ECONOMIC AND ACCOUNTING ANALYSES

1. ECONOMIC ASSUMPTIONS

Introduction

The prudent macroeconomic policies pursued since 1993 have fostered the healthiest economy in over a generation. Budget surpluses have replaced soaring deficits. During this Administration, fiscal policy has been augmenting national saving, private investment, productivity, and economic growth, rather than restraining them. Monetary policy has helped reduce inflation while supporting economic growth, and minimizing the domestic effect of international financial dislocations.

These sound policies have contributed to another year of outstanding economic achievement—and hold the promise of more successes to come. Real Gross Domestic Product (GDP) rose 4.2 percent during 1999, the fourth consecutive year that growth has been four percent or more. The last time growth was this strong for so long was in the mid-1960s.

Strong and sustained growth has created abundant job opportunities and raised real wages. The Nation's payrolls expanded by 2.7 million jobs last year, bringing the total number of jobs created during this Administration to 20.4 million. The unemployment rate during the last three months of the year fell to 4.1 percent of the labor force, the lowest level since January 1970, and 3.2 percentage points lower than the rate in January 1993.

Despite robust growth and very low unemployment, inflation has remained low. The Consumer Price Index excluding the volatile food and energy components rose only 1.9 percent last year, the smallest increase since 1965. The combination of low inflation and low unemployment pulled the "Misery Index," defined as the sum of the inflation and unemployment rates, to the lowest level since 1965.

Households, businesses and investors have prospered in this environment. Wage growth has outpaced inflation during each of the last four years, reversing a two-decade decline in real earnings. In 1998, the poverty rate fell to the lowest level since 1980. Although the poverty rate for 1999 will not be known until later this year, another decline is likely in light of the economy's strong job gains and declining unemployment. The healthy economy boosted consumer optimism last year to the highest level on record.

Businesses' confidence in the future is evident in a willingness to invest heavily in new, capacity-enhancing plant, equipment and software. During the past seven years, equipment and software spending has risen at a double-digit pace, spurred by purchases of high-tech capital. Rapid growth of investment has helped return labor productivity growth to rates not seen since before the first oil crisis in 1973. Rapid productivity growth has enabled firms to achieve healthy increases in profits, and to raise real wages while still holding the line on prices.

Forward-looking financial markets have responded to these developments. The bull market in equities that began in 1994 continued in 1999. These past five years have recorded the largest percentage gains in stock prices in the postwar period. From December 31, 1994 to December 31, 1999, the Dow Jones Industrial Average rose 200 percent; the S&P 500 gained 220 percent; and the technology-laden NASDAQ soared 441 percent. During January, the Dow and the NASDAQ edged into record territory and the S&P 500 remained close to its record high.

Short- and long-term interest rates rose during 1999 in response to the increased demand for credit that accompanied strong private-sector growth and the Federal Reserve's tightening of monetary policy. Even so, long-term interest rates during 1998 and 1999 were still lower than in any year during the prior three decades. The real long-term interest rate (the nominal rate minus expected inflation), an important determinant of investment decisions, was also lower in these two years than in any other two-year period since 1980. As 2000 began, financial and nonfinancial market indicators were signaling that the economic outlook remains healthy.

The economy has outperformed the consensus forecast during the past seven years, and the Administration believes that it can continue to do so if sound fiscal policies are maintained. However, for purposes of budget planning, the Administration continues to choose projections that are close to the consensus of private forecasters. The Administration assumes that the economy will grow between 2.5 and 3.0 percent yearly through 2010, while unemployment, inflation and interest rates are projected to remain relatively low.

Even with the moderation in growth, the economy is expected to generate millions of new jobs. The unemployment rate, which by mainstream estimates is below the level consistent with stable inflation, is projected to edge up slightly until mid-2003. Thereafter, it is projected to average a relatively low 5.2 percent, the middle of the range that the Administration estimates is consistent with stable inflation in the long run. The Consumer Price Index (CPI), which rose 2.7 percent during 1999 because of rapidly rising energy prices, is projected to slow slightly in the next two years and then increase 2.6 percent per year on average through 2010. Short- and long-term interest rates are expected to remain in the neighborhood of the levels reached at the end of 1999.

As of December, this business cycle expansion had lasted 105 months since the trough in March 1991. If the expansion continues through February, as seems highly likely, it will exceed the previous longevity record of 106 months set by the Vietnam War expansion of the 1960s. If macroeconomic policies continue to foster high investment without engendering inflationary pressures, there is every reason to believe that this expansion will continue for many more years.

This chapter begins with a review of recent developments, and then discusses two statistical issues: the recent methodological improvements in the calculation of the Consumer Price Index, which slowed its rise; and the October comprehensive revisions to the National Income and Product Accounts, which incorporated computer software as a component of investment, among other changes. The chapter then presents the Administration's economic projections, followed by a comparison with the Congressional Budget Office's projections. The following sections present the impact of changes in economic assumptions since last year on the projected budget surplus, and the cyclical and structural components of the surplus. The chapter concludes with estimates of the sensitivity of the budget to changes in economic assumptions.

Recent Developments

The outstanding performance of the economy is due to a combination of several factors. First, macroeconomic policies have promoted strong growth with low inflation. Second, thanks in part to robust investment and new, high-tech means of communicating and doing business, labor productivity growth in the last four years has approached 3 percent per year—double the rate that prevailed during the prior two decades, and comparable to the high rates achieved during the first three decades following World War II. Third, inflation has been restrained by recession in much of the world and by the rising exchange value of the dollar. These forces together—plus intensified competition, including competition from foreign producers—have kept down commodity prices and prevented U.S. producers from raising prices. Finally, the labor market appears to have changed in ways that now permit the unemployment rate to fall to lower levels without triggering faster inflation.

Fiscal Policy: In 1992, the deficit reached a postwar record of $290 billion, representing 4.7 percent of GDP—and the prospects were for growing deficits for the foreseeable future. When this Administration took office in January 1993, it vowed to restore fiscal discipline. That goal has been amply achieved. By 1998, the budget moved into surplus for the first time since 1969; and in 1999 it recorded an even larger surplus of $124 billion. That is the largest surplus ever, and, at 1.4 percent of GDP, it is the largest as a share of the overall economy since 1951. This fiscal year, the surplus is projected to rise to $167 billion, or 1.7 percent of GDP. The dramatic shift from huge deficits to surpluses in the last seven years is unprecedented since the demobilization just after World War II.

The historic improvement in the Nation's fiscal position during this Administration is due in large measure to two landmark pieces of legislation, the Omnibus Budget Reconciliation Act of 1993 (OBRA) and the Balanced Budget Act of 1997 (BBA). OBRA enacted budget proposals that the Administration made soon after it came into office, and set budget deficits on a downward path. The deficit reductions following OBRA have far exceeded the predictions made at the time of its passage. OBRA was projected to reduce deficits by $505 billion over 1994–1998. The actual total deficit reduction during those years was more than twice that—$1.2 trillion. In other words, OBRA and subsequent developments enabled the Treasury to issue $1.2 trillion less debt than would have been required under previous estimates.

While OBRA fundamentally altered the course of fiscal policy towards lower deficits, it was not projected to eliminate the deficit; without further action, deficits were expected to begin to climb once again. To prevent this and bring the budget into unified surplus, the Administration negotiated the Balanced Budget Act with the Congress in the summer of 1997. The BBA was not expected to produce surpluses until 2002, but like OBRA, the results of pursuing a policy of fiscal discipline far exceeded expectations. The budget moved into surplus in 1998, four years ahead of schedule, and achieved an even larger surplus in 1999. OBRA 1993 and BBA 1997, together with subsequent developments, are estimated to have improved the unified budget balance compared with the pre-OBRA baseline by a cumulative total of $6.7 trillion over 1993–2005.

The better-than-expected budget results in recent years have contributed to the better-than-expected economic performance. Lower deficits and bigger surpluses helped promote a healthy, sustainable expansion by reducing the cost of capital, through both downward pressure on interest rates and higher prices for corporate equities. A lower cost of capital stimulated business capital spending, which expanded industrial capacity, boosted productivity growth, and restrained inflation. Rising equity prices also increased household wealth, optimism, and spending. The added impetus to consumer spending created new jobs and business opportunities. The faster-growing economy, in turn, boosted incomes and profits, which fed back into an even healthier budget.

Though the benefits of fiscal discipline have been widely recognized, the surprise in recent years has been the magnitude of the positive impact on the economy. Growth of production, jobs, incomes, and capital gains have all exceeded expectations. The outstanding economic performance during this Administration is proof positive of the lasting benefits of prudent fiscal policies.

Monetary Policy: During this expansion, the Federal Reserve tightened policy when inflation threatened to pick up, but eased when the expansion risked stalling out. In 1994 and early 1995, the monetary authority

raised interest rates when rapid growth threatened to cause inflationary pressures. During 1995 and early 1996, however, the Federal Reserve reduced interest rates, because the expansion appeared to be slowing while higher inflation no longer threatened. From January 1996 until the fall of 1998, monetary policy remained essentially unchanged; the sole adjustment was a one-quarter percentage point increase in the federal funds rate target in March 1997 to 5½ percent.

During the second half of 1998, however, financial turmoil abroad threatened to spread to the United States. In addition, a large, highly leveraged U.S. hedge fund, which had borrowed heavily from major commercial and investment banks, nearly failed. In this environment, normal credit channels to even the most credit-worthy private businesses were disrupted. In response to these serious challenges to the financial system and the economy, the Federal Reserve quickly shifted policy by cutting the Federal funds rate by one-quarter percentage point on three occasions in just seven weeks—the swiftest easing since 1991, when the economy was just emerging from recession. By early 1999, those actions had restored normal credit flows and risk spreads among credit market instruments and returned the stock market to its upward trajectory.

With the return of financial market stability and amidst an environment of strong growth and falling unemployment, the Federal Reserve raised the Federal funds rate by one-quarter percentage point on three separate occasions during 1999, returning the rate to the 5½ percent level that prevailed before the 1998 international financial dislocation.

Real Growth: The economy expanded at a 3.7 percent annual rate over the first three quarters of 1999, and rose at an even faster 5.8 percent pace during the fourth quarter. Over the four quarters of the year, real GDP increased 4.2 percent, the fourth year in a row of robust growth exceeding 4.0 percent.

The fastest growing sector last year was again business spending on new equipment and software, which rose 11.0 percent during 1999. The biggest gains continued to be for information processing and software, with added impetus from the need to upgrade systems to be Y2K compliant. Investment in new structures, in contrast, edged down during 1999.

The exceptionally strong growth of spending for new equipment and software in recent years raised trend productivity growth. This helped to keep inflation in check by permitting firms to grant real wage increases without putting upward pressure on prices. The increase in productive capacity resulting from robust capital spending also eased the supply bottlenecks and strains that normally would accompany tight labor markets. In the fourth quarter of 1999, the manufacturing operating rate was below its long-term average, even though the unemployment rate was unusually low. Overall industrial capacity rose by more than 4 percent in each of the past six years—the fastest sustained increase in capacity in three decades.

The consumer sector, which accounts for two-thirds of GDP, made a significant contribution to last year's rapid growth, as it did in the previous two years. Consumer spending after adjustment for inflation rose 5.4 percent over the four quarters of 1999, the largest increase in a quarter century. Thanks to low unemployment, rising real incomes, extraordinary capital gains from the booming stock market and record levels of consumer confidence, households have the resources and willingness to spend heavily, especially on discretionary, big-ticket purchases. For example, sales of cars, minivans and other light-weight trucks reached nearly 17 million units last year, a new record.

In 1999, growth of consumer spending again outpaced even the strong growth of disposable personal income, pulling down the saving rate to 2.4 percent, the lowest level in the postwar period. Because of the enormous increase in household wealth created by the soaring stock market, households felt confident enough to boost spending by reducing saving out of current income.

Partly because of rising wealth, households took on considerably more debt. As a consequence, household debt service payments as a percent of disposable personal income rose from 11.7 percent at the end of 1992 to 13.4 percent in the third quarter of 1999. However, the ratio of debt service to income was still ¾ percentage point below its prior peak, suggesting that the household sector on average was not overextended, especially considering the rapid rise in household equity wealth.

The same factors spurring consumption pushed new and existing home sales during 1999 to their highest level since record-keeping began. The homeownership rate reached a record 66.8 percent last year. Buoyant sales and low inventories of unsold homes provided a strong incentive for new construction. Housing starts, which were already at a high level in 1998, increased further last year to the highest level since the mid-1980s. Residential investment, after adjustment for inflation, increased during the first half of the year but edged down during the second half, reflecting the peak in housing starts early in the year.

As a result of the healthier fiscal position of all levels of government, spending by the government sector rose more rapidly than it has in recent years. State and local consumption spending after adjustment for inflation rose 4.6 percent last year, while Federal Government spending increased 5.3 percent.

The foreign sector was the primary restraint on GDP growth in 1999, as during the prior two years. Although the economic recovery of our trading partners boosted our exports, this positive contribution to GDP growth was more than offset by the very rapid rise of imports that accompanied the exceptionally strong growth of U.S. domestic demand. Over the year, exports of goods and services after adjustment for inflation rose 4.0 percent, while imports soared 13.1 percent. As a result, the net export balance widened considerably, and restrained real GDP growth by an average of 1.2 percentage points per quarter—a larger drag on growth than

during the two previous years when recessions abroad dramatically curtailed U.S. exports. The trade-weighted value for the dollar, which had risen strongly in recent years, was little changed, on average, during 1999. However, the dollar depreciated 7 percent against the Japanese yen, while it appreciated 15 percent against the newly launched Euro.

Labor Markets: At the start of the year, most forecasters had expected growth to slow significantly and the unemployment rate to rise. Instead, the economy continued to expanded at a rapid pace, pulling the unemployment rate down from 4.3 percent at the end of 1998 to 4.1 percent during the last three months of 1999. When the Administration took office, the unemployment rate was 7.3 percent. In December, forty-five States had unemployment rates of 5.0 percent or less; rates in the other five were between 5.1 and 6.1 percent. Significantly, all demographic groups have participated in the improved labor market. The unemployment rates for Hispanics and Blacks during 1999 were the lowest on record.

The Nation's payrolls expanded by a sizeable 2.7 million jobs last year. As in 1998, employment did not increase in all industries; mining and manufacturing, which are especially vulnerable to adverse developments in international trade, lost jobs. However, a greater number of jobs were created in the private service sector, construction, and State and local government. The abundance of employment opportunities last year kept the labor force participation rate at the record-high level set in 1997 and 1998, and pulled up the employment/population ratio to the highest level ever.

Inflation: Despite continued rapid economic growth and the low unemployment rate, inflation remained low last year, and the "core" rate even slowed. The core CPI, which excludes the volatile food and energy components, rose just 1.9 percent over the 12 months of 1999, down from 2.4 percent during 1998. Last year's rise in the core rate was the smallest since 1965. However, because of a sharp rise in energy prices, driven to a considerable extent by international economic recovery, the total CPI rose 2.7 percent last year—up from 1.6 percent during 1998, when energy prices fell substantially.

The broader GDP chain-weighted price index rose just 1.6 percent during 1999, not much higher than the 1.1 percent during the four quarters of 1998. This is the smallest two-year rise in overall prices since 1962–63. The favorable inflation performance was the result of intense competition, including from imports; very small increases in unit labor costs because of robust productivity growth; and perhaps structural changes in the link between unemployment and inflation.

Last year, however, import and export prices exerted less of a restraint on inflation than in prior years. Because of the overall stability of the dollar last year, import prices other than petroleum were about unchanged during 1999; by contrast, import prices had been falling for several years in response to the dollar's rise. Moreover, the price of imported petroleum products doubled last year as a result of a recovery in world demand and a cutback in OPEC production. On the other side of the ledger, prices of exported goods (a component of the GDP price index) were about unchanged during 1999, after having fallen in 1998; the dollar's stability enabled U.S. firms to avoid having to cut prices to remain competitive.

Real wages grew again in 1999; but even with the low unemployment, hourly earnings and the broader measures of compensation rose slightly less during 1999 than in the prior year. Robust investment in new equipment contributed to unusually strong productivity growth for this stage of an expansion, helping to restrain inflation by offsetting the nominal rise in labor compensation. Unit labor costs rose at only a 1.8 percent annual rate during the first three quarters of 1998, down from 2.1 percent during 1999.

The absence of any signs of a buildup of inflationary pressures despite low and falling unemployment and rapid growth has implications for the estimate of the level of unemployment that is consistent with stable inflation. This threshold has been called the NAIRU, or "nonaccelerating inflation rate of unemployment." Economists have been lowering their estimates of NAIRU in recent years in keeping with the accumulating experience of lower unemployment without higher inflation, even after taking into account the influence of temporary factors. The economic projections for this Budget assume that NAIRU is in a range centered on 5.2 percent in the long run. That is the same rate as in the *Mid-Session Review* published last June, but 0.1 percentage point less than estimated in the 2000 Budget assumptions, and 0.5 percentage point less than in the 1997 Budget. Most private forecasters have also reduced their estimates of NAIRU in recent years.

By the end of 1999, the unemployment rate was well below the current mainstream estimate of the long run NAIRU. The Administration's forecast for real growth over the next three years implies that unemployment will return to 5.2 percent by the middle of 2003.

Statistical Issues

Statistical agencies must constantly improve their measurement tools to keep up with rapid structural changes in the U.S. economy. Last year, the Bureau of Labor Statistics (BLS) implemented the latest in a series of planned improvements to the Consumer Price Index; and the Bureau of Economic Analysis (BEA) made significant methodological and statistical changes to the National Income and Product Accounts. On balance, these changes revised real GDP growth and labor productivity growth significantly upward in recent years.

Inflation: The CPI is not just another statistic. Perhaps more than any other statistic, it actually affects the incomes of governments, businesses and households via statutory and contractual cost-of-living adjustments.

As such, recent improvements in measurement of the CPI—which, on balance, have slowed its increase—have significant impacts throughout the economy. Because the CPI is used to deflate some nominal spending components of GDP as well as household incomes, compensation, and wages, a slower rise in the CPI translates directly into a faster measured real growth of such key indicators as GDP, productivity, household incomes and wages.

In recent years, considerable attention has been given to estimating the magnitude of the bias in the CPI and how best to reduce it. In December 1996, the Advisory Commission to Study the Consumer Price Index, appointed by the Senate Finance Committee, issued its recommendations on this subject.

Beginning in 1995, the Bureau of Labor Statistics instituted a number of important methodological improvements to the CPI. Taken together, these changes are estimated to result in about a 0.6 percentage point slower annual increase in the index in 1999 and every year thereafter compared with the methodologies and market basket used in 1994. The most recent significant change, instituted beginning with the January 1999 CPI release, replaced the fixed-weighted Laspeyres formula, which had been used to aggregate lower level components of the CPI, with a geometric mean formula for most such aggregates. A CPI calculated using geometric means more closely approximates a cost-of-living index. Unlike the fixed-weighted aggregation, the geometric mean formula assumes consumer spending patterns shift in response to changes in relative prices within categories of goods and services.

Also in 1999, BLS instituted new rotation procedures in its sampling of retail outlets where it selects items for price collection. The new procedures focus on expenditure categories rather than geographic areas, thereby enabling the CPI to incorporate price information on new, high-tech consumer products in a more timely fashion.

The next scheduled improvement will be an updating of the consumption expenditure weights used in the CPI effective with the release of the CPI for January of 2002, when weights based on spending patterns in 1999–2000 will replace the current 1993–95 market-basket weights. The BLS has announced that it will update expenditure weights every two years thereafter. It is expected that the shift to biennial updates of the weights will have little impact on measured inflation.

For the Federal Government, slower increases in the CPI mean that outlays for programs with cost-of-living adjustments tied to this index or its components—such as Social Security, Supplemental Security Income (SSI), retirement payments for railroad and Federal employees, and Food Stamps—will rise at a slower pace, more in keeping with true inflation, than they would have without these improvements. In addition, slower growth of the CPI will raise the growth of tax receipts because personal income tax brackets, the size of the personal exemptions, and eligibility thresholds for the Earned Income Tax Credit (EITC) are indexed to the CPI. Thus, the methodological improvements made in recent years act on both the outlays and receipts sides of the budget to increase the budget surpluses.

For the National Income and Product Accounts, the Bureau of Economic Analysis follows the convention that changes in concepts and methods of estimation are incorporated into the historical series whenever possible. In contrast, the Bureau of Labor Statistics (BLS) follows the convention that the historical CPI series is never revised. The reasoning is that the public is probably better served by having an unchanged CPI series for convenient use in contract escalation clauses rather than one that is revised historically and might trigger claims for payment adjustments with every revision.

The BLS, however, has recently published a research CPI series (the CPI-RS) that backcasts the current methods to 1978. (See "CPI Research Series Using Current Methods, 1978–98," *Monthly Labor Review*, June 1999, for the series and an explanation of all the methodological improvements instituted since 1978.) This methodologically consistent series shows a slower rise in inflation, and therefore a faster rise in real measures, than the official CPI: during these 21 years, the CPI-RS increased 4.28 percent per year on average compared with 4.73 percent for the CPI, a difference of 0.45 percentage point per year.

As discussed below, the National Income and Product Accounts had already incorporated many of the improvements in methods that have been made over the years in the CPI. The most recent significant improvement, the use of a geometric mean formula for combining lower level aggregates, was incorporated into the October benchmark national accounts for the period 1977–94; this change was already in the national accounts for the period since 1994.

National Income and Product Accounts: In October, the BEA released a comprehensive revision of the National Income and Product Accounts (NIPA), also referred to as a "benchmark" revision. These periodic revisions differ from the usual annual revisions in that they are much wider in scope and include definitional, methodological and classification changes in addition to incorporation of new and revised source data. The latest comprehensive revision significantly changed the definition and estimates of nominal and real GDP, investment, and saving. (For details about the revision, see the August, October and December, 1999 issues of the *Survey of Current Business*.)

Real and Nominal GDP: The most significant definitional change was the recognition of business and government expenditures on computer software (including the costs of in-house production of software) as investment, and therefore as a component of GDP and the Nation's capital stock. Until this revision, BEA had treated software, except that embedded in other equipment, as if it were an intermediate good, and had not counted it in GDP until it appeared as part of a final

product. Intermediate goods do not add directly to GDP; capital goods do. (The Federal Government investment estimates presented in Chapter 6 of this volume also treat software as investment.)

The rapid growth of spending on software in recent years has made a significant contribution to the new, upwardly revised estimates of real GDP growth. Although real GDP growth was raised by 0.4 percentage point per year on average during 1987–93 and by a similar amount since then, the sources of the revision differ greatly between the two periods. During 1987–93, new definitions, notably the inclusion of spending on computer software as a component of investment, boosted growth by only 0.1 percentage point. The downward revision to inflation estimates, notably the incorporation of the geometric mean formula to estimate consumer price inflation, contributed another 0.3 percentage point. New source data did not make any contribution to the upward revision of real growth. In contrast, during 1994–98, about 0.2 percentage point of the upward revision was due to the inclusion of computer software; and another 0.2 percentage point was due to revised source data. Revisions to inflation hardly affected the estimate of real GDP growth.

The sources of the upward revision to nominal GDP provide another perspective on the importance of including software in the definition of GDP. For calendar year 1998, the benchmark revision in total raised nominal GDP by $249 billion, or 2.9 percent. Definitional sources, primarily the new classification of software, added $169 billion (2.0 percentage points). Statistical sources (including new and revised source data, the incorporation of the more recent input-output accounts, and preliminary data from the 1997 economic census) accounted for $80 billion (0.9 percentage point).

Saving: By including computer software spending as investment, the comprehensive revisions boosted measured gross business saving (or undistributed profits and capital consumption) but increased gross national saving much more than net national saving. That is because including software as investment also increases capital consumption (depreciation) more than undistributed profits. In fact, most of the gross investment in software, as measured in NIPA, goes to replace the large amount of software that is annually "used up" or depreciated through technical obsolescence, as reflected in the short service lives. Therefore, net saving is only a slightly larger share of Net Domestic Product in recent years than it was in the previous data, and for some prior years, in which capital consumption increased more as a result of the revision than did gross saving, the revised net saving rate is smaller than it was previously. It is only net saving and its counterpart, net investment, that adds to the Nation's net capital stock.

In addition to defining software spending as part of GDP, the comprehensive revisions made other changes in the NIPA definitions. These did not have a noticeable effect on nominal or real GDP or overall national saving; they did, however, affect measured saving of government and households. These definitional changes included:

- A shift in the classification of government employee pensions from the public sector to the private sector, which increased measured personal saving, and reduced the NIPA government surplus by an equal amount. (For an explanation of the differences between the NIPA definition of the Federal Government surplus and the unified surplus referred to in the Budget, see Chapter 16 of this volume.)
- Estate and gift taxes were reclassified as "capital transfers." This reduced government saving by reducing current receipts, and increased personal saving by reducing personal taxes.
- Federal investment grants were also reclassified as "capital transfers," which increased Federal saving by eliminating a category previously counted as a NIPA Federal government expenditure. As a counterpart, the reclassification reduced State and local government revenues and, therefore, the saving of that sector.

These changes affected the composition of saving, shifting some saving from the government sector to the household sector. The new methodology treats government employee pensions the same as private employee pensions: the contributions to the pension programs are treated as saving of the household sector; the earnings on pension fund assets are treated as household income; and the benefits paid by the pension funds are defined as transfers within the household sector, not part of government transfer payments. The net effect of these changes is to raise the NIPA measures of personal saving while lowering the NIPA government surplus. The previously reported nonoperating surplus of State and local governments, which was composed in large part of the difference between pension fund receipts and payments, was nearly eliminated by this change.

Productivity: The upward revisions to real GDP growth, and in particular, the even larger revisions to the growth of output in the Nation's nonfarm business sector, have significantly raised measured labor productivity growth—especially beginning in 1994, because of the inclusion of software spending and the revised source data.

The Administration had already raised its projections of real GDP and productivity growth in last summer's *Mid-Session Review*. The further increase in trend growth of GDP and productivity in the 2001 assumptions presented below reflects the new information in the benchmark revision that revealed that underlying source data in recent years have been revised upward.

Productivity growth, which had averaged 1.4 percent per year from 1994 through 1998, was revised up to 1.9 percent per year. During the four years through the third quarter of 1999, the most recent quarter available, productivity growth averaged an even faster 2.7 percent per year. In other words, the recent growth of productivity is double the pace experienced from 1973 to 1995, and on a par with the rapid rates that pre-

vailed from the end of World War II until the first oil crisis in 1973.

The growth of productivity would be even faster in recent years if nonfarm business output were measured from the income side of the national accounts (using Gross Domestic Income) rather than from the slower-growing GDP product side. Since the third quarter of 1995, gross domestic income in real terms has grown 0.4 percentage point per year faster than the growth of GDP. That is because the statistical discrepancy—the difference between the product and income sides of the accounts—has shifted from $3 billion to –$141 billion over these four years. In principle, the product and income sides of the accounts should be equal. In practice, this does not occur because the two measures are estimated from different source data. What is unique about recent years, however, is the extent of the difference and the magnitude of the swing. Although there is no perfect measure of productivity and real growth, the income side perspective provides some reason to believe that productivity and real growth recently may have been even stronger than the official series suggest.

Economic Projections

The economy's outstanding performance last year—indeed, over the last seven years—and the maintenance of sound policies raise the possibility that future economic developments may continue even better than assumed. Nonetheless, it is prudent to base budget estimates on a conservative set of economic assumptions, close to the consensus of private-sector forecasts.

The economic assumptions summarized in Table 1–1 are predicated on the adoption of the policies proposed in this Budget. The maintenance of unified budget surpluses in the coming years is expected to contribute to continued favorable economic performance. Growing Federal Government surpluses reduce real interest rates, stimulate private-sector investment in new plant

Table 1–1. ECONOMIC ASSUMPTIONS [1]

(Calendar years; dollar amounts in billions)

	Actual 1998	Projections											
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Gross Domestic Product (GDP):													
Levels, dollar amounts in billions:													
Current dollars	8,760	9,232	9,685	10,156	10,621	11,105	11,644	12,236	12,847	13,477	14,118	14,777	15,471
Real, chained (1996) dollars	8,516	8,850	9,142	9,393	9,629	9,870	10,146	10,451	10,758	11,064	11,360	11,655	11,958
Chained price index (1996 = 100), annual average	102.9	104.3	105.9	108.1	110.3	112.5	114.8	117.1	119.4	121.8	124.3	126.8	129.4
Percent change, fourth quarter over fourth quarter:													
Current dollars	5.9	5.2	4.8	4.6	4.6	4.5	5.0	5.1	4.9	4.9	4.7	4.7	4.7
Real, chained (1996) dollars	4.6	3.8	2.9	2.6	2.5	2.5	3.0	3.0	2.9	2.8	2.6	2.6	2.6
Chained price index (1996 = 100)	1.1	1.4	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Percent change, year over year:													
Current dollars	5.5	5.4	4.9	4.9	4.6	4.6	4.9	5.1	5.0	4.9	4.8	4.7	4.7
Real, chained (1996) dollars	4.3	3.9	3.3	2.7	2.5	2.5	2.8	3.0	2.9	2.8	2.7	2.6	2.6
Chained price index (1996 = 100)	1.2	1.4	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Incomes, billions of current dollars:													
Corporate profits before tax	782	845	842	828	827	824	852	892	933	971	1,001	1,034	1,062
Wages and salaries	4,186	4,470	4,711	4,942	5,161	5,388	5,629	5,892	6,176	6,458	6,747	7,039	7,342
Other taxable income [2]	1,990	2,088	2,161	2,231	2,293	2,356	2,431	2,518	2,609	2,703	2,802	2,904	3,015
Consumer Price Index (all urban): [3]													
Level (1982–84 = 100), annual average	163.1	166.7	171.0	175.1	179.6	184.3	189.1	194.0	199.0	204.2	209.5	215.0	220.6
Percent change, fourth quarter over fourth quarter	1.5	2.7	2.3	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Percent change, year over year	1.6	2.2	2.6	2.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Unemployment rate, civilian, percent:													
Fourth quarter level	4.4	4.1	4.3	4.7	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Annual average	4.5	4.2	4.2	4.5	5.0	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Federal pay raises, January, percent:													
Military [4]	2.8	3.6	4.8	3.7	3.7	3.2	3.2	3.2	NA	NA	NA	NA	NA
Civilian [5]	2.8	3.6	4.8	3.7	3.7	3.2	3.2	3.2	NA	NA	NA	NA	NA
Interest rates, percent:													
91-day Treasury bills [6]	4.8	4.7	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
10-year Treasury notes	5.3	5.6	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1

NA = Not Available.

[1] Based on information available as of late November 1999.

[2] Rent, interest, dividend and proprietor's components of personal income.

[3] Seasonally adjusted CPI for all urban consumers.

[4] Beginning with the 1999 increase, percentages apply to basic pay only; adjustments for housing and subsistence allowances will be determined by the Secretary of Defense.

[5] Overall average increase, including locality pay adjustments.

[6] Average rate (bank discount basis) on new issues within period.

and equipment, boost productivity growth, and thereby raise real incomes and help keep inflation under control. The Federal Reserve is assumed to continue to pursue the goal of keeping inflation low while promoting growth.

The economy is likely to continue to grow during the next few years, although at a more moderate pace than during 1999. While job opportunities are expected to remain plentiful, the unemployment rate is projected to rise gradually to the range that mainstream private-sector forecasters estimate is consistent with stable inflation. New job creation will boost incomes and consumer spending, and keep confidence at a high level. Continued low inflation will support economic growth. Growth, in turn, will further help the budget balance.

Real GDP, Potential GDP and Unemployment: During 2000, real GDP is expected to rise 2.9 percent, then average 2.5 percent during the following three years. This shift to more moderate growth recognizes that by mainstream assumptions, growth must proceed at a pace below the Nation's potential GDP growth rate for a while; the unemployment rate would then rise somewhat, thereby avoiding a build-up of inflationary pressures. Beginning in 2004, real GDP growth is assumed to match the growth of potential GDP. Inflation-adjusted potential and actual growth are projected to moderate from 3.0 percent yearly during 2004–2005 to 2.6 percent during 2008–2010.

As has been the case throughout this expansion, business fixed investment is again expected to be the fastest-growing component of GDP, although capital spending is likely to slow from the double-digit pace of recent years. Consumer spending is also expected to moderate, as the stimulus from the soaring stock market of the last few years approaches its full effect. Although residential investment is also expected to benefit from relatively low mortgage rates and strong demand for second homes for vacation or retirement, the high level of housing starts in recent years and underlying demographic trends may tend to reduce future growth from the pace of the last few years.

The growth of the Federal and State/local government components of GDP is also projected to moderate from the pace of recent years. The net export balance is expected to be less of a restraint on growth this year than during 1998–99, because more moderate growth of domestic demand is expected to slow the growth of imports. After 2000, the foreign sector is projected to make a modest, positive contribution to GDP growth in each year, reflecting the fundamental competitiveness of U.S. business, and the increased demand for U.S. exports that is likely to accompany a sustained recovery of activity abroad.

The real GDP growth projection is consistent with a gradual rise in the unemployment rate to 5.2 percent by mid-2003. The unemployment rate is then projected to remain at that level on average thereafter, as real GDP growth returns to the Administration's estimate of the economy's potential growth rate.

Potential GDP growth depends largely on the trend growth of labor productivity in the nonfarm business sector and the growth of the labor force. Productivity growth is assumed to moderate gradually from the high rates of recent years. During 2000–2001, productivity is projected to rise 2.1 percent annually on average, then phase down to 1.8 percent (which is the average rate experienced during the 1990s after allowance is made for the procyclical behavior of productivity) from 2007 onwards. The productivity path in the projection is a conservative estimate that allows the near-term projection to rely more heavily on recent experience and the longer-term projection to rely on the productivity experience over a longer period.

The labor force component of potential GDP growth is assumed to rise 1.2 percent per year through 2007 and then slow to 1.0 percent yearly as the first of the baby-boomers begin to retire.

Inflation: With the unemployment rate well below mainstream estimates of the NAIRU, inflation is projected to creep up. The CPI is projected to increase 2.3 percent during this year, rising to 2.6 percent in 2002 and thereafter. The GDP chain-weighted price index is projected to increase 1.9 percent during 2000, and 2.0 percent thereafter.

The 0.6 percentage point difference between the CPI and the GDP chain-weighted price index matches the average difference between these two inflation measures during the past five years. The CPI tends to increase relatively faster than the GDP chain-weighted price index in part because sharply falling computer prices exert less of an impact on the CPI than on the GDP price measure.

In the 2000 budget, this "wedge" between the two measures was projected to be 0.2 percentage point. The larger wedge assumed in this projection tends to reduce the Federal budget surplus because Social Security payments and other indexed programs increase with the faster-rising CPI, while Federal revenues are expected to increase in step with the slower-rising GDP chain-weighted price index. In addition, a relatively faster-rising CPI reduces the rate of growth of Federal receipts because the CPI is used to index personal income tax brackets, the size of the personal exemptions, and the eligibility thresholds for the Earned Income Tax Credit.

Interest Rates: The assumptions, which were based on information as of late November, project stable short- and long-term interest rates. The 91-day Treasury bill rate is expected to average 5.2 percent over the forecast horizon; the yield on the 10-year Treasury bond is projected to average 6.1 percent. Since the completion of the assumptions, market rates have edged up somewhat.

Incomes: On balance, the share of total taxable income in nominal GDP is projected to decline gradually. This is primarily because the corporate profits share of GDP is expected to fall. That is a consequence of

the expected rapid growth of depreciation, a component of business expenses. Robust growth of capital spending, especially on rapidly depreciating high-tech equipment and software, suggests that depreciation will account for an increasing share of GDP at the expense of the corporate profits share. The personal interest income share is also projected to decline, as interest rates remain relatively low and as households hold less Federal Government debt because of the projected unified budget surpluses. The share of labor compensation in GDP is expected to be little changed.

Comparison with CBO

The Congressional Budget Office (CBO) prepares the economic projections used by Congress in formulating budget policy. In the executive branch, this function is performed jointly by the Treasury, the Council of Economic Advisers (CEA), and the Office of Management and Budget (OMB). It is natural that the two sets of economic projections be compared with one another, but there are several important differences, along with the similarities, that should be kept in mind. The Administration's projections always assume that the President's policy proposals in the budget will be adopted in full. In contrast, CBO normally assumes that current law will continue to hold; thus, it makes a "pre-policy" projection. In recent years, and currently, CBO has made economic projections based on a fiscal policy similar to the budget's. An additional source of difference is that CBO and Administration forecasts are finalized at somewhat different times.

Table 1–2 presents a summary comparison of the Administration and CBO projections. Briefly, they are very similar for all the major variables affecting the budget outlook.

Real growth and unemployment: Over the 10-year projection horizon, the average rates of real GDP growth projected by CBO and the Administration are quite close. However, CBO projects somewhat faster growth through 2003 than does the Administration, while the Administration assumes somewhat faster growth than CBO during the following four years. During the last three years of the projection period, CBO projects a slight pickup in the growth rate to a faster pace than that projected by the Administration.

These differences in real growth contribute to the differences in the unemployment rate paths. While both projections assume that the rate will gradually rise to, and level off at, 5.2 percent, the Administration's projection reaches this sustainable level in 2003 while CBO's projection reaches it in 2008.

Inflation: The Administration and CBO forecast the same moderate rates of increase for the CPI for 2000 and 2001, and differ by only 0.1 percentage point thereafter, with the Administration higher. Over the same period, both project low and steady rates of increase

Table 1–2. COMPARISON OF ECONOMIC ASSUMPTIONS

(Calendar years; percent)

	Projections										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Real GDP (chain-weighted): [1]											
CBO January	2.9	3.0	2.7	2.6	2.6	2.7	2.7	2.7	2.8	2.9	2.9
2001 Budget	2.9	2.6	2.5	2.5	3.0	3.0	2.9	2.8	2.6	2.6	2.6
Chain-weighted GDP Price Index: [1]											
CBO January	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
2001 Budget	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Consumer Price Index (all-urban): [1]											
CBO January	2.3	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
2001 Budget	2.3	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Unemployment rate: [2]											
CBO January	4.1	4.2	4.4	4.7	4.8	5.0	5.0	5.1	5.2	5.2	5.2
2001 Budget	4.2	4.5	5.0	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Interest rates: [2]											
91-day Treasury bills:											
CBO January	5.4	5.6	5.3	4.9	4.8	4.8	4.8	4.8	4.8	4.8	4.8
2001 Budget	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
10-year Treasury notes:											
CBO January	6.3	6.4	6.1	5.8	5.7	5.7	5.7	5.7	5.7	5.7	5.7
2001 Budget	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
Taxable income (share of GDP): [3]											
CBO January	79.9	79.3	78.6	78.0	77.5	77.1	76.8	76.4	76.1	75.8	75.4
2001 Budget	79.6	78.8	78.0	77.2	76.5	76.0	75.6	75.2	74.7	74.3	73.8

[1] Percent change, fourth quarter over fourth quarter.

[2] Annual averages, percent.

[3] Taxable personal income plus corporate profits before tax.

for the GDP price index, with CBO's projection 0.3 percentage point lower in each year, 2000–2010.

Interest rates: The Administration and CBO have very similar paths for long- and short-term interest rates. In 2000 and 2001, CBO's rates are slightly higher; from 2003 onward, CBO's are slightly lower.

Income shares: Although both projections envision a decline in the total taxable income share of GDP, primarily because of a decline in the profits share, the CBO total taxable share is higher in every year, and declines more slowly, than the Administration's share.

Impact of Changes in the Economic Assumptions

The economic assumptions underlying this budget are similar to those of last year. Both budgets anticipated that achieving a fundamental shift in fiscal posture from large unified budget deficits to moderate unified budget surpluses would result in a significant boost in investment, which would serve to extend the economic expansion at a moderate pace while helping to maintain low, steady rates of inflation and unemployment. The shift to unified budget surpluses and the ensuing stronger investment were also expected to continue to have favorable effects on receipts and the budget balance, because of stronger profits, capital gains, and high taxable incomes.

The changes in the economic assumptions since last year's budget have been relatively modest, as Table 1–3 shows. The differences are primarily the result of economic performance in 1999 that has, once again, proven more favorable than was anticipated at the beginning of last year. Economic growth was stronger than expected in 1999, while inflation and unemployment were lower. Because of this favorable performance, the projected annual averages for the unemployment rate and GDP price index have again been reduced slightly this year—but conservatively. At the same time, interest rates are assumed in this budget to remain near their current low levels.

The net effects on the budget of these modifications in the economic assumptions are shown in Table 1–4. By far the largest effects come from higher receipts during 2000–2005 resulting from higher nominal incomes. In all years through 2005, there are higher outlays for interest due to the higher interest rates in the 2001 Budget assumptions than in the 2000 Budget assumptions, and, in most years, higher outlays for cost-of-living adjustments to Federal programs due to higher CPI inflation assumptions. On net, the changes in economic assumptions since last year increase unified budget surpluses by $61 billion to $85 billion a year.

Structural vs. Cyclical Balance

When the economy is operating above potential, as it is currently estimated to be, receipts are higher than they would be if resources were less fully employed, and outlays for unemployment-sensitive programs (such as unemployment compensation and food stamps) are lower. As a result, the deficit is smaller or the surplus

Table 1–3. COMPARISON OF ECONOMIC ASSUMPTIONS IN THE 2000 AND 2001 BUDGETS

(Calendar years; dollar amounts in billions)

	1999	2000	2001	2002	2003	2004	2005
Nominal GDP:							
2000 Budget assumptions [1]	9,108	9,495	9,899	10,345	10,823	11,325	11,850
2001 Budget assumptions	9,232	9,685	10,156	10,621	11,105	11,644	12,236
Real GDP (percent change): [2]							
2000 Budget assumptions	2.1	2.1	2.1	2.5	2.5	2.5	2.5
2001 Budget assumptions	3.8	2.9	2.6	2.5	2.5	3.0	3.0
GDP price index (percent change): [2]							
2000 Budget assumptions	1.9	2.1	2.1	2.1	2.1	2.1	2.1
2001 Budget assumptions	1.4	1.9	2.0	2.0	2.0	2.0	2.0
Consumer Price Index (percent change): [2]							
2000 Budget assumptions	2.3	2.3	2.3	2.3	2.3	2.3	2.3
2001 Budget assumptions	2.7	2.3	2.5	2.6	2.6	2.6	2.6
Civilian unemployment rate (percent): [3]							
2000 Budget assumptions	4.8	5.0	5.2	5.3	5.3	5.3	5.3
2001 Budget assumptions	4.2	4.2	4.5	5.0	5.2	5.2	5.2
91-day Treasury bill rate (percent): [3]							
2000 Budget assumptions	4.2	4.3	4.3	4.4	4.4	4.4	4.4
2001 Budget assumptions	4.7	5.2	5.2	5.2	5.2	5.2	5.2
10-year Treasury note rate (percent): [3]							
2000 Budget assumptions	4.9	5.0	5.2	5.3	5.4	5.4	5.4
2001 Budget assumptions	5.6	6.1	6.1	6.1	6.1	6.1	6.1

[1] Adjusted for October 1999 NIPA revisions.

[2] Fourth quarter-to-fourth quarter.

[3] Calendar year average.

Table 1–4. EFFECTS ON THE BUDGET OF CHANGES IN ECONOMIC ASSUMPTIONS SINCE LAST YEAR

(In billions of dollars)

	2000	2001	2002	2003	2004	2005
Budget totals under 2000 Budget economic assumptions and 2001 Budget policies:						
Receipts	1,899.3	1,947.5	2,004.1	2,076.2	2,166.4	2,259.3
Outlays	1,793.6	1,835.7	1,893.1	1,960.3	2,041.3	2,128.8
Unified budget surplus	**105.7**	**111.8**	**111.0**	**116.0**	**125.1**	**130.5**
Changes due to economic assumptions:						
Receipts	57.0	71.5	77.1	71.3	69.7	81.6
Outlays:						
Inflation	–1.8	–0.9	0.3	2.0	3.7	5.8
Unemployment	–7.8	–7.7	–3.5	–0.7	–0.9	–1.1
Interest rates	6.9	12.2	13.2	12.5	11.5	9.9
Interest on changes in borrowing	–1.4	–4.4	–7.8	–11.2	–14.4	–17.9
Total, outlay changes (net)	**–4.1**	**–0.7**	**2.2**	**2.6**	**–0.2**	**–3.4**
Increase in surplus	**61.0**	**72.2**	**74.9**	**68.7**	**69.9**	**85.0**
Budget totals under 2001 Budget economic assumptions and policies:						
Receipts	1,956.3	2,019.0	2,081.2	2,147.5	2,236.1	2,340.9
Outlays	1,789.6	1,835.0	1,895.3	1,962.9	2,041.1	2,125.5
Unified budget surplus	**166.7**	**184.0**	**185.9**	**184.6**	**195.0**	**215.4**

Note: The surplus allocation for debt reduction is part of the President's overall budgetary framework to extend the solvency of Social Security and Medicare, and is shown in Tale S–1 in Part 6 of the 2001 *Budget.*

is larger than it would be if unemployment were at the long-run NAIRU. The portion of the surplus or deficit that can be traced to this factor is called the cyclical surplus or deficit. The remainder, the portion that would remain with unemployment at the long-run NAIRU (consistent with a 5.2 percent unemployment rate), is called the structural surplus or deficit.

Changes in the structural balance give a better picture of the impact of budget policy on the economy than do changes in the unadjusted budget balance. The level of the structural balance also gives a clearer picture of the stance of fiscal policy, because this part of the surplus or deficit will persist even when the economy achieves permanently sustainable operating levels.

In the early 1990s, large swings in net outlays for deposit insurance (savings and loan and bank bailouts) had substantial impacts on deficits, but had little concurrent impact on economic performance. It therefore became customary to remove deposit insurance outlays as well as the cyclical component of the surplus or deficit from the actual surplus or deficit to compute the adjusted structural balance. This is shown in Table 1–5.

For the period 1999 through 2002, the unemployment rate is slightly below the long-run NAIRU of 5.2 percent, resulting in cyclical surpluses. Thereafter, unemployment is projected to equal the NAIRU, so the cyclical component of the surplus vanishes. Deposit insurance net outlays are now relatively small and do not change greatly from year to year. Two significant points are illustrated by this table. First, of the $415 billion swing in the actual budget balance between 1992 and 1999 (from a $290 billion deficit to a $124 billion surplus), 44 percent ($181 billion) resulted from cyclical improvement in the economy. The rest of the reduction stemmed in major part from policy actions—mainly those in the Omnibus Budget Reconciliation Act of 1993, which reversed a projected continued steep rise in the unified budget deficit and set the stage for the remarkable cyclical improvement that has occurred. Second, the structural surplus is expected to rise sub-

Table 1–5. ADJUSTED STRUCTURAL BALANCE

(In billions of dollars)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Unadjusted deficit (–) or surplus	–290.4	–255.0	–203.1	–163.9	–107.4	–21.9	69.2	124.4	166.7	184.0	185.9	184.6	195.0	215.4
Cyclical component	–106.1	–106.1	–73.0	–30.9	–13.1	16.7	48.3	74.8	74.1	57.9	35.4	15.2	1.7	.....
Structural deficit (–) or surplus	–184.3	–148.9	–130.1	–133.0	–94.3	–38.6	21.0	49.6	92.6	126.1	150.5	169.5	193.3	215.4
Deposit insurance outlays	–2.3	–28.0	–7.6	–17.9	–8.4	–14.4	–4.4	–5.3	–1.4	–1.6	–1.3	–1.0	–0.7	0.2
Adjusted structural deficit (–) or surplus	–186.6	–176.9	–137.7	–150.9	–102.7	–53.0	16.6	44.3	91.2	124.5	149.2	168.5	192.5	215.7

stantially over the projection horizon—in part due to the effects of the Balanced Budget Act of 1997—even though the cyclical component of the surplus is projected to vanish by 2005.

Sensitivity of the Budget to Economic Assumptions

Both receipts and outlays are affected by changes in economic conditions. This sensitivity seriously complicates budget planning, because errors in economic assumptions lead to errors in the budget projections. It is therefore useful to examine the implications of alternative economic assumptions.

Many of the budgetary effects of changes in economic assumptions 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.

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 supply, 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 budget effects of the above rules of thumb are shown in Table 1–6.

If real GDP growth is lower by one percentage point in calendar year 2000 only, and the unemployment rate rises by one-half percentage point, the fiscal 2000 surplus would decrease by $10.5 billion; receipts in 2000 would be lower by about $8.5 billion, and outlays, primarily for unemployment-sensitive programs, would be higher by about $2.0 billion. In fiscal year 2001, the receipts shortfall would grow further to about $18.3 billion, and outlays would increase by about $6.8 billion relative to the base, even though the growth rate in calendar 2001 equals the rate originally assumed. This effect grows because the level of real (and nominal) GDP and taxable incomes would be permanently lower, and unemployment higher. The budget effects (including growing interest costs associated with higher deficits or smaller surpluses) would continue to grow slightly in later years.

The budget effects are much larger if the real growth rate is assumed to be one percentage point less in each year (2000–2005) and the unemployment rate to rise one-half percentage point in each year. With these assumptions, the levels of real and nominal GDP would be below the base case by a growing percentage. The budget balance would be worsened by $179.3 billion relative to the base case by 2005.

The effects of slower productivity growth are shown in a third example, where real growth is one percentage point lower per year while the unemployment rate is unchanged. In this case, the estimated budget effects mount steadily over the years, but more slowly, resulting in a $145.5 billion worsening of the budget balance by 2005.

Joint changes in interest rates and inflation have a smaller effect on the budget balance than equal percentage point changes in real GDP growth, because their effects on receipts and outlays are substantially offsetting. An example is the effect of a one percentage point higher rate of inflation and one percentage point higher interest rates during calendar year 2000 only. In subsequent years, the price level and nominal GDP would be one percent higher than in the base case, but interest rates are assumed to return to their base levels. Outlays for 2000 rise by $5.8 billion and receipts by $9.9 billion, for an increase of $4.1 billion in the 2000 surplus. In 2001, outlays would be above the base by $11.9 billion, due in part to lagged cost-of-living adjustments; receipts would rise $19.8 billion above the base, however, resulting in a $7.8 billion improvement in the budget balance. In subsequent years, the amounts added to receipts would continue to be larger than the additions to outlays.

If the rate of inflation and the level of interest rates are higher by one percentage point in all years, the price level and nominal GDP would 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 $50.4 billion to outlays and $117.3 billion to receipts in 2005, for a net increase in the surplus of $66.9 billion.

The table 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 because, when the unified budget is in surplus and some debt is being retired, the combined effects of two changes in assumptions affecting debt financing patterns and interest costs may differ from the sum of the separate effects, depending on assumptions about Treasury's selection of debt maturities to retire and the interest rates they bear. In any case, the sensitivity of the budget to interest rate changes has been greatly reduced since the budget shifted into unified surplus. The last entry in the table shows rules of thumb for the added interest cost associated with changes in the unified budget surplus.

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.

These rules of thumb are computed while holding the income share composition of GDP constant. Because different income components are subject to different taxes and tax rates, estimates of total receipts can be affected significantly by changing income shares. However, the relationships between changes in income shares and changes in growth, inflation, and interest rates are too complex to be reduced to simple rules.

Table 1–6. SENSITIVITY OF THE BUDGET TO ECONOMIC ASSUMPTIONS

(In billions of dollars)

Budget effect	2000	2001	2002	2003	2004	2005
Real Growth and Employment						
Budgetary effects of 1 percent lower real GDP growth:						
For calendar year 2000 only: [1]						
Receipts	–8.5	–18.3	–21.5	–22.4	–23.3	–24.3
Outlays	2.0	6.8	7.6	9.4	11.4	13.5
Decrease in surplus (–)	–10.5	–25.2	–29.1	–31.7	–34.6	–37.8
Sustained during 2000–2005: [1]						
Receipts	–8.5	–27.1	–49.5	–73.2	–98.7	–126.4
Outlays	2.0	8.9	16.7	26.4	38.5	52.9
Decrease in surplus (–)	–10.5	–36.0	–66.1	–99.7	–137.2	–179.3
Sustained during 2000–2005, with no change in unemployment:						
Receipts	–8.5	–27.1	–49.5	–73.2	–98.7	–126.4
Outlays	0.2	1.2	3.4	7.1	12.3	19.1
Decrease in surplus (–)	–8.7	–28.3	–52.9	–80.3	–110.9	–145.5
Inflation and Interest Rates						
Budgetary effects of 1 percentage point higher rate of:						
Inflation and interest rates during calendar year 2000 only:						
Receipts	9.9	19.8	19.2	17.6	18.3	19.3
Outlays	5.8	11.9	9.5	8.3	7.9	7.7
Increase in surplus (+)	4.1	7.8	9.8	9.3	10.4	11.6
Inflation and interest rates, sustained during 2000–2005:						
Receipts	9.9	30.2	50.9	70.8	92.7	117.3
Outlays	5.8	17.5	26.8	35.3	43.0	50.4
Increase in surplus (+)	4.1	12.7	24.0	35.5	49.6	66.9
Interest rates only, sustained during 2000–2005:						
Receipts	1.4	3.5	4.4	4.8	5.1	5.5
Outlays	4.7	12.0	15.1	16.5	16.9	16.6
Decrease in surplus (–)	–3.4	–8.5	–10.7	–11.7	–11.8	–11.1
Inflation only, sustained during 2000–2005:						
Receipts	8.5	26.7	46.5	66.0	87.6	111.8
Outlays	1.1	5.7	12.3	19.8	27.8	36.2
Increase in surplus (+)	7.4	21.0	34.2	46.2	59.8	75.6
Interest Cost of Higher Federal Borrowing						
Outlay effect of $100 billion reduction in the 2000 unified surplus	2.8	5.7	6.0	6.4	6.7	7.1

* $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.