8	286.9	294.0	302.7	307.8
Ratio of Wealth to GDP (in percent)	704.4	716.4	695.7	696.3	679.2	674.0	663.6	683.5	688.9	711.4	714.4	718.2
Total Federally Funded Capital (trils 2003 dollars)	2.1	2.4	2.8	3.3	3.9	4.5	4.7	4.8	5.5	5.6	5.8	6.1
Percent of National Wealth	11.5	10.7	9.9	9.3	8.4	8.7	7.8	7.4	6.8	6.7	6.6	6.8

population aged 16 and over; in other words, the goal is to measure how much it would cost to reeducate the U.S. workforce at today's prices (rather than at its original cost). This is more meaningful economically than the historical cost, and is comparable to the measures of physical capital presented earlier.

Although this is a relatively crude measure, it does provide a rough order of magnitude for the current value of the investment in education. According to this measure, the stock of education capital amounted to \$45 trillion in 2003, of which about 3 percent was financed by the Federal Government. It was nearly equal to the total value of the Nation's stock of physical capital. The main investors in education capital have been State and local governments, parents, and students themselves (who forgo earning opportunities in order to acquire education).

Even broader concepts of human capital have been proposed. Not all useful training occurs in a schoolroom or in formal training programs at work. Much informal learning occurs within families or on the job, but measuring its value is very difficult. Labor compensation, however, amounts to about two-thirds of national income with the other third attributed to capital and

thinking of this labor income as the product of human capital suggests that the total value of human capital might be two times the estimated value of physical capital assuming human capital had earned a similar rate of return to other forms of capital. Thus, the estimates offered here are in a sense conservative, because they reflect only the costs of acquiring formal education and training, which is why they are referred to as education capital rather than human capital. They constitute the part of human capital that can be attributed to formal education and training.

Research and Development Capital: Research and Development can also be thought of as an investment, because R&D represents a current expenditure that is made in the expectation of earning a future return. After adjusting for depreciation, the flow of R&D investment can be added up to provide an estimate of the current R&D stock.³ That stock is estimated to have been \$2.9 trillion in 2003. Although this represents a large amount of research, it is a relatively small portion

³ R&D depreciates in the sense that the economic value of applied research and development tends to decline with the passage of time, as still newer ideas move the technological frontier.

of total National wealth. Of this stock, 38 percent was funded by the Federal Government.

Liabilities: When considering how much the United States owes as a Nation, the debts that Americans owe to one another cancel out. When the debts of one American are the assets of another American, these debts are not a net liability of the Nation as a whole. Table 12-4 is intended to show National totals only. Total debt is important even though it does not appear in Table 12-4. The amount of debt owed by Americans to other Americans can exert both positive and negative effects on the economy. Americans' willingness and ability to borrow helped fuel the expansion of the 1990s, and continues to support consumption in the current recovery. On the other hand, bad debts, which are not collectible, can cause serious problems for the banking system.

The only debts that do appear in Table 12-4 are the debts Americans owe to foreigners. America's foreign debt has been increasing rapidly in recent years, because of the rising imbalance in the U.S. current account. Although the current account deficit has been at record levels recently, the size of this debt remains small compared with the total stock of U.S. assets. It amounted to 4.5 percent of total assets in 2002.

Federal debt does not appear explicitly in Table 12-4 because most of it consists of claims held by Americans; only that portion of the Federal debt which is held by foreigners is included along with the other debts to foreigners. Comparing the Federal Government's net liabilities with total national wealth does, however, provide another indication of the relative magnitude of the imbalance in the Government's accounts. Currently, Federal net liabilities, as reported in Table 12-1, amount to 5.6 percent of net U.S. wealth as shown in Table 12-4. Prospectively, however, Federal liabilities are a much larger share of national wealth, as shown by the long-run projections in Part III.

Trends in National Wealth

The net stock of wealth in the United States at the end of FY 2003 was about \$90 trillion, about eight times the level of GDP. Since 1961, it has increased in real terms at an average annual rate of 3.7 percent per year. It grew very rapidly from 1960 to 1973, at an average annual rate of 4.5 percent per year, slightly faster than real GDP grew over the same period. Between 1973 and 1995 growth slowed, as real net wealth grew at an average rate of just 3.1 percent per year, which paralleled the slowdown in real GDP over this period. Since 1995 growth has picked up for both net wealth and real GDP, with wealth growing at an average rate of 4.3 percent since 1995. This is the same period in which productivity growth accelerated following a similar slowdown from 1973 to 1995.

The net stock of private nonresidential plant and equipment accounts for about 30 percent of privately owned physical capital. It grew 3.3 percent per year on average from 1960 to 2003. It grew especially rapidly from 1960 to 1973, at an average rate of 3.9 percent

per year. Since 1973 it has grown more slowly, averaging around 3.0 percent per year. Unlike most other categories of wealth accumulation, there was very little acceleration in the growth of plant and equipment over the last eight years compared with 1973-1995. Private plant and equipment grew 3.0 percent per year on average between 1973 and 1995 and just 3.1 percent per year from 1995 through 2003. Higher than average growth in the investment boom of the late 1990s has been offset by less rapid growth since then. Meanwhile, privately owned residential structures, consumer durables and land have all grown more rapidly in real value since 1995 than from 1973 to 1995.

The accumulation of education capital has averaged 4.7 percent per year since 1960. It also slowed down between 1973 and 1995, and has grown somewhat more rapidly since then. It grew at an average rate of 5.8 percent per year in the 1960s, about 1.9 percentage point faster than the average rate of growth in private physical capital during the same period. Since 1995, education capital has grown at a 4.9 percent annual rate. This reflects both the extra resources devoted to schooling in this period, and the fact that such resources were increasing in economic value. R&D stocks have also grown at about 4.2 percent per year since 1995.

Other Federal Influences on Economic Growth

Federal investment decisions, as reflected in Table 12-4, obviously are important, but the Federal Government also contributes to wealth in ways that cannot be easily captured in a formal presentation. The Federal Reserve's monetary policy affects the rate and direction of capital formation in the short run, and Federal regulatory and tax policies also affect how capital is invested, as do the Federal Government's policies on credit assistance and insurance.

Social Indicators

There are certain broad responsibilities that are unique to the Federal Government. Especially important are fostering healthy economic conditions including sound economic growth, promoting health and social welfare, and protecting the environment. Table 12-5 offers a rough cut of information that can be useful in assessing how well the Federal Government has been doing in promoting these general objectives.

The indicators shown in Table 12-5 are only a subset drawn from the vast array of available data on conditions in the United States. In choosing indicators for this table, priority was given to measures that were consistently available over an extended period. Such indicators make it easier to draw valid comparisons and evaluate trends. In some cases, however, this meant choosing indicators with significant limitations.

The individual measures in this table are influenced to varying degrees by many Government policies and programs, as well as by external factors beyond the Government's control. They do not measure the outcomes of Government policies, because they generally

Table 12-5. ECONOMIC AND SOCIAL INDICATORS

General categories	Calendar Years	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003
Economic:													
Living Standards	Real GDP per person (2000 dollars)	13,840	16,420	18,392	19,961	22,666	25,382	28,429	30,128	34,753	34,550	34,934	35,648
	average annual percent change (5-year trend)	1.7	3.5	2.3	1.7	2.6	2.3	2.3	1.2	2.9	2.3	1.8	1.7
	Median Income:												
	All Households (2002 dollars)	N/A	N/A	35,030	34,763	36,608	37,648	39,949	39,931	43,848	42,900	42,409	N/A
	Married Couple Families (2001 dollars) ¹	29,746	34,620	41,516	43,113	47,086	48,798	52,394	54,284	60,748	60,335	N/A	N/A
	Female Householder, Husband Absent (2001 dollars) ¹ ..	15,032	16,831	20,107	19,847	21,177	21,434	22,237	22,713	26,434	25,745	N/A	N/A
	Income Share of Lower 60% of All Households	31.8	32.2	32.3	32.0	31.5	30.0	29.4	28.0	27.3	26.8	27.1	N/A
	Poverty Rate (%) ²	22.2	17.3	12.6	12.3	13.0	14.0	13.5	13.8	11.3	11.7	12.1	N/A
Economic Security	Civilian Unemployment (%)	5.5	4.5	4.9	8.5	7.1	7.2	5.5	5.6	4.0	4.8	5.8	6.0
	CPI-U (% Change)	1.7	1.6	5.8	9.1	13.5	3.5	5.4	2.8	3.4	2.8	1.6	2.3
Employment	Increase in Total Payroll Employment Previous 12 Months.	-0.4	2.9	-0.4	0.4	0.3	2.5	0.3	2.2	1.9	-1.8	-0.5	-0.1
	Managerial or Professional Jobs (% of civilian employment).	N/A	N/A	N/A	N/A	N/A	27.3	29.2	32.0	33.8	34.4	34.6	34.8
Wealth Creation	Net National Saving Rate (% of GDP) ³	10.2	12.1	8.2	6.6	7.5	6.1	4.6	4.7	5.9	3.3	1.6	0.7
Innovation	Patents Issued to U.S. Residents (thousands) ⁴	42.3	54.1	50.6	51.5	41.7	45.1	56.1	68.2	103.6	105.5	99.6	N/A
	Multifactor Productivity (average 5 year percent change)	0.9	2.9	0.8	1.1	0.8	0.5	0.5	0.6	1.1	0.7	N/A	N/A
	Nonfarm Output per Hour (average 5 year percent change).	1.8	3.5	2.0	2.3	1.2	1.7	1.4	1.5	2.5	2.4	3.0	3.4
Environment:													
Air Quality	Nitrogen Oxide Emissions (thousand short tons)	18,163	21,296	26,883	26,377	27,079	25,757	25,530	24,956	23,199	22,349	N/A	N/A
	Sulfur Dioxide Emissions (thousand short tons)	22,268	26,799	31,218	28,043	25,925	23,307	23,078	18,619	16,317	15,790	N/A	N/A
	Lead Emissions (thousand short tons)	N/A	N/A	221	160	74	23	5	4	4	4	N/A	N/A
Water Quality	Population Served by Secondary Treatment or Better (mils).	N/A	N/A	N/A	N/A	N/A	140.3	162.3	173.8	201.4	N/A	N/A	N/A
Social:													
Families	Children Living with Mother Only (% of all children)	9.2	10.2	11.6	16.4	18.6	20.2	21.6	24.0	22.3	22.7	23.2	N/A
Safe Communities	Violent Crime Rate (per 100,000 population) ⁵	160.0	199.0	364.0	482.0	597.0	558.1	729.6	684.5	506.5	504.5	494.6	483.8
	Murder Rate (per 100,000 population) ⁵	5.1	5.1	7.8	9.6	10.2	8.0	9.4	8.2	5.5	5.6	5.6	5.6
	Murders (per 100,000 Persons Age 14 to 17)	N/A	N/A	N/A	4.5	5.9	4.9	9.8	11.0	4.7	N/A	N/A	N/A
Health	Infant Mortality (per 1000 Live Births)	26.0	24.7	20.0	16.1	12.6	10.6	9.2	7.6	6.7	6.8	6.9	6.7
	Low Birthweight [<2,500 gms] Babies (%)	7.7	8.3	7.9	7.4	6.8	6.8	7.0	7.3	7.6	7.7	7.8	N/A
	Life Expectancy at birth (years)	69.7	70.2	70.8	72.6	73.7	74.7	75.4	75.8	77.0	77.2	N/A	N/A
	Cigarette Smokers (% population 18 and older) ⁶	N/A	41.9	39.2	36.3	33.0	29.9	25.3	24.6	23.1	22.6	22.3	21.6
Learning	High School Graduates (% of population 25 and older) ..	44.6	49.0	55.2	62.5	68.6	73.9	77.6	81.7	84.1	84.3	N/A	N/A
	College Graduates (% of population 25 and older)	8.4	9.4	11.0	13.9	17.0	19.4	21.3	23.0	25.6	26.1	N/A	N/A
Participation	Individual Charitable Giving per Capita (2000 dollars)	240	288	345	367	400	411	456	432	575	585	573	N/A
	—by presidential election year	1960	1964	1968	1972	1976	1980	1984	1988	1992	1996	2000	
	Voting for President (% eligible population)	62.8	61.9	60.9	55.2	53.5	52.8	53.3	50.3	55.1	49.0	51.2	

¹ Median income for married couple and female householder families not updated yet for 2002.

² The poverty rate does not reflect noncash government transfers such as Medicaid or food stamps.

³ Does not reflect December 2003 revisions to National Income and Product Accounts, which are not yet complete for national saving, 2003 through Q3 only.

⁴ Preliminary data for 2002.

⁵ Not all crimes are reported, and the fraction that go unreported may have varied over time, 2003 data are preliminary for the first half of the year.

⁶ Smoking data for 2003 through June.

do not show the direct results of Government activities, but they do provide a quantitative measure of the progress or lack of progress in reaching some of the ultimate values that Government policy is intended to promote.

Such a table can serve two functions. First, it highlights areas where the Federal Government might need to modify its current practices or consider new approaches. Where there are clear signs of deteriorating conditions, corrective action might be appropriate. Second, the table provides a context for evaluating other data on Government activities. For example, Government actions that weaken its own financial position may be appropriate when they promote a broader social

objective. The Government cannot avoid making such trade-offs because of its size and the broad ranging effects of its actions. Monitoring these effects and incorporating them in the Government's policy making is a major challenge.

It is worth noting that, in recent years, many of the trends in these indicators turned around. The improvement in economic conditions has been widely noted, and there have also been some significant social improvements. Perhaps, most notable has been the turnaround in the crime rate. Since reaching a peak in the early 1990s, the violent crime rate has fallen by a third. The turnaround has been especially dramatic in the murder rate, which was lower in 2000

than at any time since the 1960s. The 2001 recession has had an effect on some of these indicators. Unemployment has risen and real GDP growth has declined.

But as the economy recovers much of the improvement shown in Table 12–5 is likely to be preserved and extended.

TECHNICAL NOTE: SOURCES OF DATA AND METHOD OF ESTIMATING

Long-Range Budget Projections

The long-range budget projections are based on long-range demographic and economic assumptions. A simplified model of the Federal budget, developed at OMB, computes the budgetary implications of these assumptions.

Demographic and Economic Assumptions: Through 2014, the assumptions are identical to those used for the budget. These budget assumptions reflect the President's policy proposals. The economic assumptions are extended beyond this point by holding constant inflation, interest rates, and unemployment at the levels assumed in the final year of the budget forecast. Population growth and labor force growth are extended using the intermediate assumptions from the 2003 Social Security trustees' report. The projected rate of growth for real GDP is built up from the labor force assumptions and an assumed rate of productivity growth. Productivity growth is held constant at the average rate of growth implied by the budget's economic assumptions.

- CPI inflation holds stable at 2.5 percent per year; the unemployment rate is constant at 5.1 percent; and the yield on 10-year Treasury notes is steady at 5.8 percent, which are the final values at the end of the budget forecast for each of these variables.
- Real GDP per hour grows at the same average rate as in the Administration's medium-term projections—2.3 percent per year—through 2080.
- Consistent with the demographic assumptions in the trustees' reports, U.S. population growth slows from around 1 percent per year to about half that rate by 2030, and even slower rates of growth beyond that point. Population growth reaches 0.3 percent per year at the end of the projection period in 2080 and it is still slowing.
- Real GDP growth declines over time with the expected slowdown in population growth which feeds through to the labor force. An aging population also contributes less work effort, and this is also reflected in the projections. Historically, real GDP has grown at an average yearly rate of 3.4 percent. In these projections, real GDP growth declines to 2.6 percent by 2020, and averages that rate for the next 60 years.

The economic and demographic projections described above are set by assumption and do not automatically change in response to changes in the budget outlook. This is unrealistic, but it simplifies comparisons of alternative policies.

Budget Projections: For the period through 2014, receipts and outlays follow the budget's policy projections. Beyond the budget horizon, receipts are projected using

simple rules of thumb linking income taxes, payroll taxes, excise taxes, and other receipts to projected tax bases derived from the economic projections. Discretionary outlays grow at the rate of growth in nominal GDP. Social Security is projected by the Social Security actuaries using these long-range assumptions. Medicare benefits are projected based on the estimates in the 2003 Medicare trustees' report, adjusted for differences in the assumed growth rate in GDP per capita and for the effects of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003. Federal pensions are derived from the most recent actuarial forecasts available at the time the budget is prepared, repriced using Administration inflation and wage growth assumptions. Medicaid outlays are based on the economic and demographic projections in the model. Other entitlement programs are projected based on rules of thumb linking program spending to elements of the economic and demographic projections such as the poverty rate.

Federally Owned Assets and Liabilities

Financial Assets: The source of data is the Federal Reserve Board's Flow-of-Funds Accounts.

Fixed Reproducible Capital: Estimates were developed from the OMB historical data base for physical capital outlays and software purchases. The data base extends back to 1940 and was supplemented by data from other selected sources for 1915–1939. The source data are in current dollars. To estimate investment flows in constant dollars, the nominal investment series was deflated using chained price indexes for Federal investment from the National Income and Product Accounts. The resulting capital stocks were aggregated into nine categories and depreciated using geometric rates roughly following those used by the Bureau of Economic Analysis in its estimates of physical capital stocks.

Fixed Nonreproducible Capital: Historical estimates for 1960–1985 were based on estimates in Michael J. Boskin, Marc S. Robinson, and Alan M. Huber, "Government Saving, Capital Formation and Wealth in the United States, 1947–1985," published in *The Measurement of Saving, Investment, and Wealth*, edited by Robert E. Lipsey and Helen Stone Tice (The University of Chicago Press, 1989).

Estimates were updated using changes in the value of private land from the Flow-of-Funds Balance Sheets and from the Agriculture Department for farm land; the value of Federal oil deposits was extrapolated using the Producer Price Index for Crude Energy Materials.

Debt Held by the Public: Treasury data.

Insurance and Guarantee Liabilities: Sources of data are the OMB Pension Guarantee Model and OMB esti-

mates based on program data. Historical data on liabilities for deposit insurance were also drawn from CBO's study, *The Economic Effects of the Savings and Loan Crisis*, issued January 1992.

Pension and Post-Employment Health Liabilities: For 1979–2001, the estimates are the actuarial accrued liabilities as reported in the annual reports for the Civil Service Retirement System, the Federal Employees Retirement System, and the Military Retirement System (adjusted for inflation). Estimates for the years before 1979 are extrapolations. The estimate for 2002 is a projection. The health insurance liability was estimated by the program actuaries for 1997–2001, and extrapolated back for earlier years. Veterans disability compensation was taken from the Financial Report of the United States Government (and the Consolidated Financial Statement for some earlier years). Prior to 1976, the values were extrapolated. For 2003, the estimates from the Department of Veterans Affairs' 2003 Performance and Accountability Report.

Other Liabilities: The source of data for trade payables and miscellaneous liabilities is the Federal Reserve's Flow-of-Funds Accounts. The Financial Report of the United States Government was the source for benefits due and payable.

National Balance Sheet

Publicly Owned Physical Assets: Basic sources of data for the Federally owned stocks of capital are the Federal investment flows described in Chapter 6. Federal grants for State and local government capital are added, together with adjustments for inflation and depreciation in the same way as described above for direct Federal investment. Data for total State and local government capital come from the revised capital stock data prepared by the Bureau of Economic Analysis extrapolated for 2002–03.

Privately Owned Physical Assets: Data are from the Flow-of-Funds national balance sheets and from the private net capital stock estimates prepared by the Bureau of Economic Analysis extrapolated for 2002–03 using investment data from the National Income and Product Accounts.

Education Capital: The stock of education capital is computed by valuing the cost of replacing the total years of education embodied in the U.S. population 16 years of age and older at the current cost of providing schooling. The estimated cost includes both direct expenditures in the private and public sectors and an estimate of students' forgone earnings, i.e., it reflects the opportunity cost of education. Estimates of students' forgone earnings are based on the year-round, full-time earnings of 18–24 year olds with selected educational attainment levels. These year-round earnings are reduced by 25 percent because students are usually out of school three months of the year. For high school students, these adjusted earnings are further reduced by the unemployment rate for 16–17 year olds; for college students, by the unemployment rate for 20–24 year olds. Yearly earnings by age and educational attain-

ment are from Money Income in the United States, series P60, published by the Bureau of the Census.

For this presentation, Federal investment in education capital is a portion of the Federal outlays included in the conduct of education and training. This portion includes direct Federal outlays and grants for elementary, secondary, and vocational education and for higher education. The data exclude Federal outlays for physical capital at educational institutions because these outlays are classified elsewhere as investment in physical capital. The data also exclude outlays under the GI Bill; outlays for graduate and post-graduate education spending in HHS, Defense and Agriculture; and most outlays for vocational training. The Federal share of the total education stock in each year is estimated by averaging the prior years' shares of Federal education outlays in total education costs.

Data on investment in education financed from other sources come from educational institution reports on the sources of their funds, published in U.S. Department of Education, *Digest of Education Statistics*. Nominal expenditures were deflated by the implicit price deflator for GDP to convert them to constant dollar values. Education capital is assumed not to depreciate, but to be retired when a person dies. An education capital stock computed using this method with different source data can be found in Walter McMahon, "Relative Returns to Human and Physical Capital in the U.S. and Efficient Investment Strategies," *Economics of Education Review*, Vol. 10, No. 4, 1991. The method is described in detail in Walter McMahon, *Investment in Higher Education*, Lexington Books, 1974.

Research and Development Capital: The stock of R&D capital financed by the Federal Government was developed from a data base that measures the conduct of R&D. The data exclude Federal outlays for physical capital used in R&D because such outlays are classified elsewhere as investment in federally financed physical capital. Nominal outlays were deflated using the GDP deflator to convert them to constant dollar values.

Federally funded capital stock estimates were prepared using the perpetual inventory method in which annual investment flows are cumulated to arrive at a capital stock. This stock was adjusted for depreciation by assuming an annual rate of depreciation of 10 percent on the estimated stock of applied research and development. Basic research is assumed not to depreciate. These are the same assumptions used in a study published by the Bureau of Labor Statistics estimating the R&D stocks financed by private industry U.S. Department of Labor, Bureau of Labor Statistics, *The Impact of Research and Development on Productivity Growth*, Bulletin 2331, September 1989. Chapter 6 of this volume contains additional details on the estimates of the total federally financed R&D stock, as well as its national defense and nondefense components.

A similar method was used to estimate the stock of R&D capital financed from sources other than the Federal Government. The component financed by universities, colleges, and other nonprofit organizations is

estimated based on data from the National Science Foundation, Surveys of Science Resources. The industry-financed R&D stock component is estimated from that source and from the U.S. Department of Labor, *The Impact of Research and Development on Productivity Growth*, Bulletin 2331, September 1989.

Experimental estimates of R&D capital stocks have been prepared by BEA. The results are described in "A Satellite Account for Research and Development," *Survey of Current Business*, November 1994. These BEA estimates are lower than those presented here primarily because BEA assumes that the stock of basic research depreciates, while the estimates in Table 12-5

assume that basic research does not depreciate. BEA also assumes a slightly higher rate of depreciation for applied research and development, 11 percent, compared with the 10 percent rate used here.

Sources of Data and Assumptions for Estimating Social Indicators

The main sources for the data in this table are the Government statistical agencies. The data are all publicly available, and can be found in such general sources as the annual *Economic Report of the President* and the *Statistical Abstract of the United States*, or from agencies' web sites.

13. NATIONAL INCOME AND PRODUCT ACCOUNTS

The National Income and Product Accounts (NIPAs) are an integrated set of measures of aggregate U.S. economic activity that are prepared by the Department of Commerce. Because the NIPAs include Federal transactions and are widely used in economic analysis, it is important to show the NIPAs' distinctive presentation of Federal transactions and contrast it with that of the budget.

One of the main purposes of the NIPAs is to measure the Nation's total production of goods and services, known as gross domestic product (GDP), and the incomes generated in its production. GDP is a measure of the Nation's final output, which excludes intermediate product to avoid double counting. Both government consumption expenditures and government gross investment—State and local as well as Federal—are included in GDP as part of final output, together with personal consumption expenditures, gross private domestic investment, and net exports of goods and services (exports minus imports).

Other Government expenditures—social benefits, grants to State and local governments, subsidies, and interest payments—are not purchases of final output and as such are not included in GDP; however, these transactions are recorded in the NIPA Government current receipts and current expenditure account, together with Government consumption expenditures (which includes depreciation on Government gross investment).

Federal transactions are included in the NIPAs as part of the government sector.¹ The Federal subsector is designed to measure certain important economic effects of Federal transactions in a way that is consistent with the conceptual structure of the entire set of integrated accounts. The NIPA Federal subsector is not itself a budget, because it is not a financial plan for proposing, determining, and controlling the fiscal activities of the Government. Also, it covers current transactions only, whereas the budget includes transactions that the NIPA current account omits from its current receipts and current expenditure totals as “capital transfers.” NIPA concepts also differ in many other ways from budget concepts, and therefore the NIPA presentation of Federal finances is significantly different from that of the budget.

Differences Between the NIPAs and the Budget

Federal transactions in the NIPAs are measured according to NIPA accounting concepts in order to be compatible with the purposes of the NIPAs and other transactions recorded in the NIPAs. As a result they differ from the budget in netting, timing, and coverage. These differences cause current receipts and expendi-

tures in the NIPAs to differ from total receipts and outlays in the budget, albeit by relatively small amounts.² Differences in timing and coverage also cause the NIPA net Federal Government saving to differ from the budget surplus or deficit. Netting differences have equal effects on receipts and expenditures and thus have no effect on net Government saving. Besides these differences, the NIPAs combine transactions into different categories from those used in the budget.

December 2003 NIPA Revisions.—Comprehensive revisions to the NIPAs introduced in December 2003 significantly changed the way Federal transactions are measured in the NIPAs, and the ways in which the NIPAs differ from the budget. The three most important changes were: 1) reclassification of nontaxes out of current tax receipts into current transfer receipts from persons and from business (net); 2) switching several items formerly netted against expenditures to current receipts: interest and dividends received by Government, the current surplus of Government enterprises, and tax receipts from the rest of the world (formerly netted against transfer payments to the rest of the world); 3) a new receipts category called “income receipts on assets” now includes such items as Outer Continental Shelf oil and gas royalties. The categories into which Government current expenditures and current receipts are broken down in the NIPAs are now significantly different from those used in the past. Terminology has changed also; most notably, government surpluses or deficits are now referred to as net government saving. The effects of these changes are reflected in this chapter.

Netting differences arise when the budget records certain transactions as offsets to outlays while they are recorded as current receipts in the NIPAs (or vice versa). The budget treats all income that comes to the Government due to its sovereign powers—mainly, but not exclusively, taxes—as governmental receipts. The budget offsets against outlays any income that arises from voluntary business-type transactions with the public. The NIPAs often follow this concept as well, and income to Government enterprises such as the Postal Service or the power administrations is offset against their expenditures—but the NIPAs now treat the net surplus of Government enterprises as a component of current receipts. However, the NIPAs have a narrower definition of “business-type transactions”. Two classes of receipts, rents and royalties, and regulatory or inspection fees, both of which are classified as offsets to outlays in the budget, are recorded in the NIPAs

¹The other subsector of the NIPA government sector is a single set of transactions for all U.S. State and local units of government, treated as a consolidated entity.

²Over the period 1994–2003, NIPA current expenditures averaged four percent higher than budget outlays, while NIPA current receipts averaged two percent higher than budget receipts.

as Government receipts (income receipts on assets and current transfer receipts, respectively). The NIPAs include Medicare premiums as Government receipts, while the budget classifies them as business-type transactions (offsetting receipts).

In the budget, any intragovernmental income from one account to another is offset against outlays rather than being recorded as a receipt so that total outlays and receipts measure transactions with the public. Government contributions for Federal employee social insurance (such as social security) is an example: the budget offsets these payments against outlays. In contrast, the NIPAs treat the Federal Government like any other employer and show contributions for Federal employee social insurance as expenditures by the employing agencies and as governmental (rather than offsetting) receipts. The NIPAs also impute certain transactions that are not explicit in the budget. For example, unemployment benefits for Federal employees are financed by direct appropriations rather than social insurance contributions. The NIPAs impute social insurance contributions by employing agencies to finance these benefits—again, treating the Federal Government like any other employer.

Timing differences for receipts occur because the NIPAs generally record personal taxes and social insurance contributions when they are paid and business taxes when they accrue, while the budget generally records all receipts when they are received. Thus the NIPAs attribute corporations' final settlement payments back to the quarter(s) in which the profits that gave rise to the tax liability occurred. The delay between accrual of liability and Treasury receipt of payment can result in significant timing differences between NIPA and budget measures of receipts for any given accounting period.

Timing differences also occur for expenditures. When the first of a month falls on a weekend or holiday, monthly benefit checks normally mailed on the first of the month may be mailed out a day or two earlier; the budget then reflects two payments in one month and none the next. On occasion, the budget totals reflect 13 monthly payments in one year and only 11 the next. NIPA expenditure figures always reflect 12 benefit payments per year, giving rise to a timing difference compared to the budget.

Coverage differences also differentiate the budget and the NIPAs. The NIPA Federal subsector is a current account and excludes capital transfers unrelated to current economic production, which are included in the budget. Federal investment grants to State and local governments, investment subsidies to business, and forgiveness of debt owed by foreign governments are included as outlays in the budget but are excluded from NIPA current expenditures as being capital transfers. Likewise, estate and gift taxes, included in budget receipts, are excluded from NIPA current receipts as

being capital transfers. Also unlike the budget, the NIPAs exclude transactions with U.S. territories. They also exclude the proceeds from the sales of nonproduced assets such as land. Bonuses paid on Outer Continental Shelf oil leases and proceeds from broadcast spectrum auctions are shown as offsetting receipts in the budget and are deducted from budget outlays. In the NIPAs these transactions are excluded as an exchange of assets with no current production involved.

A coverage difference arises on the expenditure side because of the NIPA treatment of Government investment. The budget includes outlays for Federal investments as they are paid, while the Federal sector of the NIPA instead excludes current investments but includes a depreciation charge on past investments ("consumption of general government fixed capital") as part of "current expenditures." The inclusion of depreciation on fixed capital (structures, equipment and software) in current expenditures is a proxy for the services that capital renders; i.e., for its contribution to Government output of public services.

The treatment of Government pension plan income and outgo creates a coverage difference. Whereas the budget treats employee payments to these pension plans as governmental receipts, and employer contributions by agencies as offsets to outlays because they are intragovernmental, the NIPAs treat both of these components of employee compensation as personal income, in the same way as it treats contributions to pension plans in the private (household) sector. Likewise, the budget records a Government check to a retired Government employee as an outlay, but under NIPA concepts, no Government expenditure occurs at that time; the payment is treated (like private pension payments) as a transfer of income within the household sector.

Financial transactions such as loan disbursements, loan repayments, loan asset sales, and loan guarantees are excluded from the NIPAs on the grounds that such transactions simply involve an exchange of assets rather than current production, income, or consumption. In contrast, under the Federal Credit Reform Act of 1990, the budget records the estimated subsidy cost of the direct loan or loan guarantee as an outlay when the loan is disbursed. The cash flows with the public are recorded in nonbudgetary accounts as a means of financing the budget rather than as budgetary transactions themselves. This treatment recognizes that part of a Federal direct loan is an exchange of assets with equal value but part is a subsidy to the borrower. It also recognizes the subsidy normally granted by loan guarantees. In the NIPAs, neither the subsidies nor the loan transactions are included. However, the NIPAs, like the budget, include all interest transactions with the public, including interest received and paid to the loan financing accounts.

Deposit insurance outlays for resolving failed banks and thrift institutions are similarly excluded from the NIPAs on the grounds that there are no offsetting current income flows from these transactions. In 1991, this exclusion was the largest difference between the NIPAs and the budget and made NIPA net Government saving

a significantly smaller negative number than the budget deficit that year. In subsequent years, as assets acquired from failed financial institutions were sold, these collections tended to make the budget deficit a smaller negative figure than NIPA net Federal Government saving.

Table 13-1. FEDERAL TRANSACTIONS IN THE NATIONAL INCOME AND PRODUCT ACCOUNTS, 2003-2005

(In billions of dollars)

Description	Actual 2003	Estimate	
		2004	2005
CURRENT RECEIPTS			
Current tax receipts	1,029.8	1,009.2	1,210.1
Personal current taxes	781.7	721.0	850.4
Taxes on production and imports	90.3	97.4	97.0
Taxes on corporate income	151.0	184.1	256.0
Taxes from the rest of the world	6.8	6.7	6.7
Contributions for Government social insurance	749.8	788.0	846.7
Income receipts on assets	21.4	23.6	24.0
Current transfer receipts	26.3	27.7	30.0
Current surplus of Government enterprises	2.9	-0.6	-1.4
Total current receipts	1,830.2	1,847.9	2,109.5
CURRENT EXPENDITURES			
Consumption expenditures	640.3	706.1	712.3
Defense	424.8	471.2	459.8
Nondefense	215.5	234.9	252.4
Current transfer payments	1,310.5	1,398.8	1,447.2
Government social benefits	955.7	1,010.1	1,060.1
Grants-in-aid to State and local governments	333.3	360.6	356.5
To the rest of the world	21.5	28.1	30.6
Interest payments	217.8	218.5	243.8
Subsidies	49.3	44.0	44.2
Wage disbursements less accruals			
Total current expenditures	2,218.0	2,367.4	2,447.4
Net Federal Government saving	-387.8	-519.5	-338.0
ADDENDUM			
Capital transfer payments (net)	-23.2	-23.4	-26.7
Gross Government investment:			
Defense	58.6	63.8	67.0
Nondefense	37.0	40.8	43.2

* \$50 million or less.

Federal Sector Current Receipts

Table 13-1 shows Federal current receipts in the five major categories and four of the subcategories now used in the NIPAs, which are similar to the budget categories but with significant differences.

Current tax receipts is the largest major category of current receipts, and its personal current taxes subcategory—composed primarily of the individual income tax—is the largest single subcategory. The NIPAs' taxes on corporate income subcategory differs in classification from the corresponding budget category primarily because the NIPAs include the deposit of earnings of the Federal Reserve System as corporate profits taxes, while the budget treats these collections as miscellaneous receipts. (The timing difference between the

NIPAs and the budget is especially large for corporate receipts.) The taxes on production and imports subcategory is composed of excise taxes and customs duties.

Contributions for Government social insurance is the second largest major category of current receipts. It differs from the corresponding budget category primarily because: (1) the NIPAs include Federal employer contributions for social insurance as a governmental receipt, while the budget offsets these contributions against outlays as undistributed offsetting receipts; (2) the NIPAs include premiums for Part B of Medicare as governmental receipts, while the budget nets them against outlays; (3) the NIPAs treat Government employee contributions to their pension plans as personal income, while the budget includes them in govern-

mental receipts; and (4) the NIPAs impute employer contributions for Federal employees' unemployment insurance and workers' compensation.

The income receipts on assets category consists mainly of interest payments received on Government direct loans (such as student loans) and rents and royalties on Outer Continental Shelf oil leases. The current transfer receipts category consists primarily of deposit insurance premiums, fees, fines and other receipts from both individuals and businesses—virtually all of which are netted against outlays in the budget. The current surplus (or deficit) of Government enterprises category was formerly netted against subsidies on the expenditure side of the accounts. This is the profit or loss of "Government enterprises," such as the Postal Service, which are business-type operations of Government that usually appear in the budget as public enterprise revolving funds. Depreciation (consumption of enterprise fixed capital) is netted in calculating the current surplus of Government enterprises.

Federal Sector Current Expenditures

Table 13-1 shows current expenditures in five major NIPA categories and five subcategories, which are also very different from the budget categories.

Government consumption expenditures are the goods and services purchased by the Federal Government in the current account, including compensation of employees and depreciation. Gross investment (shown as addendum items in Table 13-1) is thus excluded from current expenditures in computing net Government saving on a NIPA basis, whereas depreciation—charges on federally owned fixed capital—"consumption of general government fixed capital" is included. The NIPAs treat State and local investment and capital consumption in the same way—regardless of the extent to which it is financed with Federal aid (capital transfer payments) or from State and local own-source receipts.

Although gross investment is not included in Government current expenditures, both Government gross investment and current consumption expenditures (including depreciation) are included in total GDP, which makes the treatment of the government sectors in the NIPAs similar to that of the private sector. Investment includes structures, equipment, and computer software.

Current transfer payments is the largest expenditure category. Transfer payments for Government social benefits consist mainly of income security and health programs, such as Social Security and Medicare paid to U.S. residents—and to retirees living outside the U.S. Payment of pension benefits to former Government employees is not included, as explained previously. Grants-in-aid to State and local governments help finance a range of programs, including income security, Medicaid, and education (but capital transfer payments for con-

struction of highways, airports, waste-water treatment plants, and mass transit are excluded). "Current transfer payments to the rest of the world (net) consists mainly of grants to foreign governments.

Interest payments is the interest paid by the Government on its debt (excluding debt held by trust funds, other than Federal employee pension plans; and other Government accounts). Where the budget nets interest received on loans against outlays, the NIPAs now treat it as current receipts.

Subsidies consist of subsidy payments for resident businesses (excluding subsidies for investment). NIPA subsidies do not include the imputed credit subsidies estimated as budget outlays under credit reform. Rather, loans and guarantees are categorized as financial transactions and are excluded from the NIPAs except for associated interest and fees.

Wage disbursements less accruals is an adjustment that is necessary to the extent that the wages paid in a period differ from the amount earned in the period.

Differences in the Estimates

From the introduction of the unified budget in January 1968 until the early 1990s, NIPA receipts were less than budget receipts in most years. This was due principally to the fact that estate and gift taxes, which they exclude as capital transfers, exceeded Medicare premiums, which they include as a governmental receipt but the budget treats as an offsetting receipt. (In the budget, offsetting receipts are netted against the outlay total and not included in the governmental receipts total.) NIPA current expenditures have usually been higher than budget outlays (from which the Medicare premiums and employer retirement contributions are netted out as offsetting receipts), despite the omission from NIPA expenditures of capital transfer grants and pension benefit payments to former Government employees.

Two components of budget outlays, however, are sometimes sufficiently large in combination to exceed the netting adjustments. These are financial transactions and net investment (the difference between gross investment and depreciation). Large outlays associated with resolving the failed savings and loan associations and banks in 1990 and 1991 caused those year's budget outlays to exceed NIPA current expenditures. With the change in budgetary treatment of direct loans in 1992 under credit reform, one type of financial transaction—direct loans to the public—has been recorded in the budget in a way that is closer to the NIPA treatment. Disbursement and repayment of loans made since that time are recorded outside the budget as in the Federal sector of the NIPAs, although, unlike the NIPAs, credit subsidies are recorded as budget outlays.

Table 13-2. RELATIONSHIP OF THE BUDGET TO THE FEDERAL SECTOR, NIPAs

	Actual 2003	Estimate	
		2004	2005
RECEIPTS			
Budget receipts	1,782.3	1,798.1	2,036.3
Contributions to Government employee retirement plans	-4.6	-4.7	-4.7
Capital transfers received	-21.8	-23.8	-21.3
Other coverage differences	-9.8	-10.8	-10.9
Netting and grossing	86.1	91.6	98.4
Timing differences	-2.0	-2.6	11.8
NIPA current receipts	1,830.2	1,847.9	2,109.5
EXPENDITURES			
Budget outlays	2,157.6	2,318.8	2,399.8
Government employee retirement plan transactions	29.3	31.8	31.5
Deposit insurance and other financial transactions	16.8	7.9	15.2
Capital transfer payments	-45.0	-47.2	-48.0
Net purchases of nonproduced assets	-0.1	-0.1	-0.1
Net investment	-5.2	-11.7	-14.4
Other coverage differences	-20.1	-27.6	-37.1
Netting and grossing differences	86.1	91.6	98.4
Timing differences	-1.6	3.8	2.0
NIPA current expenditures	2,218.0	2,367.4	2,447.4
ADDENDUM			
Budget deficit (-)	-375.3	-520.7	-363.6
NIPA net Federal Government saving	-387.8	-519.5	-338.0

* \$50 million or less.

During the period 1975–1992, the budget deficit was a larger negative number than net Federal Government saving as measured in the NIPAs' seasonally adjusted data every year except 1987. The largest difference, \$72.9 billion, occurred in 1991 as a result of resolving failed financial institutions as discussed above; the budget deficit was then -\$269.3 billion, while the NIPA net Government saving was -\$196.5 billion. In 1993–2003, the NIPA net Federal Government saving were larger negative numbers than the budget deficit or lower positive numbers than the budget surplus each year. For 2004 and 2005, the NIPA net Federal Government saving are projected to be smaller negative numbers than the budget deficit.

Table 13-1 displays Federal transactions using NIPA concepts with actual data for the 2003 and estimates for 2004 and 2005 consistent with the Administration's budget proposals. Table 13-2 summarizes the reasons for differences between the data. Table 13-3 displays quarterly data using NIPA concepts beginning in October 2002. Annual NIPA data for 2003–2005 are published in Section 14 of a separate budget volume, *Historical Tables, Budget of the U.S. Government, Fiscal Year 2005*.

Detailed estimates of NIPA current receipts and expenditures will be published in a forthcoming issue of the Department of Commerce publication, *Survey of Current Business* and on the Bureau of Economic Analysis website at <http://www.bea.doc.gov/bea/pubs.htm>.

Table 13-3. FEDERAL RECEIPTS AND EXPENDITURES IN THE NIPA's, QUARTERLY, 2003-2005

(In billions of dollars; seasonally adjusted at annual rates)

Description	Actual				Estimate							
	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.
	2002	2003	2003	2003	2003	2004	2004	2004	2004	2005	2005	2005
CURRENT RECEIPTS												
Current tax receipts	1,072.7	1,060.3	1,057.1	972.1		978.1	1,008.6	1,042.4	1,080.4	1,186.3	1,222.7	1,256.6
Personal current taxes	815.4	794.3	794.6	696.3		681.5	695.3	712.9	734.2	813.4	836.3	857.8
Taxes on production and imports	89.0	88.3	87.7	86.3		93.7	97.5	98.1	94.7	93.9	94.9	95.7
Taxes on corporate income	161.7	171.0	167.9	182.8		196.3	209.1	224.7	244.9	272.3	284.8	296.4
Taxes from the rest of the world	6.7	6.8	6.9	6.7		6.7	6.7	6.7	6.7	6.7	6.7	6.7
Contributions for Government social insurance	741.9	755.1	758.5	763.1		791.6	802.4	815.1	824.5	844.0	854.6	864.4
Income receipts on assets	22.0	22.5	23.6	24.9		25.6	25.7	25.5	25.5	25.8	26.1	26.5
Current transfer receipts	25.4	26.0	26.3	26.9		27.6	28.1	28.7	29.5	30.0	30.5	30.8
Current surplus of Government enterprises	-2.3	-0.4	-1.6	-2.5		-5.7	-5.7	-5.7	-5.7	-6.1	-6.2	-6.1
Total current receipts	1,859.7	1,863.5	1,863.9	1,784.3		1,817.2	1,859.1	1,906.1	1,954.2	2,080.1	2,127.6	2,172.2
CURRENT EXPENDITURES												
Consumption expenditures	620.7	635.9	668.9	672.3		711.4	723.5	730.2	728.0	724.5	721.2	719.5
Defense	404.6	408.6	447.5	443.7		468.2	475.2	477.6	471.0	462.8	457.3	454.2
Nondefense	216.1	227.3	221.4	228.5		243.2	248.3	252.6	257.1	261.7	263.9	265.3
Current transfer payments	1,270.8	1,287.3	1,339.5	1,348.9		1,392.7	1,404.7	1,424.8	1,433.9	1,457.8	1,452.2	1,452.3
Government social benefits	935.4	951.5	969.7	979.7		1,012.3	1,025.1	1,037.4	1,048.9	1,065.4	1,070.6	1,075.4
Grants-in-aid to State and local governments ..	316.4	310.8	345.5	346.3		343.7	352.9	360.4	355.4	353.2	352.4	347.2
To the rest of the world	19.1	25.1	24.3	22.9		36.8	26.7	27.1	29.5	39.2	29.3	29.7
Interest payments	227.6	217.7	222.5	215.6		218.5	222.1	227.3	235.5	242.7	250.1	257.6
Subsidies	37.0	44.5	56.3	47.0		41.9	40.0	37.8	38.3	40.3	42.3	43.5
Wage disbursements less accruals		-1.4	1.4									
Total current expenditures	2,156.1	2,184.0	2,288.5	2,283.7		2,364.4	2,390.2	2,420.3	2,435.7	2,465.3	2,465.9	2,472.9
Net Federal Government saving	-296.3	-320.4	-424.7	-499.4		-547.3	-531.1	-514.2	-481.5	-385.3	-338.2	-300.7
ADDENDUM												
Capital transfer payments (net)	-19.8	-13.8	-28.4	-29.6		-22.9	-23.9	-23.5	-24.8	-25.7	-26.1	-26.5
Gross Government investment:												
Defense	56.6	54.7	59.8	63.5		65.6	65.5	62.4	66.6	67.2	65.9	68.5
Nondefense	32.7	32.4	36.0	33.8		34.3	34.7	35.1	35.4	36.3	37.4	38.7

Department of Commerce advance estimates for the Oct.-Dec. quarter, released January 30, 2004, were not available in time for inclusion in this table.

* \$50 million or less.

12. ECONOMIC ASSUMPTIONS

Five years ago, at the beginning of the new millennium, optimism about the Nation's economic future abounded, but that period of optimism was followed by a succession of shocks whose cumulative severity was as great as any previous setback in the postwar period. Now, five years later, the effects of these shocks have been overcome and faith in the economy and the future are once again on the rise.

Negative Shocks

Six substantial shocks buffeted the economy starting in 2000.

The stock market bubble burst in March 2000; by October 2002, the market had lost half its value. Household equity wealth fell by \$7 trillion, wiping out two-thirds of the equity gain from the last half of the 1990s.

Business investment slowed to a trickle beginning in mid-2000 as the stock market decline mirrored a dramatic revision in business expectations, and collapsed the following year as firms began to work off a huge overhang of what was now perceived to be excess capital. The over-investment was due in part to inflated expectations about the return on new technology and to a surge in Y2K-related computer hardware and software investment that ended abruptly in 2000. Not until 2003 did capital spending turn up. This nearly three-year slump was one of the longest and deepest in the postwar period.

The terrorist attacks of September 11th and the possibility of even more dangerous attacks depressed consumer and business confidence for a time, while substantially increasing the resources that governments, families, and businesses needed to devote to security measures. The War on Terror, especially as fought through the campaigns in Afghanistan and Iraq, also contributed to heightened uncertainties. The increased uncertainty hampered investment planning and contributed to the slump in investment spending.

Corporate accounting scandals were uncovered throughout 2002–2003. Although the scandals had been long in the making, their sudden revelation came as a further shock to confidence. The subsequent bankruptcy of some once-well-regarded corporations further shook investor confidence, and the revelation of conflicts of interest at several major accounting firms and Wall Street brokerage houses cast doubt on the reliability of the information and advice provided by them, again making investors leery of putting money at risk in the market. The scandals and the reaction to them had the effect of prolonging the slump in business investment.

Recession or slumping growth mired major U.S. trading partners for most of this period which restrained U.S. exports, especially of manufactured goods. Output

in Japan and in the European Union grew only 1 percent per year on average during 2001–2003; outright declines occurred in several countries during this period.

Oil prices doubled in 2003–2004. The benchmark price of West Texas intermediate crude oil jumped from \$28 per barrel in May, 2003, to \$55 at its peak in late October, 2004. Prices moved down thereafter, closing the year at \$42. On balance, however, the rise in oil prices slowed U.S. growth during 2004.

Timely Response

Policymakers responded quickly and appropriately to this series of adverse shocks. Expansionary policies, both fiscal and monetary, were adopted in a timely manner, and when combined with the inherent resilience of the American economy, succeeded in overcoming the forces of restraint and minimizing the actual downturn in 2001. From the peak in the fourth quarter of 2000 to its low point in the third quarter of 2001, real Gross Domestic Product (GDP) edged down a mere 0.2 percent. Partly because of quick policy action, both consumer spending and housing investment held up much better during the 2001 slump than in previous business downturns, which helped limit the decline in real output. During the subsequent recovery through mid-2003, however, growth was not as robust as usual, which is not surprising in light of the shocks that continued to buffet the economy and the relatively mild downturn that limited the likely size of the rebound.

Policymakers responded to the disappointing recovery by providing additional fiscal and monetary stimulus. This renewed stimulus worked, and as a result, the economy has achieved robust growth and an improved labor market since mid-2003 without a significant increase in inflation or interest rates. As 2005 begins, the near-term economic outlook is promising. A wide range of indicators suggests that the economy will continue to expand at faster than normal rates of growth. More than 100 thousand new jobs are being created monthly, adding to the purchasing power of workers; consumer spending remains strong; businesses' capital spending is growing at a rapid rate, and order books are lengthening; home sales have reached record levels, boosting home prices and household wealth; and manufacturing production and exports are again expanding. The stock market finally bottomed in 2002, and it has risen sharply since last August, adding to household wealth and reducing the cost of capital to business. By early 2005, the major stock market indices had reached their highest levels since mid-2001.

Looking beyond the next few years, the outlook is also encouraging. Over the long-run, the growth of out-

put and the standard of living depend critically on productivity growth, and there is reason to be optimistic here. Productivity growth accelerated in the second half of the 1990s, and surprisingly in view of the shocks of recent years, it stepped up again after 2000 to reach a pace not seen in over fifty years. A slowdown from this torrid pace is expected by the Administration and most other forecasters, but even with a slowdown, productivity growth is expected to remain strong over the next decade, and with it the rise in the standard of living.

The Administration's near- and medium-term economic projections assume that the economy will not face exceptional disturbances in the coming years, unlike the last five. With that provision, the Administration anticipates strong, sustained growth, rising employment, and relatively low inflation and interest rates. The economic assumptions underlying the budget are close to those of the consensus of private-sector forecasts, and for real growth below those of the Congressional Budget Office. The prospects of a lengthy sustained expansion, exceptionally high productivity growth, and the Administration's policies mean that actual performance could exceed the official projections. In the interest of sound, prudent budgeting, however, the Administration has adopted a cautious economic forecast.

Policy Actions

Fiscal Policy: The Administration proposed, and Congress enacted, significant tax relief in each of the past four years designed to overcome the shocks that were restraining the economy and restore strong growth of output, income, and jobs. In addition to providing much needed near-term stimulus, the 2001 and 2003 Acts also were designed to raise long-term growth by reducing the disincentives and distortions in the tax system. These Acts reduced marginal tax rates on income, dividends, and capital gains. Lower tax rates encourage individuals and businesses to produce more, save more, and invest more. More saving and investment create capital, add to economic growth, and raise the standard of living. The combined tax relief from the four Acts totaled \$68 billion in fiscal year 2001, \$89 billion in 2002, \$159 billion in 2003, and \$272 billion in 2004, moderating to \$189 billion in 2005.

Economic Growth and Tax Relief and Reconciliation Act: This act lowered marginal income tax rates; reduced the marriage tax penalty; and created a new, lower 10 percent tax bracket, among other changes. In July 2001, near the low point of the 2001 recession, taxpayers began receiving rebate checks reflecting their lower liability with the new 10 percent bracket; lower withholding schedules also went into effect at that time. With the benefit of hindsight, the fiscal stimulus from the tax relief was exceptionally well-timed: economic growth during the prior half-year had ground to a halt, yet it had resumed by year-end despite the terrorist attacks on September 11th.

Job Creation and Worker Assistance Act: In March 2002, the President signed this Act, which was designed to halt the ongoing slide in business capital spending and to aid unemployed workers. The Act permitted immediate depreciation of 30 percent of the value of qualified new capital assets put in place during the three years ending in September 11, 2004. Accelerated depreciation provided an incentive for firms to invest. For a limited time, more of a qualified investment could be written-off for tax purposes, thereby lowering the cost of capital and providing an incentive for firms to speed up their capital spending. The Act also extended unemployment insurance benefits to workers who had exhausted their normal benefits.

Jobs and Growth Tax Relief Reconciliation Act: In May 2003, the President signed both another extension of unemployment insurance benefits and the 2003 jobs and growth tax cut, which was designed to invigorate the lackluster recovery then underway. The Act lowered income tax rates, reduced the marriage penalty, raised the child tax credit, and raised the exemption amount for the individual Alternative Minimum Tax. Significantly, the Act reduced income tax rates on dividend income and capital gains, which reduced distortions in the tax code from the double taxation of corporate earnings. To stimulate business capital spending further, the Act raised the percentage of an asset's value that could be expensed immediately from 30 to 50 percent and lengthened the window of opportunity for businesses to take advantage of this benefit from September 11, 2004 to the end of the year. The Act also improved the outlook for small business investment and hiring by raising the maximum amount that a small business could expense from \$25,000 per year to \$100,000.

Working Families Tax Relief Act: In October 2004, the President signed this Act, which extended parts of the President's tax relief plan that were scheduled to expire at the end of 2004 and reinstated several expired or expiring business-related tax incentives. In doing so, the Act protected taxpayers from several scheduled tax increases. The Act also provided tax relief to certain military personnel with families, and simplified the tax code for many families by creating a uniform definition of a qualifying child for tax purposes.

The short-term benefits of the substantial tax relief of the past four years are evident in the strong expansion now underway. The longer-term benefits will be apparent in a more efficient allocation of the Nation's resources in coming years and a sustained increase in economic activity.

Monetary Policy: During the past four years, monetary policy has been focused on overcoming negative shocks and restoring strong, sustained growth. From the beginning of 2001 through mid-2003, the Federal Reserve lowered the target Federal funds rate 13 times, from 6½ percent to 1 percent. That low rate was maintained until June 2004 when the Federal Reserve began to increase the funds rate gradually. Over the course of 2004, it became increasingly evident that the economy was once again growing strongly and labor mar-

kets were improving, which reduced the need for monetary stimulus.

By December 2004, the Federal Reserve had raised the funds rate to 2¼ percent, a level that it believed was still accommodative. In its statement accompanying the December increase, the Federal Reserve indicated that it intended to move at a measured pace to reduce the accommodative stance of monetary policy further. As of early January, financial futures markets expected the funds rate to reach 3 percent by the end of 2005.

As a result of the accommodative monetary policy along with low expected inflation and sub-par growth, interest rates fell sharply from mid-2000 to mid-2003. The 91-day Treasury bill rate tracked the path of the funds rate, dropping by about 5 percentage points from its 2000 peak to a plateau of about 1 percent from mid-2003 to mid-2004, then rising to 2.2 percent by the end of 2004. As is usually the case, the swings in the longer-term interest rates were less than those of short-term rates. The yield on the 10-year Treasury note, for example, fell three percentage points from mid-2000 to 3.2 percent by mid-2003. This was its lowest level since the late 1950s. The yield fluctuated around a mild upward trend from mid-2003 to the end of 2004, finishing the year at 4.2 percent, a level that is still relatively low.

Private-sector financial instruments followed a similar pattern to U.S. Treasuries. The rate on 30-year fixed rate mortgages, for example, fell to 5.2 percent in June 2003, which was its lowest level since the early 1960s. The mortgage rate, like the long-term Treasury yield, then fluctuated around an upward trend and by the end of December 2004 had reached a level of 5.7 percent. Even so, the mortgage rate remained below its level in any month from the mid-1960s to early-2003.

Low interest rates have spurred interest-sensitive spending on such items as motor vehicles and housing. They have enabled homeowners to refinance their mortgages, saving on mortgage payments and enabling families to access some of their built-up home equity. Lower interest rates have enabled consumers, businesses, and governments to reduce their interest expenses. Finally, low rates have helped support the stock market.

In late 2002, the stock market responded to the cumulative effects of fiscal and monetary stimulus and the prospects of strong, sustained growth. Equity prices rose rapidly from the end of the third quarter of 2002 through the end of 2003. After remaining about unchanged during the first eight months of 2004, equity prices rose strongly once again. All told, from the beginning of October 2002 to the end of 2004, the S&P 500 and the Dow Jones Industrial Average gained about 45 percent; the hard-hit, technology-laden NASDAQ soared 85 percent. By the end of 2004, the S&P, NASDAQ and the Dow were at their highest levels since June 2001.

Recent Developments

Economic Growth: Beginning in the second quarter of 2003, the contractionary forces that had held back growth during the initial phase of the recovery gave way to stronger forces of expansion. During the year ending in the first quarter of 2004, inflation-adjusted Gross Domestic Product (GDP) increased 5.0 percent, the fastest advance of any four-quarter period in nearly two decades. Growth moderated to a 3.3 percent pace in the second quarter, but then picked up in the third quarter to a substantial 4.0 percent rate. Growth in the fourth quarter continued at a healthy pace. (Official estimates of fourth quarter growth were not available at the time the Budget was printed.) Although still relatively strong, growth in 2004 was hampered by the rise in oil prices.

Labor Market: In response to this stronger growth of output, the labor market also improved markedly. The Nation's payrolls began to increase in September 2003; by December 2004, there were 2.5 million more jobs than at the August low. (Based on preliminary indications from the Bureau of Labor Statistics, this figure is likely to be revised up, to at least 2.6 million, in the benchmark revision that will become available in early February after the Budget is printed.) The unemployment rate, which reached a peak of 6.3 percent in June 2003, fell to 5.4 percent by December 2004. Although still above its long-run sustainable rate, the level of the unemployment rate at the end of last year was lower than the average for the decades of the 1970s, 1980s, and 1990s.

Components of Aggregate Demand: During the six quarters from the second quarter of 2003 through the third quarter of 2004 (the latest quarter available when the Budget went to press), real GDP grew at a robust 4.6 percent annual average rate. That was a significant improvement from the sub-par 2.1 percent average pace during the first six quarters of the recovery. Faster growth of both consumer and business spending were largely responsible for the shift.

Consumer spending accounts for 70 percent of GDP, so its faster growth recently played a significant role in boosting overall growth. Consumer confidence took an upturn in early 2003, and as labor markets began to improve a few months later, consumers became increasingly willing and able to spend. During the six quarters ending in the third quarter of 2004, real consumer spending increased at a 3.9 percent annual rate, up from 3.3 percent during the prior six quarters. The saving rate, which had already declined to a historically low 1.0 percent by early 2003, fell even further to a mere 0.3 percent by November 2004. Underlying the gains in consumer spending have been increasing household wealth, led by higher home and stock prices, and rising after-tax incomes, supported by an improving labor market and tax relief.

Low mortgage interest rates and growing incomes also contributed to an exceptionally strong housing market. During the six quarters ending in the third

quarter of 2004, real residential investment rose at a 10.5 percent average annual rate, a considerable step up from the 5.2 percent pace during the initial six quarters of the expansion. Housing starts during the six quarters through the third quarter of last year were at the highest level in 25 years; home sales were at the highest level since recordkeeping began in the 1960s. Housing starts, home sales, and real residential investment eased during the second half of 2004, in part because of the rise in mortgage rates from their 2003 lows and in part because housing activity had risen to unsustainable levels. While the level of housing investment is expected to remain strong, housing is not projected to lead the expansion in 2005–2010.

The turnaround in *business capital spending* was even more dramatic and it contributed significantly to the step-up in the pace of overall economic activity. During the latest six quarters of available data, real business fixed investment grew at an average annual rate of 11.3 percent. In contrast, investment fell at a 6.2 percent pace during the prior six quarters. Underlying the recovery of capital spending has been the acceleration of overall output, more favorable financial conditions including low interest rates, a rising stock market, and the temporary provision of accelerated depreciation that expired at the end of 2004. Business investment is expected to continue at a rapid rate as the expansion matures.

The *foreign sector* was a small drag on overall growth during the six quarters through the third quarter of 2004, trimming about one-third of a percentage point from GDP growth. That was an improvement over the first six quarters of the expansion when net exports reduced growth by about three-quarters of a percentage point on average. Throughout the expansion, growth of U.S. exports was restrained by slow growth overseas. The exchange value of the dollar peaked in February 2002, declining 12 percent on a trade-weighted basis against the currencies of our major trading partners by September 2004. During the last three months of 2004, the dollar declined another six percent, which should work to reduce the U.S. trade imbalance during 2005. Although this has been a substantial decline, it has merely retraced an earlier run-up so that by mid-January 2005 the dollar had returned to its level of 1997.

The *government sector* grew more slowly during the latest six quarters. Real Federal purchases continued to grow strongly, at a 6.1 percent annual rate, led by spending on the War on Terror, but real State and local purchases increased at a slow 0.3 percent pace, down from 2.4 percent during the first six quarters of the expansion. State and local governments restrained spending to cope with exceptionally large fiscal deficits created by the sharp fall-off in revenues from mid-2001 to early-2002. Although State and local government revenues are on the rise again, their combined revenues had only returned to their level in early 2001 by the third quarter of 2004.

Productivity Growth: In contrast to the initial six quarters of the expansion when output growth was entirely accounted for by strong productivity growth, during the subsequent six quarters both increased labor hours and productivity have contributed to increased output. Since the official business cycle peak in the first quarter of 2001, productivity has risen at a remarkable 4.2 percent average annual rate. By way of contrast, during 1996 through 2000, productivity growth averaged 2.5 percent per year, and during 1974 through 1995, productivity growth was a mere 1.4 percent on average. Usually productivity growth surges temporarily during the initial phase of a recovery and then slows markedly. In the current expansion, productivity growth during the six quarters ending in the third quarter of 2004 was even faster than during the prior six quarters.

The exceptional productivity performance during the last four years has helped keep inflation low and thereby enabled the Federal Reserve to focus monetary policy on overcoming shocks and restoring sustainable growth. Because of robust productivity growth, businesses have not had to rely on labor input to the extent they otherwise might have, which has hampered employment. Over the long term, however, the faster the growth of productivity, the faster will be the growth of our output and standard of living. In the long run, faster productivity growth will not permanently restrain employment growth.

Inflation: The Consumer Price Index (CPI) rose 3.3 percent during 2004, up from 1.9 percent during 2003. Much of the pick up was due to a surge in energy prices, which rose at a 17 percent annual rate, compared with just 7 percent during 2003. Excluding the volatile food and energy components, the core CPI rose 2.2 percent during 2004, compared with 1.1 percent during 2003.

Higher energy prices may have indirectly contributed to higher core inflation as they fed through to the costs of non-energy goods and services. Businesses also may have increased their markup of prices over unit labor costs, which had been subdued by weak demand earlier in the expansion. Reflecting the decline in crude oil prices in the closing months of 2004, gasoline prices moved down in November and December, suggesting that the energy-related upward push on the CPI was abating.

Summary: Entering 2005, the economy appears poised for continued strong expansion. Overall growth, led by consumer and business spending, is at a pace that suggests the steady creation of new jobs and a lower unemployment rate. Core inflation, although higher than in 2003, is still relatively low. Interest rates, too, are at historically low levels.

Economic Projections

The Administration's economic projections, based on information available as of early December, are summarized in Table 12–1. These assumptions are close to those of the Congressional Budget Office and the con-

sensus of private-sector forecasters, as described in more detail below and shown in Table 12–2. In brief, the assumptions call for a continuation of the recent trends of strong, sustained growth, improving labor markets, low inflation, and, even allowing for a projected rise in the next few years, relatively low interest rates.

Real GDP, Potential GDP, and Unemployment Rate: Real GDP, which is estimated to have increased 4.4 percent in 2004 on a year-over-year basis, is projected to increase 3.6 percent this year. During the next few years, growth is likely to continue to exceed the long-run potential growth rate. As a result, the unemployment rate, at 5.4 percent in December, is projected to decline to 5.1 percent at the end of 2006 and then remain at that level. That rate is the center of the range that is thought to be consistent with stable inflation. The main sources of growth in demand in coming years are likely to be business capital spending, net exports, and to a lesser extent, consumer spending. The

contributions to overall growth from residential investment and the government sector are expected to be small at best.

Potential growth is approximately equal to the sum of the trend rates of growth of the labor force and of productivity. Potential GDP growth is projected to be 3.2 percent through 2008, and then edge down to 3.1 percent during 2009–2010, primarily because of an assumed slowing in labor force growth. The labor force is projected to grow about 1.2 percent per year through 2008 on average, slowing to about 0.8 percent yearly on average during 2009–2010 as increasing numbers of baby boomers enter retirement.

Trend productivity growth is assumed, conservatively, to be 2.6 percent per year. That pace is noticeably below the average since the business cycle peak in the first quarter of 2001 (4.2 percent per year). It is, however, close to the pace during 1996–2000 (2.5 percent) and not far from the average since the official productivity series began in 1947 (2.3 percent).

Table 12–1. ECONOMIC ASSUMPTIONS¹

(Calendar years; dollar amounts in billions)

	Actual 2003	Projections						
		2004	2005	2006	2007	2008	2009	2010
Gross Domestic Product (GDP):								
Levels, dollar amounts in billions:								
Current dollars	11,004	11,731	12,392	13,083	13,797	14,537	15,306	16,112
Real, chained (2000) dollars	10,381	10,842	11,233	11,626	12,011	12,395	12,782	13,179
Chained price index (2000=100), annual average	106.0	108.3	110.4	112.6	114.9	117.3	119.8	122.3
Percent change, fourth quarter over fourth quarter:								
Current dollars	6.2	6.3	5.5	5.6	5.4	5.4	5.3	5.3
Real, chained (2000) dollars	4.4	3.9	3.5	3.4	3.2	3.2	3.1	3.1
Chained price index (2000=100)	1.7	2.3	1.9	2.0	2.1	2.1	2.1	2.1
Percent change, year over year:								
Current dollars	4.9	6.6	5.6	5.6	5.5	5.4	5.3	5.3
Real, chained (2000) dollars	3.0	4.4	3.6	3.5	3.3	3.2	3.1	3.1
Chained price index (2000=100)	1.8	2.1	1.9	2.0	2.1	2.1	2.1	2.1
Incomes, billions of current dollars:								
Corporate profits before tax	874	998	1,307	1,276	1,265	1,266	1,270	1,292
Wages and salaries	5,104	5,345	5,649	5,988	6,340	6,719	7,104	7,502
Other taxable income ²	2,311	2,451	2,549	2,675	2,798	2,917	3,047	3,181
Consumer Price Index:³								
Level (1982–84=100), annual average	184.0	188.9	193.4	197.8	202.5	207.4	212.4	217.5
Percent change, fourth quarter over fourth quarter	1.9	3.4	2.0	2.3	2.4	2.4	2.4	2.4
Percent change, year over year	2.3	2.7	2.4	2.3	2.4	2.4	2.4	2.4
Unemployment rate, civilian, percent:								
Fourth quarter level	5.9	5.4	5.3	5.1	5.1	5.1	5.1	5.1
Annual average	6.0	5.5	5.3	5.2	5.1	5.1	5.1	5.1
Federal pay raises, January, percent:								
Military ⁴	4.7	4.15	3.5	3.1	NA	NA	NA	NA
Civilian ⁵	4.1	4.1	3.5	2.3	NA	NA	NA	NA
Interest rates, percent:								
91-day Treasury bills ⁶	1.0	1.4	2.7	3.5	3.8	4.0	4.1	4.2
10-year Treasury notes	4.0	4.3	4.6	5.2	5.4	5.5	5.6	5.7

NA = Not Available.

¹ Based on information available as of December 3, 2004.

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; 2003 and 2004 figures are averages of various rank- and longevity- specific adjustments; percentages to be proposed for years after 2006 have not yet been determined.

⁵ Overall average increase, including locality pay adjustments. Percentages to be proposed for years after 2006 have not yet been determined.

⁶ Average rate, secondary market (bank discount basis).

Inflation: Inflation increased in 2004, in large part because of the surge in energy prices. With the recent easing of these prices, inflation is likely to be lower in 2005. On a year-over-year basis, the CPI is projected to increase 2.4 percent this year and remain close to that level in each year through 2010. This inflation rate is lower than the average during each decade of the 1970s, 1980s, and 1990s. The GDP chain-weighted price index is projected to increase around 2.0 percent in each year through 2010, slightly less than the CPI, which is the usual pattern.

The forecast of low inflation reflects the current very low core inflation rate, modest inflationary expectations, the additional downward pressure on wages and prices that will persist until excess labor and capital resources are fully re-employed, and the Federal Reserve's focus on removing policy accommodation at a measured pace so as to avoid an over-heated economy.

Interest Rates: As usually occurs during an expansion, interest rates are projected to rise. The 3-month Treasury bill rate, which was 2.2 percent at the end of December, is expected to increase to 4.2 percent by 2010. The yield on the 10-year Treasury note, 4.2 percent at the end of last year, is projected to increase to 5.7 percent by 2010. The larger increase at the shorter end of the maturity spectrum than at the longer end is also typical of past cyclical experience.

The forecast rates are historically low: the projected averages for 3-month and 10-year Treasuries during 2005–2010 are lower than the averages for these instruments during each decade of the 1970s, 1980s, and 1990s. The relatively low projected yields are due largely to the relatively low projected inflation rate. Adjusted for inflation, the projected real interest rates are close to their historical averages.

Income Shares: The share of labor compensation in GDP is projected to rise from its low level in 2004 while the share of corporate profits is projected to decline from the unusually high levels of 2004 and anticipated for 2005. In recent years, growth of labor compensation adjusted for inflation has not kept up with the growth of productivity. During the projection period, however, labor compensation is expected to catch up, which would raise the labor share in GDP back to its historical average.

Among the components of labor compensation, the wage share in GDP is expected to rise from its recent low level while the share of supplements to wages and salaries is expected to remain at around the high level reached in 2004. The supplement share in GDP has risen because of rapidly growing health insurance contributions paid by employers and by sharply higher employer contributions to defined-benefit pension plans.

Corporate profits before tax as shown in Table 12.1 jumps sharply as a share of GDP in 2005 because of the end of the accelerated depreciation permitted by the 2002 and 2003 tax acts. Accelerated depreciation lowered profits before tax compared with what they otherwise would have been in 2003 and 2004 by allowing firms to write off more of their investment sooner.

After 2004, however, corporate profits before tax will increase both because new investment will not qualify for the temporary acceleration and because the remaining depreciation permitted on investment that used this provision will be less.

Among the other income components, the share of personal interest income in GDP is projected to decline reflecting the low nominal interest rates of recent years. The remaining shares of the tax base (dividends, rental income, and proprietors' income) are projected to remain relatively stable at around their 2004 levels.

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 Treasury, the Council of Economic Advisers, and the Office of Management and Budget. Private-sector forecasts are often used by businesses for long-term planning. Table 12–2 compares the 2006 Budget assumptions with projections by the CBO and 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 private-sector forecasts are based on their appraisals of the most likely policy outcomes, which vary among the forecasters. The Administration forecast generally assumes that the President's Budget proposals will be enacted. The CBO baseline projection assumes that current law as of the time the estimates are made remains forever unchanged. Despite their differing policy assumptions, the three sets of economic projections, shown in Table 12–2, are very close. The similarity of the Budget economic projection to both the CBO baseline projection and the Consensus forecast underscores the cautious nature of the Administration forecast.

For real GDP, the Administration, CBO, and the Blue Chip Consensus anticipate strong growth this year. The Administration projects 3.6 percent growth on a year-over-year basis, about the same as the private sector consensus and slightly below CBO's forecast. For calendar year 2006, the Administration, at 3.5 percent, is mid-way between the consensus (at 3.4 percent), and CBO's 3.7 percent. Thereafter, the Administration's projection is very close to the consensus growth rate but generally below CBO's. Over the six-year span as a whole, the Administration and the private sector consensus both project a 3.3 percent average annual growth rate, CBO 3.5 percent.

All three forecasts anticipate continued low inflation in the range of 1.5 to 2.1 percent as measured by the GDP chain-weighted price index, and between 1.9 and 2.5 percent as measured by the CPI, with CBO lower than the Administration and the private sector consensus, which are close to each other. The three unem-

Table 12-2. COMPARISON OF ECONOMIC ASSUMPTIONS
(Calendar years)

	Projections						Average, 2005-10
	2005	2006	2007	2008	2009	2010	
GDP (billions of current dollars):							
2006 Budget	12,392	13,083	13,797	14,537	15,306	16,112	
CBO January	12,396	13,059	13,766	14,486	15,210	15,940	
Blue Chip Consensus January ²	12,398	13,066	13,762	14,496	15,265	16,098	
Real GDP (chain-weighted):¹							
2006 Budget	3.6	3.5	3.3	3.2	3.1	3.1	3.3
CBO January	3.8	3.7	3.7	3.4	3.1	2.9	3.5
Blue Chip Consensus January ²	3.6	3.4	3.2	3.2	3.1	3.3	3.3
Chain-weighted GDP Price Index:¹							
2006 Budget	1.9	2.0	2.1	2.1	2.1	2.1	2.0
CBO January	1.8	1.5	1.7	1.8	1.8	1.8	1.7
Blue Chip Consensus January ²	2.0	2.0	2.1	2.1	2.1	2.1	2.1
Consumer Price Index (all-urban):¹							
2006 Budget	2.4	2.3	2.4	2.4	2.4	2.4	2.4
CBO January	2.4	1.9	2.1	2.2	2.2	2.2	2.2
Blue Chip Consensus January ²	2.5	2.3	2.4	2.4	2.4	2.4	2.4
Unemployment rate:³							
2006 Budget	5.3	5.2	5.1	5.1	5.1	5.1	5.2
CBO January	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Blue Chip Consensus January ²	5.2	5.2	5.1	5.1	5.1	5.1	5.1
Interest rates:³							
91-day Treasury bills:							
2006 Budget	2.7	3.5	3.8	4.0	4.1	4.2	3.7
CBO January	2.8	4.0	4.6	4.6	4.6	4.6	4.2
Blue Chip Consensus January ²	3.0	3.8	4.1	4.3	4.2	4.2	3.9
10-year Treasury notes:							
2006 Budget	4.6	5.2	5.4	5.5	5.6	5.6	5.3
CBO January	4.8	5.4	5.5	5.5	5.5	5.5	5.4
Blue Chip Consensus January ²	4.7	5.3	5.6	5.6	5.6	5.6	5.4

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

¹ Year-over-year percent change.

² January 2005 Blue Chip Consensus forecast for 2005 and 2006; Blue Chip October 2004 long-run extension for 2007 - 2010.

³ Annual averages, percent.

ployment rate projections are also similar with a projected rate just above 5 percent in the later years of the forecast. All three project slightly rising interest rates during the next few years, with CBO's increase slightly larger than those of the Administration and the private sector projection.

Changes in Economic Assumptions

The economic assumptions underlying this Budget are similar to those of the 2005 Budget, as shown in Table 12-3.

As in last year's Budget, real GDP growth is expected to be 3.6 percent in 2005 on a year-over-year basis and moderate gradually to 3.1 percent in the outyears. Consequently, the levels of real GDP projected this year are little changed from those of the 2005 Budget when allowance is made for the Commerce Department's historical revisions to the National Income and Product Accounts released in July 2004. The level of nominal GDP is now projected to be higher than in the 2005 Budget because of a faster-than-expected rise in the GDP price index last year and higher projected GDP inflation in the coming years.

The unemployment rate projection is virtually identical to last year's. As in the 2005 Budget, the rate is expected to decline to 5.1 percent by 2007 and remain at that relatively low level. Interest rates are expected to trend upward, as before. However, by 2009 the 3-month Treasury bill rate is projected to be 0.3 percentage point lower than in the 2005 Budget, and the yield on the 10-year Treasury note is expected to be 0.2 percentage point lower.

Structural and Cyclical Balances

When the economy is operating below potential, as is projected to be the case for the next few years, the unemployment rate exceeds the long-run sustainable average consistent with price stability. As a result, receipts are lower than they would be if resources were more fully employed, and outlays for unemployment-sensitive programs (such as unemployment compensation and food stamps) are higher; the deficit is larger (or the surplus is smaller) than would be the case 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 can be called the cyclical component. The portion that would remain if the unem-

Table 12-3. COMPARISON OF ECONOMIC ASSUMPTIONS IN THE 2005 AND 2006 BUDGETS

(Calendar years; dollar amounts in billions)

	2004	2005	2006	2007	2008	2009	2010
Nominal GDP:							
2005 Budget assumptions ¹	11,622	12,197	12,807	13,460	14,163	14,902	15,671
2006 Budget assumptions	11,731	12,392	13,083	13,797	14,537	15,306	16,112
Real GDP (2000 dollars):							
2005 Budget assumptions ¹	10,837	11,226	11,608	11,994	12,377	12,763	13,159
2006 Budget assumptions	10,842	11,233	11,626	12,011	12,395	12,782	13,179
Real GDP (percent change):²							
2005 Budget assumptions	4.4	3.6	3.4	3.3	3.2	3.1	3.1
2006 Budget assumptions	4.4	3.6	3.5	3.3	3.2	3.1	3.1
GDP price index (percent change):²							
2005 Budget assumptions	1.2	1.3	1.5	1.7	2.0	2.0	2.0
2006 Budget assumptions	2.1	1.9	2.0	2.1	2.1	2.1	2.1
Consumer Price Index (percent change):²							
2005 Budget assumptions	1.4	1.5	1.8	2.1	2.4	2.5	2.5
2006 Budget assumptions	2.7	2.4	2.3	2.4	2.4	2.4	2.4
Civilian unemployment rate (percent):³							
2005 Budget assumptions	5.6	5.4	5.2	5.1	5.1	5.1	5.1
2006 Budget assumptions	5.5	5.3	5.2	5.1	5.1	5.1	5.1
91-day Treasury bill rate (percent):³							
2005 Budget assumptions	1.3	2.4	3.3	4.0	4.3	4.4	4.4
2006 Budget assumptions	1.4	2.7	3.5	3.8	4.0	4.1	4.2
10-year Treasury note rate (percent):³							
2005 Budget assumptions	4.6	5.0	5.4	5.6	5.8	5.8	5.8
2006 Budget assumptions	4.3	4.6	5.2	5.4	5.5	5.6	5.7

¹ Adjusted for July 2004 NIPA revisions.² Year-over-year.³ Calendar year average.

Table 12-4. ADJUSTED STRUCTURAL BALANCE

(In billions of dollars)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Unadjusted surplus or deficit (-)	125.5	236.2	128.2	-157.8	-377.6	-412.1	-426.6	-390.1	-312.1	-250.8	-232.9	-207.3
Cyclical component	86.3	127.3	66.0	-62.8	-102.0	-60.2	-30.0	-13.4	-0.7	-0.2	.....	.....
Structural surplus or deficit (-)	39.2	108.8	62.1	-95.0	-275.6	-351.9	-396.6	-376.6	-311.4	-250.6	-232.9	-207.3
Deposit insurance outlays	5.3	3.1	1.6	1.0	1.4	2.0	0.3	1.0	2.3	2.3	2.2	1.8
Adjusted structural surplus or deficit (-)	44.5	111.9	63.7	-94.0	-274.1	-350.0	-396.3	-375.7	-309.1	-248.3	-230.7	-205.5

NOTE: The NAIRU is assumed to be 5.2% through calendar year 1998 and 5.1% thereafter.

ployment rate was at its long-run value is then called the structural deficit (or structural surplus).

Historically, the structural balance has often provided a clearer understanding of the stance of fiscal policy than has the unadjusted budget balance which includes a cyclical component. In the typical post-World War II business cycle, the structural balance has provided a clearer gauge of the surplus or deficit that would persist in the long run with the economy operating at the sustainable level of unemployment.

Conventional estimates of the structural balance are based on the historical relationship between changes in the unemployment rate and real GDP growth on the one hand, and receipts and outlays on the other. For various reasons, these estimated relationships do not take into account all of the cyclical changes in the economy. One example of a cyclical phenomenon not captured in these estimates was the sharply rising

stock market during the second half of the 1990s. It 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. Receipts would probably be higher today, if the cyclical component were removed from the stock market, although recently the stock market has recovered some of its earlier losses with a positive effect on receipts. It is not possible, however, to estimate the cyclical component of the stock market accurately, and for that reason, all of the stock market's contribution to receipts is counted in the structural balance.

Other factors unique to the current economic cycle provide other examples of less than complete cyclical adjustment. The extraordinary fall-off in labor force participation, from 67.1 percent of the U.S. population in 1997-2000, to 66.0 percent in 2004 appears to be

at least partly cyclical in nature, and most forecasters are assuming some rebound in labor force participation as the expansion continues. 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 to date because of the decline in labor force participation.

A third example is the fall-off in the wage and salary share of GDP, from 49.2 percent in 2000 to 45.5 percent in the third quarter of 2004. Again this change is widely suspected to be at least partly cyclical. Since Federal taxes depend heavily on wage and salary income, the larger-than-predicted decline in the wage share of GDP suggests that the true cyclical component of the deficit is 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 cyclical deficit are probably understated and perhaps by a large margin. The current unemployment gap is only 0.3 percentage points, and the Administration forecasts that the gap will be closed within two years, but in the broader sense discussed above, the cyclical gap in receipts is likely to be much larger than this and will not close as quickly.

From 1999 to 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 those years 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.

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 moderate

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 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 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 12–6.

For real growth and employment:

- As shown in the first block, if in 2005 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 2005 deficit is estimated to increase by \$13.0 billion; receipts in 2005 would be lower by \$10.2 billion, and outlays would be higher by \$2.8 billion, primarily for unemployment-sensitive programs. In fiscal year 2006, the estimated receipts shortfall would grow further to \$21.8 billion, and outlays would increase by \$8.1 billion relative to the base, even though the growth rate in calendar year 2006 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 2005–2010, the cumulative increase in the budget deficit is estimated to be \$195 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 2005–2010, the cumulative increase in the budget deficit is estimated to be \$529 billion.
- 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 2005 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 2005 and 2006, outlays would be above the base by \$11.0 billion and \$19.1 billion, respectively, due in part to lagged cost-of-living adjustments. Receipts would fall by \$10.0 billion in 2005, due to the temporary effect of higher interest rates on financial corporations' profits and taxes, but then would rise by \$28.4 billion above the base in 2006 due to the sustained

effects of inflation on the tax base, resulting in a \$9.3 billion improvement in the 2006 budget balance. In subsequent years, the amounts added to receipts would continue to be larger than the additions to outlays. During 2005–2010, cumulative budget deficits would be \$38 billion smaller than in the base case.

- In the fourth block example, 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 \$388 billion to outlays over 2005–2010 and \$492 billion to receipts, for a net decrease in the 2005–2010 deficits of \$104 billion.

The table also shows the interest rate and the inflation effects separately. These separate effects for interest rates and inflation rates do not sum to the effects for simultaneous changes in both. 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 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 short-term effect of interest rate changes on financial corporations' profits (and taxes).
- The sixth block shows that a sustained one percentage point increase in the GDP chain-weighted price index and in CPI inflation decrease cumulative deficits by a substantial \$257 billion during 2005–2010. This large effect is because the receipts from a higher tax base exceeds the combination of higher outlays from mandatory cost-of-living adjustments and lower receipts from CPI indexation of tax brackets.

The last entry in the table shows rules of thumb for the added interest cost associated with changes in the budget deficit.

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

(In billions of dollars)

Budget effect	2005	2006	2007	2008	2009	2010	Total of Effects, 2005-2010
Real Growth and Employment							
Budgetary effects of 1 percent lower real GDP growth:							
(1) For calendar year 2005 only: ¹							
Receipts	-10.2	-21.8	-24.3	-25.6	-27.0	-28.4	-137.2
Outlays	2.8	8.1	8.8	10.6	12.5	14.7	57.4
Increase in deficit (-)	-13.0	-29.8	-33.0	-36.2	-39.5	-43.1	-194.6
(2) Sustained during 2005-2010, with no change in unemployment:							
Receipts	-10.4	-34.0	-62.9	-94.5	-129.0	-166.3	-497.1
Outlays	*	0.5	2.1	5.0	9.3	15.3	32.2
Increase in deficit (-)	-10.4	-34.5	-65.0	-99.5	-138.4	-181.6	-529.3
Inflation and Interest Rates							
Budgetary effects of 1 percentage point higher rate of:							
(3) Inflation and interest rates during calendar year 2005 only:							
Receipts	-10.0	28.4	37.1	24.7	26.0	27.4	133.6
Outlays	11.0	19.1	17.5	16.3	15.7	15.5	95.2
Decrease in deficit (+)	-21.0	9.3	19.6	8.3	10.3	11.9	38.4
(4) Inflation and interest rates, sustained during 2005-2010:							
Receipts	-10.0	22.7	67.2	100.7	136.0	175.1	491.7
Outlays	11.4	34.5	56.9	76.8	95.0	113.3	387.8
Decrease in deficit (+)	-21.4	-11.8	10.4	24.0	41.0	61.8	103.9
(5) Interest rates only, sustained during 2005-2010:							
Receipts	-20.5	-11.4	6.3	11.8	16.0	20.9	23.1
Outlays	8.8	24.3	37.0	46.0	53.3	60.1	229.5
Increase in deficit (-)	-29.3	-35.7	-30.7	-34.1	-37.3	-39.2	-206.4
(6) Inflation only, sustained during 2005-2010:							
Receipts	10.5	34.0	60.8	88.6	119.7	153.8	467.4
Outlays	2.7	10.5	20.5	32.0	43.7	56.2	165.5
Decrease in deficit (+)	7.8	23.6	40.3	56.6	76.0	97.6	301.9
Interest Cost of Higher Federal Borrowing							
(7) Outlay effect of \$100 billion increase in borrowing in 2005	1.3	3.5	4.2	4.7	5.0	5.4	24.2

* \$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.

13. STEWARDSHIP

Introduction

The budget is an essential tool for allocating resources within the Federal Government and between the public and private sectors, but current outlays, receipts, and the deficit provide only a partial picture of the consequences of the Government's financial and investment decisions. Indeed, changes in the annual budget deficit or surplus can be misleading. For example, the temporary shift from annual deficit to surplus in the late 1990s did nothing to correct the long-term deficiencies in the Nation's major entitlement programs, which are the major source of the long-run shortfall in Federal finances. This would have been more apparent if greater attention had focused on long-term measures such as appear in this chapter. As important as the current budget surplus or deficit is, other indicators are also needed to judge the Government's fiscal condition properly.

For the Federal Government, there is no single number that corresponds to a business's bottom line. The Government is judged by how its actions affect the country's security and well-being, and that cannot be summed up with a single statistic. Although its financial condition is important, the Government does not and is not expected to earn a profit. Instead, its fiscal status is best evaluated using a broad range of data and several complementary perspectives. This chapter presents a framework for such analysis. Because there are serious limitations on the available data and the future is uncertain, this chapter's findings should be interpreted with caution; its conclusions are subject to future revision.

The chapter consists of four parts:

- Part I explains how the separate pieces of analysis link together. Chart 13–1 is a schematic diagram showing the linkages.
- Part II presents the Government's physical and financial assets and its legal liabilities, which are all collected in Table 13–1. This table is similar to a business balance sheet, but for that reason it misses some of the Government's unique fiscal characteristics. That is why it needs to be supplemented by information in Parts III and IV.
- Part III shows possible paths for the Federal budget extending well beyond the normal budget window, and describes how these projections vary depending on key economic and demographic assumptions. The projections are summarized in Table 13–2 and in a related set of charts. This part also provides present value estimates of the funding shortfall in Social Security and Medicare in Table 13–3. These data indicate the Government's future responsibilities and resources under current law and policy. In particular, they show the looming challenge that Federal entitlement programs present in the long run.
- Part IV returns the focus to the present. It features information on national economic and social conditions that are affected by what the Government does. The private economy is the ultimate source of the Government's resources. Table 13–4 presents summary data for total national wealth, while highlighting the Federal investments that have contributed to that wealth. Table 13–5 presents a small sample of economic and social indicators.

PART I—HOW TO EVALUATE FEDERAL FINANCES

No single framework can encompass all of the factors that affect the financial condition of the Federal Government. Nevertheless, the framework presented here offers a useful way to examine the financial aspects of Federal policies that goes beyond the standard measures of outlays, receipts and the surplus or deficit. It includes balance-sheet information, but it goes beyond that to include long-run projections of the budget showing where future fiscal strains are most likely to appear. It also includes measures that indicate some of what society has gained economically and socially from Federal programs funded through this and past budgets.

The Government's legally binding obligations—its liabilities—consist in the first place of Treasury debt. Other liabilities include the pensions and other benefits owed to retired Federal employees and veterans. These

employee obligations are a form of deferred compensation; they have counterparts in the business world, and would appear as liabilities on a business balance sheet. Accrued obligations for Government insurance policies and the estimated present value of failed loan guarantees and deposit insurance claims are also analogous to private liabilities. These Government liabilities are discussed further in Part II along with the Government's assets. They are collected in Table 13–1. Although they are important, the obligations shown in Table 13–1 are only a subset of the Government's financial responsibilities. Indeed, the full extent of the Government's fiscal exposure through its various programmatic commitments dwarfs the outstanding debt held by the public or even the total of all acknowledged Federal liabilities. The commitment to Social Security

and Medicare alone amounts to many times the value of outstanding Federal debt.

In addition to Social Security and Medicare, the Government has a broad range of programs that dispense cash and other benefits to individual recipients. These include, to mention only a few examples: Medicaid, veterans' pensions and health care, and food stamps. It also provides a wide range of other public services that must be financed through the tax system. The specific benefits and services may be modified or even ended at any time by the Congress and the President. Indeed, changes in laws governing these programs are a regular part of the legislative cycle. For these reasons, these programmatic commitments do not constitute "liabilities" in a legal or accounting sense, and they would not appear on a balance sheet. Until modified by law, they remain Federal responsibilities and will have a claim on budgetary resources for the foreseeable future. All of these programs are reflected in the long-run budget projections in Part III. It would be misleading to leave out any of these programmatic commitments in projecting future claims on the Government or in calculating the Government's long-run fiscal balance.

The Federal Government has many assets. These include financial assets, such as loans and mortgages which the Government has acquired through a variety of credit programs. They also include the physical plant and equipment used to produce Government services. The Government owns a substantial amount of land. Such assets would normally be shown on a balance sheet. The Government also has resources that go beyond the assets that would be expected to appear on a balance sheet. These additional resources include most importantly the Government's sovereign power to tax.

Because of its unique responsibilities and resources, the best way to analyze the future strains on the Government's fiscal position is to make a long-run projection of the entire Federal budget. Part III of this chapter presents a set of such projections under different assumptions about policy and future economic and demographic conditions. Over long periods of time, the spending the Government does must be financed by the taxes and other receipts it collects. Although the Government can borrow for temporary periods, it must pay interest on any such borrowing, which adds to future spending. In the long run, a solvent Government must pay for its spending out of its receipts. The projections in Part III show that under an extension of the estimates in this Budget, long-run balance in this sense is not achieved, mostly because projected spending for Social Security, Medicare, and Medicaid grow faster than the revenue available to pay for them.

The long run budget projections and the table of assets and liabilities are silent on the question of whether the public is receiving value for its tax dollars or whether Federal assets are being used effectively. Information on those points requires performance measures for Government programs supplemented by appropriate information about conditions in the economy and society.

Recent changes in budgeting practices will contribute to the goal of providing more complete information about Government programs and permit a closer alignment of the cost of programs with performance measures. These changes have been described in detail in previous Budgets. They are described in chapter 2 of this volume, and in the accompanying material that describes results obtained with the Program Assessment Rating Tool (PART). This chapter complements the detailed exploration of Government performance with an assessment of the overall impact of Federal policy as reflected in general measures of economic and social well-being, which are presented in Table 13-5.

Relationship with FASAB Objectives

The framework presented here meets the stewardship objective¹ for Federal financial reporting recommended by the Federal Accounting Standards Advisory Board (FASAB) and adopted for use by the Federal Government in September 1993.

Federal financial reporting should assist report users in assessing the impact on the country of the government's operations and investments for the period and how, as a result, the government's and the Nation's financial conditions have changed and may change in the future. Federal financial reporting should provide information that helps the reader to determine:

3a. Whether the government's financial position improved or deteriorated over the period.

3b. Whether future budgetary resources will likely be sufficient to sustain public services and to meet obligations as they come due.

3c. Whether government operations have contributed to the nation's current and future well-being.

The presentation here is an experimental approach for meeting this objective at the Government-wide level. It is intended to meet the broad interests of economists and others in evaluating trends over time, including both past and future trends. The annual *Financial Report of the United States Government* presents related information, but from a different perspective. The *Financial Report* includes a balance sheet. The assets and liabilities on that balance sheet are all based on transactions and other events that have already occurred. A similar table can be found in Part II of this chapter but based on different data and methods of valuation. The *Report* also includes a statement of social insurance that reviews a substantial body of information on the condition and sustainability of the Government's social insurance programs. However, the *Report* does not extend that review to the condition or sustainability of the Government as a whole, which is a main focus of this chapter.

Connecting the Dots: The presentation that follows consists in large part of a series of tables and charts.

¹ Statement of Federal Financial Accounting Concepts, Number 1, *Objectives of Federal Financial Reporting*, September 2, 1993. Other objectives are budgetary integrity, operating performance, and systems and controls.

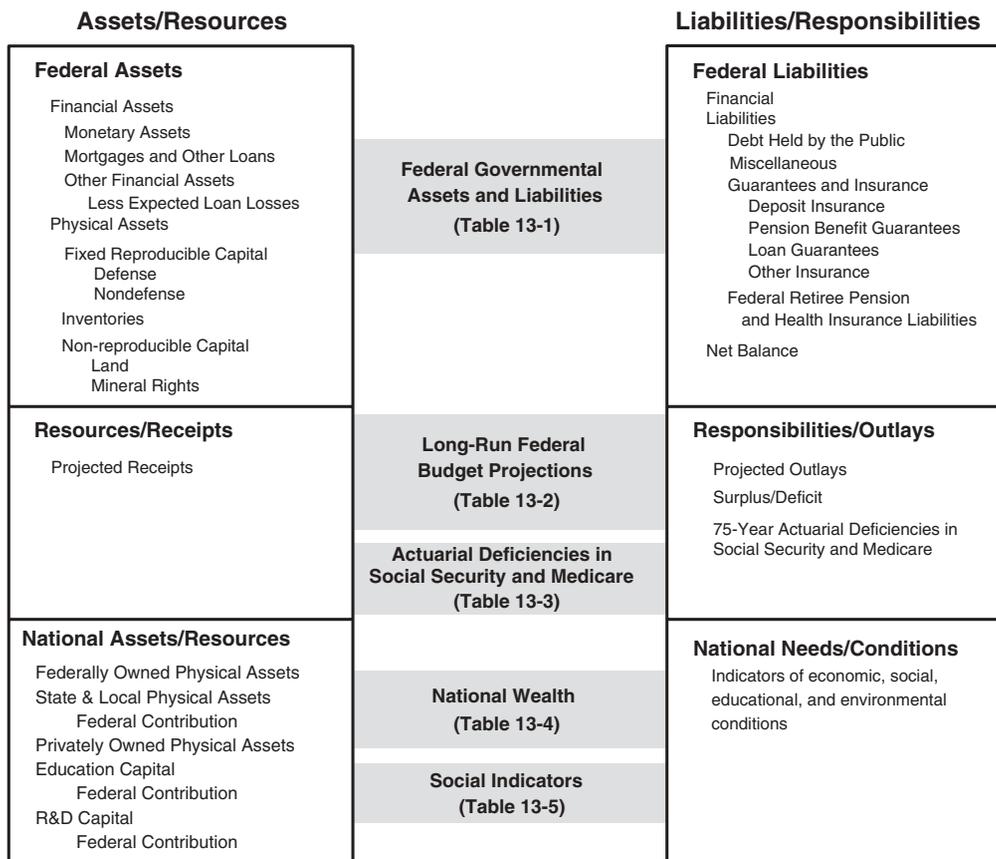
The schematic diagram, Chart 13–1, shows how the different pieces fit together. The tables and charts should be viewed as an ensemble, the main elements of which are grouped in two broad categories—assets/resources and liabilities/responsibilities.

- The left-hand side of Chart 13–1 shows the full range of Federal resources, including assets the Government owns, tax receipts it can expect to collect given current and proposed law, and national wealth, including the trained skills of the

national work force, that provide the base for Government revenues.

- The right-hand side reveals the full range of Federal obligations and responsibilities, beginning with the Government's acknowledged liabilities from past actions, such as the debt held by the public, and including future budget outlays needed to maintain present policies and trends. This column ends with a set of indicators highlighting areas where Government activity affects society or the economy.

Chart 13-1. A Presentation of the Federal Government's and the Nation's Financial Condition



QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S STEWARDSHIP

1. According to Table 13-1, the Government's liabilities exceed its assets. No business could operate in such a fashion. Why does the Government not manage its finances more like a business?

The Federal Government has different objectives from a business firm. The goal of every business is to earn a profit, and as a general rule the Federal Government properly leaves activities at which a profit could be earned to the private sector. For the vast bulk of the Federal Government's operations, it would be difficult or impossible to charge prices—let alone prices that would cover expenses. The Government undertakes these activities not to improve its balance sheet, but to benefit the Nation.

For example, the Federal Government invests in education and research. The Government earns no direct return from these investments; but people are made richer if they are successful. The returns on these investments show up not as an increase in Government assets, but as an increase in the general state of knowledge and in the capacity of the country's citizens to earn a living and lead a fuller life. Business investment motives are quite different; business invests to earn a profit for itself, not others, and if its investments are successful, their value will be reflected in its balance sheet. Because the Federal Government's objectives are different, its balance sheet behaves differently, and should be interpreted differently.

2. Table 13-1 seems to imply that the Government is insolvent. Is it?

No. Just as the Federal Government's responsibilities are different from those of private business, so are its resources. Government solvency must be evaluated in different terms.

What the table shows is that those Federal obligations that are most comparable to the liabilities of a business corporation exceed the estimated value of the assets actually owned by the Federal Government. The Government, however, has access to other resources through its sovereign powers. These powers, which include taxation, allow the Government to meet its present obligations and those that are anticipated from future operations even though the Government's current assets are less than its current liabilities.

The financial markets clearly recognize this reality. The Federal Government's implicit credit rating is the best in the world; lenders are willing to lend it money at interest rates substantially below those charged to private borrowers. This would not be true if the Government were really insolvent or likely to become so. Where governments totter on the brink of insolvency, lenders are either unwilling to lend them money, or do so only in return for a substantial interest premium.

QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S STEWARDSHIP—Continued

3. *Why are Social Security and Medicare not shown as Government liabilities in Table 13-1?*

Future Social Security and Medicare benefits may be considered as promises or responsibilities of the Federal Government, but these benefits are not a liability in a legal or accounting sense. The Government has unilaterally decreased as well as increased these benefits in the past, and future reforms could alter them again. These benefits are not ignored in this presentation of the Government's finances, but they are shown elsewhere than in Table 13-1. They appear in two ways: budget projections as a percent of GDP in Table 13-2, and the actuarial deficiency estimates in Table 13-3.

Other Federal programs make similar promises to those of Social Security and Medicare—Medicaid, for example. Few have suggested counting the future benefits expected under these programs as Federal liabilities, yet it would be difficult to justify a different accounting treatment for them if Social Security or Medicare were to be classified as a liability. There is no bright line dividing Social Security and Medicare from other programs that promise benefits to people, and all the Government programs that do so should be accounted for similarly.

Furthermore, if future Social Security or Medicare benefits were to be treated as a liability, then future payroll tax receipts earmarked to finance those benefits ought to be treated as a Government asset. This treatment would be essential to gauge the future claim. Tax receipts, however, are not generally considered Government assets, and for good reason: the Government does not own the wealth on which future taxes depends. Including taxes on the balance sheet would be wrong for this reason, but without counting taxes the balance sheet would overstate the drain on net assets from Social Security and Medicare. Furthermore, treating taxes for Social Security or Medicare differently from other taxes would be highly questionable.

Finally, under Generally Accepted Accounting Principles (GAAP), Social Security is not considered to be a liability, so not counting it as such in this chapter is consistent with the accounting standards.

4. *Why doesn't the Federal Government follow normal business practice in its bookkeeping?*

The Government is not a business, and accounting standards designed to illuminate how much a business earns and how much equity it has could provide misleading information if applied naively to the Government. The Government does not have a "bottom line" comparable to that of a business corporation, but the Federal Accounting Standards Advisory Board (FASAB) has developed, and the Government has adopted, a conceptual accounting framework that reflects the Government's distinct functions and answers many of the questions for which Government should be accountable. This framework addresses budgetary integrity, operating performance, stewardship, and systems and controls. FASAB has also developed, and the Government has adopted, a full set of accounting standards. Federal agencies now issue audited financial reports that follow these standards and an audited Government-wide financial report is issued as well. In short, the Federal Government does follow generally accepted accounting principles (GAAP) just as businesses and State and local governments do, although the relevant principles differ depending on the circumstances. This chapter is intended to address the "stewardship objective"—assessing the interrelated condition of the Federal Government and the Nation. The data in this chapter illuminate the trade-offs and connections between making the Federal Government "better off" and making the Nation "better off."

QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S STEWARDSHIP—Continued

5. *When the baby boom generation begins to retire in large numbers beginning within the next ten years, the deficit could become much larger than it ever was before. Should this not be reflected in evaluating the Government's financial condition?*

The aging of the population will become dramatically evident when the baby boomers begin to retire, and this demographic transition poses serious long-term problems for Federal entitlement programs and the budget. Both the long-range budget projections shown in this chapter and the actuarial projections prepared for Social Security and Medicare indicate how serious the problem is. It is clear from this information that reforms are needed in these programs to meet the long-term challenges.

6. *Would it make sense for the Government to borrow to finance needed capital—permitting a deficit in the budget—so long as the borrowing did not exceed the amount spent on investments?*

This rule might not actually permit much extra borrowing. If the Government were to finance new capital by borrowing, it should plan to pay off the debt incurred to finance old capital as the capital is used up. The net new borrowing permitted by this rule would not then exceed the amount of net investment the government does after adjusting for capital consumption. But, as discussed in Chapter 6, Federal net investment in physical capital is usually not very large and has even been negative, so little if any deficit spending would have been justified by this borrowing-for-investment criterion, at least in recent years.

The Federal Government also funds substantial amounts of physical capital that it does not own, such as highways and research facilities, and it funds investment in intangible "capital" such as education and training and the conduct of research and development. A private business would never borrow to spend on assets that would be owned by someone else. However, such spending is today a principal function of the Federal Government. It is not clear whether this type of capital investment would fall under the borrowing-for-investment criterion. Certainly, these investments do not create assets owned by the Federal Government, which suggests they would not be included for this purpose, even though they are an important part of national wealth.

There is another difficulty with the logic of borrowing to invest. Businesses expect investments to earn a return large enough to cover their cost. In contrast, the Federal Government does not generally expect to receive a direct payoff from its investments, whether or not it owns them. In this sense, investments are no different from other Government expenditures, and the fact that they provide services over a longer period of time is no justification for excluding them when calculating the surplus or deficit.

Finally, the Federal Government pursues policies that support the overall economic well-being of the Nation and its security interests. For such reasons, the Government may deem it desirable to run a budget surplus, even if this means paying for its own investments from current receipts, and there will be other times when it is necessary to run a deficit, even one that exceeds Government net investment. Considerations in addition to the size of Federal investment must be weighed in choosing the right level of the surplus or deficit.

PART II—THE FEDERAL GOVERNMENT'S ASSETS AND LIABILITIES

Table 13-1 takes a backward look at the Government's assets and liabilities summarizing what the Government owes as a result of its past operations netted against the value of what it owns. The table gives some perspective by showing these net asset figures for a number of years beginning in 1960. To ensure comparability across time, the assets and liabilities are measured in terms of constant FY 2004 dollars and the balance is also shown as a ratio to GDP. Government liabilities have exceeded the value of assets (see chart 13-2) over this entire period, but, in the late 1970s, a speculative run-up in the prices of oil and other real assets temporarily boosted the value of Federal holdings. When those prices subsequently declined, Federal asset values declined and only recently have they regained the level they had reached in the mid-1980s.

Currently, the total real value of Federal assets is estimated to be 62 percent greater than it was in 1960. Meanwhile, Federal liabilities have increased by 234

percent in real terms. The decline in the Federal net asset position has been due partly to persistent Federal budget deficits that have boosted debt held by the public most years since 1960. Other factors have also been important such as the large increases in health benefits for Federal retirees and the sharp rise in veterans' disability compensation. The relatively slow growth in Federal asset values also helped reduce the net asset position.

The shift from budget deficits to budget surpluses in the late 1990s temporarily checked the decline in Federal net assets, but only for a few years. Currently, the net excess of liabilities over assets is about \$5.3 trillion or about \$18,000 per capita. As a ratio to GDP, the excess of liabilities over assets reached a peak of 51 percent in 1993; it declined to 38 percent in 2000; it rose above 45 percent in 2003; and it fell below 45 percent in 2004. The average since 1960 has been 34 percent (see Table 13-1).

Chart 13-2. Net Federal Liabilities

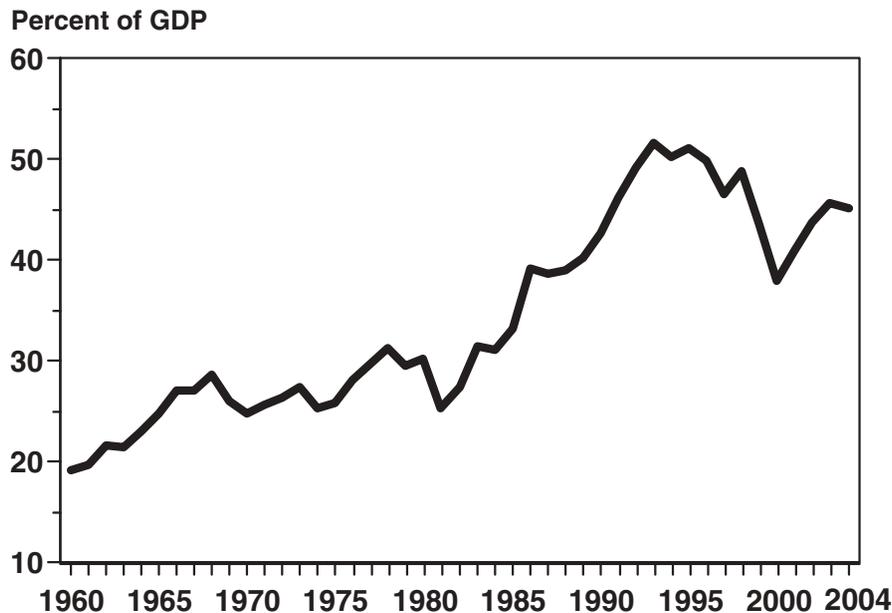


Table 13-1. GOVERNMENT ASSETS AND LIABILITIES*

(As of the end of the fiscal year, in billions of 2004 dollars)

	1960	1965	1970	1975	1980	1985	1990	1995	2000	2002	2003	2004
ASSETS												
Financial Assets:												
Cash and Checking Deposits	45	65	40	33	50	33	44	46	60	81	54	54
Other Monetary Assets	1	1	1	1	2	2	2	1	7	19	9	2
Mortgages	29	28	41	43	80	82	105	72	83	78	75	74
Other Loans	107	147	184	184	238	309	219	167	140	124	120	118
less Expected Loan Losses	-1	-3	-5	-10	-18	-18	-21	-26	-40	-47	-48	-47
Other Treasury Financial Assets	65	81	71	64	90	132	211	254	232	263	315	311
Subtotal	245	318	332	315	442	540	560	524	552	616	624	606
Nonfinancial Assets:												
Fixed Reproducible Capital	1,074	1,065	1,108	1,075	1,018	1,151	1,194	1,200	1,053	1,032	1,037	1,061
Defense	925	869	879	803	720	838	860	840	687	652	653	667
Nondefense	148	196	229	272	297	313	334	360	365	379	384	394
Inventories	281	243	226	202	250	286	254	195	201	200	247	249
Nonreproducible Capital	454	466	447	662	1,062	1,138	898	675	1,000	1,018	1,179	1,401
Land	99	137	172	273	348	362	372	282	426	487	517	601
Mineral Rights	356	330	275	390	713	776	526	393	574	532	663	801
Subtotal	1,809	1,775	1,781	1,939	2,330	2,575	2,346	2,071	2,254	2,250	2,463	2,711
Total Assets	2,054	2,093	2,114	2,254	2,772	3,115	2,906	2,594	2,806	2,866	3,087	3,318
LIABILITIES												
Debt held by the Public	1,225	1,259	1,120	1,139	1,416	2,341	3,190	4,240	3,692	3,685	4,002	4,296
Insurance and Guarantee Liabilities:												
Deposit Insurance					2	10	77	5	1	2	1	1
Pension Benefit Guarantee Corporation				46	34	47	46	22	44	84	73	88
Loan Guarantees		1	2	7	13	11	17	32	40	39	37	43
Other Insurance	33	30	23	21	29	18	21	19	17	17	16	16
Subtotal	33	31	26	74	78	85	161	78	102	142	127	148
Pension and Post-Employment Health Liabilities:												
Civilian and Military Pensions	857	1,077	1,288	1,459	1,937	1,921	1,878	1,821	1,856	1,905	1,989	2,022
Retiree Health Insurance Benefits	205	258	309	350	464	461	450	437	416	839	943	1,009
Veterans Disability Compensation	203	256	305	338	347	287	258	282	598	884	976	925
Subtotal	1,266	1,591	1,902	2,148	2,748	2,669	2,587	2,540	2,871	3,628	3,909	3,956
Other Liabilities:												
Trade Payables and Miscellaneous	29	36	46	57	88	115	158	131	107	108	110	106
Benefits Due and Payable	22	26	35	37	48	53	63	74	84	99	102	105
Subtotal	51	62	81	94	135	168	221	204	191	207	212	211
Total Liabilities	2,575	2,943	3,129	3,455	4,377	5,263	6,159	7,062	6,857	7,663	8,249	8,611
Net Assets (Assets Minus Liabilities)	-521	-850	-1,015	-1,201	-1,606	-2,148	-3,253	-4,468	-4,051	-4,796	-5,162	-5,293
Addenda:												
Net Assets Per Capita (in 2004 dollars)	-2,890	-4,382	-4,959	-5,569	-7,041	-8,997	-12,982	-16,733	-14,324	-16,620	-17,711	-17,988
Ratio to GDP (in percent)	-19.2	-24.9	-24.8	-25.9	-29.0	-32.5	-42.0	-51.1	-37.9	-43.7	-45.4	-44.8

* This table shows assets and liabilities for the Government as a whole excluding the Federal Reserve System. Data for 2004 are extrapolated in some cases.

Table 13-1 offers a comprehensive list of the financial and physical resources owned by the Federal Government.

Financial Assets: According to the Federal Reserve Board's Flow-of-Funds accounts, the Federal Government's holdings of financial assets amounted to \$0.6 trillion at the end of FY 2004. Government-held mortgages (measured in constant dollars) reached a peak in the early 1990s as the Government acquired mortgages from savings and loan institutions that had failed. The Government subsequently liquidated most of the mortgages it acquired from these bankrupt savings and loans. Meanwhile, Government holdings of other loans have been declining in real terms since the mid-1980s. The face value of mortgages and other loans overstates their economic worth. OMB estimates that the discounted present value of future losses and interest subsidies on these loans was around \$50 billion

as of 2004. These estimated losses are subtracted from the face value of outstanding loans to obtain a better estimate of their economic worth.

Reproducible Capital: The Federal Government is a major investor in physical capital and computer software. Government-owned stocks of such capital have amounted to about \$1.0 trillion in constant dollars for most of the last 40 years (OMB estimate). This capital consists of defense equipment and structures, including weapons systems, as well as nondefense capital goods. Currently, slightly less than two-thirds of the capital is defense equipment or structures. In 1960, defense capital was about 90 percent of the total. In the 1970s, there was a substantial decline in the real value of U.S. defense capital and there was another large decline in the 1990s after the end of the Cold War. Meanwhile, nondefense Federal capital has increased at an average annual rate of around 2-1/4 percent. The Gov-

ernment also holds inventories of defense goods and other items that in 2004 amounted to about 25 percent of the value of its fixed capital.

Non-reproducible Capital: The Government owns significant amounts of land and mineral deposits. There are no official estimates of the market value of these holdings (and of course, in a realistic sense, many of these resources would never be sold). Researchers in the private sector have estimated what they are worth, however, and these estimates are extrapolated in Table 13–1. Private land values fell sharply in the early 1990s, but they have risen since 1993. It is assumed here that Federal land shared in the decline and the subsequent recovery. Oil prices have been on a roller coaster since the mid-1990s. They declined sharply in 1997–1998, rebounded in 1999–2000, fell again in 2001, and rose in 2002–2004. These fluctuations have caused the estimated value of Federal mineral deposits to fluctuate as well. In 2004 as estimated here, the combined real value of Federal land and mineral rights was higher than it has ever been, but only 3 percent greater than in 1982. These estimates are limited to land and mineral rights. They, thus, omit some valuable assets owned by the Federal Government, such as works of art and historical artifacts partly because there is no available inventory or realistic basis for valuing such unique assets.

Total Assets: The total value of Government assets measured in constant dollars has risen sharply in the past three years, and was higher in 2004 than ever before. The Government's asset holdings are vast. As of the end of FY 2004, Government assets were estimated to be worth about \$3.3 trillion or 28 percent of GDP.

Liabilities

Table 13–1 includes all Federal liabilities that would normally be listed on a balance sheet. All the various forms of publicly held Federal debt are counted, as are Federal pension and health insurance obligations to civilian and military retirees and the disability compensation that is owed the Nation's veterans, which can be thought of as a form of deferred compensation. The estimated liabilities stemming from Federal insurance programs and loan guarantees are also shown. The benefits that are due and payable under various Federal programs are also included, but these liabilities reflect only binding short-term obligations, not the Government's full commitment under these programs.

Future benefit payments that are likely to be made through Social Security and other Federal income transfer programs are not Federal liabilities in a legal or accounting sense. They are Federal responsibilities, however, and it is important to gauge their size, but they are not binding in the same way as a legally enforceable claim would be. That is why a balance sheet can give a misleading impression of the Federal financial position. The budget projections and other data in Part III are designed to provide a sense of these

broader responsibilities and their claim on future budgets.

Debt Held by the Public: The Federal Government's largest single liability is the debt owed to the public. It amounted to about \$4.3 trillion at the end of 2004. Publicly held debt declined for several years in the late 1990s because of the unified budget surplus that had emerged at that time, but as the deficit has returned, publicly held debt has begun to increase again.

Insurance and Guarantee Liabilities: The Federal Government has contingent liabilities arising from the loan guarantees it has made and from its insurance programs. When the Government guarantees a loan or offers insurance, cash disbursements are often small initially, and if a fee is charged the Government may even collect money; but the *risk* of future cash payments associated with such commitments can be large. The figures reported in Table 13–1 are estimates of the current discounted value of prospective future losses on outstanding guarantees and insurance contracts. The present value of all such losses taken together is about \$0.1 trillion. As is true elsewhere in this chapter, this estimate does not incorporate the market value of the risk associated with these contingent liabilities; it merely reflects the present value of expected losses. Although individually many of these programs are large and potential losses can be a serious concern, relative to total Federal liabilities or even the total debt held by the public, these insurance and guarantee liabilities are fairly small. They were less than 2 percent of total liabilities in 2004.

Pension and Post-Employment Health Liabilities: The Federal Government owes pension benefits as a form of deferred compensation to retired workers and to current employees who will eventually retire. It also provides civilian retirees with subsidized health insurance through the Federal Employees Health Benefits program and military retirees receive similar benefits. Veterans are owed compensation for their service-related disabilities. While the Government's employee pension obligations have risen slowly, there has been a sharp increase in the liability for future health benefits and veterans compensation. The discounted present value of all these benefits was estimated to be around \$4.0 trillion at the end of FY 2004 up from \$2.9 trillion in 2000.² There was a large expansion in Federal military retiree health benefits legislated in 2001.

The Balance of Net Liabilities

The Government need not maintain a positive balance of net assets to assure its fiscal solvency, and the buildup in net liabilities since 1960 has not significantly affected Federal creditworthiness. Long-term Government interest rates in 2003 reached their lowest

²The pension liability is the actuarial present value of benefits accrued-to-date based on past and projected salaries. The 2004 liability was extrapolated. The retiree health insurance liability is based on actuarial calculations of the present value of benefits promised under existing programs. Estimates are only available since 1997. For earlier years the liability was assumed to grow in line with the pension liability, and for that reason may differ significantly from what the actuaries would have calculated for this period. Veterans' disability compensation was taken from the 2004 *Financial Report of the United States Government and Reports* from earlier years.

levels in 45 years, and in 2004 they remained lower than at any time from 1965 through 2002. Despite the continued good performance of interest rates, there are limits to how much debt the Government can assume without putting its finances in jeopardy. Over an extended time horizon, the Federal Government must

take in enough revenue to cover all of its spending including debt service. The Government's ability to service its debt in the long run cannot be gauged from a balance sheet alone. To judge the prospects for long-run solvency it is necessary to project the budget into the future. That is the subject of the next section.

PART III—THE LONG-RUN BUDGET OUTLOOK

A balance sheet with its focus on obligations arising from past transactions can only show so much information. For the Government, it is important to anticipate what future budgetary requirements might flow from future transactions as implied by current law. Despite the uncertainty surrounding the necessary underlying assumptions, very long-run budget projections can be useful in sounding warnings about potential problems. Federal responsibilities extend well beyond the next five or ten years, and problems that may be small in that time frame can become much larger if allowed to grow.

Programs like Social Security and Medicare are intended to continue indefinitely, and so long-range projections for Social Security and Medicare have been prepared for decades. Budget projections for individual programs, even important ones such as Social Security and Medicare, however, do not reveal the Government's overall budgetary position. Only by projecting the entire budget is it possible to anticipate whether sufficient resources will be available to meet all the anticipated requirements for individual programs. It is also necessary to estimate how the budget's future growth compares with that of the economy to judge how well the economy might be able to support future budgetary needs.

To assess the overall financial condition of the Government, it is necessary to examine the future prospects for all Government programs including the revenue sources that support Government spending. Such an assessment reveals that the key drivers of the long-range deficit are, not surprisingly, Social Security and Medicare along with Medicaid, the Federal program that helps States provide health coverage for low-income people and nursing home care for the elderly. Medicaid, like Medicare and Social Security, is projected to grow more rapidly than the economy over the next several decades and to add substantially to the overall budget deficit. Under current law, there is no offset anywhere in the budget that is large enough to cover all the demands that will eventually be imposed by Social Security, Medicare, and Medicaid.

Future budget outcomes depend on a host of unknowns—constantly changing economic conditions, unforeseen international developments, unexpected demographic shifts, the unpredictable forces of technological advance, and evolving political preferences to name a few. The uncertainty increases the further into the future projections are extended. Such uncertainty, while making accuracy more difficult, actually enhances the importance of long-term projections. People are gen-

erally averse to risk, but it is not possible to assess the likelihood of future risks without projections. Although a full treatment of risks is beyond the scope of this chapter, the chapter is able to show how the budget projections respond to changes in some of the key economic and demographic parameters. Given the uncertainties, the best that can be done is to work out the implications of expected developments on a "what if" basis.

The Impending Demographic Transition

In 2008, the first members of the huge generation born after World War II, the so-called baby boomers, will reach age 62 and become eligible for early retirement under Social Security. In the years that follow, the elderly population will skyrocket, putting serious strains on the budget because of increased expenditures for Social Security and for the Government's health programs serving this population.

The pressures are expected to persist even after the baby boomers are gone. The Social Security actuaries project that the ratio of workers to Social Security beneficiaries will fall from around 3.3 currently to a little over 2 by the time most of the baby boomers have retired. Because of lower fertility and improved mortality, that ratio is expected to continue to decline slowly from there. With fewer workers to pay the taxes needed to support the retired population, the budgetary pressures will continue to grow. The problem posed by the demographic transition is a permanent one; indeed, it is a growing one.

Currently, the three major entitlement programs—Social Security, Medicare and Medicaid—account for 44 percent of non-interest Federal spending, up from 30 percent in 1980. By 2035, when the remaining baby boomers will be in their 70s and 80s, these three programs could easily account for nearly two-thirds of non-interest Federal spending. At the end of the projection period, the figure rises to around three-quarters of non-interest spending. In other words, under an extension of current-law formulas and the policies in the budget, almost all of the budget, aside from interest, would go to these three programs alone. That would severely reduce the flexibility of the budget, and the Government's ability to respond to new challenges.

An Unsustainable Path

These long-run budget projections show clearly that the budget is on an unsustainable path, although the rise in the deficit unfolds gradually. The budget deficit is projected to decline as the economy expands over

the next several years, while most of the baby boomers are still in the work force. As the baby boomers begin to reach retirement age in large numbers, the deficit begins to rise. In about 10 years, the deficit as a share of GDP is projected to reach a low point and then begin an inexorable increase. By the end of this chapter's projection period, rising deficits would drive publicly held Federal debt to levels 2½ times the size of GDP.

The revenue projections in this section start with the budget's estimate of receipts under the Administration's proposals. They assume that individual income tax receipts will rise somewhat relative to GDP. This increase reflects the higher marginal tax rates that people will face as their real incomes rise in the future (the tax code is indexed for inflation, but not for real economic growth). In terms of total receipts collected relative to GDP, those income tax increases are partly offset by declines in Federal excise tax receipts, which are generally not indexed for inflation. Payroll taxes also are projected to decline relative to GDP because the base

for these taxes—cash wages and salaries—has shown a tendency to decline relative to total compensation, which again partly offsets the increase in income tax receipts. Even so, the overall share of Federal receipts in GDP is projected to rise above the average of 17 to 19 percent that prevailed from 1960 through the mid-1990s and to eventually reach around 22 percent of GDP.

The long-run budget outlook is highly uncertain (see the technical note at the end of this chapter for a discussion of the forecasting assumptions used to make these budget projections). With pessimistic assumptions, the fiscal picture deteriorates even sooner than in the base projection. More optimistic assumptions imply a longer period before the pressures of rising entitlement spending overwhelm the budget. But despite the unavoidable uncertainty, these projections show that under a wide range of forecasting assumptions, the resources generated by the programs themselves will be insufficient to cover the long-run costs of Social Security and Medicare.

Table 13–2. LONG-RANGE MODEL RESULTS

(As a percent of GDP)

	1995	2005	2015	2025	2035	2045	2055	2065	2075
Receipts	18.5	16.8	18.5	19.1	19.6	20.2	20.9	21.5	22.0
Outlays:									
Discretionary	7.4	7.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
Mandatory:									
Social Security	4.5	4.2	4.4	5.4	6.0	6.0	6.1	6.2	6.4
Medicare	2.1	2.4	3.3	4.6	6.0	7.0	7.9	9.1	10.4
Medicaid	1.2	1.5	1.9	2.1	2.3	2.6	2.8	3.0	3.3
Other	2.2	2.8	2.0	1.7	1.5	1.3	1.2	1.1	1.0
Subtotal, mandatory	10.1	10.9	11.6	13.8	15.8	16.9	18.0	19.5	21.2
Net Interest	3.2	1.5	1.9	2.0	3.1	4.8	6.9	9.7	13.3
Total outlays	20.7	20.3	19.4	21.8	24.8	27.6	30.8	35.1	40.4
Surplus or Deficit (–)	–2.2	–3.5	–0.9	–2.7	–5.2	–7.4	–10.0	–13.6	–18.4
Federal Debt Held by the Public	49.2	38.6	35.6	38.1	58.7	90.4	130.0	181.3	249.0

Note: The figures shown in this table for 2015 and beyond are the product of a long-range forecasting model maintained by the Office of Management and Budget. This model is separate from the models and capabilities that produce the detailed programmatic estimates in the Budget. It was designed to produce long-range forecasts based on additional assumptions regarding the growth of the economy, the long-range evolution of specific programs, and the demographic and economic forces affecting those programs. The model, its assumptions, and sensitivity testing of those assumptions are presented in this chapter.

Alternative Economic and Technical Assumptions

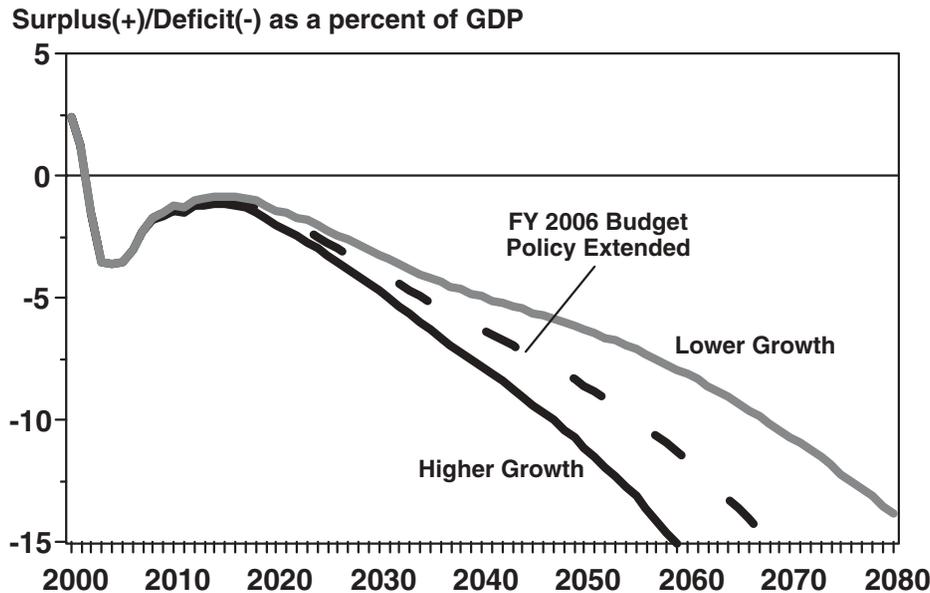
The quantitative results discussed above are sensitive to changes in underlying economic and technical assumptions. Some of the most important of these alternative economic and technical assumptions and their effects on the budget outlook are discussed below. All show that there are mounting deficits under most reasonable projections of the budget.

1. *Health Spending:* The projections for Medicare over the next 75 years are based on the actuarial projections in the 2004 Medicare Trustees' Report, that include the effects of the Medicare Prescription Drug and Modernization bill enacted in 2003. Following the recommendations of its Technical Review Panel, the Medicare trustees assume that over the long-run "age-and

gender-adjusted, per-beneficiary spending growth exceeds the growth of per-capita GDP by 1 percentage point per year." This implies that total Medicare spending will rise faster than GDP throughout the projection period.

Eventually, the rising trend in health care costs for both Government and the private sector will have to end, but it is hard to know when and how that will happen. Improved health and increased longevity are highly valued, and society has shown that it is willing to spend a larger share of income on them than it did in the past. Whether society will be willing to devote the large share of resources to health care implied by these projections is an open question. The alternatives highlight the effect of raising or lowering the projected growth rate in per capita health care costs by ¼ percentage point.

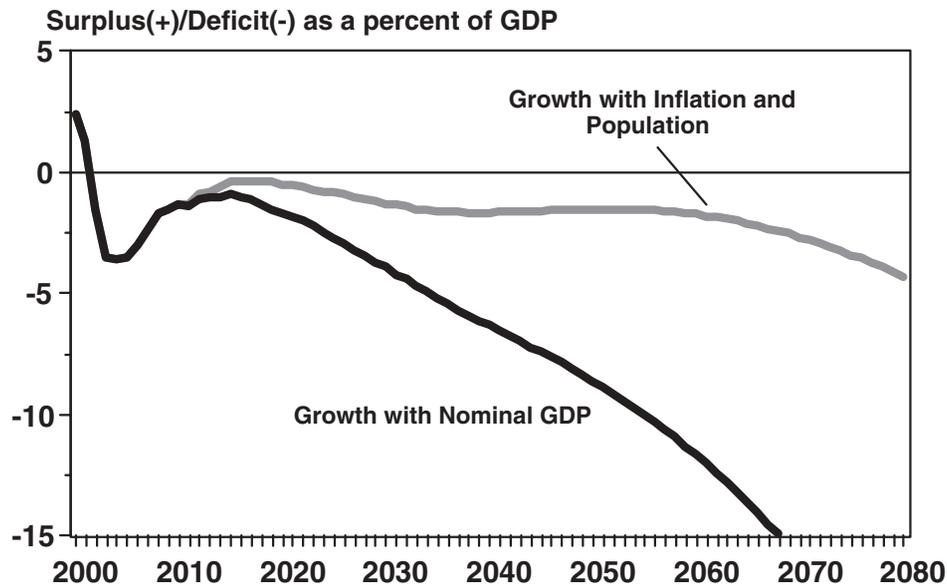
Chart 13-3. Health Care Cost Alternatives



2. *Discretionary Spending*: The assumption used to project discretionary spending is essentially arbitrary, because discretionary spending is determined annually through the legislative process, and no formula can dictate future spending in the absence of legislation. Alternative assumptions have been made for discretionary spending in past budgets. Holding discretionary spending unchanged in real terms is the “current services” assumption used for baseline budget projections when there is no legislative guidance on future spending levels. Extending this assumption over many decades, however, is not realistic. When the population and economy grow, as assumed in these projections, the demand

for public services is very likely to expand as well. The current base projection assumes that discretionary spending keeps pace with the growth in GDP in the long run, so that spending increases in real terms whenever there is real economic growth. An alternative assumption would be to limit the percentage increase in discretionary spending to the increase in population plus inflation, in other words, to hold the real per capita inflation-adjusted level of discretionary spending constant. This alternative moderates the long-run rise in the deficit because the shrinkage in discretionary spending as a share of GDP partially offsets the rise in entitlement outlays.

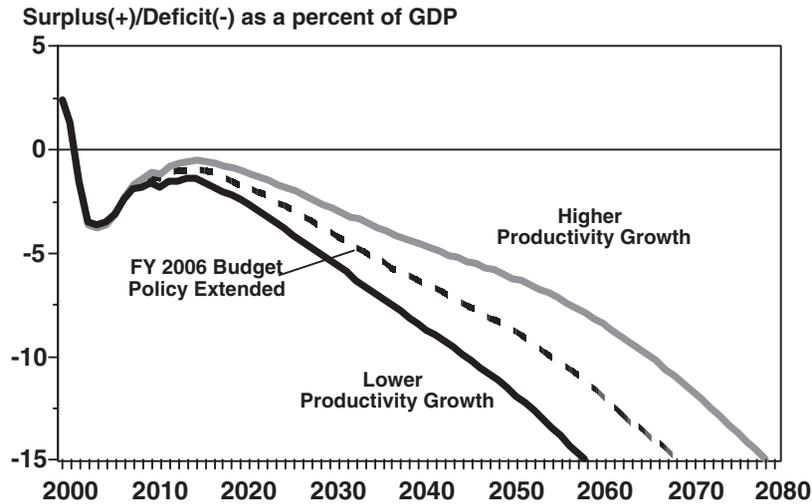
Chart 13-4. Alternative Discretionary Spending Assumptions



3. *Productivity*: The rate of future productivity growth has an important effect on the long-run budget outlook. It is also highly uncertain. Over the next few decades an increase in productivity growth would reduce projected budget deficits appreciably. Higher productivity growth adds directly to the growth of the major tax bases, while it has only a delayed effect on outlay growth even assuming that in the long-run discretionary outlays rise with GDP. In the latter half of the 1990s, after two decades of much slower growth, the rate of productivity growth increased unexpectedly and it has increased again since 2000. This increase in productivity growth is one of the most welcome de-

velopments of the last several years. Although the long-run growth rate of productivity is inherently uncertain, it has averaged 2.3 percent since 1948, and the long-run budget projections assume that real GDP per hour will also grow at a 2.3 percent annual rate. This is a cautious assumption. If the recent increase in trend productivity growth is sustained, it might continue growing faster than the historical average for some time to come. The alternatives highlight the effect of raising the projected productivity growth rate by $\frac{1}{4}$ percentage point and the effect of lowering it by the same amount.

Chart 13-5. Alternative Productivity Assumptions

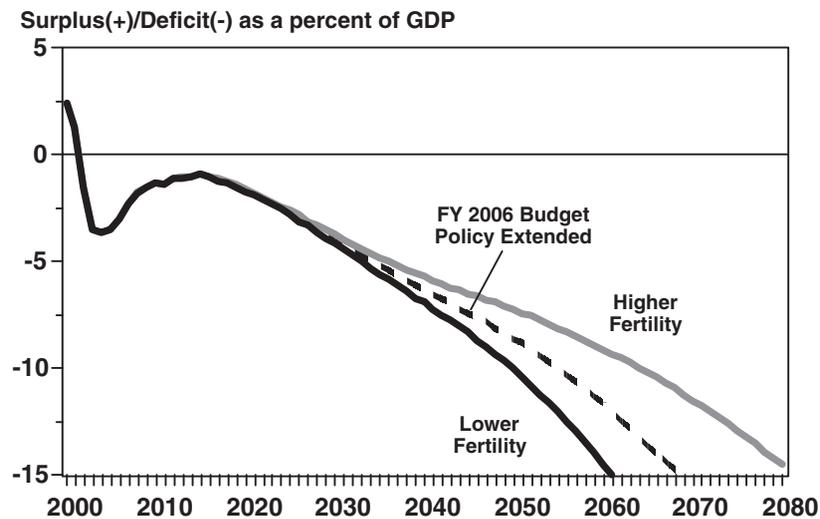


4. *Population:* The key assumptions for projecting long-run demographic developments are fertility, immigration, and mortality.

- The demographic projections assume that fertility will average around 1.9 births per woman in the

future, just slightly below the replacement rate needed to maintain a constant population—2.1 births.

Chart 13-6. Alternative Fertility Assumptions



- The rate of immigration is assumed to average around 900,000 per year in these projections. Higher immigration relieves some of the downward pressure on population growth from low fertility and allows total population to expand throughout the projection period, although at a much slower rate than has prevailed historically.
- Mortality is projected to decline, i.e., people are expected to live longer. The average female life-span is projected to rise from 79.5 years in 2003 to 85.3 years by 2080, and the average male life-span is projected to increase from 74.4 years in 2003 to 81.6 years by 2080. A technical panel to the Social Security Trustees recently reported that the improvement in longevity might even be greater.

Chart 13-7. Alternative Mortality Assumptions

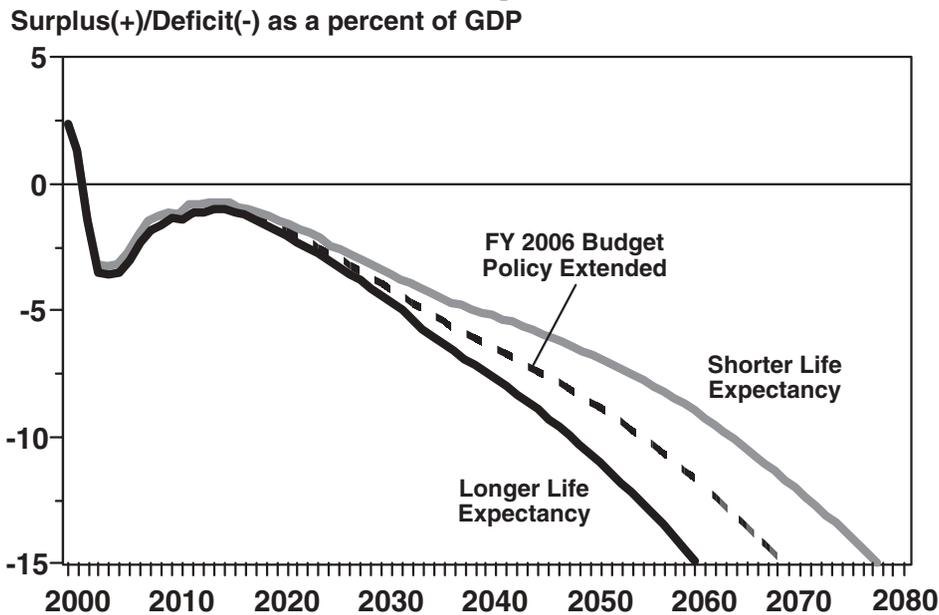
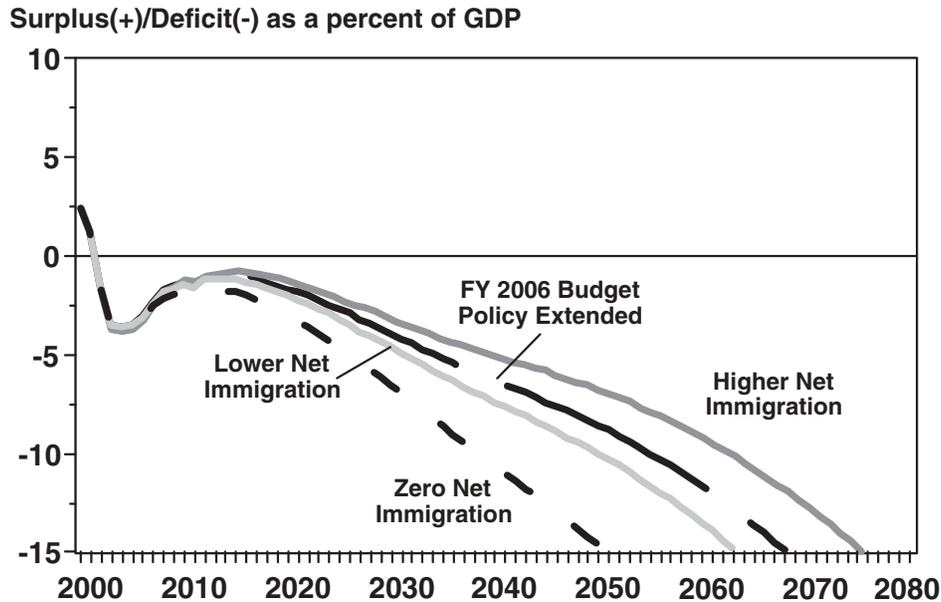


Chart 13-8. Alternative Immigration Assumptions



Actuarial Projections for Social Security and Medicare

Social Security and Medicare are the Government's two largest entitlement programs. Both rely on payroll tax receipts from current workers and employers for at least part of their financing, while the programs' benefits largely go to those who are retired. The importance of these programs for the retirement security of current and future generations makes it essential to understand their long-range financial prospects. Both programs' actuaries have calculated that they face persistent long-run deficits. How best to measure the long-

run imbalance in Social Security is a challenging analytical question. The imbalance is even more difficult to measure in Medicare, which includes both Hospital Insurance (HI), funded through the payroll tax, and Supplementary Medical Insurance (SMI), financed through premiums and general revenues. Under reasonable assumptions, however, each program embodies such a huge financial deficiency that it will be very difficult for the Government as a whole to maintain control of the budget without addressing both of these programs' financial problems.

Social Security: The Long-Range Challenge

Social Security provides retirement security and disability insurance for tens of millions of Americans. The Social Security system is intended to be self-financing over time. The principle of self-financing is important because it compels corrections in the event that projected benefits consistently exceed dedicated receipts.

While Social Security is running surpluses today, it will begin running cash deficits within 20 years. Social Security's spending path is unsustainable under current law. The retirement of the baby-boom generation, born following World War II, will begin to increase greatly the number of Social Security beneficiaries within five years. Demographic trends toward lower fertility rates and longer life spans mean that the ratio of retirees to the working population will remain permanently higher following the baby boomers passage through the system. The number of workers available to support each beneficiary is projected to decline from over 3 today to just around 2 in 2030, and remain there indefinitely. This decline in the workforce available to support retiree benefits means that the Government will not be able to meet current-law benefit obligations at current payroll tax rates.

The size of Social Security's future shortfall cannot be known with precision, but a gap between Social Security receipts and outlays emerges under a wide range of reasonable forecasting assumptions. Long-range uncertainty underscores the importance of creating a system that is financially stable and self-contained. Otherwise, the demands created by Social Security could compromise the rest of the budget and the Nation's economic health. The actuarial shortfall is estimated to be \$11.9 trillion over an infinite horizon.

The current structure of Social Security leads to substantial generational differences in the average rate of return people can expect from the program. While previous generations have fared extremely well, the average individual born today can expect to receive less than a two percent annual real rate of return on their payroll taxes (including the employer's portion, which most economists believe is borne by labor). Moreover, such estimates in a sense overstate the expected rate of return for future retirees, because they assume no changes in current-law taxes or benefits, even though such changes are needed to meet Social Security's financing shortfall. As an example, a 1995 analysis found that for an average worker born in 2000 a 1.7 percent rate of return would turn into a 1.5 percent rate of return after adjusting revenues to keep the system solvent.

One way to address the issues of uncertainty and declining rates of return, while protecting national savings, would be to allow individuals to invest some of their payroll taxes in personal retirement accounts. The President's Commission to Strengthen Social Security presented various options that would include personal accounts within the Social Security framework.

Medicare: The Long-Range Challenge

Medicare provides health insurance for tens of millions of Americans, including most of the nation's seniors. It is composed of two programs: Hospital Insurance (HI) or Part A, which covers medical expenses relating to hospitalization, and Supplemental Medical Insurance (SMI) or Part B, which pays for physicians' services and other related expenditures. Starting in 2006, Medicare will offer a voluntary prescription drug benefit, Medicare Part D, which is part of the SMI Trust Fund.

Like Social Security, HI is intended to be self-financing through dedicated taxes. According to the Medicare Trustees most recent report, the Trust Fund is projected to be depleted in 2019. Looking at the long run, the Medicare actuaries project a 75-year unfunded promise to Medicare's HI trust fund of around \$8.5 trillion (net present value). However, this measure tells less than half the story because it does not include the deficiency in Medicare's Part B and Part D programs. The main source of dedicated revenues to the SMI Trust Fund is beneficiary premiums, which generally cover about one-quarter of its expenses. SMI's funding structure creates an enormous financing gap for the program, and is the largest contributor to the total Medicare program shortfall of \$28.1 trillion. SMI's financing gap is covered by an unlimited tap on general revenues. According to the Medicare Trustees 2004 report, "When the Part D program becomes fully implemented in 2006, general revenue transfers are expected to constitute the largest single source of income to the Medicare program as a whole—and would add significantly to the Federal Budget pressures."

This bifurcated trust fund structure finances Medicare as if the program offers two separate, unrelated benefits, instead of recognizing that Medicare provides integrated, comprehensive health insurance coverage. The Medicare Prescription Drug, Improvement and Modernization Act of 2003 took initial steps to address this problem and to monitor Medicare's use of general revenues. The Trustees are now required to include a new, comprehensive fiscal analysis, the Combined Medicare Trust Fund Analysis. This analysis examines the program as a whole, and signals whether Medicare's reliance on general revenue funding is projected to exceed 45 percent of total Medicare expenditures at any point in the following six years. Current projections indicate that Medicare's reliance on general revenues may exceed this threshold as early as 2012. The Administration supports efforts to integrate Medicare's financing structure and monitor the program's reliance on general revenue funding, such as a unified Medicare trust fund.

The 75-Year Horizon: In their annual reports and related documents, the Social Security and Medicare trustees typically present calculations of the 75-year actuarial imbalance or deficiency for Social Security and Medicare. The calculation covers current workers and retirees, as well as those projected to join the program within the next 75 years (this is the so-called “open-group” calculation; the “closed-group” covers only current workers and retirees). These estimates measure the present value of each program’s future benefits net of future income. They are complementary to the flow projections described in the preceding section.

The present value of the Social Security imbalance over the next 75 years was estimated to be \$5.2 trillion as of January 1, 2004. The comparable estimate for Medicare was \$28.1 trillion. (The estimates in Table 13–3 were prepared by the Social Security and Medicare actuaries, and they are based on the intermediate economic and demographic assumptions used for the 2004 trustees’ reports. These differ in some respects from the assumptions used for the long-run budget projections described in the preceding section, but Table 13–3 would still show large imbalances if the budget assumptions had been used for the calculations.)

Doing the calculations for a 75-year horizon understates the deficiencies, because the 75-year actuarial calculations omit the large deficits that continue to occur beyond the 75th year. The understatement is significant, even though values in the distant future are discounted by a large amount. For example, merely

adding an additional year to the estimating period would widen the imbalance for Social Security from \$5.2 trillion to \$5.3 trillion. For the latest Social Security and Medicare trustees’ reports, the programs’ actuaries have also calculated the actuarial imbalances in perpetuity. See Table 13–3, which shows how much these distant benefits add to the programs’ imbalances.

The imbalance for Social Security, when estimated on a perpetuity basis, was \$11.9 trillion at the beginning of 2004. This was the amount that the Government would have had to raise in the private capital markets to resolve the program’s imbalance. It was entirely accounted for by the benefits due to current workers and beneficiaries. Future participants do not add to the total, but their contributions do not significantly reduce it either. If nothing else were to change, the estimated imbalance would grow every year at approximately the rate of interest, just as an unpaid debt grows with interest each year it remains outstanding. For Social Security this would imply an increase of approximately \$600 billion in 2004 and by growing amounts with every year that the imbalance remains unaddressed. The comparable imbalance in Medicare is even more staggering at \$61.9 trillion. Unlike Social Security, future participants do add significantly to the Medicare imbalance, but the exact size of the imbalance is harder to estimate for Medicare because of greater uncertainty regarding the future growth of medical costs. If these costs continue to rise faster than GDP,

**Table 13–3. ACTUARIAL PRESENT VALUES OF BENEFITS IN EXCESS OF FUTURE TAXES AND PREMIUMS
Over a 75-Year Projection Period as of January 1, in Trillions of Dollars**

	2000	2001	2002	2003	2004
Social Security					
Future benefits less future taxes for those age 15 and over	9.6	10.5	11.2	11.7	12.6
Future benefits less taxes for those age 14 and under and those not yet born	-5.8	-6.3	-6.7	-6.8	-7.3
Net present value for past, present and future participants	3.8	4.2	4.6	4.9	5.2
Medicare					
Future benefits less future taxes and premiums for those age 15 and over	9.9	12.5	12.9	15.0	24.6
Future benefits less taxes and premiums for those age 14 and under and those not yet born	-0.7	0.3	0.4	0.8	3.4
Net present value for past, present and future participants	9.2	12.8	13.3	15.8	28.1
Social Security and Medicare					
Future benefits less future taxes and premiums for those age 15 and over .....	.....	23.0	24.1	26.7	37.2
Future benefits less taxes and premiums for those age 14 and under and not yet born .....	.....	-6.0	-6.3	-6.0	-3.9
Net present value for past, present and future participants .....	.....	17.0	17.8	20.7	33.3
Addendum:					
Actuarial deficiency as a percent of the discounted payroll tax base:					
Social Security	-1.89	-1.86	-1.87	-1.92	-1.89
Medicare HI	-1.21	-1.97	-2.02	-2.40	-3.12
In Perpetuity as of January 1					
					2004
Social Security .....	.....	.....	.....	.....	11.9
Medicare .....	.....	.....	.....	.....	61.9
Social Security and Medicare .....	.....	.....	.....	.....	73.8

then inevitably the Medicare program will place an unsustainable burden on the budget.

Social Security: The current deficiency in Social Security is essentially due to paying past and current participants more benefits than they have paid or will pay into the program in taxes (calculated in terms of present values). By contrast, future participants—those who are now under age 15 or not yet born—are projected to pay in present value about \$7.3 trillion more over the next 75 years than they will collect in benefits over that period. Limiting the horizon at 75 years, however, prevents a full accounting of the expected benefits for these future participants, since many future participants will pay all of their lifetime taxes within the 75-year period, while continuing to receive benefits after the 75th year, while others will pay some taxes within the 75-year horizon without receiving any benefits until much later.

Extending the estimates to perpetuity avoids this distortion because everyone's taxes and benefits are fully included in the calculation and discounted to the present. Altogether, the far distant benefits, estimated in perpetuity, add about \$6.7 trillion to the imbalance, which nearly offsets the expected net contribution of \$7.3 trillion from future participants over the next 75 years. In other words, the taxes that future participants are expected to pay will be large enough to cover the benefits due them under current law, but not large enough to cover those benefits plus the benefits promised to current program participants in excess of the taxes paid by current program participants.

Medicare: Over the next 75 years, benefits due to current program participants exceed payroll taxes and premiums by \$24.6 trillion in present value. This is twice as large as the Social Security gap for the same group. Future participants are also projected to collect more in benefits than they pay in taxes and premiums, but over the same time span the gap is much smaller for them, \$3.4 trillion. Even so, this pattern is different from that for Social Security, where future participants are net contributors over a 75-year horizon. Extending the horizon to infinity shows that the benefits due future participants will eventually exceed projected payroll tax receipts and premiums by a much larger margin. The infinite horizon projections shown at the bottom of Table 13–3 reveal that total Medicare benefits exceed future taxes and premiums by \$61.9 trillion in present value.

Passage of the Medicare Prescription Drug, Improvement and Modernization Act added substantially to Medicare's actuarial deficiency, as can be seen in the 75-year projections in Table 13–3 comparing 2003 with 2004. The legislation also increased private sector participation and added new fiscal safeguards which may help address Medicare's financial shortfall, but how large the impact of these changes will be is uncertain and their effects are not captured in the figures reported here.

General revenues have covered about 75 percent of SMI program costs for many years, with the rest being

covered by premiums paid by the beneficiaries. In Table 13–3, only the receipts explicitly earmarked for financing these programs have been included. The intragovernmental transfer is not financed by dedicated tax revenues, and the share of general revenues that would have to be devoted to SMI to close the gap increases substantially under current projections. Other Government programs also have a claim on these general revenues. From the standpoint of the Government as a whole, only receipts from the public can finance expenditures.

A significant portion of Medicare's actuarial deficiency is caused by the rapid expected increase in future benefits due to rising health care costs. Some, perhaps most, of the projected increase in relative health care costs reflects improvements in the quality of care, although there is also evidence that medical errors, waste, and the many of the costs associated with medical liability claims add needlessly to costs. But even though the projected increases in Medicare spending are likely to contribute to longer life-spans and safer treatments, the financial implications remain the same. As long as medical costs continue to outpace the growth of GDP and other expenditures, as assumed in these projections, the financial pressure on the budget will mount, and that is reflected in the estimates shown in Tables 13–2 and 13–3.

The Trust Funds and the Actuarial Deficiency: The simple fact that a trust fund exists does not mean that the Government necessarily saved the money recorded there. The trust fund surpluses could have added to national saving if debt held by the public had actually been reduced because of the trust fund accumulations. But it is impossible to know for sure whether this happened or not.

At the time Social Security or Medicare redeems the debt instruments in the trust funds to pay benefits not covered by income, the Treasury will have to turn to the public capital markets to raise the funds to finance the benefits, just as if the trust funds had never existed. From the standpoint of overall Government finances, the trust funds do not reduce the future burden of financing Social Security or Medicare benefits, and for that reason, the trust funds are not netted against future benefits in Table 13–3. The eventual claim on the Treasury is better revealed by the difference between future benefits and future taxes or premiums.

In any case, trust fund assets remain small in size compared with the programs' future obligations and well short of what would be needed to pre-fund future benefits as indicated by the programs' actuarial deficiencies. Historically, Social Security and Medicare's HI program were financed mostly on a pay-as-you-go basis, whereby workers' payroll taxes were immediately used to pay retiree benefits. For the most part, workers' taxes have not been used to pre-fund their own future benefits, and taxes were not set at a level sufficient to pre-fund future benefits even had they been saved.

The Importance of Long-Run Measures in Evaluating Policy Changes: Consider a proposed policy change in

which payroll taxes paid by younger workers were reduced by \$100 this year while the expected present value of these workers' future retirement benefits were also reduced by \$100. The present value of future benefit payments would decrease by the same amount as the reduction in revenue. On a cash flow basis, however, the lost revenue occurs now, while the decrease in future outlays is in the distant future beyond the budget window, and the Federal Government must increase its borrowing to make up for the lost revenue in the meantime. If policymakers only focus on the Government's near-term borrowing needs, a reform such as this would appear to worsen the Government's

finances, whereas the policy actually has a neutral impact.

Now suppose that future outlays were instead reduced by a little more than \$100 in present value. In this case, the actuarial deficiency would actually decline, even though the Government's borrowing needs would again increase if the savings occurred outside the budget window. Focusing on the Government's near-term borrowing alone, therefore, can lead to a bias against policies that could improve the Federal Government's overall long-run fiscal condition. Taking a longer view of policy changes and considering measures of the Government's fiscal condition other than the unified budget surplus or deficit can correct for such mistakes.

PART IV—NATIONAL WEALTH AND WELFARE

Unlike a private corporation, the Federal Government routinely invests in ways that do not add directly to its assets. For example, Federal grants are frequently used to fund capital projects by State or local governments for highways and other purposes. Such investments are valuable to the public, which pays for them with its taxes, but they are not owned by the Federal Government and would not show up on a balance sheet for the Federal Government. It is true, of course, that by encouraging economic growth in the private sector, the Government augments future Federal tax receipts. However, the fraction of the return on investment that comes back to the Government in higher taxes is far less than what a private investor would require before undertaking a similar investment.

The Federal Government also invests in education and research and development (R&D). These outlays contribute to future productivity and are analogous to an investment in physical capital. Indeed, economists have computed stocks of human and knowledge capital to reflect the accumulation of such investments. Nonetheless, such hypothetical capital stocks are obviously not owned by the Federal Government, nor would they appear on a typical balance sheet as a Government asset, even though these investments may also contribute to future tax receipts.

To show the importance of these kinds of issues, Table 13-4 presents a *national* balance sheet. It includes estimates of national wealth classified into three categories: physical assets, education capital, and R&D capital. The Federal Government has made contributions to each of these types of capital, and these contributions are shown separately in the table. At the same time, the private wealth shown in Table 13-4 can be drawn on by Government to finance future public activities. The Nation's wealth sets the ultimate limit on the resources currently available to the Government. Data in this table are especially uncertain, because of the strong assumptions needed to prepare the estimates.

The table shows that Federal investments are responsible for about 7 percent of total national wealth including education and research and development. This may

seem like a small fraction, but it represents a large volume of capital—\$6.6 trillion. The Federal contribution is down from 8.8 percent in the mid-1980s and from 11.5 percent in 1960. Much of this reflects the relative decline in the stock of defense capital, which has fallen from around 13 percent of GDP in the mid-1980s to under 6 percent in 2004.

Physical Assets: The physical assets in the table include stocks of plant and equipment, office buildings, residential structures, land, and the Government's physical assets such as military hardware and highways. Automobiles and consumer appliances are also included in this category. The total amount of such capital is vast, \$49.3 trillion in 2004, consisting of \$41.6 trillion in private physical capital and \$7.8 trillion in public physical capital (including capital funded by State and local governments); by comparison, GDP was around \$11.7 trillion in 2004. The Federal Government's contribution to this stock of capital includes its own physical assets of \$2.7 trillion plus \$1.3 trillion in accumulated grants to State and local governments for capital projects. The Federal Government has financed about one-fourth of the physical capital held by other levels of government.

Education Capital: Economists have developed the concept of human capital to reflect the notion that individuals and society invest in people as well as in physical assets. Investment in education is a good example of how human capital is accumulated. Table 13-4 includes an estimate of the stock of capital represented by the Nation's investment in formal education and training. The estimate is based on the cost of replacing the years of schooling embodied in the U.S. population aged 16 and over; in other words, the goal is to measure how much it would cost to reeducate the U.S. workforce at today's prices (rather than at its original cost). This is more meaningful economically than the historical cost, and is comparable to the measures of physical capital presented earlier.

Although this is a relatively crude measure, it does provide a rough order of magnitude for the current value of the investment in education. According to this measure, the stock of education capital amounted to

Table 13–4. NATIONAL WEALTH
(As of the end of the fiscal year, in trillions of 2004 dollars)

	1960	1965	1970	1975	1980	1985	1990	1995	2000	2002	2003	2004
ASSETS												
Publicly Owned Physical Assets:												
Structures and Equipment	2.1	2.4	3.0	3.7	3.9	4.1	4.5	4.9	5.6	5.9	6.1	6.1
Federally Owned or Financed	1.2	1.3	1.4	1.6	1.7	1.9	2.0	2.1	2.1	2.2	2.2	2.3
Federally Owned	1.1	1.1	1.1	1.1	1.0	1.2	1.2	1.2	1.1	1.0	1.0	1.1
Grants to State and Local Governments	0.1	0.2	0.3	0.5	0.7	0.8	0.8	0.9	1.1	1.2	1.2	1.2
Funded by State and Local Governments	0.9	1.1	1.5	2.1	2.2	2.2	2.5	2.8	3.5	3.7	3.8	3.8
Other Federal Assets	0.7	0.7	0.7	0.9	1.3	1.4	1.2	0.9	1.2	1.2	1.4	1.7
Subtotal	2.8	3.1	3.6	4.5	5.2	5.5	5.6	5.8	6.8	7.2	7.5	7.8
Privately Owned Physical Assets:												
Reproducible Assets	7.3	8.3	10.2	13.0	16.1	17.5	20.0	22.1	26.7	28.6	29.5	30.5
Residential Structures	2.8	3.3	3.9	5.0	6.4	6.8	7.9	8.9	11.0	12.1	12.7	13.3
Nonresidential Plant & Equipment	2.9	3.3	4.1	5.4	6.5	7.4	8.3	9.0	10.9	11.6	11.7	12.0
Inventories	0.7	0.8	0.9	1.2	1.4	1.3	1.4	1.5	1.6	1.5	1.6	1.7
Consumer Durables	0.9	1.0	1.3	1.5	1.8	1.9	2.4	2.7	3.1	3.4	3.4	3.6
Land	2.1	2.5	2.9	3.8	5.8	6.6	6.8	5.2	7.8	8.9	9.5	11.0
Subtotal	9.4	10.9	13.1	16.8	21.9	24.1	26.8	27.3	34.5	37.6	38.9	41.6
Education Capital:												
Federally Financed	0.1	0.1	0.2	0.3	0.5	0.6	0.8	0.9	1.2	1.3	1.4	1.4
Financed from Other Sources	6.4	8.2	11.0	13.6	17.8	21.4	27.6	30.9	40.1	42.8	44.1	45.0
Subtotal	6.5	8.3	11.3	14.0	18.3	22.0	28.4	31.8	41.3	44.1	45.5	46.4
Research and Development Capital:												
Federally Financed R&D	0.2	0.4	0.5	0.6	0.6	0.7	0.8	1.0	1.0	1.1	1.1	1.2
R&D Financed from Other Sources	0.1	0.2	0.3	0.4	0.5	0.7	0.9	1.2	1.5	1.7	1.8	1.9
Subtotal	0.3	0.6	0.8	1.0	1.1	1.4	1.7	2.1	2.6	2.8	2.9	3.0
Total Assets	19.0	22.8	28.8	36.3	46.5	53.0	62.6	67.0	85.2	91.7	94.9	98.8
Net Claims of Foreigners on U.S. (+)	-0.1	-0.2	-0.2	-0.1	-0.4	0.1	0.8	1.6	3.0	3.5	4.1	4.5
Net Wealth	19.1	23.0	29.0	36.4	46.9	52.9	61.7	65.4	82.1	88.2	90.8	94.3
ADDENDA:												
Per Capita Wealth (thousands of 2004 \$)	106.1	118.5	141.5	168.7	205.6	221.7	246.4	244.9	290.4	305.6	311.5	320.5
Ratio of Wealth to GDP (in percent)	703.4	672.4	708.7	785.5	845.8	799.8	797.9	747.9	769.1	803.4	798.7	798.2
Total Federally Funded Capital (trillions 2004 \$)	2.2	2.5	2.9	3.4	4.1	4.7	4.8	4.9	5.6	5.8	6.2	6.6
Percent of National Wealth	11.5	10.7	9.9	9.3	8.7	8.8	7.8	7.5	6.8	6.6	6.8	7.0

\$46.4 trillion in 2004, of which about 3 percent was financed by the Federal Government. It was almost equal to the total value of the Nation's stock of physical capital. The main investors in education capital have been State and local governments, parents, and students themselves.

Even broader concepts of human capital have been proposed. Not all useful training occurs in a schoolroom or in formal training programs at work. Much informal learning occurs within families or on the job, but measuring its value is very difficult. Labor compensation, however, amounts to about two-thirds of national income with the other third attributed to capital, and thinking of total labor income as the product of human capital suggests that the total value of human capital might be two times the estimated value of physical capital assuming human capital earns a similar rate of return to other forms of capital. Thus, the estimates offered here are in a sense conservative, because they reflect only the costs of acquiring formal education and training, which is why they are referred to as education capital rather than human capital. They constitute the part of human capital that can be attributed to formal education and training.

Research and Development Capital: Research and Development can also be thought of as an investment, because R&D represents a current expenditure that is made in the expectation of earning a future return. After adjusting for depreciation, the flow of R&D investment can be added up to provide an estimate of the current R&D stock.³ That stock is estimated to have been \$3.0 trillion in 2004. Although this represents a large amount of research, it is a relatively small portion of total National wealth. Of this stock, 39 percent was funded by the Federal Government.

Liabilities: When considering how much the United States owes as a Nation, the debts that Americans owe to one another cancel out. When the debts of one American are the assets of another American, these debts are not a net liability of the Nation as a whole. Table 13–4 is intended to show National totals only. Total debt is important even though it does not appear in Table 13–4. The amount of debt owed by Americans to other Americans can exert both positive and negative effects on the economy. Americans' willingness and abil-

³ R&D depreciates in the sense that the economic value of applied research and development tends to decline with the passage of time, as still newer ideas move the technological frontier.

ity to borrow have helped fuel the current expansion by supporting consumption and housing purchases. On the other hand, growing debt would be a risk to future growth, if the ability to service the high level of debt were to become impaired.

The only debts that do appear in Table 13–4 are the debts Americans owe to foreigners for the investments that foreigners have made here. America's net foreign debt has been increasing rapidly in recent years, because of the rising imbalance in the U.S. current account. Although the current account deficit is at record levels, the size of the net foreign debt remains relatively small compared with the total stock of U.S. assets. It amounted to 4.5 percent of total assets in 2004.

Federal debt does not appear explicitly in Table 13–4 because most of it consists of claims held by Americans; only that portion of the Federal debt which is held by foreigners is included along with the other debts to foreigners. Comparing the Federal Government's net liabilities with total national wealth does, however, provide another indication of the relative magnitude of the imbalance in the Government's accounts. Currently, Federal net liabilities, as reported in Table 13–1, amount to 5.6 percent of net U.S. wealth as shown in Table 13–4. Prospectively, however, Federal liabilities are a much larger share of national wealth, as shown by the long-run projections in Part III.

Trends in National Wealth

The net stock of wealth in the United States at the end of FY 2004 was almost \$100 trillion, about eight times the size of GDP. Since 1960, it has increased in real terms at an average annual rate of 3.7 percent per year. It grew very rapidly from 1960 to 1973, at an average annual rate of 4.5 percent per year, slightly faster than real GDP grew over the same period. Between 1973 and 1995 growth slowed, as real net wealth grew at an average rate of just 3.0 percent per year, which paralleled the slowdown in real GDP over this period. Since 1995 growth has picked up for both net wealth and real GDP. Net wealth has been growing at an average rate of 4.2 percent since 1995, about the same rate as from 1960 to 1973. This is the same period in which productivity growth accelerated following a similar slowdown from 1973 to 1995.

The net stock of private nonresidential plant and equipment accounts for about 29 percent of privately owned physical assets. It grew 3.3 percent per year on average from 1960 to 2004. It grew especially rapidly

from 1960 to 1973, at an average rate of 3.9 percent per year. Since 1973 it has grown more slowly, averaging around 3.0 percent per year. Unlike most other categories of wealth accumulation, growth of plant and equipment over the last eight years accelerated by only a few tenths of a percentage point compared with 1973–1995. Private plant and equipment grew 2.9 percent per year on average between 1973 and 1995 and just 3.2 percent per year from 1995 through 2004. Higher than average growth in the investment boom of the late 1990s has been offset by less rapid growth since then. Meanwhile, privately owned residential structures and land have all grown much more rapidly in real value since 1995 than from 1973 to 1995.

The accumulation of education capital has averaged 4.6 percent per year since 1960. It also slowed down between 1973 and 1995 and has grown somewhat more rapidly since then. It grew at an average rate of 5.8 percent per year in the 1960s, 1.9 percentage points faster than the average rate of growth in private physical capital during the same period. Since 1995, education capital has grown at a 4.3 percent annual rate. This reflects both the extra resources devoted to schooling in this period, and the fact that such resources have been increasing in economic value. Meanwhile, R&D stocks have grown at an average rate of 4.1 percent per year since 1995.

Other Federal Influences on Economic Growth

Federal investment decisions, as reflected in Table 13–4, obviously are important, but the Federal Government also affects wealth in ways that cannot be easily captured in a formal presentation. The Federal Reserve's monetary policy affects the rate and direction of capital formation in the short run, and Federal regulatory and tax policies also affect how capital is invested, as do the Federal Government's policies on credit assistance and insurance.

Social Indicators

There are certain broad responsibilities that are unique to the Federal Government. Especially important are preserving national security, fostering healthy economic conditions including sound economic growth, promoting health and social welfare, and protecting the environment. Table 13–5 offers a rough cut of information that can be useful in assessing how well the Federal Government has been doing in promoting the domestic portion of these general objectives.

TABLE 13-5. ECONOMIC AND SOCIAL INDICATORS

Calendar Years	1960	1965	1970	1975	1980	1985	1990	1995	2000	2002	2003	2004
Economic:												
Living Standards:												
Real GDP per person (2000 dollars)	13,840	16,420	18,392	19,961	22,666	25,382	28,429	30,128	34,760	34,953	35,664	36,893
average annual percent change (5-year trend) ...	1.7	3.5	2.3	1.7	2.6	2.3	2.3	1.2	2.9	1.9	1.7	1.7
Median Income:												
All Households (2003 dollars)	N/A	N/A	35,832	35,559	37,447	38,510	40,865	40,845	44,853	43,381	43,318	N/A
Married Couple Families (2003 dollars)	30,903	35,966	43,130	44,789	48,917	50,695	54,431	56,395	63,110	62,657	62,405	N/A
Female Householder, Husband Absent (2003 dollars)	15,616	17,485	20,889	20,619	22,000	22,267	23,102	23,596	27,462	29,665	29,307	N/A
Income Share of Lower 60% of All Households	31.8	32.2	32.3	32.0	31.5	30.0	29.4	28.0	27.3	27.1	26.9	N/A
Poverty Rate (%) (a)	22.2	17.3	12.6	12.3	13.0	14.0	13.5	13.8	11.3	12.1	12.5	N/A
Economic Security:												
Civilian Unemployment (%) ...	5.5	4.5	4.9	8.5	7.1	7.2	5.5	5.6	4.0	5.8	6.0	5.5
CPI-U (%) Change)	1.7	1.6	5.8	9.1	13.5	3.5	5.4	2.8	3.4	1.6	2.2	2.7
Payroll Employment Increase Previous 12 Months (millions)	-0.4	2.9	-0.4	0.4	0.3	2.5	0.3	2.2	1.9	-0.6	-0.1	2.2
Managerial or Professional Jobs (% of civilian employment)	N/A	N/A	N/A	N/A	N/A	27.3	29.2	32.0	33.8	34.6	34.8	34.9
Wealth Creation:												
Net National Saving Rate (% of GDP) (b)	10.6	12.4	8.3	6.7	7.4	6.2	4.4	4.1	5.9	1.7	1.2	1.6
Innovation:												
Patents Issued to U.S. Residents (thousands) (c)	42.3	54.1	50.6	51.5	41.7	45.1	56.1	68.2	103.6	104.6	105.9	N/A
Multifactor Productivity (average 5 year percent change)	0.9	2.9	0.8	1.1	0.8	0.5	0.5	0.6	1.1	N/A	N/A	N/A
Nonfarm Output per Hour (average 5 year percent change)	1.6	3.4	2.1	2.3	1.1	1.7	1.5	1.5	2.5	3.0	3.4	3.6
Environment:												
Air Quality:												
Nitrogen Oxide Emissions (thousand short tons)	18,163	21,297	26,883	26,377	27,079	25,757	25,529	24,956	22,598	21,102	N/A	N/A
Sulfur Dioxide Emissions (thousand short tons)	22,268	26,799	31,218	28,043	25,925	23,307	23,076	18,619	16,347	15,353	N/A	N/A
Lead Emissions (thousand short tons)	N/A	N/A	221	160	74	23	5	4	4	N/A	N/A	N/A
Water Quality:												
Population Served by Secondary Treatment or Better (mils)	N/A	N/A	N/A	N/A	N/A	140	162	174	201	N/A	N/A	N/A
Social:												
Families:												
Children Living with Mother Only (% of all children) ..	9.2	10.2	11.6	16.4	18.6	20.2	21.6	24.0	22.3	23.2	23.2	N/A
Safe Communities:												
Violent Crime Rate (per 100,000 population) (d) ..	160.0	199.0	364.0	482.0	597.0	558.1	729.6	684.5	506.5	494.4	475.0	N/A
Murder Rate (per 100,000 population) (d)	5.1	5.1	7.8	9.6	10.2	8.0	9.4	8.2	5.5	5.6	5.7	N/A
Murders (per 100,000 Persons Age 14 to 17)	N/A	N/A	N/A	4.5	5.9	4.9	9.8	11.0	4.8	4.5	N/A	N/A
Health:												
Infant Mortality (per 1000 Live Births) (e)	26.0	24.7	20.0	16.1	12.6	10.6	9.2	7.6	6.9	7.0	6.8	6.6
Low Birthweight (<2,500 gms) Babies (%) (e)	7.7	8.3	7.9	7.4	6.8	6.8	7.0	7.3	7.6	7.8	7.9	N/A
Life Expectancy at birth (years)	69.7	70.2	70.8	72.6	73.7	74.7	75.4	75.8	77.0	77.3	N/A	N/A

TABLE 13-5. ECONOMIC AND SOCIAL INDICATORS—Continued

Calendar Years	1960	1965	1970	1975	1980	1985	1990	1995	2000	2002	2003	2004
Cigarette Smokers (% population 18 and older) (f)	N/A	41.9	39.2	36.3	33.0	29.9	25.3	24.6	23.2	22.4	21.6	20.1
Learning:												
High School Graduates (% of population 25 and older)	44.6	49.0	55.2	62.5	68.6	73.9	77.6	81.7	84.1	84.1	84.6	N/A
College Graduates (% of population 25 and older)	8.4	9.4	11.0	13.9	17.0	19.4	21.3	23.0	25.6	26.7	27.2	N/A
Participation:												
Individual Charitable Giving per Capita (2000 dollars) (by presidential election year)	247 (1960)	296 (1964)	355 (1968)	377 (1972)	410 (1976)	422 (1980)	468 (1984)	444 (1988)	680 (1992)	669 (1996)	N/A (2000)	N/A (2004)
Voting for President (% eligible population)	62.8	61.9	60.9	55.2	53.5	52.8	53.3	50.3	55.1	49.0	51.2	55.3

(a) The poverty rate does not reflect noncash government transfers such as Medicaid or food stamps.

(b) 2004 through Q3 only.

(c) Preliminary data for 2003.

(d) Not all crimes are reported, and the fraction that go unreported may have varied over time.

(e) Data for 2003-2004 provisional, data for 2004 through June.

(f) Smoking data for 2004 through June.

The indicators shown in Table 13-5 are only a subset drawn from the vast array of available data on conditions in the United States. In choosing indicators for this table, priority was given to measures that were consistently available over an extended period. Such indicators make it easier to draw valid comparisons and evaluate trends. In some cases, however, this meant choosing indicators with significant limitations.

The individual measures in this table are influenced to varying degrees by many Government policies and programs, as well as by external factors beyond the Government's control. They do not measure the outcomes of Government policies, because they generally do not show the direct results of Government activities, but they do provide a quantitative measure of the progress or lack of progress in reaching some of the ultimate values that Government policy is intended to promote.

Such a table can serve two functions. First, it highlights areas where the Federal Government might need to modify its current practices or consider new approaches. Where there are clear signs of deteriorating conditions, corrective action might be appropriate. Second, the table provides a context for evaluating other data on Government activities. For example, Government actions that weaken its own financial position may be appropriate when they promote a broader social objective. The Government cannot avoid making such trade-offs because of its size and the broad ranging effects of its actions. Monitoring these effects and incorporating them in the Government's policy making is a major challenge.

It is worth noting that, in recent years, many of the trends in these indicators turned around. The improvement in economic conditions beginning around 1995 has been widely noted, and there have also been some significant social improvements. Perhaps, most notable has been the turnaround in the crime rate. Since reaching a peak in the early 1990s, violent crime

has fallen by a third. The turnaround has been especially dramatic in the murder rate, which has been lower since 1998 than at any time since the early 1960s. The 2001 recession had an effect on some of these indicators: unemployment rose and real GDP growth declined for a time. But as the economy recovered much of the improvement shown in Table 13-5 was preserved. Indeed, productivity growth, the best indicator of future changes in the standard of living accelerated. Since 1999, it has increased faster than in any other five-year period since 1960.

TECHNICAL NOTE: SOURCES OF DATA AND METHOD OF ESTIMATING

Long-Range Budget Projections

The long-range budget projections are based on long-range demographic and economic assumptions. A simplified model of the Federal budget, developed at OMB, computes the budgetary implications of these assumptions.

Demographic and Economic Assumptions: For the years 2005-2015, the assumptions are identical to those used for the budget. These budget assumptions reflect the President's policy proposals. The economic assumptions are extended beyond this interval by holding constant inflation, interest rates, and unemployment at the levels assumed in the final year of the budget forecast. Population growth and labor force growth are extended using the intermediate assumptions from the 2004 Social Security trustees' report. The projected rate of growth for real GDP is built up from the labor force assumptions and an assumed rate of productivity growth. Productivity growth is held constant at the average rate of growth implied by the budget's economic assumptions.

- CPI inflation holds stable at 2.4 percent per year; the unemployment rate is constant at 5.1 percent; and the yield on 10-year Treasury notes is steady at 5.7 percent.
- Real GDP per hour grows at the same average rate as in the Administration's medium-term projections—2.3 percent per year.
- Consistent with the demographic assumptions in the trustees' reports, U.S. population growth slows from around 1 percent per year to about half that rate by 2030, and slower rates of growth beyond that point. Annual population growth eventually reaches 0.2 percent.
- Real GDP growth declines over time with the expected slowdown in population growth and the increase in the portion of the population over age 65, which contributes less work effort. Historically, real GDP has grown at an average yearly rate of 3.4 percent. In these projections, average real GDP growth declines to around 2.5 percent per year.

The economic and demographic projections described above are set by assumption and do not automatically change in response to changes in the budget outlook. This is unrealistic, but it simplifies comparisons of alternative policies.

Budget Projections: For the period through 2010, receipts and outlays follow the budget's policy projections. In the long run, receipts are projected using simple rules of thumb linking income taxes, payroll taxes, excise taxes, and other receipts to projected tax bases derived from the economic projections. Discretionary outlays grow at the rate of growth in nominal GDP. Social Security is projected by the Social Security actuaries using these long-range assumptions. Medicare benefits are projected based on the estimates in the 2004 Medicare trustees' report, adjusted for differences in inflation rate and the growth rate in GDP per capita. Federal pensions are derived from the most recent actuarial forecasts available at the time the budget is prepared, repriced using Administration inflation assumptions. Medicaid outlays are based on the economic and demographic projections in the model. Other entitlement programs are projected based on rules of thumb linking program spending to elements of the economic and demographic projections such as the poverty rate.

Federally Owned Assets and Liabilities

Financial Assets: The principal source of data is the Federal Reserve Board's Flow-of-Funds Accounts.

Fixed Reproducible Capital: Estimates were developed from the OMB historical data base for physical capital outlays and software purchases. The data base extends back to 1940 and was supplemented by data from other selected sources for 1915-1939. The source data are in current dollars. To estimate investment flows in constant dollars, it was necessary to deflate the nominal investment series. This was done using chained price indexes for Federal investment from the National Income and Product Accounts. The resulting

capital stocks were aggregated into nine categories and depreciated using geometric rates roughly following those used by the Bureau of Economic Analysis in its estimates of physical capital stocks.

Fixed Nonreproducible Capital: Historical estimates for 1960-1985 were based on estimates in Michael J. Boskin, Marc S. Robinson, and Alan M. Huber, "Government Saving, Capital Formation and Wealth in the United States, 1947-1985," published in *The Measurement of Saving, Investment, and Wealth*, edited by Robert E. Lipsey and Helen Stone Tice (The University of Chicago Press, 1989).

Estimates were updated using changes in the value of private land from the Flow-of-Funds Balance Sheets and from the Agriculture Department for farm land; the value of Federal oil deposits was extrapolated using the Producer Price Index for Crude Energy Materials.

Debt Held by the Public: Treasury data.

Insurance and Guarantee Liabilities: Sources of data are the OMB Pension Guarantee Model and OMB estimates based on program data. Historical data on liabilities for deposit insurance were also drawn from CBO's study, *The Economic Effects of the Savings and Loan Crisis*, issued January 1992.

Pension and Post-Employment Health Liabilities: For 1979-2003, the estimates are the actuarial accrued liabilities as reported in the annual reports for the Civil Service Retirement System, the Federal Employees Retirement System, and the Military Retirement System (adjusted for inflation). Estimates for the years before 1979 are extrapolations. The estimate for 2004 is a projection. The health insurance liability was estimated by the program actuaries for 1997-2003, and extrapolated back for earlier years. Veterans disability compensation was taken from the *Financial Report of the United States Government (and the Consolidated Financial Statement* for some earlier years). Prior to 1976, the values were extrapolated.

Other Liabilities: The source of data for trade payables and miscellaneous liabilities is the Federal Reserve's Flow-of-Funds Accounts. *The Financial Report of the United States Government* was the source for benefits due and payable.

National Balance Sheet

Publicly Owned Physical Assets: Basic sources of data for the Federally owned or financed stocks of capital are the Federal investment flows described in Chapter 6. Federal grants for State and local government capital are added, together with adjustments for inflation and depreciation in the same way as described above for direct Federal investment. Data for total State and local government capital come from the revised capital stock data prepared by the Bureau of Economic Analysis extrapolated for 2004.

Privately Owned Physical Assets: Data are from the Flow-of-Funds national balance sheets and from the private net capital stock estimates prepared by the Bureau of Economic Analysis extrapolated for 2004 using in-

vestment data from the National Income and Product Accounts.

Education Capital: The stock of education capital is computed by valuing the cost of replacing the total years of education embodied in the U.S. population 16 years of age and older at the current cost of providing schooling. The estimated cost includes both direct expenditures in the private and public sectors and an estimate of students' forgone earnings, i.e., it reflects the opportunity cost of education. Estimates of students' forgone earnings are based on the year-round, full-time earnings of 18–24 year olds with selected educational attainment levels. These year-round earnings are reduced by 25 percent because students are usually out of school three months of the year. For high school students, these adjusted earnings are further reduced by the unemployment rate for 16–17 year olds; for college students, by the unemployment rate for 20–24 year olds. Yearly earnings by age and educational attainment are from *Money Income in the United States*, series P60, published by the Bureau of the Census.

For this presentation, Federal investment in education capital is a portion of the Federal outlays included in the conduct of education and training. This portion includes direct Federal outlays and grants for elementary, secondary, and vocational education and for higher education. The data exclude Federal outlays for physical capital at educational institutions because these outlays are classified elsewhere as investment in physical capital. The data also exclude outlays under the GI Bill; outlays for graduate and post-graduate education spending in HHS, Defense and Agriculture; and most outlays for vocational training. The Federal share of the total education stock in each year is estimated by averaging the prior years' shares of Federal education outlays in total education costs.

Data on investment in education financed from other sources come from educational institution reports on the sources of their funds, published in U.S. Department of Education, *Digest of Education Statistics*. Nominal expenditures were deflated by the implicit price deflator for GDP to convert them to constant dollar values. Education capital is assumed not to depreciate, but to be retired when a person dies. An education capital stock computed using this method with different source data can be found in Walter McMahon, "Relative Returns to Human and Physical Capital in the U.S. and Efficient Investment Strategies," *Economics of Education Review*, Vol. 10, No. 4, 1991. The method is described in detail in Walter McMahon, *Investment in Higher Education*, Lexington Books, 1974.

Research and Development Capital: The stock of R&D capital financed by the Federal Government was devel-

oped from a data base that measures the conduct of R&D. The data exclude Federal outlays for physical capital used in R&D because such outlays are classified elsewhere as investment in federally financed physical capital. Nominal outlays were deflated using the GDP deflator to convert them to constant dollar values.

Federally funded capital stock estimates were prepared using the perpetual inventory method in which annual investment flows are cumulated to arrive at a capital stock. This stock was adjusted for depreciation by assuming an annual rate of depreciation of 10 percent on the estimated stock of applied research and development. Basic research is assumed not to depreciate. These are the same assumptions used in a study published by the Bureau of Labor Statistics estimating the R&D stocks financed by private industry (U.S. Department of Labor, Bureau of Labor Statistics, *The Impact of Research and Development on Productivity Growth*, Bulletin 2331, September 1989). Chapter 6 of this volume contains additional details on the estimates of the total federally financed R&D stock, as well as its national defense and nondefense components.

A similar method was used to estimate the stock of R&D capital financed from sources other than the Federal Government. The component financed by universities, colleges, and other nonprofit organizations is estimated based on data from the National Science Foundation, *Surveys of Science Resources*. The industry-financed R&D stock component is estimated from that source and from the U.S. Department of Labor, *The Impact of Research and Development on Productivity Growth*, Bulletin 2331, September 1989.

Experimental estimates of R&D capital stocks have been prepared by BEA. The results are described in (A Satellite Account for Research and Development, *Survey of Current Business*, November 1994. These BEA estimates are lower than those presented here primarily because BEA assumes that the stock of basic research depreciates, while the estimates in Table 13–5 assume that basic research does not depreciate. BEA also assumes a slightly higher rate of depreciation for applied research and development, 11 percent, compared with the 10 percent rate used here.

Sources of Data and Assumptions for Estimating Social Indicators

The main sources for the data in this table are the Government statistical agencies. The data are all publicly available, and can be found in such general sources as the annual *Economic Report of the President* and the *Statistical Abstract of the United States*, or from the respective agencies' web sites.

14. NATIONAL INCOME AND PRODUCT ACCOUNTS

The National Income and Product Accounts (NIPAs) are an integrated set of measures of aggregate U.S. economic activity that are prepared by the Department of Commerce. Because the NIPAs include Federal transactions and are widely used in economic analysis, it is important to show the NIPAs' distinctive presentation of Federal transactions and contrast it with that of the budget.

One of the main purposes of the NIPAs is to measure the Nation's total production of goods and services, known as gross domestic product (GDP), and the incomes generated in its production. GDP is a measure of the Nation's final output, which excludes intermediate product to avoid double counting. Both government consumption expenditures and government gross investment—State and local as well as Federal—are included in GDP as part of final output, together with personal consumption expenditures, gross private domestic investment, and net exports of goods and services (exports minus imports).

Other government expenditures—social benefits, grants to State and local governments, subsidies, and interest payments—are not purchases of final output and as such are not included in GDP; however, these transactions are recorded in the NIPA government current receipts and expenditures account, together with government consumption expenditures (which includes depreciation on government gross investment).

Federal transactions are included in the NIPAs as part of the government sector.¹ The Federal subsector is designed to measure certain important economic effects of Federal transactions in a way that is consistent with the conceptual framework of the entire set of integrated accounts. The NIPA Federal subsector is not itself a budget, because it is not a financial plan for proposing, determining, and controlling the fiscal activities of the Government. Also, it covers current transactions only, whereas the budget includes transactions that the NIPA current account omits from its current receipts and current expenditure totals as “capital transfers.” NIPA concepts also differ in many other ways from budget concepts, and therefore the NIPA presentation of Federal finances is significantly different from that of the budget.

Differences Between the NIPAs and the Budget

Federal transactions in the NIPAs are measured according to NIPA accounting concepts in order to be compatible with the purposes of the NIPAs and other transactions recorded in the NIPAs. As a result they differ from the budget in netting and grossing, timing, and coverage. These differences cause current receipts

and expenditures in the NIPAs to differ from total receipts and outlays in the budget, albeit by relatively small amounts.² Differences in timing and coverage also cause the NIPA net Federal Government saving to differ from the budget surplus or deficit. Netting and grossing differences have equal effects on receipts and expenditures and thus have no effect on net Government saving. Besides these differences, the NIPAs combine transactions into different categories from those used in the budget.

December 2003 NIPA Revisions.—Comprehensive revisions to the NIPAs introduced in December 2003 significantly changed the way Federal transactions are measured in the NIPAs, and the ways in which the NIPAs differ from the budget. The three most important changes were: 1) reclassifying of nontaxes out of current tax receipts into current transfer receipts from persons and from business (net); 2) switching several items formerly netted against expenditures to current receipts: interest and dividends received by Government, the current surplus of Government enterprises, and tax receipts from the rest of the world (formerly netted against transfer payments to the rest of the world); 3) adding a new receipts category called “income receipts on assets,” which includes such items as Outer Continental Shelf oil and gas royalties. The categories into which Government current expenditures and current receipts are broken down in the NIPAs are now significantly different from those used prior to the 2003 comprehensive revision. The Bureau of Economic Analysis, however, has converted historical NIPA data to the new basis.

Netting and grossing differences arise when the budget records certain transactions as offsets to outlays while they are recorded as current receipts in the NIPAs (or vice versa). The budget treats all income that comes to the Government due to its sovereign powers—mainly, but not exclusively, taxes—as governmental receipts. The budget offsets against outlays any income that arises from voluntary business-type transactions with the public. The NIPAs often follow this concept as well, and income to Government enterprises such as the Postal Service or the power administrations is offset against their expenditures—but the NIPAs now treat the net surplus of Government enterprises as a component of current receipts. However, the NIPAs have a narrower definition of “business-type transactions” than does the budget. Two classes of receipts, rents and royalties, and regulatory or inspection fees, both of which are classified as offsets to outlays in the budget, are recorded in the NIPAs as Government

¹The other subsector of the NIPA government sector is a single set of transactions for all U.S. State and local units of government, treated as a consolidated entity.

²Over the period 1994–2004, NIPA current expenditures averaged 4.0 percent higher than budget outlays, while NIPA current receipts averaged 2.4 percent higher than budget receipts.

receipts (income receipts on assets and current transfer receipts, respectively). The NIPAs include Medicare premiums as Government receipts, while the budget classifies them as business-type transactions (offsetting receipts).

In the budget, any intragovernmental income from one account to another is offset against outlays rather than being recorded as a receipt so that total outlays and receipts measure transactions with the public. Government contributions for Federal employee social insurance (such as Social Security) is an example: the budget offsets these payments against outlays. In contrast, the NIPAs treat the Federal Government like any other employer and show contributions for Federal employee social insurance as expenditures by the employing agencies and as governmental (rather than offsetting) receipts. The NIPAs also impute certain transactions that are not explicit in the budget. For example, unemployment benefits for Federal employees are financed by direct appropriations rather than social insurance contributions. The NIPAs impute social insurance contributions by employing agencies to finance these benefits—again, treating the Federal Government like any other employer.

Timing differences for receipts occur because the NIPAs generally record personal taxes and social insurance contributions when they are paid and business taxes when they accrue, while the budget generally records all receipts when they are received. Thus the NIPAs attribute corporations' final settlement payments back to the quarter(s) in which the profits that gave rise to the tax liability occurred. The delay between accrual of liability and Treasury receipt of payment can result in significant timing differences between NIPA and budget measures of receipts for any given accounting period.

Timing differences also occur for expenditures. When the first day of a month falls on a weekend or holiday, monthly benefit checks normally mailed on the first day of the month may be mailed out a day or two earlier; the budget then reflects two payments in one month and none the next. On occasion, the budget totals reflect 13 monthly payments in one year and only 11 the next. NIPA expenditure figures always reflect 12 benefit payments per year, giving rise to a timing difference compared to the budget.

Coverage differences also differentiate the budget and the NIPAs. The NIPA Federal subsector is a current account and excludes capital transfers unrelated to current economic production, which are included in the budget. Federal investment grants to State and local governments, investment subsidies to business, lump sum payments to amortize the unfunded liability of the Uniformed Services Retiree Health Care Fund, and forgiveness of debt owed by foreign governments are included as outlays in the budget but are excluded from NIPA current expenditures as being capital transfers. Likewise, estate and gift taxes, included in budget receipts, are excluded from NIPA current receipts as being capital transfers. Also unlike the budget, the

NIPAs exclude transactions with U.S. territories. They also exclude the proceeds from the sales of nonproduced assets such as land. Bonuses paid on Outer Continental Shelf oil leases and proceeds from broadcast spectrum auctions are shown as offsetting receipts in the budget and are deducted from budget outlays. In the NIPAs these transactions are excluded as an exchange of assets with no current production involved.

A coverage difference arises on the expenditure side because of the NIPA treatment of Government investment. The budget includes outlays for Federal investments as they are paid, while the Federal sector of the NIPA instead excludes current investments but includes a depreciation charge on past investments ("consumption of general government fixed capital") as part of "current expenditures." The inclusion of depreciation on fixed capital (structures, equipment and software) in current expenditures is a proxy for the services that capital renders; i.e., for its contribution to Government output of public services.

The treatment of Government pension plan income and outgo creates a coverage difference. Whereas the budget treats employee payments to these pension plans as governmental receipts, and employer contributions by agencies as offsets to outlays because they are intragovernmental, the NIPAs treat both of these components of employee compensation as personal income, in the same way as it treats contributions to pension plans in the private (household) sector. Likewise, the budget records a Government check to a retired Government employee as an outlay, but under NIPA concepts, no Government expenditure occurs at that time; the payment is treated (like private pension payments) as a transfer of income within the household sector.

Financial transactions such as loan disbursements, loan repayments, loan asset sales, and loan guarantees are excluded from the NIPAs on the grounds that such transactions simply involve an exchange of assets rather than current production, income, or consumption. In contrast, under the Federal Credit Reform Act of 1990, the budget records the estimated subsidy cost of the direct loan or loan guarantee as an outlay when the loan is disbursed. The cash flows with the public are recorded in nonbudgetary accounts as a means of financing the budget rather than as budgetary transactions themselves. This treatment recognizes that part of a Federal direct loan is an exchange of assets with equal value but part is a subsidy to the borrower. It also recognizes the subsidy normally granted by loan guarantees. In the NIPAs, neither the subsidies nor the loan transactions are included. However, the NIPAs, like the budget, include all interest transactions with the public, including interest received by and paid to the loan financing accounts; and both the NIPAs and the budget include administrative costs of program operations.

Deposit insurance outlays for resolving failed banks and thrift institutions are similarly excluded from the NIPAs on the grounds that there are no offsetting cur-

rent income flows from these transactions. In 1991, this exclusion was the largest difference between the NIPAs and the budget and made NIPA net Government saving a significantly smaller negative number than the budget deficit that year. In subsequent years, as assets acquired from failed financial institutions were sold, these collections tended to make the budget deficit a smaller negative figure than NIPA net Federal Government saving.

Federal Sector Current Receipts

Table 14–1 shows Federal current receipts in the five major categories and four of the subcategories now used in the NIPAs, which are similar to the budget categories but with significant differences.

Current tax receipts is the largest major category of current receipts, and its personal current taxes subcategory—composed primarily of the individual income tax—is the largest single subcategory. The NIPAs' taxes on corporate income subcategory differs in classification from the corresponding budget category primarily because the NIPAs include the deposit of earnings of the Federal Reserve System as corporate profits taxes, while the budget treats these collections as miscellaneous receipts. (The timing difference between the NIPAs and the budget is especially large for corporate receipts.) The taxes on production and imports subcategory is composed of excise taxes and customs duties.

Contributions for Government social insurance is the second largest major category of current receipts. It differs from the corresponding budget category primarily because: (1) the NIPAs include Federal employer contributions for social insurance as a governmental receipt, while the budget offsets these contributions against outlays as undistributed offsetting receipts; (2) the NIPAs include premiums for Part B of Medicare as governmental receipts, while the budget nets them against outlays; (3) the NIPAs treat Government employee contributions to their pension plans as a transfer of personal income within the household sector (as if the pension system were private), while the budget includes them in governmental receipts; and (4) the NIPAs impute employer contributions for Federal employees' unemployment insurance and workers' compensation.

The income receipts on assets category consists mainly of interest payments received on Government direct loans (such as student loans) and rents and royalties on Outer Continental Shelf oil leases. The current transfer receipts category consists primarily of deposit insurance premiums, fees, fines and other receipts from both individuals and businesses—virtually all of which are netted against outlays in the budget. The current surplus (or deficit) of Government enterprises category was formerly netted against subsidies on the expenditure side of the accounts. This is the profit or loss of "Government enterprises," such as the Postal Service, which are business-type operations of Government that usually appear in the budget as public enterprise re-

volving funds. Depreciation (consumption of enterprise fixed capital) is netted in calculating the current surplus of Government enterprises.

Federal Sector Current Expenditures

Table 14–1 shows current expenditures in five major NIPA categories and five subcategories, which are also very different from the budget categories.

Government consumption expenditures are the goods and services purchased by the Federal Government in the current account, including compensation of employees and depreciation. Gross investment (shown among the addendum items in Table 14–1) is thus excluded from current expenditures in computing net Government saving on a NIPA basis, whereas depreciation—charges on federally owned fixed capital—"consumption of general government fixed capital" is included. The NIPAs treat State and local investment and capital consumption in the same way—regardless of the extent to which it is financed with Federal aid (capital transfer payments) or from State and local own-source receipts.

Although gross investment is not included in Government current expenditures, both Government gross investment and current consumption expenditures (including depreciation) are included in total GDP, which makes the treatment of the government sectors in the NIPAs similar to that of the private sector. Investment includes structures, equipment, and computer software.

Current transfer payments is the largest expenditure category. Transfer payments for Government social benefits consist mainly of income security and health programs, such as Social Security and Medicare paid to U.S. residents—and to retirees living outside the U.S. Payment of pension benefits to former Government employees is not included, as explained previously. Grants-in-aid to State and local governments help finance a range of programs, including income security, Medicaid, and education (but capital transfer payments for construction of highways, airports, waste-water treatment plants, and mass transit are excluded). "Current transfer payments to the rest of the world (net)" consists mainly of grants to foreign governments.

Interest payments is the interest paid by the Government on its debt (excluding debt held by trust funds, other than Federal employee pension plans; and other Government accounts). Where the budget nets interest received on loans against outlays, the NIPAs now treat it as current receipts.

Subsidies consist of subsidy payments for resident businesses (excluding subsidies for investment). NIPA subsidies do not include the imputed credit subsidies estimated as budget outlays under credit reform. Rather, loans and guarantees are categorized as financial transactions and are excluded from the NIPAs except for associated interest and fees.

Wage disbursements less accruals is an adjustment that is necessary to the extent that the wages paid in a period differ from the amount earned in the period.

Table 14–1. FEDERAL TRANSACTIONS IN THE NATIONAL INCOME AND PRODUCT ACCOUNTS, 1995–2006
(In billions of dollars)

Description	Actual										Estimate	
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
CURRENT RECEIPTS												
Current tax receipts	836.8	913.6	1,010.2	1,105.9	1,165.2	1,305.6	1,266.9	1,087.1	1,056.2	1,118.9	1,237.7	1,307.6
Personal current taxes	578.2	648.2	729.0	814.1	868.5	987.4	993.8	852.5	780.9	789.4	875.3	942.6
Taxes on production and imports	77.2	73.0	77.2	80.7	82.5	87.8	86.4	86.4	89.0	94.8	101.3	107.2
Taxes on corporate income	177.8	187.7	198.9	205.9	207.9	223.5	179.5	140.9	178.5	226.4	252.9	249.6
Taxes from the rest of the world	3.7	4.7	5.1	5.2	6.2	6.8	7.1	7.4	7.9	8.2	8.2	8.2
Contributions for government social insurance	515.3	535.3	565.4	604.4	642.2	687.8	713.8	728.3	750.9	781.3	833.0	883.4
Income receipts on assets	23.3	26.6	26.7	22.3	20.9	24.3	26.4	21.4	21.4	20.1	21.7	23.2
Current transfer receipts	20.2	19.1	23.8	21.0	21.8	24.9	26.5	25.4	25.3	32.1	35.5	37.8
Current surplus of government enterprises	0.3	-1.9	0.2	-*	0.3	-1.3	-6.5	-2.4	7.7	5.3	0.1	-3.9
Total current receipts	1,395.9	1,492.7	1,626.4	1,753.5	1,850.3	2,041.2	2,027.1	1,859.9	1,861.5	1,957.7	2,128.0	2,248.1
CURRENT EXPENDITURES												
Consumption expenditures	443.2	436.8	454.6	452.9	469.5	496.0	519.7	576.3	645.9	709.0	769.7	754.2
Defense	299.5	295.5	304.4	301.3	307.2	321.2	335.7	368.6	424.1	469.3	510.3	487.7
Nondefense	143.7	141.3	150.2	151.6	162.3	174.8	184.0	207.8	221.8	239.7	259.4	266.5
Current transfer payments	836.0	873.0	908.2	940.3	976.4	1,023.2	1,108.0	1,217.5	1,308.3	1,377.3	1,459.1	1,561.7
Government social benefits	635.3	670.2	700.0	716.4	733.0	762.7	823.6	901.6	955.3	1,005.8	1,065.9	1,162.6
Grants-in-aid to State and local governments ..	184.5	188.6	194.1	209.9	227.7	244.1	268.2	296.8	329.8	349.0	366.8	367.2
Other transfers to the rest of the world	16.2	14.1	14.2	14.0	15.7	16.4	16.3	19.0	23.2	22.5	26.4	31.9
Interest payments	285.1	295.8	299.4	299.7	285.9	283.3	267.9	234.8	215.3	219.7	241.5	276.9
Subsidies	34.8	33.3	31.3	33.6	36.1	49.6	53.7	37.5	45.6	41.1	52.9	56.6
Wage disbursements less accruals												
Total current expenditures	1,599.1	1,638.9	1,693.5	1,726.5	1,767.9	1,852.0	1,949.3	2,066.2	2,215.1	2,347.1	2,523.2	2,649.3
Net Federal Government saving	-203.2	-146.1	-67.1	27.0	82.4	189.2	77.8	-206.3	-353.6	-389.5	-395.1	-401.3
ADDENDUM: TOTAL RECEIPTS AND EXPENDITURES												
Current receipts	1,395.9	1,492.7	1,626.4	1,753.5	1,850.3	2,041.2	2,027.1	1,859.9	1,861.5	1,957.7	2,128.0	2,248.1
Capital transfer receipts	14.6	17.1	19.7	23.9	27.6	28.8	28.2	26.4	21.7	24.7	23.6	26.0
Total receipts	1,410.5	1,509.8	1,646.1	1,777.4	1,877.9	2,070.0	2,055.3	1,886.3	1,883.2	1,982.4	2,151.6	2,274.0
Current expenditures	1,599.1	1,638.9	1,693.5	1,726.5	1,767.8	1,852.0	1,949.3	2,066.2	2,215.1	2,347.1	2,523.2	2,649.3
Net investment:												
Gross government investment:												
Defense	52.2	52.6	44.5	45.4	46.5	48.5	49.9	54.5	58.6	67.4	72.7	71.9
Nondefense	27.3	28.5	28.5	29.7	31.9	32.2	30.3	32.7	33.0	31.7	35.2	36.6
Less: Consumption of fixed capital:												
Defense	61.9	61.4	60.6	59.8	59.7	60.2	60.3	60.5	61.3	62.9	64.4	65.2
Nondefense	19.7	20.6	21.8	22.9	24.5	26.5	27.7	28.2	28.7	28.7	29.6	30.5
Capital transfer payments	27.2	27.7	28.9	28.2	31.3	35.1	39.8	44.0	45.2	61.9	63.0	66.6
Net purchases of nonproduced assets	-7.4	-0.1	-11.0	-5.3	-1.7	-0.3	-0.9	0.2		0.1	-0.1	-0.1
Total expenditures	1,616.7	1,665.5	1,702.2	1,741.8	1,791.7	1,880.8	1,980.3	2,108.8	2,261.9	2,417.0	2,600.0	2,729.0
Net lending or net borrowing (-)	-206.2	-155.7	-56.0	35.7	86.1	189.2	74.9	-222.6	-378.7	-434.3	-448.2	-454.7

* \$50 million or less.

Differences in the Estimates

From the introduction of the unified budget in January 1968 until the early 1990s, NIPA receipts were less than budget receipts in most years. This was due principally to the fact that estate and gift taxes, which the NIPAs exclude as capital transfers, exceeded Medicare premiums, which the NIPAs include as a governmental receipt but the budget treats as an offsetting receipt. (In the budget, offsetting receipts are netted against the outlay total and not included in the govern-

mental receipts total.) NIPA current expenditures have usually been higher than budget outlays (from which the Medicare premiums and employer retirement contributions are netted out as offsetting receipts), despite the omission from NIPA expenditures of capital transfer grants and pension benefit payments to former Government employees.

Two components of budget outlays, however, are sometimes sufficiently large in combination to exceed the netting and grossing adjustments. These are finan-

cial transactions and net investment (the difference between gross investment and depreciation). Large outlays associated with resolving the failed savings and loan associations and banks in 1990 and 1991 caused those year's budget outlays to exceed NIPA current expenditures. With the change in budgetary treatment of direct loans in 1992 under credit reform, one type of financial transaction—direct loans to the public—has been recorded in the budget in a way that is closer to the NIPA treatment. Disbursement and repayment of loans made since that time are recorded outside the budget as in the Federal sector of the NIPAs, although, unlike the NIPAs, credit subsidies are recorded as budget outlays.

During the period 1975–1992, the budget deficit was a larger negative number than net Federal Government saving as measured in the NIPAs every year. The largest difference, \$78.8 billion, occurred in 1991 as a result of resolving failed financial institutions as discussed above; the budget deficit was then $-\$269.3$ billion, while the NIPA net Government saving was $-\$190.5$ billion.

In 1993–2002, the NIPA net Federal Government saving was a larger negative number than the budget deficit or lower positive number than the budget surplus each year. For 2003 and 2004, and in the estimate for 2005, though not that for 2006, the NIPA net Federal Government saving is a smaller negative number than the budget deficit.

Table 14–1 displays Federal transactions using NIPA concepts with actual data for 1995–2004 and estimates for 2005 and 2006 consistent with the Administration's budget proposals. Table 14–2 summarizes the reasons for differences between the data. Table 14–3 displays quarterly data beginning with the last quarter of 2003 based on NIPA concepts. Annual NIPA data for 1948–2006 are published in Section 14 of a separate budget volume, *Historical Tables, Budget of the U.S. Government, Fiscal Year 2006*.

Detailed estimates of NIPA current receipts and expenditures will be published in a forthcoming issue of the Department of Commerce publication, *Survey of Current Business* and on the Bureau of Economic Analysis website at <http://www.bea.doc.gov/bea/pubs.htm>.

Table 14–2. RELATIONSHIP OF THE BUDGET TO THE FEDERAL SECTOR, NIPA's

Description	Actual									Estimate		
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
RECEIPTS												
Budget receipts	1,351.8	1,453.1	1,579.3	1,721.8	1,827.5	2,025.2	1,991.2	1,853.2	1,782.3	1,880.1	2,052.8	2,177.6
Contributions to government employee retirement plans	-4.6	-4.5	-4.4	-4.3	-4.5	-4.8	-4.7	-4.6	-4.6	-4.6	-4.6	-4.6
Capital transfers received	-14.6	-17.1	-19.7	-23.9	-27.6	-28.8	-28.2	-26.4	-21.7	-24.7	-23.6	-26.0
Other coverage differences	-2.6	-3.6	-3.8	-5.7	-6.6	-7.8	-7.7	-8.8	-9.1	-10.5	-11.4	-12.3
Netting and grossing	63.3	62.8	69.5	64.5	65.7	70.8	70.0	76.2	91.0	97.4	106.4	118.7
Timing differences	2.4	2.0	5.5	1.2	-4.2	-13.3	6.6	-29.8	23.7	20.0	8.4	-5.4
NIPA current receipts	1,395.9	1,492.7	1,626.4	1,753.5	1,850.3	2,041.2	2,027.1	1,859.9	1,861.5	1,957.7	2,128.0	2,248.1
EXPENDITURES												
Budget outlays	1,515.8	1,560.5	1,601.2	1,652.6	1,701.9	1,789.1	1,863.0	2,011.0	2,159.9	2,292.2	2,479.4	2,567.6
Government employee retirement plan transactions	28.7	26.8	31.6	31.3	32.1	31.7	31.5	33.7	32.5	34.0	42.4	47.0
Deposit insurance and other financial transactions	2.1	0.9	9.3	7.6	5.7	6.0	7.9	1.5	-1.6	-8.6	-20.5	-5.1
Capital transfer payments	-27.2	-27.7	-28.9	-28.2	-31.3	-35.1	-39.8	-44.0	-45.2	-45.7	-47.3	-50.3
Net purchases of nonproduced assets	17.3	7.4	-1.4	-1.4	-0.4	-1.1	1.2	1.0	12.3	-0.1	0.1	-0.1
Net investment	7.4	0.1	11.0	5.3	1.7	0.2	0.9	-0.2	*	-7.5	-13.8	-12.8
Other coverage differences	-11.5	-1.8	6.7	-4.4	-2.9	-3.9	0.6	-8.8	-22.7	-16.9	-21.0	-22.1
Netting and grossing differences	63.3	62.8	69.5	64.5	65.7	70.8	70.0	76.2	91.0	97.4	106.4	118.7
Timing differences	3.1	9.8	-5.6	-0.8	-4.7	-5.6	14.1	-4.3	-11.0	2.2	-2.6	6.4
NIPA current expenditures	1,599.1	1,638.9	1,693.5	1,726.5	1,767.8	1,852.0	1,949.3	2,066.2	2,215.1	2,347.1	2,523.2	2,649.3
ADDENDUM												
Budget surplus or deficit (-)	-164.0	-107.5	-21.9	69.2	125.5	236.2	128.2	-157.8	-377.6	-412.1	-426.6	-390.1
NIPA net Federal government saving	-203.2	-146.1	-67.1	27.0	82.4	189.2	77.8	-206.3	-353.6	-389.5	-395.1	-401.3

* \$50 million or less.

Table 14-3. FEDERAL RECEIPTS AND EXPENDITURES IN THE NIPA's, QUARTERLY, 2004-2006

(In billions of dollars; seasonally adjusted at annual rates)

Description	Actual				Estimate							
	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.
	2003	2004	2004	2004	2004	2005	2005	2005	2005	2006	2006	2006
CURRENT RECEIPTS												
Current tax receipts	1,074.9	1,073.8	1,098.5	1,096.7		1,168.0	1,189.8	1,205.2	1,214.8	1,235.5	1,247.3	1,262.7
Personal current taxes	772.5	768.3	781.5	794.3		850.2	866.5	880.5	892.8	915.5	925.4	937.3
Taxes on production and imports	89.6	89.0	89.3	89.2		94.3	97.6	98.4	99.1	101.1	102.5	103.7
Taxes on corporate income	204.9	207.9	219.5	204.9		215.4	217.5	218.0	214.6	210.7	211.2	213.5
Taxes from the rest of the world	7.9	8.6	8.3	8.2		8.2	8.2	8.2	8.2	8.2	8.2	8.2
Contributions for government social insurance	769.5	787.9	797.6	806.2		837.1	847.5	857.9	867.8	893.4	904.1	914.7
Income receipts on assets	25.5	22.9	22.2	22.9		25.2	25.7	25.9	26.2	26.4	26.9	27.3
Current transfer receipts	25.6	26.1	26.2	26.6		28.6	29.2	29.7	30.1	30.8	31.6	32.4
Current surplus of government enterprises	5.0	4.6	4.5	4.3		-0.3	-1.9	-3.0	-4.2	-4.2	-4.9	-5.7
Total current receipts	1,900.6	1,915.3	1,949.1	1,956.7		2,058.7	2,090.3	2,115.8	2,134.5	2,182.0	2,204.9	2,231.4
CURRENT EXPENDITURES												
Consumption expenditures	671.3	691.1	700.3	713.0		741.9	752.4	761.4	748.5	741.8	729.9	719.9
Defense	450.2	465.2	473.6	487.1		506.1	510.9	513.9	502.7	496.0	484.0	474.0
Nondefense	221.1	225.9	226.7	225.9		235.8	241.5	247.5	245.8	245.8	245.9	245.9
Current transfer payments	1,350.6	1,365.9	1,367.9	1,368.8		1,451.0	1,455.5	1,465.5	1,473.5	1,567.3	1,568.3	1,583.4
Government social benefits	972.5	986.2	993.0	1,004.3		1,050.0	1,057.6	1,064.4	1,072.0	1,162.9	1,171.7	1,180.4
Grants-in-aid to State and local governments ..	357.2	346.0	351.9	342.1		364.7	372.0	373.6	370.1	362.8	365.1	369.6
Other transfers to the rest of the world	20.8	33.7	23.0	22.4		36.4	25.9	27.5	31.4	41.5	31.4	33.3
Interest payments	214.7	211.1	220.7	220.0		232.2	239.7	248.0	257.0	266.6	276.7	287.2
Subsidies	43.2	39.7	38.7	39.0		50.6	54.2	56.8	54.9	59.7	56.1	52.3
Wage disbursements less accruals		-1.5	1.5	*								
Total current expenditures	2,279.8	2,306.3	2,329.1	2,340.8		2,475.7	2,501.7	2,531.7	2,533.9	2,635.3	2,630.9	2,642.8
Net Federal Government saving	-379.2	-391.0	-380.0	-384.1		-417.1	-411.5	-415.9	-399.3	-453.4	-426.0	-411.4
ADDENDUM: TOTAL RECEIPTS AND EXPENDITURES												
Current receipts	1,900.6	1,915.3	1,949.1	1,956.7		2,058.7	2,090.3	2,115.8	2,134.5	2,182.0	2,204.9	2,231.4
Capital transfer receipts	22.9	24.2	23.0	26.1		20.9	21.0	21.3	21.9	22.7	23.8	25.1
Total receipts	1,923.5	1,939.5	1,972.0	1,982.7		2,079.6	2,111.3	2,137.1	2,156.4	2,204.7	2,228.7	2,256.5
Current expenditures	2,279.8	2,306.3	2,329.1	2,340.8		2,475.7	2,501.7	2,531.7	2,533.9	2,635.3	2,630.9	2,642.8
Net investment:												
Gross government investment:												
Defense	63.4	69.0	67.6	69.8		73.6	72.4	73.6	74.3	71.0	71.9	70.5
Nondefense	32.8	33.2	36.5	34.6		37.1	37.8	38.4	38.4	38.7	38.9	39.2
Less: Consumption of fixed capital:												
Defense	61.8	62.5	63.5	63.9		64.3	64.5	64.7	64.9	65.1	65.3	65.5
Nondefense	28.9	29.1	29.3	29.4		29.5	29.8	30.0	30.2	30.5	30.7	31.0
Capital transfer payments	61.5	60.0	57.5	66.9		63.0	65.0	64.9	65.1	66.3	67.2	66.9
Net purchases of nonproduced assets	-0.7		-0.8	1.8		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total expenditures	2,346.1	2,376.9	2,397.2	2,420.4		2,555.8	2,582.8	2,614.0	2,616.7	2,715.9	2,713.1	2,723.0
Net lending or net borrowing (-)	-422.6	-437.4	-425.2	-437.7		-476.2	-471.6	-477.0	-460.3	-511.2	-484.4	-466.5

Department of Commerce advance estimates for the Oct.-Dec. quarter, released January 28, 2005, were not available in time for inclusion in this table.

* \$50 million or less.

12. ECONOMIC ASSUMPTIONS

By the end of 2005 the U.S. economy had entered its fifth year of expansion, exhibiting a sustained solid pace of economic growth, with low rates of unemployment and underlying inflation, rising payroll jobs, high homeownership rates, strong business investment, and a record level of real household wealth. This robust performance of the economy stands in marked contrast to the economic slowdown and recession of 2000–2001 followed by the slow recovery in 2002–2003.¹ The sluggish performance during those years resulted from a number of unanticipated shocks, including sharp declines in stock market valuations beginning in 2000; falling manufacturing production and business investment; and corporate accounting scandals. The terrorist attacks of September 11, 2001 were a further shock aimed at the heart of the U.S. economy and government. The renewed solid economic performance since mid-2003 is a testament to the resilience of the U.S. economy and the adoption of successful pro-growth policies, including tax relief, Federal Reserve monetary policy actions, and ongoing efforts to promote liberalized international trade and investment in innovative technologies.

The performance of the economy over the past year provided further evidence for the robust nature of the expansion in the face of additional shocks. The economy continued its solid performance despite high energy prices and the substantial damage and disruptions from the worst hurricane season on record. Hurricanes Katrina, Rita, and Wilma resulted in significant loss of life, destruction of property and productive assets, disruption of local Gulf Coast populations and living conditions, and sharp increases in energy prices. Even so, during the very quarter of the year when the hurricanes hit, the economy still registered growth in real gross domestic product (GDP) in excess of 4 percent at an annual rate. And by the final quarter of the year, most economic indicators that had shown short-lived adverse effects had returned to their pre-storm-season paths.

As we move into 2006 and look forward to future years, the Administration and other public and private forecasters expect the expansion to continue for the foreseeable future, with sustained non-inflationary real growth, and the economy providing a solid foundation for the Federal budget outlook.

Recent Economic Performance

At the time of the preparation of the 2007 Budget, real GDP in the U.S. economy has been increasing for 16 consecutive quarters, with the latest 10 consecutive quarters showing average growth rates of 4.1 percent

and no quarter during the period growing slower than 3.3 percent. Over the 4 quarters of 2005, the economy was on track to register real GDP growth at about a 3.5 percent pace, following the 3.8 percent growth rate during 2004 and the 4.0 percent rate of 2003. By virtually all signs, the expansion has entered a self-reinforcing phase, with growth widespread across various components and sectors.

Increases in employment and ongoing strong gains in the efficiency of the U.S. workforce—that is, high growth in labor productivity—have combined to generate the sustained solid growth in real output.

- In labor markets, nonfarm payroll employment has increased by 4.6 million jobs since the post-recession low in May 2003, with 2 million of those job gains occurring during 2005—or about a 1.5 percent increase in payroll employment in the past year alone.
- Reflecting the improving labor situation, the unemployment rate declined to 4.9 percent in December 2005, down from a post-recession high of 6.3 percent in June 2003.
- Labor productivity gains—the increase in output per hour of labor—have been remarkably strong in recent years, providing a substantial boost to growth in real GDP. For example, output per hour in the nonfarm business sector was on track to rise by about 2.5 percent during 2005, following an increase of 2.6 percent during 2004 and an especially robust increase of 5.0 percent during 2003.
- The recent productivity gains reinforce the stronger trend productivity performance of the past decade. Since 1995, labor productivity in the nonfarm business sector has increased at about a 2.9 percent annual rate, compared to a 1.4 percent annual rate of gain in the period from 1973 to 1995.

Stronger growth in labor productivity is a fundamental building block for the longer-term performance of the economy and represents the essential basis for increasing standards of living for American workers and families.

At times in the past, after the economy had grown at a relatively strong pace with declining unemployment for an extended period—such as we have seen recently—there was an increase in inflationary pressures. That was the repeated experience in the 1960s and 1970s and early 1980s. Since 2003, however, strong gains in labor productivity have helped to keep the underlying rate of inflation low by historical standards despite the generally robust economic performance. Strong gains in productivity reduce production costs and keep down the pressures on output prices.

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

Although rising productivity growth when supported by responsible monetary policy can keep inflation under control in the long run, other factors can affect the short-run behavior of prices and inflation:

- Primary commodity prices generally have been on a strong upward trend over the past 4 years reflecting increased demand associated with the stronger U.S. and international economies, and some depreciation of the U.S. dollar over this period.
- Energy prices—notably crude oil and natural gas prices—have increased sharply over the past 4 years. For example, the benchmark price for West Texas Intermediate crude oil increased from just under \$20 a barrel in December 2001 to about \$65 a barrel in August 2005. Over the same period, the national average retail gasoline price rose from \$1.09 a gallon to more than \$2.60 a gallon.
- The destruction of oil and natural gas facilities and the shutdown of gasoline refineries along the coast of the Gulf of Mexico from Hurricanes Katrina and Rita contributed to further volatility and increases in energy prices during August and September 2005. Crude oil prices initially rose sharply, with West Texas Intermediate crude oil reaching nearly \$70 a barrel in early September, before falling back to hover around \$60 a barrel over the final 2 months of the year. Gasoline prices initially rose above \$3 a gallon and stayed near that level until beginning a gradual decline in mid-October, falling to about \$2.25 by the end of the year.
- The rise in energy and gasoline prices contributed to a slight increase in the “headline” rate of inflation during 2005: the consumer price index (CPI) rose 3.4 percent during 2005 (December to December), up from a 3.3 percent rate during 2004.
- Even so, abstracting from volatile food and energy items shows that “core” CPI inflation was 2.2 percent during 2005, a very low rate by historical standards. The price index for personal consumption expenditures excluding food and energy items from the National Income and Product Accounts (NIPAs)—which uses a method of calculation that eliminates one source of upward bias that exists in the CPI measures—was on track for an increase of less than 2 percent during 2005.

The key point to recognize is that, despite rising commodity and energy prices that have led to a temporary increase and heightened volatility in the overall rate of inflation, underlying inflation remains subdued and inflation expectations do not appear to be adversely affecting business or household decisions.

Indicators of real economic activity provide additional evidence for the strong, sustained growth performance of the U.S. economy in recent years and during 2005, and illustrate the broad-based nature of the expansion:

- Through the first 3 quarters of 2005, real consumer spending increased at a 3.6 percent annual

rate, following increases at a 3.8 percent rate during both 2003 and 2004. In the fourth quarter, consumption spending slowed down, mainly because of a sharp drop in motor vehicle sales in the fall. Real consumption gains resumed in the last 2 months of the quarter, however, coinciding with a rebound in consumer confidence following temporary declines in sentiment following Hurricanes Katrina and Rita, and consumption spending does not appear to have suffered a permanent shock.

- Manufacturing activity and private investment spending have been strong in recent years, rebounding from the 2000–2001 slowdown and recession. Manufacturing industrial production rose 2.8 percent during 2005, and has increased at more than a 4.5 percent annual rate over the past 2½ years. Real business equipment and software spending rose at a 10 percent annual rate through the first 3 quarters of 2005 and has increased at an 11 percent annual rate over the past 2¼ years.
- Housing market activity continues to show its best sustained performance in more than a quarter century. There were 2.1 million housing starts in 2005, following 1.95 million starts in 2004. Over the past 2 years, the national homeownership rate continued to run near record levels of about 69 percent. According to the National Association of Realtors, the median price of existing homes increased 13 percent over the most recent 12-month period. The housing boom is expected to moderate in 2006 and beyond, but without sharp declines in national housing prices or residential investment.
- Increasing housing wealth and higher stock market valuations have boosted real household wealth to record levels. At the end of the third quarter of 2005, household wealth reached \$51 trillion—or 5 times the level of annual personal income—up 7.6 percent over the prior last quarters after adjusting for inflation. The real value of household real estate assets increased by 11 percent, and the real value of household holdings of corporate equities, mutual funds, and pension funds rose by 6 percent during the last 4 quarters.

In general, economic performance during 2005 and the data and information from the past several years confirm that the U.S. economy is fundamentally strong, supporting the outlook for continued expansion with non-inflationary real growth.

Policy Background

The fiscal and monetary policies of the past 5 years have successfully contributed to the current good economic performance. The general fiscal policy outlook—as presented in the President’s Budget—continues to be consistent with the outlook for sustained expansion in the U.S. economy for the foreseeable future.

The resilience of the U.S. economy in 2005 despite the economic and social disruptions caused by the hurricanes echoed the economic recovery from the variety of shocks that hit the economy over the 2000–2003 period. Looking back, timely tax relief and reductions in interest rates promoted a rebound from the economic slowdown, helping our Nation overcome the adverse effects from these shocks, which included the bursting of the stock market bubble of the late 1990s; the terrorist attacks of September 11, 2001; problems with corporate malfeasance; and the uncertainty associated with an international war on terrorism and military conflicts in Afghanistan and Iraq. Those policies continue to provide a solid foundation for current and future economic performance.

Policy Actions

Fiscal Policy: Beginning in 2001, the Administration proposed, and Congress enacted, significant tax relief designed to overcome the shocks and recession—promoting recovery in the growth of output, income, and jobs—and to provide a strong basis for continued economic expansion in the long term.

- *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. In July 2001, near the low point of the 2001 recession, taxpayers began receiving rebate checks reflecting their lower liability with the new 10 percent bracket; lower withholding schedules also went into effect at that time.
- *The Job Creation and Worker Assistance Act of 2002* permitted immediate depreciation of 30 percent of the value of qualified new capital assets put in place during the three years ending September 11, 2004. Accelerated depreciation provided an incentive for firms to invest. For a limited time, more of a qualified investment could be written-off for tax purposes, thereby lowering the cost of capital and providing an incentive for firms to speed up their capital spending. The Act also extended unemployment insurance benefits to workers who had exhausted their normal benefits.
- *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 reduced tax rates on dividend income and capital gains, reducing distortions in the tax code from the double taxation of corporate earnings. To stimulate business capital spending further, the Act raised the percentage of an asset's value that could be expensed immediately from 30 to 50 percent and lengthened the window of opportunity for businesses to take advantage of this benefit from September 11, 2004 to the end of the year. The Act also raised the maximum amount that a small

business could expense from \$25,000 per year to \$100,000.

- *The Working Families Tax Relief Act of 2004* extended parts of the President's tax relief plan that were scheduled to expire at the end of 2004 and reinstated several expired or expiring business-related tax incentives. In doing so, the Act protected taxpayers from several scheduled tax increases. The Act also provided tax relief to certain military personnel with families, and simplified the tax code for many families by creating a uniform definition of a qualifying child for tax purposes.

Efforts continue to preserve the favorable tax environment the President and the Congress have created. Maintaining a relatively low tax environment in the United States is a central element of the Administration's economic and budget policies. The Administration's budget proposals, including sustained lower taxes and significant spending restraint, will reduce the Federal budget deficit in coming years as a share of GDP, so that publicly held debt is projected to remain relatively stable, and eventually to decline, relative to the size of the economy.

Monetary Policy and Interest Rates: As we enter 2006, Federal Reserve monetary policy continues to be oriented toward promoting sustained non-inflationary, real growth in the U.S. economy. Looking back, from early 2001 through mid-2003 monetary policy was focused on overcoming negative shocks and restoring stronger real growth. The Federal Reserve lowered the target Federal funds rate—a key interbank overnight interest rate—13 times, from 6½ percent to 1 percent. That low rate was maintained until June 2004 when the Federal Reserve began to increase the funds rate gradually, reflecting the accumulating evidence of improved economic performance and the outlook for sustained future growth. By December 2005, the Federal Reserve had raised the funds rate to 4¼ percent. In its statement accompanying the December increase, the Federal Reserve stated that “some further measured policy firming is likely to be needed to keep the risks to the attainment of both sustainable economic growth and price stability roughly in balance.” The Administration forecast for the 3-month Treasury bill rate, presented below, is consistent with market expectations reflecting the outlook for “further measured policy firming.”

Longer-term interest rates, notably the yield on 10-year Treasury notes, remained low by historical standards during 2005. The 10-year rate traded as low as 3.9 percent and as high as 4.6 percent during the year, but it ended the year at just under 4.4 percent, not much different from where it began the year. With the increases in the Federal funds rate during the year to 4¼ percent, the low 10-year Treasury yield at the end of the year produced a very flat structure of interest rates across short- to long-term maturities. The low levels of longer-term interest rates—including those for corporate securities and for residential mortgages—

have been key factors promoting the strong gains in business and residential investment.

Challenges

Even though the general outlook is for continued healthy expansion for the U.S. economy, a number of challenges remain, including:

- The strong performance of residential construction and the increases in housing prices and wealth of recent years have introduced concerns about the future performance of housing markets and the implications for general economic activity should the housing boom end precipitously. Most analysts anticipate that an orderly transition will occur to a more moderate pace of housing activity with stabilizing prices. Although risks remain, the general expectation is that household consumption spending and overall economic performance will not be significantly affected if the housing adjustment is moderate and gradual.
- The U.S. continues to run mounting international trade and current account deficits, and concerns persist about their sustainability. These international deficits are largely the result of the persistent strength of the U.S. economy relative to our foreign trading partners. Most forecasters expect that the pressures tending to raise international deficits will alleviate somewhat going forward reflecting changes in key determinants, including expected improvements in the growth rates of foreign economies. The general expectation is that the U.S. trade position will gradually improve in coming years, consistent with the outlook for ongoing sustained expansion in the U.S. economy.
- Strong consumption spending in recent years has resulted in a low measured rate of personal saving. The increases in household wealth from higher housing and stock market valuations, and the associated increases in consumption, can account for much of the lower saving rate. An orderly transition in residential housing markets, if coupled with ongoing solid corporate equity valuations and rising real incomes, will not dampen consumption spending.
- The Federal budget outlook presents potential challenges. During 2005, the worst hurricane season on record resulted in additional costs for the Federal Government for rebuilding and disaster relief efforts. Other special costs continue, including for the international War on Terror and ongoing efforts in Afghanistan and Iraq. The short-term increases in the budget deficit require further efforts for fiscal discipline. Over the next five years, the Administration's budget proposals call for reduction in the Federal budget deficit as a share of GDP, and the publicly held debt is projected to remain relatively stable, and then to decline, relative to the size of the economy. Those patterns for the deficit and the debt are consistent

with a sustainable fiscal policy that will coincide with continued expansion. Beyond the five-year budget horizon, the effects of demographic changes and rising health care costs on entitlement programs make the long-term outlook for the deficit and the debt more problematic, as discussed in Chapter 13 of this volume, "Stewardship."

Although these factors represent potential risks and challenges, the current outlook continues to be one of a gradual and orderly transition that will support the ongoing expansion in the U.S. economy.

Economic Projections

The Administration's economic projections, based on information available as of mid-November 2005, are summarized in Table 12–1. These assumptions are close to those of the Congressional Budget Office and the consensus of private-sector forecasters, as described in more detail below and shown in Table 12–2. In brief, the assumptions call for a continuation of the recent trends of strong, sustained growth; solid jobs growth; low inflation; and, even allowing for a projected rise in the next few years, relatively low interest rates.

Real GDP, Potential GDP, and Unemployment Rate: Real GDP, which is estimated to have increased 3.6 percent in 2005 on a year-over-year basis, is projected to increase 3.4 percent this year. During the next few years, both actual and potential growth are likely to continue to moderate further to about 3.1 percent. As a result, the unemployment rate, fluctuating narrowly around 5.0 percent for the last nine months of 2005, is projected to remain at that level. That rate is the center of the range that is thought to be consistent with stable inflation. The main sources of growth in demand in coming years are likely to be business capital spending, net exports, and to a lesser extent, consumer spending. The contributions to overall growth from residential investment and the government sector are expected to be small at best.

For the private business sector of the economy, potential growth is approximately equal to the sum of the trend rates of growth of the labor force and of productivity. Potential growth of total GDP (including government sectors) is projected to be about 3¼ percent over the next two years, trending down to 3.1 percent after 2008, primarily because of an assumed slowing in labor force growth. The labor force is projected to grow about 1.3 percent per year through 2007 on average, slowing to about 0.9 percent yearly on average during 2008–2011 as increasing numbers of baby boomers enter retirement.

Trend productivity growth in the nonfarm business sector² is assumed to be 2.6 percent per year. The 2.6 percent trend pace is noticeably below the average since the business cycle peak in the first quarter of 2001 (3.6 percent per year). It is, however, close to

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

Table 12-1. ECONOMIC ASSUMPTIONS ¹

(Calendar years; dollar amounts in billions)

	Actual 2004	Projections						
		2005	2006	2007	2008	2009	2010	2011
Gross Domestic Product (GDP):								
Levels, dollar amounts in billions:								
Current dollars	11,734	12,482	13,210	13,949	14,713	15,493	16,310	17,177
Real, chained (2000) dollars	10,756	11,139	11,514	11,896	12,284	12,669	13,062	13,467
Chained price index (2000=100), annual average	109.1	112.1	114.7	117.3	119.8	122.3	124.9	127.5
Percent change, fourth quarter over fourth quarter:								
Current dollars	6.8	6.4	5.6	5.6	5.4	5.3	5.3	5.3
Real, chained (2000) dollars	3.8	3.5	3.4	3.3	3.2	3.1	3.1	3.1
Chained price index (2000=100)	2.9	2.8	2.2	2.2	2.1	2.1	2.1	2.2
Percent change, year over year:								
Current dollars	7.0	6.4	5.8	5.6	5.5	5.3	5.3	5.3
Real, chained (2000) dollars	4.2	3.6	3.4	3.3	3.3	3.1	3.1	3.1
Chained price index (2000=100)	2.6	2.7	2.4	2.2	2.1	2.1	2.1	2.1
Incomes, billions of current dollars:								
Corporate profits before tax	1,059	1,425	1,506	1,497	1,516	1,495	1,497	1,500
Wages and salaries	5,389	5,745	6,095	6,459	6,843	7,229	7,613	8,028
Other taxable income ²	2,420	2,495	2,618	2,717	2,877	2,974	3,105	3,231
Consumer Price Index: ³								
Level (1982-84=100), annual average	188.9	195.3	201.1	205.9	210.9	215.9	221.1	226.6
Percent change, fourth quarter over fourth quarter	3.4	3.8	2.4	2.4	2.4	2.4	2.4	2.5
Percent change, year over year	2.7	3.4	3.0	2.4	2.4	2.4	2.4	2.5
Unemployment rate, civilian, percent:								
Fourth quarter level	5.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Annual average	5.5	5.1	5.0	5.0	5.0	5.0	5.0	5.0
Federal pay raises, January, percent:								
Military ⁴	4.15	3.5	3.1	2.2	NA	NA	NA	NA
Civilian ⁵	4.1	3.5	3.1	2.2	NA	NA	NA	NA
Interest rates, percent:								
91-day Treasury bills ⁶	1.4	3.2	4.2	4.2	4.3	4.3	4.3	4.3
10-year Treasury notes	4.3	4.3	5.0	5.3	5.5	5.6	5.6	5.6

NA = Not Available.

¹ Based on information available as of November 15, 2005.² 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; 2004 figure is average of various rank- and longevity-specific adjustments; percentages to be proposed for years after 2007 have not yet been determined.⁵ Overall average increase, including locality and special pay adjustments. Percentages to be proposed for years after 2007 have not yet been determined.⁶ Average rate, secondary market (bank discount basis).

the pace during 1996–2000 (2.5 percent) and not far from the average since the official productivity series began in 1947 (2.3 percent).

Inflation: Inflation increased in 2005, in large part because of surging energy prices. With the recent easing of these prices, inflation is likely to be lower in 2006. On a year-over-year basis, the CPI is projected to increase 3.0 percent this year with the increase moderating to 2.4 to 2.5 percent a year through 2011. This inflation rate is lower than the average during each decade of the 1970s, 1980s, and 1990s. The GDP price index is projected to increase 2.2 or 2.1 percent in each year through 2011, slightly less than the CPI, which is the usual pattern.

The forecast of low inflation reflects the current very low core inflation rate, modest inflationary expectations, the downward pressure on wages and prices due to both domestic and global competition, and the Federal Reserve's focus on measured policy firming so as to avoid an over-heated economy.

Interest Rates: Interest rates are projected to rise, as is the usual case during an expansion. The 3-month Treasury bill rate, which was 4.0 percent at the end of December, is expected to increase to 4.3 percent by 2008. The yield on the 10-year Treasury note, 4.3 percent at the end of last year, is projected to increase to 5.6 percent by 2009.

The forecast rates are historically low: the projected averages for 3-month and 10-year Treasuries during 2006–2016 are lower than the averages for these instruments during each decade of the 1970s, 1980s, and 1990s. The relatively low projected yields are due largely to the relatively low projected inflation rate. Adjusted for inflation, the projected real interest rates are close to their historical averages.

Income Shares: The share of labor compensation in GDP is projected to rise from its low level in 2005, while the share of corporate profits is projected to decline from the unusually high levels of 2005 and those anticipated for 2006. In recent years, growth of labor

compensation adjusted for inflation has lagged the growth of productivity. During the projection period, however, labor compensation is expected to catch up, which would raise the labor share in GDP back to about its historical average.

Among the components of labor compensation, the wage share in GDP is expected to rise from its recent low level while the share of supplements to wages and salaries is expected to remain at around the high level reached in 2005. The supplement share in GDP has risen because of rapidly growing health insurance contributions paid by employers and sharply higher employer “catch-up” contributions to defined-benefit pension plans.

Corporate profits before tax jumped sharply as a share of GDP in 2005 primarily because of the end of the accelerated depreciation permitted by the 2002 and 2003 tax acts. Accelerated depreciation lowered profits before tax compared with what they otherwise would have been in 2003 and 2004 by allowing firms to write off more of their investment sooner. After 2004, however, corporate profits before tax will be higher than normal both because new investment will not qualify for the temporary acceleration and because the

remaining depreciation permitted on investment that used this provision will be less.

Among the other income components, the share of personal interest income in GDP is projected to decline reflecting the low nominal interest rates of recent years. The remaining shares of the tax base (dividends, rental income, and proprietors’ income) are projected to remain relatively stable at around their 2005 levels.

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 Treasury, the Council of Economic Advisers, and the Office of Management and Budget. Private-sector forecasts are often used by businesses for long-term planning. Table 12–2 compares the 2007 Budget assumptions with projections by CBO and by the Blue Chip Consensus, an average of about 50 private-sector forecasts.

Table 12–2. COMPARISON OF ECONOMIC ASSUMPTIONS
(Calendar years)

	Projections						Average, 2006–11
	2006	2007	2008	2009	2010	2011	
GDP (billions of current dollars):							
2007 Budget	13,210	13,949	14,713	15,493	16,310	17,177	
CBO January	13,263	13,960	14,696	15,455	16,208	16,954	
Blue Chip Consensus January ²	13,237	13,939	14,703	15,505	16,372	17,280	
Real GDP (chain-weighted):¹							
2007 Budget	3.4	3.3	3.3	3.1	3.1	3.1	3.2
CBO January	3.6	3.4	3.4	3.3	3.0	2.8	3.3
Blue Chip Consensus January ²	3.4	3.1	3.2	3.1	3.3	3.2	3.2
Chain-weighted GDP Price Index:¹							
2007 Budget	2.4	2.2	2.1	2.1	2.1	2.1	2.2
CBO January	2.4	1.8	1.8	1.8	1.8	1.8	1.9
Blue Chip Consensus January ²	2.4	2.1	2.3	2.2	2.3	2.2	2.3
Consumer Price Index (all-urban):¹							
2007 Budget	3.0	2.4	2.4	2.4	2.4	2.5	2.5
CBO January	2.8	2.1	2.2	2.2	2.2	2.2	2.3
Blue Chip Consensus January ²	2.9	2.4	2.5	2.5	2.4	2.5	2.5
Unemployment rate:³							
2007 Budget	5.0	5.0	5.0	5.0	5.0	5.0	5.0
CBO January	5.0	5.0	5.1	5.2	5.2	5.2	5.1
Blue Chip Consensus January ²	4.9	4.9	4.9	4.9	5.0	4.9	4.9
Interest rates:³							
91-day Treasury bills:							
2007 Budget	4.2	4.2	4.3	4.3	4.3	4.3	4.3
CBO January	4.5	4.5	4.4	4.4	4.4	4.4	4.4
Blue Chip Consensus January ²	4.5	4.5	4.4	4.3	4.4	4.4	4.4
10-year Treasury notes:³							
2007 Budget	5.0	5.3	5.5	5.6	5.6	5.6	5.4
CBO January	5.1	5.2	5.2	5.2	5.2	5.2	5.2
Blue Chip Consensus January ²	4.9	5.0	5.3	5.3	5.4	5.4	5.2

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

¹ Year-over-year percent change.

² January 2006 Blue Chip Consensus forecast for 2006 and 2007; Blue Chip October 2005 long-run extension for 2008–2011.

³ Annual averages, percent.

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. Despite their differing policy assumptions, the three sets of economic projections, shown in Table 12-2, are very close. The similarity of the Budget economic projection to both the CBO baseline projection and the Consensus forecast underscores the conservative nature of the Administration forecast.

For real GDP, the Administration, CBO, and the Blue Chip Consensus anticipate solid growth this year. The Administration projects 3.4 percent growth on a year-over-year basis, the same as the private sector consensus and slightly below CBO's forecast. For calendar year 2007, the Administration, at 3.3 percent, is between the consensus (at 3.1 percent), and CBO's 3.4 percent. Thereafter, the Administration's projection is very close to the consensus growth rate but below CBO's through 2009. Over the six-year span as a whole, the Administration, CBO and the private sector consensus all project 3.2 or 3.3 percent average annual growth rates.

All three forecasts anticipate continued low inflation in the range of 1.8 to 2.4 percent as measured by the GDP price index; and, after 2006, between 2.2 and 2.5 percent as measured by the CPI, with CBO lower than the Administration and the private sector consensus, which are close to each other. The three unemployment rate projections are also similar with a projected rate near 5 percent throughout the forecast. All three project slightly rising interest rates during the next few years, with the Administration's long term rates slightly above the Blue Chip's and CBO's slightly below, and the short term rate forecasts nearly identical.

Changes in Economic Assumptions

The economic assumptions underlying this Budget are similar to those of the 2006 Budget, as shown in Table 12-3.

Real GDP growth is now expected to be 3.4 percent in 2006 on a year-over-year basis compared to 3.5 percent forecast in last year's Budget, and to moderate gradually to 3.1 percent in the outyears. Consequently, the levels of real GDP projected this year are little changed from those of the 2006 Budget when allowance is made for the Commerce Department's historical revisions to the National Income and Product Accounts released in July 2005. The level of nominal GDP is now projected to be higher than in the 2006 Budget because of a faster-than-expected rise in the GDP price index last year and slightly higher projected GDP inflation in the coming years.

The unemployment rate projection is virtually identical to last year's. Where the 2006 Budget had the rate level at 5.1 percent in future years, the rate is now projected to remain at the relatively low average

of 5.0 percent recorded for the last nine months of 2005. Interest rates are expected to trend upward, as before. The 3-month Treasury bill rate is now projected to rise to 4.3 percent by 2008, where before it reached that level only in 2011; and the yield on the 10-year Treasury note is expected to rise only to 5.6 percent, not 5.7 percent.

Structural and Cyclical Balances

When the economy is operating below potential, the unemployment rate exceeds the long-run sustainable average consistent with price stability. As a result, receipts are lower than they would be if resources were more fully employed, and outlays for unemployment-sensitive programs (such as unemployment compensation and food stamps) are higher; the deficit is larger (or the surplus is smaller) than would be the case 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 can be called the cyclical component. The portion that would remain if the unemployment rate was at its long-run value is then called the structural deficit (or structural surplus).

Historically, the structural balance has often provided a clearer understanding of the stance of fiscal policy than has the unadjusted budget balance which includes a cyclical component. In the typical post-World War II business cycle, the structural balance has provided a clearer gauge of the surplus or deficit that would persist in the long run with the economy operating at the sustainable level of unemployment.

Conventional estimates of the structural balance are based on the historical relationship between changes in the unemployment rate and real GDP growth on the one hand, and receipts and outlays on the other. For various reasons, these estimated relationships do not take into account all of the cyclical changes in the economy. One example of a cyclical phenomenon not captured in these estimates was the sharply rising stock market during the second half of the 1990s. It 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. It is not possible, however, to estimate the cyclical component of the stock market accurately, and for that reason, all of the stock market's contribution to receipts is counted in the structural balance.

Other factors unique to the current economic cycle provide other examples of less-than-complete cyclical adjustment. The extraordinary fall-off in labor force participation, from 67.1 percent of the U.S. population in 1997-2000 to 66.0 percent in 2004-2005, appears to be at least partly cyclical in nature, and most forecasters are assuming some rebound in labor force participation as the expansion continues. 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

Table 12-3. COMPARISON OF ECONOMIC ASSUMPTIONS IN THE 2006 AND 2007 BUDGETS

(Calendar years; dollar amounts in billions)

	2005	2006	2007	2008	2009	2010	2011
Nominal GDP:							
2006 Budget assumptions ¹	12,401	13,093	13,808	14,548	15,318	16,124	16,976
2007 Budget assumptions	12,482	13,210	13,949	14,713	15,493	16,310	17,177
Real GDP (2000 dollars):							
2006 Budget assumptions ¹	11,149	11,540	11,922	12,303	12,688	13,081	13,487
2007 Budget assumptions	11,139	11,514	11,896	12,284	12,669	13,062	13,467
Real GDP (percent change):²							
2006 Budget assumptions	3.6	3.5	3.3	3.2	3.1	3.1	3.1
2007 Budget assumptions	3.6	3.4	3.3	3.3	3.1	3.1	3.1
GDP price index (percent change):²							
2006 Budget assumptions	2.0	2.0	2.1	2.1	2.1	2.1	2.1
2007 Budget assumptions	2.7	2.4	2.2	2.1	2.1	2.1	2.1
Consumer Price Index (percent change):²							
2006 Budget assumptions	2.0	2.3	2.4	2.4	2.4	2.4	2.5
2007 Budget assumptions	3.4	3.0	2.4	2.4	2.4	2.4	2.5
Civilian unemployment rate (percent):³							
2006 Budget assumptions	5.3	5.2	5.1	5.1	5.1	5.1	5.1
2007 Budget assumptions	5.1	5.0	5.0	5.0	5.0	5.0	5.0
91-day Treasury bill rate (percent):³							
2006 Budget assumptions	2.7	3.5	3.8	4.0	4.1	4.2	4.3
2007 Budget assumptions	3.2	4.2	4.2	4.3	4.3	4.3	4.3
10-year Treasury note rate (percent):³							
2006 Budget assumptions	4.6	5.2	5.4	5.5	5.6	5.6	5.7
2007 Budget assumptions	4.3	5.0	5.3	5.5	5.6	5.6	5.6

¹ Adjusted for July 2005 NIPA revisions.² Year-over-year.³ Calendar year average.

under-utilized in the current expansion to date because of the decline in labor force participation.

A third example is the fall-off in the wage and salary share of GDP, from 49.2 percent in 2000 to 45.6 percent in the second quarter of 2004. Again, this change is widely suspected to be partly cyclical. Since Federal taxes depend heavily on wage and salary income, the larger-than-predicted decline in the wage share of GDP suggests that the true cyclical component of the deficit is 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 cyclical deficit are probably understated. The current unemployment gap is believed to be zero, and the Administration forecasts that it will remain so, but in the broader sense discussed above, the cyclical gap in receipts is likely to still be large and only slowly shrinking.

During fiscal years 2000 and 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 those years 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.

Table 12-4. ADJUSTED STRUCTURAL BALANCE

(In billions of dollars)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Unadjusted surplus or deficit (-)	236.2	128.2	-157.8	-377.6	-412.7	-318.3	-423.2	-354.2	-223.3	-207.6	-182.7	-204.9
Cyclical component	134.6	80.8	-47.0	-91.4	-51.6	-19.3	-5.0	-0.8	.....	.....	.....	.....
Structural surplus or deficit (-)	101.6	47.5	-110.8	-286.2	-361.2	-299.0	-418.2	-353.4	-223.3	-207.6	-182.7	-204.9
Deposit insurance outlays	3.1	1.6	1.0	1.4	2.0	1.4	1.3	1.8	1.8	1.7	2.8	3.7
Adjusted structural surplus or deficit (-)	104.7	49.0	-109.8	-284.8	-359.2	-297.6	-416.9	-351.6	-221.5	-205.8	-179.9	-201.2

NOTE: The NAIRU is assumed to be 5.0 percent

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 2006 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 2006 deficit is estimated to increase by \$15.8 billion; receipts in 2006 would be lower by \$12.6 billion, and outlays would be higher by \$3.2 billion, primarily for unemployment-sensitive programs. In fiscal year 2007, the estimated receipts shortfall would grow further to \$26.6 billion, and outlays would increase by \$8.9 billion relative to the base, even though the growth rate in calendar year 2007 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 2006–2011, the cumulative increase in the budget deficit is estimated to be \$236 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 2006–2011, the cumulative increase in the budget deficit is estimated to be \$662 billion.
- 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 2006 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 2006 and 2007, outlays would be above the base by \$11.2 billion and \$19.3 billion, respectively, due in part to lagged cost-of-living adjustments. Receipts would rise by only \$16.6 billion in 2006, due to the temporary effect of higher interest rates on financial corporations' profits and taxes, but then would rise by \$44.4 billion above the base in 2007 due to the sustained effects of inflation on the tax base, resulting in a \$25.1 billion improvement in the 2007 budget balance. In subsequent years, the amounts added to receipts would continue to be larger than the additions to outlays. During 2006–2011, cumulative budget deficits would be \$123 billion smaller than in the base case.
- In the fourth block example, 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 \$362 billion to outlays over 2006–2011 and \$783 billion to receipts, for a net decrease in the 2006–2011 deficits of \$421 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 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 decrease cumulative deficits by a substantial \$429 billion during 2006–2011. This large effect is because the 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. 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.

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	2006	2007	2008	2009	2010	2011	Total of Effects, 2006-2011
Real Growth and Employment							
Budgetary effects of 1 percent lower real GDP growth:							
(1) For calendar year 2006 only: ¹							
Receipts	-12.6	-26.6	-30.2	-32.1	-34.2	-36.3	-172.1
Outlays	3.2	8.9	9.8	11.9	14.0	16.2	64.0
Increase in deficit (-)	-15.8	-35.5	-39.9	-44.0	-48.3	-52.5	-236.0
(2) Sustained during 2006-2011, with no change in unemployment:							
Receipts	-12.8	-41.8	-77.7	-117.3	-161.5	-209.8	-620.8
Outlays	0.2	1.0	3.3	7.3	12.0	17.8	41.5
Increase in deficit (-)	-12.9	-42.8	-80.9	-124.5	-173.5	-227.6	-662.3
Inflation and Interest Rates							
Budgetary effects of 1 percentage point higher rate of:							
(3) Inflation and interest rates during calendar year 2006 only:							
Receipts	16.6	44.4	40.2	32.8	35.0	37.1	206.1
Outlays	11.2	19.3	14.6	13.3	12.9	12.3	83.5
Decrease in deficit (+)	5.4	25.1	25.7	19.6	22.1	24.8	122.6
(4) Inflation and interest rates, sustained during 2006-2011:							
Receipts	16.6	65.2	111.6	151.6	194.6	243.3	783.0
Outlays	11.7	35.2	54.0	70.4	86.9	103.8	361.9
Decrease in deficit (+)	4.9	30.0	57.7	81.3	107.7	139.5	421.0
(5) Interest rates only, sustained during 2006-2011:							
Receipts	3.9	24.1	36.5	38.9	39.2	40.6	183.3
Outlays	8.6	24.4	34.2	40.3	45.4	49.7	202.8
Increase in deficit (-)	-4.7	-0.3	2.2	-1.4	-6.2	-9.2	-19.5
(6) Inflation only, sustained during 2006-2011:							
Receipts	12.6	41.0	74.9	112.4	154.9	202.2	598.2
Outlays	3.1	11.1	20.5	31.6	44.2	58.3	168.8
Decrease in deficit (+)	9.5	29.9	54.4	80.8	110.8	143.9	429.4
Interest Cost of Higher Federal Borrowing							
(7) Outlay effect of \$100 billion increase in borrowing in 2006	2.2	4.6	4.9	5.2	5.5	5.8	28.2

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

13. STEWARDSHIP

Introduction

The budget is an essential tool for allocating resources within the Federal Government and between the public and private sectors, but current outlays, receipts, and the deficit give at best a partial picture of the Government's financial condition. Indeed, changes in the annual budget deficit or surplus can be misleading. For example, the temporary shift from annual deficits to surpluses in the late 1990s did nothing to correct the long-term fiscal deficiencies in the major entitlement programs, which are the major source of the long-run shortfall in Federal finances. This would have been more apparent at the time if greater attention had been focused on long-term measures such as those presented in this chapter. As important as the current budget surplus or deficit is, other indicators are also needed to judge the Government's fiscal condition.

For the Federal Government, unfortunately, there is no single number that corresponds to a business's bottom line. The Government is judged by how its actions affect the country's security and well-being, and that cannot easily be summed up with a single statistic. Also, even though its financial condition is important, the Government is not expected to earn a profit. Its financial status is best evaluated using a broad range of data and several complementary perspectives. This chapter presents a framework for such analysis. Because there are serious limitations on the available data and the future is uncertain, this chapter's findings should be interpreted with caution; its conclusions are subject to future revision.

PART I—A FRAMEWORK TO EVALUATE FEDERAL FINANCES

No single framework can encompass all of the factors that affect the financial condition of the Federal Government, but the framework presented here is reasonably comprehensive and it offers a useful way to examine the financial implications of Federal policies. This framework includes balance-sheet information, but it also includes long-run projections of the entire budget showing where future fiscal strains are most likely to appear. It includes measures of national wealth, which support future income and tax receipts, and an array of economic and social indicators showing potential pressure points that may require future policy responses.

The Government's legally binding obligations—its liabilities—consist in the first place of Treasury debt. Other liabilities include the pensions and medical benefits owed to retired Federal employees and veterans.

The chapter consists of four parts:

- Part I explains how the separate pieces of analysis link together. Chart 13–1 is a schematic diagram showing the linkages.
- Part II presents estimates of the Government's assets and liabilities, which are shown in Table 13–1. This table is similar to a business balance sheet, but for that reason it cannot reveal some of the Government's unique financial features and needs to be supplemented by the information in Parts III and IV.
- Part III shows possible long-run paths for the Federal budget. These projections vary depending on alternative economic and demographic assumptions. The projections are summarized in Table 13–2 and in a related set of charts. Table 13–3 shows present value estimates of the funding shortfall in Social Security and Medicare. Together these data indicate the scope of the Government's future responsibilities and the resources it will have available to discharge them under current law and policy. In particular, they show the looming long-run fiscal challenge posed by the Federal entitlement programs.
- Part IV returns the focus to the present. It presents information on national economic and social conditions. The private economy is the ultimate source of the Government's resources. Table 13–4 gives a summary of total national wealth, while highlighting the Federal investments that have contributed to that wealth. Table 13–5 shows trends in wealth and Table 13–6 presents a small sample of statistical indicators.

These employee obligations are a form of deferred compensation; they have counterparts in the business world, and would appear as liabilities on a business balance sheet. Accrued obligations for Government insurance policies and the estimated present value of failed loan guarantees and deposit insurance claims are also analogous to private liabilities. These Government liabilities are discussed further in Part II along with the Government's assets. The liabilities and assets are collected in Table 13–1. The liabilities shown in Table 13–1 are only a subset of the Government's overall financial responsibilities. Indeed, the full extent of the Government's fiscal exposure through programmatic commitments dwarfs the outstanding total of all acknowledged Federal liabilities. The commitments to Social Security and Medicare alone amount to many times the value of Federal debt held by the public.

In addition to Social Security and Medicare, the Government has a broad range of programs that dispense cash and other benefits to individual recipients. A few examples of such programs are Medicaid, food stamps, veterans' pensions and health care. The Government also provides a wide range of public services that must be financed through the tax system. It is true that specific programs may be modified or even ended at any time by the Congress and the President, and changes in the laws governing these programs are a regular part of the legislative cycle. For this reason, these programmatic commitments do not constitute "liabilities" in a legal or accounting sense, and they would not appear on a balance sheet. They are Federal responsibilities, however, and will have a claim on budgetary resources for the foreseeable future. All of the Government's existing programs are reflected in the long-run budget projections in Part III. It would be misleading to leave out any of these programmatic commitments in projecting future claims on the Government or in calculating the Government's long-run fiscal balance.

The Federal Government has many assets. These include financial assets, such as loans and mortgages which have been acquired through various credit programs. They also include the plant and equipment used to produce Government services. The Government also owns a substantial amount of land. Such assets would normally be shown on a balance sheet. The Government also has resources in addition to those that might be expected to appear on a balance sheet. These additional resources include most importantly the Government's sovereign power to tax.

Because of its unique responsibilities and resources, the most revealing way to analyze the future strains on the Government's fiscal position is to make a long-run projection of the entire Federal budget. Part III of this chapter presents a set of such projections under different assumptions about policy and future economic and demographic conditions. Over long periods of time, the spending of the Government must be financed by the taxes and other receipts it collects. Although the Government can borrow for temporary periods, it must pay interest on any such borrowing, which adds to future spending. In the long run, a solvent Government must pay for its spending out of its receipts. The projections in Part III show that under an extension of the estimates in this Budget, long-run balance in this sense is not achieved, mostly because projected spending for Social Security, Medicare, and Medicaid grow faster than the revenue available to pay for them.

The long-run budget projections and the table of assets and liabilities are silent on the question of whether the public is receiving value for its tax dollars or whether Federal assets are being used effectively. Information on those points requires performance measures for Government programs supplemented by appropriate information about conditions in the economy and society. Recent changes in budgeting practices have contributed to the goal of providing more information about Govern-

ment programs and will permit a closer alignment of the cost of programs with performance measures. These changes have been described in detail in previous Budgets. They are reviewed in chapter 2 of this volume, and in the accompanying material that describes results obtained with the Program Assessment Rating Tool (PART). This Stewardship chapter complements the detailed exploration of Government performance with an assessment of the overall impact of Federal policy as reflected in general measures of economic and social well-being, shown in Table 13-6.

Relationship with FASAB Objectives

The framework presented here meets the stewardship objective for Federal financial reporting recommended by the Federal Accounting Standards Advisory Board (FASAB) and adopted for use by the Federal Government in September 1993.¹

Federal financial reporting should assist report users in assessing the impact on the country of the government's operations and investments for the period and how, as a result, the government's and the Nation's financial conditions have changed and may change in the future. Federal financial reporting should provide information that helps the reader to determine:

3a. Whether the government's financial position improved or deteriorated over the period.

3b. Whether future budgetary resources will likely be sufficient to sustain public services and to meet obligations as they come due.

3c. Whether government operations have contributed to the nation's current and future well-being.

The presentation here is an experimental approach for meeting this objective at the Government-wide level. It is intended to meet the broad interests of economists and others in evaluating trends over time, including both past and future trends. The annual Financial Report of the United States Government presents related information, but from a different perspective. The Financial Report includes a balance sheet. The assets and liabilities on that balance sheet are all based on transactions and other events that have already occurred. A similar table can be found in Part II of this chapter but based on different data and methods of valuation. The Financial Report also includes a statement of social insurance that reviews a substantial body of information on the condition and sustainability of the Government's social insurance programs. The Report, however, does not extend that review to the condition or sustainability of the Government as a whole, which is a main focus of this chapter, and it does not try to relate the Government's assets and liabilities to private wealth or broader economic and social conditions.

Connecting the Dots: The presentation that follows is constructed around a series of tables and charts. The schematic diagram, Chart 13-1, shows how the different pieces fit together. The tables and charts should be viewed as an ensemble, the main elements

¹ Statement of Federal Financial Accounting Concepts, Number 1, Objectives of Federal Financial Reporting, September 2, 1993. Other objectives are budgetary integrity, operating performance, and systems and controls.

of which are grouped in two broad categories—assets/resources and liabilities/responsibilities.

- The left-hand side of Chart 13-1 shows the full range of Federal resources, including assets the Government owns, tax receipts it can expect to collect given current and proposed law, and national wealth, including the trained skills of the national work force, that provide the base for Government revenues.

- The right-hand side reveals the full range of Federal obligations and responsibilities, beginning with the Government's acknowledged liabilities from past actions, such as the debt held by the public, and including future budget outlays needed to maintain present policies and trends. This column ends with a set of indicators highlighting areas where Government activity affects society or the economy.

Chart 13-1. The Financial Condition of the Federal Government and the Nation

Assets/Resources		Liabilities/Responsibilities
<p>Federal Assets</p> <ul style="list-style-type: none"> Financial Assets <ul style="list-style-type: none"> Monetary Assets Mortgages and Other Loans Other Financial Assets <ul style="list-style-type: none"> Less Expected Loan Losses Physical Assets <ul style="list-style-type: none"> Fixed Reproducible Capital <ul style="list-style-type: none"> Defense Nondefense Inventories Non-reproducible Capital <ul style="list-style-type: none"> Land Mineral Rights 	<p>Federal Governmental Assets and Liabilities (Table 13-1)</p>	<p>Federal Liabilities</p> <ul style="list-style-type: none"> Financial Liabilities <ul style="list-style-type: none"> Debt Held by the Public Guarantees and Insurance <ul style="list-style-type: none"> Deposit Insurance Pension Benefit Guarantees Loan Guarantees Other Insurance Federal Retiree Pension and Health Insurance Liabilities Miscellaneous Net Balance
<p>Resources/Receipts</p> <ul style="list-style-type: none"> Projected Receipts 	<p>Long-Run Federal Budget Projections (Table 13-2)</p>	<p>Responsibilities/Outlays</p> <ul style="list-style-type: none"> Projected Outlays Surplus/Deficit Actuarial Deficiencies in Social Security and Medicare
<p>Actuarial Deficiencies in Social Security and Medicare (Table 13-3)</p>		
<p>National Assets/Resources</p> <ul style="list-style-type: none"> Federally Owned Physical Assets State & Local Govt, Physical Assets Federal Contribution Privately Owned Physical Assets Education Capital <ul style="list-style-type: none"> Federal Contribution R&D Capital <ul style="list-style-type: none"> Federal Contribution 	<p>National Wealth (Tables 13-4 and 13-5)</p>	<p>National Needs/Conditions</p> <ul style="list-style-type: none"> Indicators of economic, social, educational, and environmental conditions
	<p>Social Indicators (Table 13-6)</p>	

QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S STEWARDSHIP

1. According to Table 13–1, the Government's liabilities exceed its assets. No business could operate in such a fashion. Why does the Government not manage its finances more like a business?

The Federal Government has different objectives from a business firm. The goal of every business is to earn a profit, and as a general rule the Federal Government properly leaves activities at which a profit could be earned to the private sector. For the vast bulk of the Federal Government's operations, it would be difficult or impossible to charge prices that would even cover all its expenses. The Government undertakes these activities not to improve its balance sheet, but to benefit the Nation.

For example, the Government invests in education and research, but it earns no direct return from these investments. People are enriched by these investments, but the returns do not show up as an increase in Government assets rather as an increase in the general state of knowledge and in the capacity of the country's citizens to earn a living and lead a fuller life. Business investment motives are quite different; business invests to earn a profit for itself, not others, and if its investments are successful, their value will be reflected in its balance sheet. Because the Federal Government's objectives are different, its balance sheet behaves differently, and should be interpreted differently.

2. Table 13–1 seems to imply that the Government is insolvent. Is it?

No. Just as the Federal Government's responsibilities are different from those of private business, so are its resources. Government solvency must be evaluated in different terms.

What Table 13–1 shows is that those Federal obligations that are most comparable to the liabilities of a business corporation exceed the estimated value of the assets actually owned by the Federal Government. The Government, however, has access to other resources through its sovereign powers. These powers, which include taxation, will allow the Government to meet its present obligations and those that are anticipated from future operations even though the Government's current assets are less than its current liabilities.

Private financial markets clearly recognize this reality. The Federal Government's implicit credit rating is among the best in the world; lenders are willing to lend it money at interest rates substantially below those charged to private borrowers. This would not be true if the Government were really insolvent or likely to become so. Where governments totter on the brink of insolvency, lenders are either unwilling to lend them money, or do so only in return for a substantial interest premium.

QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S STEWARDSHIP

3. *Why are Social Security and Medicare not shown as Government liabilities in Table 13-1?*

Future Social Security and Medicare benefits may be considered as promises or responsibilities of the Federal Government, but these benefits are not a liability in a legal or accounting sense. The Government has unilaterally decreased as well as increased these benefits in the past, and future reforms could alter them again. These benefits are reflected in this presentation of the Government's finances, but they are shown elsewhere than in Table 13-1. They appear in two ways: as part of the overall budget projections in Table 13-2, and in the actuarial deficiency estimates in Table 13-3.

Other Federal programs make similar promises to those of Social Security and Medicare—Medicaid, for example. Few have suggested counting future benefits expected under these programs as Federal liabilities, yet it would be difficult to justify a different accounting treatment for them if Social Security or Medicare were to be classified as a liability. There is no bright line dividing Social Security and Medicare from other programs that promise benefits to people, and all the Government programs that do so should be accounted for similarly.

Also, if Social Security and Medicare benefits were treated as liabilities, then payroll tax receipts earmarked to finance those benefits ought to be treated as assets. This treatment would be essential to gauge the size of the future claim. Tax receipts, however, are not generally considered to be Government assets, and for good reason: the Government does not own the wealth on which future taxes depend. Including taxes on the balance sheet would be wrong for this reason, but without counting taxes the balance sheet would overstate the drain on net assets from Social Security and Medicare benefits. Furthermore, treating taxes for Social Security or Medicare differently from other taxes would be highly questionable.

Finally, under Generally Accepted Accounting Principles (GAAP), Social Security is not considered to be a liability, so not counting it as such in this chapter is consistent with accounting standards.

4. *Why doesn't the Federal Government follow normal business practice in its bookkeeping?*

The Government is not a business, and accounting standards designed to illuminate how much a business earns and how much equity it has could provide misleading information if applied naively to the Government. The Government does not have a "bottom line" comparable to that of a business corporation, but the Federal Accounting Standards Advisory Board (FASAB) has developed, and the Government has adopted, a conceptual accounting framework that reflects the Government's distinct functions and answers many of the questions for which Government should be accountable. This framework addresses budgetary integrity, operating performance, stewardship, and systems and controls. FASAB has also developed, and the Government has adopted, a full set of accounting standards. Federal agencies now issue audited financial reports that follow these standards and an audited Government-wide financial report is issued as well. In short, the Federal Government does follow generally accepted accounting principles (GAAP) just as businesses and State and local governments do, although the relevant principles differ depending on the circumstances. This chapter is intended to address the "stewardship objective"—assessing the interrelated condition of the Federal Government and the Nation. The data in this chapter illuminate the trade-offs and connections between making the Federal Government "better off" and making the Nation "better off."

QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S STEWARDSHIP

5. *When the baby boom generation retires, the deficit could become much larger than it ever was before. How is this reflected in the current evaluation of the Government's financial condition?*

The aging of the population will become dramatically evident when the baby boomers begin to retire, and this demographic transition poses serious long-term problems for Federal entitlement programs and the budget. Both the long-range budget projections shown in this chapter and the actuarial projections prepared for Social Security and Medicare indicate how serious the problem is. It is clear from this information that reforms are needed in these programs to meet the long-term challenges.

6. *Does it make sense for the Government to finance needed capital by borrowing, which would permit a deficit in the budget, so long as the borrowing did not exceed the amount spent on investments?*

This rule might not permit much extra borrowing. Even if the Government financed new capital by borrowing, it would need to pay off the debt incurred in this way as the capital was used up. Only the net investment the Government does after subtracting capital consumption would be financed with a net increase in borrowing. As discussed in Chapter 6, recently Federal net investment in physical capital has not been very large and occasionally it has even been negative, so little if any deficit spending would have been justified by this borrowing-for-investment criterion, at least in recent years.

The Federal Government also funds substantial amounts of physical capital that it does not own, such as highways and research facilities, and it funds investment in intangible "capital" such as education and training and the conduct of research and development. A private business would never borrow to spend on assets that would be owned by someone else. However, such spending is today a principal function of the Federal Government. It is not clear whether this type of capital investment would fall under the borrowing-for-investment criterion, even though they are an important part of national wealth.

There is another difficulty with the logic of borrowing to invest. Businesses expect investments to earn a return large enough to cover their cost. In contrast, the Federal Government does not generally expect to receive a direct payoff from its investments, whether or not it owns them. In this sense, investments are no different from other Government expenditures, and the fact that they provide services over a longer period of time is no justification for excluding them when calculating the surplus or deficit.

Finally, the Federal Government pursues policies that support the overall economic well-being of the Nation and its security interests. For such reasons, the Government may deem it desirable to run a budget surplus, even if this means paying for its own investments from current receipts, and there will be other times when it is necessary to run a deficit, even one that exceeds Government net investment. Considerations in addition to the size of Federal investment must be weighed in choosing the right level of the surplus or deficit.

PART II—THE FEDERAL GOVERNMENT'S ASSETS AND LIABILITIES

Table 13-1 takes a backward look at the Government's assets and liabilities summarizing what the Government owes as a result of its past operations netted against the value of what it owns. The table gives some perspective by showing these net asset figures for a number of years beginning in 1960. To ensure comparability across time, the assets and liabilities are measured in terms of constant FY 2005 dollars and the balance is also shown as a ratio to GDP. Govern-

ment liabilities have exceeded the value of assets (see chart 13-2) over this entire period, but, in the late 1970s, a speculative run-up in the prices of oil and other real assets temporarily boosted the value of Federal holdings. When those prices subsequently declined, real Federal asset values declined and only recently have they regained the level they had reached in the mid-1980s.

Chart 13-2. Net Federal Liabilities



Currently, the total real value of Federal assets is estimated to be 77 percent greater than it was in 1960. Meanwhile, Federal liabilities have increased by 244 percent in real terms. The decline in the Federal net asset position has been partly due to persistent Federal budget deficits that have boosted debt held by the public most years since 1960. Other factors have also been important such as large increases in health benefits promised for Federal retirees and the sharp rise in veterans' disability compensation. The relatively slow growth in Federal asset values also helped reduce the net asset position.

The shift from budget deficits to budget surpluses in the late 1990s temporarily checked the decline in Federal net assets. Currently, the net excess of liabilities over assets is about \$5.7 trillion or about \$19,000 per capita. As a ratio to GDP, the excess of liabilities over assets reached a peak of 52 percent in 1993; it declined to 38 percent in 2000; it rose to 46 percent

in 2003; and it has declined slightly since then to around 45 percent of GDP at the end of 2005. The average since 1960 has been 36 percent (see Table 13-1).

Assets

Table 13-1 offers a comprehensive list of the financial and physical resources owned by the Federal Government.

Financial Assets: According to the Federal Reserve Board's Flow-of-Funds accounts, the Federal Government's holdings of financial assets amounted to \$0.6 trillion at the end of 2005. Government-held mortgages (measured in constant dollars) reached a peak in the early 1990s as the Government acquired mortgages from savings and loan institutions that had failed. The Government subsequently liquidated most of the mortgages it acquired from these bankrupt savings and loans. Meanwhile, Government holdings of other loans

Table 13-1. GOVERNMENT ASSETS AND LIABILITIES*

(As of the end of the fiscal year, in billions of 2005 dollars)

	1960	1965	1970	1975	1980	1985	1990	1995	2000	2003	2004	2005
ASSETS												
Financial Assets:												
Cash and Checking Deposits	46	67	42	34	52	34	46	47	63	56	56	23
Other Monetary Assets	2	1	1	1	2	2	2	1	7	10	2	2
Mortgages	30	29	43	45	83	85	108	75	86	78	76	76
Other Loans	111	152	190	190	247	320	227	174	145	124	121	117
less Expected Loan Losses	-1	-3	-5	-10	-19	-19	-21	-27	-42	-50	-48	-41
Other Treasury Financial Assets	67	84	73	66	93	137	219	263	240	326	320	338
Subtotal	254	330	344	326	458	559	580	543	572	645	623	608
Nonfinancial Assets:												
Fixed Reproducible Capital:												
Defense	1,112	1,104	1,148	1,114	1,055	1,193	1,237	1,244	1,091	1,072	1,079	1,106
Nondefense	959	901	910	832	747	868	891	870	712	674	680	697
Inventories	153	203	238	282	308	325	346	373	379	398	399	408
Nonreproducible Capital	291	252	235	210	259	297	263	202	208	255	269	272
Land	471	483	463	686	1,100	1,179	931	701	1,043	1,220	1,434	1,774
Mineral Rights	102	142	179	283	361	375	386	293	448	535	611	729
Subtotal	369	342	285	404	739	804	545	408	595	684	823	1,045
Subtotal	1,874	1,839	1,846	2,010	2,414	2,668	2,431	2,147	2,342	2,546	2,782	3,152
Total Assets	2,128	2,169	2,190	2,336	2,872	3,228	3,012	2,690	2,914	3,191	3,406	3,760
LIABILITIES												
Debt held by the Public	1,269	1,305	1,161	1,180	1,467	2,426	3,306	4,394	3,826	4,133	4,418	4,590
Insurance and Guarantee Liabilities:												
Deposit Insurance					2	10	80	5	1	1	1	1
Pension Benefit Guarantee				48	35	48	48	23	45	75	91	82
Loan Guarantees	*	1	3	7	14	12	17	33	42	38	44	48
Other Insurance	35	31	24	22	30	18	22	20	18	17	16	16
Subtotal	35	32	27	77	81	89	167	81	106	131	152	147
Pension and Post-Employment Health Liabilities:												
Civilian and Military Pensions	958	1,205	1,440	1,632	2,051	2,035	1,989	1,928	1,978	2,038	2,127	2,169
Retiree Health Insurance Benefits	225	283	338	383	481	477	467	452	438	980	1,020	1,125
Veterans Disability Compensation	211	265	317	351	360	297	268	293	620	1,008	951	1,123
Subtotal	1,394	1,752	2,095	2,366	2,892	2,809	2,723	2,673	3,036	4,026	4,098	4,416
Other Liabilities:												
Trade Payables and Miscellaneous	30	37	47	59	91	119	164	136	111	170	179	183
Benefits Due and Payable	23	27	37	39	49	55	65	76	87	106	106	117
Subtotal	53	64	84	98	140	174	229	212	198	276	285	301
Total Liabilities	2,751	3,153	3,366	3,721	4,580	5,498	6,425	7,359	7,166	8,566	8,952	9,454
Net Assets (Assets Minus Liabilities)	-623	-985	-1,176	-1,385	-1,708	-2,270	-3,414	-4,669	-4,253	-5,376	-5,547	-5,694
Addenda:												
Net Assets Per Capita (in 2005 dollars)	-3,452	-5,076	-5,744	-6,422	-7,488	-9,506	-13,622	-17,489	-15,037	-18,445	-18,846	-19,163
Ratio to GDP (in percent)	-22.1	-27.8	-27.8	-28.9	-29.7	-33.1	-42.6	-51.5	-38.4	-45.9	-45.6	-45.2

* This table shows assets and liabilities for the Government as a whole excluding the Federal Reserve System. Data for 2005 are extrapolated in some cases.

have been declining in real terms since the mid-1980s. The face value of mortgages and other loans overstates their economic worth. OMB estimates that the discounted present value of future losses and interest subsidies on these loans was around \$50 billion as of year-end 2005. These estimated losses are subtracted from the face value of outstanding loans to obtain a better estimate of their economic worth.

Reproducible Capital: The Federal Government is a major investor in physical capital and computer software. Government-owned stocks of such capital have amounted to about \$1.1 trillion in constant dollars for most of the last 45 years (OMB estimate). This capital consists of defense equipment and structures, including weapons systems, as well as nondefense capital goods. Currently, less than two-thirds of the capital is defense

equipment or structures. In 1960, defense capital was over 90 percent of the total. In the 1970s, there was a substantial decline in the real value of U.S. defense capital and there was another large decline in the 1990s after the end of the Cold War. Meanwhile, non-defense Federal capital has increased at an average annual rate of around 2¼ percent. The Government also holds inventories of defense goods and other items that in 2005 amounted to about 25 percent of the value of its fixed capital.

Nonreproducible Capital: The Government owns significant amounts of land and mineral deposits. There are no official estimates of the market value of these holdings (and of course, in a realistic sense, many of these resources would never be sold). Researchers in the private sector have estimated what they are worth,

however, and these estimates are extrapolated in Table 13–1. Private land values fell sharply in the early 1990s, but they have risen since 1993. It is assumed here that Federal land shared in the decline and the subsequent recovery. Oil prices have been on a roller coaster since the mid-1990s. They declined sharply in 1997–1998, rebounded in 1999–2000, fell again in 2001, and rose substantially in 2002–2005. These fluctuations have caused the estimated value of Federal mineral deposits to fluctuate as well. In 2005 as estimated here, the combined real value of Federal land and mineral rights was higher than it has ever been, but only 30 percent greater than in 1982. These estimates omit some valuable assets owned by the Federal Government, such as works of art and historical artifacts partly because such unique assets are unlikely ever to be sold and partly because there is no comprehensive inventory or realistic basis for valuing them.

Total Assets: The total value of Government assets measured in constant dollars has risen sharply in the past three years, and was higher in 2005 than ever before. The Government's asset holdings are vast. As of the end of 2005, Government assets were estimated to be worth about \$3.8 trillion or 30 percent of GDP.

Liabilities

Table 13–1 includes all Federal liabilities that would normally be listed on a balance sheet. All the various forms of publicly held Federal debt are counted, as are Federal pension and health insurance obligations to civilian and military retirees including the disability compensation that is owed the Nation's veterans, which can be thought of as a form of deferred compensation. The estimated liabilities stemming from Federal insurance programs and loan guarantees are also shown. The benefits that are due and payable under various Federal programs are also included, but these liabilities reflect only binding short-term obligations, not the Government's full commitment under these programs.

Future benefit payments that are promised through Social Security and other Federal income transfer programs are not Federal liabilities in a legal or accounting sense. They are Federal responsibilities, however, and it is important to gauge their size, but they are not binding in the same way as a legally enforceable claim would be. The budget projections and other data in Part III are designed to provide a sense of these broader responsibilities and their claim on future budgets.

Debt Held by the Public: The Federal Government's largest single financial liability is the debt owed to the public. It amounted to about \$4.6 trillion at the end of 2005. Publicly held debt declined for several years in the late 1990s because of the unified budget surpluses that emerged at that time, but as deficits returned, publicly held debt began to increase again.

Insurance and Guarantee Liabilities: The Federal Government has contingent liabilities arising from the loan guarantees it has made and from its insurance programs. When the Government guarantees a loan or offers insurance, cash disbursements are often small initially, and if a fee is charged the Government may even collect money; but the risk of future cash payments associated with such commitments can be large. The figures reported in Table 13–1 are estimates of the current discounted value of prospective future losses on outstanding guarantees and insurance contracts. The present value of all such losses taken together is about \$0.1 trillion. As is true elsewhere in this chapter, this estimate does not incorporate the market value of the risk associated with these contingent liabilities; it merely reflects the present value of expected losses. Although individually many of these programs are large and potential losses can be a serious concern, relative to total Federal liabilities or even the total debt held by the public, these insurance and guarantee liabilities are fairly small. They were less than 2 percent of total liabilities in 2005.

Pension and Post-Employment Health Liabilities: The Federal Government owes pension benefits as a form of deferred compensation to retired workers and to current employees who will eventually retire. It also provides civilian retirees with subsidized health insurance through the Federal Employees Health Benefits program and military retirees receive similar benefits. Veterans are owed compensation for their service-related disabilities. While the Government's employee pension obligations have risen slowly, there has been a sharp increase in the liability for future health benefits and veterans compensation. The discounted present value of all these benefits was estimated to be around \$4.4 trillion at the end of 2005 up from \$3.0 trillion in 2000.² There was a large expansion in Federal military retiree health benefits legislated in 2001.

The Balance of Net Liabilities

The Government need not maintain a positive balance of net assets to assure its fiscal solvency, and the buildup in net liabilities since 1960 has not significantly affected Federal creditworthiness. Long-term Government interest rates in 2003 reached their lowest levels in 45 years, and in 2004–2005 they remained lower than at any time from 1965 through 2002. Despite the continued good performance of interest rates, there are limits to how much debt the Government can assume without putting its finances in jeopardy. Over an extended time horizon, the Federal Government must take in enough revenue to cover all of its spending including debt service. The Government's ability to service its debt in the long run cannot be gauged from a balance sheet alone. To judge the prospects for long-run solvency it is necessary to project the budget into the future. That is the subject of the next section.

²Estimates of these liabilities were derived from the 2005 Financial Report of the United States Government and Reports from earlier years. Values for some prior years were extrapolated.

PART III—THE LONG-RUN BUDGET OUTLOOK

A balance sheet, with its focus on obligations arising from past transactions, can only show so much information. For the Government, it is also important to anticipate what future budgetary requirements might flow from current laws and policies. Despite the uncertainty surrounding the assumptions needed for such estimates, very long-run budget projections can be useful in sounding warnings about potential problems. Federal responsibilities extend well beyond the next five or ten years, and problems that may be small in that time frame can become much larger if allowed to grow.

Programs like Social Security and Medicare are expected to continue indefinitely, and so long-range projections for Social Security and Medicare have been prepared for decades. Budget projections for individual programs, even important ones such as Social Security and Medicare, however, cannot reveal the Government's overall budgetary position. Only by projecting the entire budget is it possible to anticipate whether sufficient resources will be available to meet all the anticipated requirements for individual programs. It is also necessary to estimate how the budget's future growth compares with that of the economy to judge how well the economy might be able to support future budgetary needs.

To assess the overall financial condition of the Government, it is necessary to examine the future prospects for all Government programs including the revenue sources that support Government spending. Such an assessment reveals that the key drivers of the long-range deficit are, not surprisingly, Social Security and Medicare along with Medicaid, the Federal program that helps States provide health coverage for low-income people and nursing home care for the elderly. Medicaid, like Medicare and Social Security, is projected to grow more rapidly than the economy over the next several decades and to add substantially to the overall budget deficit. Under current law, there is no offset anywhere in the budget large enough to cover all the demands that will eventually be imposed by Social Security, Medicare, and Medicaid.

Future budget outcomes depend on a host of unknowns—constantly changing economic conditions, unforeseen international developments, unexpected demographic shifts, the unpredictable forces of technological advance, and evolving political preferences to name a few. These uncertainties make even short-run budget forecasting quite difficult, and the uncertainties increase the further into the future projections are extended. While uncertainty makes forecast accuracy difficult to achieve, it enhances the importance of long-run budget projections because people are risk averse. It is not possible to assess the likelihood of future risks without projections. A full treatment of all the relevant risks is beyond the scope of this chapter, but the chapter does show how long-run budget projections respond to changes in some of the key economic and demographic parameters. Given the uncertainties, a useful

first step is to work out the implications of expected developments on a "what if" basis.

The Impending Demographic Transition

In 2008, the first members of the huge generation born after World War II, the so-called baby boomers, will reach age 62 and become eligible for early retirement under Social Security. Three years later, they will turn 65 and become eligible for Medicare. In the years that follow, the elderly population will steadily increase, putting serious strains on the budget because of increased expenditures for Social Security and for the Government's health programs serving this population.

The pressures are expected to persist even after the baby boomers are gone. The Social Security actuaries project that the ratio of workers to Social Security beneficiaries will fall from around 3.3 currently to a little over 2 by the time most of the baby boomers have retired. From that point forward, because of lower fertility and improved mortality, the ratio is expected to continue to decline slowly. With fewer workers to pay the taxes needed to support the retired population, budgetary pressures will continue to grow. The problem posed by the demographic transition is a permanent one.

Currently, the three major entitlement programs—Social Security, Medicare and Medicaid—account for 43 percent of non-interest Federal spending, up from 30 percent in 1980. By 2035, when the remaining baby boomers will be in their 70s and 80s, these three programs could easily account for nearly two-thirds of non-interest Federal spending. At the end of the projection period, in 2080, the figure rises to around three-quarters of non-interest spending. In other words, under an extension of current-law formulas, almost all of the budget, aside from interest, would go to these three programs alone. To say the least, that would severely reduce the flexibility of the budget, and the Government's ability to respond to new challenges.

An Unsustainable Path

These long-run budget projections show clearly that the budget is on an unsustainable path, although the rise in the deficit unfolds gradually. The budget deficit is projected to decline as the economy expands over the next several years, while most of the baby boomers are still in the work force. As the baby boomers begin to reach retirement age in large numbers, the deficit begins to rise. In about 10 years, the deficit as a share of GDP is projected to reach a low point and then begin an inexorable increase. Without reforms, by the end of this chapter's projection period in 2080, rising deficits would have driven publicly held Federal debt to levels well above the previous peak level relative to GDP reached at the end of World War II. Long before that point is ever reached there is likely to be a crisis that will force budgetary changes, but the tim-

ing of the crisis and its resolution are impossible to predict.

The revenue projections start with the budget's estimate of receipts under the Administration's proposals. In the long run, receipts are assumed to increase as people's real incomes rise. The income tax is indexed for inflation, but not for real growth, so as real incomes rise, the effective income rate increases. This tendency is partly offset because many excise taxes are not indexed and therefore tend to decline in real terms as inflation pushes up the price level. Furthermore, payroll taxes are based on cash wages and the share of cash wages in total compensation and in overall GDP has been declining as workers receive a larger share of their compensation in the form of untaxed fringe benefits. These offsetting tendencies are not powerful enough, however, to prevent the overall tax share from rising somewhat in the long run. In the projections summarized in Table 13–2, the ratio of receipts to GDP rises to around 22 percent by the end of the 75-year period.³

In the past, these long-run budget projections have jumped off from the end point for the current budget. This year's Budget includes the effects of adding personal retirement accounts to Social Security. Personal accounts are one element within a set of larger reforms that would restore solvency to Social Security. The Administration has not yet specified a complete set of reforms to achieve solvency. Within the current budget horizon, these other reforms would not have significant budget effects. In the long range, however, their effects would be significant. Because these other reforms are not yet specified, the long-range projections shown here do not incorporate personal retirement accounts. Show-

³The Alternative Minimum Tax is also scheduled to take a growing share of income under current law, because its parameters are not indexed to inflation. That increase is not assumed to continue in these projections because it would imply a fundamental change in the tax system.

ing the personal account proposal in isolation would give a distorted picture of the budget effects of comprehensive Social Security reform.

The long-run budget outlook is highly uncertain (see the technical note at the end of this chapter for a further discussion of the forecasting assumptions used to make these budget projections). With pessimistic assumptions, the fiscal picture deteriorates even sooner than in the base projection. More optimistic assumptions imply a longer period before the pressures of rising entitlement spending overwhelm the budget. But despite the unavoidable uncertainty, these projections clearly show that under a wide range of forecasting assumptions, the resources generated by the programs themselves will be insufficient to cover the long-run costs of Social Security and Medicare.

Alternative Economic, Technical, and Policy Assumptions

The quantitative results discussed above are sensitive to changes in underlying economic and technical assumptions. Some of the most important of these alternative economic and technical assumptions and their effects on the budget outlook are discussed below. They generally show that there are mounting deficits under most reasonable projections of the budget.

1. *Health Spending:* The projections for Medicare over the next 75 years are based on the actuarial projections in the 2005 Medicare Trustees' Report that include the effects of the Medicare Prescription Drug and Modernization bill enacted in 2003.⁴ Following the recommendations of its Technical Review Panel, the Medi-

⁴The long-run projections do not incorporate the Administration's proposal for automatic spending reductions in Medicare if the program's future reliance on general revenues exceeds the threshold of 45 percent of expenditures established in the Medicare Modernization Act. This proposal is intended to encourage Congress and the President to reach agreement on reforms to slow Medicare spending to bring it back in line with the 45 percent threshold. Assuming that these automatic reductions would continue each year throughout the 75-year projection period would result in an unrealistic projection of Medicare spending.

Table 13–2. LONG-RUN BUDGET PROJECTIONS

(receipts, outlays, surplus or deficit, and debt as a percent of GDP)

	1980	1990	2000	2010	2020	2030	2040	2060	2080
Receipts	19.0	18.0	20.9	17.9	18.9	19.4	20.0	21.3	22.4
Outlays:									
Discretionary	10.1	8.7	6.3	6.1	5.6	5.6	5.6	5.6	5.6
Mandatory:									
Social Security	4.3	4.3	4.2	4.2	4.9	5.8	5.9	6.1	6.4
Medicare	1.1	1.7	2.0	2.8	3.7	5.0	6.1	7.9	10.4
Medicaid	0.5	0.7	1.2	1.5	1.9	2.1	2.3	2.8	3.3
Other	3.7	3.2	2.4	2.3	1.9	1.6	1.4	1.1	0.9
Subtotal, mandatory	9.6	9.9	9.8	10.8	12.4	14.4	15.7	17.8	21.0
Net Interest	1.9	3.2	2.3	1.9	1.4	1.5	2.3	4.7	9.4
Total outlays	21.7	21.8	18.4	18.9	19.4	21.6	23.6	28.2	36.1
Surplus or Deficit (–)	–2.7	–3.9	2.4	–1.0	–0.6	–2.2	–3.6	–6.9	–13.7
Primary Surplus or Deficit (–)	–0.8	–0.6	4.7	0.9	0.9	–0.6	–1.3	–2.1	–4.2
Federal Debt Held by the Public	26.1	42.0	35.1	37.5	26.2	28.8	43.3	88.6	177.4

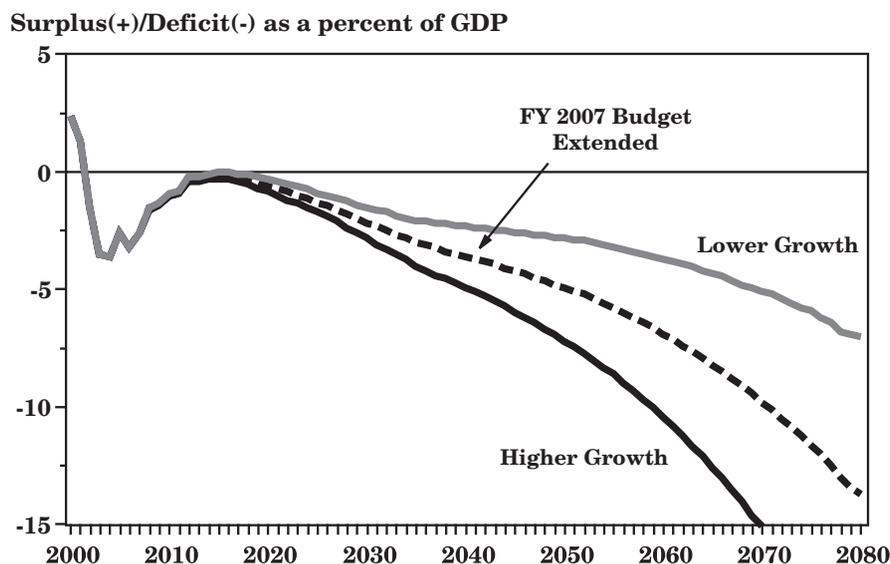
Note: The figures shown in this table for 2015 and beyond are the product of a long-range forecasting model maintained by the Office of Management and Budget. This model is separate from the models and capabilities that produce detailed programmatic estimates in the Budget. It was designed to produce long-range forecasts based on additional assumptions regarding growth of the economy, the long-range evolution of specific programs, and the demographic and economic forces affecting those programs. The model, its assumptions, and sensitivity testing of those assumptions are presented in this chapter.

care trustees assume that over the long-run “age-and gender-adjusted, per-beneficiary spending growth exceeds the growth of per-capita GDP by 1 percentage point per year.” This implies that total Medicare spending will rise faster than GDP throughout the projection period.

Eventually, the rising trend in health care costs for both Government and the private sector will have to end, but it is hard to know when and how that will

happen. Improved health and increased longevity are highly valued, and society has shown that it is willing to spend a larger share of income on them than it did in the past. Whether society will be willing to devote the large share of resources to health care implied by these projections is an open question. The alternatives highlight the effect of raising or lowering the projected growth rate in per capita health care costs by $\frac{1}{4}$ percentage point.

Chart 13-3. Health Care Cost Alternatives



2. *Discretionary Spending:* The projection of discretionary spending is essentially arbitrary, because discretionary spending is determined annually through the legislative process, and no formula can dictate future spending in the absence of legislation. Alternative assumptions have been made for discretionary spending in past budgets. Holding discretionary spending unchanged in real terms is the “current services” assumption used for baseline budget projections when there is no legislative guidance on future spending levels. Extending this assumption over many decades, however, is not realistic. When the population and economy grow, as assumed in these projections, the demand for

public services is very likely to expand as well. The current base projection assumes that discretionary spending keeps pace with the growth in GDP in the long run, so that spending increases in real terms whenever there is real economic growth. An alternative assumption would be to limit the percentage increase in discretionary spending to the increase in population plus inflation, in other words, to hold the real per capita inflation-adjusted level of discretionary spending constant. This along with the projected rise in tax revenue produces a small budget surplus. Even in this case, the entitlement problem is not solved but the threat to the budget is postponed for several decades.

Chart 13-4. Alternative Discretionary Spending Assumptions

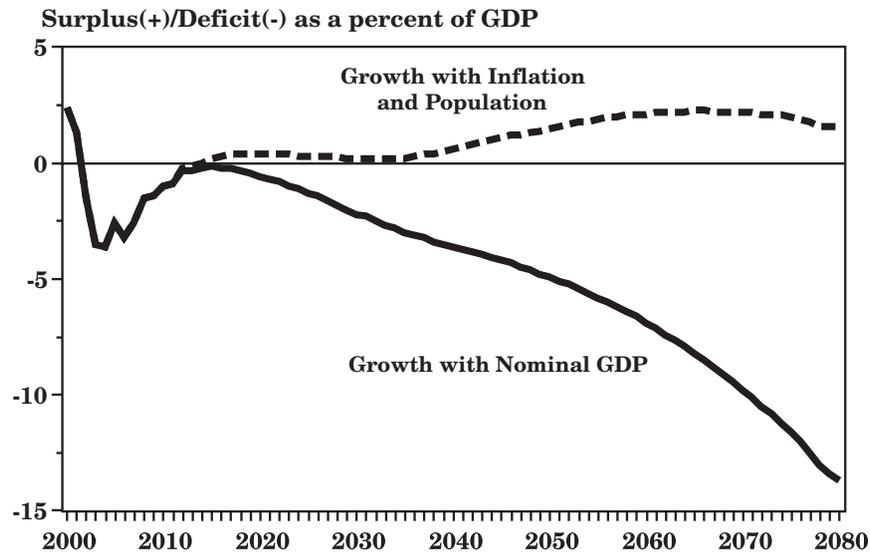
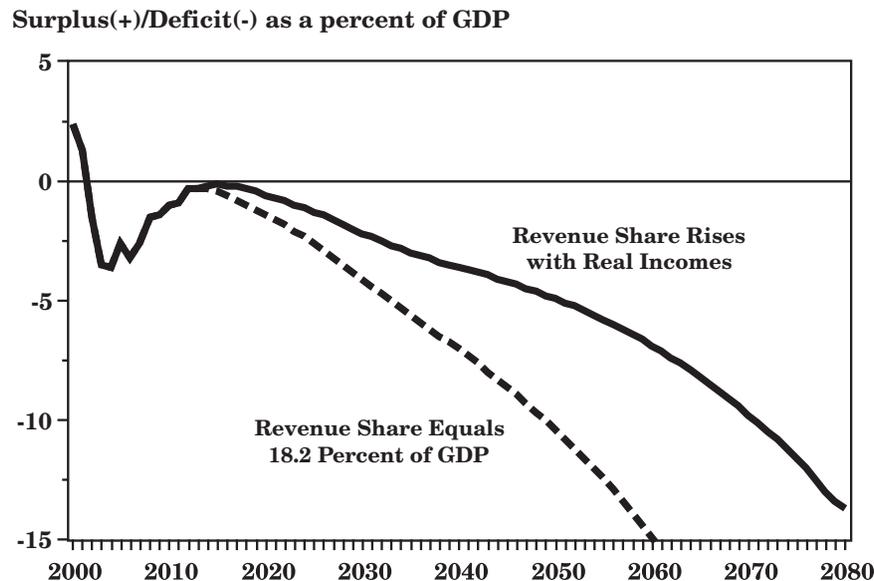


Chart 13-5. A Constant Revenue Share



3. *A Constant Revenue Share:* In the base projection, individual income tax receipts gradually rise over time relative to GDP. This increase reflects the higher marginal tax rates that people face as their real incomes

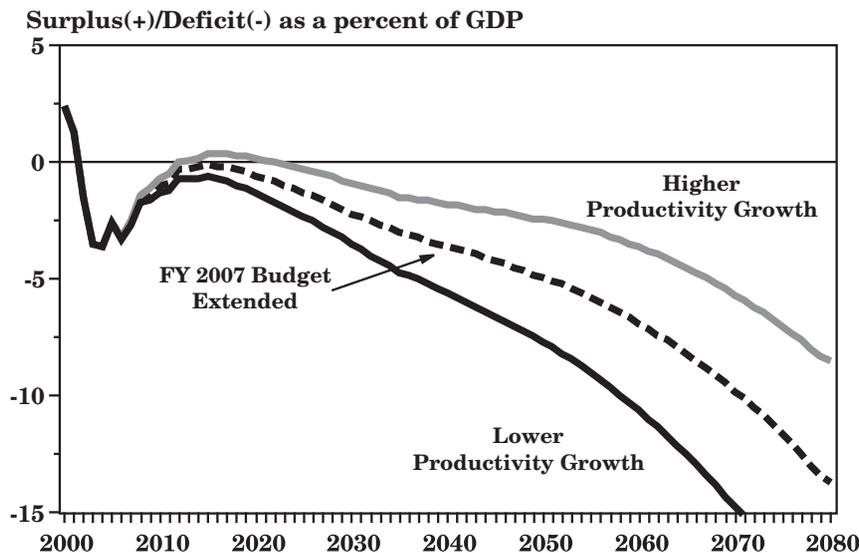
rise. Eventually, these higher rates would bring the ratio of receipts to GDP to unprecedented levels—22 percent after 75 years. Alternatively, receipts might be expected to hold within some long-run historical range.

Over the last 40 years, for example, receipts have averaged 18.2 percent of GDP. Tax receipts have risen above this ratio from time to time, most recently at the end of the 1990s, but those periods of high taxes have always been followed by tax changes that have restored the average tax ratio. Although such changes require legislation and so are not implied by current law, a plausible alternative is to hold the receipts ratio constant relative to GDP. In that case, the deficit rises somewhat faster than in the base assumptions.

4. *Productivity*: The rate of future productivity growth has a major effect on the long-run budget outlook. It is also highly uncertain. Over the next few decades an increase in productivity growth would reduce projected budget deficits appreciably. Higher productivity growth adds directly to the growth of the major tax bases, while it has only a delayed effect on outlay growth even assuming that in the long-run discre-

tionary spending rises with GDP. In the latter half of the 1990s, after two decades of much slower growth, the rate of productivity growth increased unexpectedly and it has increased again since 2000. This increase in productivity growth is one of the most welcome developments of the last several years. Although the long-run growth rate of productivity is inherently uncertain, growth in real GDP per hour averaged 2.2 percent per year from 1948 through 1973 and again from 1995 through 2004. It has grown 2.6 percent per year since 2000, and the projections here assume that real GDP per hour will grow at a 2.3 percent annual rate. If the recent increase in trend productivity growth is sustained, it might continue growing faster than the historical average for some time to come. The alternatives highlight the effect of raising the projected productivity growth rate by $\frac{1}{4}$ percentage point and the effect of lowering it by the same amount.

Chart 13-6. Alternative Productivity Assumptions

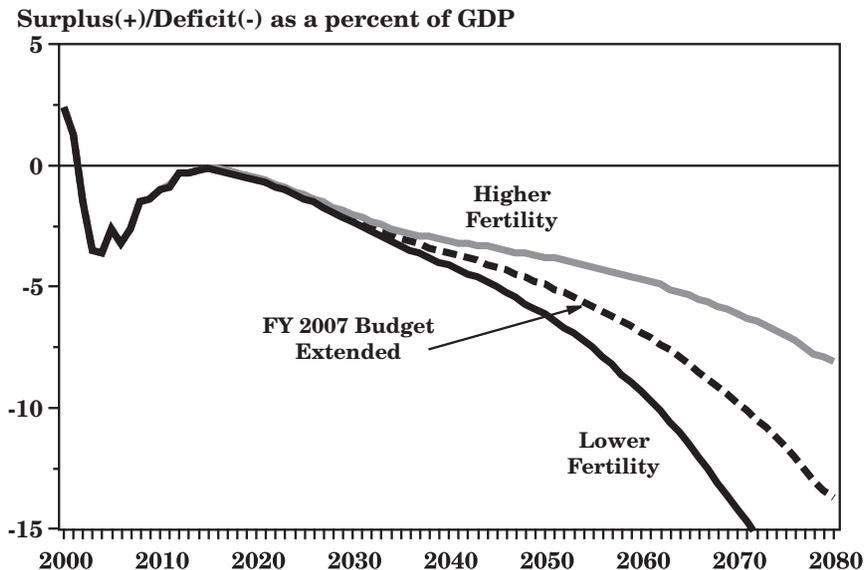


5. *Population*: The key assumptions for projecting long-run demographic developments are fertility, immigration, and mortality.

- The demographic projections assume that fertility will average around 1.9 births per woman in the

future, just slightly below the replacement rate needed to maintain a constant population—2.1 births.

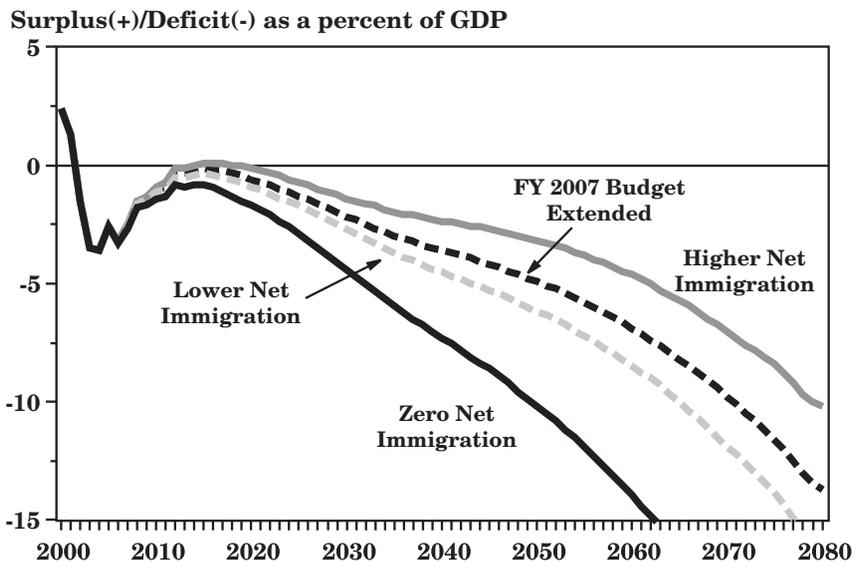
Chart 13-7. Alternative Fertility Assumptions



- The rate of immigration is assumed to average around 900,000 per year in these projections. Higher immigration relieves some of the downward pressure on population growth from low fer-

tility and allows total population to expand throughout the projection period, although at a much slower rate than has prevailed historically.

Chart 13-8. Alternative Immigration Assumptions

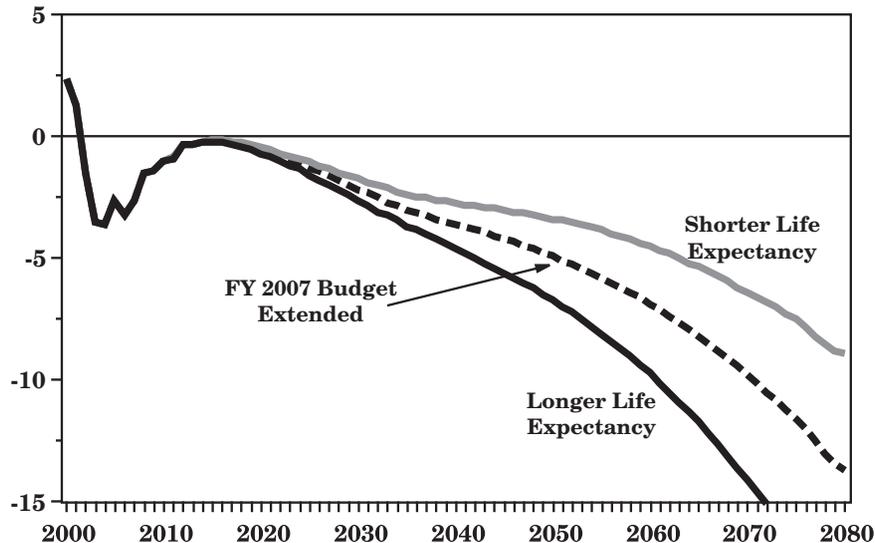


- Mortality is projected to decline, i.e., people are expected to live longer. The average female life-span is projected to rise from 79.6 years in 2004 to 85.2 years by 2080, and the average male life-span is projected to increase from 74.6 years in

2004 to 81.7 years by 2080. A technical panel to the Social Security Trustees recently reported that the improvement in longevity might even be greater.

Chart 13-9. Alternative Mortality Assumptions

Surplus(+)/Deficit(-) as a percent of GDP



Actuarial Projections for Social Security and Medicare

Social Security and Medicare are the Government's two largest entitlement programs. Both rely on payroll tax receipts from current workers and employers for at least part of their financing, while the programs' benefits largely go to those who are retired. The importance of these programs for the retirement security of current and future generations makes it essential to understand their long-range financial prospects. Both programs' actuaries have calculated that they face per-

sistent long-run deficits. How best to measure the long-run imbalance in Social Security is a challenging analytical question; the imbalance may be even more difficult to measure in Medicare, which includes both Hospital Insurance (HI), funded through the payroll tax, and Supplementary Medical Insurance (SMI), financed through premiums and general revenues. Under reasonable assumptions, however, each program embodies such a huge financial deficiency, and it will be very difficult for the Government as a whole to maintain control of the budget without addressing both of these programs' financial problems.

Social Security: The Long-Range Challenge

Social Security provides financial security for the elderly, the disabled, and survivors. The Social Security system is intended to be self-financing over time. The principle of self-financing is important because it compels corrections in the event that projected benefits consistently exceed dedicated receipts.

While Social Security is running surpluses today, it will begin running cash deficits within 12 years. Social Security's spending path is unsustainable under current law. The retirement of the baby-boom generation, born following World War II, will begin to increase greatly the number of Social Security beneficiaries within five years. Demographic trends toward lower fertility rates and longer life spans mean that the ratio of retirees to the working population will remain permanently higher following the baby boomers' passage through the system. The number of workers available to support each beneficiary is projected to decline from 3.3 today to 2.2 in 2030, and to continue to decline slowly from there. This decline in the workforce available to support retiree benefits means that the Government will not be able to meet current-law benefit obligations at current payroll tax rates.

The size of Social Security's future shortfall cannot be known with precision, but a gap between Social Security receipts and outlays emerges under a wide range of reasonable forecasting assumptions. Long-range uncertainty underscores the importance of creating a system that is financially stable and self-contained. Otherwise, the demands created by Social Security could compromise the rest of the budget and the Nation's economic health. The actuarial shortfall is estimated to be \$12.8 trillion over an infinite horizon.

The current structure of Social Security leads to substantial generational differences in the average rate of return people can expect from the program. While previous generations have fared extremely well, the average individual born today can expect to receive less than a two percent annual real rate of return on their total payroll taxes (including the employer's portion, which most economists believe is ultimately borne by labor). Moreover, such estimates in a sense overstate the expected rate of return for future retirees, because they assume no changes in current-law taxes or benefits, even though such changes are needed to meet Social Security's financing shortfall. As an example, a 1995 analysis found that after adjusting revenues to keep the system solvent, a typical worker born in 2000 would receive a 1.5 percent rate of return instead of a 1.7 percent rate of return.

One way to address the issues of uncertainty and declining rates of return, while protecting national savings, would be to allow individuals to invest some of their payroll taxes in personal retirement accounts. The budget includes the estimated impact from the creation of personal accounts, funded through the Social Security payroll tax. The Administration has also embraced the concept of progressive indexing, which would significantly contribute to the solvency of the system by partially indexing the growth of benefits for higher-wage workers to inflation rather than wage growth.

Medicare: The Long-Range Challenge

Medicare provides health insurance for tens of millions of Americans, including most of the nation's seniors. It is composed of two programs: Hospital Insurance (HI) or Part A, which covers medical expenses relating to hospitalization, and Supplemental Medical Insurance (SMI) or Part B, which pays for physicians' services and other related expenditures. Starting this year, Medicare offers a voluntary prescription drug benefit, Medicare Part D, which is part of the SMI Trust Fund.

Like Social Security, HI is intended to be self-financing through dedicated taxes. According to the Medicare trustees' most recent report, the Trust Fund is projected to be depleted in 2020. Looking at the long run, the Medicare actuaries project a 75-year unfunded promise to Medicare's HI trust fund of around \$8.6 trillion (net present value). However, this measure tells less than half the story because it does not include the deficiency in Medicare's Part B and Part D programs. The main source of dedicated revenues to the SMI Trust Fund is beneficiary premiums, which generally cover about one-quarter of its expenses. SMI's funding structure creates an enormous financing gap for the program, and is the largest contributor to the total Medicare program shortfall of \$29.9 trillion. SMI's financing gap is covered by an unlimited tap on general revenues. According to the Medicare Trustees 2005 report, "When the Part D program becomes fully implemented in 2006, general revenue transfers are expected to constitute the largest single source of income to the Medicare program as a whole—and would add significantly to the Federal Budget pressures."

This bifurcated trust fund structure finances Medicare as if the program offers two separate, unrelated benefits, instead of recognizing that Medicare provides integrated, comprehensive health insurance coverage. The MMA took an important first step toward improving Medicare sustainability by requiring the Medicare Trustees' Report to include a new, comprehensive fiscal analysis of the program's financing and issue a warning if this analysis projects that the share of Medicare expenditures funded through general revenue funding exceeds 45 percent. However, while this warning requires the President to propose legislation to restore Medicare spending to sustainable levels, it does not mandate congressional action.

The Budget proposes to strengthen the MMA provision by modestly slowing the rate of Medicare growth if the MMA threshold is exceeded. The lower growth would be achieved through a four-tenths of a percent reduction to all payments beginning the year the threshold is exceeded. The change would only take effect if the President and Congress fail to agree on legislation to bring Medicare spending back into line with the threshold established by the MMA. The reduction would grow by four-tenths of a percent every year the shortfall continues to occur. This proposal would improve Medicare's sustainability by slowing the rate of growth in spending.

The Social Security and Medicare Trustees' Projections: In their annual reports and related documents, the Social Security and Medicare trustees typically present calculations of the 75-year actuarial imbalance or deficiency for Social Security and Medicare. The calculation covers current workers and retirees, as well as those projected to join the program within the next 75 years (this is the so-called "open-group"; the "closed-group" covers only current workers and retirees). These estimates measure the present value of each program's future benefits net of future income. They are complementary to the flow projections described in the preceding section. More recently, the trustees' reports have also included a projection of the deficiency in perpetuity. This is the clearest way to see the imbalances in both programs.

The present value of the Social Security imbalance over the next 75 years was estimated to be \$5.7 trillion as of January 1, 2005. The comparable estimate for Medicare was \$29.9 trillion. (The estimates in Table 13-3 were prepared by the Social Security and Medicare actuaries, and they are based on the intermediate

economic and demographic assumptions used for the 2005 trustees' reports. These differ in some respects from the assumptions used for the long-run budget projections described in the preceding section, but Table 13-3 would still show large imbalances if the budget assumptions had been used for the calculations.) Doing the calculations for a 75-year horizon understates the deficiencies, because the 75-year actuarial calculations omit the large deficits that continue to occur beyond the 75th year. The understatement is significant, even though values in the distant future are discounted by a large amount. For example, merely adding an additional year to the estimating period would widen the imbalance for Social Security from \$5.7 trillion to \$5.8 trillion. Since 2004, the Social Security and Medicare actuaries have also presented the actuarial imbalances calculated in perpetuity without assuming a fixed horizon. Table 13-3 shows how much these distant benefits add to the programs' imbalances. For Social Security, the imbalance in perpetuity is \$12.8 trillion and for Medicare it is a staggering \$68.4 trillion as of January 1, 2005.

The imbalance estimated on a perpetuity basis is the amount that the Government would have to raise in the private capital markets to resolve the program's imbalance permanently (given current assumptions). If nothing else changes, the estimated imbalance will grow every year at approximately the rate of interest, just as an unpaid debt grows with interest each year it remains outstanding. For Social Security this implies an increase of approximately \$600 billion in 2005 and growing amounts with every year that the imbalance remains unaddressed. The comparable imbalance in Medicare is much larger than the Social Security imbalance. The exact size of the imbalance is harder to estimate for Medicare because of greater uncertainty regarding the future growth of medical costs.

Social Security: The current deficiency in Social Security is essentially due to the fact that past and current participants will receive more benefits than they have paid for with taxes (calculated in terms of present values). By contrast, future participants—those who are now under age 15 or not yet born—are projected to pay in present value about \$0.8 trillion more than they will collect in benefits. This can be seen by comparing the total deficiency in perpetuity, \$12.8 trillion, with the excess of benefits over taxes for current program participants, \$13.6 trillion, from Table 13–3. In other words, the taxes that future participants are expected to pay will be large enough to cover the benefits due them under current law, but not large enough to cover those benefits plus the benefits promised to current

program participants in excess of the taxes paid by current program participants.

Medicare: Extending the horizon to infinity shows that the benefits due future participants will eventually exceed projected payroll tax receipts and premiums by a huge margin. The infinite horizon projections shown at the top of Table 13–3 reveal that total Medicare benefits exceed future taxes and premiums by \$68.4 trillion in present value. This is due to an expected excess of benefits over taxes for current participants over their lifetimes, but also for future generations. Unlike Social Security, the imbalance is not simply the inherited result of a pay-as-you-go program that was never fully funded, and which faces a demographic crunch. That is part of the problem, but even more fundamental is the assumption that medical costs continue to rise in excess of general inflation so that medical spending increases in proportion to total output in the economy.

Passage of the Medicare Prescription Drug, Improvement and Modernization Act added substantially to Medicare's actuarial deficiency, as can be seen in the 75-year projections in Table 13–3 comparing 2003 with 2004. The legislation also increased private sector participation and added new fiscal safeguards which may help address Medicare's financial shortfall, but how large the impact of these changes will be is uncertain and their effects are not captured in the figures reported here.

Table 13–3. ACTUARIAL PRESENT VALUES OF BENEFITS IN EXCESS OF FUTURE TAXES AND PREMIUMS

In Perpetuity as of January 1, in Trillions of Dollars						
					2004	2005
Social Security					11.9	12.8
Medicare					61.9	68.4
Social Security and Medicare					73.8	81.2
Over a 75-Year Projection Period as of January 1, in Trillions of Dollars						
	2000	2001	2002	2003	2004	2005
Social Security						
Future benefits less future taxes for those age 15 and over	9.6	10.5	11.2	11.7	12.6	13.6
Future benefits less taxes for those age 14 and under and those not yet born	-5.8	-6.3	-6.7	-6.8	-7.3	-7.9
Net present value for past, present and future participants	3.8	4.2	4.6	4.9	5.2	5.7
Medicare						
Future benefits less future taxes and premiums for those age 15 and over	9.9	12.5	12.9	15.0	24.6	26.3
Future benefits less taxes and premiums for those age 14 and under and those not yet born	-0.7	0.3	0.4	0.8	3.4	3.6
Net present value for past, present and future participants	9.2	12.8	13.3	15.8	28.1	29.9
Social Security and Medicare						
Future benefits less future taxes and premiums for those age 15 and over		23.0	24.1	26.7	37.2	39.9
Future benefits less taxes and premiums for those age 14 and under and not yet born		-6.0	-6.3	-6.0	-3.9	-4.3
Net present value for past, present and future participants		17.0	17.8	20.7	33.3	35.6
Addendum:						
Actuarial deficiency as a percent of the discounted payroll tax base:						
Social Security	-1.89	-1.86	-1.87	-1.92	-1.89	-1.92
Medicare HI	-1.21	-1.97	-2.02	-2.40	-3.12	-3.09

General revenues have covered about 75 percent of SMI program costs for many years, with the rest being covered by premiums paid by the beneficiaries. In Table 13–3, only the receipts explicitly earmarked for financing these programs have been included. The intragovernmental transfer is not financed by dedicated tax revenues, and the share of general revenues that would have to be devoted to SMI to close the gap increases substantially under current projections. Other Government programs also have a claim on these general revenues. From the standpoint of the Government as a whole, only receipts from the public can finance expenditures.

A significant portion of Medicare's actuarial deficiency is caused by the rapid expected increase in future benefits due to rising health care costs. Some, perhaps most, of the projected increase in relative health care costs reflects improvements in the quality of care, although there is also evidence that medical errors, waste, and excessive medical liability claims add needlessly to costs. But even though the projected increases in Medicare spending are likely to contribute to longer life-spans and safer treatments, the financial implications remain the same. As long as medical costs continue to outpace the growth of GDP and other expenditures, as assumed in these projections, the financial pressure on the budget will mount, and that is reflected in the estimates shown in Tables 13–2 and 13–3.

The Trust Funds and the Actuarial Deficiency: The fact that a special account or trust fund exists does not mean that the Government necessarily saved the money recorded there. The trust fund surpluses could have added to national saving if debt held by the public had actually been reduced because of the trust fund accumulations. But it is impossible to know for sure whether this happened or not.

At the time Social Security or Medicare redeems the debt instruments in the trust funds to pay benefits not covered by income, the Treasury will have to turn to the public capital markets to raise the funds to finance the benefits, just as if the trust funds had never existed. From the standpoint of overall Government finances, the trust funds do not reduce the future burden of financing Social Security or Medicare benefits, and

for that reason, the trust funds are not netted against future benefits in Table 13–3. The eventual claim on the Treasury is better revealed by the difference between future benefits and future taxes or premiums.

In any case, trust fund assets remain small in size compared with the programs' future obligations and well short of what would be needed to pre-fund future benefits as indicated by the programs' actuarial deficiencies. Historically, Social Security and Medicare's HI program were financed mostly on a pay-as-you-go basis, whereby workers' payroll taxes were immediately used to pay retiree benefits. For the most part, workers' taxes have not been used to pre-fund their own future benefits, and taxes were not set at a level sufficient to pre-fund future benefits had they been saved.

The Importance of Long-Run Measures in Evaluating Policy Changes: Consider a proposed policy change in which payroll taxes paid by younger workers were reduced by \$100 this year while the expected present value of these workers' future retirement benefits were also reduced by \$100. The present value of future benefit payments would decrease by the same amount as the reduction in revenue. On a cash flow basis, however, the lost revenue occurs now, while the decrease in future outlays is in the distant future beyond the budget window, and the Federal Government must increase its borrowing to make up for the lost revenue in the meantime. If policymakers only focus on the Government's near-term borrowing needs, a reform such as this would appear to worsen the Government's finances, whereas the policy actually has a neutral impact.

Now suppose that future outlays were instead reduced by a little more than \$100 in present value. In this case, the actuarial deficiency would actually decline, even though the Government's borrowing needs would again increase if the savings occurred outside the budget window. Focusing on the Government's near-term borrowing alone, therefore, can lead to a bias against policies that could improve the Federal Government's overall long-run fiscal condition. Taking a longer view of policy changes and considering measures of the Government's fiscal condition other than the unified budget surplus or deficit can correct for such mistakes.

PART IV—NATIONAL WEALTH AND WELFARE

Unlike a private corporation, the Federal Government routinely invests in ways that do not add directly to its assets. For example, Federal grants are frequently used to fund capital projects by State or local governments for highways and other purposes. Such investments are valuable to the public, which pays for them with its taxes, but they are not owned by the Federal Government and would not show up on a balance sheet for the Federal Government. It is true, of course, that by encouraging economic growth in the private sector, the Government augments future Federal tax receipts. However, the fraction of the return on investment that

comes back to the Government in higher taxes is far less than what a private investor would require before undertaking a similar investment.

The Federal Government also invests in education and research and development (R&D). These outlays contribute to future productivity and are analogous to an investment in physical capital. Indeed, economists have computed stocks of human and knowledge capital to reflect the accumulation of such investments. Nonetheless, such hypothetical capital stocks are obviously not owned by the Federal Government, nor would they appear on a typical balance sheet as a Government

asset, even though these investments also contribute to future tax receipts.

To show the importance of these kinds of issues, Table 13–4 presents a national balance sheet. It includes estimates of national wealth classified into three categories: physical assets, education capital, and R&D capital. The Federal Government has made contributions to each of these types of capital, and these contributions are shown separately in the table. At the same time, the private wealth shown in Table 13–4 generates future income and tax receipts, which finance future public activities. The Nation's wealth sets the ultimate limit on the resources available to the Government.

The table shows that Federal investments are responsible for about 7 percent of total national wealth including education and research and development. This may seem like a small fraction, but it represents a large volume of capital: \$7.3 trillion. The Federal contribution is down from 8.9 percent in the mid-1980s and from 11.7 percent in 1960. Much of this reflects the relative decline in the stock of defense capital, which has fallen from around 34 percent of GDP in 1960 to under 6 percent in 2005.

Physical Assets: The physical assets in the table include stocks of plant and equipment, office buildings, residential structures, land, and the Government's physical assets such as military hardware and highways. Automobiles and consumer appliances are also included in this category. The total amount of such capital is vast, \$55.5 trillion in 2005, consisting of \$47.0 trillion in private physical capital and \$8.5 trillion in public physical capital (including capital funded by State and local governments); by comparison, GDP was around \$12 trillion in 2005. The Federal Government's contribution to this stock of capital includes its own physical assets of \$3.1 trillion plus \$1.3 trillion in accumulated grants to State and local governments for capital projects. The Federal Government has financed about one-quarter of all the physical capital held by other levels of government.

Education Capital: Economists have developed the concept of human capital to reflect the notion that individuals and society invest in people as well as in physical assets. Investment in education is a good example of how human capital is accumulated. Table 13–4 includes an estimate of the stock of capital represented by the Nation's investment in formal education and training. The estimate is based on the cost of replacing

Table 13–4. NATIONAL WEALTH
(As of the end of the fiscal year, in trillions of 2005 dollars)

	1960	1965	1970	1975	1980	1985	1990	1995	2000	2003	2004	2005
ASSETS												
Publicly Owned Physical Assets:												
Structures and Equipment	2.2	2.5	3.1	3.8	4.0	4.3	4.7	5.1	5.8	6.3	6.5	6.4
Federally Owned or Financed	1.3	1.3	1.5	1.6	1.7	2.0	2.1	2.2	2.2	2.3	2.4	2.4
Federally Owned	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.1	1.1	1.1	1.1
Grants to State and Local Governments	0.2	0.2	0.3	0.5	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.3
Funded by State and Local Governments	0.9	1.1	1.6	2.1	2.3	2.3	2.5	2.9	3.6	4.0	4.2	4.0
Other Federal Assets	0.8	0.7	0.7	0.9	1.4	1.5	1.2	0.9	1.3	1.5	1.7	2.0
Subtotal	2.9	3.2	3.8	4.7	5.4	5.7	5.8	6.0	7.1	7.8	8.2	8.5
Privately Owned Physical Assets:												
Reproducible Assets	7.5	8.6	10.6	13.5	17.6	18.6	21.1	23.4	28.4	31.0	32.6	33.6
Residential Structures	2.9	3.4	4.0	5.2	7.0	7.3	8.3	9.5	11.8	13.6	14.5	15.2
Nonresidential Plant & Equipment	3.0	3.4	4.3	5.6	7.2	7.9	8.8	9.6	11.6	12.2	12.7	12.9
Inventories	0.7	0.8	1.0	1.2	1.5	1.4	1.5	1.5	1.7	1.6	1.7	1.8
Consumer Durables	0.9	1.0	1.3	1.5	1.8	2.0	2.6	2.9	3.3	3.5	3.6	3.7
Land	2.2	2.6	3.0	3.9	6.0	6.9	7.1	5.4	8.2	9.8	11.2	13.4
Subtotal	9.7	11.3	13.6	17.4	23.6	25.4	28.2	28.8	36.7	40.8	43.8	47.0
Education Capital:												
Federally Financed	0.1	0.1	0.3	0.4	0.5	0.6	0.8	1.0	1.3	1.4	1.5	1.6
Financed from Other Sources	6.3	8.5	11.4	14.3	18.2	21.3	26.4	31.0	40.0	44.0	45.5	46.6
Subtotal	6.4	8.6	11.6	14.7	18.8	22.0	27.2	32.0	41.3	45.4	47.0	48.1
Research and Development Capital:												
Federally Financed R&D	0.2	0.4	0.5	0.6	0.6	0.7	0.9	1.0	1.1	1.2	1.2	1.2
R&D Financed from Other Sources	0.1	0.2	0.3	0.4	0.5	0.7	0.9	1.2	1.6	1.9	1.9	2.0
Subtotal	0.3	0.6	0.8	1.0	1.2	1.4	1.8	2.2	2.7	3.0	3.1	3.3
Total Assets	19.4	23.7	29.8	37.8	48.9	54.6	63.1	69.0	87.7	97.1	102.2	106.9
Net Claims of Foreigners on U.S. (+)	-0.1	-0.2	-0.2	-0.1	-0.4	0.1	0.8	1.6	3.1	4.1	4.3	5.5
Net Wealth	19.5	23.8	30.0	37.9	49.3	54.5	62.2	67.4	84.6	92.9	97.9	101.4
ADDENDA:												
Per Capita Wealth (thousands of 2005 \$)	108.1	122.9	146.3	175.8	216.0	228.3	248.3	252.6	299.2	318.9	332.5	341.4
Ratio of Wealth to GDP (in percent)	691.4	673.1	707.2	789.8	857.7	794.9	776.0	744.5	764.6	793.6	805.0	805.0
Total Federally Funded Capital (trillions 2005 \$)	2.3	2.6	3.0	3.5	4.3	4.8	5.0	5.1	5.8	6.4	6.8	7.3
Percent of National Wealth	11.7	10.7	9.9	9.3	8.7	8.9	8.0	7.6	6.9	6.9	6.9	7.2

the years of schooling embodied in the U.S. population aged 15 and over; in other words, the goal is to measure how much it would cost to reeducate the U.S. workforce at today's prices (rather than at the original cost). This is more meaningful economically than the historical cost of schooling, and is comparable to the methods used to estimate the physical capital stocks presented earlier.

Although this is a relatively crude measure, it does provide a rough order of magnitude for the current value of the investment in education. According to this measure, the stock of education capital amounted to \$48.1 trillion in 2005, of which about 3 percent was financed by the Federal Government. It was approximately equal in value to the Nation's private stock of physical capital. The main investors in education capital have been State and local governments, parents, and students themselves.

Even broader concepts of human capital have been proposed. Not all useful training occurs in a schoolroom or in formal training programs at work. Much informal learning occurs within families or on the job, but measuring its value is very difficult. Labor compensation, however, amounts to about two-thirds of national income with the other third attributed to capital, and thinking of total labor income as the product of human capital suggests that the total value of human capital would be two times the estimated value of physical capital if human capital earned a similar rate of return to other forms of capital. Thus, the estimates offered here are in a sense conservative, because they reflect only the costs of acquiring formal education and training, which is why they are referred to as education capital rather than human capital. They constitute that part of total human capital that can be attributed to formal education and training.

Research and Development Capital: Research and Development can also be thought of as an investment, because R&D represents a current expenditure that is made in the expectation of earning a future return. After adjusting for depreciation, the flow of R&D investment can be added up to provide an estimate of the current R&D stock.³ That stock is estimated to have been \$3.3 trillion in 2005. Although this represents a large amount of research, it is a relatively small portion of total National wealth. Of this stock, 38 percent was funded by the Federal Government.

Liabilities: When considering how much the United States owes as a Nation, the debts that Americans owe to one another cancel out. When the debts of one American are the assets of another American, these debts are not a net liability of the Nation as a whole. Table 13-4 only shows National totals. Gross debt is important even though it does not appear in Table 13-4. The amount of debt owed by Americans to other Americans can exert both positive and negative effects on the economy. Americans' willingness and ability to bor-

row have helped fuel the current expansion by supporting consumption and housing purchases. On the other hand, growing debt could be a risk to future growth, if the ability to service the higher level of debt were to become impaired.

The only debts that show up in Table 13-4 are the debts Americans owe to foreigners for the investments that foreigners have made here. America's net foreign debt has been increasing rapidly in recent years, because of the rising imbalance in the U.S. current account. Although the current account deficit is at record levels, the size of the net foreign debt remains relatively small compared with the total stock of U.S. assets. It amounted to 5.5 percent of total assets in 2005.

Federal debt does not appear explicitly in Table 13-4 because most of it consists of claims held by Americans; only that portion of the Federal debt which is held by foreigners is included along with the other debts to foreigners. Comparing the Federal Government's net liabilities with total national wealth does, however, provide another indication of the relative magnitude of the imbalance in the Government's accounts. Federal net liabilities, as reported in Table 13-1, amounted to 5.6 percent of net U.S. wealth as shown in Table 13-4. Prospectively, however, Federal liabilities are a much larger share of national wealth, as indicated by the long-run projections described in Part III.

Trends in National Wealth

The net stock of wealth in the United States at the end of 2005 was \$101 trillion, about eight times the size of GDP. Since 1960, it has increased in real terms at an average annual rate of 3.7 percent per year. It grew very rapidly from 1960 to 1973, at an average annual rate of 4.5 percent per year, slightly faster than real GDP grew over the same period. Between 1973 and 1995 growth slowed, as real net wealth grew at an average rate of just 3.1 percent per year, which paralleled the slowdown in real GDP over this period. Since 1995 the rate of growth in U.S. real wealth has picked up. Net wealth has been growing at an average rate of 4.2 percent since 1995, about the same rate as from 1960 to 1973. Productivity growth has also accelerated since 1995, following a similar slowdown from 1973 to 1995.

The net stock of privately owned nonresidential plant and equipment accounts for about 27 percent of all privately owned physical assets. In real terms, it grew 3.3 percent per year on average from 1960 to 2005. It grew especially rapidly from 1960 to 1973, at an average rate of 3.9 percent per year. Since 1973 it has grown more slowly, averaging around 3.0 percent per year. Plant and equipment did not experience a more rapid rate of growth over the last ten years compared with 1973-1995. Private plant and equipment grew 3.0 percent per year on average between 1973 and 1995 and at the same rate from 1995 through 2005. Privately owned residential structures and land have all grown much more rapidly in real value since

³ R&D depreciates in the sense that the economic value of applied research and development tends to decline with the passage of time, as still newer ideas move the technological frontier.

1995 than from 1973 to 1995, while the stock of consumer durables has grown less rapidly.

The accumulation of education capital has averaged 4.6 percent per year since 1960. It also slowed down between 1973 and 1995 and has grown only slightly more rapidly since then. It grew at an average rate of 5.8 percent per year in the 1960s, 1.9 percentage points faster than the average rate of growth in private

physical capital during the same period. Since 1995, education capital has grown at a 4.2 percent annual rate. This reflects both the extra resources devoted to schooling in this period, and the fact that such resources have been increasing in economic value. Meanwhile, R&D stocks have grown at an average rate of 4.0 percent per year since 1995.

Table 13–5. TRENDS IN NATIONAL WEALTH

(Average annual rates in percent)

	1960–2005	1960–1973	1973–1995	1995–2005
Real GDP	3.4	4.3	2.8	3.4
National Wealth	3.7	4.5	3.1	4.2
Private Physical Wealth	3.6	3.9	2.7	5.0
Nonresidential Plant and Equipment	3.3	3.9	3.0	3.0
Residential Structures	3.7	4.1	3.1	4.9
Public Physical Wealth	2.4	2.8	1.6	3.5
Net Education	4.6	5.8	4.1	4.2
Net R&D	5.3	8.6	3.9	4.0

Other Federal Influences on Economic Growth

Federal investment decisions, as reflected in Table 13–4, obviously are important, but the Federal Government also affects wealth in ways that cannot be easily captured in a formal presentation. The Federal Reserve's monetary policy affects the rate and direction of capital formation in the short run, and Federal regulatory and tax policies also affect how capital is invested, as do the Federal Government's policies on credit assistance and insurance.

Social Indicators

There are certain broad responsibilities that are unique to the Federal Government. Especially important are preserving national security, fostering healthy

economic conditions including sound economic growth, promoting health and social welfare, and protecting the environment. Table 13–6 offers a rough cut of information that can be useful in assessing how well the Federal Government has been doing in promoting the domestic portion of these general objectives.

The indicators shown in Table 13–6 are only a subset drawn from the vast array of available data on conditions in the United States. In choosing indicators for this table, priority was given to measures that were consistently available over an extended period. Such indicators make it easier to draw valid comparisons and evaluate trends. In some cases, however, this meant choosing indicators with significant limitations.

TABLE 13-6. ECONOMIC AND SOCIAL INDICATORS

Calendar Years	1960	1970	1980	1990	1995	2000	2003	2004	2005
Economic:									
Living Standards:									
Real GDP per person (2000 dollars)	13,840	18,392	22,666	28,429	30,128	34,759	35,456	36,590	37,560
average annual percent change (5-year trend)	0.6	2.3	2.6	2.3	1.2	2.9	1.5	1.5	1.6
Median Income:									
All Households (2004 dollars)	N/A	36,795	38,453	41,963	41,943	46,058	44,482	44,389	N/A
Married Couple Families (2004 dollars)	31,742	44,302	50,245	55,910	57,927	64,825	63,955	63,630	N/A
Female Householder, Husband Absent (2004 dollars)	16,041	21,456	22,599	23,729	24,237	28,208	27,264	26,964	N/A
Income Share of Lower 60% of All Households	31.8	32.3	31.2	29.3	28.0	27.3	26.9	26.8	N/A
Poverty Rate (%) ¹	22.2	12.6	13.0	13.5	13.8	11.3	12.5	12.7	N/A
Economic Security:									
Civilian Unemployment (%)	5.5	4.9	7.1	5.5	5.6	4.0	6.0	5.5	5.1
CPI-U (% Change)	1.7	5.7	13.5	5.4	2.8	3.4	2.3	2.7	3.4
Payroll Employment Increase Previous 12 Months (millions)	-0.4	-0.4	0.3	0.3	2.2	1.9	0.1	2.2	2.0
Managerial or Professional Jobs (% of civilian employment)	N/A	N/A	N/A	29.2	32.0	33.8	34.8	34.9	34.7
Wealth Creation:									
Net National Saving Rate (% of GDP) ²	10.6	8.3	7.4	4.4	4.1	5.9	1.3	1.2	0.5
Innovation:									
Patents Issued to U.S. Residents (thousands) ³	42	51	42	56	68	104	106	101	N/A
Multifactor Productivity (average 5 year percent change)	0.8	0.8	0.8	0.6	0.7	1.1	N/A	N/A	N/A
Nonfarm Output per Hour (average 5 year percent change)	1.8	2.1	1.1	1.6	1.6	2.5	3.2	3.3	N/A
Environment:									
Air Quality:									
Nitrogen Oxide Emissions (thousands of tons)	18,163	26,883	27,079	25,529	24,956	22,598	20,728	N/A	N/A
Sulfur Dioxide Emissions (thousands of tons)	22,268	31,218	25,925	23,076	18,619	16,347	15,943	N/A	N/A
Carbon Monoxide (thousands of tons)	N/A	204,043	185,407	154,186	126,777	114,467	106,886	N/A	N/A
Lead Emissions (thousands of tons)	N/A	221	74	5	4	N/A	N/A	N/A	N/A
Water Quality:									
Population Served by Secondary Treatment or Better (mils)	N/A	85	N/A	162	174	179	N/A	N/A	N/A
Social:									
Families:									
Children Living with Mother Only (% of all children)	9.2	11.6	18.6	21.6	24.0	22.3	23.2	23.2	23.2
Safe Communities:									
Violent Crime Rate (per 100,000 population) ⁴	160.0	364.0	597.0	729.6	684.5	506.5	475.8	465.5	463.2
Murder Rate (per 100,000 population) ⁴	5.1	7.8	10.2	9.4	8.2	5.5	5.7	5.5	5.6
Murders (per 100,000 Persons Age 14 to 17)	N/A	N/A	5.9	9.8	11.0	4.8	N/A	N/A	N/A
Health:									
Infant Mortality (per 1000 Live Births) (e)	26.0	20.0	12.6	9.2	7.6	6.9	6.9	6.7	6.6
Low Birthweight [\geq 2,500 gms] Babies (%) ⁵	7.7	7.9	6.8	7.0	7.3	7.6	7.9	8.1	N/A
Life Expectancy at birth (years)	69.7	70.8	73.7	75.4	75.8	77.0	77.6	N/A	N/A
Cigarette Smokers (% population 18 and older) ⁶	N/A	39.2	33.0	25.3	24.6	23.2	21.6	20.9	20.9
Overweight (% population 20-74 with Body-Mass Index \geq 2.5)	44.5	47.5	47.4	55.3	59.3	64.7	N/A	N/A	N/A
Learning:									
High School Graduates (% of population 25 and older)	44.6	55.2	68.6	77.6	81.7	84.1	84.6	85.2	N/A
College Graduates (% of population 25 and older)	8.4	11.0	17.0	21.3	23.0	25.6	27.2	27.7	N/A
National Assessment of Educational Progress ⁷									
Reading 17-year olds	N/A	N/A	285	290	288	287	286	285	N/A
Mathematics 17-year olds	N/A	N/A	299	305	307	308	307	307	N/A
Participation:									
Individual Charitable Giving per Capita (2000 dollars)	277	390	423	484	458	701	654	661	N/A
(by presidential election year)	(1960)	(1972)	(1980)	(1984)	(1988)	(1992)	(1996)	(2000)	(2004)
Voting for President (% eligible population)	63	55	53	53	50	55	49	50	56

¹ The poverty rate does not reflect noncash government transfers such as Medicaid or food stamps.

² 2005 through Q3 only.

³ Preliminary data for 2004.

⁴ Not all crimes are reported, and the fraction that go unreported may have varied over time, preliminary data for 2005.

⁵ Data for 2004-2005 provisional, data for 2005 through June.

⁶ Smoking data for 2005 through June.

⁷ Data for some years are interpolated.

The individual measures in this table are influenced to varying degrees by many Government policies and programs, as well as by external factors beyond the Government's control. They do not measure the outcomes of Government policies, because they generally

do not show the direct results of Government activities, but they do provide a quantitative measure of the progress or lack of progress toward some of the ultimate values that Government policy is intended to promote.

Such a table can serve two functions. First, it highlights areas where the Federal Government might need to modify its current practices or consider new approaches. Where there are clear signs of deteriorating conditions, corrective action might be appropriate. Second, the table provides a context for evaluating other data on Government activities. For example, Government actions that weaken its own financial position may be appropriate when they promote a broader social objective. The Government cannot avoid making such trade-offs because of its size and the broad ranging effects of its actions. Monitoring these effects and incorporating them in the Government's policy making is a major challenge.

It is worth noting that, in recent years, many of the trends in these indicators turned around. The im-

provement in economic conditions beginning around 1995 has been widely noted, and there have also been some significant social improvements. Perhaps, most notable has been the turnaround in the crime rate. Since reaching a peak in the early 1990s, violent crime has fallen by a third. The turnaround has been especially dramatic in the murder rate, which has been lower since 1998 than at any time since the 1960s. The 2001 recession had a negative effect on some of these indicators: unemployment rose and real GDP growth declined for a time. But as the economy recovered much of the improvement shown in Table 13-6 was preserved. Indeed, productivity growth, the best indicator of future changes in the standard of living accelerated. Since 2000, it has increased faster than in any other five-year period since the 1960s.

TECHNICAL NOTE: SOURCES OF DATA AND METHODS OF ESTIMATING

Long-Range Budget Projections

The long-range budget projections are based on demographic and economic assumptions. A simplified model of the Federal budget, developed at OMB, is used to compute the budgetary implications of these assumptions.

Demographic and Economic Assumptions: For the years 2006–2016, the assumptions are drawn from the Administration's economic projections used for the budget. These budget assumptions reflect the President's policy proposals. The economic assumptions are extended beyond this interval by holding constant inflation, interest rates, and unemployment at the levels assumed in the final year of the budget forecast. Population growth and labor force growth are extended using the intermediate assumptions from the 2005 Social Security trustees' report. The projected rate of growth for real GDP is built up from the labor force assumptions and an assumed rate of productivity growth. Productivity growth is held constant at the average rate of growth in the budget's economic assumptions.

- CPI inflation holds stable at 2.5 percent per year; the unemployment rate is constant at 5.0 percent; and the yield on 10-year Treasury notes is steady at 5.6 percent.
- Real GDP per hour, a measure of productivity, grows at the same average rate as in the Administration's medium-term projections—2.3 percent per year.
- Consistent with the demographic assumptions in the trustees' reports, U.S. population growth slows from around 1 percent per year to about half that rate by 2030, and slower rates of growth beyond that point. Annual population growth is only 0.2 percent at the end of the projection period in 2080.
- Real GDP growth declines over time because of the slowdown in population growth and the increase in the population over age 65, who supply less work effort than younger people do. Historically, real GDP has grown at an average yearly

rate of 3.4 percent. In these projections, average real GDP growth eventually declines to around 2.5 percent per year.

The economic and demographic projections described above are set by assumption and do not automatically change in response to changes in the budget outlook. This is unrealistic, but it simplifies comparisons of alternative policies.

Budget Projections: For the period through 2011, receipts and outlays follow the budget's policy projections, except that the projections do not include Social Security personal accounts. In the long run, receipts are projected using simple rules of thumb linking income taxes, payroll taxes, excise taxes, and other receipts to projected tax bases derived from the economic projections. Discretionary spending grows at the rate of growth in nominal GDP. Social Security is projected by the Social Security actuaries using these long-range assumptions. Medicare benefits are projected based on the estimates in the 2005 Medicare trustees' report, adjusted for differences in the inflation rate and the growth rate in real GDP per capita. Federal pensions are derived from the most recent actuarial forecasts available at the time the budget is prepared, replicated using Administration inflation assumptions. Medicaid outlays are based on the economic and demographic projections in the model. Other entitlement programs are projected based on rules of thumb linking program spending to elements of the economic and demographic projections such as the poverty rate.

Federally Owned Assets and Liabilities

Financial Assets: The principal source of data is the Federal Reserve Board's Flow-of-Funds Accounts.

Fixed Reproducible Capital: Estimates were developed from the OMB historical data base for physical capital outlays and software purchases. The data base extends back to 1940 and was supplemented by data from other selected sources for 1915–1939. The source data are in current dollars. To estimate investment flows in constant dollars, it was necessary to deflate

the nominal investment series. This was done using chained price indexes for Federal investment from the National Income and Product Accounts. The resulting capital stocks were aggregated into nine categories and depreciated using geometric rates roughly following those used by the Bureau of Economic Analysis in its estimates of physical capital stocks.

Fixed Nonreproducible Capital: Historical estimates for 1960–1985 were based on estimates in Michael J. Boskin, Marc S. Robinson, and Alan M. Huber, “Government Saving, Capital Formation and Wealth in the United States, 1947–1985,” published in *The Measurement of Saving, Investment, and Wealth*, edited by Robert E. Lipsey and Helen Stone Tice (The University of Chicago Press, 1989). Estimates were updated using changes in the value of private land from the Flow-of-Funds Balance Sheets and from the Agriculture Department for farm land; the value of Federal oil deposits was extrapolated using the Producer Price Index for Crude Energy Materials.

Debt Held by the Public: Treasury data.

Insurance and Guarantee Liabilities: Sources of data are the OMB Pension Guarantee Model and OMB estimates based on program data. Historical data on liabilities for deposit insurance were also drawn from CBO’s study, *The Economic Effects of the Savings and Loan Crisis*, issued January 1992.

Pension and Post-Employment Health Liabilities: The accrued liabilities for Federal retiree pensions and retiree health insurance along with the liability for Veterans disability compensation were derived from the *Financial Report of the United States Government* (and the Consolidated Financial Statement for some earlier years). Prior to 1976, the values were extrapolated.

Other Liabilities: The source of data for trade payables and miscellaneous liabilities is the Federal Reserve’s Flow-of-Funds Accounts. The *Financial Report of the United States Government* was the source for benefits due and payable.

National Balance Sheet

Publicly Owned Physical Assets: Basic sources of data for the federally owned or financed stocks of capital are the Federal investment flows described in Chapter 6. Federal grants for State and local government capital are added, together with adjustments for inflation and depreciation in the same way as described above for direct Federal investment. Data for total State and local government capital come from the revised capital stock data prepared by the Bureau of Economic Analysis extrapolated for 2005.

Privately Owned Physical Assets: Data are from the Flow-of-Funds national balance sheets and from the private net capital stock estimates prepared by the Bureau of Economic Analysis extrapolated for 2005 using investment data from the National Income and Product Accounts.

Education Capital: The stock of education capital is computed by valuing the cost of replacing the total years of education embodied in the U.S. population 15

years of age and older at the current cost of providing schooling. The estimated cost includes both direct expenditures in the private and public sectors and an estimate of students’ forgone earnings, i.e., it reflects the opportunity cost of education. Estimates of students’ forgone earnings are based on the minimum wage for high-school students and year-round, full-time earnings of 18–24 year olds for college students. These year-round earnings are reduced by 25 percent because students are usually out of school three months of the year. Yearly earnings by age and educational attainment are from the Bureau of the Census.

For this presentation, Federal investment in education capital is a portion of the Federal outlays included in the conduct of education and training. This portion includes direct Federal outlays and grants for elementary, secondary, and vocational education and for higher education. The data exclude Federal outlays for physical capital at educational institutions because these outlays are classified elsewhere as investment in physical capital. The data also exclude outlays under the GI Bill; outlays for graduate and post-graduate education spending in HHS, Defense and Agriculture; and most outlays for vocational training. The Federal share of the total education stock in each year is estimated by averaging the prior years’ shares of Federal education outlays in total education costs.

Data on investment in education financed from other sources come from educational institution reports on the sources of their funds, published in U.S. Department of Education, *Digest of Education Statistics*. Nominal expenditures were deflated by the implicit price deflator for GDP to convert them to constant dollar values. Education capital is assumed not to depreciate, but to be retired when a person dies. An education capital stock computed using this method with different source data can be found in Walter McMahon, “Relative Returns to Human and Physical Capital in the U.S. and Efficient Investment Strategies,” *Economics of Education Review*, Vol. 10, No. 4, 1991. The method is described in detail in Walter McMahon, *Investment in Higher Education*, Lexington Books, 1974.

Research and Development Capital: The stock of R&D capital financed by the Federal Government was developed from a data base that measures the conduct of R&D. The data exclude Federal outlays for physical capital used in R&D because such outlays are classified elsewhere as investment in federally financed physical capital. Nominal outlays were deflated using the GDP deflator to convert them to constant dollar values.

Federally funded capital stock estimates were prepared using the perpetual inventory method in which annual investment flows are cumulated to arrive at a capital stock. This stock was adjusted for depreciation by assuming an annual rate of depreciation of 10 percent on the estimated stock of applied research and development. Basic research is assumed not to depreciate. These are the same assumptions used in a study published by the Bureau of Labor Statistics estimating the R&D stocks financed by private industry (U.S. De-

partment of Labor, Bureau of Labor Statistics, "The Impact of Research and Development on Productivity Growth," Bulletin 2331, September 1989). Chapter 6 of this volume contains additional details on the estimates of the total federally financed R&D stock, as well as its national defense and nondefense components.

A similar method was used to estimate the stock of R&D capital financed from sources other than the Federal Government. The component financed by universities, colleges, and other nonprofit organizations is estimated based on data from the National Science Foundation, Surveys of Science Resources. The industry-financed R&D stock component is estimated from that source and from the U.S. Department of Labor, "The Impact of Research and Development on Productivity Growth," Bulletin 2331, September 1989.

Experimental estimates of R&D capital stocks have been prepared by BEA. The results are described in

"A Satellite Account for Research and Development," *Survey of Current Business*, November 1994. These BEA estimates are lower than those presented here primarily because BEA assumes that the stock of basic research depreciates, while the estimates in Table 13-4 assume that basic research does not depreciate. BEA also assumed a slightly higher rate of depreciation for applied research and development, 11 percent, compared with the 10 percent rate used here.

Sources of Data and Assumptions for Estimating Social Indicators

The main sources for the data in this table are the Government statistical agencies. The data are all publicly available, and can be found in such general sources as the annual *Economic Report of the President* and the *Statistical Abstract of the United States*, or from the respective agencies' web sites.

14. NATIONAL INCOME AND PRODUCT ACCOUNTS

The National Income and Product Accounts (NIPAs) are an integrated set of measures of aggregate U.S. economic activity that are prepared by the Department of Commerce. Because the NIPAs include Federal transactions and are widely used in economic analysis, it is important to show the NIPAs' distinctive presentation of Federal transactions and contrast it with that of the budget.

One of the main purposes of the NIPAs is to measure the Nation's total production of goods and services, known as gross domestic product (GDP), and the incomes generated in its production. GDP is a measure of the Nation's final output, which excludes intermediate product to avoid double counting. Both government consumption expenditures and government gross investment—State and local as well as Federal—are included in GDP as part of final output, together with personal consumption expenditures, gross private domestic investment, and net exports of goods and services (exports minus imports).

Other government expenditures—social benefits, grants to State and local governments, subsidies, and interest payments—are not purchases of final output and as such are not included in GDP; however, these transactions are recorded in the NIPA government current receipts and expenditures account, together with government consumption expenditures (which includes depreciation on government gross investment).

Federal transactions are included in the NIPAs as part of the government sector.¹ The Federal subsector is designed to measure certain important economic effects of Federal transactions in a way that is consistent with the conceptual framework of the entire set of integrated accounts. The NIPA Federal subsector is not itself a budget, because it is not a financial plan for proposing, determining, and controlling the fiscal activities of the Government. Also, it features current transactions, whereas the budget includes transactions that the NIPA current account omits from its current receipts and current expenditure totals as “capital transfers.” NIPA concepts also differ in many other ways from budget concepts, and therefore the NIPA presentation of Federal finances is significantly different from that of the budget.

Differences Between the NIPAs and the Budget

Federal transactions in the NIPAs are measured according to NIPA accounting concepts in order to be compatible with the purposes of the NIPAs and other transactions recorded in the NIPAs. As a result they differ from the budget in netting and grossing, timing, and coverage. These differences cause current receipts

and expenditures in the NIPAs to differ from total receipts and outlays in the budget, albeit by relatively small amounts.² Differences in timing and coverage also cause the NIPA net Federal Government saving to differ from the budget surplus or deficit. Netting and grossing differences have equal effects on receipts and expenditures and thus have no effect on net Government saving. Besides these differences, the NIPAs combine transactions into different categories from those used in the budget.

Netting and grossing differences arise when the budget records certain transactions as offsets to outlays while they are recorded as current receipts in the NIPAs (or vice versa). The budget treats all income that comes to the Government due to its sovereign powers—mainly, but not exclusively, taxes—as governmental receipts. The budget offsets against outlays any income that arises from voluntary business-type transactions with the public. The NIPAs often follow this concept as well, and income to Government revolving accounts (such as the Government Printing Office) is offset against their expenditures. However, the NIPAs have a narrower definition of “business-type transactions” than does the budget. Two classes of receipts, rents and royalties, and some regulatory or inspection fees, both of which are classified as offsets to outlays in the budget, are recorded in the NIPAs as Government receipts (income receipts on assets and current transfer receipts, respectively). The NIPAs include Medicare premiums as Government receipts, while the budget classifies them as business-type transactions (offsetting receipts). In addition, the NIPAs treat the net surplus of Government enterprises as a component of current receipts.

In the budget, any intragovernmental income paid from one account to another is offset against outlays rather than being recorded as a receipt so that total outlays and receipts measure transactions with the public. Government contributions for Federal employee social insurance (such as Social Security) is an example: the budget offsets these payments against outlays. In contrast, the NIPAs treat the Federal Government like any other employer and show contributions for Federal employee social insurance as expenditures by the employing agencies and as governmental (rather than offsetting) receipts. The NIPAs also impute certain transactions that are not explicit in the budget. For example, unemployment benefits for Federal employees are financed by direct appropriations rather than social insurance contributions. The NIPAs impute social insurance contributions by employing agencies to finance

¹The other subsector of the NIPA government sector is a single set of transactions for all U.S. State and local units of government, treated as a consolidated entity.

²Over the period 1994–2005, NIPA current expenditures averaged 4.5 percent higher than budget outlays, while NIPA current receipts averaged 3.5 percent higher than budget receipts.

these benefits—again, treating the Federal Government like any other employer.

Timing differences for receipts occur because the NIPAs generally record personal taxes and social insurance contributions when they are paid and business taxes when they accrue, while the budget generally records all receipts when they are received. Thus the NIPAs attribute corporations' final settlement payments back to the quarter(s) in which the profits that gave rise to the tax liability occurred. The delay between accrual of liability and Treasury receipt of payment can result in significant timing differences between NIPA and budget measures of receipts for any given accounting period.

Timing differences also occur for expenditures. When the first day of a month falls on a weekend or holiday, monthly benefit checks normally mailed on the first day of the month may be mailed out a day or two earlier; the budget then reflects two payments in one month and none the next. As a result, the budget totals occasionally reflect 13 monthly payments in one year and only 11 the next. NIPA expenditure figures always reflect 12 benefit payments per year, giving rise to a timing difference compared to the budget.

Coverage differences also differentiate the budget and the NIPAs. Certain items in the budget are excluded from the NIPA Federal current account because they are capital transfers unrelated to current economic production. Examples include Federal investment grants to State and local governments, investment subsidies to business, lump sum payments to amortize the unfunded liability of the Uniformed Services Retiree Health Care Fund, and forgiveness of debt owed by foreign governments. Likewise, estate and gift taxes, included in budget receipts, are excluded from NIPA current receipts as being capital transfers. They also exclude the proceeds from the sales of nonproduced assets such as land. Bonuses paid on Outer Continental Shelf oil leases and proceeds from broadcast spectrum auctions are shown as offsetting receipts in the budget and are deducted from budget outlays. In the NIPAs these transactions are excluded from the Federal current account as an exchange of assets with no current production involved. Also unlike the budget, the NIPAs exclude transactions with U.S. territories.

A coverage difference arises on the expenditure side because of the NIPA treatment of Government investment. The budget includes outlays for Federal investments as they are paid, while the NIPA Federal current account instead excludes current investments but includes a depreciation charge on past investments ("consumption of general government fixed capital") as part of "current expenditures." The inclusion of depreciation

on fixed capital (structures, equipment and software) in current expenditures is a proxy for the services that capital renders; i.e., for its contribution to Government output of public services.

The treatment of Government pension plan income and outgo creates a coverage difference. Whereas the budget treats employee payments to these pension plans as governmental receipts, and employer contributions by agencies as offsets to outlays because they are intragovernmental, the NIPAs treat both of these components of employee compensation as personal income, in the same way as it treats contributions to pension plans in the private (household) sector. Likewise, the budget records a Government check to a retired Government employee as an outlay, but under NIPA concepts, no Government expenditure occurs at that time; the payment is treated (like private pension payments) as a transfer of income within the household sector.

Financial transactions such as loan disbursements, loan repayments, loan asset sales, and loan guarantees are excluded from the NIPAs on the grounds that such transactions simply involve an exchange of assets rather than current production, income, or consumption. In contrast, under the Federal Credit Reform Act of 1990, the budget records the estimated subsidy cost of the direct loan or loan guarantee as an outlay when the loan is disbursed. The cash flows with the public are recorded in nonbudgetary accounts as a means of financing the budget rather than as budgetary transactions themselves. This treatment recognizes that part of a Federal direct loan is an exchange of assets with equal value but part is a subsidy to the borrower. It also recognizes the subsidy normally granted by loan guarantees. In the NIPAs, neither the subsidies nor the loan transactions are included. However, the NIPAs, like the budget, include all interest transactions with the public, including interest received by and paid to the loan financing accounts; and both the NIPAs and the budget include administrative costs of credit program operations.

Deposit insurance outlays for resolving failed banks and thrift institutions are similarly excluded from the NIPAs on the grounds that there are no offsetting current income flows from these transactions. In 1991, this exclusion was the largest difference between the NIPAs and the budget and made NIPA net Government saving a significantly smaller negative number than the budget deficit that year. In subsequent years, as assets acquired from failed financial institutions were sold, these collections tended to make the budget deficit a smaller negative figure than NIPA net Federal Government saving.

Table 14–1. FEDERAL TRANSACTIONS IN THE NATIONAL INCOME AND PRODUCT ACCOUNTS, 1996–2007
(in billions of dollars)

Description	Actual										Estimate	
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
CURRENT RECEIPTS												
Current tax receipts	913.6	1,010.2	1,105.9	1,165.2	1,305.6	1,266.9	1,089.7	1,054.2	1,084.8	1,325.6	1,420.0	1,516.1
Personal current taxes	648.2	729.0	814.1	868.5	987.4	993.8	851.1	779.0	774.4	920.0	994.5	1,098.4
Taxes on production and imports	73.0	77.2	80.7	82.5	87.8	86.4	86.4	89.1	92.8	102.3	106.1	111.0
Taxes on corporate income	187.7	198.9	205.9	207.9	223.5	179.5	144.7	178.0	208.9	293.5	309.4	296.6
Taxes from the rest of the world	4.7	5.1	5.2	6.2	6.8	7.1	7.4	8.1	8.7	9.9	10.0	10.0
Contributions for government social insurance	535.3	565.4	604.4	642.2	687.8	713.8	729.6	752.5	800.3	838.9	893.8	948.8
Income receipts on assets	26.6	26.7	22.3	20.9	24.3	26.4	21.3	21.4	22.0	22.3	25.9	26.5
Current transfer receipts	19.1	23.8	21.0	21.8	24.9	26.5	25.5	24.9	27.6	8.3	35.1	35.8
Current surplus of government enterprises	-1.9	0.2	-*	0.3	-1.3	-6.5	-1.1	2.1	0.2	-4.8	-4.9	-6.6
Total current receipts	1,492.7	1,626.4	1,753.5	1,850.3	2,041.2	2,027.1	1,865.0	1,855.1	1,934.9	2,190.4	2,369.9	2,520.6
CURRENT EXPENDITURES												
Consumption expenditures	436.8	454.6	452.9	469.5	496.0	519.7	575.5	646.6	707.5	772.6	831.1	837.0
Defense	295.5	304.4	301.3	307.2	321.2	335.7	368.4	424.2	471.2	511.4	549.6	549.9
Nondefense	141.3	150.2	151.6	162.3	174.8	184.0	207.1	222.5	236.3	261.1	281.5	287.1
Current transfer payments	873.0	908.2	940.3	976.4	1,023.2	1,108.0	1,216.6	1,308.2	1,378.4	1,461.8	1,580.7	1,678.3
Government social benefits	670.2	700.0	716.4	733.0	762.7	823.6	900.9	955.1	1,006.4	1,072.7	1,176.1	1,274.2
Grants-in-aid to State and local governments ..	188.6	194.1	209.9	227.7	244.1	268.2	296.7	329.9	347.5	360.9	371.8	377.8
Other transfers to the rest of the world	14.1	14.2	14.0	15.7	16.4	16.3	19.0	23.2	24.5	28.3	32.9	26.4
Interest payments	295.8	299.4	299.7	285.9	283.3	267.9	234.9	215.9	219.3	247.0	284.2	316.4
Subsidies	33.3	31.3	33.6	36.1	49.6	53.7	37.9	45.2	43.2	44.9	55.1	59.2
Wage disbursements less accruals												
Total current expenditures	1,638.9	1,693.5	1,726.5	1,767.9	1,852.0	1,949.3	2,064.9	2,216.0	2,348.5	2,526.2	2,751.2	2,891.0
Net Federal Government saving	-146.1	-67.1	27.0	82.4	189.2	77.8	-199.9	-361.0	-413.6	-335.8	-381.3	-370.4
ADDENDUM: TOTAL RECEIPTS AND EXPENDITURES												
Current receipts	1,492.7	1,626.4	1,753.5	1,850.3	2,041.2	2,027.1	1,865.0	1,855.1	1,934.9	2,190.4	2,369.9	2,520.6
Capital transfer receipts	17.1	19.7	23.9	27.6	28.8	28.2	26.4	21.7	24.7	24.6	27.4	23.5
Total receipts	1,509.8	1,646.1	1,777.4	1,877.9	2,070.0	2,055.3	1,891.3	1,876.8	1,959.6	2,215.0	2,397.3	2,544.1
Current expenditures	1,638.9	1,693.5	1,726.5	1,767.8	1,852.0	1,949.3	2,064.9	2,216.0	2,348.5	2,526.2	2,751.2	2,891.0
Net investment:												
Gross government investment:												
Defense	52.6	44.5	45.4	46.5	48.5	49.9	54.5	58.8	66.0	70.4	74.6	75.1
Nondefense	28.5	28.5	29.7	31.9	32.2	30.3	32.6	33.1	32.7	33.8	37.1	38.2
Less: Consumption of fixed capital:												
Defense	61.4	60.6	59.8	59.7	60.2	60.3	60.4	61.4	63.4	67.2	70.0	72.8
Nondefense	20.6	21.8	22.9	24.5	26.5	27.7	28.2	28.6	29.1	29.8	32.5	36.1
Capital transfer payments	27.7	28.9	28.2	31.3	35.1	39.8	44.3	61.8	62.4	63.2	69.8	75.4
Net purchases of nonproduced assets	-0.1	-11.0	-5.3	-1.7	-0.3	-0.9	0.2	0.0	0.1	0.1	0.2	-19.5
Total expenditures	1,665.5	1,702.2	1,741.8	1,791.7	1,880.8	1,980.3	2,108.0	2,279.8	2,417.2	2,708.2	2,951.3	3,069.0
Net lending or net borrowing (-)	-155.7	-56.0	35.7	86.1	189.2	74.9	-216.7	-403.0	-457.6	-493.2	-554.1	-524.8

* \$50 million or less.

Federal Sector Current Receipts

Table 14–1 shows Federal current receipts in the five major categories and four of the subcategories used in the NIPAs, which are similar to the budget categories but with significant differences.

Current tax receipts is the largest category of current receipts, and its personal current taxes subcategory—composed primarily of the individual income tax—is the largest single subcategory. The NIPAs' taxes on cor-

porate income subcategory differs in classification from the corresponding budget category primarily because the NIPAs include the deposit of earnings of the Federal Reserve System as corporate income taxes, while the budget treats these collections as miscellaneous receipts. (The timing difference between the NIPAs and the budget is especially large for corporate receipts.) The taxes on production and imports subcategory is composed of excise taxes and customs duties.

Contributions for Government social insurance is the second largest category of current receipts. It differs from the corresponding budget category primarily because: (1) the NIPAs include Federal employer contributions for social insurance as a governmental receipt, while the budget offsets these contributions against outlays as undistributed offsetting receipts; (2) the NIPAs include premiums for Parts B and D of Medicare as governmental receipts, while the budget nets them against outlays; (3) the NIPAs treat Government employee contributions to their pension plans as a transfer of personal income within the household sector (as if the pension system were private), while the budget includes them in governmental receipts; and (4) the NIPAs impute employer contributions for Federal employees' unemployment insurance and workers' compensation.

The income receipts on assets category consists mainly of interest payments received on Government direct loans (such as student loans) and rents and royalties on Outer Continental Shelf oil leases. The current transfer receipts category consists primarily of deposit insurance premiums, fees, fines and other receipts from both individuals and businesses, less insurance settlements from the National Flood Insurance Program—virtually all of which are netted against outlays in the budget. The current surplus (or deficit) of Government enterprises category was formerly netted against subsidies on the expenditure side of the accounts. This is the profit or loss of "Government enterprises," such as the Postal Service, which are business-type operations of Government that usually appear in the budget as public enterprise revolving funds. Depreciation (consumption of enterprise fixed capital) is netted in calculating the current surplus of Government enterprises.

Federal Sector Current Expenditures

Table 14-1 shows current expenditures in five major NIPA categories and five subcategories, which are also very different from the budget categories.

Government consumption expenditures are the goods and services purchased by the Federal Government in the current account, including compensation of employees and depreciation. Gross investment (shown among the addendum items in Table 14-1) is thus excluded from current expenditures in computing net Government saving on a NIPA basis, whereas depreciation—charges on federally owned fixed capital—"consumption of general government fixed capital" is included. The NIPAs treat State and local investment and capital consumption in the same way—regardless of the extent to which it is financed with Federal aid (capital transfer payments) or from State and local own-source receipts.

Although gross investment is not included in Government current expenditures, both Government gross investment and current consumption expenditures (including depreciation) are included in total GDP, which makes the treatment of the government sector in the NIPAs similar to that of the private sector. Investment includes structures, equipment, and computer software.

Current transfer payments is the largest expenditure category. Transfer payments for Government social benefits consist mainly of income security and health programs, such as Social Security and Medicare paid to U.S. residents—and to retirees living outside the United States—Payment of pension benefits to former Government employees is not included, as explained previously. Grants-in-aid to State and local governments help finance a range of programs, including income security, Medicaid, and education (but capital transfer payments for construction of highways, airports, waste-water treatment plants, and mass transit are excluded). "Current transfer payments to the rest of the world (net)" consists mainly of grants to foreign governments.

Interest payments is the interest paid by the Government on its debt (excluding debt held by trust funds, other than Federal employee pension plans; and other Government accounts). Where the budget nets interest received on loans against outlays, the NIPAs now treat it as current receipts.

Subsidies consist of subsidy payments for resident businesses (excluding subsidies for investment). NIPA subsidies do not include the imputed credit subsidies estimated as budget outlays under credit reform. Rather, as explained previously loans and guarantees are categorized as financial transactions and are excluded from the NIPAs except for associated interest and fees.

Wage disbursements less accruals is an adjustment that is necessary to the extent that the wages paid in a period differ from the amount earned in the period.

Differences in the Estimates

Since the introduction of the unified budget in January 1968, NIPA current receipts have been greater than budget receipts in most years. This is due principally to grossing differences and the fact that estate and gift taxes, which the NIPAs exclude as capital transfers, roughly matched Medicare premiums, which the NIPAs include as a governmental receipt but the budget treats as an offsetting receipt. (In the budget, offsetting receipts are netted against the outlay total and not included in the governmental receipts total.) Since 1986, NIPA current expenditures have usually been higher than budget outlays (from which the Medicare premiums and employer retirement contributions are netted out as offsetting receipts), despite the omission from NIPA expenditures of capital transfer grants and pension benefit payments to former Government employees.

Two components of budget outlays, however, are sometimes sufficiently large in combination to exceed the netting and grossing adjustments. These are financial transactions and net investment (the difference between gross investment and depreciation). Large outlays associated with resolving the failed savings and loan associations and banks in 1990 and 1991 caused those year's budget outlays to exceed NIPA current expenditures. With the change in budgetary treatment of direct loans in 1992 under credit reform, one type

Table 14–2. RELATIONSHIP OF THE BUDGET TO THE FEDERAL SECTOR, NIPA's

Description	Actual									Estimate		
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
RECEIPTS												
Budget receipts	1,453.2	1,579.4	1,722.0	1,827.6	2,025.5	1,991.4	1,853.4	1,782.5	1,880.3	2,153.9	2,285.5	2,415.9
Contributions to government employee retirement plans	-4.5	-4.4	-4.3	-4.5	-4.8	-4.7	-4.6	-4.6	-4.6	-4.5	-4.5	-4.3
Capital transfers received	-17.1	-19.7	-23.9	-27.6	-28.8	-28.2	-26.3	-21.7	-24.7	-24.6	-27.4	-23.5
Other coverage differences	-3.6	-3.9	-5.8	-7.0	-8.0	-7.9	-8.9	-9.1	-10.0	-11.3	-11.9	-12.7
Netting and grossing	62.8	69.5	64.5	65.7	70.6	69.9	77.0	84.9	89.0	71.0	112.9	120.8
Timing differences	1.8	5.5	1.1	-3.9	-13.2	6.7	-25.6	23.1	4.9	5.9	15.3	24.6
NIPA current receipts	1,492.7	1,626.4	1,753.5	1,850.3	2,041.2	2,027.1	1,865.0	1,855.1	1,934.9	2,190.4	2,369.9	2,520.6
EXPENDITURES												
Budget outlays	1,560.6	1,601.3	1,652.7	1,702.0	1,789.2	1,863.2	2,011.2	2,160.1	2,293.0	2,472.2	2,708.7	2,770.1
Government employee retirement plan transactions	26.8	31.6	31.3	32.1	31.7	31.5	33.7	32.5	32.8	39.8	40.4	40.7
Deposit insurance and other financial transactions	2.3	-6.4	-7.1	-6.1	-9.0	-6.2	-6.7	1.7	1.1	4.8	-16.2	-9.3
Capital transfer payments	-27.7	-28.9	-28.2	-31.3	-35.1	-39.8	-44.1	-45.5	-46.3	-47.4	-50.6	-55.6
Net purchases of nonproduced assets	0.1	11.0	5.3	1.7	0.2	0.9	-0.2	-0	-0.1	-0.1	-0.2	19.5
Net investment	0.9	9.3	7.6	5.7	6.0	7.9	1.4	-1.9	-6.2	-7.2	-9.2	-4.4
Other coverage differences	3.1	11.4	1.0	2.7	4.0	7.9	-0.6	-13.2	-18.5	-26.5	-18.0	-3.7
Netting and grossing differences	62.8	69.5	64.5	65.7	70.6	69.9	77.0	84.9	89.0	71.0	112.9	120.8
Timing differences	9.9	-5.4	-0.7	-4.7	-5.6	14.3	-6.7	-2.6	3.8	19.6	-16.6	13.0
NIPA current expenditures	1,638.9	1,693.5	1,726.5	1,767.8	1,852.0	1,949.3	2,064.9	2,216.0	2,348.5	2,526.2	2,751.2	2,891.0
ADDENDUM												
Budget surplus or deficit (-)	-107.4	-21.9	69.3	125.6	236.2	128.2	-157.8	-377.6	-412.7	-318.3	-423.2	-354.2
NIPA net Federal Government saving	-146.1	-67.1	27.0	82.4	189.2	77.8	-199.9	-361.0	-413.6	-335.8	-381.3	-370.4

* \$50 million or less.

of financial transaction—direct loans to the public—has been recorded in the budget in a way that is closer to the NIPA treatment. Disbursement and repayment of loans made since that time are recorded outside the budget as in the Federal sector of the NIPAs, although, unlike the NIPAs, credit subsidies are recorded as budget outlays.

During the period 1975–1992, the budget deficit was a larger negative number than net Federal Government saving as measured in the NIPAs every year. The largest difference, \$78.8 billion, occurred in 1991 as a result of resolving failed financial institutions as discussed above; the budget deficit was then -\$269.2 billion, while the NIPA net Government saving was -\$190.5 billion. In 1993–2002, the NIPA net Federal Government saving was a larger negative number than the budget deficit or lower positive number than the budget surplus each year. For 2003–2004, and in the estimate for 2006, though not for 2005 or 2007, the NIPA net Federal

Government saving is a smaller negative number than the budget deficit.

Table 14–1 displays Federal transactions using NIPA concepts with actual data for 1996–2005 and estimates for 2006 and 2007 consistent with the Administration's budget proposals. Table 14–2 summarizes the reasons for differences between the data. Table 14–3 displays quarterly data beginning with the last quarter of 2004 based on NIPA concepts. Annual NIPA data for 1948–2007 are published in Section 14 of a separate budget volume, *Historical Tables, Budget of the U.S. Government, Fiscal Year 2007*.

Detailed estimates of NIPA current receipts and expenditures consistent with the budget will be published in a forthcoming issue of the Department of Commerce publication, *Survey of Current Business* and on the Bureau of Economic Analysis website at <http://www.bea.doc.gov/bea/pubs.htm>.

Table 14-3. FEDERAL RECEIPTS AND EXPENDITURES IN THE NIPA's, QUARTERLY, 2005-2007
(in billions of dollars; seasonally adjusted at annual rates)

Description	Actual				Estimate							
	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.
	2004	2005	2005	2005	2005	2006	2006	2006	2006	2007	2007	2007
CURRENT RECEIPTS												
Current tax receipts	1,181.3	1,305.1	1,331.8	1,338.7		1,375.3	1,384.4	1,409.9	1,435.7	1,474.3	1,498.7	1,522.3
Personal current taxes	839.7	908.3	924.3	940.5		996.6	1,009.2	1,038.3	1,065.5	1,100.3	1,123.3	1,144.3
Taxes on production and imports	95.1	95.4	98.3	97.5		97.4	99.5	100.7	102.8	103.7	104.2	104.6
Taxes on corporate income	235.3	291.7	300.8	290.7		271.3	265.7	260.8	257.5	260.3	261.1	263.3
Taxes from the rest of the world	11.2	9.7	8.5	10.0		10.0	10.0	10.0	10.0	10.0	10.0	10.0
Contributions for government social insurance	823.4	841.1	845.1	852.6		888.2	902.2	915.9	928.4	947.9	956.7	965.8
Income receipts on assets	22.2	23.0	24.3	22.8		24.8	25.7	26.5	26.3	25.8	25.2	25.8
Current transfer receipts	30.0	30.4	30.2	-61.4		33.2	33.7	34.0	33.9	33.9	33.9	33.7
Current surplus of government enterprises	-2.3	-2.9	-3.6	-4.3		-2.9	-4.1	-5.7	-5.7	-6.3	-6.4	-6.8
Total current receipts	2,054.6	2,196.6	2,227.9	2,148.5		2,318.6	2,342.0	2,380.7	2,418.6	2,475.6	2,508.1	2,540.9
CURRENT EXPENDITURES												
Consumption expenditures	735.1	759.6	762.8	782.9		816.2	826.9	825.5	820.6	823.4	822.9	822.8
Defense	490.1	508.9	512.3	528.6		549.8	558.1	555.3	549.4	551.4	550.0	549.0
Nondefense	245.1	250.7	250.5	254.3		266.4	268.9	270.1	271.2	272.0	272.9	273.8
Current transfer payments	1,419.0	1,458.7	1,459.9	1,474.4		1,576.9	1,584.8	1,591.2	1,625.9	1,649.5	1,673.9	1,699.9
Government social benefits	1,034.9	1,064.2	1,077.9	1,094.4		1,188.9	1,191.2	1,194.8	1,225.4	1,262.8	1,282.5	1,302.0
Grants-in-aid to State and local governments ..	358.7	356.1	358.6	354.1		356.2	363.9	368.1	365.2	364.7	368.1	372.9
Other transfers to the rest of the world	25.3	38.3	23.5	25.9		31.8	29.7	28.2	35.3	22.0	23.3	25.0
Interest payments	226.1	226.6	250.8	250.8		277.8	286.9	295.5	303.0	310.8	318.3	325.5
Subsidies	46.1	50.1	51.6	55.6		59.4	61.4	62.9	63.0	63.8	64.6	65.4
Wage disbursements less accruals												
Total current expenditures	2,426.2	2,494.9	2,525.2	2,563.7		2,730.3	2,760.1	2,775.0	2,812.5	2,847.5	2,879.7	2,913.6
Net Federal Government saving	-371.6	-298.3	-297.3	-415.2		-411.7	-418.0	-394.3	-393.9	-371.9	-371.6	-372.8
ADDENDUM: TOTAL RECEIPTS AND EXPENDITURES												
Current receipts	2,054.6	2,196.6	2,227.9	2,148.5		2,318.6	2,342.0	2,380.7	2,418.6	2,475.6	2,508.1	2,540.9
Capital transfer receipts	23.9	24.9	24.4	25.1		26.5	26.6	26.1	25.1	22.8	21.4	19.7
Total receipts	2,078.5	2,221.5	2,252.3	2,173.6		2,345.0	2,368.6	2,406.8	2,443.7	2,498.4	2,529.5	2,560.6
Current expenditures	2,426.2	2,494.9	2,525.2	2,563.7		2,730.3	2,760.1	2,775.0	2,812.5	2,847.5	2,879.7	2,913.6
Net investment:												
Gross government investment:												
Defense	71.9	66.4	70.2	73.1		72.6	75.5	74.9	75.1	74.9	75.6	74.7
Nondefense	33.8	34.3	36.8	36.3		38.4	39.0	39.5	39.8	39.8	39.7	39.4
Less: Consumption of fixed capital:												
Defense	66.2	66.8	67.5	68.2		69.6	70.3	71.0	71.7	72.4	73.2	73.9
Nondefense	29.7	30.0	30.3	30.9		32.0	32.8	34.0	34.8	35.6	36.4	37.6
Capital transfer payments	61.8	80.0	67.1	64.2		69.0	69.5	71.0	72.8	74.4	75.3	77.4
Net purchases of nonproduced assets	-1.0	0.3	-0.6	-1.6		0.1	0.2	0.2	-19.5	-19.5	-19.5	-19.5
Total expenditures	2,496.8	2,578.9	2,601.0	2,636.5		2,808.8	2,841.1	2,855.5	2,874.2	2,909.2	2,941.3	2,974.2
Net lending or net borrowing (-)	-418.2	-357.4	-348.7	-462.9		-463.8	-472.5	-448.8	-430.5	-410.8	-411.8	-413.6

Department of Commerce advance estimates for the Oct.-Dec. 2005 quarter, released January 27, 2006, were not available in time for inclusion in this table.

* \$50 million or less.

12. ECONOMIC ASSUMPTIONS

By the end of 2006 the U.S. economy had entered its sixth year of expansion, with a moderate pace of economic growth, sustained increases in payroll jobs, relatively low levels of unemployment and underlying inflation, and good prospects for steady, sustained growth ahead.¹ The ongoing solid economic performance of recent years demonstrates the resilience of the U.S. economy and the beneficial effects of successful pro-growth policies, including tax relief, Federal Reserve monetary policy actions, and ongoing efforts to promote investment in innovative technologies and to liberalize international trade.

The performance of the past five years reveals the robust nature of the U.S. economic expansion and the ability of the economy to overcome a series of shocks, including: sharp declines in the stock market and in investment in business equipment that led to the economic slowdown and recession of 2000–2001; the terrorist attacks of September 11, 2001; the onset of the Global War on Terror; high and increasing prices for crude oil and energy in recent years; and the substantial damage and disruptions from the 2005 hurricane season. Further, during 2006, the U.S. economy began to experience adverse effects from a housing market slowdown. Despite these unfavorable events, the U.S. economy has continued to expand, with solid productivity and income growth, low unemployment, and the generation of more than 7.2 million payroll jobs since August 2003 (including revisions).

As 2007 begins, the Administration and other public and private forecasters expect the expansion to continue throughout the budget window, with sustained non-inflationary real growth providing a solid foundation for the Federal budget outlook.

Recent Economic Performance

At the time of the preparation of the Budget, real gross domestic product (GDP) in the U.S. economy has been increasing for 20 consecutive quarters, averaging 3.0 percent growth at an annual rate during the expansion. Over the four quarters of 2006, real GDP growth was on track to register about a 3.1 percent growth rate, following the same pace during 2005 and a 3.4 percent rate during 2004.

Increases in employment and ongoing strong gains in the efficiency of the U.S. workforce—that is, high growth in labor productivity—have combined to generate the sustained growth in real output in recent years.

- In labor markets, nonfarm payroll employment has increased by more than 7.2 million jobs since the post-recession low in August 2003, with about

2.0 million of those job gains occurring during 2006.

- Reflecting the improved labor situation, the unemployment rate was down to 4.5 percent in December 2006 from its post-recession high of 6.3 percent in June 2003—and recently has been at its lowest level in five years, and at levels below the averages of each of the past five decades.
- Labor productivity gains—the increase in output per hour of labor—have been remarkably strong during the expansion, providing a substantial boost to growth in real GDP. Output per hour in the nonfarm business sector has increased at a 3.0 percent average annual rate over the past five years, although at a slower 2.5 percent pace since the spring of 2003, reflecting the return to stronger employment growth.
- The productivity gains during the expansion reinforce the stronger trend productivity performance of the past decade. Since 1995, labor productivity in the nonfarm business sector has increased at about a 2.8 percent annual rate, double the 1.4 percent annual rate of gain in the period from 1973 to 1995.

Stronger growth in labor productivity is a fundamental building block for the longer-term performance of the economy and represents the essential basis for rising wages and increasing standards of living for American workers and families.

- Reflecting labor gains from stronger productivity growth, during 2006 real hourly earnings of production workers rose by 1.7 percent, the strongest annual gain in five years.
- Through November, real disposable personal income had increased by 3.0 percent at an annual rate during 2006, and the real per capita increase was at a 2.0 percent rate. By way of comparison, during the current expansion real disposable personal income per capita is up 9.7 percent, compared with the 6.7 percent increase during the equivalent period of the prior expansion of the 1990s.

Other economic indicators also provide evidence for the sustained growth performance of the U.S. economy in recent years and during 2006:

- Through the third quarter of 2006, real consumer spending had increased at a 3.4 percent annual rate, following increases at a 2.9 percent rate during 2005 and at a 4.0 percent rate during 2004. In the fourth quarter, consumption spending growth continued, providing a strong base for final demand in the economy at the end of the year.

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

- Real fixed business investment in structures showed strong gains in 2006, rising at a 15 percent annual rate through the third quarter of the year, on track to being the strongest annual increase in more than two decades.
- Real business investment in durable equipment and software increased by 7.1 percent at an annual rate through the third quarter of 2006, following the increases of 7.0 percent during 2005 and 8.3 percent during 2004.
- Real net exports improved during the year as real exports grew by 9.0 percent at an annual rate through the third quarter of 2006—on track to being the strongest performance in 10 years.

Although the underlying trend performance of the U.S. economy has been good and the gains have translated into solid growth of output, incomes, wages, and accumulating wealth, the economy continues to face important challenges—some new, some ongoing including:

- *The housing market* and residential investment activity generally slowed sharply during 2006, subtracting significantly from real GDP growth as the year went on. Housing starts peaked at an annual rate of more than 2.2 million units early in the year, but fell back to about a 1.5 million to 1.6 million annual pace near the end of the year—the lowest in about 5 years. During 2006, real residential investment spending was on track to subtract about 0.7 percentage point from overall real GDP growth.
- *Manufacturing activity* showed signs of slowing at the end of the summer and into the fall. Industrial production of consumer durables slipped in September and October, reflecting declines in production of motor vehicles, energy products, and residential appliances, furniture, and carpeting. Survey measures of manufacturing activity also showed slowing activity. Even so, manufacturing industrial production rose in December and was 3.3 percent higher than in December 2005.
- *Energy prices*—notably crude oil, natural gas, and gasoline prices—increased sharply over the past five years and continued at relatively high levels during much of 2006. For example, the benchmark price for West Texas Intermediate crude oil increased from under \$20 a barrel in December 2001 to about \$74 a barrel in July 2006. Over the same period, the national average retail gasoline price rose from \$1.09 a gallon to \$2.98 a gallon. Some relief occurred during the second half of 2006 as the price of crude oil fell back to below \$61 a barrel by the end of the year, and the retail gasoline price fell to \$2.34 a gallon.
- *The lingering effects from hurricane damage* presented challenges during 2006 as the economy worked through and rebounded from the adverse effects of the severe 2005 hurricane season. Some of the persisting high energy prices in the first half of the year described above can be attributed

to effects from hurricane damage to key oil, natural gas, and refining facilities.

- *Inflation* initially increased as the rise in energy and gasoline prices contributed to higher inflation rates during 2005 and through the middle of 2006—but price increases began to moderate by the end of 2006. The consumer price index (CPI) rose 2.5 percent during 2006 (December to December), down from a 3.4 percent rate during 2005.
- *Core inflation* rose during the first half of 2006 and then began to subside. Abstracting from volatile food and energy items shows that “core” CPI inflation was 2.6 percent during 2006, up from 2.2 percent during 2005. The price index for personal consumption expenditures excluding food and energy items from the National Income and Product Accounts (NIPAs)—which uses a method of calculation that eliminates one source of upward bias that exists in the CPI measures—was up at a 2.3 percent annual rate through November, compared to the 2.1 percent rate during 2005.
- *Imbalances in international accounts* persisted during 2006 with the trade deficit at about 6 percent of GDP and the current account deficit at nearly 7 percent of GDP. Even so, the international imbalances actually stabilized over the past year with little effect on real GDP growth—after having risen steadily over the past decade and subtracting 0.6 percentage point per year on average from GDP growth over that time.

The economy continued to grow in the face of these challenges, although growth has slowed somewhat over the past year. Despite the volatility in the overall rate of inflation, underlying inflation remains relatively subdued and was lower during the last six months than earlier in 2006. Meanwhile, expectations of future inflation do not appear to be adversely affecting business or household decisions. In general, despite adverse events and slowing performance in specific sectors, economic performance as a whole during 2006 confirms that the U.S. economy is on track for continued expansion with non-inflationary real growth.

Policy Background

The fiscal and monetary policies of the past five years have successfully contributed to the current good economic performance. The general fiscal policy outlook—as presented in the President’s Budget—reflects the outlook for sustained expansion in the U.S. economy for the foreseeable future. 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 variety of shocks it faced. Those policies continue to provide a solid foundation for current and future economic performance.

Fiscal Policy: Beginning in 2001, the Administration proposed, and the Congress enacted, significant tax relief designed to overcome the shocks and recession—promoting recovery in the growth of 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 Job Creation and Worker Assistance Act of 2002* permitted immediate depreciation of 30 percent of the value of qualified new capital assets put in place for three years. The Act also extended unemployment insurance benefits to workers who had exhausted their normal benefits.
- *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 has extended tax relief, helping to ensure that key provisions would continue and not expire.

Monetary Policy and Interest Rates: As 2007 begins, the Federal Reserve continues to orient monetary policy toward promoting sustained non-inflationary real growth in the U.S. economy. As the expansion strengthened, the Federal Reserve raised the Federal funds rate in a steady series of increases from 1 percent to 5.25 percent. The Federal funds rate remained at 5.25 percent over the second half of 2006. In a recent policy statement, the Federal Open Market Committee stated that “the economy seems likely to expand at a moderate pace on balance over coming quarters... Nonetheless... some inflation risks remain.” The Administration’s forecast for the 3-month Treasury bill rate, presented below, was derived to be consistent with market expectations for the interest rate outlook at the time the forecast was completed.

During 2006, longer-term interest rates, notably the yield on 10-year Treasury notes, remained low by historical standards. The 10-year rate traded as low as 4.3 percent in January and as high as 5.25 percent in June, but it ended the year at 4.7 percent. With the Federal funds rate exceeding 5 percent for most of the year, the low 10-year Treasury yields during the year produced a somewhat inverted structure of interest rates across short- to long-term maturities.

Trade and Regulatory Policies and Competitiveness Initiatives: Beyond these budget and monetary policies, the Administration continues to work 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 is one of the Administration’s top priorities. Efforts continue to negotiate

and implement bilateral, regional, and multilateral agreements to promote international trade and investment with countries around the world. These policies create and expand markets for U.S. exports and strengthen the U.S. economy while also creating new economic opportunities for our trading partners—including helping 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, based on information available as of mid-November 2006, are summarized in Table 12–1. These assumptions are close to those of the Congressional Budget Office and the consensus of private-sector forecasters, as described in more detail below and shown in Table 12–2. In brief, the assumptions call for a continuation of the recent trends of sustained growth, solid jobs growth, low inflation, and relatively low interest rates.

Real GDP, Potential GDP, and Unemployment Rate: Real GDP, which is estimated to have increased 3.1 percent in 2006 on a fourth quarter-over-fourth quarter basis, is projected to increase 2.9 percent this year. During the next few years, both actual and potential growth are projected to moderate slightly from 3.1 percent for 2008 to 2.9 percent by 2012. As a result, the unemployment rate, which dipped as low as 4.4 percent late in 2006, is projected to edge up to its sustainable rate of 4.8 percent and remain at that level. That rate is the center of the range that is thought to be consistent with stable inflation. The main sources of growth in demand in coming years are likely to be business capital spending, net exports, and to a lesser extent, consumer spending. The contributions to overall growth from residential investment and the government sector are expected to be small at most.

For the private business sector of the economy, potential growth is approximately equal to the sum of the trend rates of growth of the labor force and of productivity. Potential growth of total GDP (including government sectors) is projected to be about 3.1 percent over the next two years, trending down to 2.9 percent by 2012, primarily because of an assumed slowing in labor force growth. The labor force is projected to grow about 1.0 percent per year through 2008 on average, slowing to about 0.7 percent yearly on average during 2009–2012 as increasing numbers of baby boomers enter retirement.

Table 12-1. ECONOMIC ASSUMPTIONS ¹

(Calendar years; dollar amounts in billions)

	Actual 2005	Projections						
		2006	2007	2008	2009	2010	2011	2012
Gross Domestic Product (GDP):								
Levels, dollar amounts in billions:								
Current dollars	12,456	13,248	13,946	14,711	15,507	16,316	17,148	18,003
Real, chained (2000) dollars	11,049	11,412	11,721	12,077	12,451	12,827	13,211	13,599
Chained price index (2000=100), annual average	112.7	116.1	119.0	121.8	124.6	127.2	129.8	132.4
Percent change, fourth quarter over fourth quarter:								
Current dollars	6.4	5.9	5.5	5.5	5.3	5.2	5.0	5.0
Real, chained (2000) dollars	3.1	3.1	2.9	3.1	3.1	3.0	3.0	2.9
Chained price index (2000=100)	3.1	2.7	2.5	2.3	2.2	2.1	2.0	2.0
Percent change, year over year:								
Current dollars	6.3	6.4	5.3	5.5	5.4	5.2	5.1	5.0
Real, chained (2000) dollars	3.2	3.3	2.7	3.0	3.1	3.0	3.0	2.9
Chained price index (2000=100)	3.0	3.0	2.5	2.4	2.2	2.1	2.0	2.0
Incomes, billions of current dollars:								
Corporate profits before tax	1,519	1,779	1,785	1,815	1,839	1,846	1,860	1,879
Wages and salaries	5,665	6,115	6,478	6,862	7,248	7,628	8,035	8,454
Other taxable income ²	2,563	2,754	2,949	3,112	3,261	3,404	3,579	3,756
Consumer Price Index: ³								
Level (1982=84=100), annual average	195.3	201.7	206.0	211.4	216.8	222.0	227.2	232.5
Percent change, fourth quarter over fourth quarter	3.7	2.3	2.6	2.6	2.5	2.4	2.3	2.3
Percent change, year over year	3.4	3.3	2.1	2.6	2.5	2.4	2.3	2.3
Unemployment rate, civilian, percent:								
Fourth quarter level	5.0	4.5	4.7	4.8	4.8	4.8	4.8	4.8
Annual average	5.1	4.6	4.6	4.8	4.8	4.8	4.8	4.8
Federal pay raises, January, percent:								
Military ⁴	3.5	3.1	2.7	3.0	NA	NA	NA	NA
Civilian ⁵	3.5	3.1	2.2	3.0	NA	NA	NA	NA
Interest rates, percent:								
91-day Treasury bills ⁶	3.1	4.7	4.7	4.6	4.4	4.2	4.1	4.1
10-year Treasury notes	4.3	4.8	5.0	5.1	5.2	5.3	5.3	5.3

NA = Not Available.

¹ Based on information available as of mid-November 2006.² 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 2008 have not yet been determined.⁵ Overall average increase, including locality pay adjustments. Percentages to be proposed for years after 2008 have not yet been determined.⁶ Average rate, secondary market (bank discount basis).

Trend productivity growth in the nonfarm business sector² is assumed to be 2.6 percent per year. The 2.6 percent trend pace is noticeably below the average since the business cycle peak in the first quarter of 2001 (3.1 percent per year). It is, however, close to the pace from 1995 through 2000 (2.5 percent) and not far from the 60-year average since the official productivity series began in 1947 (2.3 percent).

Inflation: Inflation moderated in 2006, in large part because of declining energy prices. With the recent easing of these prices, inflation is likely to be lower in 2007. On a year-over-year basis, the CPI is projected to increase 2.1 percent this year but to rebound to 2.6 percent in 2008, with the increase moderating to 2.3 percent a year through 2012. This inflation rate is lower than the average during each decade of the 1970s, 1980s, and 1990s. The GDP price index is pro-

jected to increase 2.5 percent in 2007, moderating to 2.0 by 2011 and 2012, slightly less than CPI inflation, which is the usual pattern.

The forecast of low inflation reflects the current very low core inflation rate, falling energy prices, modest inflation expectations, the downward pressure on inflation due to both domestic and global competition, and the Federal Reserve's monetary policy.

Interest Rates: Short-term interest rates are projected to decline somewhat and long-term rates to rise slightly, achieving a more normal yield curve spread. The 3-month Treasury bill rate, which was 4.9 percent at the end of December, is expected to decrease to 4.1 percent by 2011. The yield on the 10-year Treasury note, 4.7 percent at the end of last year, is projected to increase to 5.3 percent by 2010.

The forecast rates are historically low: the projected averages for 3-month and 10-year Treasuries during 2007–2012 are lower than the averages for these instruments during each decade of the 1970s, 1980s, and

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

1990s. The relatively low projected yields are due largely to the relatively low projected inflation rate. Adjusted for inflation, the projected real interest rates are close to their historical averages.

Income Shares: The share of labor compensation in GDP is projected to rise from its low level in 2006, while the share of corporate profits is projected to decline from the unusually high levels of 2006 and those anticipated for 2007. In recent years, 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 catch up, which would raise the labor share in GDP back to about its historical average.

Among the components of labor compensation, the wage share in GDP is expected to rise from its recent low level while the share of supplements to wages and salaries is expected to remain at around the high level reached in 2006.

Corporate profits before tax jumped sharply as a share of GDP in 2005 and 2006 in part due to the end of the accelerated depreciation permitted by the 2002 and 2003 tax acts. Accelerated depreciation lowered profits before tax compared with what they otherwise would have been in 2003 and 2004 by allowing firms to write off more of their investment sooner. Since 2004, however, corporate profits before tax have been higher than normal both because new investment has not qualified for the temporary acceleration and because the remaining depreciation permitted on 2003 and 2004 investment that used this provision has been thereby reduced.

Among the other income components, the share of personal interest income in GDP is projected to decline, reflecting the low nominal interest rates of recent years. Personal dividend income's share, too, is projected to decline, reflecting the declining profit share. A slight rise is projected for proprietors' income, while the remaining share of the tax base, rental income, is projected to remain relatively stable at around its 2006 level.

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 Treasury Department, 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 2008 Budget assumptions with projections as of January 2007 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 eco-

nomical 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 their differing policy assumptions, the three sets of economic projections, shown in Table 12-2, are very close. The similarity of the Budget economic projection to both the CBO baseline projection and the Consensus forecast underscores the conservative nature of the Administration forecast.

For real GDP, the Administration, CBO, and the Blue Chip Consensus anticipate moderate growth this year. The Administration projects 2.7 percent growth on a year-over-year basis, slightly higher than either the Consensus or CBO's forecast, which are 2.4 percent and 2.3 percent, respectively. For calendar year 2008, the Administration, CBO, and the Consensus all forecast 3.0 percent real growth. The three forecasts are in agreement in both 2009 (3.1 percent) and 2010 (3.0 percent). In 2011 and 2012, the Administration's projection is about the same as the Consensus growth rate but CBO's is slightly lower. 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 2.8 to 3.0 percent.

All three forecasts anticipate continued low inflation in the range of 1.8 to 2.5 percent as measured by the GDP price index; and, after 2007, between 2.2 and 2.6 percent as measured by the CPI, with CBO lower than the Administration and the Consensus, which are close to each other. The three unemployment rate projections are also similar with projected rates in the narrow range of 4.8 percent to 5.0 percent after 2007. All three project slightly falling short-term interest rates and a slight rise in long-term rates during the next few years, with the Administration's short-term rates slightly below the Blue Chip's and CBO's, and the long-term rate forecasts nearly identical.

Changes in Economic Assumptions

The economic assumptions underlying this Budget for 2008 are similar to those of the 2007 Budget, as shown in Table 12-3.

Real GDP growth is now expected to be 2.7 percent in 2007, 3.0 percent in 2008, and 3.1 percent in 2009 on a year-over-year basis, moderating gradually to 2.9 percent by 2012. In comparison, last year's Budget projections showed 3.3 percent real growth for both 2007 and 2008, moderating to 3.0 percent by 2012. Despite the lower real growth forecast this year, the level of nominal GDP is now projected to be higher than in the 2007 Budget projection because of a faster-than-expected rise in the GDP price index last year and slightly higher projected GDP inflation in the next few years.

The unemployment rate projection has been adjusted slightly, reflecting a new assessment of the "natural

Table 12-2. COMPARISON OF ECONOMIC ASSUMPTIONS
(Calendar years)

	Projections						Average, 2007-12
	2007	2008	2009	2010	2011	2012	
GDP (billions of current dollars):							
2008 Budget	13,946	14,711	15,507	16,316	17,148	18,003	
CBO January	13,805	14,472	15,196	15,923	16,647	17,395	
Blue Chip Consensus January	13,843	14,561	15,323	16,116	16,937	17,805	
Real GDP (chain-weighted):¹							
2008 Budget	2.7	3.0	3.1	3.0	3.0	2.9	3.0
CBO January	2.3	3.0	3.1	3.0	2.7	2.7	2.8
Blue Chip Consensus January	2.4	3.0	3.1	3.0	2.9	3.0	2.9
Chain-weighted GDP Price Index:¹							
2008 Budget	2.5	2.4	2.2	2.1	2.0	2.0	2.2
CBO January	1.9	1.8	1.8	1.8	1.8	1.8	1.8
Blue Chip Consensus January	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Consumer Price Index (all-urban):¹							
2008 Budget	2.1	2.6	2.5	2.4	2.3	2.3	2.4
CBO January	1.9	2.3	2.2	2.2	2.2	2.2	2.2
Blue Chip Consensus January	2.0	2.3	2.3	2.3	2.3	2.4	2.3
Unemployment rate:²							
2008 Budget	4.6	4.8	4.8	4.8	4.8	4.8	4.8
CBO January	4.7	4.9	5.0	5.0	5.0	5.0	4.9
Blue Chip Consensus January	4.8	4.9	4.9	4.9	4.9	4.9	4.9
Interest rates:²							
91-day Treasury bills:							
2008 Budget	4.7	4.6	4.4	4.2	4.1	4.1	4.4
CBO January	4.8	4.5	4.4	4.4	4.4	4.4	4.5
Blue Chip Consensus January	4.9	4.8	4.7	4.5	4.5	4.6	4.7
10-year Treasury notes:							
2008 Budget	5.0	5.1	5.2	5.3	5.3	5.3	5.2
CBO January	4.8	5.0	5.1	5.2	5.2	5.2	5.1
Blue Chip Consensus January	4.8	5.0	5.2	5.2	5.2	5.3	5.1

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

January 2007 Blue Chip Consensus forecast for 2007 and 2008; Blue Chip October 2006 long-run extension for 2009-2012.

¹ Year-over-year percent change.

² Annual averages, percent.

rate” consistent with stable inflation. While the 2007 Budget had the rate level at 5.0 percent in future years, the rate is now projected to stabilize at 4.8 percent in the outyears. The 3-month Treasury bill rate is expected to trend downward, ultimately to the same level, 4.3 percent, as before. The 10-year Treasury note rate is now projected to rise to 5.3 percent by 2010, lower than the previous assumption that it would reach 5.6 percent.

Structural and Cyclical Balances

Historically, a budget measure called the structural balance has provided an alternative perspective on the stance of fiscal policy as compared to the unadjusted budget balance which includes a component related to the cyclical performance of the economy. For example, 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; 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 can be called the cyclical component. The portion of the deficit that remains when the unemployment rate is at its long-run value is then called the structural deficit (or structural surplus). In the typical post-World War II business cycle, the structural balance has provided a gauge of the surplus or deficit that would persist if the economy were operating at the sustainable level of unemployment.

Conventional estimates of the structural balance are based on the historical relationship between changes in the unemployment rate and real GDP growth on the one hand, and receipts and outlays on the other. For various reasons, these estimated relationships do not take into account all of the cyclical changes in the economy. One example of a cyclical phenomenon not captured in these estimates was the sharply rising stock market during the second half of the 1990s. It 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. It is not possible, however, to estimate the cyclical component of the stock market accurately, and for that reason, all of the stock

Table 12-3. COMPARISON OF ECONOMIC ASSUMPTIONS IN THE 2007 AND 2008 BUDGETS

(Calendar years; dollar amounts in billions)

	2006	2007	2008	2009	2010	2011	2012
Nominal GDP:							
2007 Budget assumptions ¹	13,192	13,931	14,693	15,473	16,288	17,154	18,059
2008 Budget assumptions	13,248	13,946	14,711	15,507	16,316	17,148	18,003
Real GDP (2000 dollars):							
2007 Budget assumptions ¹	11,433	11,813	12,198	12,580	12,970	13,373	13,779
2008 Budget assumptions	11,412	11,721	12,077	12,451	12,827	13,211	13,599
Real GDP (percent change):²							
2007 Budget assumptions	3.4	3.3	3.3	3.1	3.1	3.1	3.0
2008 Budget assumptions	3.3	2.7	3.0	3.1	3.0	3.0	2.9
GDP price index (percent change):²							
2007 Budget assumptions	2.4	2.2	2.1	2.1	2.1	2.1	2.2
2008 Budget assumptions	3.0	2.5	2.4	2.2	2.1	2.0	2.0
Consumer Price Index (percent change):²							
2007 Budget assumptions	3.0	2.4	2.4	2.4	2.4	2.5	2.5
2008 Budget assumptions	3.3	2.1	2.6	2.5	2.4	2.3	2.3
Civilian unemployment rate (percent):³							
2007 Budget assumptions	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2008 Budget assumptions	4.6	4.6	4.8	4.8	4.8	4.8	4.8
91-day Treasury bill rate (percent):³							
2007 Budget assumptions	4.2	4.2	4.3	4.3	4.3	4.3	4.3
2008 Budget assumptions	4.8	4.9	4.7	4.6	4.4	4.3	4.3
10-year Treasury note rate (percent):³							
2007 Budget assumptions	5.0	5.4	5.5	5.6	5.6	5.6	5.6
2008 Budget assumptions	4.8	5.0	5.1	5.2	5.3	5.3	5.3

¹ Adjusted for July 2006 NIPA revisions.² Year-over-year.³ Calendar year average.

market's contribution to receipts is counted in the structural balance.

Other factors unique to the current economic cycle provide additional examples of less-than-complete cyclical adjustment. The fall-off in labor force participation, from 67.1 percent of the U.S. population in 1997–2000 to 66.1 percent in 2004–2006, appears to 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 to date because of the decline in labor force participation.

A third example is the fall-off in the wage and salary share of GDP, from 49.2 percent in 2000 to 45.3 percent in the second quarter of 2006. Again, this change is widely suspected to be partly cyclical. Since Federal tax collections depend heavily on wage and salary income, the larger-than-predicted decline in the wage share of GDP suggests that the true cyclical component of the deficit is 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.

Table 12-4. ADJUSTED STRUCTURAL BALANCE

(Fiscal years; in billions of dollars)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Unadjusted surplus or deficit (-)	128.2	-157.8	-377.6	-412.7	-318.3	-248.2	-244.2	-239.4	-187.2	-94.4	-53.8	61.0
Cyclical component	92.7	-28.7	-70.8	-33.4	-5.5	15.1	8.6	-4.8	-3.1	-0.4	0.0	0.0
Structural surplus or deficit (-)	35.5	-129.0	-306.8	-379.3	-312.9	-263.3	-252.8	-234.6	-184.1	-93.9	-53.8	61.0
Deposit insurance outlays	1.6	1.0	1.4	2.0	1.4	1.1	2.2	3.4	5.6	5.9	6.1	3.9
Adjusted structural surplus or deficit (-)	37.1	-128.0	-305.3	-377.4	-311.5	-262.2	-250.6	-231.2	-178.5	-88.0	-47.7	65.0

NOTE: The NAIRU is assumed to be 4.8% in 2006 and subsequent years, 4.9% in earlier years.

For all these reasons, the current estimates of the cyclical deficit are probably understated. The current unemployment gap is believed to be near zero, and the Administration forecasts that it will remain so, but in the broader sense discussed above, the cyclical gap in receipts is likely to still be large and only slowly shrinking.

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 the unemployment rate appeared to be slightly lower than the “natural rate,” rendering the structural deficit for that year slightly higher than the actual deficit, and that effect persists into 2007.

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 2007 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 2007

deficit is estimated to increase by \$16.1 billion; receipts in 2007 would be lower by \$13.4 billion, and outlays would be higher by \$2.7 billion, primarily for unemployment-sensitive programs. In fiscal year 2008, the estimated receipts shortfall would grow further to \$27.7 billion, and outlays would increase by \$8.0 billion relative to the base, even though the growth rate in calendar year 2008 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 2007–2012, the cumulative increase in the budget deficit is estimated to be \$243 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 2007–2012, the cumulative increase in the budget deficit is estimated to be \$689 billion.
- 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 2007 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 2007 and 2008, outlays would be above the base by \$10.8 billion and \$18.3 billion, respectively, due in part to lagged cost-of-living adjustments. Receipts would rise by \$23.2 billion in 2007, but then would rise by \$44.5 billion above the base in 2008 due to the sustained effects of the elevated price level on the tax base, and to the temporary effect of higher 2007 interest rates on financial corporations' profits and taxes, resulting in a \$26.1 billion improvement in the 2008 budget balance. In subsequent years, the amounts added to receipts would continue to be larger than the additions to outlays. During 2007–2012, cumulative budget deficits would be \$130 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 \$344 billion to outlays over 2007–2012 and \$834 billion to receipts, for a net decrease in the 2007–2012 deficits of \$490 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 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 \$445 billion during 2007–2012. This large effect is because the 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.

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	2007	2008	2009	2010	2011	2012	Total of Effects, 2007–2012
Real Growth and Employment							
Budgetary effects of 1 percent lower real GDP growth:							
(1) For calendar year 2007 only: ¹							
Receipts	-13.4	-27.7	-31.2	-33.8	-35.6	-37.6	-179.3
Outlays	2.7	8.0	10.3	12.3	14.4	16.4	63.9
Increase in deficit (-)	-16.1	-35.7	-41.5	-46.1	-49.9	-54.0	-243.3
(2) Sustained during 2007–2017, with no change in unemployment:							
Receipts	-13.6	-43.6	-80.4	-123.2	-167.6	-216.2	-644.7
Outlays	0.2	1.3	3.8	7.6	13.0	18.8	44.8
Increase in deficit (-)	-13.8	-44.9	-84.2	-130.8	-180.6	-235.0	-689.4
Inflation and Interest Rates							
Budgetary effects of 1 percentage point higher rate of:							
(3) Inflation and interest rates during calendar year 2007 only:							
Receipts	23.2	44.5	38.4	34.4	36.1	38.2	214.8
Outlays	10.8	18.3	15.2	14.1	13.4	12.6	84.4
Decrease in deficit (+)	12.4	26.1	23.2	20.4	22.7	25.6	130.4
(4) Inflation and interest rates, sustained during 2007–2017:							
Receipts	23.2	71.3	116.5	160.5	206.4	256.5	834.3
Outlays	11.2	32.9	52.1	68.6	83.3	96.1	344.1
Decrease in deficit (+)	12.0	38.3	64.4	91.9	123.1	160.4	490.1
(5) Interest rates only, sustained during 2007–2017:							
Receipts	9.7	28.5	38.7	41.9	45.0	47.4	211.1
Outlays	7.7	21.5	31.0	36.6	39.7	41.5	178.0
Increase in deficit (-)	2.0	7.0	7.6	5.3	5.2	5.9	33.1
(6) Inflation only, sustained during 2007–2017:							
Receipts	13.4	42.7	77.7	118.3	161.0	208.5	621.6
Outlays	3.5	11.7	21.9	33.6	46.4	59.0	176.2
Decrease in deficit (+)	9.9	31.0	55.8	84.7	114.6	149.5	445.4
Interest Cost of Higher Federal Borrowing							
(7) Outlay effect of \$100 billion increase in borrowing in 2007	2.5	5.1	5.2	5.2	5.3	5.5	28.8

\$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.

13. STEWARDSHIP

Introduction

The budget is an essential tool for allocating resources within the Federal Government and between the public and private sectors, but current outlays, receipts, and the deficit give at best a partial picture of the Government's financial condition. Indeed, changes in the annual budget deficit or surplus can be misleading. For example, the temporary shift from annual deficits to surpluses in the late 1990s did nothing to correct the long-term fiscal deficiencies in the major entitlement programs, which are the major source of the long-run shortfall in Federal finances. This would have been more apparent at the time if greater attention had been focused on long-term measures such as those presented in this chapter. As important as the current budget surplus or deficit is, other indicators are also needed to judge the Government's fiscal condition.

For the Federal Government, unfortunately, there is no single number that corresponds to a business's bottom line. The Government is judged by how its actions affect the country's security and well-being, and that cannot easily be summed up with a single statistic. Also, even though its financial condition is important, the Government is not expected to earn a profit. One measure of the Government's performance is the extent to which it collects the taxes that are owed to it, and another is whether it delivers value in spending the taxes that it collects. Both of those questions are addressed below. In general, the Government's financial status is best evaluated using a broad range of data and several complementary perspectives. This chapter presents a framework for such analysis. Because there are serious limitations on the available data and the future is uncertain, this chapter's findings should be interpreted as tentative; its conclusions are subject to future revision.

The chapter consists of four parts:

- Part I explains how the separate pieces of analysis link together. Chart 13–1 is a schematic diagram showing the linkages.
- Part II presents estimates of the Government's assets and liabilities, which are shown in Table 13–1. This table is similar to a business balance sheet, but for that reason it cannot reveal some of the Government's unique financial features and needs to be supplemented by the information in Parts III and IV.
- Part III shows possible long-run paths for the Federal budget. These projections vary depending on alternative economic and demographic assumptions. The projections are summarized in Table 13–2 and in a related set of charts. Table 13–3 shows present value estimates of the funding shortfall in Social Security and Medicare. Together, these data indicate the scope of the Government's future responsibilities and the resources it will have available to discharge them under current law and policy. In particular, they show the looming long-run fiscal challenge posed by the Federal entitlement programs.
- Part IV returns the focus to the present. This part presents information on national economic and social conditions. It begins with an analysis of tax compliance, including what can be done to improve it, and what resources might be made available with new efforts to assure compliance. The private economy is the ultimate source of the Government's resources. Table 13–4 gives a summary of total national wealth, while highlighting the Federal investments that have contributed to that wealth. Table 13–5 shows trends in wealth and Table 13–6 presents a small sample of statistical indicators, which are intended to show how the Government's efforts to improve social and economic outcomes might be measured.

PART I—A FRAMEWORK TO EVALUATE FEDERAL FINANCES

No single framework can encompass all of the factors that affect the financial condition of the Federal Government, but the framework presented here is reasonably comprehensive and offers a useful way to examine the financial implications of Federal policies. This framework includes information about assets and liabilities such as might appear on a balance sheet, but it also includes long-run projections of the entire budget showing where future fiscal strains are most likely to appear. It includes an analysis of the Government's potential revenue and what can be done realistically through better education and more rigorous enforce-

ment of the tax law to reach that potential. Measures of national wealth, which support future income and tax receipts, are presented along with an array of economic and social indicators showing potential pressure points that may require future policy responses.

The Government's binding obligations—its liabilities—consist in the first place of Treasury debt. Other liabilities include the pensions and medical benefits owed to retired Federal employees and veterans. These employee obligations are a form of deferred compensation; they have counterparts in the business world, and would appear as liabilities on a business balance sheet.

Accrued obligations for Government insurance policies and the estimated present value of failed loan guarantees and deposit insurance claims are also analogous to private liabilities. These Government liabilities are discussed further in Part II along with the Government's assets. The liabilities and assets are collected in Table 13–1. The liabilities shown in Table 13–1 are only a subset of the Government's overall financial responsibilities. Indeed, the full extent of the Government's fiscal exposure through programmatic commitments dwarfs the outstanding total of all acknowledged Federal liabilities. The commitments to Social Security and Medicare alone amount to many times the value of Federal debt held by the public.

In addition to Social Security and Medicare, the Government has a broad range of programs that dispense cash and other benefits to individual recipients. A few examples of such programs are Medicaid, food stamps, veterans' pensions, and veterans' health care. The Government also provides a wide range of public services that must be financed through the tax system. It is true that specific programs may be modified or even ended at any time by the Congress and the President, and changes in the laws governing these programs are a regular part of the legislative cycle. For this reason, these programmatic commitments do not constitute "liabilities" that would appear on a balance sheet. Until the law is changed, they are Federal responsibilities, however, and will have a claim on budgetary resources for the foreseeable future. All of the Government's existing programs are reflected in the long-run budget projections in Part III. It would be misleading to leave out any of these programmatic commitments in projecting future claims on the Government or in calculating the Government's long-run fiscal balance.

The Federal Government has many assets. These include financial assets, such as loans and mortgages which have been acquired through various credit programs. They also include the plant and equipment used to produce Government services. The Government also owns a substantial amount of land. Such assets would normally be shown on a balance sheet. The Government also has resources in addition to those that might be expected to appear on a balance sheet. These additional resources include most importantly the Government's sovereign power to tax.

Because of its unique responsibilities and resources, the most revealing way to analyze the future strains on the Government's fiscal position is to make a long-run projection of the entire Federal budget. Part III of this chapter presents a set of such projections under different assumptions about policy and future economic and demographic conditions. Over long periods of time, the spending of the Government must be financed by the taxes and other receipts it collects. Although the Government can borrow for temporary periods, it must pay interest on any such borrowing, which adds to future spending. In the long run, a solvent Government must pay for its programmatic spending out of its receipts. The projections in Part III show that under an

extension of the estimates in this Budget, long-run balance in this sense is not achieved, mostly because projected spending for Social Security, Medicare, and Medicaid grows faster than the revenue available to pay for them.

The long-run budget projections and the table of assets and liabilities are silent on the questions of whether the Government is collecting the full amount of taxes owed, whether the public is receiving value for its taxes paid, and whether Federal resources are being used effectively. Information on those points requires performance measures for Government programs supplemented by appropriate information about conditions in the economy and society. Recent changes in budgeting practices have contributed to the goal of providing more information about Government programs and will permit a closer alignment of the cost of programs with performance measures. These changes have been described in detail in previous Budgets. They are reviewed in Chapter 2 of this volume, and in the accompanying material that describes results obtained with the Program Assessment Rating Tool (PART). This Stewardship chapter complements the detailed exploration of Government performance with an assessment of the overall impact of Federal policy as reflected in general measures of economic and social well-being, shown in Table 13–7.

Relationship with FASAB Objectives

The framework presented here meets the stewardship objective for Federal financial reporting recommended by the Federal Accounting Standards Advisory Board (FASAB) and adopted for use by the Federal Government in September 1993.¹

Federal financial reporting should assist report users in assessing the impact on the country of the government's operations and investments for the period and how, as a result, the government's and the Nation's financial conditions have changed and may change in the future. Federal financial reporting should provide information that helps the reader to determine:

3a. Whether the government's financial position improved or deteriorated over the period.

3b. Whether future budgetary resources will likely be sufficient to sustain public services and to meet obligations as they come due.

3c. Whether government operations have contributed to the nation's current and future well-being.

The current presentation is an experimental approach for fulfilling this objective at the Federal Government-wide level. It is intended to meet the broad interests of economists and others in evaluating trends over time, including both past and future trends. The annual *Financial Report of the United States Government* presents related information, but from a different perspective. The *Financial Report* includes a balance sheet. The assets and liabilities on that balance sheet are all based on transactions and other events that have already occurred. A similar table can be found in Part II of this chapter, which is based on different data

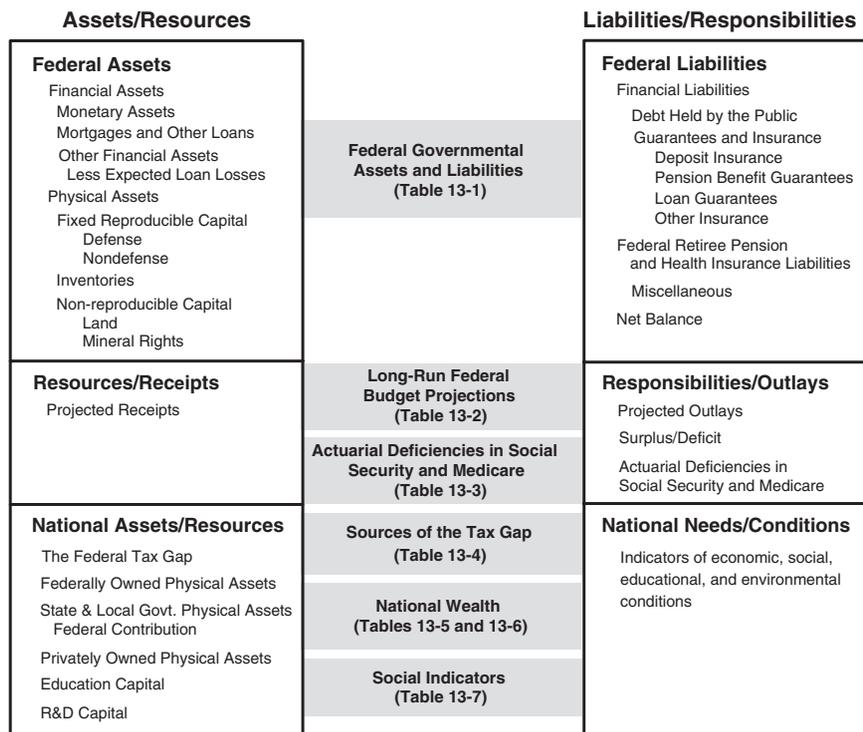
¹ Statement of Federal Financial Accounting Concepts, Number 1, Objectives of Federal Financial Reporting, September 2, 1993. Other objectives are budgetary integrity, operating performance, and systems and controls.

and methods of valuation. The *Financial Report* also includes a statement of social insurance that reviews a substantial body of information on the condition and sustainability of the Government's social insurance programs. The *Report*, however, does not extend that review to the condition or sustainability of the Government as a whole, which is a main focus of this chapter, and it does not try to relate the Government's assets and liabilities to private wealth or broader economic and social conditions.

Connecting the Dots: The presentation that follows is constructed around a series of tables and charts. The schematic diagram, Chart 13-1, shows how the different pieces fit together. The tables and charts should be viewed as an ensemble, the main elements of which are grouped in two broad categories—assets/resources and liabilities/responsibilities.

- The left-hand side of Chart 13-1 shows the full range of Federal resources, including assets the Government owns, tax receipts it can expect to collect based on current and proposed laws, the tax gap, and national wealth, including the trained skills of the national work force, that provide the base for Government revenues.
- The right-hand side reveals the full range of Federal obligations and responsibilities, beginning with the Government's acknowledged liabilities from past actions, such as the debt held by the public, and including future budget outlays needed to maintain present policies and trends. This column ends with a set of indicators highlighting areas where Government activity affects society or the economy.

Chart 13-1. The Financial Condition of the Federal Government and the Nation



QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S STEWARDSHIP

1. According to Table 13–1, the Government's liabilities exceed its assets. No business could operate in such a fashion. Why does the Government not manage its finances more like a business?

The Federal Government has different objectives from a business firm. The goal of every business is to earn a profit, and as a general rule the Federal Government properly leaves activities at which a profit could be earned to the private sector. For the vast bulk of the Federal Government's operations, it would be difficult or impossible to charge prices that would cover expenses. The Government undertakes these activities not to improve its balance sheet, but to benefit the Nation.

For example, the Government invests in education and research, but it earns no direct return from these investments. People are enriched by these investments, but the returns do not show up as an increase in Government assets but rather as an increase in the general state of knowledge and in the capacity of the country's citizens to earn a living and lead a fuller life. Business investment motives are quite different; business invests to earn a profit for itself, not others, and if its investments are successful, their value will be reflected in its balance sheet. Because the Federal Government's objectives are different, its balance sheet behaves differently, and should be interpreted differently.

2. Table 13–1 seems to imply that the Government is insolvent. Is it?

No. Just as the Federal Government's responsibilities are different from those of private business, so are its resources. Government solvency must be evaluated in different terms.

What Table 13–1 shows is that those Federal obligations that are most comparable to the liabilities of a business corporation exceed the estimated value of the assets actually owned by the Federal Government. The Government, however, has access to other resources through its sovereign powers. These powers, which include taxation, will allow the Government to meet its present obligations and those that are anticipated from future operations even though the Government's current assets are less than its current liabilities. Q06

Private financial markets clearly recognize this reality. The Federal Government's implicit credit rating is among the best in the world; lenders are willing to lend it money at interest rates substantially below those charged to private borrowers. This would not be true if the Government were really insolvent or likely to become so. Where governments totter on the brink of insolvency, lenders are either unwilling to lend them money, or do so only in return for a substantial interest premium.

QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S STEWARDSHIP

3. *Why are Social Security and Medicare not shown as Government liabilities in Table 13-1?*

Future Social Security and Medicare benefits may be considered as promises or responsibilities of the Federal Government, but these benefits are not a liability in a legal or accounting sense. The Government has unilaterally decreased as well as increased these benefits in the past, and future reforms could alter them again. These benefits are reflected in this presentation of the Government's finances, but they are shown elsewhere than in Table 13-1. They appear in two ways: as part of the overall budget projections in Table 13-2, and in the actuarial deficiency estimates in Table 13-3.

Other Federal programs make similar promises to those of Social Security and Medicare—Medicaid, for example. Few have suggested counting future benefits expected under these programs as Federal liabilities, yet it would be difficult to justify a different accounting treatment for them if Social Security or Medicare were to be classified as a liability. There is no bright line dividing Social Security and Medicare from other programs that promise benefits to people, and all the Government programs that do so should be accounted for similarly.

Also, if future Social Security and Medicare benefits were treated as liabilities, then payroll tax receipts earmarked to finance those benefits ought to be treated as assets. This treatment would be essential to gauge the size of the future claim. Tax receipts, however, are not generally considered to be Government assets, and for good reason: the Government does not own the wealth on which future taxes depend. Including taxes on the balance sheet would be wrong for this reason, but excluding taxes from the balance sheet would overstate the drain on net assets from Social Security and Medicare benefits. Furthermore, treating taxes for Social Security or Medicare differently from other taxes would be highly questionable.

Finally, under Generally Accepted Accounting Principles (GAAP), Social Security is not considered to be a liability, so not counting it as such in this chapter is consistent with accounting standards.

4. *Why doesn't the Federal Government follow normal business practice in its bookkeeping?*

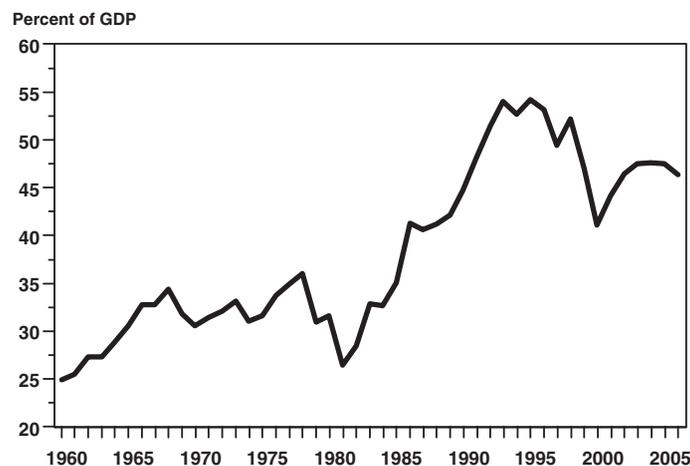
The Government is not a business, and accounting standards designed to illuminate how much a business earns and how much equity it has could provide misleading information if applied naively to the Government. The Government does not have a "bottom line" comparable to that of a business corporation, but the Federal Accounting Standards Advisory Board (FASAB) has developed, and the Government has adopted, a conceptual accounting framework that reflects the Government's distinct functions and answers many of the questions for which Government should be accountable. This framework addresses budgetary integrity, operating performance, stewardship, and systems and controls. FASAB has also developed, and the Government has adopted, a full set of accounting standards. Federal agencies now issue audited financial reports that follow these standards, and an audited Government-wide financial report is issued as well. In short, the Federal Government does follow generally accepted accounting principles (GAAP) just as businesses and State and local governments do, although the relevant principles differ depending on the circumstances. This chapter is intended to address the "stewardship objective"—assessing the interrelated condition of the Federal Government and the Nation. The data in this chapter illuminate the trade-offs and connections between making the Federal Government "better off" and making the Nation "better off."

PART II—THE FEDERAL GOVERNMENT'S ASSETS AND LIABILITIES

Table 13–1 looks at the Government's assets and liabilities retrospectively, summarizing what the Government owes as a result of its past operations netted against the value of what it owns. The table gives some perspective by showing these net asset figures for a number of years beginning in 1960. To ensure comparability across time, the assets and liabilities are measured in terms of constant FY 2006 dollars and the balance is also shown as a ratio to GDP. Govern-

ment liabilities have exceeded the value of assets (see chart 13–2) over this entire period, but in the late 1970s a speculative run-up in the prices of oil and other real assets temporarily boosted the value of Federal holdings. When those prices subsequently declined, real Federal asset values declined and only recently have they regained the level they had reached in the mid-1980s.

Chart 13-2. Net Federal Liabilities



Currently, the total real value of Federal assets is estimated to be 79 percent greater than it was in 1960. Meanwhile, Federal liabilities have increased by 246 percent in real terms. The decline in the Federal net asset position has been partly due to persistent Federal budget deficits that have boosted debt held by the public in most years since 1960. Other factors have also been important such as large increases in health benefits promised for Federal retirees and the sharp rise in veterans' disability compensation. The relatively slow growth in Federal asset values has also reduced the Government's net asset position.

The shift from budget deficits to budget surpluses in the late 1990s temporarily checked the decline in Federal net assets. Currently, the net excess of liabilities over assets is about \$6.2 trillion or about \$20,600 per capita. As a ratio to GDP, the excess of liabilities over assets reached a peak of 54 percent in 1995; it declined to 41 percent in 2000; it rose to 48 percent in 2004; and it has declined slightly since then to around 46 percent of GDP at the end of 2006. The average since 1960 has been 38 percent (see Table 13–1).

Assets

Table 13–1 offers a comprehensive list of the financial and physical resources owned by the Federal Government.

Financial Assets: According to the Federal Reserve Board's Flow-of-Funds accounts, the Federal Government's holdings of financial assets amounted to \$600 billion at the end of 2006. Government-held mortgages (measured in constant dollars) reached a peak in the early 1990s as the Government acquired mortgages from savings and loan institutions that had failed. The Government subsequently liquidated most of the mortgages it acquired from these bankrupt savings and loans. Meanwhile, Government holdings of other loans have been declining in real terms since the mid-1980s. The face value of mortgages and other loans overstates their economic worth. OMB estimates that the discounted present value of future losses and interest subsidies on these loans was around \$47 billion as of year-end 2006. These estimated losses are subtracted from the face value of outstanding loans to obtain a better estimate of their economic worth.

Reproducible Capital: The Federal Government is a major investor in physical capital and computer software. Government-owned stocks of such capital have

Table 13-1. GOVERNMENT ASSETS AND LIABILITIES*

(As of the end of the fiscal year, in billions of 2006 dollars)

	1960	1965	1970	1975	1980	1985	1990	1995	2000	2004	2005	2006
ASSETS												
Financial Assets:												
Cash and Checking Deposits	48	69	43	35	54	35	47	49	65	38	36	51
Other Monetary Assets	2	1	1	2	2	2	2	1	7	2	2	5
Mortgages	31	30	44	46	86	88	112	77	89	79	79	81
Other Loans	114	157	197	199	255	331	235	190	226	228	218	209
less Expected Loan Losses	-1	-3	-5	-10	-20	-19	-22	-28	-43	-50	-42	-47
Other Treasury Financial Assets	69	86	76	68	96	142	226	272	248	334	318	302
Subtotal	263	341	356	340	474	579	601	562	592	631	610	602
Nonfinancial Assets:												
Fixed Reproducible Capital:	1,151	1,142	1,188	1,152	1,092	1,234	1,280	1,287	1,129	1,113	1,138	1,166
Defense	992	932	942	861	773	898	922	901	737	702	718	736
Nondefense	159	210	246	292	319	336	359	386	392	412	420	430
Inventories	301	261	243	217	268	307	272	209	215	277	280	281
Nonreproducible Capital:	487	500	480	710	1,139	1,220	964	719	1,078	1,484	1,839	1,896
Land	106	147	185	292	374	388	399	297	462	635	764	833
Mineral Rights	381	354	295	418	765	832	564	422	616	849	1,076	1,062
Subtotal	1,940	1,903	1,911	2,080	2,498	2,762	2,516	2,216	2,422	2,875	3,257	3,343
Total Assets	2,202	2,244	2,267	2,419	2,972	3,341	3,117	2,777	3,014	3,505	3,867	3,944
LIABILITIES												
Debt held by the Public	1,313	1,351	1,202	1,221	1,519	2,511	3,421	4,547	3,960	4,557	4,725	4,829
Insurance and Guarantee Liabilities:												
Deposit Insurance					2	10	82	6	1	1	1	1
Pension Benefit Guarantee				50	36	50	50	24	47	93	84	74
Loan Guarantees		1	3	7	14	12	18	34	43	46	49	48
Other Insurance	36	32	25	23	31	19	23	20	19	19	42	20
Subtotal	36	33	28	80	84	92	173	84	110	160	177	143
Pension and Post-Employment Health Liabilities:												
Civilian and Military Pensions	992	1,247	1,490	1,689	2,077	2,061	2,014	1,953	1,990	2,128	2,196	2,211
Retiree Health Insurance Benefits	238	299	357	405	498	494	483	468	454	1,052	1,157	1,132
Veterans Disability Compensation	218	274	328	363	372	307	277	303	642	981	1,155	1,154
Subtotal	1,448	1,820	2,175	2,457	2,947	2,862	2,774	2,724	3,085	4,161	4,508	4,497
Environmental and Disposal Liabilities	78	96	116	131	158	187	220	287	350	264	267	305
Other Liabilities:												
Trade Payables and Miscellaneous	31	38	49	60	94	123	169	140	121	209	217	222
Benefits Due and Payable	24	28	38	40	51	57	68	79	90	109	120	129
Subtotal	55	66	87	100	145	180	237	219	212	318	337	351
Total Liabilities	2,930	3,366	3,608	3,989	4,852	5,832	6,826	7,860	7,717	9,460	10,015	10,125
Net Assets (Assets Minus Liabilities)	-727	-1,122	-1,341	-1,570	-1,880	-2,491	-3,709	-5,083	-4,702	-5,955	-6,147	-6,181
Addenda:												
Net Assets Per Capita (in 2006 dollars)	-4,032	-5,783	-6,551	-7,279	-8,242	-10,432	-14,802	-19,037	-16,627	-20,234	-20,696	-20,623
Ratio to GDP (in percent)	-24.9	-30.6	-30.6	-31.6	-31.6	-35.1	-44.7	-54.2	-41.1	-47.6	-47.5	-46.4

* This table shows assets and liabilities for the Government as a whole excluding the Federal Reserve System. Data for 2006 are extrapolated in some cases.

amounted to about \$1.2 trillion in constant 2006 dollars for most of the last 45 years (OMB estimate). This capital consists of defense equipment and structures, including weapons systems, as well as nondefense capital goods. Currently, less than two-thirds of the capital is defense equipment or structures. In 1960, defense capital was over 90 percent of the total. In the 1970s, there was a substantial decline in the real value of U.S. defense capital and there was another large decline in the 1990s after the end of the Cold War. Meanwhile, nondefense Federal capital has increased at an average annual rate of around 2.2 percent. The Government also holds inventories of defense goods and other

items that in 2006 amounted to about 24 percent of the value of its fixed capital.

Nonreproducible Capital: The Government owns significant amounts of land and mineral deposits. There are no official estimates of the market value of these holdings (and of course, in a realistic sense, many of these resources would never be sold). Researchers in the private sector have estimated what they are worth, however, and these estimates are extrapolated in Table 13-1. Private land values fell sharply in the early 1990s, but they have risen since 1993. It is assumed here that Federal land shared in the decline and the subsequent recovery. Oil prices have been on a roller coaster since the mid-1990s. They declined sharply in

1997–1998, rebounded in 1999–2000, fell again in 2001, and rose substantially in 2002–2006. These fluctuations have caused the estimated value of Federal mineral deposits to fluctuate as well. In 2006, as estimated here, the combined real value of Federal land and mineral rights was higher than it has ever been, but only 35 percent greater than in 1982. These estimates omit some valuable assets owned by the Federal Government—such as works of art and historical artifacts—partly because such unique assets are unlikely ever to be sold and partly because there is no comprehensive inventory or realistic basis for valuing them.

Total Assets: The total value of Government assets measured in constant dollars has risen sharply in the past four years, and was at an all-time high in 2006. The Government's asset holdings are vast. As of the end of 2006, Government assets were estimated to be worth about \$4 trillion or 30 percent of GDP.

Liabilities

Table 13–1 includes all Federal liabilities that would normally be listed on a balance sheet. All the various forms of publicly held Federal debt are counted, as are Federal pension and health insurance obligations to civilian and military retirees including the disability compensation that is owed the Nation's veterans, which can be thought of as a form of deferred compensation. The estimated liabilities stemming from Federal insurance programs and loan guarantees are shown. The benefits that are due and payable under various Federal programs are also included, but these liabilities reflect only binding short-term obligations, not the Government's full commitment under these programs. The Government also has a responsibility to repair environmental damage that resulted from nuclear weapons production, and that cost has been included in the Table as well.

Future benefit payments that are promised through Social Security and other Federal income transfer programs are not Federal liabilities in a legal or accounting sense. They are Federal responsibilities, and it is important to gauge their size, but they are not binding in the same way as a legally enforceable claim would be. The budget projections and other data in Part III are designed to provide a sense of these broader responsibilities and their claim on future budgets.

Debt Held by the Public: The Federal Government's largest single financial liability is the debt owed to the public. It amounted to about \$4.8 trillion at the end of 2006. Publicly held debt declined for several years in the late 1990s because of the unified budget surpluses at that time, but as deficits returned, publicly held debt began to increase again.

Insurance and Guarantee Liabilities: The Federal Government has contingent liabilities arising from the loan guarantees it has made and from its insurance programs. When the Government guarantees a loan or offers insurance, cash disbursements are often small initially, and if a fee is charged the Government may even collect money; but the risk of future cash pay-

ments associated with such commitments can be large. The figures reported in Table 13–1 are estimates of the current discounted value of prospective future losses on outstanding guarantees and insurance contracts. The present value of all such losses taken together is about \$140 billion. As is true elsewhere in this chapter, this estimate does not incorporate the market value of the risk associated with these contingent liabilities; it merely reflects the present value of expected losses. Although individually many of these programs are large and potential losses can be a serious concern, these insurance and guarantee liabilities are fairly small relative to total Federal liabilities or even the total debt held by the public. They were less than 2 percent of total liabilities in 2006.

Pension and Post-Employment Health Liabilities: The Federal Government owes pension benefits as a form of deferred compensation to retired workers and to current employees who will eventually retire. It also provides civilian retirees with subsidized health insurance through the Federal Employees Health Benefits program and military retirees receive similar benefits. Veterans are owed compensation for their service-related disabilities. While the Government's employee pension obligations have risen slowly, there has been a sharp increase in the liability for future health benefits and veterans compensation. The discounted present value of all these benefits was estimated to be around \$4.5 trillion at the end of 2006 up from \$3.1 trillion in 2000.² There was a large expansion in Federal military retiree health benefits legislated in 2001.

Environmental and Disposal Liabilities: During World War II and the Cold War, the Federal Government constructed a vast industrial complex to study, produce and test nuclear weapons. Environmental contamination occurred at these sites. The estimated liability shown here is based on the cleanup costs required by Federal, State and local laws and regulations. The Department of Energy is responsible for managing this cleanup. The Department of Defense is also charged with cleaning up contamination from its waste disposal practices, leaks, spills and other risky activities. Together the cleanup costs are estimated to amount to around 300 billion dollars in present value.³

The Balance of Net Liabilities

The Government need not maintain a positive balance of net assets to assure its fiscal solvency, and the buildup in net liabilities since 1960 has not significantly affected Federal creditworthiness. Long-term Government interest rates in 2003 reached their lowest levels in 45 years, and in 2004–2006 they remained lower than at any time from 1965 through 2002. Despite the historically low interest rates, there are limits to how much debt the Government can assume without putting its finances in jeopardy. Over an extended time

² Estimates of these liabilities were derived from the Financial Report of the United States Government for 2006 and earlier years. Values for years prior to 1997 were extrapolated.

³ Estimates of these liabilities were also derived from the Financial Report of the United States Government for 2006 and earlier years. Values for years prior to 1997 were extrapolated.

horizon, the Federal Government must take in enough revenue to cover all of its spending including debt service. The Government's ability to service its debt in the long run cannot be gauged from a balance sheet alone.

It is necessary to project the budget into the future to judge the prospects for long-run solvency. That is the subject of the next section.

PART III—THE LONG-RUN BUDGET OUTLOOK

A balance sheet, with its focus on obligations arising from past transactions, can only show so much information. For the Government, it is also important to anticipate what future budgetary requirements might flow from current laws and policies. Despite the uncertainty surrounding the assumptions needed for such estimates, very long-run budget projections can be useful in sounding warnings about potential problems. Federal responsibilities extend well beyond the next five or ten years, and problems that may be small in that time frame can become much larger if allowed to grow.

Programs like Social Security and Medicare are expected to continue indefinitely, and so long-range projections for Social Security and Medicare have been prepared for decades. Budget projections for individual programs, even important ones such as Social Security and Medicare, cannot reveal the Government's overall budgetary position. Only by projecting the entire budget is it possible to anticipate whether sufficient resources will be available to meet all the anticipated requirements for individual programs. It is also necessary to estimate how the budget's future growth compares with that of the economy to judge how well the economy might be able to support future budgetary needs.

To assess the overall financial condition of the Government, it is necessary to examine the future prospects for all Government programs including the revenue sources that support Government spending. Such an assessment reveals that the key drivers of the long-range deficit are, not surprisingly, Social Security and Medicare, along with Medicaid—the entitlement program that provides medical assistance, including acute and long-term care to low-income persons including families with dependent children, as well as aged, blind or disabled individuals. Medicaid, like Medicare and Social Security, is projected to grow more rapidly than the economy over the next several decades and to add substantially to the overall budget deficit. Under current law, there is no offset anywhere in the budget large enough to cover all the demands that will eventually be imposed by Social Security, Medicare, and Medicaid.

Future budget outcomes depend on a host of unknowns—constantly changing economic conditions, unforeseen international developments, unexpected demographic shifts, the unpredictable forces of technological advance, and evolving political preferences to name a few. These uncertainties make even short-run budget forecasting quite difficult, and the uncertainties increase the further into the future projections are extended. While uncertainty makes forecast accuracy difficult to achieve, it enhances the importance of long-run budget projections because future problems are

often best addressed in the present. It is not possible to assess the likelihood of future risks without projections. A full treatment of all the relevant risks is beyond the scope of this chapter, but the chapter does show how long-run budget projections respond to changes in some of the key economic and demographic parameters. Given the uncertainties, a useful first step is to work out the implications of expected developments on a "what if" basis.

The Impending Demographic Transition

In 2008, the first members of the huge generation born after World War II, the so-called baby boomers, will reach age 62 and become eligible for early retirement under Social Security. Three years later, they will turn 65 and become eligible for Medicare. In the years that follow, the elderly population will steadily increase, putting serious strains on the budget.

The pressures are expected to persist even after the baby boomers are gone. The Social Security actuaries project that the ratio of workers to Social Security beneficiaries will fall from around 3.3 currently to a little over 2 by the time most of the baby boomers have retired. From that point forward, because of lower fertility and improved mortality, the ratio is expected to continue to decline slowly. With fewer workers to pay the taxes needed to support the retired population, budgetary pressures will continue to grow. The problem posed by the demographic transition is a permanent one.

Currently, the three major entitlement programs—Social Security, Medicare, and Medicaid—account for 43 percent of non-interest Federal spending, up from 30 percent in 1980. By 2035, when the remaining baby boomers will be in their 70s and 80s, these three programs could account for about two-thirds of non-interest Federal spending even with the reforms proposed in this Budget. At the end of the projection period, in 2080, the figure could rise to around three-quarters of non-interest spending. In other words, almost all of the budget, aside from interest, would go to these three programs alone. To say the least, that would severely reduce the flexibility of the budget, and the Government's ability to respond to new challenges.

An Unsustainable Path

These long-run budget projections show clearly that the budget is on an unsustainable path, although the expansion of the entitlement programs and the rise in the deficit unfold gradually. The budget deficit is projected to decline as the economy expands over the next several years until it reaches balance in 2012, while most of the baby boomers are still in the work force.

The budget is projected to remain in surplus for some years after 2012, but the deficit eventually returns and then begins a steady increase. Without further reforms, by the end of this chapter's projection period in 2080, rising deficits would have driven publicly held Federal debt to levels well above the previous peak level relative to GDP reached at the end of World War II. There is likely to be a crisis before that point is reached that will force budgetary changes, but the timing of the crisis and its resolution are impossible to predict, and timely, comprehensive entitlement reforms could avoid such a crisis.

The revenue projections start with the budget's estimate of receipts under the Administration's proposals for the next five years. In the long run, receipts are assumed to return gradually to their average as a share of GDP over the last 40 years—18.3 percent.

The projection of discretionary spending is essentially arbitrary, because discretionary spending is determined annually through the legislative process, and no formula can dictate future spending in the absence of legislation. Alternative assumptions have been made for discretionary spending in past budgets. Holding discretionary spending unchanged in real terms is the "current services" assumption used for baseline budget projections when there is no legislative guidance on future spending levels. Extending this assumption over many decades, however, is not realistic. When the population and economy grow, as assumed in these projections, the demand for public services is very likely to expand as well. The current base projection assumes that discretionary spending keeps pace with the growth in GDP

in the long run, so that spending increases in real terms whenever there is real economic growth.

In past budgets, these long-run budget projections have jumped off from the end point for the current budget. This year's Budget includes the effects of adding personal retirement accounts to Social Security. Personal accounts are one element within a set of larger reforms that would restore solvency to Social Security. The Administration has not yet specified a complete set of reforms to achieve solvency. Within the current budget horizon, these other reforms would not have significant budget effects. In the long run, however, their effects would be significant. Because these other reforms are not yet specified, the long-range projections shown here do not incorporate any Social Security reforms. Showing the personal account proposal in isolation would give a distorted picture of the budget effects of comprehensive Social Security reform. An alternative projection, however, that incorporates the impact of personal accounts is shown later in this presentation.

The long-run budget outlook is highly uncertain. With pessimistic assumptions, the fiscal picture deteriorates even sooner than in the base projection. More optimistic assumptions imply a longer period before the pressures of rising entitlement spending overwhelm the budget. But despite the uncertainty, these projections clearly show that under a wide range of forecasting assumptions, the resources generated by the programs themselves will be insufficient to cover the long-run costs of Social Security and Medicare. (For a further discussion of the forecasting assumptions used to make these

Table 13–2. LONG-RUN BUDGET PROJECTIONS
(receipts, outlays, surplus or deficit, and debt as a percent of GDP)

	1980	1990	2000	2010	2020	2030	2040	2060	2080
Receipts	19.0	18.0	20.9	18.3	18.3	18.3	18.3	18.3	18.3
Outlays:									
Discretionary	10.1	8.7	6.3	6.6	4.8	4.8	4.8	4.8	4.8
Mandatory:									
Social Security	4.3	4.3	4.2	4.2	4.9	5.8	6.0	6.1	6.3
Medicare	1.1	1.7	2.0	2.7	3.4	4.5	5.3	5.9	6.1
Medicaid	0.5	0.7	1.2	1.4	1.9	2.2	2.5	3.0	3.6
Other	3.7	3.2	2.4	2.3	1.8	1.5	1.3	1.0	0.9
Subtotal, mandatory	9.6	9.9	9.8	10.6	12.0	14.0	15.1	16.0	16.9
Net Interest	1.9	3.2	2.3	1.7	1.0	0.8	1.6	4.1	8.0
Total outlays	21.7	21.8	18.4	18.9	17.8	19.7	21.4	24.9	29.7
Surplus or Deficit (–)	–2.7	–3.9	2.4	–0.6	0.5	–1.4	–3.1	–6.6	–11.4
Primary Surplus or Deficit (–)	–0.8	–0.6	4.7	1.2	1.5	–0.5	–1.6	–2.5	–3.4
Federal Debt Held by the Public	26.1	42.0	35.1	35.2	18.7	17.1	31.5	82.0	160.3
Addendum, without the Budget's Mandatory Proposals:									
Mandatory Outlays	9.6	9.9	9.8	10.7	12.3	14.6	16.1	17.8	19.6
Surplus or Deficit (–)	–2.7	–3.9	2.4	–0.7	0.1	–2.3	–4.9	–10.7	–19.0
Primary Surplus or Deficit (–)	–0.8	–0.6	4.7	1.0	1.2	–1.1	–2.6	–4.3	–6.1
Federal Debt Held by the Public	26.1	42.0	35.1	35.5	21.1	24.4	47.6	130.3	262.1

Note: The figures shown in this table for 2020 and beyond are the product of a long-range forecasting model maintained by the Office of Management and Budget. This model is separate from the models and capabilities that produce detailed programmatic estimates in the Budget. It was designed to produce long-range forecasts based on additional assumptions regarding growth of the economy, the long-range evolution of specific programs, and the demographic and economic forces affecting those programs. The model, its assumptions, and sensitivity testing of those assumptions are presented in this chapter.

budget projections, see the technical note at the end of this chapter.)

Alternative Policy, Economic, and Technical Assumptions

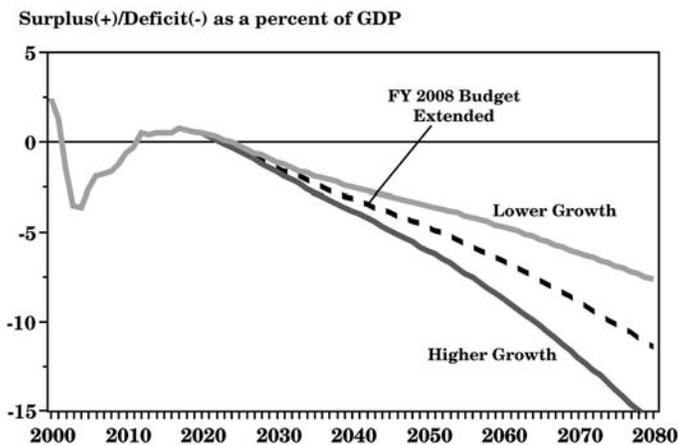
The quantitative results discussed above are sensitive to changes in underlying policy, economic, and technical assumptions. Some of the most important of these alternative assumptions and their effects on the budget outlook are discussed below. They generally show that there are mounting deficits under most reasonable projections of the budget.

1. *Health Spending:* The projections for Medicare over the next 75 years are based on an extension of the Administration's policy proposals to control costs in the Medicare program. These reforms are expected to reduce Medicare expenditures relative to the actuarial projections in the 2006 Medicare Trustees' Report. Following the recommendations of its Technical Review Panel, the Medicare trustees assume that over the long run "age-and gender-adjusted, per-beneficiary spending growth exceeds the growth of per-capita GDP by 1 percentage point per year." This implies that total Medicare spending rises faster than GDP throughout the projection period given that the Medicare population is expanding as the population ages, and that Medicare

faces a substantial shortfall in earmarked income compared with projected outgo. Although rising faster than GDP, under these assumptions, Medicare grows less rapidly than it has historically, so that even without reform the program's growth is constrained. The effect of the Administration's proposals is to reduce the imbalance in Medicare by about \$8 trillion over the 75-year forecasting horizon according to actuarial estimates. Instead of facing a \$32 trillion shortfall the program would face a \$24 trillion shortfall, if the Administration's proposals were adopted in full. The proposals would not eliminate the shortfall completely, but they would reduce it substantially.

Eventually, the rising trend in health care costs for both Government and the private sector will have to end, but it is hard to know when and how that will happen. Improved health and increased longevity are highly valued, and society has shown that it is willing to spend a larger share of income on them than it did in the past. Whether society will be willing to devote the large share of resources to health care implied by these projections, even with the Administration's proposals, is an open question. The alternatives highlight the effect of raising or lowering the projected growth rate in per capita health care costs by $\frac{1}{4}$ percentage point.

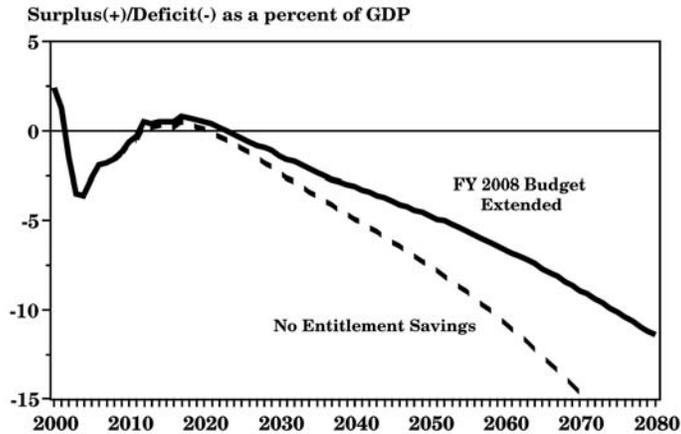
Chart 13-3. Health Care Cost Alternatives



2. *Entitlement Savings:* The Administration has proposed a number of savings measures in entitlement programs in addition to the Medicare savings discussed

above. These proposals, if adopted, would have ongoing budgetary effects. The chart below shows the long-run deficit with and without these reforms.

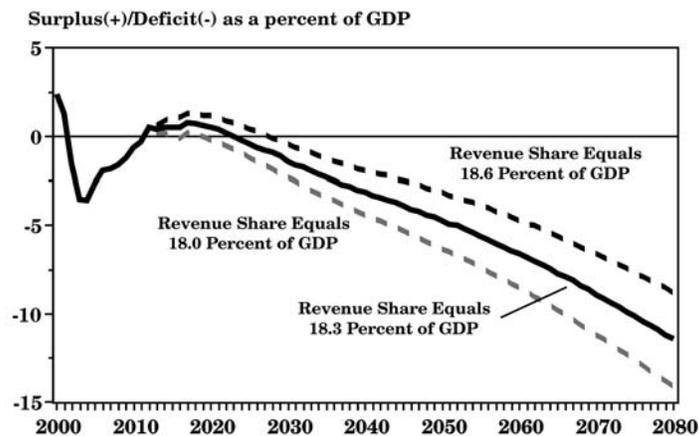
Chart 13-4. Effect of Entitlement Savings



3. *Alternative Revenue Shares*: In the base projection, tax receipts are held constant relative to GDP at their average over the last 40 years—18.3 percent of GDP. Tax receipts have risen above this ratio from time to time, most recently at the end of the 1990s, but periods of high taxes have always been followed by tax changes

that have restored the long-term average tax ratio. The chart below shows the effects of alternative receipts assumptions. Allowing receipts to rise to 18.6 percent of GDP would reduce the long-run budget deficit, while holding receipts to 18.0 percent of GDP would have the opposite effect.

Chart 13-5. Alternative Receipts Projections



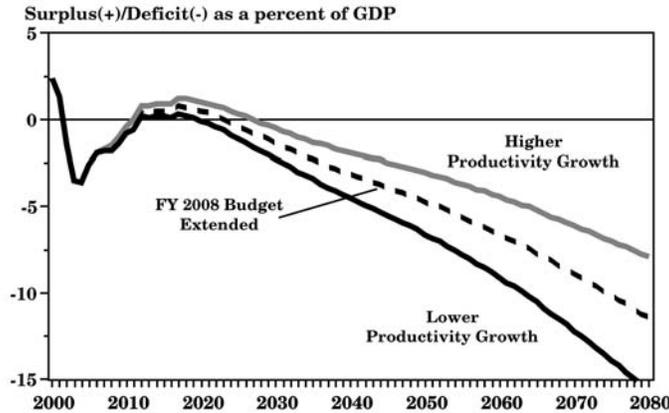
4. *Productivity*: The rate of future productivity growth has a major effect on the long-run budget outlook. It is also highly uncertain. Over the next few decades an increase in productivity growth would reduce projected budget deficits appreciably. Higher productivity growth adds directly to the growth of the major tax bases, while it has a smaller immediate effect on outlay growth even assuming that in the long-run discre-

tionary spending rises with GDP. In the latter half of the 1990s, after two decades of much slower growth, the rate of productivity growth increased unexpectedly and it increased again in the period 2000–2003. The underlying trend of productivity growth has clearly increased since the mid 1990s, and that increase is projected to persist in these long-run projections. This increase in productivity growth is one of the most wel-

come developments of the last several years. Although the long-run growth rate of productivity is inherently uncertain, growth in real GDP per hour averaged 2.2 percent per year from 1948 through 1973; it has grown 2.3 percent per year since 2000, and the projections

here assume that real GDP per hour will continue to grow at a 2.3 percent annual rate. The alternatives highlight the effect of raising the projected productivity growth rate by $\frac{1}{4}$ percentage point and the effect of lowering it by the same amount.

Chart 13-6. Alternative Productivity Assumptions

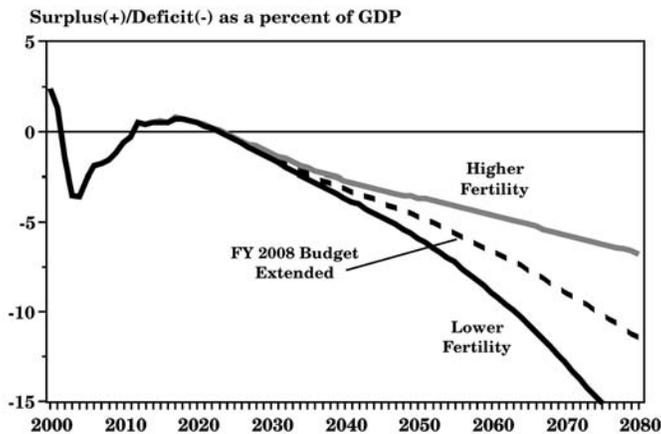


5. *Population:* The key assumptions for projecting long-run demographic developments are fertility, immigration, and mortality.

- The demographic projections assume that fertility will average between 1.9 and 2.0 births per

woman in the future, just slightly below the replacement rate needed to maintain a constant population—2.1 births.

Chart 13-7. Alternative Fertility Assumptions

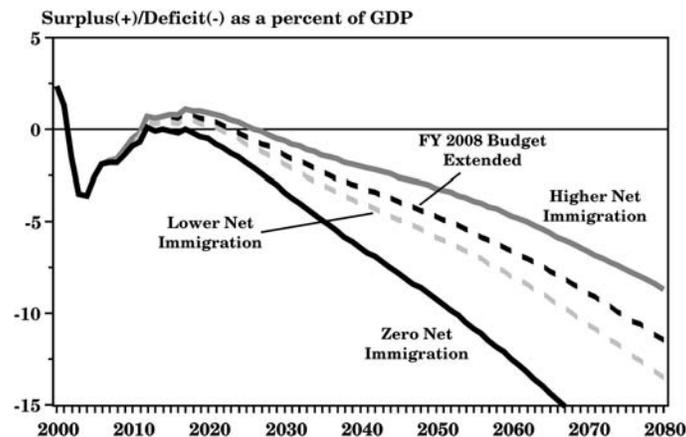


- The rate of immigration is assumed to average around 900,000 per year in these projections. Higher immigration relieves some of the down-

ward pressure on population growth from low fertility and allows total population to expand

throughout the projection period, although at a much slower rate than has prevailed historically.

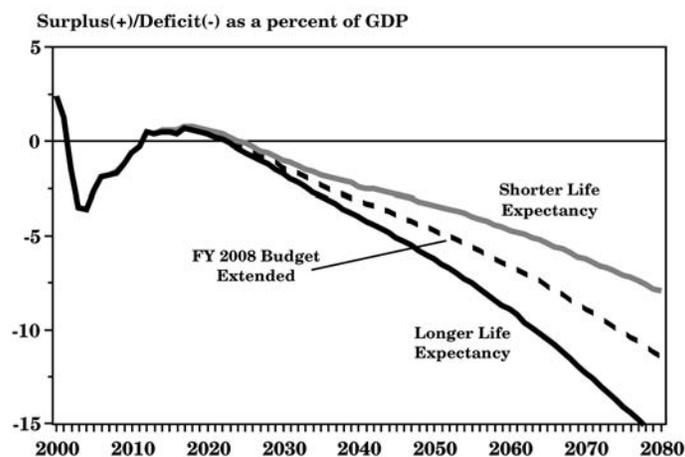
Chart 13-8. Alternative Immigration Assumptions



- Mortality is projected to decline, i.e., people are expected to live longer. The average female life-span is projected to rise from 79.6 years in 2004 to 85.1 years by 2080, and the average male life-span is projected to increase from 74.7 years in

2004 to 81.8 years by 2080. A technical panel to the Social Security Trustees recently reported that the improvement in longevity might even be greater.

Chart 13-9. Alternative Mortality Assumptions



Actuarial Projections for Social Security and Medicare

Social Security and Medicare are the Government's two largest entitlement programs. Both rely on payroll tax receipts from current workers and employers for

at least part of their financing, while the programs' benefits largely go to those who are retired. The importance of these programs for the retirement security of current and future generations makes it essential to understand their long-range financial prospects. Both programs' actuaries have calculated that they face per-

sistent long-run deficits. How best to measure the long-run imbalance in Social Security is a challenging analytical question; the imbalance may be even more difficult to measure in Medicare, which includes both Hospital Insurance (HI), funded through the payroll tax, and Supplementary Medical Insurance (SMI), financed

through premiums and general revenues. Under reasonable assumptions, however, each program embodies a huge financial deficiency, and it will be very difficult for the Government as a whole to maintain control of the budget without addressing these programs' financial problems.

Social Security: The Long-Range Challenge

Social Security provides financial security for the elderly, the disabled, and survivors. The Social Security system is intended to be self-financing over time. The principle of self-financing is important, because it compels corrections in the event that projected benefits consistently exceed dedicated receipts.

While Social Security is running surpluses today, it will begin running cash deficits 10 years from now. Social Security's spending path is unsustainable under current law. The retirement of the baby-boom generation, born following World War II, will begin to increase greatly the number of Social Security beneficiaries within five years. Demographic trends toward lower fertility rates and longer life spans mean that the ratio of retirees to the working population will remain permanently higher following the baby boomers' passage through the system. The number of workers available to support each beneficiary is projected to decline from 3.3 today to 2.2 in 2030, and to continue to decline slowly from there. This decline in the workforce available to support retiree benefits means that the Government will not be able to meet current-law benefit obligations at current payroll tax rates.

The size of Social Security's future shortfall cannot be known with precision, but a gap between Social Security receipts and outlays emerges under a wide range of reasonable forecasting assumptions. Long-range uncertainty underscores the importance of creating a system that is financially stable and self-contained. Otherwise, the demands created by Social Security could compromise the rest of the budget and the Nation's economic health. The actuarial shortfall between future benefits and income is estimated to be \$6.4 trillion over the next 75 years. Extending the horizon to perpetuity increases the imbalance to \$15.3 trillion, excluding trust fund assets as these do not represent a source of funds from a unified budget perspective.

The current structure of Social Security leads to substantial generational differences in the average rate of return people can expect from the program. While previous generations have fared extremely well, people born today can expect to receive less than a two percent annual real rate of return on their total payroll taxes (including the employer's portion, which most economists believe is ultimately borne by labor). Moreover, such estimates in a sense overstate the expected rate of return for future retirees, because they assume no changes in current-law taxes or benefits, even though such changes are needed to meet Social Security's financing shortfall. As an example, a 1995 analysis found that after adjusting revenues to keep the system solvent, a typical worker born in 2000 would receive a 1.5 percent rate of return instead of a 1.7 percent rate of return.

One way to address the issues of uncertainty and declining rates of return, while protecting national savings, would be to allow individuals to invest some of their payroll taxes in personal retirement accounts. The budget includes the estimated impact from the creation of personal accounts, funded through the Social Security payroll tax. The Administration has also embraced the concept of progressive indexing, which would significantly contribute to the solvency of the system by partially indexing the growth of benefits for higher-wage workers to inflation rather than wage growth.

Medicare: The Long-Range Challenge

Medicare finances health insurance for tens of millions of Americans, including most of the nation's seniors and many individuals with disabilities. It is composed of two programs: Hospital Insurance (HI) or Part A, which covers medical expenses relating to hospitalization and other institutional care, and Supplementary Medical Insurance (SMI) or Part B, which pays for physicians' services and other related expenditures. Starting in 2006, Medicare began to offer a voluntary prescription drug benefit, Medicare Part D, which is funded out of the SMI Trust Fund.

Like Social Security, HI is intended to be self-financing through dedicated taxes. According to the Medicare trustees' most recent report, the Trust Fund is projected to be depleted in 2018. Looking at the long run, the Medicare actuaries project a 75-year unfunded promise of Medicare's HI trust fund of around \$11.0 trillion (net present value). However, this measure tells less than half the story, because it does not include the deficiency in Medicare's Part B and Part D programs. The main source of dedicated revenues to the SMI Trust Fund is beneficiary premiums, which generally cover about one-quarter of its expenses. SMI's funding structure creates an enormous financing gap for the program and is the largest contributor to the total Medicare program shortfall over the next 75 years of \$32.3 trillion. Extending the horizon to perpetuity increases the total shortfall to \$70.8 trillion. SMI's financing gap is covered by an unlimited tap on general revenues. According to the Medicare Trustees' 2006 report, "Soon after the Part D program becomes fully implemented in 2006, general revenue transfers are expected to constitute the largest single source of income to the Medicare program as a whole—and would add significantly to the Federal Budget pressures."

This bifurcated trust fund structure finances Medicare as if the program offers two separate, unrelated benefits, instead of recognizing that Medicare provides related and complementary health care services to its beneficiaries. The Medicare Prescription Drug, Improvement, and Modernization Act (MMA), which established Part D, also took an important first step toward improving Medicare sustainability by requiring the Medicare Trustees' Report to include a new, comprehensive fiscal analysis of the program's financing that highlights the amount of general revenue transfers used to fund Medicare. If the percent of Medicare funding that is from general fund transfers reaches 45 percent within the current or next six years of the projection (2006–2012), the Trustees issue a finding of "excess general revenue Medicare funding". In their 2006 report, the Trustees found that general revenue funding would first reach 45 percent level in fiscal year 2012, within the seven-year window. If a finding is present in two consecutive Trustees' reports, then a "Medicare funding warning" is triggered. This warning requires the President to propose legislation to restore Medicare spending to sustainable levels, but it does not mandate Congressional action.

The Budget proposes to strengthen the MMA provision by modestly slowing the rate of Medicare growth if the MMA threshold is exceeded. The lower growth would be achieved through a four-tenths of a percent reduction to all payments beginning the year the threshold is exceeded. The change would only take effect if the President and Congress fail to agree on legislation to bring Medicare spending back into line with the threshold established by the MMA. The reduction would grow by four-tenths of a percent every year the shortfall continues to occur. This proposal would improve Medicare's sustainability by slowing the rate of growth in spending.

The Social Security and Medicare Trustees' Projections: In their annual reports and related documents, the Social Security and Medicare trustees typically present calculations of the 75-year actuarial imbalance or deficiency for Social Security and Medicare under current-law. The calculation covers current workers and retirees, as well as those projected to join the program within the next 75 years (this is the so-called "open-group"; the "closed-group" covers only current workers and retirees). These estimates measure the present value of each program's future benefits net of future income. They are complementary to the flow projections described in the preceding section, but unlike those projections they do not reflect the Administration's proposals to reform the Medicare program and the effects

those proposals would have. More recently, the trustees' reports have also included a projection of the deficiency in perpetuity. This is the clearest way to see the total imbalance in both programs.

The present value of the Social Security imbalance over the next 75 years was estimated to be \$6.4 trillion as of January 1, 2006. The comparable estimate for Medicare was \$32.3 trillion. These estimates exclude the trust fund balances because the balances do not represent a source of funds from a unified budget perspective. (The estimates in Table 13–3 were prepared by the Social Security and Medicare actuaries, and they are based on the intermediate economic and demographic assumptions used for the 2006 trustees' reports. These differ in some respects from the assumptions

used for the long-run budget projections described in the preceding section. Table 13–3 would show a smaller imbalance if the economic assumptions used for the budget had been used for the calculations. In addition, because the estimates are on the basis of current law, they do not reflect the Administration's proposals to reform Medicare. Under the Administration's proposals, the Medicare actuaries estimate that the imbalance would be reduced to about \$24 trillion.

Doing the calculations for a 75-year horizon understates the deficiencies, because the 75-year actuarial calculations omit the large deficits that continue to occur beyond the 75th year. The understatement is significant, even though values in the distant future are discounted by a large amount. Since 2004, the Social Security and Medicare actuaries have also presented the actuarial imbalances calculated in perpetuity without assuming a fixed horizon. Table 13–3 shows how much these distant benefits add to the programs' imbalances. For Social Security, the imbalance in perpetuity is \$15.3 trillion and for Medicare it is \$70.8 trillion as of January 1, 2006. (Again, the Medicare estimate would be smaller if the effects of the Administration's policy proposals had been included in the calculation.)

The imbalance estimated on a perpetuity basis is the amount that the Government would have to raise in the private capital markets to resolve the program's imbalance permanently (given current assumptions). If nothing else changes, the estimated imbalance will grow every year at approximately the rate of interest, just as an unpaid debt grows with interest each year it remains outstanding. For Social Security this implies an increase of approximately \$600 billion in 2006 and growing amounts with every year that the imbalance remains unaddressed. The comparable imbalance in Medicare is much larger than the Social Security imbalance. The exact size of the imbalance is harder to estimate for Medicare because of greater uncertainty regarding the future growth of medical costs.

Social Security: The current deficiency in Social Security is essentially due to the fact that past and current participants will receive more benefits than they have paid for with taxes (calculated in terms of present values). By contrast, future participants—those who are now under age 15 or not yet born—are projected to pay in present value about \$0.3 trillion more than they will collect in benefits. This can be seen by comparing the total deficiency in perpetuity, \$15.3 trillion, with the excess of benefits over taxes for current program participants, \$15.0 trillion, from Table 13–3. In other words, the taxes that future participants are expected to pay will be almost large enough to cover the benefits due them under current law, but not large enough to cover those benefits plus the benefits promised to current program participants in excess of the taxes paid by current program participants.

Medicare: Extending the horizon to perpetuity shows that the benefits due future participants will eventually exceed projected payroll tax receipts and premiums by a huge margin. The projections into perpetuity shown

at the top of Table 13–3 reveal that total Medicare benefits exceed future taxes and premiums by \$70.8 trillion in present value. This is due to an expected excess of benefits over taxes for current participants over their lifetimes, but also for future generations. Unlike Social Security, the imbalance is not simply the inherited result of a pay-as-you-go program that was never fully funded, and which faces a demographic crunch. That is part of the problem, but even more fundamental is the assumption that medical costs continue to rise in excess of general inflation so that medical spending increases relative to total output in the economy.

General revenues have covered about 75 percent of SMI program costs for many years, with the rest being covered by premiums paid by the beneficiaries. In Table 13–3, only the receipts explicitly earmarked for financing these programs have been included. The intragovernmental transfer is not financed by dedicated tax revenues, and the share of general revenues that would have to be devoted to SMI to close the gap increases substantially under current law. Other Government programs also have a claim on these general revenues. From the standpoint of the Government as a whole, only receipts from the public can finance expenditures.

A significant portion of Medicare's actuarial deficiency is caused by the rapid expected increase in future benefits due to rising health care costs. Some, perhaps most, of the projected increase in relative health care costs reflects improvements in the quality of care, although there is also evidence that medical errors, waste, and excessive medical liability claims add needlessly to costs. But even though the projected increases in Medicare spending are likely to contribute to longer life-spans and safer treatments, the financial implications remain the same. As long as medical costs continue to outpace the growth of GDP and other expenditures, as assumed in these projections, the financial pressure on the budget will mount, and that is reflected in the estimates shown in Tables 13–2 and 13–3.

The Trust Funds and the Actuarial Deficiency: The fact that a special account or trust fund exists does not necessarily mean that the Government saved the money recorded there. The trust fund surpluses could have added to national saving if overall government borrowing from the public had actually been reduced because of the trust fund accumulations. But it is impossible to know for sure whether this happened or not.

At the time Social Security or Medicare redeems the debt instruments in the trust funds to pay benefits not covered by income, the Treasury will have to turn to the public capital markets to raise the funds to finance the benefits, just as if the trust funds had never existed. From the standpoint of overall Government finances, the trust funds do not reduce the future burden of financing Social Security or Medicare benefits, and for that reason, the trust funds are not netted against

Table 13-3. BENEFITS IN EXCESS OF FUTURE TAXES AND PREMIUMS—ACTUARIAL PRESENT VALUES

In Perpetuity as of January 1, in Trillions of Dollars			2004	2005	2006
Social Security .....	.....	.....	11.9	12.8	15.3
Medicare .....	.....	.....	61.9	68.4	70.8
Social Security and Medicare .....	.....	.....	73.8	81.2	86.0
Over a 75-Year Projection Period as of January 1, in Trillions of Dollars	2002	2003	2004	2005	2006
Social Security					
Future benefits less future taxes for those age 62 and over	4.1	4.3	4.5	4.9	5.3
Future benefits less future taxes for those age 15 to 61	7.2	7.4	8.0	8.7	9.6
Future benefits less taxes for those age 14 and under and those not yet born	-6.7	-6.8	-7.3	-7.9	-8.5
Net present value for present and future participants	4.6	4.9	5.2	5.7	6.4
Medicare					
Future benefits less future taxes for those age 65 and over	2.5	2.8	3.8	4.0	4.2
Future benefits less future taxes for those age 15 to 64	10.4	12.2	20.9	22.4	24.9
Future benefits less taxes for those age 14 and under and those not yet born	0.4	0.8	3.4	3.6	3.3
Net present value for present and future participants	13.3	15.8	28.1	29.9	32.3
Social Security and Medicare					
Future benefits less future taxes for those who have attained eligibility	6.6	7.1	8.3	8.9	9.5
Future benefits less future taxes for those over age 15 who have not yet attained eligibility	17.6	19.7	28.9	31.0	34.5
Future benefits less taxes for those age 14 and under and those not yet born	-6.3	-6.0	-3.9	-4.3	-5.3
Net present value for present and future participants	17.8	20.7	33.3	35.6	38.8
Addendum:					
Actuarial deficiency as a percent of the discounted payroll tax base:					
Social Security	-1.87	-1.92	-1.89	-1.92	-2.02
Medicare HI	-2.02	-2.40	-3.12	-3.09	-3.51

future benefits in Table 13-3. The eventual claim on the Treasury is better revealed by the difference between future benefits and future taxes or premiums.

In any case, trust fund assets remain small in size compared with the programs' future obligations and well short of what would be needed to pre-fund future benefits as indicated by the programs' actuarial deficiencies. Historically, Social Security and Medicare's HI program were financed mostly on a pay-as-you-go basis, whereby workers' payroll taxes were immediately used to pay retiree benefits. For the most part, workers' taxes have not been used to pre-fund their own future benefits, and taxes were not set at a level sufficient to pre-fund future benefits had they been saved.

The Importance of Long-Run Measures in Evaluating Policy Changes: Consider a proposed policy change in which payroll taxes paid by younger workers were reduced by \$100 this year while the expected present value of these workers' future retirement benefits were also reduced by \$100. The present value of future benefit payments would decrease by the same amount as the reduction in revenue. On a cash flow basis, how-

ever, the lost revenue occurs now, while the decrease in future outlays is in the distant future beyond the budget window, and the Federal Government must increase its borrowing to make up for the lost revenue in the meantime. If policymakers only focus on the Government's near-term borrowing needs, a reform such as this would appear to worsen the Government's finances, whereas the policy actually has a neutral impact in the long run.

Now suppose that future outlays were instead reduced by a little more than \$100 in present value. In this case, the actuarial deficiency would actually decline, even though the Government's borrowing needs would again increase if the savings occurred outside the budget window. Focusing on the Government's near-term borrowing alone, therefore, can lead to a bias against policies that could improve the Federal Government's overall long-run fiscal condition. Taking a longer view of policy changes and considering measures of the Government's fiscal condition other than the unified budget surplus or deficit can correct for such mistakes.

PART IV—TAX COMPLIANCE, NATIONAL WEALTH, AND SOCIAL INDICATORS

To obtain a full picture of the Government's financial condition it is necessary to examine a broad range of

additional information beyond the narrow list of Government-owned assets and liabilities. It is even nec-

essary to consider more information than is contained in the long-term projections of the budget. This final section presents a sample of such additional information. It is intended to provide insight into the full range of resources the Government can draw upon to meet its long-term obligations and also to indicate in a summary way what the Nation obtains in exchange for the resources it provides the Government.

The first piece of additional information is analysis of compliance with the nation's tax laws, the so-called "tax gap." The Government does not collect in a timely manner all of the taxes it is legally owed, as explained in detail below (along with some proposals to narrow the gap). That discussion is followed by an investigation of national wealth and the contributions the Federal Government has made to the wealth of private persons and other levels of government. The final section discusses a range of economic and social indicators which provide information about the outcomes of Government policies.

Improving Tax Fairness and Federal Finances through Better Tax Compliance

The Internal Revenue Service (IRS) collects over 95 percent of total Federal receipts, \$2.4 trillion in 2006. However, not every dollar of tax legally owed is actually paid. In general, taxpayers comply with the law by filing returns and paying their taxes on time, but some do not comply either because they do not understand their obligations due to the complexity of the tax law or because they seek to avoid those obligations.

Tax Compliance: In 2006, the IRS released updated results of its first large study in two decades of the difference between taxes owed and taxes actually paid—the "tax gap." The IRS estimated that taxpayers initially underpaid by \$345 billion in 2001. This equates to a voluntary compliance rate of 84 percent. Late payments and IRS enforcement action reduced this to a net tax gap of \$290 billion, raising the net compliance rate to 86 percent. The Department of the Treasury does not have estimates of the tax gap for the years after 2001. It is possible, however, that lower tax rates,

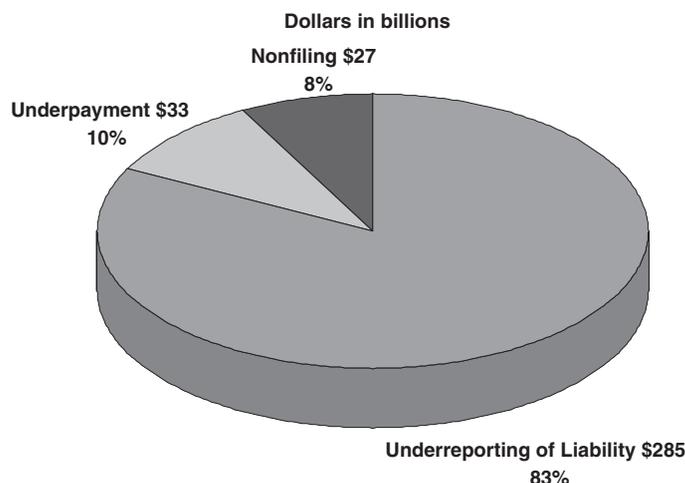
more aggressive enforcement by the IRS, and an improved economic environment have tended to decrease the gap, although inflation and the overall growth of the economy have tended to increase compliance rates over the past six years.

Due to changes in methodologies, comparisons between the 2001 estimates and those from earlier studies should be made cautiously. However, it does appear that the voluntary compliance rate has not changed much since the 1980s. The IRS previously reported voluntary compliance rates of 87 percent in 1988, 86 percent in 1985, and 84 percent in 1983. While the overall rate seems to have moved relatively little over time, each one percentage point change significantly impacts revenue. A one percentage point improvement would increase revenue by \$21 billion per year based on 2001 numbers.

The IRS's compliance estimates, primarily based on random audits of individuals and businesses, are not precise, but give a good general sense of the size of the tax gap and patterns in compliance. This sort of information is critical for effectively targeting IRS enforcement programs to yield the greatest improvement with the smallest cost and burden on taxpayers. The IRS' estimates are most accurate for underpayments of known taxes as recorded in IRS financial systems, and for individual income tax compliance studied through the recent random National Research Program (NRP) study. Non-filing estimates come from studies of census data and are somewhat less precise. The weakest portions of the IRS' estimates are in areas where no recent studies have been completed and the IRS is relying on older data (e.g., for partnerships and corporations).

The gross tax gap results from a variety of honest taxpayer errors and intentional noncompliance. Of the total, 82 percent comes from underreporting of tax liability (see chart). A significant portion of the gap also comes from underpayment of known tax debts and people who fail to file returns. Individual income taxes, the largest source of Federal receipts, account for 71 percent of the tax gap.

Chart 13-10. Sources of the Gross Tax Gap



The highest compliance rates come in areas where the IRS has good information about income, because it is reported by third parties (e.g., Form W-2, reporting wage income from employers and Form 1099, reporting various third party payments, including interest from banks). The IRS estimates that 95 percent of income with third-party reporting but no withholding (e.g., interest income, dividends) is declared on taxpayer returns. Where there is tax withholding, as in the case of most wages, nearly 99 percent of the amounts reported by payers is declared on taxpayer returns.

Conversely, error rates are high for income with little or no third-party reporting. For example, an estimated 43 percent of the tax gap comes from business income that should be reported on individual returns (Forms 1040) but goes unreported to the IRS (see chart).

Improving Tax Compliance: While the tax gap can never be entirely eliminated, reducing the gap by improving compliance is important because non-compliant taxpayers impose unacceptable burdens on other taxpayers and on Federal finances.

Table 13-4. SOURCES OF THE TAX GAP FROM INCOME UNDERREPORTING

	Contribution to the Tax Gap in Dollars	Percent Share of the Overall Tax Gap
Business income underreported by individuals including small business owners	148	43
Non-business income underreporting and improper deductions and credits	88	26
Corporate income underreporting	30	9
Other underreporting	19	6
Total Underreporting	285	84

The challenge is to find ways to improve compliance without unduly burdening compliant taxpayers or the economy. For example, as noted above, income reported to the IRS by third parties is claimed on tax returns at a far higher rate than other income. Requiring third-party reporting of all income would likely raise compliance levels. However, this is not possible in all cases and even where it is possible it might require burdensome new reporting requirements for individuals and businesses. For example, individuals paying a contractor or purchasing a car might be required to file reports to the IRS reporting these transactions. Such broad expansions of reporting requirements would be excessively burdensome, and that this consideration outweighs the gains they might bring in increased compliance.

Similarly, requiring much more detailed documentation, such as evidence supporting claims for deductions and credits or providing accounting records supporting business income claims, would quite possibly improve compliance. In some cases more detailed documentation may be appropriate. However, unless carefully targeted, this is likely to impose an unacceptable increase in cost on both taxpayers and the IRS and to decrease privacy.

Another approach to improving compliance would be to change the tax code to remove tax benefits wherever there is the potential for abuse. For example, deductions for non-cash giving could be prohibited. This would prevent the overstatement of charitable deductions by some taxpayers. However, it would also impose a tax increase on the millions of taxpayers who currently take legitimate deductions for non-cash giving. Compliant taxpayers are likely to regard this approach as overly broad. Finally, much higher audit rates might improve compliance, but would be extremely expensive

and unless properly targeted could be unduly burdensome to honest taxpayers.

The Administration has developed a carefully targeted plan for reducing the tax gap, which is described in the Department of the Treasury's "A Comprehensive Strategy for Reducing the Tax Gap" (see www.ustreas.gov/press/releases/hp111.htm). This document lays out a multi-year, seven-part strategy to improve compliance without imposing undue burdens on taxpayers. The Budget provides a \$410 million initiative in the IRS to begin implementing this strategy. Components of the strategy include:

Reduce Opportunities for Evasion: The Administration will pursue carefully targeted tax law changes to promote compliance while causing minimal taxpayer burden and IRS cost increases. The Budget includes 16 legislative proposals, such as expanding third party information reporting where it can be done with acceptable levels of taxpayer burden (e.g., including payments to corporations in existing third-party reporting requirements and requiring brokers to report the cost basis for certain securities' sales). (See chapter 17, "Federal Receipts" for a full description of these legislative proposals.)

Multi-Year Commitment to Research: Improved research on tax gap causes and potential remedies will help the IRS target its enforcement and service programs to achieve the greatest possible impact at the lowest cost.

Investments in Information Technology: Modernized computer systems will give IRS staff the tools they need to improve efficiency, service and compliance.

Improve Compliance Activities: Through re-engineering and selected funding increases the IRS will improve the effectiveness of its enforcement efforts to increase the fairness of the tax system by ensuring that everyone pays their share.

Taxpayer Service: Improved service will help taxpayers avoid unintentional errors and will make filing easier. Improved telephone service, new internet tools, and increases in electronic filing have already helped taxpayers file more accurate returns with less effort.

Reform and Simplify the Tax Law: Simplifying the tax law will reduce unintentional errors caused by a lack of understanding. Simplification will also reduce the opportunities for intentional evasion and make it easier for the IRS to administer the tax laws.

Coordinate with Partners and Stakeholders: Closer coordination is needed between the IRS and state and foreign governments to share information and compliance strategies. Closer coordination is also needed with practitioner organizations, including bar and accounting associations, to maintain and improve mechanisms to ensure that advisors provide appropriate tax advice.

Collectively these efforts will reduce the tax gap and improve the fiscal situation of the Government. Equally important, better compliance will improve the fairness of the tax system. Implementation depends on effective IRS leadership, to improve factors such as technology investments and reengineering processes, as well as the

active support of the Congress to implement tax law changes and provide funding for these improvements.

The Federal Contribution to National Wealth

The Government relies on private wealth to support its activities. It also contributes to that wealth. Unlike a private corporation, the Federal Government routinely invests in ways that do not add directly to its assets. For example, Federal grants are frequently used to fund capital projects by State or local governments for highways and other purposes. Such investments are valuable, but they are not owned by the Federal Government and would not show up on a balance sheet for the Federal Government. It is true, of course, that by encouraging economic growth, these investments augment future tax receipts. The return on investment that comes back to the Government in the form of higher taxes, however, is far less than what a private investor would require before undertaking a similar investment.

The Federal Government also supports education and research and development (R&D). These outlays contribute to future productivity and are analogous to investments in physical capital. Indeed, economists have computed stocks of human and knowledge capital to reflect the accumulation of such investments. Nonetheless, such hypothetical capital stocks are obviously not owned by the Federal Government, nor would they appear on a balance sheet.

To show the importance of these kinds of issues, Table 13-5 presents a national balance sheet. It includes estimates of national wealth classified into three categories: physical assets, education capital, and R&D capital. The Federal Government has made contributions to each of these types of capital, and these contributions are shown separately in the table. At the same time, the private wealth shown in Table 13-5 generates future income and tax receipts, which finance future public activities. The Nation's wealth sets the ultimate limit on the resources available to the Government.

The table shows that Federal investments are responsible for about 7 percent of total national wealth including education and research and development. This may seem like a small fraction, but it represents a large volume of capital: \$7.8 trillion. The Federal contribution is down from 9 percent in the early 1980s and from 12 percent in 1960. Much of this decline reflects the relative shrinkage in the stock of defense capital, which has fallen from around 34 percent of GDP in 1960 to under 6 percent in 2006.

Physical Assets: The physical assets in the table include stocks of plant and equipment, office buildings, residential structures, land, and the Government's physical assets such as military hardware and highways. Automobiles and consumer appliances are also included in this category. The total amount of such capital is vast, \$60.5 trillion in 2006, consisting of \$50.8 trillion in private physical capital and \$9.7 trillion in public physical capital (including capital funded by

Table 13–5. NATIONAL WEALTH
(As of the end of the fiscal year, in trillions of 2006 dollars)

	1960	1965	1970	1975	1980	1985	1990	1995	2000	2004	2005	2006
ASSETS												
Publicly Owned Physical Assets:												
Structures and Equipment	2.3	2.6	3.2	3.9	4.2	4.4	4.8	5.3	6.0	6.9	7.4	7.6
Federally Owned or Financed	1.3	1.4	1.5	1.7	1.8	2.0	2.2	2.3	2.3	2.4	2.5	2.6
Federally Owned	1.2	1.1	1.2	1.2	1.1	1.2	1.3	1.3	1.1	1.1	1.1	1.2
Grants to State and Local Governments	0.2	0.2	0.4	0.6	0.7	0.8	0.9	1.0	1.2	1.3	1.4	1.4
Funded by State and Local Governments	1.0	1.2	1.6	2.2	2.4	2.4	2.6	3.0	3.7	4.5	4.9	5.0
Other Federal Assets	0.8	0.8	0.7	0.9	1.4	1.5	1.2	0.9	1.3	1.8	2.1	2.2
Subtotal	3.1	3.3	3.9	4.8	5.6	5.9	6.0	6.2	7.3	8.7	9.5	9.7
Privately Owned Physical Assets:												
Reproducible Assets	7.7	8.8	10.8	13.9	18.1	19.2	21.9	24.2	29.4	33.8	35.3	35.5
Residential Structures	3.0	3.5	4.2	5.3	7.3	7.5	8.6	9.8	12.2	15.2	16.0	16.1
Nonresidential Plant & Equipment	3.0	3.4	4.3	5.7	7.4	8.1	9.1	9.9	12.0	13.1	13.7	13.6
Inventories	0.8	0.8	1.0	1.3	1.6	1.4	1.5	1.6	1.8	1.8	1.8	1.9
Consumer Durables	0.9	1.1	1.3	1.6	1.9	2.1	2.7	3.0	3.4	3.7	3.8	3.9
Land	2.3	2.7	3.1	4.1	6.3	7.1	7.3	5.5	8.5	11.7	14.0	15.3
Subtotal	10.0	11.6	14.0	18.0	24.3	26.3	29.2	29.7	37.9	45.4	49.3	50.8
Education Capital:												
Federally Financed	0.1	0.1	0.3	0.4	0.5	0.7	0.8	1.0	1.3	1.5	1.6	1.7
Financed from Other Sources	6.4	8.6	11.5	14.6	18.7	21.8	27.1	31.8	40.6	45.8	46.9	48.4
Subtotal	6.4	8.7	11.8	15.0	19.2	22.5	27.9	32.9	41.9	47.3	48.5	50.0
Research and Development Capital:												
Federally Financed R&D	0.2	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.3
R&D Financed from Other Sources	0.1	0.2	0.3	0.4	0.5	0.7	1.0	1.2	1.7	2.0	2.1	2.1
Subtotal	0.3	0.6	0.9	1.0	1.2	1.5	1.9	2.3	2.8	3.2	3.3	3.5
Total Assets	19.8	24.2	30.5	38.9	50.3	56.2	65.1	71.0	89.9	104.7	110.6	114.0
Net Claims of Foreigners on U.S.	-0.1	-0.2	-0.2	-0.1	-0.4	0.1	0.9	1.6	3.2	4.7	5.8	6.1
Net Wealth	19.9	24.4	30.7	39.0	50.7	56.1	64.2	69.4	86.7	99.9	104.9	108.0
ADDENDA:												
Per Capita Wealth (thousands of 2006 \$)	110.5	125.7	150.0	180.7	222.4	235.1	256.2	259.9	306.7	339.5	353.0	360.3
Ratio of Wealth to GDP (in percent)	682.9	665.2	700.3	784.4	853.2	790.8	773.8	740.2	757.3	798.3	810.5	810.2
Total Federally Funded Capital (trils 2006 \$)	2.4	2.6	3.1	3.6	4.4	5.0	5.2	5.3	6.0	7.0	7.5	7.8
Percent of National Wealth	11.9	10.8	10.0	9.3	8.7	8.9	8.1	7.6	7.0	7.0	7.2	7.2

State and local governments); by comparison, GDP was around \$13 trillion in 2006. The Federal Government's contribution to this stock of capital includes its own physical assets of \$3.3 trillion plus \$1.4 trillion in accumulated grants to State and local governments for capital projects. The Federal Government has financed over 20 percent of all the physical capital held by other levels of government.

Education Capital: Economists have developed the concept of human capital to reflect the notion that individuals and society invest in people as well as in physical assets. Investment in education is a good example of how human capital is accumulated. Table 13–5 includes an estimate of the stock of capital represented by the Nation's investment in formal education and training. The estimate is based on the cost of replacing the years of schooling embodied in the U.S. population aged 15 and over; in other words, the goal is to measure how much it would cost to reeducate the U.S. workforce at today's prices (rather than at the original cost). This is more meaningful economically than the historical cost of schooling, and is comparable to the methods used to estimate the physical capital stocks presented earlier.

Although this is a relatively crude measure, it does provide a rough order of magnitude for the current value of the investment in education. According to this measure, the stock of education capital amounted to \$50 trillion in 2006, of which about 3 percent was financed by the Federal Government. It was approximately equal in value to the Nation's private stock of physical capital. The main investors in education capital have been State and local governments, parents, and students themselves.

Even broader concepts of human capital have been proposed. Not all useful training occurs in a schoolroom or in formal training programs at work. Much informal learning occurs within families or on the job, but measuring its value is very difficult. Labor compensation, however, amounts to about two-thirds of national income with the other third attributed to capital, and thinking of total labor income as the product of human capital suggests that the total value of human capital would be two times the estimated value of physical capital if human capital earned a similar rate of return to other forms of capital. Thus, the estimates offered here are in a sense conservative, because they reflect only the costs of acquiring formal education and train-

ing, which is why they are referred to as education capital rather than human capital. They constitute that part of total human capital that can be attributed to formal education and training.

Research and Development Capital: Research and development can also be thought of as an investment, because R&D represents a current expenditure that is made in the expectation of earning a future return. After adjusting for depreciation, the flow of R&D investment can be added up to provide an estimate of the current R&D stock.⁵ That stock is estimated to have been \$3.5 trillion in 2006. Although this represents a large amount of research, it is a relatively small portion of total National wealth. Of this stock, 38 percent was funded by the Federal Government.

Liabilities: When considering how much the United States owes as a Nation, the debts that Americans owe to one another cancel out. Table 13–5 only shows National totals. Gross debt is important even though it does not appear in Table 13–5. The amount of debt owed by Americans to other Americans can exert both positive and negative effects on the economy. Americans' willingness and ability to borrow have helped fuel the current expansion by supporting consumption and housing purchases. On the other hand, growing debt could be a risk to future growth, if the ability to service the higher level of debt were to become impaired.

The only debts that show up in Table 13–5 are the debts Americans owe to foreigners for the investments that foreigners have made in the United States. America's net foreign debt has been increasing rapidly in recent years because of the rising imbalance in the U.S. current account. Although the current account deficit is at record levels, the size of the net foreign debt remains relatively small compared with the total stock of U.S. assets. In 2006, it amounted to 5 percent of total assets including education and R&D capital.

Federal debt does not appear explicitly in Table 13–5 because much of it consists of claims held by Americans; only that portion of the Federal debt which is held by foreigners is included along with the other debts to foreigners. Comparing the Federal Government's net liabilities with total national wealth does, however, provide another indication of the relative mag-

nitude of the imbalance in the Government's accounts. Federal net liabilities, as reported in Table 13–1, amounted to 5.7 percent of net U.S. wealth as shown in Table 13–5. Prospectively, however, Federal liabilities are a much larger share of national wealth, as indicated by the long-run projections described in Part III.

Trends in National Wealth

The net stock of wealth in the United States at the end of 2006 was \$108 trillion, about eight times the size of GDP. Since 1960, it has increased in real terms at an average annual rate of 3.7 percent per year. It grew very rapidly from 1960 to 1973, at an average annual rate of 4.5 percent per year, slightly faster than real GDP grew over the same period. Between 1973 and 1995 growth slowed, as real net wealth grew at an average rate of just 3.1 percent per year, which paralleled the slowdown in real GDP over this period. Since 1995 the rate of growth in U.S. real wealth has picked up. Net wealth has been growing at an average rate of 4.1 percent since 1995. Productivity growth has also accelerated since 1995, following a similar slowdown from 1973 to 1995.

The net stock of privately owned nonresidential plant and equipment accounts for about 27 percent of all privately owned physical assets. In real terms, it grew 3.3 percent per year on average from 1960 to 2006. It grew especially rapidly from 1960 to 1973, at an average rate of 4.1 percent per year. Since 1973 it has grown more slowly, averaging around 3.0 percent per year. Plant and equipment did not experience a more rapid rate of growth over the last ten years compared with 1973–1995. Privately owned residential structures and land have all grown much more rapidly in real value since 1995 than from 1973 to 1995, while the stock of consumer durables has grown less rapidly.

The accumulation of education capital has averaged 4.6 percent per year since 1960. It also slowed down between 1973 and 1995. It grew at an average rate of 5.9 percent per year in the 1960s, 2.0 percentage points faster than the average rate of growth in private physical capital during the same period. Since 1995, education capital has grown at a 3.9 percent annual rate. This reflects both the extra resources devoted to schooling in this period, and the fact that such resources have been increasing in economic value. R&D

⁵ R&D depreciates in the sense that the economic value of applied research and development tends to decline with the passage of time, as still newer ideas move the technological frontier.

Table 13–6. TRENDS IN NATIONAL WEALTH

(Average Annual Rates in Percent)

	1960–06	1960–1973	1973–1995	1995–2006
Real GDP	3.4	4.3	2.8	3.3
National Wealth	3.7	4.5	3.1	4.1
Private Physical Wealth	3.6	3.9	2.7	5.0
Nonresidential Plant and Equipment	3.3	4.1	3.1	2.9
Residential Structures	3.7	4.0	3.1	4.6
Consumer Durables	3.1	3.6	3.2	2.5
Public Physical Wealth	2.6	2.8	1.6	4.2
Net Education	4.6	5.9	4.1	3.9
Net R&D	5.2	8.6	3.9	3.9

TABLE 13-7. ECONOMIC AND SOCIAL INDICATORS

Calendar Years	1960	1970	1980	1990	1995	2000	2004	2005	2006
Economic:									
Living Standards:									
Real GDP per person (2000 dollars) (a)	13,840	18,392	22,666	28,429	30,128	34,759	36,415	37,241	38,136
average annual percent change (5-year trend)	0.6	2.3	2.6	2.3	1.2	2.9	1.4	1.4	1.9
Real Disposable Personal Income Per Capita	9,735	13,563	16,940	21,281	22,153	25,472	27,254	27,318	27,761
average annual percent change (5-year trend)	1.2	3.2	2.1	1.8	0.8	2.8	2.1	1.4	1.6
Median Income: All Households (2005 dollars)	N/A	38,026	39,739	43,366	43,346	47,599	45,817	46,326	N/A
average annual percent change (5-year trend)	N/A	N/A	1.0	1.2	0.0	1.9	-0.8	-0.5	N/A
Income Share of Lower 60% of All Households	31.8	32.3	31.2	29.3	28.0	27.3	26.8	26.6	N/A
Poverty Rate (%) (b)	22.2	12.6	13.0	13.5	13.8	11.3	12.7	12.6	N/A
Economic Security:									
Civilian Unemployment (%)	5.5	4.9	7.1	5.5	5.6	4.0	5.5	5.1	4.6
CPI-U (% Change)	1.7	5.7	13.5	5.4	2.8	3.4	2.7	3.4	3.2
Payroll Employment Increase (millions) (c)	-0.4	-0.4	0.3	0.3	2.2	1.9	2.1	2.6	2.0
Managerial or Professional Jobs (% of civilian employment) ...	N/A	N/A	N/A	29.2	32.0	33.8	34.9	34.7	34.9
Wealth Creation:									
Net National Saving Rate (% of GDP) (d)	10.6	8.3	7.4	4.4	4.1	5.9	0.9	0.1	2.0
Innovation:									
Patents Issued to U.S. Residents (thousands) (e)	42.3	50.6	41.7	56.1	64.5	97.0	94.1	82.6	N/A
Multifactor Productivity (average 5 year percent change)	0.8	0.8	0.8	0.6	0.6	1.2	1.7	N/A	N/A
Nonfarm Output per Hour (average 5 year percent change) ...	1.8	2.1	1.1	1.6	1.5	2.5	3.2	3.1	3.0
Environment:									
Air Quality:									
Nitrogen Oxide Emissions (millions of tons)	18	27	27	26	25	23	20	19	N/A
Sulfur Dioxide Emissions (millions of tons)	22	31	26	23	19	16	15	15	N/A
Carbon Monoxide (millions of tons)	N/A	197	178	144	120	102	N/A	89	N/A
Lead Emissions (thousands of tons)	N/A	221	74	5	4	3	3	3	N/A
Water Quality:									
Population Served by Secondary Treatment or Better (mils)	N/A	85	N/A	162	174	179	N/A	N/A	N/A
Social:									
Families:									
Children Living with Mother Only (% of all children)	9.2	11.6	18.6	21.6	24.0	22.3	23.7	23.4	N/A
Safe Communities:									
Violent Crime Rate (per 100,000 population) (f)	160.0	364.0	597.0	729.6	684.5	506.5	463.2	469.2	482.2
Murder Rate (per 100,000 population) (g)	5.1	7.8	10.2	9.4	8.2	5.5	5.5	5.6	5.6
Murders (per 100,000 Persons Age 14 to 17)	N/A	N/A	5.9	9.8	11.0	4.8	4.6	N/A	N/A
Health:									
Infant Mortality (per 1000 Live Births) (g)	26.0	20.0	12.6	9.2	7.6	6.9	6.8	6.8	6.7
Low Birthweight [<2,500 gms] Babies (%) (g)	7.7	7.9	6.8	7.0	7.3	7.6	8.1	8.2	N/A
Life Expectancy at birth (years)	69.7	70.8	73.7	75.4	75.8	77.0	77.9	N/A	N/A
Cigarette Smokers (% population 18 and older)	N/A	39.2	33.0	25.3	24.6	23.1	20.8	20.9	N/A
Overweight (% population 20-74 with Body-Mass Index)2.5)	44.5	47.5	47.2	54.6	60.7	65.0	66.2	N/A	N/A
Learning:									
High School Graduates (% of population 25 and older)	44.6	55.2	68.6	77.6	81.7	84.1	85.2	85.2	N/A
College Graduates (% of population 25 and older)	8.4	11.0	17.0	21.3	23.0	25.6	27.7	27.6	N/A
National Assessment of Educational Progress (h)									
Reading 17-year olds	N/A	N/A	285.0	290.0	288.0	287.4	285.0	N/A	N/A
Mathematics 17-year olds	N/A	N/A	299.0	305.0	306.5	307.8	307.0	N/A	N/A
Participation:									
Individual Charitable Giving per Capita (2000 dollars)	281	381	373	465	449	692	639	N/A	N/A
(by election year)	(1960)	(1972)	(1980)	(1984)	(1988)	(1992)	(1996)	(2000)	(2004)
Voting for President (% eligible population)	62.8	55.1	52.8	53.3	50.3	55.2	49.0	50.3	55.5

(a) Forecast data are used for the fourth quarter of 2006.

(b) The poverty rate does not reflect noncash government transfers such as Medicaid or food stamps.

(c) The data for 2005-2006 reflect the expected 810,000 benchmark revision scheduled for February 2007.

(d) 2006 through Q3 only.

(e) Preliminary data for 2005.

(f) Not all crimes are reported, and the fraction that go unreported may have varied over time, preliminary data for 2006.

(g) Provisional data for 2005-2006; data for 2006 through April.

(h) Data for some years are interpolated.

stocks have also grown at an average rate of 3.9 percent per year since 1995.

Other Federal Influences on Economic Growth

Federal investment decisions, as reflected in Table 13-5, obviously are important, but the Federal Government also affects wealth in ways that cannot be easily

captured in a formal presentation. The Federal Reserve's monetary policy affects the rate and direction of capital formation in the short run, and Federal regulatory and tax policies also affect how capital is invested, as do the Federal Government's credit and insurance policies.

Social Indicators

There are certain broad responsibilities that are unique to the Federal Government. Especially important are preserving national security, fostering healthy economic conditions including sound economic growth, promoting health and social welfare, and protecting the environment. Table 13–7 offers a rough cut of information that can be useful in assessing how well the Federal Government has been doing in promoting the domestic portion of these general objectives.

The indicators shown in Table 13–7 are only a subset drawn from the vast array of available data on conditions in the United States. In choosing indicators for this table, priority was given to measures that were consistently available over an extended period. Such indicators make it easier to draw valid comparisons and evaluate trends. In some cases, however, this meant choosing indicators with significant limitations.

The individual measures in this table are influenced to varying degrees by many Government policies and programs, as well as by external factors beyond the Government's control. They do not measure the outcomes of Government policies, because they generally do not show the direct results of Government activities, but they do provide a quantitative measure of the progress or lack of progress toward some of the ultimate values that Government policy is intended to promote.

Such a table can serve two functions. First, it highlights areas where the Federal Government might need to modify its current practices or consider new approaches. Where there are clear signs of deteriorating conditions, corrective action might be appropriate. Second, the table provides a context for evaluating other data on Government activities. For example, Government actions that weaken its own financial position may be appropriate when they promote a broader social objective. The Government cannot avoid making such trade-offs because of its size and the broad ranging effects of its actions. Monitoring these effects and incorporating them in the Government's policy making is a major challenge.

Some of the trends in these indicators turned around in the 1990s. The improvement in economic conditions beginning around 1995 has been widely noted, and there have also been some social improvements. Perhaps, most notable has been the turnaround in the crime rate. After reaching a peak in the early 1990s, violent crime fell by a third. The turnaround has been especially dramatic in the murder rate, which has been lower since 1998 than at any time since the 1960s, although the last two years have seen an uptick in murders. The 2001 recession had a negative effect on some of these indicators: unemployment rose and real GDP growth declined, but as the economy recovered much of the improvement shown in Table 13–7 was preserved. Indeed, productivity growth, the best indicator of future changes in the standard of living, accelerated and has grown at a faster average rate since 2001 than at any comparable period since the 1960s.

TECHNICAL NOTE: SOURCES OF DATA AND METHODS OF ESTIMATING

Long-Range Budget Projections

The long-range budget projections are based on demographic and economic assumptions. A simplified model of the Federal budget, developed at OMB, is used to compute the budgetary implications of these assumptions.

Demographic and Economic Assumptions: For the years 2007–2017, the assumptions are drawn from the Administration's economic projections used for the budget. These budget assumptions reflect the President's policy proposals. The economic assumptions are extended beyond this interval by holding constant inflation, interest rates, and unemployment at the levels assumed in the final year of the budget forecast. Population growth and labor force growth are extended using the intermediate assumptions from the 2006 Social Security trustees' report. The projected rate of growth for real GDP is built up from the labor force assumptions and an assumed rate of productivity growth. Productivity growth is held constant at the average rate of growth in the budget's economic assumptions.

- CPI inflation holds stable at 2.3 percent per year; the unemployment rate is constant at 4.8 percent; and the yield on 10-year Treasury notes is steady at 5.3 percent.
- Real GDP per hour, a measure of productivity, grows at the same average rate as in the Administration's medium-term projections—2.3 percent per year.
- Consistent with the demographic assumptions in the trustees' reports, U.S. population growth slows from around 1 percent per year to about half that rate by 2030, and slower rates of growth beyond that point. Annual population growth is only 0.3 percent at the end of the projection period in 2080.
- Real GDP growth declines over time because of the slowdown in population growth and the increase in the population over age 65, who supply less work effort than younger people do. Historically, real GDP has grown at an average yearly rate of 3.4 percent. In these projections, average real GDP growth eventually declines to around 2.6 percent per year.

The economic and demographic projections described above are set by assumption and do not automatically change in response to changes in the budget outlook. This is unrealistic, but it simplifies comparisons of alternative policies.

Budget Projections: For the period through 2012, receipts follow the budget's policy projections. After 2012, receipts are assumed to return gradually to their share of GDP over the last 40 years, 18.3 percent, and to remain at that lower share over the long run. Discretionary spending follows the growth policies in the Budget over the next ten years and grows at the rate of growth in nominal GDP afterwards. Other spending also aligns with the Budget through the budget horizon, except that the Social Security program does not include the proposal to incorporate personal accounts in the program. Long-run Social Security spending is projected by the Social Security actuaries using this Chapter's long-range assumptions. Medicare benefits are projected based on the estimates in the 2006 Medicare trustees' report, adjusted for differences in the assumed inflation rate and the growth rate in real GDP per capita, and further adjusted for the estimated long-run effects of the Administration's policy proposals. Federal pensions are derived from the most recent actuarial forecasts available at the time the budget is prepared, repriced using Administration inflation assumptions. Medicaid outlays are based on the economic and demographic projections in the model. Other entitlement programs are projected based on rules of thumb linking program spending to elements of the economic and demographic projections such as the poverty rate.

Federally Owned Assets and Liabilities

Financial Assets: The principal source of data is the Federal Reserve Board's Flow-of-Funds Accounts.

Fixed Reproducible Capital: Estimates were developed from the OMB historical data base for physical capital outlays and software purchases. The data base extends back to 1940 and was supplemented by data from other selected sources for 1915–1939. The source data are in current dollars. To estimate investment flows in constant dollars, it was necessary to deflate the nominal investment series. This was done using chained price indexes for Federal investment from the National Income and Product Accounts. The resulting capital stocks were aggregated into nine categories and depreciated using geometric rates roughly following those used by the Bureau of Economic Analysis in its estimates of physical capital stocks.

Fixed Nonreproducible Capital: Historical estimates for 1960–1985 were based on estimates in Michael J. Boskin, Marc S. Robinson, and Alan M. Huber, "Government Saving, Capital Formation and Wealth in the United States, 1947–1985," published in *The Measurement of Saving, Investment, and Wealth*, edited by Robert E. Lipsey and Helen Stone Tice (The University of Chicago Press, 1989). Estimates were updated using changes in the value of private land from the Flow-of-Funds Balance Sheets and from the Agriculture De-

partment for farm land; the value of Federal oil deposits was extrapolated using the Producer Price Index for Crude Energy Materials.

Debt Held by the Public: Treasury data.

Insurance and Guarantee Liabilities: Sources of data are the OMB Pension Guarantee Model and OMB estimates based on program data. Historical data on liabilities for deposit insurance were also drawn from CBO's study, *The Economic Effects of the Savings and Loan Crisis*, issued January 1992.

Pension and Post-Employment Health Liabilities: The accrued liabilities for Federal retiree pensions and retiree health insurance along with the liability for Veterans disability compensation were derived from the *Financial Report of the United States Government* (and the Consolidated Financial Statement for some earlier years). Prior to 1976, the values were extrapolated.

Other Liabilities: The source of data for trade payables and miscellaneous liabilities is the Federal Reserve's Flow-of-Funds Accounts. The *Financial Report of the United States Government* was the source for benefits due and payable.

Environmental Liabilities: The source of data for environmental liabilities was the *Financial Report of the United States Government* for 2006 and previous years. Prior to 1994, the estimates were extrapolated assuming a constant ratio to GDP.

National Balance Sheet

Publicly Owned Physical Assets: Basic sources of data for the federally owned or financed stocks of capital are the Federal investment flows described in Chapter 6. Federal grants for State and local government capital are added, together with adjustments for inflation and depreciation in the same way as described above for direct Federal investment. Data for total State and local government capital come from the revised capital stock data prepared by the Bureau of Economic Analysis extrapolated for 2006.

Privately Owned Physical Assets: Data are from the Flow-of-Funds national balance sheets and from the private net capital stock estimates prepared by the Bureau of Economic Analysis extrapolated for 2006 using investment data from the National Income and Product Accounts.

Education Capital: The stock of education capital is computed by valuing the cost of replacing the total years of education embodied in the U.S. population 15 years of age and older at the current cost of providing schooling. The estimated cost includes both direct expenditures in the private and public sectors and an estimate of students' forgone earnings, i.e., it reflects the opportunity cost of education. Estimates of students' forgone earnings are based on the minimum wage for high-school students and year-round, full-time earnings of 18–24 year olds for college students. These year-round earnings are reduced by 25 percent because students are usually out of school three months of the year. Yearly earnings by age and educational attainment are from the Bureau of the Census.

For this presentation, Federal investment in education capital is a portion of the Federal outlays included in the conduct of education and training. This portion includes direct Federal outlays and grants for elementary, secondary, and vocational education and for higher education. The data exclude Federal outlays for physical capital at educational institutions because these outlays are classified elsewhere as investment in physical capital. The data also exclude outlays under the GI Bill; outlays for graduate and post-graduate education spending in HHS, Defense and Agriculture; and most outlays for vocational training. The Federal share of the total education stock in each year is estimated by averaging the prior years' shares of Federal education outlays in total education costs.

Data on investment in education financed from other sources come from educational institution reports on the sources of their funds, published in U.S. Department of Education, Digest of Education Statistics. Nominal expenditures were deflated by the implicit price deflator for GDP to convert them to constant dollar values. Education capital is assumed not to depreciate, but to be retired when a person dies. An education capital stock computed using this method with different source data can be found in Walter McMahon, "Relative Returns to Human and Physical Capital in the U.S. and Efficient Investment Strategies," *Economics of Education Review*, Vol. 10, No. 4, 1991. The method is described in detail in Walter McMahon, *Investment in Higher Education*, Lexington Books, 1974.

Research and Development Capital: The stock of R&D capital financed by the Federal Government was developed from a data base that measures the conduct of R&D. The data exclude Federal outlays for physical capital used in R&D because such outlays are classified elsewhere as investment in federally financed physical capital. Nominal outlays were deflated using the GDP deflator to convert them to constant dollar values.

Federally funded capital stock estimates were prepared using the perpetual inventory method in which annual investment flows are cumulated to arrive at a capital stock. This stock was adjusted for depreciation by assuming an annual rate of depreciation of 10 per-

cent on the estimated stock of applied research and development. Basic research is assumed not to depreciate. These are the same assumptions used in a study published by the Bureau of Labor Statistics estimating the R&D stocks financed by private industry (U.S. Department of Labor, Bureau of Labor Statistics, "The Impact of Research and Development on Productivity Growth," Bulletin 2331, September 1989). Chapter 6 of this volume contains additional details on the estimates of the total federally financed R&D stock, as well as its national defense and nondefense components.

A similar method was used to estimate the stock of R&D capital financed from sources other than the Federal Government. The component financed by universities, colleges, and other nonprofit organizations is estimated based on data from the National Science Foundation, Surveys of Science Resources. The industry-financed R&D stock component is estimated from that source and from the U.S. Department of Labor, "The Impact of Research and Development on Productivity Growth," Bulletin 2331, September 1989.

Experimental estimates of R&D capital stocks have been prepared by BEA. The results are described in "A Satellite Account for Research and Development," *Survey of Current Business*, November 1994. These BEA estimates are lower than those presented here primarily because BEA assumes that the stock of basic research depreciates, while the estimates in Table 13-4 assume that basic research does not depreciate. BEA also assumed a slightly higher rate of depreciation for applied research and development, 11 percent, compared with the 10 percent rate used here.

Sources of Data and Assumptions for Estimating Social Indicators

The main sources for the data in this table are the Government statistical agencies. The data are all publicly available, and can be found in such general sources as the annual *Economic Report of the President* and the *Statistical Abstract of the United States*, or from the respective agencies' web sites.

14. NATIONAL INCOME AND PRODUCT ACCOUNTS

The National Income and Product Accounts (NIPAs) are an integrated set of measures of aggregate U.S. economic activity that are prepared by the Department of Commerce. Because the NIPAs include Federal transactions and are widely used in economic analysis, it is important to show the NIPAs' distinctive presentation of Federal transactions and contrast it with that of the budget.

One of the main purposes of the NIPAs is to measure the Nation's total production of goods and services, known as gross domestic product (GDP), and the incomes generated in its production. GDP is a measure of the Nation's final output, which excludes intermediate product to avoid double counting. Both government consumption expenditures and government gross investment—State and local as well as Federal—are included in GDP as part of final output, together with personal consumption expenditures, gross private domestic investment, and net exports of goods and services (exports minus imports).

Other government expenditures—social benefits, grants to State and local governments, subsidies, and interest payments—are not purchases of final output and as such are not included in GDP; however, these transactions are recorded in the NIPA government current receipts and expenditures account, together with government consumption expenditures (which includes depreciation on government gross investment).

Federal transactions are included in the NIPAs as part of the government sector.¹ The Federal subsector is designed to measure certain important economic effects of Federal transactions in a way that is consistent with the conceptual framework of the entire set of integrated accounts. The NIPA Federal subsector is not itself a budget, because it is not a financial plan for proposing, determining, and controlling the fiscal activities of the Government. Also, it features current transactions, whereas the budget includes transactions that the NIPA current account omits from its current receipts and current expenditure totals as “capital transfers.” NIPA concepts also differ in many other ways from budget concepts, and therefore the NIPA presentation of Federal finances is significantly different from that of the budget.

Differences Between the NIPAs and the Budget

Federal transactions in the NIPAs are measured according to NIPA accounting concepts in order to be compatible with the purposes of the NIPAs and other transactions recorded in the NIPAs. As a result they differ from the budget in netting and grossing, timing, and coverage. These differences cause current receipts

and expenditures in the NIPAs to differ from total receipts and outlays in the budget, albeit by relatively small amounts.² Differences in timing and coverage also cause the NIPA net Federal Government saving to differ from the budget surplus or deficit. Netting and grossing differences have equal effects on receipts and expenditures and thus have no effect on net Government saving. Besides these differences, the NIPAs combine transactions into different categories from those used in the budget.

Netting and grossing differences arise when the budget records certain transactions as offsets to outlays, while they are recorded as current receipts in the NIPAs (or vice versa). The budget treats all income that comes to the Government due to its sovereign powers—mainly, but not exclusively, taxes—as government receipts. The budget offsets against outlays any income that arises from voluntary business-type transactions with the public. The NIPAs often follow this concept as well, and income to Government revolving accounts (such as the Government Printing Office) is offset against their expenditures. However, the NIPAs have a narrower definition of “business-type transactions” than does the budget. Two classes of receipts, rents and royalties, and some regulatory or inspection fees, both of which are classified as offsets to outlays in the budget, are recorded in the NIPAs as Government receipts (income receipts on assets and current transfer receipts, respectively). The NIPAs include Medicare premiums as Government receipts, while the budget classifies them as business-type transactions (offsetting receipts). In addition, the NIPAs treat the net surplus of Government enterprises as a component of current receipts.

In the budget, any intragovernmental income paid from one account to another is offset against outlays rather than being recorded as a receipt so that total outlays and receipts measure transactions with the public. Government contributions for Federal employee social insurance (such as Social Security) is an example: the budget offsets these payments against outlays. In contrast, the NIPAs treat the Federal Government like any other employer and show contributions for Federal employee social insurance as expenditures by the employing agencies and as governmental (rather than offsetting) receipts. The NIPAs also impute certain transactions that are not explicit in the budget. For example, unemployment benefits for Federal employees are financed by direct appropriations rather than social insurance contributions. The NIPAs impute social insurance contributions by employing agencies to finance

¹The other subsector of the NIPA government sector is a single set of transactions for all U.S. State and local units of government, treated as a consolidated entity.

²Over the period 1994–2006, NIPA current expenditures averaged 3.8 percent higher than budget outlays, while NIPA current receipts averaged 2.4 percent higher than budget receipts.

these benefits—again, treating the Federal Government like any other employer.

Timing differences for receipts occur because the NIPAs generally record personal taxes and social insurance contributions when they are paid and business taxes when they accrue, while the budget generally records all receipts when they are received. Thus the NIPAs attribute corporations' final settlement payments back to the quarter(s) in which the profits that gave rise to the tax liability occurred. The delay between accrual of liability and Treasury receipt of payment can result in significant timing differences between NIPA and budget measures of receipts for any given accounting period.

Timing differences also occur for expenditures. When the first day of a month falls on a weekend or holiday, monthly benefit checks normally mailed on the first day of the month may be mailed out a day or two earlier; the budget then reflects two payments in one month and none the next. As a result, the budget totals occasionally reflect 13 monthly payments in one year and only 11 the next. NIPA expenditure figures always reflect 12 benefit payments per year, giving rise to a timing difference compared to the budget.

Coverage differences also differentiate the budget and the NIPAs. A coverage difference arises on the expenditure side because of the NIPA treatment of Government investment. The budget includes outlays for Federal investments as they are paid, while the NIPA Federal current account instead excludes current investments but includes a depreciation charge on past investments ("consumption of general government fixed capital") as part of "current expenditures." The inclusion of depreciation on fixed capital (structures, equipment and software) in current expenditures is a proxy for the services that capital renders; i.e., for its contribution to Government output of public services.

Certain items in the budget are excluded from the NIPA Federal current account because they are capital transfers that are related to the acquisition or sale of assets, and not related to current consumption or income. Examples include Federal investment grants to State and local governments, investment subsidies to business, lump sum payments to amortize the unfunded liability of the Uniformed Services Retiree Health Care Fund, and forgiveness of debt owed by foreign governments. Likewise, estate and gift taxes, included in budget receipts, are excluded from NIPA current receipts as being capital transfers. They also exclude the proceeds from the sales of nonproduced assets such as land. Bonuses paid on Outer Continental Shelf oil leases and proceeds from broadcast spectrum auctions are shown as offsetting receipts in the budget and are deducted from budget outlays. In the NIPAs

these transactions are excluded from the Federal current account as an exchange of assets with no current production involved. Also unlike the budget, the NIPAs exclude transactions with U.S. territories.

The treatment of Government pension plan income and outgo creates a coverage difference. Whereas the budget treats employee payments to these pension plans as governmental receipts, and employer contributions by agencies as offsets to outlays because they are intragovernmental, the NIPAs treat both of these components of employee compensation as personal income, in the same way as it treats contributions to pension plans in the private (household) sector. Likewise, the budget records a Government check to a retired Government employee as an outlay, but under NIPA concepts, no Government expenditure occurs at that time; the payment is treated (like private pension payments) as a transfer of income within the household sector.

Financial transactions such as loan disbursements, loan repayments, loan asset sales, and loan guarantees are excluded from the NIPAs on the grounds that such transactions simply involve an exchange of assets rather than current production, income, or consumption. In contrast, under the Federal Credit Reform Act of 1990, the budget records the estimated subsidy cost of the direct loan or loan guarantee as an outlay when the loan is disbursed. The cash flows with the public are recorded in nonbudgetary accounts as a means of financing the budget rather than as budgetary transactions themselves. This treatment recognizes that part of a Federal direct loan is an exchange of assets with equal value but part is a subsidy to the borrower. It also recognizes the subsidy normally granted by loan guarantees. In the NIPAs, neither the subsidies nor the loan transactions are included. However, the NIPAs, like the budget, include all interest transactions with the public, including interest received by and paid to the loan financing accounts; and both the NIPAs and the budget include administrative costs of credit program operations.

Deposit insurance outlays for resolving failed banks and thrift institutions are similarly excluded from the NIPAs on the grounds that there are no offsetting current income flows from these transactions. In 1991, this exclusion was the largest difference between the NIPAs and the budget and made NIPA net Government saving a significantly smaller negative number than the budget deficit that year. In subsequent years, as assets acquired from failed financial institutions were sold, these collections tended to make the budget deficit a smaller negative figure than NIPA net Federal Government saving.

Table 14–1. FEDERAL TRANSACTIONS IN THE NATIONAL INCOME AND PRODUCT ACCOUNTS, 1997–2008
(In billions of dollars)

Description	Actual										Estimate	
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
CURRENT RECEIPTS												
Current tax receipts	1010.2	1105.9	1165.2	1305.6	1266.9	1089.7	1065.9	1118.9	1323.9	1527.2	1639.9	1708.9
Personal current taxes	729.0	814.1	868.5	987.4	993.8	851.1	781.7	787.2	909.0	1028.6	1151.6	1231.6
Taxes on production and imports	77.2	80.7	82.5	87.8	86.4	86.4	89.1	93.1	99.7	106.0	102.5	108.1
Taxes on corporate income	198.9	205.9	207.9	223.5	179.5	144.7	186.8	229.4	304.3	381.6	374.5	357.8
Taxes from the rest of the world	5.1	5.2	6.2	6.8	7.1	7.4	8.3	9.2	11.0	11.0	11.3	11.3
Contributions for government social insurance	565.5	604.4	642.2	687.8	713.8	729.6	749.9	788.0	849.9	890.1	944.6	995.6
Income receipts on assets	26.7	22.3	20.9	24.3	26.4	21.3	21.4	22.4	23.7	24.8	25.0	26.2
Current transfer receipts	23.8	21.0	21.8	24.9	26.5	25.5	24.7	26.9	6.4	35.1	33.3	38.2
Current surplus of government enterprises	0.2	0.0	0.3	-1.3	-6.5	-1.1	2.5	0.2	-5.3	-3.6	-2.0	-1.6
Total current receipts	1626.4	1753.5	1850.3	2041.2	2027.1	1865.0	1864.4	1956.4	2198.6	2473.6	2640.9	2767.4
CURRENT EXPENDITURES												
Consumption expenditures	454.6	452.9	469.5	496.0	519.7	575.5	648.0	707.2	758.0	803.3	865.7	906.9
Defense	304.4	301.3	307.2	321.2	335.7	368.4	424.5	470.9	508.8	532.8	579.1	617.2
Nondefense	150.2	151.6	162.3	174.8	184.0	207.1	223.5	236.3	249.2	270.5	286.6	289.7
Current transfer payments	908.2	940.3	976.4	1023.2	1108.0	1216.6	1308.9	1379.6	1462.5	1543.1	1655.1	1721.1
Government social benefits	700.0	716.4	733.0	762.7	823.6	900.9	956.3	1007.4	1072.0	1151.4	1244.9	1306.1
Grants-in-aid to State and local governments ..	194.1	209.9	227.7	244.1	268.2	296.7	329.3	347.6	359.5	361.4	373.9	377.2
Other transfers to the rest of the world	14.2	14.0	15.7	16.4	16.3	19.0	23.2	24.5	31.0	30.4	36.4	37.8
Interest payments	299.4	299.7	285.9	283.3	267.9	234.9	214.6	216.6	242.3	286.7	306.2	331.9
Subsidies	31.3	33.6	36.1	49.6	53.7	37.9	46.1	43.5	53.6	54.4	47.3	46.3
Wage disbursements less accruals												
Total current expenditures	1693.5	1726.5	1767.9	1852.0	1949.3	2064.9	2217.6	2346.9	2516.3	2687.5	2874.3	3006.2
Net Federal Government saving	-67.1	27.0	82.4	189.2	77.8	-199.9	-353.2	-390.5	-317.7	-213.9	-233.4	-238.9
ADDENDUM: TOTAL RECEIPTS AND EXPENDITURES												
Current receipts	1626.4	1753.5	1850.3	2041.2	2027.1	1865.0	1864.4	1956.4	2198.6	2473.6	2640.9	2767.4
Capital transfer receipts	19.7	23.9	27.6	28.8	28.2	26.4	21.7	24.7	24.5	27.7	25.0	25.5
Total receipts	1646.1	1777.4	1877.9	2070.1	2055.3	1891.3	1886.1	1981.1	2223.1	2501.3	2666.0	2792.8
Current expenditures	1693.5	1726.5	1767.9	1852.0	1949.3	2064.9	2217.6	2346.9	2516.3	2687.5	2874.3	3006.2
Net investment:												
Gross government investment:												
Defense	44.5	45.4	46.5	48.5	49.9	54.5	59.0	65.0	71.7	76.9	86.7	79.1
Nondefense	28.5	29.7	31.9	32.2	30.3	32.6	33.3	33.4	36.0	37.0	38.0	40.0
Less: Consumption of fixed capital:												
Defense	60.6	59.8	59.7	60.2	60.3	60.4	61.4	63.4	67.2	70.8	74.2	77.2
Nondefense	21.8	22.9	24.5	26.5	27.7	28.2	28.7	29.3	30.7	32.5	32.4	33.5
Capital transfer payments	29.0	28.2	31.3	39.3	39.8	44.3	62.0	62.9	66.0	69.4	77.8	77.4
Net purchases of nonproduced assets	-11.0	-5.3	-1.7	-0.3	-0.9	0.3	0.1	0.1	-0.9	0.0	-13.7	-13.3
Total expenditures	1702.3	1741.8	1791.8	1885.1	1980.3	2108.0	2281.9	2415.6	2591.2	2767.6	2956.5	3079.0
Net lending or net borrowing (-)	-56.2	35.7	86.1	185.0	75.0	-216.7	-395.8	-434.5	-368.1	-266.2	-290.6	-286.1

\$50 million or less.

Federal Sector Current Receipts

Table 14–1 shows Federal current receipts in the five major categories and four of the subcategories used in the NIPAs, which are similar to the budget categories but with significant differences.

Current tax receipts is the largest category of current receipts, and its personal current taxes subcategory—composed primarily of the individual income tax—is the largest single subcategory. The NIPAs' taxes on cor-

porate income subcategory differs in classification from the corresponding budget category primarily because the NIPAs include the deposit of earnings of the Federal Reserve System as corporate income taxes, while the budget treats these collections as miscellaneous receipts. (The timing difference between the NIPAs and the budget is especially large for corporate receipts.) The taxes on production and imports subcategory is composed of excise taxes and customs duties.

Contributions for Government social insurance is the second largest category of current receipts. It differs from the corresponding budget category primarily because: (1) the NIPAs include Federal employer contributions for social insurance as a governmental receipt, while the budget offsets these contributions against outlays as undistributed offsetting receipts; (2) the NIPAs include premiums for Parts B and D of Medicare as governmental receipts, while the budget nets them against outlays; (3) the NIPAs treat Government employee contributions to their pension plans as a transfer of personal income within the household sector (as if the pension system were private), while the budget includes them in governmental receipts; and (4) the NIPAs impute employer contributions for Federal employees' unemployment insurance and workers' compensation.

The income receipts on assets category consists mainly of interest payments received on Government direct loans (such as student loans) and rents and royalties on Outer Continental Shelf oil leases. The current transfer receipts category consists primarily of deposit insurance premiums, fees, fines and other receipts from both individuals and businesses, less insurance settlements from the National Flood Insurance Program—virtually all of which are netted against outlays in the budget. The current surplus (or deficit) of Government enterprises category is the profit or loss of "Government enterprises," such as the Postal Service, which are business-type operations of Government that usually appear in the budget as public enterprise revolving funds. Depreciation (consumption of enterprise fixed capital) is netted in calculating the current surplus of Government enterprises.

Federal Sector Current Expenditures

Table 14–1 shows current expenditures in five major NIPA categories and five subcategories, which are also very different from the budget categories.

Government consumption expenditures are the goods and services purchased by the Federal Government in the current account, including compensation of employees and depreciation. Gross investment (shown among the addendum items in Table 14–1) is thus excluded from current expenditures in computing net Government saving on a NIPA basis, whereas depreciation—charges on federally-owned fixed capital—"consumption of general government fixed capital" is included. The NIPAs treat State and local investment and capital consumption in the same way—regardless of the extent to which it is financed with Federal aid (capital transfer payments) or from State and local own-source receipts.

Although gross investment is not included in Government current expenditures, both Government gross investment and current consumption expenditures (including depreciation) are included in total GDP, which makes the treatment of the government sector in the NIPAs similar to that of the private sector. Investment includes structures, equipment, and computer software.

Current transfer payments is the largest expenditure category. Transfer payments for Government social benefits consist mainly of income security and health programs, such as Social Security and Medicare paid to U.S. residents—and to retirees living outside the United States. Payment of pension benefits to former Government employees is not included, as explained previously. Grants-in-aid to State and local governments help finance a range of programs, including income security, Medicaid, and education (but capital transfer payments for construction of highways, airports, waste-water treatment plants, and mass transit are excluded). "Current transfer payments to the rest of the world (net)" consists mainly of grants to foreign governments.

Interest payments is the interest paid by the Government on its debt (excluding debt held by trust funds, other than Federal employee pension plans; and other Government accounts). Where the budget nets interest received on loans against outlays, the NIPAs treat it as current receipts.

Subsidies consist of subsidy payments for resident businesses (excluding subsidies for investment). NIPA subsidies do not include the imputed credit subsidies estimated as budget outlays under credit reform. Rather, as explained previously loans and guarantees are categorized as financial transactions and are excluded from the NIPAs except for associated interest and fees.

Wage disbursements less accruals is an adjustment that is necessary to the extent that the wages paid in a period differ from the amount earned in the period.

Differences in the Estimates

Since the introduction of the unified budget in January 1968, NIPA current receipts have been greater than budget receipts in most years. This is due principally to grossing differences and the fact that estate and gift taxes, which the NIPAs exclude as capital transfers, roughly matched Medicare premiums, which the NIPAs include as a governmental receipt but the budget treats as an offsetting receipt. (In the budget, offsetting receipts are netted against the outlay total and not included in the governmental receipts total.) Since 1986, NIPA current expenditures have usually been higher than budget outlays (from which the Medicare premiums and employer retirement contributions are netted out as offsetting receipts), despite the omission from NIPA expenditures of capital transfer grants and pension benefit payments to former Government employees.

Two components of budget outlays, however, are sometimes sufficiently large in combination to exceed the netting and grossing adjustments. These are financial transactions and net investment (the difference between gross investment and depreciation). Large outlays associated with resolving the failed savings and loan associations and banks in 1990 and 1991 caused those year's budget outlays to exceed NIPA current expenditures. With the change in budgetary treatment of direct loans in 1992 under credit reform, one type

Table 14-2. RELATIONSHIP OF THE BUDGET TO THE FEDERAL SECTOR, NIPA's

Description	Actual										Estimate	
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
RECEIPTS												
Budget receipts	1579.4	1722.0	1827.6	2025.5	1991.4	1853.4	1782.5	1880.3	2153.9	2407.3	2540.1	2662.5
Contributions to government employee retirement plans	-4.4	-4.3	-4.5	-4.8	-4.7	-4.6	-4.6	-4.6	-4.5	-4.4	-4.7	-4.7
Capital transfers received	-19.7	-23.9	-27.6	-28.8	-28.2	-26.3	-21.7	-24.7	-24.5	-27.7	-25.0	-25.5
Other coverage differences	-3.9	-5.8	-7.0	-8.0	-7.9	-8.9	-9.0	-10.1	-11.0	-12.2	-12.4	-13.1
Netting and grossing	69.5	64.5	65.7	70.6	69.9	77.0	85.1	88.4	70.7	112.7	121.7	133.7
Timing differences	5.5	1.1	-3.9	-13.2	6.7	-25.6	32.1	27.1	14.0	-2.0	21.2	14.4
NIPA current receipts	1626.4	1753.5	1850.3	2041.2	2027.1	1865.0	1864.4	1956.4	2198.6	2473.6	2640.9	2767.4
EXPENDITURES												
Budget outlays	1601.3	1652.7	1702.0	1789.2	1863.2	2011.2	2160.1	2293.0	2472.2	2655.4	2784.3	2901.9
Government employee retirement plan transactions	31.6	31.3	32.1	31.7	31.5	33.7	33.1	33.5	39.4	42.4	44.4	47.4
Deposit insurance and other financial transactions	-6.4	-7.1	-6.1	-9.0	-6.2	-6.7	2.1	-0.8	-0.8	-9.1	-19.2	-25.2
Capital transfer payments	-28.9	-28.2	-31.3	-35.1	-39.8	-44.1	-45.4	-46.4	-47.7	-51.2	-53.9	-55.8
Net purchases of nonproduced assets	11.0	5.3	1.7	0.3	0.9	-0.3	-0.1	-0.1	0.7	0.0	13.7	13.3
Net investment	9.3	7.6	5.7	6.0	7.9	1.4	-2.3	-5.7	-9.8	-10.6	-18.1	-8.5
Other coverage differences	11.4	1.0	2.7	4.0	7.9	-0.6	-13.5	-20.2	-25.1	-38.1	-7.5	-1.1
Netting and grossing differences	69.5	64.5	65.7	70.6	69.9	77.0	85.1	88.4	70.7	112.7	121.7	133.7
Timing differences	-5.4	-0.7	-4.7	-5.6	14.3	-6.7	-1.6	5.1	16.6	-14.0	8.9	0.7
NIPA current expenditures	1693.5	1726.5	1767.8	1852.0	1949.3	2064.9	2217.6	2346.9	2516.3	2687.5	2874.3	3006.2
ADDENDUM												
Budget surplus or deficit (-)	-21.9	69.3	125.6	236.2	128.2	-157.8	-377.6	-412.7	-318.3	-248.2	-244.2	-239.4
NIPA net Federal Government saving	-67.1	27.0	82.4	189.2	77.8	-199.9	-353.2	-390.5	-317.7	-213.9	-233.4	-238.9

* \$50 million or less.

of financial transaction—direct loans to the public—has been recorded in the budget in a way that is closer to the NIPA treatment. Disbursement and repayment of loans made since that time are recorded outside the budget as in the Federal sector of the NIPAs, although, unlike the NIPAs, credit subsidies are recorded as budget outlays.

During the period 1975–1992, the budget deficit was a larger negative number than net Federal Government saving as measured in the NIPAs every year. The largest difference, \$78.8 billion, occurred in 1991 as a result of resolving failed financial institutions as discussed above; the budget deficit was then -\$269.2 billion, while the NIPA net Government saving was -\$190.5 billion. In 1993–2002, the NIPA net Federal Government saving was a larger negative number than the budget deficit or lower positive number than the budget surplus

each year. For 2003–2008, however, the NIPA net Federal Government saving was, or is estimated to be, a smaller negative number than the budget deficit.

Table 14-1 displays Federal transactions using NIPA concepts with actual data for 1997–2006 and estimates for 2007 and 2008 consistent with the Administration's budget proposals. Table 14-2 summarizes the reasons for differences between the data. Annual NIPA data for 1948–2008 are published in Section 14 of a separate budget volume, *Historical Tables, Budget of the U.S. Government, Fiscal Year 2008*.

Detailed estimates of NIPA current receipts and expenditures consistent with the budget and including quarterly estimates will be published in a forthcoming issue of the Department of Commerce publication, *Survey of Current Business* and on the Bureau of Economic Analysis website at www.bea.doc.gov/bea/pubs.htm.

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.

13. STEWARDSHIP

Introduction

The budget is an essential tool for allocating resources within the Federal Government and between the public and private sectors, but current outlays, receipts, and the deficit give at best a partial picture of the Government's financial condition. Indeed, changes in the annual budget deficit or surplus can be misleading. For example, the temporary shift from annual deficits to surpluses in the late 1990s did nothing to correct the long-term fiscal deficiencies in the major entitlement programs, which are the major source of the long-run shortfall in Federal finances. This would have been more apparent at the time if greater attention had been focused on long-term measures such as those presented in this chapter. As important as the current budget surplus or deficit is, other indicators are also needed to judge the Government's fiscal condition.

For the Federal Government, there is no single number that corresponds to a business's bottom line. The Government is judged by how its actions affect the country's security and well-being over time, and that cannot easily be summed up with a single statistic. Also, even though its financial condition is important, the Government is not expected to earn a profit. One measure of the Government's performance is the extent to which it collects the taxes that are owed to it, and another is whether it delivers value in spending the taxes that it collects. Both of those questions are addressed below. In general, the Government's financial status is best evaluated using a broad range of data and several complementary perspectives. This chapter presents a framework for such analysis. Because there are serious limitations on the available data and the future is uncertain, this chapter's findings and conclusions should be interpreted as tentative and subject to future revision.

The chapter consists of four parts:

PART I—A FRAMEWORK TO EVALUATE FEDERAL FINANCES

No single framework can encompass all of the factors that affect the financial condition of the Federal Government, but the framework presented here is comprehensive and offers many insights into the financial implications of Federal policies. This framework includes information about Government assets and liabilities, but it also includes long-run projections of the entire budget showing where future fiscal strains are most likely to appear. It includes an analysis of the Government's potential revenue for a given tax structure and what can be done realistically through better education and more rigorous enforcement of the tax

- Part I explains how the separate pieces of analysis link together. Chart 13–1 is a schematic diagram showing the linkages.
- Part II presents estimates of the Government's assets and liabilities, which are shown in Table 13–1. This table is similar to a business balance sheet, but for that reason it cannot reveal some of the Government's unique financial features and needs to be supplemented by the information in Parts III and IV.
- Part III shows possible long-run paths for the Federal budget. These projections vary depending on alternative economic and demographic assumptions. The projections are summarized in Table 13–2 and in a related set of charts. Table 13–3 shows present value estimates of the funding shortfall in Social Security and Medicare. Together, these data indicate the scope of the Government's future responsibilities and the resources it will have available to discharge them under current law and policy. In particular, they show the looming long-run fiscal challenge posed by the Federal entitlement programs.
- Part IV returns the focus to the present. This part presents information on national economic and social conditions. It begins with an analysis of tax compliance, including what can be done to improve it, and what resources might be made available with new efforts to assure compliance. The private economy is the ultimate source of the Government's resources. Table 13–5 gives a summary of total national wealth, while highlighting the Federal investments that have contributed to that wealth. Table 13–6 shows trends in wealth and Table 13–7 presents a small sample of statistical indicators, which are intended to show how the Government's efforts to improve social and economic outcomes might be measured.

law to reach that potential. Measures of national wealth, which support future income and tax receipts, are presented along with an array of economic and social indicators showing potential pressure points that may require future policy responses.

The Government's binding obligations—its liabilities—consist in the first place of Treasury debt. Other liabilities include the pensions and medical benefits owed to retired Federal employees and veterans. These employee obligations are a form of deferred compensation; they have counterparts in the business world, and would appear as liabilities on a business balance sheet.

Accrued obligations for Government insurance policies and the estimated present value of failed loan guarantees and deposit insurance claims are also analogous to private liabilities. These Government liabilities are discussed further in Part II along with the Government's assets. The liabilities and assets are collected in Table 13–1. The liabilities shown in Table 13–1 are only a subset of the Government's overall financial responsibilities. Indeed, the full extent of the Government's fiscal exposure through programmatic commitments dwarfs the outstanding total of all acknowledged Federal liabilities. The commitments to Social Security and Medicare alone amount to many times the value of Federal debt held by the public.

In addition to Social Security and Medicare, the Government has a broad range of programs that dispense cash and other benefits to individual recipients. A few examples of such programs are Medicaid, food stamps, veterans' pensions, and veterans' health care. The Government also provides a wide range of public services that must be financed through the tax system. It is true that specific programs may be modified or even ended at any time by the Congress and the President, and changes in the laws governing these programs are a regular part of the legislative cycle. For this reason, these programmatic commitments do not constitute "liabilities." They are Federal responsibilities, however, and will have a claim on budgetary resources for the foreseeable future unless the law is changed. All of the Government's existing programs are reflected in the long-run budget projections in Part III. It would be misleading to leave out any of these programmatic commitments in projecting future claims on the Government or in calculating the Government's long-run fiscal balance.

The Federal Government has many assets. These include financial assets, such as loans and mortgages which have been acquired through various credit programs. They also include the plant and equipment used to produce Government services. The Government also owns a substantial amount of land. Such assets would normally be shown on a balance sheet. The Government has other resources in addition to these. These additional resources include most importantly the Government's sovereign power to tax.

Because of its unique responsibilities and resources, the most revealing way to analyze the future strains on the Government's fiscal position is to make a long-run projection of the entire Federal budget. Part III of this chapter presents a set of such projections under different assumptions about policy and future economic and demographic conditions. Over long periods of time, the spending of the Government must be financed by the taxes and other receipts it collects. Although the Government can borrow for temporary periods, it must pay interest on any such borrowing, which adds to future spending. In the long run, a solvent Government must pay for its programmatic spending out of its receipts. The projections in Part III show that under an extension of the estimates in this Budget, long-run bal-

ance in this sense is not achieved, mostly because projected spending for Social Security, Medicare, and Medicaid grows faster than the revenue available to pay for it.

The long-run budget projections and the table of assets and liabilities are silent on the questions of whether the Government is collecting the full amount of taxes owed, whether the public is receiving value for its taxes paid, and whether Federal resources are being used effectively. Information on those points requires performance measures for Government programs supplemented by appropriate information about conditions in the economy and society. Recent changes in budgeting practices have contributed to the goal of providing more information about Government programs and will permit a closer alignment of the cost of programs with performance measures. These changes have been described in detail in previous Budgets. They are reviewed in Chapter 2 of this volume, and in the accompanying material that describes results obtained with the Program Assessment Rating Tool (PART). This Stewardship chapter complements the detailed exploration of Government performance with an assessment of the overall impact of Federal policy as reflected in general measures of economic and social well-being such as those shown in Table 13–7.

Relationship with FASAB Objectives

The framework presented here meets the stewardship objective for Federal financial reporting recommended by the Federal Accounting Standards Advisory Board (FASAB) and adopted for use by the Federal Government in September 1993.¹

Federal financial reporting should assist report users in assessing the impact on the country of the government's operations and investments for the period and how, as a result, the government's and the Nation's financial conditions have changed and may change in the future. Federal financial reporting should provide information that helps the reader to determine:

3a. Whether the government's financial position improved or deteriorated over the period.

3b. Whether future budgetary resources will likely be sufficient to sustain public services and to meet obligations as they come due.

3c. Whether government operations have contributed to the nation's current and future well-being.

The current presentation is an experimental approach for fulfilling this objective at the Federal Government-wide level. It is intended to meet the broad interests of economists and others in evaluating trends over time, including both past and future trends. The annual *Financial Report of the United States Government* presents related information, but from a different perspective. The *Financial Report* includes a balance sheet. The assets and liabilities on that balance sheet are all based on transactions and other events that have already occurred. In some cases, the assets and liabilities are evaluated differently than those reported in Part II of this chapter. The *Financial Report* also in-

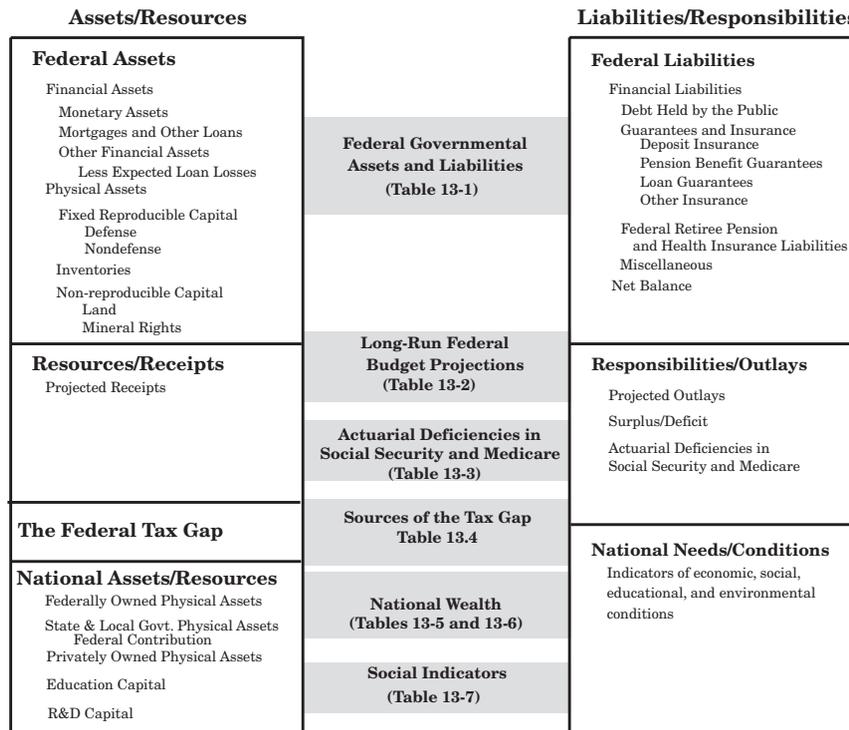
¹ Statement of Federal Financial Accounting Concepts, Number 1, Objectives of Federal Financial Reporting, September 2, 1993. Other objectives are budgetary integrity, operating performance, and systems and controls.

cludes a statement of social insurance that reviews a substantial body of information on the condition and sustainability of the Government’s social insurance programs. This year, the *Report* included for the first time a brief discussion of the long-run budget outlook for the Government as a whole, which is similar to the long-run projections discussed in this chapter. This is a useful development and will help to inform readers of the Government’s fiscal sustainability in a way not possible with more limited analysis.

Connecting the Dots: The presentation that follows is constructed around a series of tables and charts. The schematic diagram, Chart 13–1, shows how the different pieces fit together. The tables and charts should be viewed as an ensemble, the main elements of which are grouped in two broad categories—assets/resources and liabilities/responsibilities.

- The left-hand side of Chart 13–1 shows the full range of Federal resources, including assets the Government owns, tax receipts it can expect to collect based on current and proposed laws, the tax gap, and national wealth, including the trained skills of the national work force, that provide the base for Government revenues.
- The right-hand side reveals the full range of Federal obligations and responsibilities, beginning with the Government’s acknowledged liabilities from past actions, such as the debt held by the public, and including future budget outlays needed to maintain present policies and trends. This column ends with a set of indicators highlighting areas where Government activity affects society or the economy.

Chart 13-1. The Financial Condition of the Federal Government and the Nation



QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S STEWARDSHIP

1. According to Table 13–1, the Government's liabilities exceed its assets. No business could operate in such a fashion. Why does the Government not manage its finances more like a business?

The Federal Government has different objectives from a business firm. The goal of every business is to earn a profit, and as a general rule the Federal Government properly leaves activities at which a profit could be earned to the private sector. For the vast bulk of the Federal Government's operations, it would be difficult or impossible to charge prices that would cover expenses. The Government undertakes these activities not to improve its balance sheet, but to benefit the Nation.

For example, the Government invests in education and research, but it earns no direct return from these investments. People are enriched by these investments, but the returns do not show up as an increase in Government assets but rather as an increase in the general state of knowledge and in the capacity of the country's citizens to earn a living and lead a fuller life. Business investment motives are quite different; business invests to earn a profit for itself, not others, and if its investments are successful, their value will be reflected in its balance sheet. Because the Federal Government's objectives are different, its balance sheet behaves differently, and should be interpreted differently.

2. Table 13–1 seems to imply that the Government is insolvent. Is it?

No. Just as the Federal Government's responsibilities are different from those of private business, so are its resources. Government solvency must be evaluated in different terms.

What Table 13–1 shows is that those Federal obligations that are most comparable to the liabilities of a business corporation exceed the estimated value of the assets actually owned by the Federal Government. The Government, however, has access to other resources through its sovereign powers. These powers, which include taxation, will allow the Government to meet its present obligations and those that are anticipated from future operations even though the Government's current assets are less than its current liabilities.

Private financial markets clearly recognize this reality. The Federal Government's implicit credit rating is among the best in the world; lenders are willing to lend it money at interest rates substantially below those charged to private borrowers. This would not be true if the Government were really insolvent or likely to become so in the near future. Where governments totter on the brink of insolvency, lenders are either unwilling to lend them money, or do so only in return for a substantial interest premium.

QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S STEWARDSHIP

3. *Why are Social Security and Medicare not shown as Government liabilities in Table 13-1?*

Future Social Security and Medicare benefits may be considered as promises or responsibilities of the Federal Government, but these benefits are not a liability in a legal or accounting sense. The Government has unilaterally decreased as well as increased these benefits in the past, and future reforms could alter them again. These benefits are reflected in this presentation of the Government's finances in two ways: as part of the overall budget projections in Table 13-2, and in the actuarial deficiency estimates in Table 13-3.

Other Federal programs make similar promises to those of Social Security and Medicare—Medicaid, for example. Few have suggested counting future benefits expected under these programs as Federal liabilities, yet it would be difficult to justify a different accounting treatment for them if Social Security or Medicare were to be classified as a liability. There is no bright line dividing Social Security and Medicare from other programs that promise benefits to people, and all the Government programs that do so should be accounted for similarly.

Also, if future Social Security and Medicare benefits were treated as liabilities, then payroll tax receipts earmarked to finance those benefits ought to be treated as assets. This treatment would be essential to gauge the size of the future claim. Tax receipts, however, are not generally considered to be Government assets, and for good reason: the Government does not own the wealth on which future taxes depend. Including taxes on the balance sheet would be wrong for this reason, but excluding taxes from the balance sheet would overstate the drain on net assets from Social Security and Medicare benefits. Furthermore, treating taxes for Social Security or Medicare differently from other taxes would be highly questionable.

Finally, under Generally Accepted Accounting Principles (GAAP), Social Security is not considered to be a liability, so not counting it as such in this chapter is consistent with accounting standards.

4. *Why doesn't the Federal Government follow normal business practice in its bookkeeping?*

The Government is not a business, and accounting standards designed to illuminate how much a business earns and how much equity it has could provide misleading information if applied naively to the Government. The Government does not have a "bottom line" comparable to that of a business corporation, but the Federal Accounting Standards Advisory Board (FASAB) has developed, and the Government has adopted, a conceptual accounting framework that reflects the Government's distinct functions and answers many of the questions for which Government should be accountable. This framework addresses budgetary integrity, operating performance, stewardship, and systems and controls. FASAB has also developed, and the Government has adopted, a full set of accounting standards. Federal agencies now issue audited financial reports that follow these standards, and an audited Government-wide financial report is issued as well. In short, the Federal Government does follow generally accepted accounting principles (GAAP) just as businesses and State and local governments do, although the relevant principles differ depending on the circumstances. This chapter is intended to address the "stewardship objective"—assessing the interrelated condition of the Federal Government and the Nation.

PART II—THE FEDERAL GOVERNMENT’S ASSETS AND LIABILITIES

Table 13–1 looks at the Government’s assets and liabilities retrospectively, summarizing what the Government owes as a result of its past operations netted against the value of what it owns. The table gives some perspective by showing these net asset figures for a number of years beginning in 1960. To ensure comparability across time, the assets and liabilities are measured in terms of constant FY 2007 dollars and the balance is also shown as a ratio to GDP. Govern-

ment liabilities have exceeded the value of assets (see chart 13–2) over this entire period, but in the late 1970s a speculative run-up in the prices of oil and other real assets temporarily boosted the value of Federal holdings. When those prices subsequently declined, real Federal asset values declined and only recently have they regained the level they had reached in the mid-1980s.

Chart 13-2. Net Federal Liabilities



Currently, the total real value of Federal assets is estimated to be 78 percent greater than it was in 1960. Meanwhile, Federal liabilities have increased by 257 percent in real terms. The decline in the Federal net asset position has been partly due to persistent Federal budget deficits that have boosted debt held by the public in most years since 1960. Other factors have also been important such as large increases in health benefits promised for Federal retirees and the sharp rise in veterans’ disability compensation. The relatively slow growth in Federal asset values has also reduced the Government’s net asset position.

The shift from budget deficits to budget surpluses in the late 1990s temporarily checked the decline in Federal net assets. Currently, the net excess of liabilities over assets is about \$7.2 trillion or about \$23,800 per capita. As a ratio to GDP, the excess of liabilities over assets reached a peak of 57 percent in 1995; it declined to 45 percent in 2000; it rose to 54 percent in 2005; and it has declined slightly since then to around 52 percent of GDP at the end of 2007. The average since 1960 has been 44 percent (see Table 13–1).

Assets

Table 13–1 offers a comprehensive list of the financial and physical resources owned by the Federal Government.

Financial Assets: According to the Federal Reserve Board’s Flow-of-Funds accounts, the Federal Government’s holdings of financial assets amounted to \$613 billion at the end of 2007. Government-held mortgages (measured in constant dollars) reached a peak in the early 1990s as the Government acquired mortgages from savings and loan institutions that had failed. The Government subsequently liquidated most of the mortgages it acquired from these bankrupt savings and loans. Meanwhile, Government holdings of other loans have been declining in real terms since the mid-1980s. The face value of mortgages and other loans overstates their economic worth. OMB estimates that the discounted present value of future losses and interest subsidies on these loans was around \$44 billion as of year-end 2007. These estimated losses are subtracted from the face value of outstanding loans to obtain a better estimate of their economic worth.

Table 13-1. GOVERNMENT ASSETS AND LIABILITIES*

(As of the end of the fiscal year, in billions of 2007 dollars)

	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2006	2007
ASSETS												
Financial Assets:												
Cash and Checking Deposits	49	71	44	36	55	36	49	50	67	37	52	77
Other Monetary Assets	2	1	1	2	2	2	2	1	7	2	5	1
Mortgages	32	31	46	48	89	90	115	80	91	81	83	83
Other Loans	118	162	203	205	263	341	242	194	225	211	202	205
less Expected Loan Losses	-1	-3	-5	-11	-20	-20	-23	-29	-44	-43	-48	-44
Other Treasury Financial Assets	71	89	78	70	99	146	233	280	255	326	309	290
Subtotal	271	351	367	350	488	596	618	577	602	614	603	613
Nonfinancial Assets:												
Fixed Reproducible Capital:	1,185	1,176	1,223	1,186	1,124	1,271	1,318	1,325	1,162	1,162	1,178	1,222
Defense	1,022	960	970	886	795	925	949	927	759	733	745	775
Nondefense	164	216	253	300	328	346	369	398	403	429	433	447
Inventories	310	268	250	224	276	316	280	216	221	287	288	277
Nonreproducible Capital:	159	210	251	411	607	685	581	430	717	1,117	1,211	1,311
Land	109	151	190	301	385	399	411	306	475	743	824	919
Mineral Rights	51	59	61	110	223	286	170	124	242	374	387	392
Subtotal	1,655	1,654	1,724	1,821	2,007	2,272	2,179	1,970	2,101	2,566	2,677	2,809
Total Assets	1,925	2,006	2,090	2,171	2,495	2,868	2,798	2,547	2,703	3,180	3,280	3,423
LIABILITIES												
Debt held by the Public	1,352	1,390	1,237	1,257	1,563	2,585	3,522	4,681	4,076	4,852	4,945	5,035
Insurance and Guarantee Liabilities:												
Deposit Insurance					2	11	85	6	1	1	1	2
Pension Benefit Guarantee				51	37	51	51	24	48	87	76	83
Loan Guarantees	*	1	3	8	15	13	18	35	44	51	49	69
Other Insurance	37	33	26	24	32	20	24	21	19	43	20	17
Subtotal	37	34	29	82	86	94	178	86	113	181	146	171
Pension and Post-Employment Health Liabilities:												
Civilian and Military Pensions	1,021	1,283	1,534	1,739	2,138	2,121	2,073	2,010	2,107	2,292	2,372	2,415
Retiree Health Insurance Benefits	209	263	314	356	438	434	424	420	467	1,188	1,160	1,145
Veterans Disability Compensation	224	282	337	374	383	316	285	346	661	1,186	1,181	1,128
Subtotal	1,454	1,828	2,186	2,468	2,959	2,872	2,783	2,777	3,234	4,666	4,713	4,688
Environmental and Disposal Liabilities	80	99	119	134	161	191	226	295	360	274	313	342
Other Liabilities:												
Trade Payables and Miscellaneous	32	40	50	62	97	127	174	144	125	238	248	255
Benefits Due and Payable	24	29	39	41	53	58	70	81	93	124	132	134
Subtotal	57	68	89	103	149	185	244	226	218	361	381	389
Total Liabilities	2,980	3,420	3,660	4,045	4,919	5,928	6,953	8,064	8,002	10,335	10,497	10,625
Net Assets (Assets Minus Liabilities)	-1,054	-1,414	-1,569	-1,874	-2,424	-3,060	-4,155	-5,517	-5,299	-7,155	-7,216	-7,202
Addenda:												
Net Assets Per Capita (in 2007 dollars)	-5,847	-7,289	-7,665	-8,691	-10,630	-12,814	-16,582	-20,663	-18,734	-24,064	-24,039	-23,768
Ratio to GDP (in percent)	-35.1	-37.5	-34.8	-36.6	-39.6	-41.9	-48.6	-57.2	-44.9	-53.9	-53.1	-51.6

* This table shows assets and liabilities for the Government as a whole excluding the Federal Reserve System. Data for 2007 are extrapolated in some cases.

Reproducible Capital: The Federal Government is a major investor in physical capital and computer software. Government-owned stocks of such capital have remained fairly stable measured in constant (year 2000) dollars for most of the last 45 years (OMB estimate) at around \$1.2 trillion. This capital consists of defense equipment and structures, including weapons systems, as well as nondefense capital goods. Currently, less than two-thirds of the capital is defense equipment or structures. In 1960, defense capital was over 80 percent of the total. In the 1970s, there was a substantial decline in the real value of U.S. defense capital and there was another large decline in the 1990s after the end of the Cold War. Meanwhile, nondefense Federal capital has increased at an average annual rate of around 2.2 percent. The Government also holds inventories of defense goods and other items that in 2007 amounted to about 23 percent of the value of its fixed reproducible capital.

Nonreproducible Capital: The Government owns significant amounts of land and mineral deposits. There are no official estimates of the market value of these holdings (and of course, in a realistic sense, many of these resources would never be sold). Private land values fell sharply in the early 1990s, but they have generally risen since. It is assumed here that Federal land shared in the decline and the subsequent recovery. Oil prices have been on a roller coaster since the mid-1990s. They declined sharply in 1997–1998, rebounded in 1999–2000, fell again in 2001, and rose substantially in 2002–2007. These fluctuations have caused the estimated market value of Federally owned proved reserves of oil and natural gas to fluctuate as well. In 2007, as estimated here, the combined real value of Federal land and mineral rights was \$1.3 trillion compared with \$1.5 trillion in Federal fixed capital and inventories.

These estimates omit some valuable assets owned by the Federal Government—such as works of art and historical artifacts—partly because such unique assets are unlikely ever to be sold and partly because there is no comprehensive inventory or realistic basis for valuing them.

Total Assets: The total value of Government assets measured in constant dollars has risen sharply in the past four years, and was at an all-time high in 2007. The Government's asset holdings are vast. As of the end of 2007, Government assets were estimated to be worth about \$3.4 trillion or 24 percent of GDP.

Liabilities

Table 13–1 includes all Federal liabilities that would normally be listed on a balance sheet. All the various forms of publicly held Federal debt are counted, as are Federal pension and health insurance obligations to civilian and military retirees including the disability compensation that is owed the Nation's veterans, which can be thought of as a form of deferred compensation. The estimated liabilities stemming from Federal insurance programs and loan guarantees are shown. The benefits that are due and payable under various Federal programs are also included, but these liabilities reflect only binding short-term obligations, not the Government's full commitment under these programs. The Government also has a responsibility to repair environmental damage that resulted from nuclear weapons production, and that cost has been included in the Table as well.

Future benefit payments that are promised through Social Security and other Federal income transfer programs are not Federal liabilities in a legal or accounting sense. They are Federal responsibilities, and it is important to gauge their size, but they are not binding in the same way as a legally enforceable claim would be. The budget projections and other data in Part III are designed to provide a sense of these broader responsibilities and their claim on future budgets.

Debt Held by the Public: The Federal Government's largest single financial liability is the debt owed to the public. It amounted to about \$5.0 trillion at the end of 2007. Publicly held debt declined for several years in the late 1990s because of the unified budget surpluses at that time, but as deficits returned, publicly held debt began to increase again.

Insurance and Guarantee Liabilities: The Federal Government has contingent liabilities arising from the loan guarantees it has made and from its insurance programs. When the Government guarantees a loan or offers insurance, cash disbursements are often small initially, and if a fee is charged the Government may even collect money; but the risk of future cash payments associated with such commitments can be large. The figures reported in Table 13–1 are estimates of the current discounted value of prospective future losses on outstanding guarantees and insurance con-

tracts. The present value of all such losses taken together is about \$170 billion. As is true elsewhere in this chapter, this estimate does not incorporate the market value of the risk associated with these contingent liabilities; it merely reflects the present value of expected losses. Although individually many of these programs are large and potential losses can be a serious concern, these insurance and guarantee liabilities are fairly small relative to total Federal liabilities or even the total debt held by the public. They were less than 2 percent of total liabilities in 2007.

Pension and Post-Employment Health Liabilities: The Federal Government owes pension benefits as a form of deferred compensation to retired workers and to current employees who will eventually retire. It also provides civilian retirees with subsidized health insurance through the Federal Employees Health Benefits program and military retirees receive similar benefits. Veterans are owed compensation for their service-related disabilities. While the Government's employee pension obligations have risen slowly, there has been a sharp increase in the liability for future health benefits and veterans compensation. The discounted present value of all these benefits was estimated to be around \$4.7 trillion at the end of 2007 up from \$3.2 trillion in 2000.² A large expansion in Federal military retiree health benefits was legislated in 2001.

Environmental and Disposal Liabilities: During World War II and the Cold War, the Federal Government constructed a vast industrial complex to study, produce and test nuclear weapons. Environmental contamination occurred at these sites. The estimated liability shown here is based on the cleanup costs required by Federal, State and local laws and regulations. The Department of Energy is responsible for managing this cleanup. The Department of Defense is also charged with cleaning up contamination from its waste disposal practices, leaks, spills and other risky activities. Together the cleanup costs are estimated to amount to around 340 billion dollars in present value.³

The Balance of Net Liabilities

The Government need not maintain a positive balance of net assets to assure its fiscal solvency, and the buildup in net liabilities since 1960 has not significantly affected Federal creditworthiness. Long-term Government interest rates in 2003 reached their lowest levels in 45 years, and in 2004–2007 they remained lower than at any time from 1965 through 2002. Despite the historically low interest rates, there are limits to how much debt the Government can assume without putting its finances in jeopardy. Over an extended time horizon, the Federal Government must take in enough

²Estimates of these liabilities were derived from the Financial Report of the United States Government for 2007 and earlier years. Values for years prior to 1997 were extrapolated.

³Estimates of these liabilities were also derived from the Financial Report of the United States Government for 2007 and earlier years. Values for years prior to 1997 were extrapolated.

revenue to cover all of its spending including debt service. The Government's ability to service its debt in the long run cannot be gauged from a balance sheet alone.

It is necessary to project the budget into the future to judge the prospects for long-run solvency. That is the subject of the next section.

PART III—THE LONG-RUN BUDGET OUTLOOK

A balance sheet, with its focus on obligations arising from past transactions, can only show so much information. For the Government, it is also important to anticipate what future budgetary requirements might flow from current laws and policies. Despite the uncertainty surrounding the assumptions needed for such estimates, very long-run budget projections can be useful in drawing attention to potential problems. Federal responsibilities extend well beyond the next five or ten years, and problems that may be small in that time frame can become much larger if allowed to grow.

To assess the overall financial condition of the Government, it is necessary to examine the future prospects for all Government programs including the revenue sources that support Government spending. Such an assessment reveals that the key drivers of the long-range deficit are, not surprisingly, Social Security, Medicare, and Medicaid. Social Security and Medicare are expected to continue indefinitely and long-range projections for Social Security and Medicare have been prepared for decades. Budget projections for individual programs, however, even important ones such as Social Security and Medicare, cannot reveal the Government's overall budgetary position. Like Medicare and Social Security, Medicaid—the entitlement program that provides medical assistance, including acute and long-term care to low-income persons including families with dependent children, as well as aged, blind or disabled individuals—is projected to grow more rapidly than the economy over the next several decades and to add substantially to the overall budget deficit. Under current law, there is no offset anywhere in the budget large enough to cover all the demands that will eventually be imposed by Social Security, Medicare, and Medicaid.

Future budget outcomes depend on a host of unknowns—constantly changing economic conditions, unforeseen international developments, unexpected demographic shifts, the unpredictable forces of technological advance, and evolving political preferences to name a few. These uncertainties make even short-run budget forecasting quite difficult, and the uncertainties increase the further into the future projections are extended. While uncertainty makes forecast accuracy difficult to achieve, it enhances the importance of long-run budget projections because future problems are often best addressed in the present. A full treatment of all the relevant risks is beyond the scope of this chapter, but the chapter does show how long-run budget projections respond to changes in some of the key economic and demographic parameters.

The Impending Demographic Transition

This year—2008—is a watershed year as the first members of the huge generation born after World War

II, the so-called baby boomers, reach age 62 and become eligible for early retirement under Social Security. Three years from now, they turn 65 and become eligible for Medicare. In the years that follow, the elderly population will steadily increase, putting serious strains on the budget.

The pressures are expected to persist even after the baby boomers have passed through the system. The Social Security actuaries project that the ratio of workers to Social Security beneficiaries will fall from around 3.3 currently to a little over 2 by the time most of the baby boomers have retired. From that point forward, because of lower fertility and improved mortality, the ratio is expected to continue to decline slowly. With fewer workers to pay the taxes needed to support the retired population, budgetary pressures will continue to grow. The problem posed by the demographic transition is a permanent one.

Currently, the three major entitlement programs—Social Security, Medicare, and Medicaid—account for 45 percent of non-interest Federal spending, up from 30 percent in 1980. By 2035, when the remaining baby boomers will be in their 70s and 80s, these three programs could account for two-thirds of non-interest Federal spending even with the reforms proposed in this Budget. At the end of the projection period, in 2080, the figure rises to almost three-quarters of non-interest spending. In other words, most of the budget, aside from interest, would go to these three programs alone. That would severely reduce the flexibility of the budget, and the Government's ability to respond to new challenges.

An Unsustainable Path

These long-run budget projections shown in Table 13–2 illustrate that the budget is on an unsustainable path, although the expansion of the entitlement programs and the rise in the deficit unfold gradually. The budget is projected to reach balance in 2012, while most of the baby boomers are still in the work force and to remain in surplus for some years after 2012, but the deficit eventually returns and then begins a steady increase. Without further reforms, by the end of this chapter's projection period in 2080, rising deficits would have driven publicly held Federal debt to levels well above the previous peak level relative to GDP reached at the end of World War II. There likely would be a crisis that would force budgetary changes before that point could be reached, but the timing of such a crisis and its resolution are impossible to predict. Timely, comprehensive entitlement reforms could avoid such a crisis.

The revenue projections start with the budget's estimate of receipts under the Administration's proposals

for the next five years. In the long run, for this analysis, receipts are assumed to return gradually to their average as a share of GDP over the last 40 years—18.3 percent. Maintaining that sustained historical tax level relative to GDP effectively assumes ongoing efforts—as has occurred historically—to offset the inherent biases in the tax code that tend to raise the tax burden over time.

The projection of discretionary spending is essentially arbitrary, because discretionary spending is determined annually through the legislative process, and no formula can dictate future spending in the absence of legislation. Alternative assumptions have been made for long-run discretionary spending in past budgets. Holding discretionary spending unchanged in real terms is the “current services” assumption used for baseline budget projections when there is no legislative guidance on future spending levels. Extending this assumption over many decades, however, is not realistic. When the population and economy grow, as assumed in these projections, the demand for public services is very likely to expand as well. The current base projection assumes that discretionary spending keeps pace with the growth in GDP in the long run, so that spending increases in real terms whenever there is real economic growth.

In past budgets, these long-run budget projections have typically jumped off from the end point for the current budget. This year’s Budget, however, continues to include the effects of adding personal retirement accounts to Social Security. Personal accounts are one element within a possible set of larger reforms that would restore solvency to Social Security. Because

showing the personal account proposal in isolation would give a distorted picture of the Administration’s intentions for comprehensive Social Security reform, it is not included in the base projections.

The long-run budget outlook is highly uncertain. With pessimistic assumptions, the fiscal picture deteriorates even sooner than in the base projection. More optimistic assumptions imply a longer period before the pressures of rising entitlement spending overwhelm the budget. But despite the uncertainty, these projections show that under a wide range of forecasting assumptions, the resources generated by the programs themselves will be insufficient to cover the long-run costs of Social Security and Medicare and that overall budgetary resources will not be sufficient to support all future projected needs. (For a further discussion of the forecasting assumptions used to make these budget projections, see the technical note at the end of this chapter.)

Alternative Policy, Economic, and Technical Assumptions

The quantitative results discussed above are sensitive to changes in underlying policy, economic, and technical assumptions. Some of the most important of these assumptions and their effects on the budget outlook are discussed below. Mounting deficits result for most plausible projections of the budget.

1. *Health Spending:* The projections for Medicare over the next 75 years are based on an extension of the Administration’s policy proposals to control costs in the Medicare program. These reforms are expected to reduce Medicare expenditures relative to the actuarial

Table 13–2. LONG-RUN BUDGET PROJECTIONS

(Receipts, outlays, surplus or deficit, and debt as a percent of GDP)

	1980	1990	2000	2010	2020	2030	2040	2060	2080
Receipts	19.0	18.0	20.9	18.6	18.3	18.3	18.3	18.3	18.3
Outlays:									
Discretionary	10.1	8.7	6.3	7.0	4.7	4.7	4.7	4.7	4.7
Mandatory:									
Social Security	4.3	4.3	4.2	4.3	5.1	5.9	6.0	6.1	6.3
Medicare	1.1	1.7	2.0	2.7	3.1	4.1	4.8	5.3	5.3
Medicaid	0.5	0.7	1.2	1.5	1.9	2.3	2.7	3.2	3.9
Other	3.7	3.2	2.4	2.4	2.0	1.7	1.5	1.3	1.2
Subtotal, mandatory	9.6	9.9	9.8	10.8	12.1	14.0	15.0	15.8	16.7
Net Interest	1.9	3.2	2.3	1.8	1.2	1.0	1.7	4.1	7.8
Total outlays	21.7	21.8	18.4	19.6	18.0	19.8	21.4	24.6	29.2
Surplus or Deficit (–)	–2.7	–3.9	2.4	–1.0	0.3	–1.5	–3.1	–6.3	–10.9
Primary Surplus or Deficit (–)	–0.8	–0.6	4.7	0.8	1.5	–0.4	–1.4	–2.3	–3.1
Federal Debt Held by the Public	26.1	42.0	35.1	38.2	22.2	20.5	33.9	80.4	154.4
Projections without Proposed Entitlement Savings:									
Mandatory Outlays	9.6	9.9	9.8	10.9	12.4	14.8	16.2	18.1	20.0
Surplus or Deficit (–)	–2.7	–3.9	2.4	–1.1	–0.1	–2.5	–5.2	–11.5	–20.6
Primary Surplus or Deficit (–)	–0.8	–0.6	4.7	0.6	1.2	–1.2	–2.6	–4.5	–6.4
Federal Debt Held by the Public	26.1	42.0	35.1	38.4	24.3	28.1	52.4	140.0	283.4

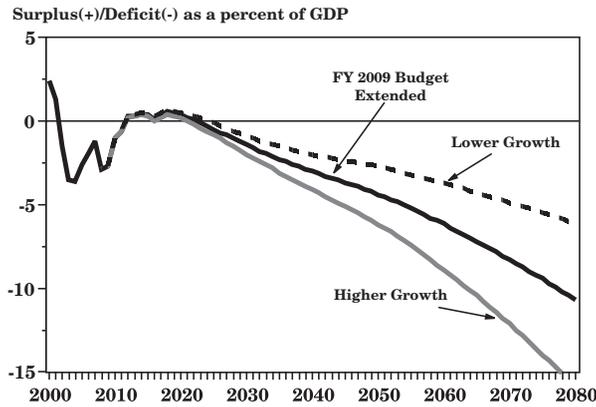
Note: The figures shown in this table for 2020 and beyond are the product of a long-range forecasting model maintained by the Office of Management and Budget. This model is separate from the models and capabilities that produce detailed programmatic estimates in the Budget. It was designed to produce long-range forecasts based on additional assumptions regarding growth of the economy, the long-range evolution of specific programs, and the demographic and economic forces affecting those programs. The model, its assumptions, and sensitivity testing of those assumptions are presented in this chapter.

projections in the 2007 Medicare Trustees' Report. Following the recommendations of its Technical Review Panel, the Medicare trustees assume that over the long run "age-and gender-adjusted, per-beneficiary spending growth exceeds the growth of per-capita GDP by 1 percentage point per year." This implies that total Medicare spending rises faster than GDP. Medicare faces a substantial shortfall in earmarked income compared with projected outgo. Although rising faster than GDP, under these assumptions, Medicare grows less rapidly than it has historically, so that even without explicit reforms the program's growth is assumed to be reduced. The effect of the Administration's proposals is to reduce future growth even more, and that would reduce the imbalance in Medicare by more than \$10 trillion over the 75-year forecasting horizon according to actuarial estimates. Instead of facing a \$34 trillion shortfall the

program would face about a \$24 trillion shortfall, if the Administration's proposals were adopted. The proposals would not eliminate the shortfall but they would reduce it substantially.

Eventually, the rising trend in health care costs will have to end, but it is hard to know when and how that will happen. Improved health and increased longevity are highly valued, and society has shown that it is willing to spend a larger share of income on them than it did in the past. Whether society will be willing to devote the large share of resources to health care implied by these projections, even with the Administration's proposals, is an open question. The alternatives highlight the effect of raising or lowering the projected growth rate in per capita health care costs by ¼ percentage point.

Chart 13-3. Health Care Cost Alternatives



2. *Entitlement Savings:* The Administration has proposed a number of savings measures in entitlement programs in addition to the Medicare savings discussed

above. These proposals, if adopted, would have ongoing budgetary effects. The chart below shows the long-run deficit with and without these reforms.

Chart 13-4. Effect of Entitlement Savings

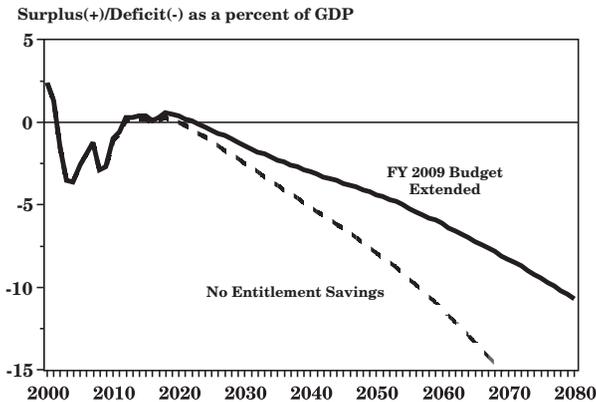
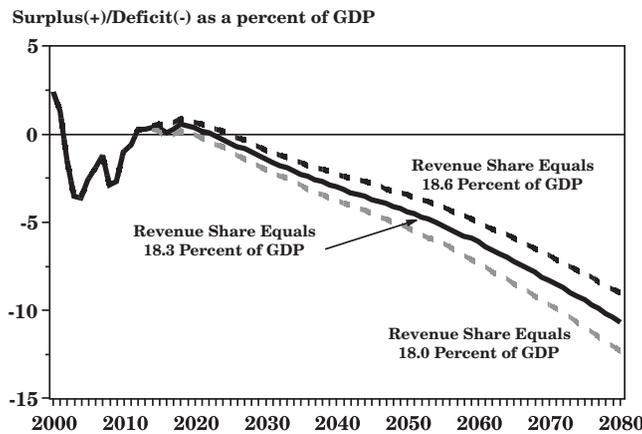


Chart 13-5. Alternative Receipts Projections

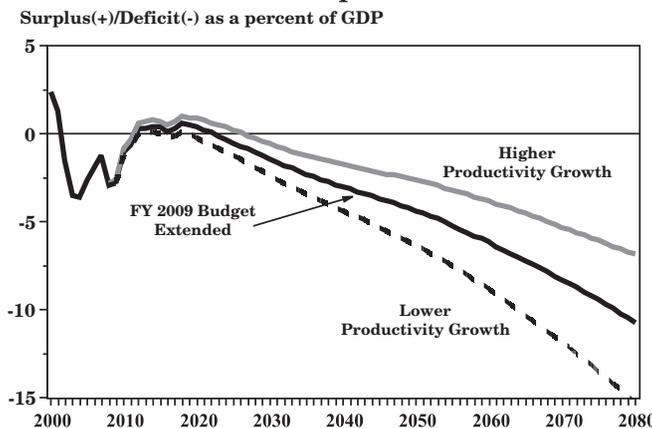


3. *Alternative Revenue Shares:* In the base projection, tax receipts are held constant relative to GDP at their average over the last 40 years—18.3 percent of GDP. Tax receipts have risen above this ratio from time to time, most recently in 2006–2007 of the 1990s, but periods of high taxes have always been followed by tax changes that have restored the long-term average tax ratio. The chart below shows the effects of alternative receipts assumptions. Allowing receipts to rise to 18.6 percent of GDP would reduce the long-run budget deficit, while holding receipts to 18.0 percent of GDP would have the opposite effect.

4. *Productivity:* The rate of future productivity growth has a major effect on the long-run budget outlook. It is also highly uncertain. Over the next few decades an increase in productivity growth would reduce projected budget deficits appreciably. Higher productivity growth adds directly to the growth of the major tax bases, while it has a smaller immediate effect on outlay

growth even assuming that in the long-run discretionary spending rises with GDP. In the latter half of the 1990s, after two decades of much slower growth, the rate of productivity growth increased markedly, and that increase is projected to persist in these long-run projections. This increase in productivity growth is one of the most welcome developments of the last several decade. Although the long-run growth rate of productivity is inherently uncertain, growth in nonfarm output per hour has averaged 2.2 percent per year since 1948, and it has grown 2.6 percent per year since 1995. The projections here assume that productivity, as measured by real GDP per hour, will grow in the long run at a 2.2 percent annual rate. This is consistent with a continuing increase in nonfarm productivity of around 2.5 percent per year. The alternatives highlight the effect of raising the projected productivity growth rate by $\frac{1}{4}$ percentage point and the effect of lowering it by the same amount.

Chart 13-6. Alternative Productivity Assumptions

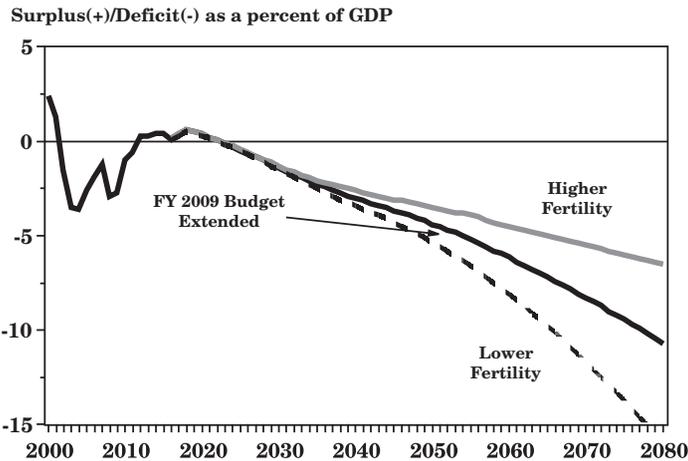


5. *Population:* The key assumptions for projecting long-run demographic developments are fertility, immigration, and mortality.

- The demographic projections assume that fertility will average between 1.9 and 2.0 total lifetime

births per woman in the future, just slightly below the replacement rate needed to maintain a constant population—2.1 births per woman.

Chart 13-7. Alternative Fertility Assumptions



- The rate of immigration is assumed to average around 900,000 immigrants per year in these projections. Higher immigration relieves some of the downward pressure on population growth from low fertility and allows total population to expand throughout the projection period, although at a much slower rate than has prevailed historically.
- Mortality is projected to decline, i.e., people are expected to live longer. The average female life-

span is projected to rise from 79.7 years in 2006 to 85.1 years by 2080, and the average male life-span is projected to increase from 75.0 years in 2006 to 81.9 years by 2080. A technical panel to the Social Security Trustees recently reported that the improvement in longevity might even be greater.

Chart 13-8. Alternative Immigration Assumptions

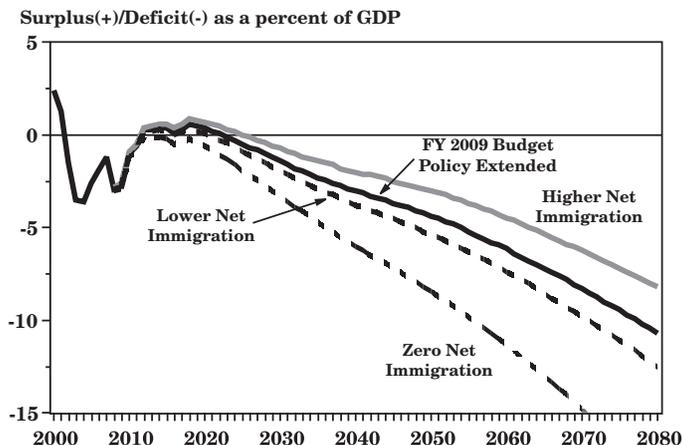
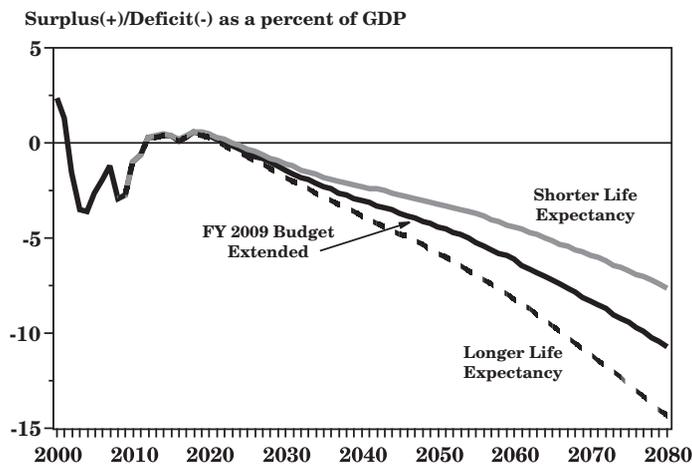


Chart 13-9. Alternative Mortality Assumptions

Actuarial Projections for Social Security and Medicare

Social Security and Medicare are the Government's two largest entitlement programs. Both rely on payroll tax receipts from current workers and employers for at least part of their financing, while the programs' benefits largely go to those who are retired. The importance of these programs for the retirement security of current and future generations makes it essential to understand their long-range financial prospects. Both programs' actuaries have calculated that they face per-

sistent long-run deficits. How best to measure the long-run imbalance in Social Security is a challenging analytical question; the imbalance may be even more difficult to measure in Medicare, which includes Hospital Insurance (HI), funded through the payroll tax, and Supplementary Medical Insurance (SMI), financed through premiums and general revenues. Under plausible assumptions, however, each program embodies a huge financial deficiency, and it will be very difficult for the Government as a whole to maintain control of the budget without addressing these programs' financial problems.

Social Security: The Long-Range Challenge

Social Security provides financial security for the elderly, the disabled, and survivors. The Social Security system is intended to be self-financing over time. The principle of self-financing is important, because it compels corrections in the event that projected benefits consistently exceed dedicated receipts.

While Social Security is running surpluses today, the program's actuaries estimate that it will begin running cash deficits 9 years from now. Social Security's spending path is unsustainable under current law. The retirement of the baby-boom generation, born following World War II, will begin to increase greatly the number of Social Security beneficiaries within five years. Demographic trends toward lower fertility rates and longer life spans mean that the ratio of retirees to the working population will remain permanently higher following the baby boomers' passage through the system. The number of workers available to support each beneficiary is projected to decline from 3.3 today to 2.2 in 2030, and to continue to decline slowly from there. This decline in the workforce available to support retiree benefits means that the Government will not be able to meet current-law benefit obligations at current payroll tax rates.

The size of Social Security's future shortfall cannot be known with precision, but a gap between Social Security receipts and outlays emerges under a wide range of reasonable forecasting assumptions. Long-range uncertainty underscores the importance of creating a system that is financially stable and self-contained. Otherwise, the demands created by Social Security could compromise the rest of the budget and the Nation's economic health. The actuarial shortfall between future benefits and income is estimated to be \$6.8 trillion over the next 75 years. Extending the horizon to perpetuity increases the imbalance to \$15.7 trillion, excluding trust fund assets as these do not represent a source of funds from a unified budget perspective.

The current structure of Social Security leads to substantial generational differences in the average rate of return people can expect from the program. While previous generations have fared extremely well, people born today can expect to receive less than a two percent annual real rate of return on their total payroll taxes (including the employer's portion, which most economists believe is ultimately borne by labor). Moreover, such estimates in a sense overstate the expected rate of return for future retirees, because they assume no changes in current-law taxes or benefits, even though such changes are needed to meet Social Security's financing shortfall.

One way to address the issues of uncertainty and declining rates of return, while protecting national savings, would be to allow individuals to invest some of their payroll taxes in personal retirement accounts. The Budget includes the estimated impact from the creation of personal accounts, funded through the Social Security payroll tax. The Administration has also embraced the concept of progressive indexing, which would significantly contribute to the solvency of the system by partially indexing the growth of benefits for higher-wage workers to inflation rather than wage growth.

Medicare: The Long-Range Challenge

Medicare finances health insurance for tens of millions of Americans, including most of the nation's seniors and many individuals with disabilities. It is composed of two programs: Hospital Insurance (HI) or Part A, which covers medical expenses relating to hospitalization and other institutional care, and Supplementary Medical Insurance (SMI) or Part B, which pays for physicians' services and other related expenditures. Starting in 2006, Medicare began to offer a voluntary prescription drug benefit, Medicare Part D, which is funded out of the SMI Trust Fund.

Like Social Security, HI is intended to be self-financing through dedicated taxes. According to the Medicare trustees' most recent report, the Trust Fund is projected to be depleted in 2019. Looking at the long run, the Medicare actuaries project a 75-year unfunded obligation of Medicare's HI trust fund of around \$11.9 trillion (net present value). However, this measure tells less than half the story, because it does not include the deficiency in Medicare's Part B and Part D programs. The main source of dedicated revenues to the SMI Trust Fund is beneficiary premiums, which generally cover about one-quarter of its expenses. SMI's funding structure creates an enormous financing gap for the program and is the largest contributor to the total Medicare program shortfall over the next 75 years of \$34.1 trillion. Extending the horizon to perpetuity increases the total shortfall to \$74.4 trillion. SMI's financing gap is covered by an unlimited tap on general revenues. According to the Medicare Trustees' 2007 report, "Within the next ten years, general revenue transfers are expected to constitute the largest single source of income to the Medicare program as a whole—and would add significantly to the Federal Budget pressures."

This bifurcated trust fund structure finances Medicare as if the program offers two separate, unrelated benefits, instead of recognizing that Medicare provides related and complementary health care services to its beneficiaries. The Medicare Prescription Drug, Improvement, and Modernization Act (MMA), which established Part D, also took an important first step toward improving Medicare sustainability by requiring the Medicare Trustees' Report to include a new, comprehensive fiscal analysis of the program's financing that highlights the amount of general revenue transfers used to fund Medicare. If the percent of Medicare funding that is from general fund transfers reaches 45 percent within the current or next six years of the projection (2007–2013), the Trustees issue a finding of "excess general revenue Medicare funding". In their 2007 report, the Trustees found that general revenue funding would first reach the 45 percent level in fiscal year 2013, within the seven-year window. Because this finding has been present in two consecutive Trustees' reports, a "Medicare funding warning" has been triggered. With this trigger, the MMA calls for the President to submit legislation to restore Medicare spending to sustainable levels, but it does not mandate Congressional action.

The Budget proposes to strengthen the MMA provision by modestly slowing the rate of Medicare growth if the MMA threshold is exceeded. The lower growth would be achieved through a four-tenths of a percent reduction to all payments beginning the year the threshold is exceeded. The change would only take effect if the President and Congress fail to agree on legislation to bring Medicare spending back into line with the threshold established by the MMA. The reduction would grow by four-tenths of a percent every year the shortfall continues to occur. This proposal would improve Medicare's sustainability by slowing the rate of growth in spending.

The Social Security and Medicare Trustees' Projections: In their annual reports and related documents, the Social Security and Medicare trustees typically present calculations of the 75-year actuarial imbalance or deficiency for Social Security and Medicare under current-law. The calculation covers current workers and retirees, as well as those projected to join the program within the next 75 years (this is the so-called "open-group"; the "closed-group" covers only current workers and retirees). These estimates measure the present value of each program's future benefits net of future income. They are complementary to the flow projections described in the preceding section, but unlike those projections they do not reflect the Administration's proposals to reform the Medicare program and the effects those proposals would have. More recently, the trustees'

reports have included a projection of the deficiency in perpetuity. This is the clearest way to see the total imbalance in both programs.

The present value of the Social Security imbalance over the next 75 years was estimated to be \$6.8 trillion as of January 1, 2007. The comparable estimate for Medicare was \$34.1 trillion. These estimates exclude the trust fund balances because the balances do not represent a source of funds for the Government from a unified budget perspective. (The estimates in Table 13–3 were prepared by the Social Security and Medicare actuaries, and they are based on the intermediate economic and demographic assumptions used for the 2007 trustees' reports. These differ in some respects from the assumptions used for the long-run budget projections described in the preceding section. Table 13–3

would show a smaller imbalance if the economic assumptions used for the budget had been used for the calculations. In addition, because the estimates are on the basis of current law, they do not reflect the Administration's proposals to reform Medicare. Under the Administration's proposals, the Medicare actuaries estimate that the imbalance would be reduced to about \$24 trillion.

Doing the calculations for a 75-year horizon understates the deficiencies, because the 75-year actuarial calculations omit the large deficits that continue to occur beyond the 75th year. The understatement is significant, even though values in the distant future are discounted by a large amount. Since 2004, the Social Security and Medicare actuaries have also presented the actuarial imbalances calculated in perpetuity without assuming a fixed horizon. Table 13-3 shows how much these distant benefits add to the programs' imbalances. For Social Security, the future imbalance in perpetuity is \$15.7 trillion and for Medicare it is \$74.4 trillion as of January 1, 2007. (Again, the Medicare estimate would be smaller if the effects of the Administration's policy proposals had been included in the calculation.)

The imbalance estimated on a perpetuity basis is the amount that the Government would have to raise in the private capital markets to resolve the program's imbalance permanently (given current assumptions). If nothing else changes, the estimated imbalance will grow every year at approximately the rate of interest, just as an unpaid debt grows with interest each year it remains outstanding. For Social Security this implies an increase of approximately \$700 billion in 2007 and growing amounts with every year that the imbalance remains unaddressed.

Social Security: The current deficiency in Social Security is essentially due to the fact that past and current participants will receive more benefits than they have paid for with taxes (calculated in terms of present values). By contrast, future participants—those who are now under age 15 or not yet born—are projected to pay in present value about \$0.8 trillion more than they will collect in benefits. In other words, the taxes that future participants are expected to pay will be large enough to cover the benefits due them under current law, but not large enough to cover those benefits plus the benefits promised to current program participants in excess of the taxes paid by current program participants.

Medicare: Extending the horizon to perpetuity shows that the benefits due future participants will eventually exceed projected payroll tax receipts and premiums by a huge margin. The projections into perpetuity shown at the top of Table 13-3 reveal that total Medicare benefits exceed future taxes and premiums by \$74.4 trillion in present value. This is due to an expected excess of benefits over taxes for both current participants and for future generations. Unlike Social Security, the imbalance is not simply the inherited result of a pay-as-you-go program that was never fully funded,

and which faces a demographic crunch. That is part of the problem, but even more fundamental is the assumption that medical costs continue to rise in excess of general inflation so that medical spending increases relative to total output in the economy.

General revenues have covered about 75 percent of SMI program costs for many years, with the rest being covered by premiums paid by the beneficiaries. In Table 13-3, only the receipts explicitly earmarked for financing these programs have been included. The intragovernmental transfer is not financed by dedicated tax revenues, and the share of general revenues that would have to be devoted to SMI to close the gap increases substantially under current law. Other Government programs also have a claim on these general revenues. From the standpoint of the Government as a whole, only receipts from the public can finance expenditures.

A significant portion of Medicare's actuarial deficiency is caused by the rapid expected increase in future benefits due to rising health care costs. Some, perhaps most, of the projected increase in relative health care costs reflects improvements in the quality of care, although there is also evidence that medical errors, waste, and excessive medical liability claims add needlessly to costs. But even though the projected increases in Medicare spending are likely to contribute to longer life-spans and safer treatments, the financial implications remain the same. As long as medical costs continue to outpace the growth of GDP and other expenditures, as assumed in these projections, the financial pressure on the budget will mount, and that is reflected in the estimates shown in Tables 13-2 and 13-3.

The Trust Funds and the Actuarial Deficiency: The fact that a special account or trust fund exists does not necessarily mean that the Government saved the money recorded there. The trust fund surpluses could have added to national saving if overall government borrowing from the public had actually been reduced because of the trust fund accumulations. But it is impossible to know for sure whether this happened or not.

At the time Social Security or Medicare redeems the debt instruments in the trust funds to pay benefits not covered by income, the Treasury will have to turn to the public capital markets to raise the funds to finance the benefits, just as if the trust funds had never existed. From the standpoint of overall Government finances, the trust funds do not reduce the future burden of financing Social Security or Medicare benefits, and for that reason, the trust funds are not netted against future benefits in Table 13-3. The eventual claim on the Treasury is better revealed by the difference between future benefits and future taxes or premiums.

In any case, trust fund assets remain small in size compared with the programs' future obligations and well short of what would be needed to pre-fund future benefits as indicated by the programs' actuarial deficiencies. Historically, Social Security and Medicare's HI

Table 13-3. SCHEDULED BENEFITS IN EXCESS OF FUTURE TAXES AND PREMIUMS—ACTUARIAL PRESENT VALUES
In Perpetuity as of January 1, in Trillions of Dollars

	2004	2005	2006	2007
Social Security	11.9	12.8	15.3	15.7
Medicare	61.9	68.4	70.8	74.4
Social Security and Medicare	73.8	81.2	86.0	90.3

Over a 75-Year Projection Period as of January 1, in Trillions of Dollars

	2002	2003	2004	2005	2006	2007
Social Security:						
Future benefits less future taxes for those age 62 and over	4.1	4.3	4.5	4.9	5.3	5.9
Future benefits less future taxes for those age 15 to 61	7.2	7.4	8.0	8.7	9.6	10.4
Future benefits less taxes for those age 14 and under and those not yet born	-6.7	-6.8	-7.3	-7.9	-8.5	-9.5
Net present value for present and future participants	4.6	4.9	5.2	5.7	6.4	6.8
Medicare:						
Future benefits less future taxes for those age 65 and over	2.5	2.8	3.8	4.0	4.2	4.4
Future benefits less future taxes for those age 15 to 64	10.4	12.2	20.9	22.4	24.9	24.3
Future benefits less taxes for those age 14 and under and those not yet born	0.4	0.8	3.4	3.6	3.3	5.4
Net present value for present and future participants	13.3	15.8	28.1	29.9	32.3	34.1
Social Security and Medicare:						
Future benefits less future taxes for those who have attained eligibility	6.6	7.1	8.3	8.9	9.5	10.3
Future benefits less future taxes for those over age 15 who have not yet attained eligibility	17.6	19.7	28.9	31.0	34.5	34.7
Future benefits less taxes for those age 14 and under and those not yet born	-6.3	-6.0	-3.9	-4.3	-5.3	-4.1
Net present value for present and future participants	17.8	20.7	33.3	35.6	38.8	40.8

program were financed mostly on a pay-as-you-go basis, whereby workers' payroll taxes were immediately used to pay retiree benefits. For the most part, workers' taxes have not been used to pre-fund their own future benefits, and taxes were not set at a level sufficient to pre-fund future benefits had they been saved.

The Importance of Long-Run Measures in Evaluating Policy Changes: Consider a proposed policy change in which payroll taxes paid by younger workers were reduced by \$100 this year while the expected present value of these workers' future retirement benefits were also reduced by \$100. The present value of future benefit payments would decrease by the same amount as the reduction in revenue. On a cash flow basis, however, the lost revenue occurs now, while the decrease

in future outlays is in the distant future beyond the normal budget window, and the Federal Government must increase its borrowing to make up for the lost revenue in the meantime. If policymakers only focus on the Government's near-term borrowing needs, a reform such as this would appear to worsen the Government's finances, whereas the policy actually has a neutral impact in the long run. Focusing on the Government's near-term borrowing alone, therefore, can lead to a bias against policies that could improve the Federal Government's overall long-run fiscal condition. Taking a longer view of policy changes and considering measures such as those in this chapter can correct for such mistakes.

PART IV—TAX COMPLIANCE, NATIONAL WEALTH, AND SOCIAL INDICATORS

To obtain a full picture of the Government's financial condition it is necessary to examine a broad range of additional information beyond the narrow list of Government-owned assets and liabilities. It is even necessary to consider more information than is contained in the long-term projections of the budget. This final section presents a sample of such additional information. It is intended to provide insight into the full range of resources the Government can draw upon to meet its long-term obligations and also to indicate in a summary way what the Nation obtains in exchange for the resources it provides the Government.

The first piece of additional information is analysis of compliance with the nation's tax laws, the so-called "tax gap." The Government does not collect in a timely manner all of the taxes it is legally owed, as explained in detail below (along with some proposals to narrow the gap). That discussion is followed by an investigation of national wealth and the contributions the Federal Government has made to the wealth of private persons and other levels of government. The final section discusses a range of economic and social indicators.

Improving Tax Fairness and Federal Finances through Better Tax Compliance

The Internal Revenue Service (IRS) collects over 95 percent of total Federal receipts, including \$2.7 trillion in 2007. However, not every dollar of tax legally owed is actually paid. The great majority of taxpayers comply with the law by filing returns and paying their taxes on time, but some do not comply either because they do not understand their obligations due to the complexity of the tax law or because they seek to avoid those obligations.

Tax Compliance: In 2006, the IRS released updated results of its first large study in two decades of the difference between taxes owed and taxes actually paid—the “tax gap.” The IRS estimated that taxpayers initially underpaid by \$345 billion in 2001. This equates to a voluntary compliance rate of 84 percent. Late payments and IRS enforcement action reduced this to a net tax gap of \$290 billion, raising the net compliance rate to 86 percent. The Department of the Treasury does not have estimates of the tax gap for the years after 2001. It is possible, however, that lower tax rates and more aggressive enforcement by the IRS have tended to decrease the gap

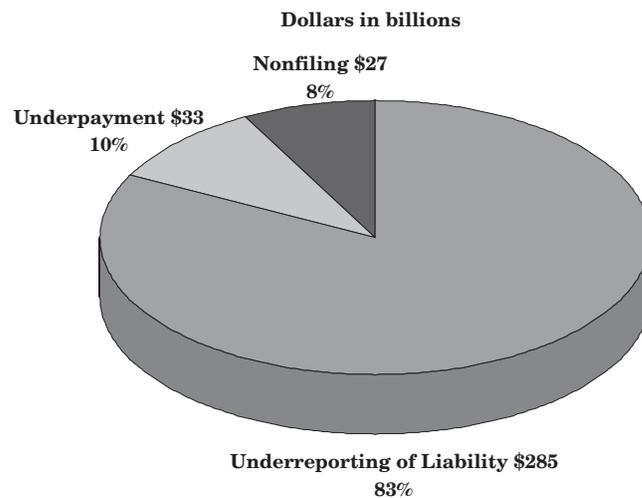
Due to changes in methodologies, comparisons between the 2001 estimates and those from earlier studies should be made cautiously. However, it does appear that the voluntary compliance rate has not changed much since the 1980s. The IRS previously reported vol-

untary compliance rates of 87 percent in 1988, 86 percent in 1985, and 84 percent in 1983. While the overall compliance rate seems to have moved relatively little over time, each one percentage point change significantly impacts revenue. A one percentage point improvement would increase revenue by \$21 billion per year based on 2001 numbers.

The IRS compliance estimates, primarily based on random audits of individuals and businesses, are not precise, but give a good general sense of the size of the tax gap and patterns in compliance. This sort of information is critical for effectively targeting IRS enforcement programs to yield the greatest improvement with the smallest cost and burden on taxpayers. The IRS’ estimates are most accurate for underpayments of known taxes as recorded in IRS financial systems, and for individual income tax compliance studied through the recent random National Research Program (NRP) study. Non-filing estimates come from studies of census data and are somewhat less precise. The weakest portions of the IRS’ estimates are in areas where no recent studies have been completed and the IRS is relying on older data (e.g., for partnerships and corporations).

Of the total tax gap, 83 percent comes from underreporting of tax liability (see chart). A significant portion of the gap also comes from underpayment of known tax debts and people who fail to file returns. Individual income taxes, the largest source of Federal receipts, account for 71 percent of the tax gap.

Chart 13-10. Sources of the Gross Tax Gap



The highest compliance rates come in areas where the IRS has good information about income, because it is reported by third parties (e.g., Form W-2 that reports wage income from employers, and Form 1099 that reports various third party payments, including

interest from banks). The IRS estimates that 95 percent of income with third-party reporting but no tax withholding (e.g., interest income, dividends) is declared on taxpayer returns. Where there is tax withholding, as in the case of most wages, nearly 99 percent of the

amounts reported by payers is declared on taxpayer returns.

Conversely, the rate of underpaid taxes is high for income with little or no third-party reporting. For example, an estimated 43 percent of the tax gap comes from business income that should be reported on individual returns (Forms 1040) but goes unreported to the IRS (see Table 13–4).

Improving Tax Compliance: While the tax gap can likely never be entirely eliminated, reducing the gap by improving compliance is important because non-compliant taxpayers impose unacceptable burdens on other taxpayers and on Federal finances.

Table 13–4. SOURCES OF THE TAX GAP FROM INCOME UNDERREPORTING

	Contribution to the Tax Gap in Dollars	Percent Share of the Overall Tax Gap
Business income underreported by individuals including small business owners	148	43
Non-business income underreporting and improper deductions and credits	88	26
Corporate income underreporting	30	9
Other underreporting	19	6
Total Underreporting	285	84

The challenge is to find ways to improve compliance without unduly burdening compliant taxpayers or the economy. For example, as noted above, income that is reported to the IRS by third parties is claimed on tax returns at a far higher rate than other income. While requiring third-party reporting of all income would likely raise compliance levels, it would necessitate burdensome new reporting requirements for individuals and businesses. However, targeted income reporting requirements in areas where the IRS is aware of abuse, such as requiring the reporting of automated payments to support business income claims, could increase compliance and help reduce the tax gap.

Another approach to improving compliance would be to change the tax code to remove tax benefits wherever there is the potential for abuse. For example, generally a taxpayer making payments to a trade or business totaling \$600 or more for services or determinable gains in the course of a year is required to send an information return to the IRS. However, there are certain exceptions for payments to corporations that have created compliance loopholes. Elimination of these exceptions by changing the tax code could increase compliance and help reduce the tax gap. Finally, much higher audit rates might improve compliance, but would be extremely expensive and unless properly targeted could be unduly burdensome to honest taxpayers.

In 2006, the Department of the Treasury released a comprehensive strategy to improve tax compliance.⁴ The strategy builds upon the demonstrated experience

and current efforts of the Treasury Department and IRS to improve compliance. The IRS has developed a carefully targeted plan for reducing the tax gap, which is aligned with the strategy and is detailed in a recent report on improving voluntary compliance.⁵ The Budget provides a \$358 million initiative in the IRS to more vigorously implement this key strategy. Components of the strategy include:

Reduce Opportunities for Evasion: The Administration will pursue carefully targeted tax law changes to promote compliance while causing minimal taxpayer burden and IRS cost increases. The Budget includes 16 legislative proposals, such as expanding third party information reporting where it can be done with acceptable levels of taxpayer burden (e.g., requiring brokers to report the cost basis for certain securities' sales). (See chapter 17, "Federal Receipts" for a full description of these legislative proposals.)

Multi-Year Commitment to Research: Improved research on tax gap causes and potential remedies, and compliance rates for different segments of taxpayers, will help the IRS target its enforcement and service programs to achieve the greatest possible impact at the lowest cost

Investments in Information Technology: Modernized computer systems will give IRS staff the tools they need to improve efficiency, service and compliance. The IRS now receives more than half of all individual tax returns electronically, and aims to continue increasing this rate.

Improve Compliance Activities: Through re-engineering and selected funding increases the IRS will improve the effectiveness of its enforcement efforts. Enforcement efforts yielded a record \$59.2 billion in 2007, an increase of 20 percent over 2006.

Taxpayer Service: Improved service will help taxpayers avoid unintentional errors and will make filing easier. Improved telephone service, new internet tools, and increases in electronic filing have already helped taxpayers file more accurate returns with less effort. The IRS answers more than 80 percent of all phone calls with answer accuracy rates greater than 90 percent. This is a significant improvement from the 1990s, when approximately 60–65 percent of calls were answered with accuracy rates around 80 percent.

Reform and Simplify the Tax Law: Simplifying the tax law will reduce unintentional errors caused by a lack of understanding. Simplification will also reduce the opportunities for intentional evasion and make it easier for the IRS to administer the tax laws.

Coordinate with Partners and Stakeholders: Closer coordination is needed between the IRS and State and foreign governments to share information and compliance strategies. Closer coordination is also needed with practitioner organizations, including bar and accounting associations, to maintain and improve mechanisms to ensure that advisors provide appropriate tax advice.

⁴Treasury Department, A Comprehensive Strategy for Reducing the Tax Gap (September 26, 2006). See: <http://www.treas.gov/press/releases/reports/otptaxgapstrategy%20final.pdf>

⁵IRS, Reducing the Federal Tax Gap: A Report on Improving Voluntary Compliance (August 2, 2007). See: http://www.irs.gov/pub/irs-news/tax_gap_report_final_080207_linked.pdf

The IRS also relies on volunteer groups to serve taxpayer needs, and in 2007 the IRS added 16 new Low Income Taxpayer Clinics where volunteers help taxpayers who cannot afford representation obtain access to competent assistance in meeting their obligations.

Collectively these efforts will reduce the tax gap and improve the fiscal situation of the Government. Equally important, better compliance will improve the fairness of the tax system by ensuring all taxpayers pay their fair share. Implementation depends on effective IRS leadership, to improve factors such as technology investments and reengineering processes, as well as the active support of the Congress to implement tax law changes and provide needed funding for these improvements.

National Wealth

The Government relies on private wealth to support its activities. It also contributes to that wealth. Unlike a private corporation, the Federal Government routinely invests in ways that do not add directly to its assets. For example, Federal grants are frequently used to fund capital projects by State or local governments for highways and other purposes. Such investments are valuable, but they are not owned by the Federal Government and would not show up on a balance sheet for the Federal Government. It is true, of course, that to the extent these investments encourage economic growth, they augment future tax receipts. The return on investment that comes back to the Government in the form of higher taxes, however, is far less than what a private investor would require before undertaking a similar investment.

The Federal Government also supports education and research and development (R&D). These outlays contribute to future productivity and are analogous to investments in physical capital. Indeed, economists have computed stocks of human and knowledge capital to reflect the accumulation of such investments. Nonetheless, such hypothetical capital stocks are obviously not owned by the Federal Government, nor would they appear on a balance sheet.

To show the importance of these kinds of issues, Table 13–5 presents a national balance sheet. It includes estimates of national wealth classified into three categories: physical assets, education capital, and R&D capital. The Federal Government has made contributions to each of these types of capital, and these contributions are shown separately in the table. At the same time, the private wealth shown in Table 13–5 generates future income and tax receipts, which finance future public activities. The Nation's wealth sets the ultimate limit on the resources available to the Government.

The table shows that Federal investments are responsible for about 7 percent of total national wealth including education and research and development. This may seem like a small fraction, but it represents a large volume of capital: \$7.5 trillion. The Federal contribution is down from 10 percent in 1960. Much of this decline

reflects the relative shrinkage in the stock of defense capital, which has fallen from around 34 percent of GDP in 1960 to under 6 percent in 2007.

Physical Assets: The physical assets in the table include private stocks of plant and equipment, office buildings, residential structures, land, and the Government's physical assets such as military hardware and highways. Automobiles and consumer appliances are also included in this category. The total amount of such capital is vast, \$64.8 trillion in 2007, consisting of \$55.1 trillion in private physical capital and \$9.7 trillion in public physical capital (including capital funded by State and local governments); by comparison, GDP was around \$14 trillion in 2007. The Federal Government's contribution to this stock of capital includes its own physical assets of \$2.8 trillion plus \$1.5 trillion in accumulated grants to State and local governments for capital projects. The Federal Government has financed over 20 percent of all the physical capital held by other levels of government.

Education Capital: Economists have developed the concept of human capital to reflect the notion that individuals and society invest in people as well as in physical assets. Investment in education is a good example of how human capital is accumulated. Table 13–5 includes an estimate of the stock of capital represented by the Nation's investment in formal education and training. The estimate is based on the cost of replacing the years of schooling embodied in the U.S. population aged 15 and over; in other words, the goal is to measure how much it would cost to reeducate the U.S. workforce at today's prices (rather than at the original cost). This is more meaningful economically than the historical cost of schooling, and is comparable to the methods used to estimate the physical capital stocks presented earlier.

Although this is a relatively crude measure, it does provide a rough order of magnitude for the current value of the investment in education. According to this measure, the stock of education capital amounted to \$52 trillion in 2007, of which about 3 percent was financed by the Federal Government. The total stock of education capital was roughly the same in value as the Nation's private stock of physical capital. The main investors in education capital have been State and local governments, parents, and students themselves.

Even broader concepts of human capital have been proposed. Not all useful training occurs in a schoolroom or in formal training programs at work. Much informal learning occurs within families or on the job, but measuring its value is very difficult. Labor compensation, however, amounts to about two-thirds of national income with the other third attributed to capital and thinking of total labor income as the product of human capital suggests that the total value of human capital would be two times the estimated value of physical capital if human capital earned a similar rate of return. Thus, the estimates offered here are in a sense conservative, because they reflect only the costs of acquiring

formal education and training, which is why they are referred to as education capital rather than human capital. They constitute that part of total human capital that can be attributed to formal education and training.

Research and Development Capital: Research and development can also be thought of as an investment, because R&D represents a current expenditure that is made in the expectation of earning a future return. After adjusting for depreciation, the flow of R&D investment can be added up to provide an estimate of the current R&D stock.⁶ That stock is estimated to have been \$3.7 trillion in 2007. Although this represents a large amount of research, it is a relatively small portion of total National wealth. Of this stock, 38 percent was funded by the Federal Government.

Liabilities: When considering how much the United States owes as a Nation, the debts that Americans owe to one another cancel out. Table 13–5 only shows net totals for the Nation. Gross debt is important even though it does not appear in Table 13–5. The amount of debt owed by Americans to other Americans can exert both positive and negative effects on the economy. Americans' willingness and ability to borrow have helped fuel the current expansion by supporting consumption and housing purchases. On the other hand, unsound lending practices could be a risk to future growth, if they undermine confidence in borrowers' ability to repay their debts.

Table 13–5. NATIONAL WEALTH
(As of the end of the fiscal year, in trillions of 2007 dollars)

	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2006	2007
ASSETS												
Publicly Owned Physical Assets:												
Structures and Equipment	2.3	2.6	3.3	4.0	4.3	4.5	5.0	5.4	6.2	7.6	8.1	8.1
Federally Owned or Financed	1.3	1.4	1.6	1.8	1.8	2.1	2.2	2.4	2.4	2.6	2.7	2.7
Federally Owned	1.2	1.2	1.2	1.2	1.1	1.3	1.3	1.3	1.2	1.2	1.2	1.2
Grants to State & Local Governmnts	0.2	0.2	0.4	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.5	1.5
Funded by State & Local Governmnts	1.0	1.2	1.7	2.3	2.5	2.4	2.7	3.1	3.8	5.0	5.4	5.3
Other Federal Assets	0.5	0.5	0.5	0.6	0.9	1.0	0.9	0.6	0.9	1.4	1.5	1.6
Subtotal	2.8	3.1	3.8	4.7	5.2	5.5	5.8	6.1	7.1	9.0	9.6	9.7
Privately Owned Physical Assets:												
Reproducible Assets	7.9	9.1	11.1	14.3	18.6	19.7	22.5	24.9	30.3	36.8	38.0	38.2
Residential Structures	3.1	3.6	4.3	5.5	7.5	7.7	8.8	10.1	12.6	16.8	17.3	17.4
Nonresidential Plant & Equipment	3.1	3.5	4.5	5.9	7.6	8.4	9.4	10.2	12.4	14.2	14.8	14.8
Inventories	0.8	0.9	1.0	1.3	1.6	1.5	1.6	1.6	1.8	1.9	2.0	2.0
Consumer Durables	1.0	1.1	1.4	1.6	2.0	2.2	2.7	3.0	3.6	3.9	3.9	4.0
Land	2.4	2.8	3.2	4.2	6.4	7.3	7.6	5.6	8.7	13.7	15.1	16.9
Subtotal	10.3	11.9	14.4	18.5	25.0	27.1	30.1	30.6	39.0	50.4	53.2	55.1
Education Capital:												
Federally Financed	0.1	0.1	0.3	0.4	0.6	0.7	0.9	1.1	1.4	1.6	1.7	1.8
Financed from Other Sources	6.5	8.8	11.9	15.0	19.2	22.5	27.8	32.7	41.8	47.6	48.5	50.2
Subtotal	6.6	8.9	12.2	15.5	19.8	23.2	28.6	33.7	43.2	49.2	50.2	51.9
Research and Development Capital:												
Federally Financed R&D	0.2	0.4	0.6	0.6	0.7	0.8	0.9	1.1	1.2	1.3	1.4	1.4
R&D Financed from Other Sources	0.2	0.2	0.3	0.4	0.5	0.7	1.0	1.3	1.7	2.1	2.2	2.3
Subtotal	0.3	0.6	0.9	1.1	1.2	1.5	1.9	2.3	2.9	3.4	3.6	3.7
Total Assets	20.0	24.6	31.2	39.7	51.3	57.3	66.4	72.7	92.2	112.1	116.5	120.4
Net Claims of Foreigners on U.S. (+)	-0.1	-0.2	-0.2	-0.1	-0.4	0.1	0.9	1.7	3.4	5.9	7.6	8.3
Net Wealth	20.2	24.8	31.4	39.8	51.7	57.2	65.5	71.0	88.9	106.1	108.9	112.1
ADDENDA:												
Per Capita Wealth (thousands of 2007 dollars)	112	128	153	185	227	240	261	266	314	357	363	370
Ratio of Wealth to GDP (in percent)	672	657	695	779	844	783	767	735	754	800	802	802
Total Federally Funded Capital (trils 2007 dollars)	2.1	2.4	2.9	3.4	4.0	4.6	4.9	5.1	5.8	7.0	7.3	7.6
Percent of National Wealth	10.4	9.7	9.3	8.6	7.7	8.0	7.5	7.2	6.5	6.6	6.7	6.8

⁶R&D depreciates in the sense that the economic value of applied research and development tends to decline with the passage of time, as still newer ideas move the technological frontier.

Table 13–6. TRENDS IN NATIONAL WEALTH

(Average Annual Rates in Percent)

	1960–07	1960–1973	1973–1995	1995–2007
Real GDP	3.3	4.3	2.8	3.1
Net National Wealth	3.7	4.6	3.1	3.9
Private Physical Wealth	3.6	3.9	2.7	5.0
Nonresidential Plant and Equipment	3.4	4.1	3.1	3.2
Residential Structures	3.7	4.0	3.1	4.6
Consumer Durables	3.1	3.6	3.2	2.3
Public Physical Wealth	2.7	3.3	1.6	3.9
Net Education	4.5	5.9	4.1	3.7
Net R&D	5.2	8.6	3.9	3.9

The only debts that show up in Table 13–5 are the debts Americans owe to foreigners for the investments that foreigners have made in the United States. America's net foreign debt has been increasing rapidly in recent years because of the imbalance in the U.S. current account. Last year, the current account deficit declined for the first time in several years, but it remains very high compared with historical experience. Even so, the size of the net foreign debt is relatively small compared with the total stock of U.S. assets. In 2007, it amounted to 7 percent of total assets including education and R&D capital.

Federal debt does not appear explicitly in Table 13–5 because much of it consists of claims held by Americans; only that portion of the Federal debt which is held by foreigners is included along with the other debts to foreigners. Comparing the Federal Government's net liabilities with total national wealth however, does provide another indication of the relative magnitude of the imbalance in the Government's accounts. Federal net liabilities, as reported in Table 13–1, amounted to 6 percent of net U.S. wealth as shown in Table 13–5. Prospectively, however, Federal liabilities are a much larger share of national wealth, as indicated by the long-run projections described in Part III.

Trends in National Wealth

The net stock of wealth in the United States at the end of 2007 was \$112 trillion, about eight times the size of GDP. Since 1960, it has increased in real terms at an average annual rate of 3.7 percent per year. It grew very rapidly from 1960 to 1973, at an average annual rate of 4.6 percent per year, slightly faster than real GDP grew over the same period. Between 1973 and 1995 growth slowed, as real net wealth grew at an average rate of just 3.1 percent per year, which paralleled the slowdown in real GDP growth over this period. Since 1995 the rate of growth in U.S. real wealth has picked up. Net wealth has been growing

at an average rate of 3.9 percent since 1995. Productivity growth has also accelerated since 1995, following a slowdown from 1973 to 1995.

The net stock of privately owned nonresidential plant and equipment accounts for about 27 percent of all privately owned physical assets. In real terms, it grew 3.4 percent per year on average from 1960 to 2007. It grew especially rapidly from 1960 to 1973, at an average rate of 4.1 percent per year. Since 1973 it has grown more slowly, averaging around 3.1 percent per year. Plant and equipment has grown at roughly the same rate over the last ten years compared with 1973–1995. The real value of privately owned residential structures and the land they occupy have grown much more rapidly in real value since 1995 than from 1973 to 1995, while the stock of consumer durables has grown less rapidly.

The accumulation of education capital has averaged 4.5 percent per year since 1960. Its growth also slowed down between 1973 and 1995. It grew at an average rate of 5.9 percent per year in the 1960s, 2.0 percentage points faster than the average rate of growth in private physical capital during the same period. Since 1995, education capital has grown at a 3.7 percent annual rate. This reflects both the extra resources devoted to schooling in this period, and the fact that such resources have been increasing in economic value. R&D stocks have grown at an average rate of 3.8 percent per year since 1995.

Other Federal Influences on Economic Growth

Federal investment decisions, as reflected in Table 13–5, obviously are important, but the Federal Government also affects wealth in ways that cannot be easily captured in a formal presentation. The Federal Reserve's monetary policy affects the rate and direction of capital formation, and Federal regulatory and tax policies also affect how capital is invested, as do the Federal Government's credit and insurance policies.

TABLE 13-7. ECONOMIC AND SOCIAL INDICATORS

Calendar Years	1960	1970	1980	1990	1995	2000	2005	2006	2007
Economic:									
Living Standards:									
Real GDP per person (2000 dollars) ¹	13,840	18,392	22,666	28,429	30,128	34,755	37,052	37,752	38,238
average annual percent change (5-year trend)	0.6	2.3	2.6	2.3	1.2	2.9	1.3	1.7	1.9
Real Disposable Personal Income Per Capita (2000 dollars) ...	9,735	13,563	16,940	21,281	22,153	25,469	27,436	28,005	28,664
average annual percent change (5-year trend)	1.2	3.2	2.1	1.8	0.8	2.8	1.5	1.7	1.8
Median Income: All Households (2006 dollars)	N/A	39,604	41,258	44,778	44,764	49,163	47,845	48,201	N/A
average annual percent change (5-year trend)	N/A	N/A	1.0	1.2	0.0	1.9	-0.5	0.0	N/A
Income Share of Lower 60 percent of All Households	31.8	32.3	31.2	29.3	28.0	27.3	26.6	26.5	N/A
Poverty Rate (%) ²	22.2	12.6	13.0	13.5	13.8	11.3	12.6	12.3	N/A
Economic Security:									
Civilian Unemployment (%)	5.5	4.9	7.1	5.5	5.6	4.0	5.1	4.6	4.6
CPI-U (percent Change)	1.7	5.7	13.5	5.4	2.8	3.4	3.4	3.2	2.8
Payroll Employment Increase (millions)	-0.4	-0.4	0.3	0.3	2.2	1.9	2.5	2.3	1.3
Managerial or Professional Jobs (percent of civilian employment)	N/A	N/A	N/A	29.2	32.0	33.8	34.7	34.9	35.5
Wealth Creation:									
Net National Saving Rate (percent of GDP) ³	10.6	8.3	7.4	4.4	4.1	5.9	1.0	1.9	1.5
Innovation:									
Patents Issued to U.S. Residents (thousands)	42.3	50.6	40.8	52.8	64.4	96.9	82.6	102.2	N/A
Multifactor Productivity (average 5 year percent change)	1.0	0.8	0.8	0.6	0.6	1.1	1.8	1.9	N/A
Nonfarm Output per Hour (average 5 year percent change) ³	1.8	2.1	1.1	1.6	1.5	2.5	3.0	2.7	2.2
Environment:									
Air Quality:									
Nitrogen Oxide Emissions (millions of tons)	18	27	27	26	25	23	19	N/A	N/A
Sulfur Dioxide Emissions (millions of tons)	22	31	26	23	19	16	15	N/A	N/A
Carbon Monoxide (millions of tons)	N/A	197	178	144	120	102	89	N/A	N/A
Lead Emissions (thousands of tons)	N/A	221	74	5	4	3	N/A	N/A	N/A
Greenhouse Gas Emissions (mil metric tons carbon equivalent)	N/A	N/A	N/A	6,147	6,471	6,978	7,181	7,076	N/A
Water Quality:									
Population Served by Secondary Treatment or Better (millions)	N/A	85	N/A	162	174	179	N/A	N/A	N/A
Social:									
Families:									
Children Living with Mother Only (percent of all children) ...	9.2	11.6	18.6	21.6	24.0	22.3	23.4	24.0	N/A
Safe Communities:									
Violent Crime Rate (per 100,000 population) ⁴	160.0	364.0	597.0	729.6	684.5	506.5	469.0	473.5	N/A
Murder Rate (per 100,000 population) ⁴	5.1	7.8	10.2	9.4	8.2	5.5	5.6	5.7	N/A
Murders (per 100,000 Persons Age 14 to 17) ⁴	N/A	N/A	5.9	9.8	11.0	4.8	4.8	N/A	N/A
Health:									
Infant Mortality (per 1000 Live Births)	26.0	20.0	12.6	9.2	7.6	6.9	6.8	6.6	N/A
Low Birthweight [<2,500 gms] Babies (%)	7.7	7.9	6.8	7.0	7.3	7.6	8.2	8.3	N/A
Life Expectancy at birth (years)	69.7	70.8	73.7	75.4	75.8	77.0	77.9	N/A	N/A
Cigarette Smokers (percent population 18 and older)	N/A	39.2	33.0	25.3	24.6	23.1	20.9	20.8	N/A
Overweight (percent population 20-74 with Body-Mass Index) greater than 2.5)	44.5	47.5	47.2	54.6	60.7	65.0	66.3	66.3	N/A
Learning:									
High School Graduates (percent of population 25 and older)	44.6	55.2	68.6	77.6	81.7	84.1	85.2	85.5	N/A
College Graduates (percent of population 25 and older) ...	8.4	11.0	17.0	21.3	23.0	25.6	27.6	28.0	N/A
National Assessment of Educational Progress ⁵									
Reading 17-year olds	N/A	N/A	285.0	290.0	288.0	287.4	N/A	N/A	N/A
Mathematics 17-year olds	N/A	N/A	299.0	305.0	306.5	307.8	N/A	N/A	N/A
Participation:									
Individual Charitable Giving per Capita (2000 dollars)	281	381	373	465	449	692	652	N/A	N/A
(by election year)	(1960)	(1972)	(1980)	(1984)	(1988)	(1992)	(2000)	(2004)	.....
Voting for President (percent eligible population)	62.8	55.1	52.8	53.3	50.3	55.2	50.3	55.5	.....

¹ Forecast data are used for the fourth quarter of 2007.² The poverty rate does not reflect noncash government transfers such as Medicaid or food stamps.³ 2007 through Q3 only.⁴ Not all crimes are reported, and the fraction that go unreported may have varied over time.⁵ Data for some years are interpolated.

Social Indicators

There are certain broad responsibilities that are unique to the Federal Government. Especially important are preserving national security, fostering healthy economic conditions including sound economic growth, promoting health and social welfare, and protecting the environment. Table 13–7 offers a rough cut of information that can be useful in assessing how well the Federal Government has been doing in promoting the domestic portion of these general objectives.

The indicators shown in Table 13–7 are only a subset drawn from the vast array of available data on conditions in the United States. In choosing indicators for this table, priority was given to measures that were consistently available over an extended period. Such indicators make it easier to draw comparisons and establish trends. In some cases, however, this meant choosing indicators with significant limitations.

The individual measures in this table are influenced to varying degrees by many Government policies and programs, as well as by external factors beyond the Government's control. They do not measure the outcomes of Government policies, because they generally do not show the direct results of Government activities, but they do provide a quantitative measure of the progress or lack of progress toward some of the ultimate values that Government policy is intended to promote.

Such a table can serve two functions. First, it highlights areas where the Federal Government might need to modify its current practices or consider new approaches. Where there are clear signs of deteriorating conditions, corrective action might be appropriate. Second, the table provides a context for evaluating other data on Government activities. For example, Government actions that weaken its own financial position may be appropriate when they promote a broader social objective. The Government cannot avoid making such trade-offs because of its size and the broad ranging effects of its actions. Monitoring these effects and incorporating them in the Government's policy making is a major challenge.

Some of the trends in these indicators turned around in the 1990s. Perhaps, most notable has been the turnaround in the crime rate. After reaching a peak in the early 1990s, violent crime fell by a third. The turnaround was especially dramatic in the murder rate, which has been lower since 1998 than at any time since the 1960s, although the last three years have seen an uptick. The 2001 recession had a negative effect on some of these indicators: unemployment rose and real GDP growth declined, but as the economy recovered income growth revived. Indeed, productivity growth, the best indicator of future changes in the standard of living, has continued to grow at the higher rate reached in the late 1990s.

TECHNICAL NOTE: SOURCES OF DATA AND METHODS OF ESTIMATING

Long-Range Budget Projections

The long-range budget projections are based on demographic and economic assumptions. A simplified model of the Federal budget, developed at OMB, is used to compute the budgetary implications of these assumptions.

Demographic and Economic Assumptions: For the years 2008–2018, the assumptions are drawn from the Administration's economic projections used for the 2009 Budget. These budget assumptions reflect the President's policy proposals. The economic assumptions are extended beyond this interval by holding inflation, interest rates, and the unemployment rate constant at the levels assumed in the final year of the budget forecast. Population growth and labor force growth are extended using the intermediate assumptions from the 2007 Social Security trustees' report. The projected rate of growth for real GDP is built up from the labor force assumptions and an assumed rate of productivity growth. Productivity growth is assumed to equal the average rate of growth in the Budget's economic assumptions.

- CPI inflation holds stable at 2.3 percent per year; the unemployment rate is constant at 4.8 percent; and the yield on 10-year Treasury notes is steady at 5.3 percent.
- Real GDP per hour, a measure of productivity, grows at the same average rate as in the Administration's medium-term projections—2.2 percent per year.
- Consistent with the demographic assumptions in the trustees' reports, U.S. population growth slows from around 1 percent per year to about half that rate by 2030, and slower rates of growth beyond that point. Annual population growth is only 0.3 percent at the end of the projection period in 2080.
- Real GDP growth declines because of the slowdown in population growth and the increase in the population over age 65, who supply less work effort than younger people do. Historically, real GDP has grown at an average yearly rate of 3.4 percent. In these projections, average real GDP growth declines to around 2.5 percent per year.

The economic and demographic projections described above are set by assumption and do not automatically change in response to changes in the budget outlook. This is unrealistic, but it simplifies comparisons of alternative policies.

Budget Projections: For the period through 2013, receipts follow the budget's policy projections. After 2013, receipts are assumed to return gradually to their share of GDP over the last 40 years, 18.3 percent, and to remain at that lower share over the long run. Discretionary spending follows the policies in the Budget over the next ten years and grows at the rate of growth in nominal GDP afterwards. Other spending also aligns with the Budget through the budget horizon, except for the proposal to incorporate personal accounts in So-

cial Security. Long-run Social Security spending is projected by the Social Security actuaries using this Chapter's long-range assumptions. Medicare benefits are projected based on the estimates in the 2007 Medicare trustees' report, adjusted for differences in the assumed inflation rate and the growth rate in real GDP per capita, and further adjusted for the estimated long-run effects of the Administration's policy proposals. Federal pensions are derived from the most recent actuarial forecasts available at the time the budget was prepared, repriced using Administration inflation assumptions. Medicaid outlays are based on the economic and demographic projections in the model. Other entitlement programs are projected based on rules of thumb linking program spending to elements of the economic and demographic projections such as the poverty rate.

Federally Owned Assets and Liabilities

Financial Assets: The principal source of data is the Federal Reserve Board's Flow-of-Funds Accounts.

Fixed Reproducible Capital: Estimates were developed from the OMB historical data base for physical capital outlays and software purchases. The data base extends back to 1940 and was supplemented by data from other selected sources for 1915–1939. The source data are in current dollars. To estimate investment flows in constant dollars, it was necessary to deflate the nominal investment series. This was done using chained price indexes for Federal investment from the National Income and Product Accounts. The resulting capital stocks were aggregated into nine categories and depreciated using geometric rates roughly following those used by the Bureau of Economic Analysis in its estimates of physical capital stocks.

Fixed Nonreproducible Capital: Historical estimates for the value of Federal land holdings in the period 1960–1985 were drawn from estimates in Michael J. Boskin, Marc S. Robinson, and Alan M. Huber, "Government Saving, Capital Formation and Wealth in the United States, 1947–1985," published in *The Measurement of Saving, Investment, and Wealth*, edited by Robert E. Lipsey and Helen Stone Tice (The University of Chicago Press, 1989). Estimates were updated using changes in the value of private land from the Flow-of-Funds Balance Sheets and from the Agriculture Department for farm land. The value of Federal oil and natural gas deposits were based on data for proved reserves from the Department of Energy valued at contemporary market prices for oil and gas.

Inventories: Recent years data are from the *Financial Report of the United States Government*. For the period prior to 1995, data are from the Bureau of Economic Analysis.

Debt Held by the Public: Treasury data.

Insurance and Guarantee Liabilities: Sources of data are the OMB Pension Guarantee Model and OMB estimates based on program data. Historical data on liabilities for deposit insurance were also drawn from CBO's study, *The Economic Effects of the Savings and Loan Crisis*, issued January 1992.

Pension and Post-Employment Health Liabilities: The accrued liabilities for Federal retiree pensions and retiree health insurance along with the liability for Veterans disability compensation were derived from the *Financial Report of the United States Government* (and the Consolidated Financial Statement for some earlier years). Prior to 1976, the values were extrapolated.

Other Liabilities: The source of data for trade payables and miscellaneous liabilities is the Federal Reserve's Flow-of-Funds Accounts. The *Financial Report of the United States Government* was the source for benefits due and payable.

Environmental Liabilities: The source of data for environmental liabilities was the *Financial Report of the United States Government* for 2007 and previous years. Prior to 1994, the estimates were extrapolated assuming a constant ratio to GDP.

National Balance Sheet

Publicly Owned Physical Assets: Basic sources of data for the federally owned or financed stocks of capital are the Federal investment flows described in Chapter 6. Federal grants for State and local government capital are added, together with adjustments for inflation and depreciation in the same way as described above for direct Federal investment. Data for total State and local government capital come from the revised capital stock data prepared by the Bureau of Economic Analysis extrapolated for 2007.

Privately Owned Physical Assets: Data are from the Flow-of-Funds national balance sheets and from the private net capital stock estimates prepared by the Bureau of Economic Analysis extrapolated for 2007 using investment data from the National Income and Product Accounts.

Education Capital: The stock of education capital is computed by valuing the cost of replacing the total years of education embodied in the U.S. population 15 years of age and older at the current cost of providing schooling. The estimated cost includes both direct expenditures in the private and public sectors and an estimate of students' forgone earnings, i.e., it reflects the opportunity cost of education. Estimates of students' forgone earnings are based on the minimum wage for high-school students and year-round, full-time earnings of 18–24 year olds for college students. These year-round earnings are reduced by 25 percent because students are usually out of school three months of the year. Yearly earnings by age and educational attainment are from the Bureau of the Census.

For this presentation, Federal investment in education capital is a portion of the Federal outlays included in the conduct of education and training. This portion includes direct Federal outlays and grants for elementary, secondary, and vocational education and for higher education. The data exclude Federal outlays for physical capital at educational institutions because these outlays are classified elsewhere as investment in physical capital. The data also exclude outlays under the GI Bill; outlays for graduate and post-graduate edu-

education spending in HHS, Defense and Agriculture; and most outlays for vocational training. The Federal share of the total education stock in each year is estimated by averaging the prior years' shares of Federal education outlays in total education costs.

Data on investment in education financed from other sources come from educational institution reports on the sources of their funds, published in U.S. Department of Education, Digest of Education Statistics. Nominal expenditures were deflated by the implicit price deflator for GDP to convert them to constant dollar values. Education capital is assumed not to depreciate, but to be retired when a person dies. An education capital stock computed using this method with different source data can be found in Walter McMahon, "Relative Returns to Human and Physical Capital in the U.S. and Efficient Investment Strategies," *Economics of Education Review*, Vol. 10, No. 4, 1991. The method is described in detail in Walter McMahon, *Investment in Higher Education*, Lexington Books, 1974.

Research and Development Capital: The stock of R&D capital financed by the Federal Government was developed from a data base that measures the conduct of R&D. The data exclude Federal outlays for physical capital used in R&D because such outlays are classified elsewhere as investment in federally financed physical capital. Nominal outlays were deflated using the GDP deflator to convert them to constant dollar values.

Federally funded capital stock estimates were prepared using the perpetual inventory method in which annual investment flows are cumulated to arrive at a capital stock. This stock was adjusted for depreciation by assuming an annual rate of depreciation of 10 percent on the estimated stock of applied research and development. Basic research is assumed not to depreciate. These are the same assumptions used in a study published by the Bureau of Labor Statistics estimating the R&D stocks financed by private industry (U.S. De-

partment of Labor, Bureau of Labor Statistics, "The Impact of Research and Development on Productivity Growth," Bulletin 2331, September 1989). Chapter 6 of this volume contains additional details on the estimates of the total federally financed R&D stock, as well as its national defense and nondefense components.

A similar method was used to estimate the stock of R&D capital financed from sources other than the Federal Government. The component financed by universities, colleges, and other nonprofit organizations is estimated based on data from the National Science Foundation, Surveys of Science Resources. The industry-financed R&D stock component is estimated from that source and from the U.S. Department of Labor, "The Impact of Research and Development on Productivity Growth," Bulletin 2331, September 1989.

Experimental estimates of R&D capital stocks have been prepared by BEA. The results are described in "A Satellite Account for Research and Development," *Survey of Current Business*, November 1994. These BEA estimates are lower than those presented here primarily because BEA assumes that the stock of basic research depreciates, while the estimates in Table 13-4 assume that basic research does not depreciate. BEA also assumed a slightly higher rate of depreciation for applied research and development, 11 percent, compared with the 10 percent rate used here.

Sources of Data and Assumptions for Estimating Social Indicators

The main sources for the data in this table are the Government statistical agencies. The data are all publicly available, and can be found in such general sources as the annual *Economic Report of the President* and the *Statistical Abstract of the United States*, or from the respective agencies' web sites.

14. NATIONAL INCOME AND PRODUCT ACCOUNTS

The National Income and Product Accounts (NIPAs) are an integrated set of statistics prepared by the Department of Commerce that measure aggregate U.S. economic activity. Because the NIPAs include Federal transactions and are widely used in economic analysis, it is important to understand the differences between the NIPAs' distinctive presentation of Federal transactions and that of the budget.

The main purpose of the NIPAs is to measure the Nation's total production of goods and services, known as gross domestic product (GDP), and the incomes generated in its production. GDP excludes intermediate product to avoid double counting. Government consumption expenditures along with government gross investment—State and local as well as Federal—are included in GDP as part of final output, together with personal consumption expenditures, gross private domestic investment, and net exports of goods and services (exports minus imports).

Not all government expenditures are counted in GDP. Social benefits, grants to State and local governments, subsidies, and interest payments—are not purchases of final output and are therefore not included in GDP; however, these transactions are recorded in the NIPA government account that records current receipts and expenditures (including depreciation on government gross investment) because all of these affect the government's claim on economic resources.

Federal transactions are included in the NIPAs as part of the government sector.¹ The Federal subsector is designed to measure certain important economic effects of Federal transactions in a way that is consistent with the conceptual framework of the entire set of integrated accounts. The NIPA Federal subsector is not itself a budget, because it is not a financial plan for proposing, determining, and controlling the fiscal activities of the Government. For example, it omits from its current receipts and current expenditures certain "capital transfers" that are recorded in the budget. NIPA concepts also differ in many other ways from budget concepts, and therefore the NIPA presentation of Federal finances is significantly different from that of the budget.

Differences between the NIPAs and the Budget

Federal transactions in the NIPAs are measured according to NIPA accounting concepts and as a result they differ from the budget in netting and grossing, timing, and coverage. These differences cause current receipts and expenditures in the NIPAs to differ from total receipts and outlays in the budget, albeit by rel-

atively small amounts.² Differences in timing and coverage also cause the NIPA measure of net Federal Government saving to differ from the budget surplus or deficit. Unlike timing and coverage differences, netting and grossing differences have equal effects on receipts and expenditures and thus have no effect on net Government saving. The NIPAs also combine transactions into different categories from those used in the budget.

Netting and grossing differences arise because the budget records certain transactions as offsets to outlays that are recorded as current receipts in the NIPAs (or vice versa). The budget treats as governmental receipts all income that comes to the Government due to its sovereign powers—mainly, but not exclusively, taxes. The budget offsets against outlays any income that arises from voluntary business-type transactions with the public. The NIPAs generally follow this concept as well, and income to Government revolving accounts (such as the Government Printing Office) is offset against their expenditures. However, the NIPAs have a narrower definition of "business-type transactions" than does the budget. Rents and royalties, and some regulatory or inspection fees, which are classified as offsets to outlays in the budget, are recorded in the NIPAs as Government receipts (income receipts on assets and current transfer receipts, respectively). The NIPAs include Medicare premiums as Government receipts, while the budget classifies them as business-type transactions (offsetting receipts). In addition, the NIPAs treat the net surplus of Government enterprises as a component of current receipts.

In the budget, any intragovernmental income paid from one account to another is offset against outlays rather than being recorded as a receipt so that total outlays and receipts measure only transactions with the public. For example, Government contributions for Federal employee social insurance (such as Social Security) are offset against outlays. In contrast, the NIPAs treat the Federal Government like any other employer and show contributions for Federal employee social insurance as expenditures by the employing agencies and as governmental (rather than offsetting) receipts. The NIPAs also impute certain transactions that are not recorded explicitly in the budget. For example, unemployment benefits for Federal employees are financed by direct appropriations rather than social insurance contributions. The NIPAs impute the social insurance contributions to the expenditures of employing agencies—again, treating the Federal Government like any other employer.

¹The other subsector of the NIPA government sector is a single set of transactions for all U.S. State and local units of government, treated as a consolidated entity.

²Over the period 1994–2007, NIPA current expenditures averaged 3.6 percent higher than budget outlays, while NIPA current receipts averaged 2.5 percent higher than budget receipts.

Timing differences for receipts occur because the NIPAs generally record business taxes when they accrue, while the budget generally records all receipts when they are received. Thus the NIPAs attribute corporations' final settlement payments back to the quarter(s) in which the profits that gave rise to the tax liability occurred. The delay between accrual of liability and Treasury receipt of payment can result in significant timing differences between NIPA and budget measures of receipts for any given accounting period.

Timing differences also occur for expenditures. When the first day of a month falls on a weekend or holiday, monthly benefit checks normally mailed on the first day of the month may be mailed out a day or two earlier; the budget then reflects two payments in one month and none the next. As a result, the budget totals occasionally reflect 13 monthly payments in one year and only 11 the next. NIPA expenditure figures always reflect 12 benefit payments per year, giving rise to a timing difference compared to the budget.

Coverage differences arise on the expenditure side because of the NIPA treatment of Government investment. The budget includes outlays for Federal investments as they are paid, while the NIPA Federal current account excludes current investments but includes a depreciation charge on past investments ("consumption of general government fixed capital") as part of "current expenditures." The inclusion of depreciation on fixed capital (structures, equipment and software) in current expenditures can be thought of as a proxy for the services that capital renders; i.e., for its contribution to Government output of public services. The depreciation charge is not a full reflection of capital services, however, since it does not include the net return to capital that in a private corporation would appear as interest income or profit. The NIPAs would need to include an imputed interest charge for government capital to assure a fully parallel treatment.

Certain items in the budget are excluded from the NIPA Federal current account because they are related to the acquisition or sale of assets, and not linked to current consumption or income. Examples include Federal investment grants to State and local governments, investment subsidies to business, lump sum payments to amortize the unfunded liability of the Uniformed Services Retiree Health Care Fund and the new Postal Service Retiree Health Benefits Fund, and forgiveness of debt owed by foreign governments. Likewise, estate and gift taxes, included in budget receipts, are excluded from NIPA current receipts as being capital transfers. They also exclude the proceeds from the sales of non-produced assets such as land. Bonuses paid on Outer Continental Shelf oil leases and proceeds from broadcast spectrum auctions are shown as offsetting receipts in the budget and are deducted from budget outlays. In the NIPAs these transactions are excluded from the Federal current account as an exchange of assets with no current production involved. The NIPAs are not strictly consistent in this interpretation, however, since they do include in total revenues the taxation of capital

gains. Also unlike the budget, the NIPAs exclude transactions with U.S. territories.

The treatment of Government pension plan income and outgo creates a coverage difference. Whereas the budget treats employee payments to these pension plans as governmental receipts, and employer contributions by agencies as offsets to outlays because they are intragovernmental, the NIPAs treat employer contributions as personal income and employee payments as a transfer of income within the household sector, in the same way as it treats contributions to pension plans in the private (household) sector. Likewise, the budget records a Government check to a retired Government employee as an outlay, but under NIPA concepts, no Government expenditure occurs at that time; the payment is treated (like private pension payments) as a transfer of income within the household sector.

Financial transactions such as loan disbursements, loan repayments, loan asset sales, and loan guarantees are excluded from the NIPAs on the grounds that such transactions simply involve an exchange of assets rather than current production, income, or consumption. In contrast, under the Federal Credit Reform Act of 1990, the budget records the estimated subsidy cost of the direct loan or loan guarantee as an outlay at the time when the loan is disbursed. The cash flows with the public are recorded in nonbudgetary accounts as a means of financing the budget rather than as budgetary transactions. This treatment recognizes that a Federal direct loan is an exchange of assets with equal value after allowing for the subsidy to the borrower implied by the terms of the loan. It also recognizes the subsidy element in loan guarantees. In the NIPAs, these subsidies are not recognized. The NIPAs, like the budget, include all interest transactions with the public, including interest received by and paid to the loan financing accounts; and both the NIPAs and the budget include administrative costs of credit program operations.

Deposit insurance outlays for resolving failed banks and thrift institutions are similarly excluded from the NIPAs on the grounds that there are no offsetting current income flows from these transactions. In 1991, this exclusion was the largest difference between the NIPAs and the budget and made NIPA net Government saving a significantly smaller negative number than the budget deficit that year. In subsequent years, as assets acquired from failed financial institutions were sold, these collections tended to make the budget deficit a smaller negative figure than NIPA net Federal Government saving.

Federal Sector Current Receipts

Table 14-1 shows the NIPA classification of Federal current receipts in five major categories and four of the subcategories used to measure taxes, which are similar to the budget categories but with some significant differences.

Current tax receipts is the largest category of current receipts, and its personal current taxes subcategory—

Table 14–1. FEDERAL TRANSACTIONS IN THE NATIONAL INCOME AND PRODUCT ACCOUNTS, 1998–2009
(In billions of dollars)

Description	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Estimate	
											2008	2009
CURRENT RECEIPTS												
Current tax receipts	1,105.9	1,165.2	1,305.6	1,266.9	1,089.7	1,065.9	1,113.8	1,328.9	1,515.5	1,644.0	1,555.0	1,701.6
Personal current taxes	814.1	868.5	987.4	993.8	851.1	781.7	778.7	914.1	1,037.8	1,149.3	1,079.3	1,234.4
Taxes on production and imports	80.7	82.5	87.8	86.4	86.4	89.1	93.2	98.1	99.0	100.5	102.2	103.0
Taxes on corporate income	205.9	207.9	223.5	179.5	144.7	186.8	232.7	305.0	367.6	380.5	360.9	351.7
Taxes from the rest of the world	5.2	6.2	6.8	7.1	7.4	8.3	9.3	11.7	11.1	13.7	12.6	12.6
Contributions for government social insurance	604.4	642.2	687.8	713.8	729.6	749.9	795.1	843.4	887.6	937.2	981.0	1,032.8
Income receipts on assets	22.3	20.9	24.3	26.4	21.3	21.4	23.7	24.9	24.3	25.9	26.0	28.3
Current transfer receipts	21.0	21.8	24.9	26.5	25.5	24.7	27.7	11.0	35.0	35.7	37.7	42.4
Current surplus of government enterprises	–*	0.3	–1.3	–6.5	–1.1	2.5	0.2	–5.2	–3.7	–1.9	–0.4	–0.2
Total current receipts	1,753.5	1,850.3	2,041.2	2,027.1	1,865.0	1,864.4	1,960.6	2,203.0	2,458.7	2,641.0	2,599.2	2,805.0
CURRENT EXPENDITURES												
Consumption expenditures	452.9	469.5	496.0	519.7	575.5	648.0	706.6	757.9	800.3	841.6	912.1	1005.6
Defense	301.3	307.2	321.2	335.7	368.4	424.5	470.4	507.8	532.1	568.0	604.7	679.0
Nondefense	151.6	162.3	174.8	184.0	207.1	223.5	236.2	250.2	268.2	273.6	307.4	326.6
Current transfer payments	940.3	976.3	1,023.2	1,108.0	1,216.6	1,308.9	1,377.5	1,462.8	1,548.4	1,644.1	1,738.2	1,808.8
Government social benefits	716.4	733.0	762.7	823.6	900.9	956.3	1,005.1	1,071.6	1,154.5	1,241.0	1,311.5	1,377.3
Grants-in-aid to State and local governments ..	209.9	227.7	244.1	268.2	296.7	329.3	347.6	359.5	360.8	370.8	390.9	398.2
Other transfers to the rest of the world	14.0	15.7	16.4	16.3	19.0	23.2	24.7	31.7	33.1	32.2	35.9	33.4
Interest payments	299.7	285.9	283.3	267.9	234.9	214.6	216.8	243.1	284.1	302.8	319.2	338.0
Subsidies	33.6	36.1	49.6	53.7	37.9	46.1	43.5	55.0	52.7	45.6	52.5	45.9
Wage disbursements less accruals												
Total current expenditures	1,726.5	1,767.8	1,852.0	1,949.3	2,064.9	2,217.6	2,344.4	2,518.9	2,685.6	2,834.0	3,022.0	3,198.3
Net Federal Government saving	27.0	82.4	189.2	77.8	–199.9	–353.2	–383.8	–315.8	–226.9	–193.0	–422.7	–393.3
ADDENDUM: TOTAL RECEIPTS AND EXPENDITURES												
Current receipts	1,753.5	1,850.3	2,041.2	2,027.1	1,865.0	1,864.4	1,960.6	2,203.0	2,458.7	2,641.0	2,599.2	2,805.0
Capital transfer receipts	23.9	27.6	28.8	28.2	26.4	21.7	24.7	24.6	27.7	25.8	26.5	26.1
Total receipts	1,777.4	1,877.9	2,070.1	2,055.3	1,891.3	1,886.1	1,985.3	2,227.6	2,486.4	2,666.8	2,625.8	2,831.1
Current expenditures	1,726.5	1,767.9	1,852.0	1,949.3	2,064.9	2,217.6	2,344.4	2,518.9	2,685.6	2,834.0	3,022.0	3,198.3
Net investment:												
Gross government investment:												
Defense	45.4	46.5	48.5	49.9	54.5	59.0	65.1	72.3	77.2	81.9	94.0	95.5
Nondefense	29.7	31.9	32.2	30.3	32.6	33.3	33.6	35.9	40.5	38.4	39.2	39.2
Less: Consumption of fixed capital:												
Defense	59.8	59.7	60.2	60.3	60.4	61.4	63.4	67.0	71.2	74.9	78.1	81.3
Nondefense	22.9	24.5	26.5	27.7	28.2	28.7	29.3	30.8	32.6	33.4	36.8	39.9
Capital transfer payments	28.2	31.3	39.3	39.8	44.3	62.0	62.9	66.0	69.2	76.7	91.4	95.2
Net purchases of nonproduced assets	–5.3	–1.7	–0.3	–0.9	0.3	*	0.1	–0.7	–0.3	–13.6	–15.5	–2.5
Total expenditures	1,741.8	1,791.8	1,885.1	1,980.3	2,108.0	2,281.9	2,413.5	2,594.5	2,768.4	2,909.0	3,116.2	3,304.5
Net lending or net borrowing (–)	35.7	86.1	185.0	75.0	–216.7	–395.8	–428.1	–366.9	–281.9	–242.2	–490.4	–473.5

* \$50 million or less.

composed primarily of the individual income tax—is the largest single subcategory. The NIPAs' taxes on corporate income subcategory differs in classification from the corresponding budget category primarily because the NIPAs include the deposit of earnings of the Federal Reserve System as corporate income taxes, while the budget treats these collections as miscellaneous re-

ceipts. (The timing difference between the NIPAs and the budget is especially large for corporate receipts.) The taxes on production and imports subcategory is composed of excise taxes and customs duties.

Contributions for Government social insurance is the second largest category of current receipts. It differs from the corresponding budget category primarily be-

cause: (1) the NIPAs include Federal employer contributions for social insurance as a governmental receipt, while the budget offsets these contributions against outlays as undistributed offsetting receipts; (2) the NIPAs include premiums for Parts B and D of Medicare as governmental receipts, while the budget nets them against outlays; (3) the NIPAs treat Government employee contributions to their pension plans as a transfer of personal income within the household sector (as if the pension system were private), while the budget includes them in governmental receipts; and (4) the NIPAs impute employer contributions for Federal employees' unemployment insurance and workers' compensation.

The income receipts on assets category consists mainly of interest payments received on Government direct loans (such as student loans) and rents and royalties on Outer Continental Shelf oil leases. The current transfer receipts category consists primarily of deposit insurance premiums, fees, fines and other receipts from both individuals and businesses, less insurance settlements from the National Flood Insurance Program—virtually all of which are netted against outlays in the budget. The current surplus (or deficit) of Government enterprises category is the profit or loss of “Government enterprises,” such as the Postal Service, which are business-type operations of Government that usually appear in the budget as public enterprise revolving funds. Depreciation (consumption of enterprise fixed capital) is netted in calculating the current surplus of Government enterprises.

Federal Sector Current Expenditures

Table 14–1 shows the five major NIPA categories for current expenditures and five subcategories, which differ greatly from the corresponding budget categories.

Government consumption expenditures consist of goods and services purchased by the Federal Government, including compensation of employees and depreciation on fixed capital. Gross investment (shown among the addendum items in Table 14–1) is thus excluded from current expenditures and does not figure in computing net Government saving on a NIPA basis, whereas depreciation—charges on federally-owned fixed capital—(“consumption of general government fixed capital”) is included. The NIPAs treat State and local investment and capital consumption in the same way—regardless of the extent to which it is financed with Federal aid (capital transfer payments) or from State and local own-source receipts.

Although gross investment is not included in Government current expenditures, Government gross investment is included in total GDP along with current consumption expenditures (including depreciation), which makes the treatment of the government sector in the NIPAs similar to that of the private sector. Investment includes structures, equipment, and computer software.

The largest expenditure category consists mainly of current transfer payments for Government income security and health benefits, such as Social Security and

Medicare. Payment of pension benefits to former Government employees is not included, as explained previously. Grants-in-aid to State and local governments help finance a range of programs, including income security, Medicaid, and education (but capital transfer payments for construction of highways, airports, wastewater treatment plants, and mass transit are excluded). “Current transfer payments to the rest of the world (net)” consists mainly of grants to foreign governments.

Interest payments consist of the interest paid by the Government on its debt (excluding debt held by trust funds, other than Federal employee pension plans; and other Government accounts). Where the budget nets interest received on loans against outlays, the NIPAs treat it as current receipts.

Subsidies consist of subsidy payments for resident businesses (excluding subsidies for investment). NIPA subsidies do not include the imputed credit subsidies estimated as budget outlays under credit reform. Rather, as explained previously loans and guarantees are excluded from the NIPAs except for associated interest and fees.

Wage disbursements less accruals is an adjustment that is necessary to the extent that the wages paid in a period differ from the amount earned in the period.

Differences in the Estimates

Since the introduction of the unified budget in January 1968, NIPA current receipts have been greater than budget receipts in most years. This is due principally to grossing differences and the fact that estate and gift taxes, which the NIPAs exclude as capital transfers, have been roughly matched by Medicare premiums, which the NIPAs include as a governmental receipt but the budget treats as an offsetting receipt. (In the budget, offsetting receipts are not included in the governmental receipts total but instead are netted against the outlay total.) Since 1986, NIPA current expenditures have usually been higher than budget outlays (from which the Medicare premiums and employer retirement contributions are netted out as offsetting receipts); despite the omission from NIPA expenditures of capital transfer grants and pension benefit payments to former Government employees.

Two components of budget outlays, however, are sometimes sufficiently large in combination to exceed the usual netting and grossing adjustments. These are financial transactions and net investment (the difference between gross investment and depreciation). Large outlays associated with resolving the failed savings and loan associations and banks in 1990 and 1991 caused those year's budget outlays to exceed NIPA current expenditures. With the change in budgetary treatment of direct loans in 1992 under credit reform, the cost of direct loans to the public recorded in the budget has been reduced bringing it closer to the NIPA treatment. Disbursement and repayment of loans made since that time are recorded outside the budget; only credit subsidies are recorded as budget outlays, unlike the

Table 14–2. RELATIONSHIP OF THE BUDGET TO THE FEDERAL SECTOR, NIPA's

Description	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Estimate	
											2008	2009
RECEIPTS												
Budget receipts	1,722.0	1,827.6	2,025.5	1,991.4	1,853.4	1,782.5	1,880.3	2,153.9	2,407.3	2,568.2	2,521.2	2,699.9
Contributions to government employee retirement plans	-4.3	-4.5	-4.8	-4.7	-4.6	-4.6	-4.6	-4.5	-4.4	-4.3	-4.7	-4.8
Capital transfers received	-23.9	-27.6	-28.8	-28.2	-26.3	-21.7	-24.7	-24.6	-27.7	-25.8	-26.5	-26.1
Other coverage differences	-5.8	-7.0	-8.0	-7.9	-8.9	-9.0	-10.4	-11.3	-11.7	-12.3	-13.2	-14.3
Netting and grossing	64.5	65.7	70.6	69.9	77.0	85.1	89.7	75.0	108.3	117.5	127.9	140.0
Timing differences	1.1	-3.9	-13.2	6.7	-25.6	32.1	30.3	14.4	-13.0	-2.4	-5.4	10.1
NIPA current receipts	1,753.5	1,850.3	2,041.2	2,027.1	1,865.0	1,864.4	1,960.6	2,203.0	2,458.7	2,641.0	2,599.2	2,805.0
EXPENDITURES												
Budget outlays	1,652.7	1,702.0	1,789.2	1,863.2	2,011.2	2,160.1	2,293.0	2,472.2	2,655.4	2,730.2	2,931.2	3,107.4
Government employee retirement plan transactions	31.3	32.1	31.7	31.5	33.7	33.1	33.5	39.4	42.1	41.1	51.2	55.7
Deposit insurance and other financial transactions	-7.1	-6.1	-9.0	-6.2	-6.7	2.1	0.4	7.1	-3.4	12.7	21.7	13.3
Capital transfer payments	-28.2	-31.3	-35.1	-39.8	-44.1	-45.4	-46.4	-47.7	-51.2	-76.7	-91.4	-95.2
Net purchases of nonproduced assets	5.3	1.7	0.3	0.9	-0.3	*	-0.1	0.7	0.3	13.6	15.5	2.5
Net investment	7.6	5.7	6.0	7.9	1.4	-2.3	-6.1	-10.3	-13.9	-11.8	-18.4	-13.5
Other coverage differences	1.0	2.7	4.0	7.9	-0.6	-13.5	-21.3	-26.5	-38.4	-6.3	-12.5	-7.2
Netting and grossing differences	64.5	65.7	70.6	69.9	77.0	85.1	89.7	75.0	108.3	117.5	127.9	140.0
Timing differences	-0.7	-4.7	-5.6	14.3	-6.7	-1.6	1.6	8.9	-13.6	13.7	-3.3	-4.6
NIPA current expenditures	1,726.5	1,767.8	1,852.0	1,949.3	2,064.9	2,217.6	2,344.4	2,518.9	2,685.6	2,834.0	3,022.0	3,198.3
ADDENDUM												
Budget surplus or deficit (-)	69.3	125.6	236.2	128.2	-157.8	-377.6	-412.7	-318.3	-248.2	-162.0	-410.0	-407.4
NIPA net Federal Government saving	27.0	82.4	189.2	77.8	-199.9	-353.2	-383.8	-315.8	-226.9	-193.0	-422.7	-393.3

* \$50 million or less.

NIPAs which do not include this element of government expenditure.

Every year during the period 1975–1992, the budget deficit exceeded in absolute value net Federal Government saving as measured in the NIPAs. The largest difference, \$78.8 billion, occurred in 1991 as a result of resolving failed financial institutions as discussed above; the budget deficit was then -\$269.2 billion, while the NIPA net Government saving was -\$190.5 billion. In 1993–2002, NIPA net Federal Government saving exceeded the budget deficit in absolute value when the budget was in deficit and fell short of the budget surplus during the years the budget was in surplus. For 2003–2006, and again for 2009, the NIPA net Federal Government saving was, or is estimated to be, smaller

than the budget deficit in absolute value, while for 2007 and 2008 the reverse is the case.

Table 14–1 displays Federal transactions using NIPA concepts with actual data for 1998–2007 and estimates for 2008 and 2009 consistent with the Administration's budget proposals. Table 14–2 summarizes the reasons for differences between the data. Annual NIPA data for 1948–2009 are published in Section 14 of a separate budget volume, *Historical Tables, Budget of the U.S. Government, Fiscal Year 2009*.

Detailed estimates of NIPA current receipts and expenditures consistent with the budget and including quarterly estimates will be published in a forthcoming issue of the Department of Commerce publication, *Survey of Current Business* and on the Bureau of Economic Analysis website at www.bea.doc.gov/bea/pubs.htm.