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CONGRESSIONAL BUDGET OFFICE

AN

# The Economic and Budget Outlook

UPDATE



SEPTEMBER 1993



**THE ECONOMIC AND BUDGET OUTLOOK:  
AN UPDATE**

**A Report to the  
Senate and House  
Committees on the Budget**

**As Required by Public Law 93-344**

**The Congress of the United States  
Congressional Budget Office**

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## NOTES

Unless otherwise indicated, all years referred to in Chapter 1 and Appendix A are calendar years and all years in Chapter 2 are fiscal years.

The economic forecast performed for this report was completed too early to include either the advance estimate of second-quarter GDP released by the Bureau of Economic Analysis in late July or the effects of the regular annual revision to the national income and product accounts released by BEA in late August.

Some figures in this report indicate periods of recession using shaded vertical bars. The bars extend from the peak to the trough of the recession.

Unemployment rates throughout the report are calculated on the basis of the civilian labor force.

Numbers in the text and tables of this report may not add to totals because of rounding.

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# Preface

**T**his volume is one of a series of reports on the state of the economy and the budget that the Congressional Budget Office (CBO) issues each year. It satisfies the requirement of section 202(f) of the Congressional Budget Act of 1974 that CBO submit periodic reports to the Committees on the Budget with respect to fiscal policy. In accordance with CBO's mandate to provide objective and impartial analysis, the report contains no recommendations.

The analysis of the economic outlook presented in Chapter 1 was prepared by the Macroeconomic Analysis Division under the direction of Robert Dennis and John F. Peterson. Angelo Mascaro wrote the chapter. Robert Arnold carried out the economic forecast and projection. Robert Arnold, Laurie Brown, Victoria Farrell, Douglas Hamilton, Kim Kowalewski, Thomas Loo, Joyce Manchester, Frank Russek, Matthew Salomon, John Sturrock, and Christopher Williams provided comments and background analysis. Derek Briggs, Laurie Brown, Blake Mackey, Mark McMullen, and Michael Simpson provided research assistance.

The baseline outlay projections were prepared by the staff of the Budget Analysis Division under the supervision of C.G. Nuckols, Paul N. Van de Water, James Horney, Michael Miller, Charles Seagrave, and Robert Sunshine. The revenue estimates were prepared by the staff of the Tax Analysis Division under the supervision of Rosemary D. Marcuss and Richard A. Kasten. James Horney wrote Chapter 2, with contributions from Eric Toder, Richard A. Kasten, Kathy A. Ruffing, and Jeffrey Holland. Paul N. Van de Water wrote the summary of the report. Appendix A was written by Matthew Salomon.

An early version of the economic forecast underlying this report was discussed at a meeting of CBO's Panel of Economic Advisers. Members of this panel are Michael Boskin, Barry Bosworth, Robert Dederick, Martin Feldstein, Stanley Fischer, Benjamin Friedman, Lyle E. Gramley, Robert Hall, Lawrence Klein, Robert Lawrence, John Makin, Burton Malkiel, Rudolph Penner, William Poole, Paul Samuelson, Charles Schultze, Robert Solow, James Tobin, Murray Weidenbaum, and Janet Yellen. Ralph Bryant, Glenn Hubbard, Michael Mussa, and Martin B. Zimmerman attended as guests. Despite the considerable assistance afforded by these outside advisers, they are not responsible for any errors in the analyses in this document.

Paul L. Houts supervised the editing and production of the report. Major portions were edited by Sherry Snyder and Sherwood Kohn. Christian Spoor provided editorial assistance during production. The authors owe thanks to Dorothy Kornegay, Linda Lewis, and L. Rae Roy, who assisted in the preparation of the report. With the assistance of Martina Wojak-Piotrow, Kathryn Quattrone prepared the report for final publication.

Robert D. Reischauer  
Director

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# Summary

**I**n early August, the Congress passed and the President signed the Omnibus Budget Reconciliation Act of 1993--a major package of tax increases and spending reductions. Enactment of this legislation has significantly brightened the budgetary outlook for the next several years. The Congressional Budget Office (CBO) projects that the federal budget deficit will fall from an estimated \$266 billion in the current fiscal year to an average of \$200 billion in 1995 through 1998. But beyond this horizon the deficit threatens to rise again unless the President and the Congress take further corrective actions.

Reducing the deficit increases national saving and spurs economic growth in the long run, but it tends to dampen economic activity at first. The drop in long-term interest rates that has occurred this year, however, will offset some of the fiscal restraint from the reconciliation act. The 10-year Treasury note rate fell by roughly a full percentage point between December and August. To some extent this decline in rates stems from the prospect of lower deficits, but economic weakness abroad has also played a role. Whatever their cause, lower interest rates reduce the cost of borrowing, stimulate consumer spending on durable goods and business investment in plant and equipment, and will allow the economy to maintain its momentum during the remainder of 1993 and in 1994.

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## The Economic Outlook

In most major respects, the economic outlook has changed very little since last winter. The

economic expansion has become self-sustaining, although the pace of growth is below average for this stage of the business cycle.

## Forecast for 1993 and 1994

CBO forecasts that real gross domestic product (GDP) will grow at a rate of almost 3 percent in the second half of 1993 and in 1994. Although the economy grew at an average annual rate of only 1.2 percent in the first and second quarters of 1993, its growth was depressed by several transitory events, including unseasonable weather, changes in income tax refunds, and erratic defense spending. For 1993 as a whole, CBO projects that GDP will grow by 2.3 percent (see Summary Table 1).

The economy added an average of 170,000 new jobs each month during the first seven months of the year, and job creation is likely to keep on at a moderate pace. The unemployment rate will fall only slowly, however, as improving job prospects lure discouraged workers back into the labor market. Because the economy will be operating at less than its potential, inflation will remain at a modest annual rate of just over 3 percent.

Even though CBO's forecast implies that inflationary pressures are subdued, the Federal Reserve has indicated that it will eventually allow short-term interest rates to rise in order to hold inflation in check. In line with the Federal Reserve's policy, CBO forecasts that the three-month Treasury bill rate will rise from an average of 3.1 percent in 1993 to 3.6 percent in 1994. Long-term interest rates are expected to change little through 1994, however, and the yield curve--now unusually steep--will flatten somewhat.

CBO's forecasts of economic growth and unemployment for 1993 and 1994 are virtually the same as those of the *Blue Chip* consensus of private forecasters. But the consensus expects slightly higher inflation and correspondingly higher long-term interest rates in 1994.

## Projections for 1995 Through 1998

CBO does not attempt to forecast cyclical fluctuations in the economy more than two years into the future. Beyond 1994, the projections

**Summary Table 1.**  
**Short-Term Economic Forecasts for 1993 and 1994**

	1992	Forecast	
		1993	1994
<b>Fourth Quarter to Fourth Quarter (Percentage change)</b>			
<b>Nominal GDP</b>			
CBO summer	5.7	5.2	5.2
<i>Blue Chip</i>	5.7	5.1	5.9
CBO winter	5.1	5.4	5.4
<b>Real GDP</b>			
CBO summer	3.1	2.3	2.7
<i>Blue Chip</i>	3.1	2.2	2.7
CBO winter	2.7	2.8	3.0
<b>Consumer Price Index<sup>a</sup></b>			
CBO summer	3.1	3.4	3.1
<i>Blue Chip</i>	3.1	3.3	3.4
CBO winter	3.1	2.8	2.7
<b>Calendar Year Averages (Percent)</b>			
<b>Civilian Unemployment Rate</b>			
CBO summer	7.4	6.9	6.6
<i>Blue Chip</i>	7.4	6.9	6.6
CBO winter	7.4	7.1	6.6
<b>Three-Month Treasury Bill Rate</b>			
CBO summer	3.4	3.1	3.6
<i>Blue Chip</i>	3.4	3.1	3.6
CBO winter	3.5	3.1	3.7
<b>Ten-Year Treasury Note Rate</b>			
CBO summer	7.0	6.0	6.1
<i>Blue Chip<sup>b</sup></i>	7.0	6.1	6.3
CBO winter	7.0	6.7	6.6

SOURCES: Congressional Budget Office; Eggert Economic Enterprises, Inc., *Blue Chip Economic Indicators* (August 10, 1993).

NOTE: The CBO summer forecast does not incorporate either the advance estimate of second-quarter GDP released by the Bureau of Economic Analysis in late July or the effects of the regular annual revision to the national income and product accounts released by BEA in late August. The *Blue Chip* forecast is an average of about 50 private forecasts.

- a. The consumer price index for all urban consumers.
- b. *Blue Chip* does not project a 10-year note rate. The values shown here are based on the *Blue Chip* projection of the Aaa bond rate, adjusted by CBO to reflect the estimated spread between Aaa bonds and 10-year Treasury notes.

are based on trends in the fundamental factors that determine the potential growth of the economy, including growth in the labor force, productivity, and national saving.

CBO has raised its estimate of the economy's potential rate of growth to 2.1 percent a year, in part because of the enactment of the reconciliation bill. Some of the reduction in the deficit (CBO estimates 30 percent) will be offset by reduced private saving, but the rest will be available to increase domestic investment or reduce borrowing from abroad. In

either case, U.S. real incomes and living standards will rise more rapidly.

CBO assumes that between 1995 and 1998 the gap between actual and potential real GDP will gradually shrink to its historical average of 0.6 percent. As a result, CBO projects that real GDP will grow at an average annual rate of 2.6 percent over the 1995-1998 period and that unemployment will fall to 5.7 percent (see Summary Table 2). Because GDP remains below its potential, no increase in inflation is projected.

**Summary Table 2.**  
**CBO's Medium-Term Economic Projections (By calendar year)**

	1992	1993	1994	1995	1996	1997	1998
<b>Nominal GDP</b> (Billions of dollars)							
CBO summer	5,951	6,267	6,605	6,951	7,317	7,696	8,078
CBO winter	5,943	6,255	6,594	6,942	7,288	7,627	7,953
<b>Real GDP (Billions of 1987 dollars)</b>							
CBO summer	4,923	5,051	5,190	5,330	5,476	5,620	5,755
CBO winter	4,918	5,054	5,204	5,354	5,497	5,628	5,740
<b>Real GDP (Percentage change)</b>							
CBO summer	2.1	2.6	2.7	2.7	2.7	2.6	2.4
CBO winter	2.0	2.8	3.0	2.9	2.7	2.4	2.0
<b>CPI-U (Percentage change)</b>							
CBO summer	3.0	3.3	3.2	3.0	3.0	3.0	3.0
CBO winter	3.1	3.0	2.7	2.7	2.7	2.7	2.7
<b>Unemployment Rate (Percent)</b>							
CBO summer	7.4	6.9	6.6	6.3	6.0	5.8	5.7
CBO winter	7.4	7.1	6.6	6.2	6.0	5.8	5.7
<b>Three-Month Treasury Bill Rate (Percent)</b>							
CBO summer	3.4	3.1	3.6	4.1	4.5	4.6	4.6
CBO winter	3.5	3.1	3.7	4.4	4.7	4.8	4.9
<b>Ten-Year Treasury Note Rate (Percent)</b>							
CBO summer	7.0	6.0	6.1	6.1	6.1	6.1	6.1
CBO winter	7.0	6.7	6.6	6.6	6.5	6.5	6.4

SOURCE: Congressional Budget Office.

NOTES: The CBO summer forecast does not incorporate either the advance estimate of second-quarter GDP released by the Bureau of Economic Analysis in late July or the effects of the regular annual revision to the national income and product accounts released by BEA in late August.

CPI-U is the consumer price index for all urban consumers.

The projections also assume that the interest rate on 10-year notes will remain steady at 6.1 percent from 1995 through 1998. Adjusted for inflation, this rate is lower than CBO projected last winter because deficit reduction is expected to ease pressures on capital markets. The three-month bill rate is assumed to rise gradually to 4.6 percent, bringing the spread between long-term and short-term rates into line with its historical average.

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## The Budget Outlook

The Omnibus Budget Reconciliation Act of 1993 has made a substantial dent in the annual budget deficits and in the accumulation of federal debt. Last winter, CBO projected that the deficit would grow from \$290 billion to \$360 billion over the 1992-1998 period, and that debt held by the public would swell from 51 percent to 62 percent of GDP. Now, the deficit is projected to fall to \$200 billion over those years, and the debt is expected to reach only 55 percent of GDP.

But two threats cloud the budget outlook. First, experience teaches that budget projections can go quickly awry. Shortly after the 1990 budget agreement was enacted into law, CBO projected that the deficit would virtually disappear by 1995. But in actuality, slower-than-expected economic growth, unanticipated increases in Medicare and Medicaid spending, and other factors beyond the direct control of the President and the Congress swelled the deficit and necessitated another round of deficit reduction. Second, even if they hold up, the new projections suggest that rising health care costs will cause the deficit to grow again after 1998. By 2003, if current policies are maintained, the deficit would reach \$359 billion.

### The Outlook for the Deficit

The deficit record of \$290 billion, set in 1992, is not likely to be broken soon. CBO estimates that the deficit will fall to \$266 billion in the

current fiscal year, \$253 billion in 1994, and about \$200 billion a year in the 1995-1998 period (see Summary Table 3). In relation to the size of the economy, the deficit will shrink from 4.9 percent of GDP in 1992 to 2.5 percent of GDP in 1998.

These baseline budget projections incorporate the provisions of the recent reconciliation legislation but assume no further changes in laws and policies affecting tax revenues and mandatory spending. They assume that discretionary spending (that is, spending controlled by annual appropriations) will be held to the limits set by law. The Budget Enforcement Act of 1990 capped discretionary budget authority and outlays through fiscal year 1995, and the Omnibus Budget Reconciliation Act of 1993 extended the caps through 1998. Under these caps, nominal discretionary outlays in 1998 would be no higher than in 1993; in real terms, discretionary outlays would be cut by 14 percent over this period.

Although the budgetary situation is more favorable than it has been for some time, the raw deficit figures exaggerate the improvement in the stance of fiscal policy, because much of the projected reduction in the deficit comes from the cyclical expansion of the economy. When the economy is operating at less than its potential, tax collections shrink, and outlays for unemployment insurance and other benefits grow. As the economy expands, however, this cyclical component of the deficit contracts.

The standardized-employment deficit removes the cyclical deficit from the budget totals and is the best measure of the budget's effect on the economy. It also excludes net federal outlays for deposit insurance, which are highly volatile and do not affect spending by businesses or consumers. The standardized-employment deficit is expected to fall from \$200 billion (3.2 percent of potential GDP) in 1992 to \$154 billion (2.2 percent of potential GDP) in 1995. From 1995 to 1998, however, the standardized-employment deficit grows at about the same rate as the economy's potential output.

The figures on the federal debt paint a more encouraging picture. Since 1981, debt held by the public has quadrupled in dollar terms and has grown from 26 percent to 52 percent of GDP. In sharp contrast, the debt is now projected to grow only to 54 percent of GDP in 1994, 55 percent in 1998, and 59 percent in 2003. Although the reconciliation act has significantly slowed the accumulation of debt, it has fallen short of stabilizing the debt-to-GDP ratio, which many economists view as a minimal requirement for a sustainable fiscal policy.

### Changes in the Projections

For the first time in two and one-half years, the deficit projections have taken a decided turn for the better. Last March, in its analysis

of the President's budgetary proposals, CBO estimated that the deficit would total \$302 billion in fiscal year 1993 and would reach \$360 billion by 1998. Now, CBO projects a deficit of \$266 billion in 1993 and \$200 billion in 1998. The reconciliation act deserves most of the credit for the improvement over the long run, but changes in the economic outlook and in technical estimating assumptions also make a small contribution. The lower deficit for 1993 results primarily from the continued failure to provide additional resources for resolving insolvent savings and loan institutions, a modest slowdown in the growth of spending for Medicare and Medicaid, and unexpected strength in revenues.

Changes in law since March have added \$4 billion to the deficit in 1993 but have reduced

**Summary Table 3.**  
**CBO's Projections of the Federal Deficit and Debt (By fiscal year)**

	1992	1993	1994	1995	1996	1997	1998
<b>In Billions of Dollars</b>							
Total Deficit	290	266	253	196	190	198	200
Cyclical Deficit	93	81	65	52	40	27	18
Deposit Insurance Spending	3	-26	14	-10	-10	-8	-4
Standardized-Employment Deficit <sup>a</sup>	200	211	175	154	160	180	186
Debt Held by the Public	2,999	3,249	3,507	3,713	3,919	4,137	4,357
<b>As a Percentage of GDP</b>							
Total Deficit	4.9	4.3	3.9	2.9	2.6	2.6	2.5
Standardized-Employment Deficit <sup>a,b</sup>	3.2	3.3	2.6	2.2	2.2	2.3	2.3
Debt Held by the Public	51.1	52.5	53.8	54.1	54.3	54.4	54.6
<b>Memorandum:</b>							
Gross Domestic Product	5,869	6,189	6,522	6,862	7,224	7,601	7,984

SOURCE: Congressional Budget Office.

NOTE: The projections include Social Security and the Postal Service, which are off-budget.

a. Excludes the cyclical deficit, spending for deposit insurance, and (in 1992) contributions for Operation Desert Storm

b. Shown as a percentage of potential gross domestic product.

**Summary Table 4.**  
**Changes in CBO's Deficit Projections (By fiscal year, in billions of dollars)**

	1993	1994	1995	1996	1997	1998
Winter Baseline Deficit	302	287	284	290	322	360
Changes						
Legislative changes	4	-26	-54	-82	-117	-143
Economic assumptions	a	-5	-3	1	-2	-11
Technical reestimates						
Deposit insurance	-18	10	-18	-9	6	6
Other	-21	-13	-14	-10	-11	-12
Subtotal	-39	-2	-31	-19	-5	-6
Total	-36	-33	-88	-100	-124	-160
Summer Baseline Deficit	266	253	196	190	198	200

SOURCE: Congressional Budget Office.

NOTE: The projections include Social Security and the Postal Service, which are off-budget.

a. Less than \$500 million.

it by \$26 billion in 1994 and \$143 billion in 1998 (see Summary Table 4). The reductions stem entirely from the Omnibus Budget Reconciliation Act of 1993, which increased taxes, pared entitlement spending, and extended the limits on discretionary spending through 1998. Two pieces of emergency legislation--the Emergency Unemployment Compensation Amendments of 1993 and the Emergency Supplemental Appropriation for Midwest Flood Relief--add slightly to outlays and the deficit.

The revisions to CBO's economic assumptions, described above, also reduce the projected deficits in most years. By 1998, the reduction reaches \$11 billion, thanks mostly to lower long-term interest rates.

Other changes in estimating assumptions, termed technical reestimates, lower the projected deficits by amounts ranging from \$2 billion in 1994 to \$39 billion in 1993. Revised estimates of deposit insurance spending account for the jagged pattern of these changes. In addition, CBO has slightly increased its estimate of tax revenues in all years and has shaved its

projections of spending for Medicare and Medicaid.

## Conclusion

The 1993 reconciliation act has temporarily subdued the deficit, but further steps must eventually be taken. This year's bill, like 1990's effort, relied heavily on increasing taxes on upper-income individuals, curtailing payments to physicians and hospitals, and freezing discretionary spending. Achieving further savings in these areas will be more difficult, however, and the next round of deficit reduction is therefore likely to prove even more painful than the last. The budgetary dilemma will be made still more acute by the Administration's desire to increase access to health insurance and health care, reform the welfare system, and address such domestic needs as crime control, education, and job training--all without imposing major tax increases.



# The Economic Outlook

**T**he pickup in economic activity, which has been under way since the spring of 1991, will continue, according to the economic forecast of the Congressional Budget Office (CBO). On a fourth-quarter-to-fourth-quarter basis, real growth will average about 2.5 percent in 1993 and 1994, somewhat slower than last year's 3.1 percent growth but faster than the potential of the economy to expand in the long run. Inflation will average about 3.2 percent for 1993 and 1994, negligibly higher than the 3.1 percent rate of 1992. The unemployment rate is likely to fall only slowly.

Although growth and inflation have been erratic in the last few quarters, recent developments suggest that the economy has moved beyond an important transition point. In particular, the growth in employment, which was extremely weak for almost two years after the recession's official end in March 1991, has finally posted some respectable gains. The economy now appears to be headed for a broader phase of expansion during which consumption and investment in business equipment will sustain growth.

Although this transition marks the consolidation of the expansion, it does not portend any quickening of growth: major uncertainties about the outlook stubbornly remain. Notable downside risks include the degree to which slow growth overseas will weaken U.S. exports, how much consumer spending will fall in response to the tax increase enacted as part of the 1993 deficit reduction package, and how further corporate restructuring will affect jobs. Conversely, the recent gains in employment, lower interest rates, and the strong

competitive position of many U.S. companies may spark faster growth.

Tighter fiscal policy and somewhat worse prospects for growth abroad have reshaped CBO's outlook since its January report. Actions by the federal government to reduce the deficit will restrain growth somewhat for the balance of 1993 and through 1994. The slowdowns in the Japanese and European economies will also hold down growth of output in the United States through 1994.

Eventually, however, the fiscal policy of the federal government will promote a higher potential growth rate for the economy. Federal deficits and borrowing will be lower than previously projected, precipitating a boost in national saving. In turn, more saving will increase levels of private domestic investment, labor productivity, and incomes.

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## CBO's Economic Forecast for 1993 Through 1994

CBO forecasts that real gross domestic product (GDP) will grow at a rate of about 3 percent in the last half of 1993. However, because of the disappointing growth already recorded in the first half, growth will average only 2.3 percent over the four quarters of 1993, and 2.7 percent over the four quarters of 1994 (see Table 1-1 and Figure 1-1). The forecast for growth for 1994 is slightly lower than the rate of 3 percent that was forecast last winter,

**Table 1-1.**  
**The CBO Forecast for 1993 and 1994**

	1992 <sup>a</sup>	Forecast	
		1993	1994
<b>Fourth Quarter to Fourth Quarter (Percentage change)</b>			
Nominal GDP			
CBO summer	5.7	5.2	5.2
CBO winter	5.1	5.4	5.4
Real GDP <sup>b</sup>			
CBO summer	3.1	2.3	2.7
CBO winter	2.7	2.8	3.0
Implicit GDP Deflator			
CBO summer	2.5	2.8	2.5
CBO winter	2.4	2.5	2.4
Consumer Price Index <sup>c</sup>			
CBO summer	3.1	3.4	3.1
CBO winter	3.1	2.8	2.7
<b>Calendar Year Averages (Percent)</b>			
Real GDP <sup>b</sup>			
CBO summer	2.1	2.6	2.7
CBO winter	2.0	2.8	3.0
Civilian Unemployment Rate			
CBO summer	7.4	6.9	6.6
CBO winter	7.4	7.1	6.6
Three-Month Treasury Bill Rate			
CBO summer	3.4	3.1	3.6
CBO winter	3.5	3.1	3.7
Ten-Year Treasury Note Rate			
CBO summer	7.0	6.0	6.1
CBO winter	7.0	6.7	6.6

SOURCES: Congressional Budget Office; Department of Commerce, Bureau of Economic Analysis; Department of Labor, Bureau of Labor Statistics; Federal Reserve Board.

NOTE: The data in the table do not incorporate either the advance estimate of second-quarter GDP released by the Bureau of Economic Analysis in late July or the effects of the regular annual revision to the national income and product accounts released by BEA in late August.

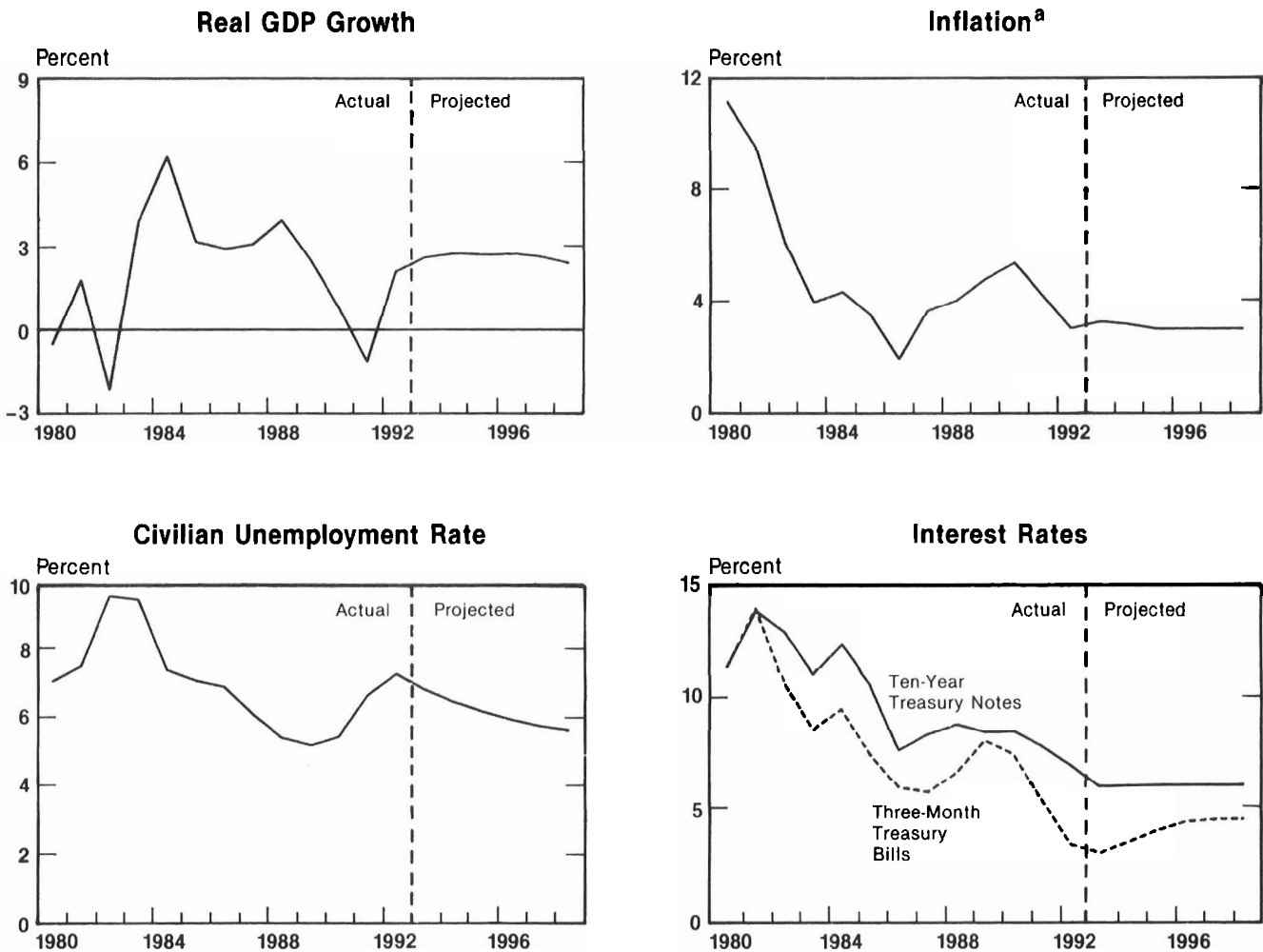
- a. The data for 1992 are actual values for the summer forecast but are estimates for the winter forecast.
- b. Based on constant 1987 dollars.
- c. The consumer price index for all urban consumers (CPI-U).

primarily because both the effort to control the deficit and the lower-than-expected growth abroad are likely to restrain the economy. That restraint is partially offset, however, by long-term interest rates that have already dipped lower than forecast last winter.

The rate of unemployment will fall only gradually, from an average of 6.9 percent in 1993 to 6.6 percent in 1994, the same rate for

1994 that CBO forecast last winter. With the gap between potential and actual GDP still significant during 1994, inflation will ease slightly from 3.4 percent in 1993 to 3.1 percent in 1994, as measured by the fourth-quarter-to-fourth-quarter percentage change in the consumer price index for all urban consumers (CPI-U). This forecast for inflation is slightly higher than last winter's forecast.

**Figure 1-1.**  
The Economic Forecast and Projection



SOURCES: Congressional Budget Office; Department of Commerce, Bureau of Economic Analysis; Federal Reserve Board.

NOTE: All data are annual values; growth rates are year over year.

a. Consumer price index for all urban consumers (CPI-U). The treatment of home ownership in the official CPI-U changes in 1983. The inflation series in the figure uses a consistent definition throughout.

Short-term rates of interest (represented by the rate on three-month Treasury bills) are forecast to rise from an average of 3.1 percent in 1993 to 3.6 percent in 1994, virtually the same as CBO forecast last winter. CBO's forecast for long-term interest rates, by contrast, is significantly below last winter's. Long-term interest rates (measured by the rate on 10-year Treasury notes) are expected to hover relatively close to current levels, averaging 6 percent in 1993 and 6.1 percent in 1994. Continued moderate inflation will help to reduce the inflation premium in long-term rates and keep them from rising. Together, the forecasts for interest rates narrow the unusually large spread between long-term and short-term interest rates that has characterized the last two to three years.

Business and consumer spending are expected to propel real GDP from mid-1993 through 1994. Long-term interest rates are considerably lower than last year, corporate cash flow is healthy, and businesses are still striving to meet competition from abroad. These factors should sustain the strong growth of expenditures on durable equipment in the business sector. Although spending on structures by businesses is not expected to contribute to growth this year, the two-and-one-half-year decline in such spending may end later this year or early next year, followed by modest growth. Lower long-term rates, which have helped to make houses more affordable, will sustain the growth of residential construction throughout the forecast period. Consumer spending, including spending on durable goods, should benefit from the recent decline in long-term rates. In addition, gradually improving conditions in the labor market should support growth in consumer spending.

In contrast to these sources of strength, spending by government and net export sales will impair growth. The federal government has embarked on a major new effort to bring the deficit under control, state and local governments still face tight budgets, and the outlook for growth abroad has weakened far more than was foreseen.

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## What Current Trends Indicate

During the first half of the year, economic growth slowed sharply from the 4 percent growth of the last half of 1992 to about 1 percent. Although a number of signs are worrisome--most notably, the continued large layoffs announced by major corporations--the slow growth appears to be temporary. Some of the slowdown of the first half stemmed from clearly temporary events, and indications are that growth will pick up in the second half of this year. Gains in employment have firmed up, which along with expanded production of motor vehicles is expected to boost the economy during the second half of 1993.

Although some measures of inflation jumped in the first four months of this year, the underlying rate of inflation barely moved at all. Temporary factors spurred the jump, and inflation subsided by midyear. In contrast, the underlying rate of inflation remained steady at just under 3½ percent in the first seven months of 1993, about the same rate as 1992.

## Temporary Factors and the Recent Pattern of Growth

Three temporary factors accounted for about half of the reduction in growth between the last half of 1992 and the first half of 1993.

- o Even before the recent flood and heat wave, unseasonable weather was affecting the quarterly pattern of real growth. Mild weather in the last months of 1992, followed by harsh weather early this year, boosted construction in the fourth quarter of last year and dampened it in the first quarter of this year. The flooding and the heat wave are also expected to have temporary effects on measures of growth during the last half of 1993, but the net effects are expected to be small.

- o Real outlays for defense declined sharply in the first quarter of 1993 and remained low in the second quarter.
- o The change in tax withholding that the Bush Administration made effective early in 1992 boosted disposable income and consumption in the second half of 1992 at the expense of early 1993. The revised withholding schedules gave consumers more money to spend. However, that apparent boon resulted in smaller refunds or larger tax bills than usual, restraining consumer spending in the first half of this year.

These three factors probably stimulated growth in the last half of 1992 by about three-fourths of a percentage point and dampened growth in the first half of this year by a similar amount. When one corrects for these transitory events, underlying growth was about 3¼ percent in the last half of last year, and about 1¾ percent in the first half of this year--still a slowdown, but much less severe than the unadjusted growth rates indicated.

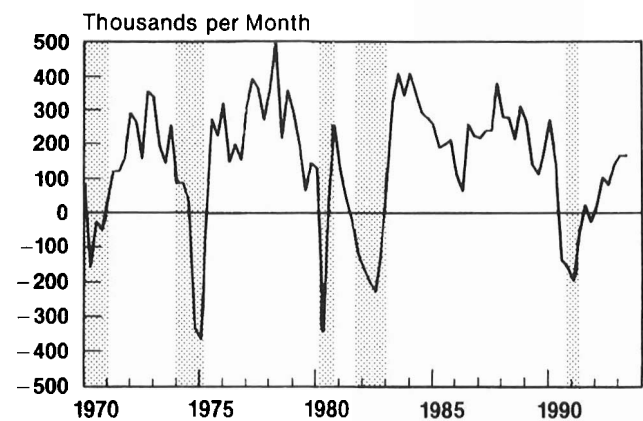
## Developments in Labor Markets

Recent gains in employment indicate that the growth of output will pick up during the second half of 1993. The gains during the first six months of this year, a clear improvement over the previous two years, support the view that the economy has achieved a self-sustaining expansion. Such a sustained growth in employment and, correspondingly, in real wages and salaries is needed to support consumption.

The growth in productivity and the rise in hours worked per employee almost certainly accounted for the growth of output during the first two years of the recovery. Only after the recovery had lasted a year did the number of jobs increase at all. As a result of slow growth in employment, the recovery was labeled a "jobless recovery," and many policymakers feared the fledgling expansion would not reach its critical self-sustaining stage.

By contrast, the employment picture improved substantially this year. The number of people employed surpassed the prerecession peak, and growth in employment averaged just under 170,000 jobs per month during the first seven months of the year (see Figure 1-2). Payroll employment climbed at an average annual rate of 1.9 percent in the first seven months of 1993, significantly faster than its 0.9 percent advance in 1992. Excluding some extraordinary bonus payments around the turn of the year, real wage and salary income (which accounts for almost 60 percent of total personal income) has increased correspondingly.

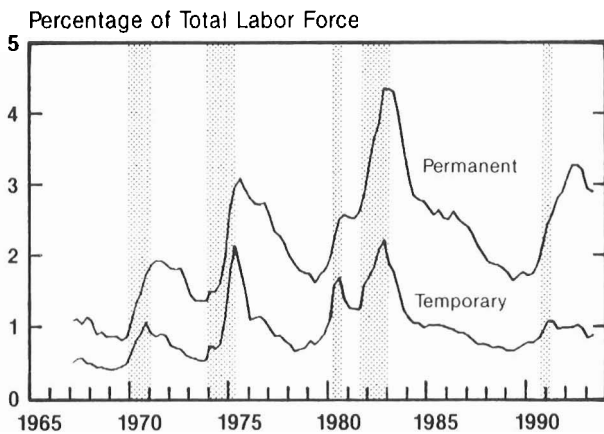
**Figure 1-2.**  
Change in Employment



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

Nevertheless, some worries about the labor market persist. Although permanent job losses have dropped below their 1992 peak, they remain high, and some prominent firms continue to announce new layoffs (see Figure 1-3). These job losses undoubtedly reflect long-term adjustments of the economy that continue to restrain the growth of output. The defense-related industry is the single largest sector that is being forced to contract, with the bulk of the decline yet to come. Studies have estimated that defense-related jobs fell by be-

**Figure 1-3.**  
**Permanent and Temporary Job Losses**



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

NOTE: Temporary job losses are those currently unemployed and classified as layoffs; permanent are all other job losses.

tween 0.9 million and 1.1 million over the 1987-1992 period, and they are projected to shrink by between 1.4 million and 1.9 million over the 1993-1997 period.<sup>1</sup> The restructuring process has also been only partly completed in many of the other sectors that have been in turmoil recently. Firms producing consumer products, computers, and other goods and services have continued to announce reductions in work force, reflecting in part an effort by businesses to reduce tiers of middle managers.

The decline in the unemployment rate will be slow. The rate of participation in the labor force--the percentage of the working-age population wanting to work--is likely to rise, and this growth will dampen the decline in the unemployment rate. The participation rate has varied more in recent years than usual. Although the reasons are not clear, participation in the labor force seems to be more closely re-

lated to job availability than in the past. It peaked in the fourth quarter of 1989 at 66.7 percent and fell in the recession to under 66 percent during 1991. The drop in participation dampened the increase in the unemployment rate during the recession; conversely, a pickup in participation to 66.4 percent by mid-1992 contributed to a rise in the unemployment rate after the recession. Should this pattern continue, the unemployment rate will decline only slowly.

## Other Indications of a Pickup in Growth

The gain in employment and hours worked during the first half of 1993 is probably the most important indication that growth is apt to be stronger in the second half, but other indicators also bode well. The low ratio of inventory to sales--by midyear, equal to about one-half of a month of inventory in manufacturing and trade--means that if the recent solid growth in sales continues it will stimulate production of goods in the second half of 1993. One major sector that could boost output in the second half is the motor vehicle industry. Vehicle assemblies are scheduled to be about 18 percent higher in the third quarter of this year than last, and the strength of motor vehicle sales during the first half of this year indicates that those schedules will be met.

Residential construction should rebound from its weak performance during the first half of the year. After advancing at a rapid 11.9 percent rate in the last half of 1992, residential construction slipped 4.2 percent over the first six months of this year, with weather accounting for some of this decline. Over the past year, however, homes have become more affordable. For example, an index measuring the affordability of housing has risen 11 percent over the past four quarters as a result of lower mortgage rates, improved incomes, and modest changes in housing prices. Given the affordability of houses, the improvement in employment, and the recent uptick in house sales, residential construction will probably be stronger during the second half.

1. Congressional Budget Office, "Effects of Alternative Defense Budgets on Employment," CBO Paper (April 1993); and Norman C. Saunders, "Employment Effects of the Rise and Fall in Defense Spending," *Monthly Labor Review*, vol. 116, no.4 (April 1993), pp. 3-10.

## The Underlying Rate of Inflation

As with real growth, temporary factors affected the quarterly pattern of inflation. Between the third quarter of 1992 and the first quarter of this year, consumer price inflation leaped from 2.7 percent to 3.8 percent, only to ease dramatically to 2.9 percent in the second quarter of this year. The low rates during the summer of last year were partially the result of extraordinary events, such as weak food prices and discounts on airline fares.

The inflation spike in the first quarter of this year also stemmed from unusual movements in particular prices rather than from incipient inflationary pressures. Prices in two of the major categories of the consumer price index--apparel and transportation--grew rapidly in the first quarter, but these increases were clearly temporary. Prices for apparel increased at about a 6 percent annual rate, whereas the average growth over the previous year had been 1.5 percent. This price spike resulted from the introduction by retailers of new, higher-priced spring clothing earlier than usual this year. Transportation prices were also temporarily boosted by increases in gasoline prices and public transportation (airline, bus, and railroad) fares.

Similarly, transitory factors prompted the drop to 2.9 percent inflation during the second quarter. The price cut on premium cigarettes, another round of summer airfare reductions, and lower gasoline prices depressed inflation during the second quarter, but some of those price cuts may be reversed in the fall. CBO estimates that the rate of inflation for recent months is about 3½ percent if temporary factors are excluded.

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## Fiscal Policy Reshapes the Outlook

Significant changes in fiscal policy since CBO's January forecast and the fall in long-

term interest rates near the beginning of the year have reshaped the economic forecast. Although on balance these events will slightly reduce the overall growth of the economy during the 1993-1994 period, the components of final demand will shift significantly from consumption of private-sector nondurable goods to private-sector investment and durable goods. The increase in the investment share of GDP will in turn set the stage for a higher level of potential GDP in the long run.

Under the Omnibus Budget Reconciliation Act of 1993 (OBRA-93), CBO estimates that the deficit excluding deposit insurance will decline from \$292 billion in 1993 to \$240 billion in 1994 and \$206 billion in 1995. After that it remains fairly stable through 1998. Without OBRA-93, the deficit (excluding deposit insurance) would not have declined as much in 1994 and 1995 and would have soared to a record \$347 billion by 1998.

## Decline in Long-Term Interest Rates Will Buoy Private Demand

The new Administration's announced intention to reduce the deficit early in the year coincided with a significant decline in long-term interest rates. The announcement itself probably played some role in the decline, but other factors may have also contributed.

Lower deficits reduce interest rates by weakening the economy and reducing the federal government's demand for credit. The drop in rates early this year was unusually large, however. Long-term interest rates dropped by about 0.6 percentage points in the first three months of 1993 and have fallen further since then. Although a quick response to the announced program was always a possibility, few economists expected so rapid and steep a drop in rates.

In addition to the President's program, foreign events have worked to lower interest rates. Certainly, an important factor was the troubling news about the economies of Europe and Japan. Because world capital markets are

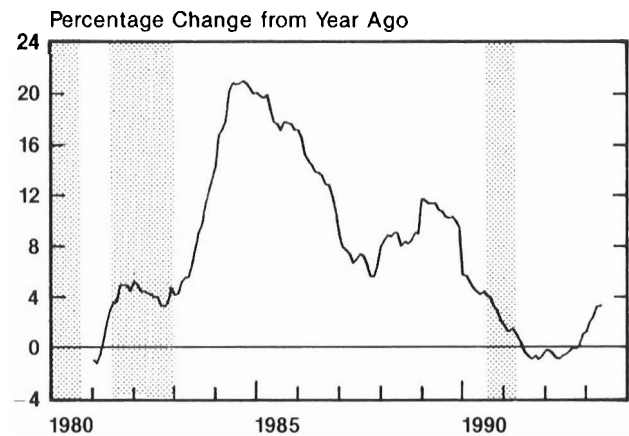
tightly linked, the weakness in those economies probably also contributed to lower U.S. interest rates.

Another factor is a possible market reassessment of future nonfederal demands for capital. For some time, economists have thought that long-term rates were high, given the weakness in the economy and the outlook for inflation. The spread between long- and short-term interest rates was extraordinarily wide during 1992, and long-term interest rates also appeared to be high when adjusted for inflation. Many analysts attributed the high rates in part to fears of a worldwide shortage of capital during the 1990s. The drop in rates this year may be partially related to a delayed reassessment of future demand and supply of capital.

Whatever its cause, the decline in long-term rates improves the outlook for private spending financed with credit. Lower interest rates reduce the cost of borrowing and thereby stimulate private spending. The decline in long-term interest rates in 1993, by itself, makes capital spending by business more attractive. Consumers may spend more on durable goods, such as automobiles and major appliances, and on housing (new homes and repairs and alterations of existing homes). Resumed growth in consumer installment debt suggests that consumers have begun to respond to lower borrowing costs. Consumer installment debt climbed 3.8 percent in June from one year earlier, compared with about 1 percent at the end of 1992 and year-over-year declines stretching from the middle of 1991 to late 1992 (see Figure 1-4).

Besides affecting spending on investment and durable goods, lower interest rates reduce the existing debt burdens of many borrowers. But the refinancing of existing consumer and business debt may not have a large net effect on the economy. Although the millions of people who have refinanced more than \$300 billion of their existing home mortgages over the past year now have some extra dollars to

**Figure 1-4.**  
Consumer Installment Debt



SOURCES: Congressional Budget Office; Federal Reserve Board.

spend on goods and services, by contrast people who rely on the interest earnings from their savings now have less money to spend. Unless borrowers and savers spend these marginal changes in their income differently, the decreased consumption by savers could offset the increased consumption by borrowers.

Low interest rates also help U.S. businesses by reducing the exchange rate of the U.S. dollar below what it otherwise would be, thus making U.S. goods and services cheaper relative to foreign-produced goods and services. Under most circumstances, the resulting improvement in net exports would be a major benefit of controlling the deficit. Because other factors dominate the outlook for net exports, however, this advantage will barely be noticeable over the next few years. The most important factor is the relative rates of growth between the United States and its trading partners. Even though growth is sluggish in the United States, it is still better than other large countries are likely to experience. This difference in respective growth rates implies some worsening of net exports.



**Table 1-2.**  
**The Fiscal Policy Outlook (By fiscal year, on a budget basis)**

	1992	1993	1994	1995	1996	1997	1998
<b>In Billions of Dollars</b>							
Deficit Excluding Deposit Insurance <sup>a</sup>	293	292	240	206	200	206	204
Standardized-employment deficit	200	211	175	154	160	180	186
Cyclical deficit	93	81	65	52	40	27	18
<i>Effects of OBRA-93<sup>b</sup></i>	0	0	-33	-55	-83	-118	-143
<b>Memorandum:</b>							
Deposit Insurance	3	-26	14	-10	-10	-8	-4
Desert Storm Contributions	-5	0	0	0	0	0	0
<b>As a Percentage of Potential GDP</b>							
Deficit Excluding Deposit Insurance <sup>a</sup>	4.8	4.6	3.6	2.9	2.7	2.7	2.5
Standardized-employment deficit	3.2	3.3	2.6	2.2	2.2	2.3	2.3
Cyclical deficit	1.5	1.3	1.0	0.7	0.5	0.4	0.2
<i>Effects of OBRA-93<sup>b</sup></i>	0	0	-0.5	-0.8	-1.1	-1.5	-1.8

SOURCE: Congressional Budget Office.

a. The 1992 measure also excludes allied contributions for Operation Desert Storm.

b. The effects of OBRA-93 are included in the standardized-employment deficit reported in this table.

## Deficit Reduction Will Dampen Growth in 1994

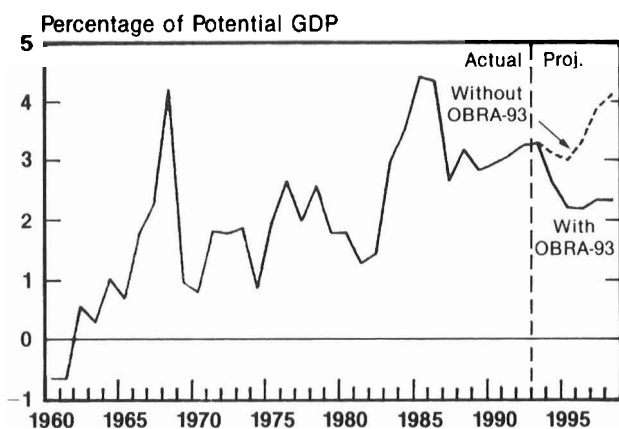
In the short run, the fiscal restraint slated for next year will tend to depress growth despite the drop in long-term interest rates. Deficit reduction, however, will ultimately lead to a higher level of GDP than what otherwise would have occurred. Smaller deficits will raise the national saving rate, permit more investment, and in the long run result in a higher level of output. But over the next three to five years, OBRA-93 may lower the average growth of output by about one-fourth of a percentage point, assuming that the Federal Reserve offsets some of the fiscal restraint.<sup>2</sup>

2. CBO has not prepared a forecast that excludes the effects of OBRA-93. This estimate relies on previous analysis in CBO's *The Economic and Budget Outlook: Fiscal Years 1994-1998* (January 1993) and "An Analysis of the President's February Budgetary Proposals," CBO Paper (March 1993).

CBO measures the policy-related stimulus or restraint that the budget provides the economy by year-to-year changes in the standardized-employment deficit relative to potential GDP (the highest rate of output that available resources of capital and labor could sustain without increasing the rate of inflation). This measure differs from changes in the actual deficit by removing the outlays for deposit insurance and the cyclical effects of the economy on the budget.

After changing little from 1992 to 1993, the standardized-employment deficit is expected to decline substantially--by 0.7 percent of potential GDP--from 1993 to 1994, of which OBRA-93 accounts for 0.5 percentage points (see Table 1-2 and Figure 1-5). This pattern of fiscal impact, however, may overstate the restraint in 1994 and understate it in 1993. Most of the restraint in 1994 comes from the recently enacted tax increase on the wealthy, and some of these taxpayers may pay their higher taxes by reducing their saving rather

**Figure 1-5.**  
**Effect of OBRA-93 on the Standardized-**  
**Employment Deficit (By fiscal year)**



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

NOTE: OBRA-93 = Omnibus Budget Reconciliation Act of 1993.

than their consumption. Such behavior would soften the impact of fiscal restraint in 1994. At the same time, those who choose to pay their additional taxes by reducing their consumption may already have begun to do so, effectively shifting some fiscal restraint into 1993. A cutback in consumption may take place despite provisions that allow taxpayers to spread the payment of their increased 1993 tax liability over the next three years.

Fiscal policy will continue to restrain the economy in 1995, when the standardized-employment deficit declines by another 0.4 percent of potential GDP. During the 1996-1998 period, however, the overall stance of fiscal policy is essentially neutral, as the accumulation of spending reductions in OBRA-93 helps to keep the standardized-employment deficit from rising much relative to potential GDP. Without OBRA-93, the standardized-employment deficit would climb to 4.1 percent of potential GDP by 1998.

Enacting OBRA-93 should slow the growth of federal debt during the projection period.

CBO now projects that the debt-to-GDP ratio will increase from 51 percent in 1992 to 55 percent in 1998. Without OBRA-93, CBO estimated the debt-to-GDP ratio would have increased to 58 percent in 1998.

## State and Local Governments Will Not Provide Much Stimulus

Although lower long-term interest rates have helped state and local governments improve their financial condition, that help will not be enough to relieve them of the fiscal problems that have accumulated in recent years. Consequently, CBO does not expect spending by state and local governments to contribute significantly to overall growth in the economy. The demand for services provided by state and local governments--such as education, health, and public safety and infrastructure investment--continues to grow, but state and local revenues still lag, reflecting the slow growth throughout the economy. Moreover, these governments face pressures by citizens to hold down tax increases.

Until fairly recently, many states had exempted entitlement programs such as Medicaid and Aid to Families with Dependent Children (AFDC) from budget cuts. But this situation may be changing. For example, six states, among them California and Michigan, spent less on AFDC in their 1992 fiscal years than they had over the previous year. Even so, these programs will continue to press against limited resources and challenge state and local finances in the years ahead.

## Monetary Policy Is Likely to Remain Cautious

Having taken its last easing action in September of 1992, the Federal Reserve announced in its recent report to the Congress that future

monetary policy would probably be tilted in the other direction.<sup>3</sup> It suggested that, with economic growth forecast to continue through 1994, it may need to let short-term rates of interest rise at some point, if the economy is to achieve its long-range objectives of low inflation and sustained growth of production. Even though CBO's forecast implies that the Federal Reserve will not face an inflation problem through 1994, the forecast assumes that short-term rates will rise gradually in line with Federal Reserve objectives as the gap between potential and actual GDP narrows.

### **Inflation Will Probably Not Pose a Short-Term Problem for Monetary Policy**

With the outlook for moderate economic expansion, CBO's forecast implies little, if any, inflationary pressure. Measured by the CPI-U, inflation is forecast to be 3.4 percent in 1993 and 3.1 percent in 1994, about the same as the Federal Reserve forecast in its report to the Congress. The forecast rate in 1993, which is greater than the 3.1 percent rate of increase in 1992, reflects the temporary factors noted earlier as well as the hike in the federal gasoline tax. The rise in the gasoline tax causes a one-time increase in the CPI-U during the fourth quarter of 1993.

Traditional nonmonetary indicators that have been reliable gauges of inflationary pressures do not suggest that higher inflation lies ahead (see Figure 1-6). One such indicator is the GDP gap, the shortfall of GDP below potential GDP. It is a summary measure of the degree of excess capacity in the economy. When excess capacity dwindles, inflationary pressures can build. However, this indicator suggests that inflationary pressures will not appear through 1993 and 1994, since real

GDP is expected to remain below the economy's potential level of output over this period.

A second indicator of inflation is unit labor costs in the nonfarm business sector. This indicator measures the contribution of labor compensation, the largest component of business costs, to the prices of goods and services. Unit labor costs have been rising at the rate of only 2 percent per year. Forecasts of unit labor costs, reflecting slowly improving labor markets and continued competition from abroad, also suggest that inflationary pressures will not increase through 1994.

### **Interest Rates Will Reflect the Federal Reserve's Long-Term Objectives**

In its report to the Congress, the Federal Reserve focused its discussion about the stance of monetary policy on inflation-adjusted, or real, short-term interest rates, describing them as too low to assure continued expansion with low inflation. This focus reflects the increased difficulty in using the monetary aggregates as a guide for policy (see Box 1-1).

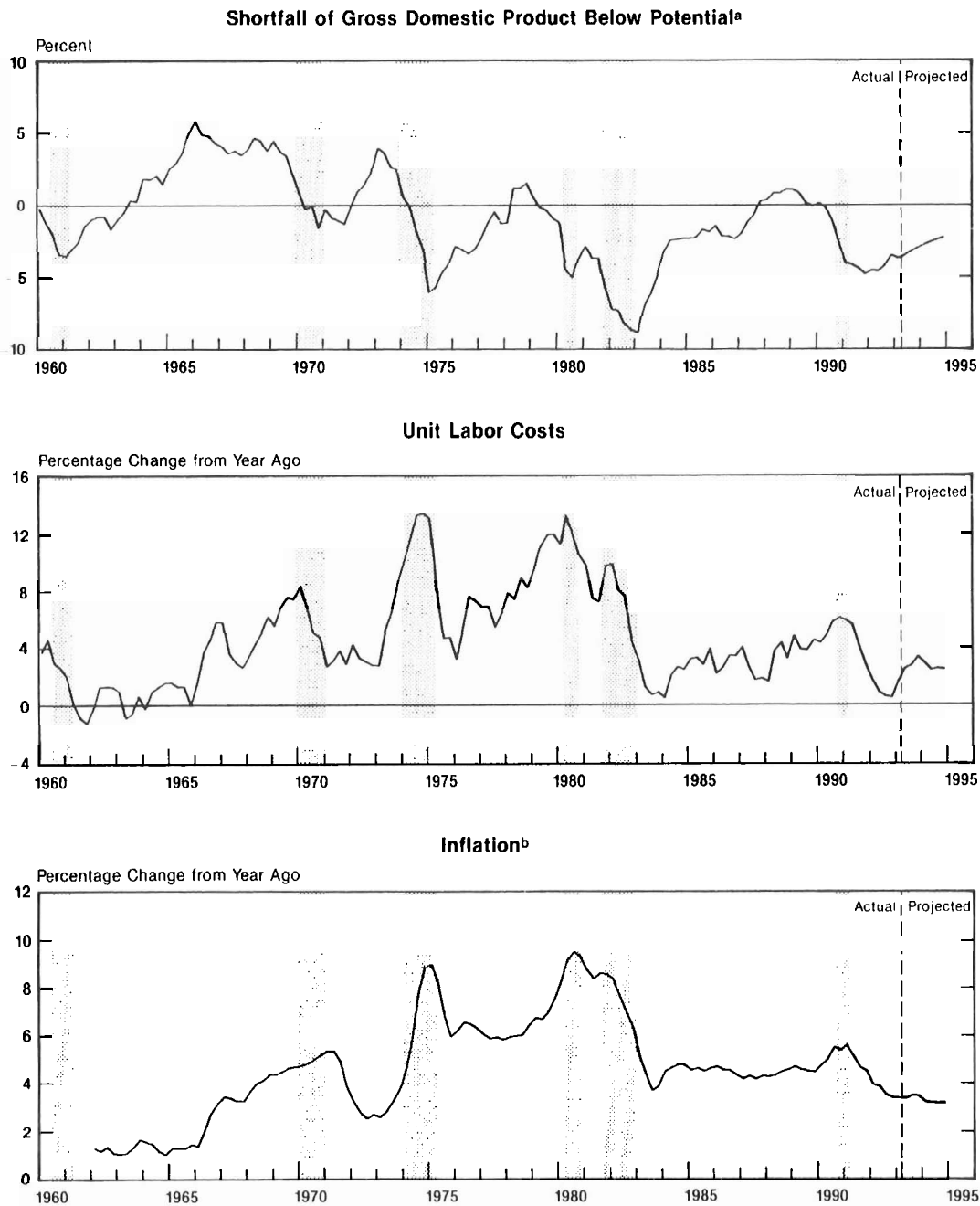
Over the last year, real short-term rates have been close to zero and occasionally negative. Historically, real short-term rates, when kept low for too long, have been associated with an unsustainable growth of real GDP and rising inflation. Even though increased inflationary pressures are not forecast through 1994, the Federal Reserve cited expectations of higher inflation, triggered by a temporary increase in inflation during the first half of 1993, as evidence that the markets have become concerned about higher inflation in the future.

To prevent the expansion from proceeding too rapidly and increasing inflationary pressures, the Federal Reserve said that it may eventually need to let short-term interest rates rise. Market expectations of a modest, future action by the Federal Reserve might then calm fears of increased inflation over the

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3. Board of Governors of the Federal Reserve System, "Monetary Policy Report to the Congress Pursuant to the Full Employment and Balanced Growth Act of 1978" (July 20, 1993).

**Figure 1-6.**  
**Inflation Indicators and Inflation**



**SOURCES:** Congressional Budget Office; Department of Labor, Bureau of Labor Statistics; Department of Commerce, Bureau of Economic Analysis.

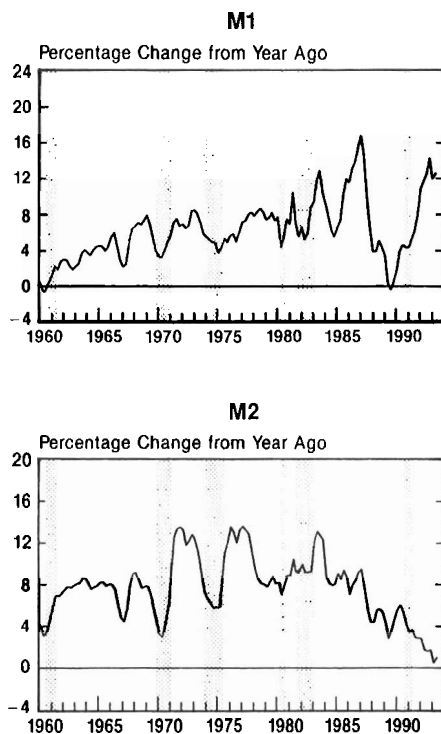
- a. The shortfall is the difference between actual and potential real gross domestic product.
- b. Consumer price index for all urban consumers (CPI-U), excluding food, energy, and used cars. The treatment of home ownership in the official CPI-U changes in 1983. The inflation series in the figure uses a consistent definition throughout.

## Box 1-1.

## Monetary Aggregates Shelved as Policy Gauges

Citing the unusually slow growth in the monetary aggregates M2 and M3 amid the last two years of economic recovery and expansion, the Federal Reserve, in its recent report to the Congress, chose to downplay the role of the aggregates in assessing the stance of monetary policy. M2, once the Federal Reserve's primary monetary aggregate, has grown at an average annual rate of 1.6 percent since the end of the recession, while M3 has grown only 0.1 percent. In contrast, M1--the aggregate once targeted but then abandoned by the Federal Reserve after 1986--averaged 11.5 percent growth (see figure).<sup>1</sup>

## Monetary Aggregates



SOURCES: Congressional Budget Office; Federal Reserve Board.

1. M1, M2, and M3 are measures of the U.S. money supply. M1 consists of the public's holdings of currency, traveler's checks, and checkable deposits. M2 is primarily M1 plus small (less than \$100,000) time and savings accounts, money market deposit accounts held at depository institutions, and most money market mutual funds. M3 primarily consists of M2 plus large (more than \$100,000) time deposits and money market mutual funds owned by institutions.

The combination of slow growth in M2 and moderate though faster growth of the economy has pushed up the velocity of M2--the dollar amount of economic activity supported by each dollar of M2--to levels not seen since the early 1980s. Although such high levels of velocity initially seemed unsustainable to many analysts, the Federal Reserve now seems inclined to the view that they may persist for a longer time.<sup>2</sup> As a result, the Federal Reserve has not looked to the slow growth of M2 in judging the stance of monetary policy. Instead, inflation-adjusted interest rates seem to have taken M2's place.

Analysts now widely accept that the slow growth of M2 and M3 reflects slow growth of demand for loans by individuals and businesses, together with an unwillingness of banks and thrifts in some regions to make loans, and the need by many banks and thrifts to improve their balance sheets. Banks and thrifts have not actively sought additional deposits, as reflected in low rates offered to depositors. Resolving the insolvency problem in the thrift industry has also contributed to low rates on deposits. Consequently, some depositors, seeking higher returns, have moved their funds out of deposits in banks and thrifts and into bond and equity investments, lowering the growth of M2 and M3. Some analysts have even suggested that the definition of M2 be modified to include those mutual funds investing in bonds.

Although the reasons for slow growth of M2 have become better understood, what the slow growth means for the economy has been and still is controversial. Critics of the decision to downplay M2 have suggested that slow growth of M2 is contributing to slow economic growth. They call for a more stimulative monetary policy to offset the drag on economic growth stemming not only from the balance sheet problems in banks, thrifts, households, and business, but also from the impending tighter fiscal policy.

2. At mid-year the target ranges for M2 were reduced by 1 percentage point for 1993 to a range of 1 percent to 5 percent and to the same range for 1994 to reflect higher velocity. (For similar reasons, the ranges for M3 were reduced by one-half of a percentage point to 0 percent to 4 percent for 1993 and 1994.)

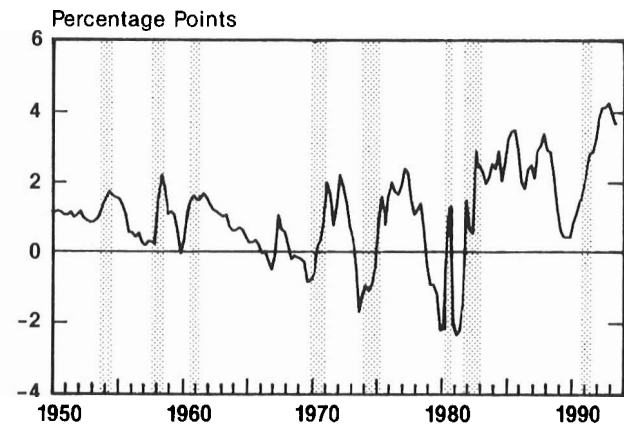
long run and help keep long-term rates of interest stable. Confidence in the Federal Reserve's commitment to low inflation probably helped the decline in long-term interest rates during 1991 and 1992.

The Federal Reserve's reliance on interest rates to gauge its own policy stance involves some risks. However, these risks are probably unavoidable. Interest rates move both because of policy changes and because of changes in the economy, and disentangling the two is extremely difficult. Thus, if interest rates rise, the Federal Reserve cannot be sure whether they are going up because of incipient inflationary pressures or simply because monetary policy is too tight.

The changed outlook for the deficit--which has cut long-term interest rates by an unknown amount--further complicates the Federal Reserve's task. The Federal Reserve could offset much of the effect of fiscal restriction by initiating an easier monetary policy than it would have pursued otherwise.<sup>4</sup> But the peak effects of monetary policy occur only after a significant lag, so choosing the appropriate policy depends on anticipating how much the deficit cuts will weaken the economy in the future. Too much ease would risk overheating the economy and increasing future inflation, though that risk currently seems remote. Too much restraint would hold back growth unnecessarily, though it would also help to wring out some of the remaining underlying inflation from the system.

CBO's forecast assumes that the Federal Reserve will continue to emphasize the importance of fighting inflation without unduly restricting growth. As a result, the Federal Reserve will most likely allow a modest increase in short-term rates of interest. With the expected increase, short-term rates would be roughly one-half of a percentage point above the forecast for inflation--that is, real short-

**Figure 1-7.**  
**Spread Between Long- and Short-Term Interest Rates**



SOURCES: Congressional Budget Office; Federal Reserve Board.

NOTE: Composite Treasury bonds minus three-month Treasury bills.

term rates would rise to about one-half percent.

The forecasts for long-term and short-term interest rates imply a decline in the unusually large spread that has existed between them during the last three years. The decline would be similar to that seen in the first half of the 1960s, when short-term rates rose modestly, long-term rates mostly stayed unchanged, and the spread narrowed (see Figure 1-7).

## Net Exports Will Not Provide Any Stimulus

Although fiscal policy occupies center stage in reshaping the forecast for 1993 and 1994, the outlook for U.S. exports also plays a key role. CBO's winter forecast of foreign demand for U.S. exports in 1993 and 1994 was hardly sanguine, but even that forecast now appears to be optimistic. Forecasts of economic activity in regions that absorbed about one-third of U.S. exports last year have been scaled back for 1993 and 1994. But growth in other regions, along with the beneficial effects of defi-

4. See Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 1994-1998*, Chapter 5.

cit reduction, should prevent the export picture from being even more dismal.

In the European Community (EC), where the United States sold 23 percent of its merchandise exports in 1992, the outlook for growth has dimmed considerably since last winter. Economic forecasts for the EC in 1993 have been revised from the 0.7 percent growth predicted last winter to a contraction of 0.5 percent. That performance would be the worst in almost 20 years.

Growth for 1994 has been trimmed back to 1.2 percent, and unemployment in that year is expected to reach the highest rate since 1985. Among individual EC countries, the recession in Germany is deeper and the recovery is likely to be slower than was initially thought, and this view has correspondingly clouded the outlooks in other EC countries such as France, Italy, the Netherlands, Spain, and Belgium. Only the United Kingdom is expected to show modest growth this year and next.

By early August, the continuing downward revisions in forecasts of economic activity in Europe, combined with the Bundesbank's concern over Germany's rate of inflation, ignited a crisis in the European Monetary System (EMS). For much of the past year, most EC members have continued to follow the relatively tight monetary policy that Germany has pursued as it struggled with reunification. The similarity of monetary policies was necessary to maintain exchange rates within narrow bands prescribed by the exchange rate mechanism (ERM) of the EMS. In early August, however, a continuing gap between symptoms of inflationary pressures in Germany and high unemployment and low inflation in France made the existing parities among EMS currencies difficult to maintain.

Once the Bundesbank chose on July 29 to hold its discount rate at 6.75 percent, signaling the primacy of its anti-inflation objectives, the French, Danish, Spanish, Portuguese, and Belgian currencies all came under attack, and the European finance ministers opted to increase the width of their currency bands with-

out changing the central parities. They hope that this tactic will ensure that the ERM will not collapse under market pressures.

European central banks now have the scope to relax their monetary policies. Nevertheless, so far they have eased only slightly. This limited action probably reflects their ongoing concerns about inflation and their continued ambitions for a European monetary union as set forth in the Maastricht treaty. The easing that has occurred may only serve to offset the unexpected weakness that led to the crisis.

Expectations for growth in Japan, which purchased 11 percent of U.S. merchandise exports last year, have been lowered. Forecasts for Japan prepared late last year envisioned 2.3 percent growth for 1993. Current forecasts are more gloomy and indicate only 1.5 percent growth.

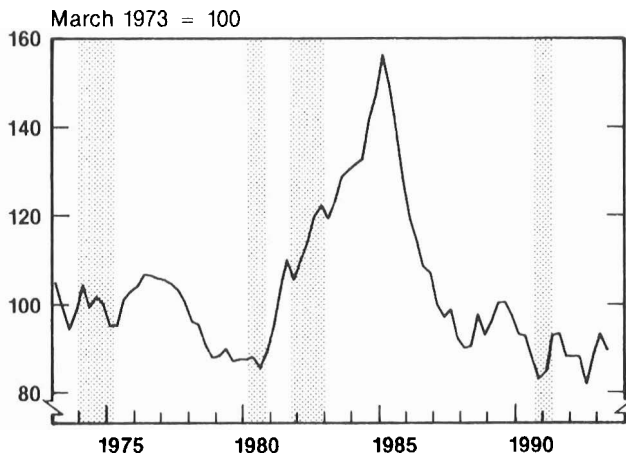
Elsewhere, however, the outlook for exports remains relatively bright. In Canada, the largest single market for U.S. exports (20 percent in 1992), expected growth for 1993 remains close to 3 percent. Demand for U.S. goods from Latin America and the newly industrializing countries of Asia should also remain high. Together, these two regions accounted for almost 30 percent of the value of U.S. merchandise exports last year, purchasing large amounts of capital goods in their drive toward industrialization.

The outlook for exports to Mexico could be darker if the North American Free Trade Agreement (NAFTA) is not ratified. Expectations of NAFTA's being adopted and the other economic reforms in Mexico have already contributed to a sharp increase in U.S. exports to Mexico. Future exports could be set back, at least temporarily, if NAFTA is not adopted.<sup>5</sup>

With relatively stronger growth in the United States than in many of its trading partners, U.S. imports are likely to grow more

5. The possible economic impacts of NAFTA are discussed in CBO's *A Budgetary and Economic Analysis of the North American Free Trade Agreement* (July 1993).

**Figure 1-8.**  
**The Exchange Rate**



SOURCES: Congressional Budget Office; Federal Reserve Board.

swiftly than exports. One component of domestic growth--the demand for investment--will be met, in part, by imports of capital goods. Although those imports add to domestic capacity just as if the capital goods were produced here, like all imports they weaken the stimulus to domestic demand that would occur if the goods were produced in the United States.

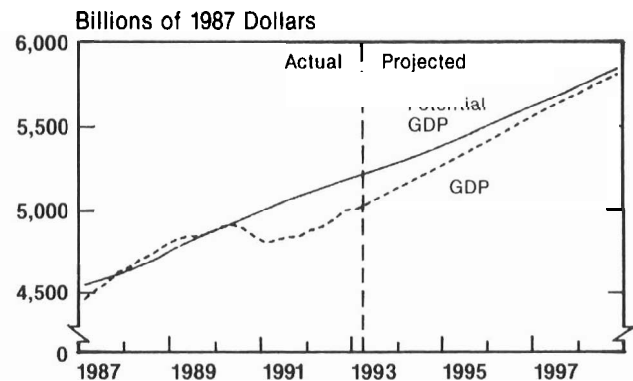
Unexpected movements in exchange rates since last winter do not affect the forecast much. True, the dollar has changed significantly in recent months against individual currencies, such as the Japanese yen and German mark. Yet it has changed little on a trade-weighted average basis, which includes the currencies of all the major trading partners of the United States (see Figure 1-8). Exchange rates are ultimately important to exports and imports, but over the forecast horizon the relative changes in economic activity exert a larger influence on the outlook for trade than do the recent exchange rate movements.

## Projections Beyond 1994

From 1995 through 1998, CBO projects that real GDP growth will average 2.6 percent (see

Tables 1-3 and 1-4). The medium-term projections for growth do not reflect any attempt to estimate cyclical movements of the economy or the effect of fiscal policy on the year-to-year changes in economic activity. The projections attempt to approximate the level of economic activity on average over those years, and incorporate the possibility of either above- or below-average growth. The GDP path is projected by first estimating the level of potential GDP in 1998 and then assuming that the actual level of GDP will trend upward so that the gap between actual and potential GDP will be equal to its historical average of 0.6 percent in 1998 (see Figure 1-9).

**Figure 1-9.**  
**Closing the Gap: GDP Versus Potential GDP**



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

Inflation, as measured by the consumer price index, is projected to average about 3 percent, and long-term interest rates about 6.1 percent. Short-term rates are assumed to move upward from 3.6 percent in 1994 to 4.6 percent in 1998, making the spread between long-term and short-term rates similar to its average over recent decades.

## The Projection for Growth

CBO has revised its outlook for potential growth of the economy during the projection



**Table 1-3.**  
**Medium-Term Economic Projections for Calendar Years 1993 Through 1998**

	Actual 1992	Forecast		Projected			
		1993	1994	1995	1996	1997	1998
Nominal GDP (Billions of dollars)	5,951	6,267	6,605	6,951	7,317	7,696	8,078
Nominal GDP (Percentage change)	4.8	5.3	5.4	5.2	5.3	5.2	5.0
Real GDP (Percentage change)	2.1	2.6	2.7	2.7	2.7	2.6	2.4
Implicit GDP Deflator (Percentage change)	2.6	2.6	2.6	2.5	2.5	2.5	2.5
Fixed-Weighted GDP Price Index (Percentage change)	2.9	3.2	2.9	2.7	2.7	2.7	2.7
CPI-U (Percentage change)	3.0	3.3	3.2	3.0	3.0	3.0	3.0
Unemployment Rate (Percent)	7.4	6.9	6.6	6.3	6.0	5.8	5.7
Three-Month Treasury Bill Rate (Percent)	3.4	3.1	3.6	4.1	4.5	4.6	4.6
Ten-Year Treasury Note Rate (Percent)	7.0	6.0	6.1	6.1	6.1	6.1	6.1
Tax Bases (Percentage of GDP)							
Corporate profits	6.6	7.3	7.3	7.1	7.0	6.9	6.8
Other taxable income	20.5	20.4	20.4	20.5	20.6	20.7	20.8
Wage and salary disbursements	<u>49.0</u>	<u>48.9</u>	<u>49.0</u>	<u>49.1</u>	<u>49.0</u>	<u>49.0</u>	<u>48.9</u>
Total	76.1	76.6	76.6	76.7	76.7	76.6	76.5

SOURCE: Congressional Budget Office.

NOTES: The data in the table do not incorporate either the advance estimate of second-quarter GDP released by the Bureau of Economic Analysis in late July or the effects of the regular annual revision to the national income and product accounts released by BEA in late August.

CPI-U is the consumer price index for all urban consumers.

period upward to 2.1 percent per year, a rate that is 0.1 percentage point faster than last winter's projection. In order to project potential output, CBO extrapolates trends in such fundamental economic variables as the labor force, the rate of national saving, and total factor productivity (TFP).<sup>6</sup> The upward revision reflects the influence of higher national sav-

ing that should result from deficit reduction, and from a slightly higher estimate of the rate of trend growth in TFP that results from previously unavailable data.

With smaller deficits than were projected last winter, the federal government will absorb a correspondingly smaller amount of national saving. As a result, more saving will be available to invest in private domestic plant and equipment--the primary basis for improving the level of GDP and living standards in the long run. In addition, with smaller deficits, less borrowing from abroad will be

6. Total factor productivity is a measure of the productivity of both labor and capital. A more comprehensive measure than labor productivity, it is defined as the growth in output above the growth in the capital and labor inputs.

**Table 1-4.**  
**Medium-Term Economic Projections for Fiscal Years 1993 Through 1998**

	Actual 1992	Forecast		Projected			
		1993	1994	1995	1996	1997	1998
Nominal GDP (Billions of dollars)	5,869	6,189	6,522	6,862	7,224	7,601	7,984
Nominal GDP (Percentage change)	4.2	5.5	5.4	5.2	5.3	5.2	5.0
Real GDP (Percentage change)	1.3	2.8	2.6	2.7	2.7	2.7	2.5
Implicit GDP Deflator (Percentage change)	2.9	2.6	2.7	2.5	2.5	2.5	2.5
Fixed-Weighted GDP Price Index (Percentage change)	3.0	3.1	3.1	2.7	2.7	2.7	2.7
CPI-U (Percentage change)	3.0	3.2	3.2	3.0	3.0	3.0	3.0
Unemployment Rate (Percent)	7.3	7.1	6.6	6.3	6.1	5.9	5.7
Three-Month Treasury Bill Rate (Percent)	3.8	3.0	3.4	4.0	4.4	4.6	4.6
Ten-Year Treasury Note Rate (Percent)	7.2	6.2	6.1	6.1	6.1	6.1	6.1
Tax Bases (Percentage of GDP)							
Corporate profits	6.4	7.2	7.3	7.2	7.0	7.0	6.8
Other taxable income	20.6	20.5	20.4	20.5	20.6	20.7	20.8
Wage and salary disbursements	<u>49.2</u>	<u>48.8</u>	<u>49.0</u>	<u>49.1</u>	<u>49.1</u>	<u>49.0</u>	<u>48.9</u>
Total	76.2	76.5	76.6	76.7	76.7	76.6	76.5

SOURCE: Congressional Budget Office.

NOTES: The data in the table do not incorporate either the advance estimate of second-quarter GDP released by the Bureau of Economic Analysis in late July or the effects of the regular annual revision to the national income and product accounts released by BEA in late August.

CPI-U is the consumer price index for all urban consumers.

needed. And less borrowing, along with reduced flows of interest, dividends, and profits paid to foreign investors, will make the nation's income higher than otherwise.

In determining how the new fiscal policy in OBRA-93 affects growth and income, CBO adopts conservative assumptions about the responses of private saving and foreign borrowing to deficit reduction. National saving will not increase dollar for dollar with deficit reduction, since reductions in private saving will offset some of the improvement coming

from the new policies. The higher taxes in OBRA-93 will come partly from reduced consumption and partly from reduced saving. Following a number of statistical studies, CBO assumes in its projections that reduced private saving will offset about 30 percent of the reduction in the deficit compared with the baseline before OBRA-93.

Saving from deficit reduction could also be spent on reducing net borrowing from abroad rather than on domestic investment. As a result, private domestic investment in plant,

equipment, and inventories would rise, but by much less than a dollar for every dollar's worth of deficit reduction.<sup>7</sup>

CBO projects that the productivity of labor, as measured by real GDP divided by total employment, will grow at an average annual rate of about 1 percent through 1998, or 0.1 percentage point higher than CBO assumed last winter. The increase stems from two sources: the beneficial effects of deficit reduction on the pace of capital accumulation, and a new estimate of the trend in growth in TFP. The new estimate results from additional information that has been released since the estimate for last winter was made.

The rate of growth of labor productivity is somewhat better than in the 1980s, when productivity grew at an annual rate of 0.7 percent. Some analysts have argued that the long-term trend in growth of productivity may take an even greater step up. They maintain that the better application of computers and the general restructuring of firms will improve the long-term trend. The recent pickup in the growth in productivity--averaging 1.2 percent over the last two years--seems to lend support to these arguments, but close analysis and recent revisions in the employment data suggest that cyclical factors largely account for the rebound (see Box 1-2).

## The Projection for Inflation

CBO continues to project a low rate of inflation on average, which reflects sufficient excess capacity on average during the projection period. For 1995 through 1998, inflation is projected to average 3 percent as measured by the CPI-U, and the growth of the implicit deflator for GDP is projected to average 2.5 percent. These projections are each no more than 0.3 percentage points higher than the projections of last winter.

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7. For a discussion of these assumptions, see Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 1994-1998*, Chapter 5.

## The Projection for Interest Rates

As for CBO's projections for interest rates, the rate on 10-year Treasury notes will average about 6.1 percent over the 1995-1998 period and the rate on three-month Treasury bills will average 4.4 percent. The projections for interest rates assume that inflation trends do not change and that the spread between long-term and short-term rates moves toward its historical average by 1998.

Higher real short-term rates account for the rise in nominal short-term rates from 3.6 percent at the end of the forecast period to 4.6 percent at the end of the projection period. CBO assumes that the inflation-adjusted short-term rate will rise from its forecasted level of 0.8 percent at the end of 1994 to the average historical level of 1.6 percent in 1998. The projection for inflation-adjusted rates is lower than that of last winter because of deficit reduction and the related improvement in net national saving.

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## What Other Forecasts Say

Both CBO's near-term forecast and the medium-term projection for real GDP growth are similar to those of the Administration and the *Blue Chip* consensus of forecasters.<sup>8</sup> However, important differences underlying the CBO and *Blue Chip* outlooks reflect inherent risks and uncertainties in the forecast. (Past forecasts of the Congressional Budget Office, the Administration, and the *Blue Chip* consensus are compared in Appendix A.)

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8. See Eggert Economic Enterprises, Inc., *Blue Chip Economic Indicators* (August 10, 1993).

## The Near-Term Forecast

CBO's forecasts for real GDP growth over the 1993 to 1994 period are virtually the same as those for the Administration and the *Blue Chip* consensus survey. The three forecasts

for unemployment are also virtually identical (see Table 1-5).

Nevertheless, the CBO and *Blue Chip* forecasts differ in both years about the sources of growth. The consensus expects more stimulus

### Box 1-2.

#### Is There a New Trend in the Growth of Productivity?

Some analysts speculate that the high growth rate of labor productivity (output per hour in nonfarm business) during the recovery heralds a new trend after more than two decades of disappointing growth. The Congressional Budget Office, however, considers the rebound to represent more a normal cyclical phenomenon than a harbinger of a new trend.

From the end of World War II through 1965, productivity grew at an average rate of 2.7 percent a year. Then growth slowed dramatically. Almost all of the slowing occurred in the nonmanufacturing sector, which is dominated by services. Since the oil shock of 1973, growth in productivity averaged 0.7 percent a year.

Productivity growth played an unusual role in the recent recovery, however. Productivity contributed much more--and growth in jobs much less--to the pace of the current recovery than was the case in previous postwar recoveries. Previously, eight quarters into the average recovery, productivity advances averaging 5.8 percent accounted for just over one-half of the average 10.3 percent growth in real gross domestic product (GDP) from the recession trough. In contrast, eight quarters into the current recovery, productivity growth accounted for virtually all of the 4.2 percent advance in real GDP from its trough.

Does the unusually prominent role of productivity growth during the current recovery reflect a shift in underlying trends that might be expected to continue? Analysts are divided in their assessments.

Many analysts present qualitative evidence for a shift in the trend of productivity growth. They suggest that computers will enable service industries to raise their productivity in response to deregulation and global competition. They claim that restructuring in services reflects a productivity payoff to that sector's

investment in computers during the 1980s. They also argue that improvements in the quality of the labor force will add modestly to growth in productivity. They point out that the age and educational attainments of the labor force, quality of young entrants, and labor-force experience of women are all increasing.

However, the recent increases in productivity growth are likely to be temporary. The timing of the present rebound in productivity growth corresponds at least as well to a normal cyclical recovery as to the special circumstances mentioned above.<sup>1</sup> Productivity growth typically begins to slow or even decline a year or two before a business cycle peak. In the late phase of an economic expansion, many businesses overestimate the strength of future economic growth and tend to hire excessively. Once a recession begins, movements in productivity typically mirror changes in output, declining during the recession and rebounding in recovery. The current recovery differs from earlier ones in degree, not in type.

Such factors as the service sector's investment in computers, deregulation, intensified global competition, and increases in the quality of the labor force occurred throughout the 1980s and cannot explain the sudden jump in productivity now. Moreover, even if the rebound could be attributed to the service sector's reaping a dividend for its increasing computer intensity, that would result in a one-time jump in the level of productivity, not a long-term shift in the rate of productivity growth.

1. Robert J. Gordon, "The Jobless Recovery: Does It Signal a New Era of Productivity-Led Growth?" *Brookings Papers on Economic Activity*, no. 1 (July 1993). This analysis used data that have since been revised, but the pattern of revisions suggests that they would not materially affect the results.

**Table 1-5.**  
**Comparison of Forecasts for 1993 and 1994**

	Actual 1992	Forecast	
		1993	1994
<b>Fourth Quarter to Fourth Quarter (Percentage change)</b>			
Nominal GDP			
CBO	5.7	5.2	5.2
<i>Blue Chip</i>	5.7	5.1	5.9
Administration	5.7	5.1	6.0
Real GDP <sup>a</sup>			
CBO	3.1	2.3	2.7
<i>Blue Chip</i>	3.1	2.2	2.7
Administration	3.1	2.0	3.0
Implicit GDP Deflator			
CBO	2.5	2.8	2.5
<i>Blue Chip</i>	2.5	2.9	3.1
Administration	2.5	2.9	2.9
Consumer Price Index <sup>b</sup>			
CBO	3.1	3.4	3.1
<i>Blue Chip</i>	3.1	3.3	3.4
Administration	3.1	3.3	3.3
<b>Calendar Year Averages (Percent)</b>			
Civilian Unemployment Rate			
CBO	7.4	6.9	6.6
<i>Blue Chip</i>	7.4	6.9	6.6
Administration	7.4	6.9	6.5
Three-Month Treasury Bill Rate			
CBO	3.4	3.1	3.6
<i>Blue Chip</i>	3.4	3.1	3.6
Administration	3.4	3.1	3.6
Ten-Year Treasury Note Rate			
CBO	7.0	6.0	6.1
<i>Blue Chip</i> <sup>c</sup>	7.0	6.1	6.3
Administration	7.0	6.0	5.9

SOURCES: Congressional Budget Office; Eggert Economic Enterprises, Inc., *Blue Chip Economic Indicators* (August 10, 1993); Office of Management and Budget.

NOTE: The CBO forecast does not incorporate either the advance estimate of second-quarter GDP released by the Bureau of Economic Analysis in late July or the effects of the regular annual revision to the national income and product accounts released by BEA in late August. The *Blue Chip* forecasts through 1994 are based on a survey of about 50 private forecasters.

- a. Based on constant 1987 dollars.
- b. The consumer price index for all urban consumers (CPI-U).
- c. *Blue Chip* does not project a 10-year note rate. The values shown here for the 10-year note rate are based on the *Blue Chip* projections of the Aaa bond rate, adjusted by CBO to reflect the estimated spread between Aaa bonds and 10-year Treasury notes.

from net exports and less stimulus from private domestic investment than does CBO. Not surprisingly, these components of aggregate demand are difficult to forecast, and the unsettled nature of domestic and foreign economies is undoubtedly reflected in the different outlooks for investment and net exports of the two forecasts.

Whereas the forecasts for the growth of GDP and the rate of unemployment differ little, the difference in the forecasts for inflation for 1994 is larger. The consensus expects inflation to rise in 1994, while CBO expects lower inflation and the Administration expects no change in the inflation rate. The consensus forecast for long-term interest rates is also slightly higher than CBO's and the Administration's forecasts, even though the forecasts for short-term interest rates are the same.

## The Medium-Term Projection

With the exception of inflation, CBO's projections tend to lie between the *Blue Chip* and the Administration's projections. CBO's projection for real growth for 1995 through 1998 is slightly above the *Blue Chip* consensus projection and slightly below the Administration's (see Table 1-6). Correspondingly, CBO's projection for the unemployment rate tends to be below the *Blue Chip* projection and above the Administration's. CBO's projection for the three-month Treasury bill rate is also less than the *Blue Chip* projection but more than the Administration's, though the forecasts are very similar by 1998. By contrast, CBO's projection for the inflation rate is considerably below both the *Blue Chip* and the Administration's projections.

**Table 1-6.**  
Comparison of Projections for 1995 Through 1998

	1995	1996	1997	1998
<b>Percentage Change (Year over year)</b>				
<b>Real GDP<sup>a</sup></b>				
CBO	2.7	2.7	2.6	2.4
<i>Blue Chip</i>	2.8	2.6	2.3	2.5
Administration	2.8	2.7	2.6	2.6
<b>CPI-U<sup>b</sup></b>				
CBO	3.0	3.0	3.0	3.0
<i>Blue Chip</i>	3.7	3.8	3.7	3.6
Administration	3.4	3.5	3.5	3.5
<b>Calendar Year Averages (Percent)</b>				
<b>Civilian Unemployment Rate</b>				
CBO	6.3	6.0	5.8	5.7
<i>Blue Chip</i>	6.2	6.1	6.1	6.0
Administration	6.1	5.9	5.7	5.5
<b>Three-Month Treasury Bill Rate</b>				
CBO	4.1	4.5	4.6	4.6
<i>Blue Chip</i>	4.7	4.9	4.9	4.7
Administration	3.9	4.2	4.5	4.5

SOURCES: Congressional Budget Office; Eggert Economic Enterprises, Inc., *Blue Chip Economic Indicators* (March 1993); Office of Management and Budget.

a. Based on constant 1987 dollars.

b. Consumer price index for all urban consumers.

# The Budget Outlook

**T**he Omnibus Budget Reconciliation Act of 1993, enacted in early August, has significantly improved the budget outlook for 1994 through 1998. The Congressional Budget Office estimates that under current policies the deficit will fall from \$266 billion in 1993 to \$190 billion in 1996. The 1998 deficit of \$200 billion is nearly \$160 billion lower than CBO projected in its winter 1993 baseline.<sup>1</sup>

The good news that estimated deficits are substantially lower than previously anticipated is tempered, however, by the fact that the underlying trend of growing deficits has not been reversed. The deficits in CBO's winter baseline decreased gradually through 1996, then began rising. Although CBO's revised deficits are lower in each year and grow more slowly after 1996 than the winter projections, the new projections do not provide any indication of permanently declining deficits in the foreseeable future. The expectation that government spending on health care will continue to grow at double-digit rates is largely responsible for the stubbornly high deficits.

The reconciliation act will provide important long-term benefits for the economy. CBO now projects that the deficit in 1998 will equal 2.5 percent of gross domestic product, down

from the winter estimate of 4.6 percent. Debt held by the public will increase only slightly relative to the economy, rising to 55 percent of GDP by 1998 instead of the 62 percent projected last March. The federal government will draw substantially less from private credit markets over the next five years. As a result, more resources will be available for private investment, which will enhance productivity and economic growth, and borrowing from abroad can be reduced. Ultimately, the lower deficits will increase the nation's standard of living. But under the current CBO economic forecast, large deficits will extend into the next century unless additional steps are taken to control spending and increase revenues.

The preceding discussion assumes that the projected deficits will be realized. Extension through 1998 of pay-as-you-go constraints on new direct spending and revenue legislation and enforceable limits on discretionary spending will help ensure that the promised deficit reduction is not undone by future legislation. Nevertheless, there can be no guarantee that deficits will fall to around \$200 billion. An economy that is weaker than anticipated or entitlement spending that grows more rapidly than expected could push the deficits up, just as they did after the 1990 reconciliation bill was enacted.

For the first time in nearly three years, CBO's deficit reestimates are driven more by legislation than by changes in the economic forecast or other assumptions that affect budgetary projections. CBO's economic forecast has changed relatively little since March, with correspondingly little effect on deficit esti-

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1. The winter baseline estimates were released by CBO on March 3, 1993. They were published later that month in Congressional Budget Office, "An Analysis of the President's February Budgetary Proposals," CBO Paper (March 1993). The baseline assumed compliance with the discretionary spending limits in the Budget Enforcement Act through 1995; discretionary outlays were assumed to grow at the same pace as inflation after 1995.

mates. A slight near-term slowdown in projected real economic growth reduces estimated revenues somewhat in most years, and a small increase in inflation drives up the cost of benefit programs such as Social Security. These deficit effects are offset, however, by reductions in net interest spending resulting from lower interest rates. Technical reestimates--reestimates not attributable to legislation or changes in the economic forecast--are relatively small in each year of the projection period, especially if reestimates of deposit insurance spending are excluded.

CBO now estimates that the 1993 deficit will be \$266 billion, \$36 billion below the winter estimate. Legislation has pushed the 1993 deficit up slightly, but larger technical reestimates--primarily higher revenue collections and slower spending for deposit insurance, Medicare, and Medicaid--reduce the deficit estimate by nearly \$39 billion.

This chapter presents CBO's outlook for the federal budget under the updated CBO economic forecast described in Chapter 1 and the policies adopted as of the end of August 1993. It summarizes the effect of enactment of the Omnibus Budget Reconciliation Act of 1993 and other changes that have occurred since CBO's winter baseline. The chapter concludes with budget estimates displayed in the framework of the national income and product accounts used by economists.

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## The Deficit Outlook

CBO estimates that the total deficit will decline from \$290 billion in 1992 to \$190 billion in 1996 before growing to \$200 billion in 1998 (see Table 2-1). By 1998, the deficit will equal 2.5 percent of GDP, down from 4.9 percent of GDP in 1992. However, CBO's extrapolation of its budget projections through 2003 indicates that the total deficit rises relative to the size of the economy after 1998 (see Box 2-1). The total deficit is simply the difference between federal revenues and outlays. It pro-

vides the most comprehensive measure of the government's fiscal activities. The current estimates assume no further change in direct spending or tax policies and compliance with the discretionary spending limits enforced by the Balanced Budget and Emergency Deficit Control Act.

A better measure of fundamental budget trends may be obtained by excluding certain transitory or otherwise misleading budgetary amounts from the deficit calculation. For example, CBO has highlighted in recent years a measure of the deficit that excludes spending for deposit insurance and contributions received from allies in support of Operation Desert Storm.

Annual expenditures for deposit insurance not only are notoriously volatile--they will swing from \$66 billion in 1991 to an estimated negative \$26 billion in 1993--but they also are poor indicators of the economic impact of deposit insurance. The true cost of the government's guarantee of deposits was incurred, although not recorded in the budget, when deposits were poured into bad investments by savings and loan institutions (S&Ls) and banks that were headed for insolvency. Cash transactions by deposit insurance agencies today do not represent any change in those costs. Furthermore, federal borrowing to fund those transactions has little effect on government's net demands on credit markets because the money borrowed is immediately reinjected into the markets through payments to depositors or financial institutions. Desert Storm contributions are also excluded from this measure of the deficit because they, too, have little effect on demand in the economy. Although the annual deficit amounts are different when deposit insurance spending and Desert Storm contributions are excluded, the pattern of deficits is similar--they decline from 1993 through 1996 but rise gradually after that.

Another useful measure of the deficit is one that excludes cyclical economic effects on federal spending and revenues as well as the effects of deposit insurance spending and Desert Storm contributions. In a slow economy, fed-



eral revenues are depressed and spending for some programs (such as unemployment insurance) is pushed up. The standardized-employment deficit is a measure of the deficit that current policies would generate if the economy were performing up to its potential in all years. The cyclical effect falls from \$81 billion in 1993 to just \$18 billion in 1998 as the economy moves closer to its potential. The pattern of the standardized-employment deficit in the projection period is similar to that of the total

deficit--deficits decline from the 1993 level but begin climbing again after mid-decade.

The final measure of the deficit that CBO reports is the on-budget deficit, which excludes the transactions of the Social Security trust funds (Old-Age and Survivors Insurance and Disability Insurance) and the Postal Service. The on-budget deficit has little utility from an economic perspective; although designated as off-budget, the trust fund and

**Table 2-1.**  
**The Deficit Outlook Under Current Policies (By fiscal year)**

	Actual 1992	1993	1994	1995	1996	1997	1998
<b>In Billions of Dollars</b>							
Total Deficit Assuming Discretionary Caps	290	266	253	196	190	198	200
Deficit Excluding Deposit Insurance and Desert Storm Contributions	293	292	240	206	200	206	204
Standardized-Employment Deficit <sup>a</sup>	200	211	175	154	160	180	186
On-Budget Deficit (Excluding Social Security and Postal Service)	341	311	311	262	263	276	284
<b>Memorandum:</b>							
Deposit Insurance	3	-26	14	-10	-10	-8	-4
Desert Storm Contributions	-5	0	0	0	0	0	0
Off-Budget Surplus							
Social Security	51	46	59	65	71	77	84
Postal Service	<u>-1</u>	<u>-1</u>	<u>-2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>b</u>
Total, Off-Budget Surplus	50	45	57	65	73	78	84
Hospital Insurance Surplus	11	2	5	7	6	2	-3
<b>As a Percentage of GDP</b>							
Total Deficit Assuming Discretionary Caps	4.9	4.3	3.9	2.9	2.6	2.6	2.5
Deficit Excluding Deposit Insurance and Desert Storm Contributions	5.0	4.7	3.7	3.0	2.8	2.7	2.6
Standardized-Employment Deficit <sup>a, c</sup>	3.2	3.3	2.6	2.2	2.2	2.3	2.3

SOURCE: Congressional Budget Office.

- a. Excludes cyclical deficit as well as deposit insurance and Desert Storm contributions.
- b. Less than \$500 million.
- c. Expressed as a percentage of potential GDP.

**Box 2-1.**  
**The Ten-Year Budget Outlook**

If current policies stay unchanged, the Congressional Budget Office projects that the federal deficit will level off at about \$200 billion a year in 1995 through 1998. But after 1998, the gap between revenues and spending begins to widen--reaching \$359 billion in 2003. Of greater concern is the deficit's trend as a share of gross domestic product: from 2.5 percent in 1998, it inches up in every year, reaching 3.6 percent of GDP in 2003.

These projections should not surprise participants in the budget debate. Even its most committed advocates did not claim that the recent reconciliation act was a deficit cure-all. Furthermore, a few of the act's provisions were explicitly limited to the 1994-1998 period. In short, CBO's new projections buttress the view that more cuts lie ahead before the deficit fades as an economic problem.

What accounts for the escalating deficits after 1998? Revenues do not provide the answer--they barely slip from 19.4 percent to 19.3 percent of GDP. The search thus turns to the spending side and

focuses on the fast-growing health care programs, Medicare and Medicaid. Even after the latest round of savings, there is little reason to expect a reversal of recent trends in health spending; both programs are expected to continue growing at 10 percent or more annually over the next decade, outstripping the growth of the economy. If so, they will climb inexorably as a share of GDP: from 3.5 percent this year to 4.7 percent in 1998 and 6.2 percent in 2003.

No other major category of spending is expected to outpace growth in the economy. Mandatory spending other than that for Medicare and Medicaid is expected to stay roughly constant as a share of GDP. Of course, even in 2003--the last year of this projection--most of the baby-boom generation still must wait a decade or more to collect Social Security benefits. Net interest outlays hardly budge from 3.2 percent of GDP, as the debt's growth is trimmed from previous projections and as interest income--buoyed by a new source, income from direct student loans--gradually climbs.

**The Budget Outlook Through 2003 (By fiscal year)**

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>In Billions of Dollars</b>											
Revenues	1,150	1,244	1,332	1,403	1,472	1,547	1,617	1,690	1,768	1,848	1,934
Outlays											
Discretionary	547	542	542	548	547	547	564	581	598	616	634
Mandatory											
Social Security	302	319	337	354	372	391	410	431	452	475	499
Medicare	143	160	178	196	216	239	264	292	323	357	395
Medicaid	76	88	100	112	125	139	155	172	190	210	231
Civil Service and Military											
Retirement	61	63	66	69	72	75	79	83	87	91	95
Other	182	178	174	170	184	191	196	202	208	214	221
Subtotal	764	808	855	901	969	1,035	1,105	1,180	1,260	1,347	1,440
Deposit insurance	-26	14	-10	-10	-8	-4	-4	-4	-3	-3	-3
Net interest	198	203	217	230	242	253	265	278	292	311	327
Offsetting receipts	-67	-70	-74	-76	-80	-85	-89	-93	-97	-102	-107
Total	1,416	1,497	1,529	1,592	1,670	1,747	1,840	1,941	2,050	2,168	2,292
Deficit	266	253	196	190	198	200	223	251	282	320	359
Deficit Excluding Deposit Insurance	292	240	206	200	206	204	228	254	285	323	362
Debt Held by the Public	3,249	3,507	3,713	3,919	4,137	4,357	4,601	4,873	5,176	5,517	5,896

(Continued)

### Box 2-1. Continued

A conspicuous exception to the general pattern is discretionary spending. The new lids on discretionary spending freeze outlays in a narrow dollar range through 1998 and thus push this category down relentlessly as a share of GDP--to less than 7 percent in 1998, barely half the typical levels of the 1960s. After 1998, when the caps on discretionary spending expire, CBO simply assumes that this spending keeps pace with inflation. Because this assumption implies that it still lags behind economic growth, discretionary spending slips further as a percentage of GDP, to 6.3 percent in 2003.

Last March, CBO projected that the deficit would top \$650 billion, or 6.8 percent of GDP, in 2003.<sup>1</sup> The new projections point to a deficit of about 3.6 percent of GDP in that year, a vast improvement. Remarkably, the single biggest change lies in net interest--

now projected at 3.3 percent of GDP in 2003 compared with 4.5 percent in the earlier report, a testimonial to the efforts to rein in the debt's growth. The remaining credit is shared roughly equally by the revenue increases, discretionary spending cuts, and Medicare savings accomplished in 1993's reconciliation package.

Of course, enormous uncertainties surround such long-range extrapolations. The economy's performance is a big question mark; these projections are predicated on continued growth in real GDP of 2.1 percent annually in 1999 through 2003, on inflation of 3 percent, and on short-term and long-term interest rates (specifically, rates on three-month Treasury bills and 10-year Treasury notes) of 4.6 percent and 6.1 percent, respectively. The economy is bound to deviate from these assumptions in ways that cannot be anticipated. And other major uncertainties abound, most notably about the continued spiraling of health care spending and about other open-ended commitments, such as those for deposit insurance.

1. Congressional Budget Office, "An Analysis of the President's February Budgetary Proposals," CBO Paper (March 1993), Appendix.

#### The Budget Outlook Through 2003 (By fiscal year)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>As a Percentage of GDP</b>											
Revenues	18.6	19.1	19.4	19.4	19.4	19.4	19.3	19.3	19.3	19.3	19.3
Outlays											
Discretionary	8.8	8.3	7.9	7.6	7.2	6.9	6.7	6.6	6.5	6.4	6.3
Mandatory											
Social Security	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	5.0
Medicare	2.3	2.4	2.6	2.7	2.8	3.0	3.2	3.3	3.5	3.7	3.9
Medicaid	1.2	1.4	1.5	1.5	1.6	1.7	1.9	2.0	2.1	2.2	2.3
Civil Service and Military											
Retirement	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Other	2.9	2.7	2.5	2.4	2.4	2.4	2.3	2.3	2.3	2.2	2.2
Subtotal	12.3	12.4	12.5	12.5	12.8	13.0	13.2	13.5	13.7	14.0	14.3
Deposit insurance	-0.4	0.2	-0.1	-0.1	-0.1	a	-0.1	a	a	a	a
Net interest	3.2	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.3
Offsetting receipts	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
Total	22.9	23.0	22.3	22.0	22.0	21.9	22.0	22.2	22.4	22.6	22.8
Deficit	4.3	3.9	2.9	2.6	2.6	2.5	2.7	2.9	3.1	3.3	3.6
Deficit Excluding Deposit Insurance	4.7	3.7	3.0	2.8	2.7	2.6	2.7	2.9	3.1	3.4	3.6
Debt Held by the Public	52.5	53.8	54.1	54.3	54.4	54.6	55.0	55.7	56.5	57.5	58.7

SOURCE: Congressional Budget Office.

a. Less than 0.05 percent.

postal transactions affect the economy as much as other governmental spending or receipts.

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## The Omnibus Budget Reconciliation Act of 1993

CBO estimates that the Omnibus Budget Reconciliation Act of 1993 (OBRA-93) will reduce deficits in 1994 through 1998 by \$433 billion compared with CBO's winter 1993 baseline (see Table 2-2). Tax increases account for \$241 billion of the five-year savings; direct spending cuts for \$77 billion; new limits on discretionary appropriations in 1996, 1997, and 1998 for \$69 billion; and debt-service savings for \$47 billion. OBRA-93 also included a provision increasing the limit on the public debt to \$4.9 trillion (see Box 2-2).

The estimate of the deficit reduction assumes that the President and the Congress will comply with the new discretionary limits when enacting appropriations. The \$69 billion in discretionary savings is calculated by subtracting the new limits (including CBO's estimate of required adjustments) for 1996, 1997, and 1998 from CBO's winter baseline projection for discretionary spending in those years. CBO's winter baseline assumed that lawmakers would comply with the 1994 and 1995 discretionary spending limits established by the 1990 reconciliation act and that appropriations would equal the 1995 limit plus inflation after 1995. If the new limits are compared instead with alternative baselines that had not already incorporated the cuts required to reach the 1994 and 1995 limits, the estimated discretionary savings attributed to the new limits would be higher, although the new baseline deficit projections would not be affected.

### Revenues

Changes in tax policy under OBRA-93 increase revenues by an estimated \$241 billion

in 1994 through 1998. The reconciliation act's major tax increases over five years include the following:

- o \$115 billion from changes in the income tax that affect high-income individuals, including new tax brackets of 36.0 percent and 39.6 percent, an increase in the alternative minimum tax, and the permanent extension of the limitation on itemized deductions and the phaseout of personal exemptions;
- o \$31 billion from extending through 1999 a tax of 2.5 cents a gallon on gasoline and other motor fuels that was scheduled to expire at the end of 1995, and imposing an additional permanent tax of 4.3 cents a gallon on motor fuels;
- o \$29 billion from repealing the cap on earnings (now \$135,000) subject to the Medicare payroll tax;
- o \$25 billion from subjecting to the income tax up to 85 percent of an individual's Social Security benefits (the change affects only taxpayers whose other income plus one-half of their Social Security benefits exceeds \$34,000 for single filers or \$44,000 for joint filers);
- o \$16 billion from increasing the corporate tax rate to 35 percent for taxable income above \$10 million; and
- o \$15 billion from reducing the deductible portion of business meal and entertainment expenses from 80 percent to 50 percent.

In addition to other, smaller tax increases, OBRA-93 contained a number of revenue-losing provisions, including temporary extension of the credit for research and experimentation and permanent extension of the low-income housing credit; more generous depreciation for certain firms; incentives for investments in empowerment zones and enterprise communities; expansion of the earned income tax credit (EITC); repeal of the luxury excise

**Table 2-2.**  
**Major Elements of Deficit Reduction Under OBRA-93 from the CBO Winter 1993 Baseline**  
**(By fiscal year, in billions of dollars)**

	1994	1995	1996	1997	1998	Five-Year Total
<b>Revenues</b>						
Increase in tax rate for high-income individuals	-15.4	-22.8	-25.7	-24.6	-26.3	-114.8
Extension and increase of motor fuels tax	-4.4	-4.5	-7.4	-7.5	-7.5	-31.3
Repeal of cap on earnings subject to Medicare tax	-2.8	-6.0	-6.4	-6.8	-7.2	-29.2
Increase in taxable portion of Social Security benefits	-1.9	-4.6	-5.3	-6.0	-6.7	-24.6
Increase in corporate tax rate	-4.4	-2.8	-2.9	-3.1	-3.2	-16.4
Reduced business meal and entertainment deduction	-1.8	-3.1	-3.3	-3.4	-3.6	-15.3
Expansion of earned income tax credit	a	0.2	0.4	0.5	0.6	1.7
Other	4.3	0.2	-0.9	-9.8	-4.6	-10.8
Subtotal	-26.4	-43.5	-51.5	-60.7	-58.5	-240.6
<b>Mandatory Spending</b>						
Medicare	-2.1	-5.5	-11.6	-16.4	-20.2	-55.8
Federal employee retirement and health benefits	-0.4	-0.8	-2.9	-3.7	-4.0	-12.0
FCC electromagnetic spectrum auction	-1.7	-1.8	-1.7	-1.0	-1.0	-7.2
Medicaid	a	-1.0	-1.6	-2.1	-2.5	-7.1
Federal Family Education Loans	-0.6	-0.4	-0.8	-1.2	-1.2	-4.3
Veterans' benefits	-0.2	-0.4	-0.4	-0.4	-1.2	-2.6
Farm programs	-0.1	-0.7	-0.5	-0.6	-0.5	-2.5
Refundable earned income tax credit	0.2	2.0	4.4	6.1	6.4	19.1
Food stamps	a	0.2	0.4	0.8	1.0	2.5
Other	-0.3	-0.2	-1.8	-2.4	-2.5	-7.2
Subtotal	-5.3	-8.5	-16.6	-20.9	-25.7	-76.9
<b>Discretionary Spending</b>	0	0	-7.7	-23.0	-37.9	-68.5
<b>Debt Service</b>	-0.9	-3.4	-7.5	-13.6	-21.3	-46.8
<b>Total Deficit Reduction</b>	-32.6	-55.5	-83.3	-118.1	-143.4	-432.9
<b>Memorandum: Deficit Reduction from Alternative Baselines</b>						
Reduction from the CBO Uncapped Baseline <sup>b</sup>	-47.4	-83.2	-111.8	-147.4	-174.5	-564.4
Reduction from the CBO Estimate of the Administration's Baseline <sup>c</sup>	-42.0	-72.9	-94.1	-123.7	-144.3	-476.9

SOURCE: Congressional Budget Office.

NOTES: The CBO winter 1993 baseline assumed compliance with the discretionary spending limits of the Budget Enforcement Act through 1995. Discretionary outlays were assumed to grow at the same pace as inflation after 1995. See Congressional Budget Office, "An Analysis of the President's February Budgetary Proposals," CBO Paper (March 1993).

Revenue increases are shown with a negative sign because they reduce the deficit.

OBRA-93 = Omnibus Budget Reconciliation Act of 1993; FCC = Federal Communications Commission.

- Less than \$500 million.
- The CBO March 1993 uncapped baseline assumed that discretionary outlays would grow from 1993 appropriated levels at the same pace as inflation through 1998.
- CBO's estimate of the Administration's baseline assumed that discretionary outlays for nondefense accounts would grow from the 1993 appropriated levels at the same pace as inflation. Defense discretionary outlays equaled the amounts requested in the Bush Administration's January 1992 budget request (with various adjustments by the Clinton Administration).

### Box 2-2. The Debt Ceiling

As part of the Omnibus Budget Reconciliation Act of 1993, the Congress enacted a new statutory limit on federal debt of \$4.9 trillion. This action should spare lawmakers another vote on this contentious issue for nearly two years.

Debt subject to limit far exceeds debt held by the public (a much more useful measure of what the government owes), mainly because it includes the holdings of Social Security, Medicare, and other government trust funds. CBO's projections of debt subject to limit through 1998 are presented below. Clearly, although this year's deficit reduction package puts a huge dent in projected deficits, it does not halt the accumulation of debt. So long as the government runs any deficit at all, and so long as trust funds' holdings are included in the statutory measure, policymakers will be forced periodically to raise the dollar limit on debt.

Voting explicitly on the debt is an ineffectual way to control federal borrowing. The key choices are made when voting on spending and revenues, which in turn substantially dictate the Treasury's borrowing needs. But the increase in the reconciliation act was hardly the

first time that such a measure has been part of a bigger package that slashed the deficit and revamped the budget process. The original Balanced Budget and Emergency Deficit Control Act of 1985 (better known as Gramm-Rudman-Hollings), its successor in 1987, and the Budget Enforcement Act of 1990 all coincided with interruptions in the debt ceiling.

The latest increase marks the second vote this year on the debt ceiling. In April, a temporary hike in the debt ceiling (to \$4,370 billion) was enacted. This increase was valid only through September 30, 1993. Like many such short-term increases, this temporary measure was meant to bring the budgetary debate to a head and thus spur action on a major deficit reduction effort--which the Congress in fact wrapped up in August.

How long will the new ceiling last? Under the Congressional Budget Office's latest projections, debt subject to limit would just top \$5 trillion at the end of 1995. Thus, the recent increase to \$4.9 trillion is likely to last through most of that fiscal year--probably becoming inadequate in late spring or early summer.

Baseline Projections of Debt Subject to Statutory Limit  
(By fiscal year, in billions of dollars)

	1992	1993	1994	1995	1996	1997	1998
Debt Subject to Limit, Start of Year	3,569	3,973	4,308	4,677	5,006	5,345	5,701
Changes							
Deficit	290	266	253	196	190	198	200
Trust fund surplus	96	90	106	117	127	131	134
Other changes <sup>a</sup>	<u>17</u>	<u>-20</u>	<u>10</u>	<u>15</u>	<u>22</u>	<u>26</u>	<u>23</u>
Total	403	336	369	328	339	356	358
Debt Subject to Limit, End of Year	3,973	4,308	4,677	5,006	5,345	5,701	6,058

SOURCE: Congressional Budget Office.

a. Primarily changes in Treasury cash balances, investments by government funds (such as the Bank Insurance Fund) that are not trust funds, and activity of the credit financing accounts.

tax on boats, aircraft, jewelry, and furs; and reduction of the luxury excise tax on automobiles.

CBO estimates that over 80 percent of the net tax increase from OBRA-93 will be paid by families with incomes of at least \$200,000, and over 90 percent by families with incomes of at least \$100,000 (see Table 2-3). Two provisions that affect only families with incomes of \$100,000 or more--changes in individual income tax rates and the elimination of the cap on wages subject to the Medicare payroll tax--account for nearly two-thirds of the net increase in revenues. CBO estimates that high-income families will also bear a large share of the burden of increases in the corporate income tax. The OBRA-93 tax changes will bring the effective tax rate on the 1 percent of families with the highest incomes to its highest level since 1979.

By 1996, when the expansion of the earned income tax credit is fully phased in, the average family with income under \$30,000 will pay less tax than if OBRA-93 had not been enacted. For the average family in this category, the increase in the EITC (including the refundable portion that is treated as an outlay for budgetary purposes) will be larger than the added fuel taxes. OBRA-93 will raise the EITC for families with two or more children, increase the income level at which eligibility for the credit ceases, and expand the credit to include childless households. When these changes are fully phased in, the effective tax rate on the 20 percent of families with the lowest incomes will be less than half its 1985 level and lower than it has been for at least 16 years.

For families with incomes between \$30,000 and \$50,000, OBRA-93's higher motor fuel taxes will have the greatest impact--about \$62 a year for the average family in this category. Families with incomes between \$50,000 and \$100,000 will be affected almost equally by the taxation of Social Security benefits, the increases in the motor fuels tax, and the increase in corporate taxes.

Because OBRA-93's increases in the marginal income tax rate are substantial but apply only to a small share of taxpayers, the estimates of revenue gains are more uncertain than are estimates of smaller tax increases that apply more uniformly to the entire population. This uncertainty stems from two sources. First, the share of total income reported by the highest-income taxpayers varies considerably from year to year even when there are no changes in tax rates. Thus, forecasts of the tax base to which the higher OBRA-93 rates apply are uncertain. Second, the new rates themselves probably affect the tax base; high-income taxpayers may respond to higher tax rates by working less, taking more of their compensation in tax-free or tax-advantaged forms, adjusting their asset portfolios, or converting ordinary income to capital gains.

Official revenue estimates attempt to take into account many of these behavioral responses. Some analysts have suggested, however, that the behavioral response will be much larger than official estimates assume and could even wipe out most of the estimated revenue gain. Although the extent of the behavioral response is uncertain, CBO's current assessment is that it is likely to offset a small share of the revenue increase that would otherwise occur.

## Direct Spending

Changes in direct spending policy in OBRA-93 reduce the deficit by \$77 billion in 1994 through 1998 (see Table 2-2 on page 29). The major cuts in mandatory programs include the following:

- o \$56 billion from Medicare, primarily from reducing payments to hospitals, physicians, and other providers but including \$8 billion from requiring Medicare premiums to cover 25 percent of the costs for Supplementary Medical Insurance (Medicare Part B) in 1996, 1997, and 1998;

**Table 2-3.**  
**Changes in Taxes Under the Omnibus Budget Reconciliation Act of 1993, by Income Group**

	Change in Taxes		Percentage Change in After-Tax Income	Effective Tax Rates		Share of Change in Taxes
	Average (Dollars)	Percentage Change		Before OBRA-93	After OBRA-93	
<b>Families Ranked by Adjusted Family Income</b>						
<b>Income Quintile</b>						
Lowest	-166	-28.1	2.1	7.0	5.0	-8.3
Second	-35	-1.1	0.2	15.0	14.9	-1.8
Third	64	1.0	-0.2	19.3	19.5	3.2
Fourth	110	1.0	-0.3	22.1	22.3	5.7
Highest	1,884	6.5	-2.3	26.2	27.9	100.9
All	382	3.8	-1.1	22.8	23.7	100.0
<b>Detail on Highest Quintile</b>						
81 percent to 90 percent	239	1.4	-0.5	24.6	24.9	6.3
91 percent to 95 percent	388	1.7	-0.6	25.9	26.3	5.3
96 percent to 99 percent	1,177	3.3	-1.2	26.8	27.7	13.1
Top 1 percent	29,417	18.5	-7.2	28.0	33.2	76.3
<b>Families Ranked by Dollar Income</b>						
<b>Income Level</b>						
Less than \$10,000	-68	-14.9	1.2	7.5	6.4	-2.5
\$10,000 to \$20,000	-86	-5.0	0.6	11.5	10.9	-3.9
\$20,000 to \$30,000	-41	-1.0	0.2	16.9	16.8	-1.7
\$30,000 to \$40,000	50	0.7	-0.2	19.8	19.9	1.6
\$40,000 to \$50,000	105	1.1	-0.3	21.6	21.8	2.7
\$50,000 to \$75,000	192	1.3	-0.4	23.4	23.7	7.8
\$75,000 to \$100,000	312	1.4	-0.5	25.2	25.5	5.6
\$100,000 to \$200,000	649	1.9	-0.7	26.1	26.6	8.8
\$200,000 or more	23,521	17.4	-6.7	27.9	32.7	81.3
All	382	3.8	-1.1	22.8	23.7	100.0

SOURCE: Congressional Budget Office.

NOTES: The estimates assume 1998 tax law and 1994 income levels. They reflect both the revenue and outlay portion of the earned income tax credit. Before OBRA-93, 1998 tax law would have differed from 1994 tax law because of the scheduled expiration of the limitation on itemized deductions, the phaseout of personal exemptions, and the 2.5 cent component of the gasoline tax that goes into the general fund. The estimates exclude the provisions of OBRA-93 relating to enterprise zones, estimated income tax payments, improved tax compliance, and the temporary extension of the federal unemployment surtax.

Pretax family income is the sum of wages, salaries, self-employment income, rents, taxable and nontaxable interest, dividends, realized capital gains, pensions, and all cash transfer payments. Income also includes the employer's share of Social Security and federal unemployment insurance payroll taxes, and the corporate income tax. For purposes of ranking by adjusted family income, income for each family is divided by the projected 1994 poverty threshold for a family of that size. Quintiles contain equal numbers of people. Individuals are treated as families of one. Families with zero or negative income are excluded from the lowest income category but are included in the total.

Changes in individual income taxes are distributed directly to families paying those taxes. Changes in payroll taxes are distributed to families paying those taxes directly, or indirectly through their employers. Changes in federal excise taxes are distributed to families according to their consumption of the taxed good or service. Changes in corporate income taxes are distributed to families according to their income from capital.



- o **\$12 billion** from delaying cost-of-living adjustments for military and civil service retirees, permanently eliminating the lump-sum payment option for most federal retirees, and other changes that affect retirement and health benefits for federal employees;
- o **\$7 billion** from the Federal Communications Commission's auction of licenses for commercial use of a portion of the electromagnetic spectrum previously reserved for the government;
- o **\$7 billion** from Medicaid, primarily from repealing the requirement that states provide personal care services (but leaving states the option to cover such services under Medicaid) and limiting additional payments to hospitals serving large numbers of low-income or uninsured patients;
- o **\$4 billion** from changes in the Federal Family Education Loan program (formerly known as the Guaranteed Student Loan, or GSL, program), including a transition to a Federal Direct Student Loan program that is intended to handle 60 percent of loan volume by the 1998-1999 school year;
- o **\$3 billion** from a variety of provisions affecting programs of the Department of Veterans Affairs, including higher origination fees on VA-guaranteed loans, the extension through 1998 of the current authority to collect payments from commercial insurers for medical services provided by the VA to privately insured individuals, and a limitation on VA pensions to beneficiaries of nursing home care covered by Medicaid; and
- o **\$2 billion** from limiting the ratio of losses to premiums in the crop insurance program, increasing minimum acreage set-asides, and other changes in farm programs.

OBRA-93 achieved other, smaller savings by requiring the Department of Housing and Urban Development to use Internal Revenue

Service data to verify the income of beneficiaries of assisted housing, capping the number of acres enrolled in the conservation and wetlands reserve programs, and imposing or increasing a number of user fees. The savings in direct spending are partially offset by \$19 billion in additional spending for the refundable portions of the earned income tax credit, which is considered an outlay (the EITC liberalization also reduced revenues by \$2 billion); \$2 billion in increased spending for the Food Stamp program; and increases in a few other programs.

### Discretionary Spending

New discretionary spending limits for 1996, 1997, and 1998 included in OBRA-93 have reduced estimated discretionary spending by \$69 billion in 1994 through 1998, relative to CBO's winter 1993 baseline. Estimated savings are larger if the level of spending allowed under the new caps is compared with baselines that, unlike CBO's baseline, do not assume compliance with the discretionary caps for 1994 and 1995 that were established by the Budget Enforcement Act of 1990 (see Box 2-3).

## Changes in the Budget Outlook Since March

CBO last presented its budget projections in March 1993, in conjunction with its analysis of President Clinton's February 17, 1993, budgetary proposals. The budget estimates have changed since then, primarily because of the enactment of OBRA-93. Other legislation and revisions in CBO's economic forecast and technical assumptions have had a much smaller effect on projections of spending, revenues, and deficits (see Table 2-4).

### Policy Changes

CBO categorizes the reestimates that result from legislation enacted since the previous baseline as policy changes. Such changes

dominate the current reestimates because of the impact of OBRA-93, which has just been discussed. Other legislation has had relatively little effect on CBO's budgetary estimates. Two measures that provide emergency funding not subject to the discretionary spending limits or the pay-as-you-go constraints on direct spending and receipts account for almost all of the remaining policy changes. A supplemental appropriation bill providing funding for flood relief in the Midwest was enacted in early August, increasing discretionary spending in 1993 through 1998 by nearly \$6 billion. A bill enacted in early March that

extended unemployment benefits increased direct spending by \$6 billion in 1993 and 1994.

## Economic Changes

Revisions to CBO's economic forecast have generated little change in projected deficits for 1993 through 1998. The differences between the summer and winter forecasts are slight, and two of the more significant differences have offsetting effects: a somewhat lower level of real gross domestic product through 1997 tends to drive up deficits, but lower long-term

### Box 2-3. Alternative Baseline Concepts

There is no single correct estimate of the magnitude of savings in discretionary spending provided by the Omnibus Budget Reconciliation Act of 1993 (OBRA-93). An estimate is made by comparing the spending allowed under the discretionary spending limits in effect under the reconciliation act (including CBO's estimate of required adjustments to the caps) with prior baseline projections of discretionary outlays. Different estimates arise because three alternative discretionary baseline concepts were used in budget deliberations this year, providing three possible starting points for estimates of the savings under the reconciliation act.

- o **CBO (Capped) Baseline.** CBO's estimate of \$69 billion in discretionary cuts over the 1994-1998 period uses as its starting point the CBO winter 1993 baseline, which assumed that discretionary spending would comply with the caps established by the Budget Enforcement Act of 1990 for 1994 and 1995 and would grow at the same pace as inflation thereafter.
- o **CBO Uncapped Baseline.** One alternative starting point is an uncapped baseline, developed by CBO at the same time as the winter baseline, which assumed that discretionary spending in the 1994-1998 period would grow at just the rate of inflation.
- o **Administration's Baseline.** The Clinton Administration's budget for 1994 introduced a baseline concept in which nondefense discretionary spending would keep pace with inflation, but defense spending would be held to the levels proposed in the Bush Administration's January 1992 budget request (with various adjustments).

Because the 1994 and 1995 discretionary caps are lower than the amounts needed to provide the

same real level of funding as in 1993, discretionary spending for the 1994-1998 period in CBO's winter (capped) baseline was \$114 billion below that in the uncapped baseline. This difference in discretionary spending affected debt-service costs, which pushed the difference between total outlays in the two baselines to \$131 billion over the five years. CBO's estimate of discretionary spending using the Administration's baseline concept was \$78 billion below the uncapped baseline over five years but \$36 billion above the capped version. Including debt service, CBO's winter (capped) baseline was \$44 billion lower than CBO's estimate of spending in the Administration's baseline. The effect of using the alternative baselines as the starting point in estimating total deficit reduction produced by OBRA-93 is shown in the table at right.

CBO's winter 1993 baseline assumed compliance with the 1994 and 1995 caps because they represented a clear statement of policy concerning aggregate discretionary spending and because experience since 1990 suggests that actual discretionary spending will be close to the cap levels. However, the decision to limit discretionary spending to the stated cap amounts in 1994 and 1995 was not accompanied by any plan detailing specific program-by-program spending levels to accomplish the stated goals. Thus, the political repercussions of holding discretionary spending to the 1994 and 1995 caps, as well as to the new caps for 1996 through 1998, will be manifest only as the actual appropriations for each year are enacted and the real programmatic effects of complying with the new caps become apparent. Comparing the new caps with the spending needed to maintain current program activity levels in the face of inflation--the uncapped baseline--offers a measure of the required cuts in programs and the difficulty of complying with the caps.

interest rates have an opposite, and larger, effect. Although inflation is expected to be slightly higher throughout the period, changes in inflation have little impact on the deficit because they tend to push up revenues and spending by roughly equal amounts.

## Technical Changes

Changes in estimates that are not attributable to legislation or revisions in the economic forecast are called technical reestimates. An almost infinite number of factors can cause

such changes in projections of tax collections or spending, ranging from unexpected weather that affects the costs of farm programs to administrative actions that increase spending for entitlement benefits.

In contrast to recent experience, the technical changes to the winter baseline incorporated in this report drive deficits down. Reestimates of deposit insurance spending are once again a major part of the technical changes, with substantial year-to-year shifts and a reduction in total spending during the six-year period of more than \$20 billion. In a

**Deficit Reduction Under OBRA-93 from Alternative Baselines**  
(By fiscal year, in billions of dollars)

	1994	1995	1996	1997	1998	Five-Year Total
Reduction from CBO's March 1993 Capped Baseline <sup>a</sup>	-33	-56	-83	-118	-143	-433
Additional Reductions from CBO's Estimate of the Administration's Baseline						
Discretionary spending	-9	-16	-9	-3	2	-36
Debt service	<u>b</u>	<u>-1</u>	<u>-2</u>	<u>-2</u>	<u>-3</u>	<u>-8</u>
Total	-9	-17	-11	-6	-1	-44
Reduction from CBO's Estimate of the Administration's Baseline	-42	-73	-94	-124	-144	-477
Additional Reductions from CBO's March 1993 Uncapped Baseline						
Discretionary spending	-5	-10	-16	-21	-26	-78
Debt service	<u>b</u>	<u>-1</u>	<u>-1</u>	<u>-3</u>	<u>-4</u>	<u>-9</u>
Total	-5	-10	-18	-24	-30	-87
Reduction from CBO's March 1993 Uncapped Baseline	-47	-83	-112	-147	-175	-564

SOURCE: Congressional Budget Office.

- a. Includes \$69 billion in discretionary savings over five years.
- b. Less than \$500 million.

departure from recent baseline revisions, technical changes have reduced estimates of spending for Medicare and Medicaid and boosted revenues.

**Deposit Insurance.** The volatility of expenditures for deposit insurance is reflected in the current reestimates. Estimated outlays are down by more than \$18 billion in 1993 but in-

crease by about \$10 billion in 1994 (see Table 2-4). The volatility is most evident in estimates of S&L-related spending by the Resolution Trust Corporation (RTC) and its successor, the Savings Association Insurance Fund (SAIF). CBO presents that spending on a combined basis because of uncertainty about whether the September 30, 1993, deadline on RTC's acceptance of new cases will be

**Table 2-4.**  
Changes in CBO's Deficit Estimates Since March 1993 (By fiscal year, in billions of dollars)

	1993	1994	1995	1996	1997	1998
March 1993 Estimate	302	287	284	290	322	360
<b>Policy Changes</b>						
Reconciliation	0	-33	-55	-83	-118	-143
Other legislation	4	6	2	1	1	1
Subtotal	4	-26	-54	-82	-117	-143
<b>Economic Changes</b>						
Revenues	1	1	4	7	4	-5
Net interest	-1	-6	-10	-11	-12	-15
Other outlays	a	a	3	5	6	8
Subtotal	a	-5	-3	1	-2	-11
<b>Technical Changes</b>						
Revenues	-10	-4	-3	-3	-2	-3
Outlays						
Bank Insurance Fund <sup>b</sup>	-7	-5	-4	-2	1	6
S&L-related outlays <sup>b, c</sup>	-12	15	-14	-7	5	1
Medicaid	-4	-4	-4	-4	-5	-5
Medicare	-4	-5	-5	-3	-3	-3
Income security <sup>d</sup>	1	2	3	2	3	3
Shortening of debt maturities	a	-1	-1	-1	-2	-2
Debt service	-1	-2	-3	-4	-4	-4
Other	-3	a	a	3	2	2
Subtotal	-39	-2	-31	-19	-5	-6
Total	-36	-33	-88	-100	-124	-160
Current Estimate	266	253	196	190	198	200

SOURCE: Congressional Budget Office.

NOTES: Revenue losses are shown with a positive sign because they increase the deficit.

S&L = savings and loan.

- Less than \$500 million.
- Net of interest payments to the Federal Financing Bank. These payments are intrabudgetary and do not affect the total deficit.
- Includes the Resolution Trust Corporation, the Savings Association Insurance Fund, and the FSLIC Resolution Fund.
- Primarily food stamps, Supplemental Security Income, and the earned income tax credit.

extended and because total spending is not significantly affected by which agency is responsible for new resolutions after that date.

CBO's winter 1993 estimates of RTC and SAIF spending assumed that legislation to fund S&L-related spending would be enacted in the spring, but the Congress has not yet completed action on it. CBO assumes that funding will be enacted this fall for RTC and SAIF activities for two reasons: funding must eventually be provided to meet existing commitments to savings and loan depositors, and such funding is exempt from pay-as-you-go procedures that require cuts in other spending or tax increases to offset new spending. The delay in funding is largely responsible for a reduction of nearly \$12 billion in estimated S&L-related spending in 1993 and a \$15 billion increase in 1994. In addition to shifting spending from year to year, delays in funding that would allow regulators to shut down currently insolvent thrifts increase the eventual cost of those closures.

Despite the increased costs imposed by the funding hiatus, total S&L-related spending, which includes continuing expenditures by the FSLIC Resolution Fund related to thrifts closed by the Federal Savings and Loan Insurance Corporation before its demise in 1989, is down more than \$12 billion over the 1993-1998 period. This drop reflects improvement in the overall health of the industry that is largely attributable to the favorable interest rate climate. Thrifts can raise funds at current low short-term rates while their portfolios continue to reflect higher rates for long-term loans and investments. As a result, fewer institutions are expected to fail during the next five years. Recent legislation and regulatory reforms have also prompted many thrifts to take steps to improve their capital positions and to control and reduce risk. Furthermore, the drop in long-term interest rates has increased the value of loan assets--primarily mortgages with relatively high interest rates--of institutions that have already or are expected to become insolvent over the 1993-1998 period, thereby decreasing RTC's and SAIF's resolution costs.

Nonetheless, the estimate of S&L-related spending remains highly uncertain because of the unpredictability of funding for RTC and SAIF and the possibility that a number of the more profitable thrifts may opt out of the industry by switching to bank charters. Such switching will be increasingly tempting if, as CBO anticipates, premiums of the Bank Insurance Fund (BIF) are cut in 1997 and premiums for SAIF are maintained at current levels.

Net spending by the Bank Insurance Fund in 1993 through 1998 is also lower--by \$10 billion--largely because of the effect of favorable interest rates on the health of the banking industry. The improved condition of the industry has allowed BIF to pay off the remaining loans from the Federal Financing Bank that had been needed to meet demands on the fund. CBO anticipates that premiums assessed on banks will be sufficient to support the fund for the foreseeable future. Moreover, CBO estimates that the target for BIF's capitalization (the ratio of reserves to insured deposits) will be achieved in 1997, permitting premiums to drop from 25 cents to around 9 cents per \$100 of deposits. This anticipated premium cut generates an increase in estimated net BIF outlays for that year.

**Medicare and Medicaid.** Unanticipated growth in Medicare and Medicaid in recent years has regularly caused large technical changes in CBO's deficit projections. Increased estimates of Medicare and Medicaid spending contributed to the failure of the 1990 budget agreement to slow spending growth and rein in deficits--a failure that has led to widespread criticism of that agreement.

Spending on Medicare and Medicaid is once again subject to significant technical revisions, but this time the technical changes produce lower estimates of spending for these two programs. Lower-than-anticipated payments to physicians under Medicare's Supplementary Medical Insurance have pushed estimated spending for Medicare about \$4 billion below winter baseline estimates for 1993. This reduction probably results from a somewhat unexpected response by some physicians

**Table 2-5.**  
**Baseline Budget Projections, Assuming Compliance with Discretionary Spending Caps (By fiscal year)**

Category	Actual 1992	1993	1994	1995	1996	1997	1998
In Billions of Dollars							
<b>Revenues</b>							
Individual income	476	512	545	593	628	661	699
Corporate income	100	115	126	132	136	143	149
Social insurance	414	428	465	495	521	547	573
Other	101	96	107	113	117	121	126
<b>Total</b>	<b>1,090</b>	<b>1,150</b>	<b>1,244</b>	<b>1,332</b>	<b>1,403</b>	<b>1,472</b>	<b>1,547</b>
On-budget	788	839	907	976	1,027	1,076	1,131
Off-budget	302	312	337	357	376	395	415
<b>Outlays</b>							
Defense discretionary	303	294	a	a	a	a	a
International discretionary	19	21	a	a	a	a	a
Domestic discretionary	214	231	a	a	a	a	a
Subtotal	536	547	542	542	548	547	547
Mandatory spending, excluding deposit insurance	712	764	808	855	901	969	1,035
Deposit insurance	3	-26	14	-10	-10	-8	-4
Net interest	199	198	203	217	230	242	253
Offsetting receipts <sup>b</sup>	-69	-67	-70	-74	-76	-80	-85
<b>Total</b>	<b>1,381</b>	<b>1,416</b>	<b>1,497</b>	<b>1,529</b>	<b>1,592</b>	<b>1,670</b>	<b>1,747</b>
On-budget	1,129	1,149	1,217	1,237	1,289	1,353	1,416
Off-budget	252	267	280	291	303	317	331
<b>Deficit</b>	<b>290</b>	<b>266</b>	<b>253</b>	<b>196</b>	<b>190</b>	<b>198</b>	<b>200</b>
On-budget deficit	341	311	311	262	263	276	284
Off-budget surplus	50	45	57	65	73	78	84
<b>Debt Held by the Public</b>	<b>2,999</b>	<b>3,249</b>	<b>3,507</b>	<b>3,713</b>	<b>3,919</b>	<b>4,137</b>	<b>4,357</b>

(Continued)

SOURCE: Congressional Budget Office.

a. Discretionary spending caps are specified by category through 1993 and in the aggregate for 1994 through 1998.

to new methods for determining reimbursement rates that were enacted in 1989 and went into effect on January 1, 1992. Those physicians who have received higher payments for procedures under the new rules have reduced the volume of procedures they performed. This reduction was not anticipated when the reimbursement rates were set. Unless physicians' behavior changes, reductions close to the 1993 figure should occur each year through 1998.

The Medicaid program is operated by the individual states; the federal government sets standards and provides matching payments. Federal expenditures are therefore affected by the behavior of the states, as well as by

changes in eligible populations and the vagaries of the health care delivery system. The unanticipated explosion of Medicaid costs in the early 1990s was caused partly by the states' successful attempts to boost federal reimbursements by arranging for increased tax collections or donations from hospitals and other providers that received higher Medicaid payments. These actions effectively raised the federal matching rate to 100 percent for certain Medicaid payments by the states.

Legislation enacted in 1991 to limit states' use of these schemes, along with uncertainty about how to interpret the legislation, seems to have restrained the growth in federal payments to the states in 1993. CBO has lowered

**Table 2.5.**  
**Continued**

Category	Actual 1992	1993	1994	1995	1996	1997	1998
<b>As a Percentage of GDP</b>							
<b>Revenues</b>							
Individual income	8.1	8.3	8.4	8.6	8.7	8.7	8.8
Corporate income	1.7	1.9	1.9	1.9	1.9	1.9	1.9
Social insurance	7.0	6.9	7.1	7.2	7.2	7.2	7.2
Other	1.7	1.6	1.6	1.6	1.6	1.6	1.6
<b>Total</b>	<b>18.6</b>	<b>18.6</b>	<b>19.1</b>	<b>19.4</b>	<b>19.4</b>	<b>19.4</b>	<b>19.4</b>
On-budget	13.4	13.6	13.9	14.2	14.2	14.2	14.2
Off-budget	5.2	5.0	5.2	5.2	5.2	5.2	5.2
<b>Outlays</b>							
Defense discretionary	5.2	4.8	a	a	a	a	a
International discretionary	0.3	0.3	a	a	a	a	a
Domestic discretionary	3.6	3.7	a	a	a	a	a
Subtotal	9.2	8.8	8.3	7.9	7.6	7.2	6.9
Mandatory spending, excluding deposit insurance	12.1	12.3	12.4	12.5	12.5	12.8	13.0
Deposit insurance	c	-0.4	0.2	-0.1	-0.1	-0.1	c
Net interest	3.4	3.2	3.1	3.2	3.2	3.2	3.2
Offsetting receipts <sup>b</sup>	-1.2	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
<b>Total</b>	<b>23.5</b>	<b>22.9</b>	<b>23.0</b>	<b>22.3</b>	<b>22.0</b>	<b>22.0</b>	<b>21.9</b>
On-budget	19.2	18.6	18.7	18.0	17.8	17.8	17.7
Off-budget	4.3	4.3	4.3	4.2	4.2	4.2	4.1
<b>Deficit</b>	<b>4.9</b>	<b>4.3</b>	<b>3.9</b>	<b>2.9</b>	<b>2.6</b>	<b>2.6</b>	<b>2.5</b>
On-budget deficit	5.8	5.0	4.8	3.8	3.6	3.6	3.6
Off-budget surplus	0.9	0.7	0.9	1.0	1.0	1.0	1.1
<b>Debt Held by the Public</b>	<b>51.1</b>	<b>52.5</b>	<b>53.8</b>	<b>54.1</b>	<b>54.3</b>	<b>54.4</b>	<b>54.6</b>

b. Includes contributions from allied nations for Operation Desert Storm of \$5 billion in 1992.

c. Less than 0.05 percent.

its estimates of federal Medicaid spending by close to \$5 billion a year from 1993 through 1998 as a result of the slower growth experienced in 1993. The reestimates for 1994 through 1998 would have been slightly larger if they had been based solely on the 1993 data. Final regulations issued in August that clarify how to implement the 1991 law are not as constraining as preliminary versions; the 1994-1998 reestimates are therefore slightly lower than the 1993 downturn would otherwise suggest.

**Income Security.** Estimated spending for 1993 through 1998 for a number of income security programs--primarily food stamps, Sup-

plemental Security Income, and the refundable portion of the earned income tax credit--has increased by an average of \$2 billion a year. These reestimates reflect the expected rise in demand resulting from such factors as an increase in the number of households headed by women.<sup>2</sup>

**Net Interest.** The only other category of spending subject to a significant technical reestimate is net interest. Part of the reestimate is generated by changes the Treasury is

2. See Congressional Budget Office, "Forecasting AFDC Caseloads, with an Emphasis on Economic Factors," CBO Staff Memorandum (July 1993).

making in how it manages federal debt.<sup>3</sup> The Treasury announced plans in May 1993 that would reduce sales of 30-year bonds by almost \$15 billion a year below CBO's earlier projections and would eliminate sales of seven-year notes, which had been issued at the rate of almost \$40 billion a year. Because the Treasury will instead borrow these amounts in relatively short-term markets--Treasury bills and two- and three-year Treasury notes--at lower interest rates, CBO has estimated that the new approach to debt management will cut net interest costs by \$100 million in 1993 and by an additional \$6.4 billion in 1994 through 1998 (see Table 2-4 on page 36).

The President's budget, as well as the Congressional budget resolution for 1994 and Budget Committee estimates of OBRA-93, included \$16.4 billion in deficit reduction from an unspecified shortening of debt maturities. Because any savings from debt management will result from an exercise of administrative discretion rather than changes in law or economic factors, CBO categorizes its estimate of the savings as a technical change. CBO also includes as a technical reestimate a \$2.5 billion reduction in net interest over five years stemming from the Treasury's reduction (from 6 percent to 4 percent) in the guaranteed interest rate on savings bonds, aligning it more closely with market rates. The remaining technical reestimate to net interest is simply the effect of all the other technical reestimates, which reduce the deficit, on the costs of servicing the debt.

**Revenues.** Increases in tax collections this year that cannot be explained by changes in economic indicators have generated a \$10 billion technical boost in CBO's estimate of 1993 revenues. Estimates of revenues through 1998 have also been raised, though by smaller amounts because two of the factors that increased 1993 revenues--corporate income taxes rebounding from the recession more quickly than anticipated and tax withholding growing

faster than wages in recent months--are expected to be temporary.

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## The Updated Outlook

Federal revenues climb from \$1,150 billion in 1993 to \$1,547 billion in 1998 (see Table 2-5 on page 38). As a share of GDP, they increase from 18.6 percent in 1993 to 19.4 percent in 1995 as a result of the new taxes enacted in OBRA-93, and then level off.

Discretionary outlays are essentially frozen at the 1993 level through 1998 by the caps on total discretionary spending in effect in the wake of OBRA-93. Adjusted for inflation, discretionary spending in 1998 is about 14 percent lower than in 1993. Discretionary spending, which equaled 14.4 percent of GDP in 1968, declines from 8.8 percent of GDP in 1993 to 6.9 percent in 1998.

Mandatory spending is by far the largest and most rapidly growing category of spending, totaling \$764 billion in 1993 and \$1,035 billion in 1998. (The major components of mandatory spending are shown in Table 2-6.) Mandatory spending is growing at an average annual rate of 6.3 percent, outstripping the growth rate of nominal GDP by 1.1 percentage points. The two fastest-growing programs--Medicaid and Medicare--more than account for the growth relative to GDP. Those two programs together grow at an average annual rate of 11.6 percent from 1993 through 1998, increasing from 3.5 percent of GDP in 1993 to 4.7 percent in 1998. All other mandatory programs combined grow at an average annual rate of less than 4 percent and decline relative to GDP.

Deposit insurance spending displays the usual ups and downs in the early years of the projection period. After 1994, however, the projection is for steady, small negative outlays as a result of reduced caseloads and the disposition of assets acquired in the course of earlier resolutions (see Table 2-7). By 1998, pro-

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3. See Congressional Budget Office, *Federal Debt and Interest Costs* (May 1993).



**Table 2-6.**  
**CBO Baseline Projections for Mandatory Spending,**  
**Excluding Deposit Insurance (By fiscal year, in billions of dollars)**

	Actual 1992	1993	1994	1995	1996	1997	1998
<b>Means-Tested Programs</b>							
Medicaid	68	76	88	100	112	125	139
Food Stamps <sup>a</sup>	23	25	25	25	26	27	28
Supplemental Security Income	18	21	25	24	24	29	31
Family Support	16	17	17	18	18	19	20
Veterans' Pensions	4	3	3	3	3	3	3
Child Nutrition	6	6	7	7	8	8	9
Earned Income Tax Credit	8	10	11	16	19	22	22
Student Loans <sup>b</sup>	2	2	2	2	2	2	2
Other	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>4</u>	<u>4</u>
<b>Total</b>	146	163	182	200	216	238	258
<b>Non-Means-Tested Programs</b>							
Social Security	285	302	319	337	354	372	391
Medicare	<u>129</u>	<u>143</u>	<u>160</u>	<u>178</u>	<u>196</u>	<u>216</u>	<u>239</u>
Subtotal	414	445	479	515	550	589	630
Other Retirement and Disability							
Federal civilian <sup>c</sup>	37	39	41	43	45	48	51
Military	24	26	27	28	29	30	32
Other	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>
Subtotal	67	70	73	76	79	83	88
Unemployment Compensation	37	36	28	25	25	25	25
Other Programs							
Veterans' benefits <sup>d</sup>	16	16	17	17	16	18	18
Farm price supports	9	15	10	9	9	9	9
Social services	5	5	6	6	6	5	6
Credit reform liquidating accounts	4	3	1	-2	-8	-5	-6
Other	<u>13</u>	<u>12</u>	<u>11</u>	<u>9</u>	<u>8</u>	<u>8</u>	<u>8</u>
Subtotal	47	51	46	39	30	35	35
<b>Total</b>	565	601	626	655	685	732	778
<b>Total</b>							
<b>All Mandatory Spending, Excluding Deposit Insurance</b>	712	764	808	855	901	969	1,035

SOURCE: Congressional Budget Office.

NOTE: Spending for major benefit programs shown in this table includes benefits only. Outlays for administrative costs of most benefit programs are classified as nondefense discretionary spending; Medicare premium collections are classified as offsetting receipts.

- a. Includes nutrition assistance to Puerto Rico.
- b. Includes Stafford loans, Supplemental Loans for Students (SLS), Parent Loans for Undergraduate Students (PLUS), and the new Federal Direct Student Loan program.
- c. Includes Civil Service, Foreign Service, Coast Guard, and other retirement programs, and annuitants' health benefits.
- d. Includes veterans' compensation, readjustment benefits, life insurance, and housing programs.

**Table 2-7.**  
**Outlays for Deposit Insurance in the Baseline (By fiscal year, in billions of dollars)**

	Estimate 1992	1993	1994	1995	1996	1997	1998
<b>Savings-and-Loan-Related</b>							
<b>Resolution Trust Corporation and Savings Association Insurance Fund</b>							
Insurance losses <sup>a</sup>	10	2	21	3	3	2	2
Working capital							
Disbursements	21	8	19	4	3	3	2
Receipts	-43	-31	-21	-12	-10	-7	-4
Interest costs	3	1	1	1	b	b	b
Insurance premiums	<u>b</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>
Total	-9	-20	19	-5	-5	-2	-1
FSLIC Resolution Fund	8	2	1	1	b	b	b
<b>Bank-Related and Other</b>							
<b>Bank Insurance Fund</b>							
Losses	c	3	2	2	2	2	2
Working capital	c	4	4	5	5	5	5
Liquidations	-10	-11	-7	-6	-6	-7	-7
Net interest	b	b	b	-1	-1	-1	-1
Other outlays (Net)	<u>-4</u>	<u>-5</u>	<u>-5</u>	<u>-6</u>	<u>-6</u>	<u>-6</u>	<u>-2</u>
Total	4	-9	-6	-5	-5	-6	-2
Other <sup>d</sup>	b	b	b	b	b	b	b
<b>Total</b>							
<b>Total Outlays for Deposit Insurance</b>	<b>3</b>	<b>-26</b>	<b>14</b>	<b>-10</b>	<b>-10</b>	<b>-8</b>	<b>-4</b>

SOURCE: Congressional Budget Office.

NOTE: The Resolution Trust Corporation (RTC) is currently scheduled to stop accepting new cases after September 30, 1993, and turn over responsibility for future resolutions to the Savings Association Insurance Fund. However, because of delays in the RTC's cleanup efforts, significant losses will persist after the transfer date. Thus, the Congress may extend RTC's lifetime (as it has done once already). CBO presents the estimates on a combined basis.

The estimates assume the provision of additional resources to the RTC or its successor beyond those available under current law.

- a. Includes administrative costs of less than \$500 million a year.
- b. Less than \$500 million.
- c. Total resolution outlays in 1992 were \$19 billion. The distribution between losses and working capital is not available.
- d. Primarily National Credit Union Administration.

jected net outlays for deposit insurance will be only negative \$4 billion. Offsetting receipts, which are counted as negative outlays for budgetary purposes, increase at about the same rate as GDP.

Net interest increases from \$198 billion in 1993 to \$253 billion in 1998, but does not grow relative to the size of the economy (see Table 2-5 on page 38). It equals a steady 3.2 percent of GDP through most of the period. This stability represents a significant change from CBO's winter baseline, in which net interest climbed to 3.7 percent of GDP in 1998. The combination of savings in debt-service costs from the deficit reduction provided by OBRA-93 and lower interest rates have stabilized net interest, reducing the contribution of spiraling interest costs to rising deficits.

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## The Federal Sector of the National Income and Product Accounts

The projections described so far in this chapter use categories--revenues by source, outlays by category, total deficits--that are familiar to policymakers. Economists, though, often use another approach for describing the government's activities. The national income and product accounts (NIPAs) recast the government's transactions into categories that affect gross domestic product, income, and other macroeconomic aggregates, thereby helping to trace the relationship between the federal sector and other areas of the economy.

A handful of major differences distinguish the NIPA versions of federal receipts and expenditures from their budget counterparts. Netting and grossing adjustments move selected offsets against outlays from the spending to the receipts side of the NIPAs (see Table 2-8). The budget records these receipts as negative outlays because they are not deemed to result from the government's power to tax. To portray a more comprehensive measure of re-

ceipts from all sources, the NIPAs shift these negative outlays from the expenditures to the receipts side. This shift does not affect the deficit.

Foremost among netting and grossing adjustments are intrabudgetary receipts for retirement contributions on behalf of federal workers (\$54 billion in 1993) and voluntary premiums for Medicare coverage (\$16 billion in 1993). Deposit insurance premiums also contribute to the netting and grossing adjustment to the tune of \$6 billion to \$8 billion per year until 1998, when CBO anticipates a reduction in the premiums levied on commercial banks.

Excluding lending and financial transactions, in contrast, causes the NIPA deficit to diverge from its budget counterpart. The NIPA totals disregard transactions that involve the transfer of existing assets and liabilities and that therefore do not contribute to current income and production. Huge outlays for deposit insurance have dominated this category in recent years. Other, relatively small factors driving a wedge between budget and NIPA accounting include timing adjustments and geographical differences (the exclusion of Puerto Rico, the Virgin Islands, and a few other areas from the national economic statistics).

The NIPA federal sector generally portrays receipts according to their source and expenditures according to their purpose and destination. Table 2-9 divides receipts and expenditures into their NIPA categories.

The leading source of receipts for the federal government in the 1993-1998 period is taxes and fees paid by individuals. Following this category closely are contributions (including premiums) for social insurance such as Social Security, Medicare, and federal employees' retirement. Both sources are expected to top \$500 billion in 1993. The remaining categories are corporate profits tax accruals, including the earnings of the Federal Reserve System, and indirect business tax and nontax accruals (chiefly excise taxes and fees).

**Table 2-8.**  
**Relationship of the Budget to the Federal Sector of the**  
**National Income and Product Accounts (By fiscal year, in billions of dollars)**

	Actual 1992 <sup>a</sup>	1993	1994	1995	1996	1997	1998
<b>Receipts</b>							
Revenues (Budget basis) <sup>b</sup>	1,090	1,150	1,244	1,332	1,403	1,472	1,547
Differences							
Netting and grossing							
Government contributions for employee retirement	54	54	57	59	62	66	69
Medicare premiums	13	16	17	20	21	23	26
Deposit insurance premiums	7	6	6	7	7	8	4
Other	1	1	2	2	2	1	c
Geographic exclusions	-2	-2	-3	-3	-3	-3	-3
Other	-2	2	-3	-5	-1	-1	-5
Total	71	76	78	81	89	94	92
Receipts (NIPA basis)	1,162	1,227	1,322	1,413	1,491	1,565	1,638
<b>Expenditures</b>							
Outlays (Budget basis) <sup>b</sup>	1,381	1,416	1,497	1,529	1,592	1,670	1,747
Differences							
Netting and grossing							
Government contributions for employee retirement	54	54	57	59	62	66	69
Medicare premiums	13	16	17	20	21	23	26
Deposit insurance premiums	7	6	6	7	7	8	4
Other	1	1	2	2	2	1	c
Lending and financial transactions							
Deposit insurance	-2	23	-17	5	5	2	1
Other	-19	-6	-4	c	7	3	4
Defense timing adjustment	2	4	1	1	1	1	1
Geographic exclusions	-8	-8	-9	-9	-10	-10	-11
Other	-1	-6	-9	-7	-4	-7	-8
Total	49	83	45	78	91	86	88
Expenditures (NIPA basis)	1,430	1,500	1,542	1,607	1,683	1,756	1,834
<b>Deficits</b>							
Deficit (Budget basis) <sup>b</sup>	290	266	253	196	190	198	200
Differences							
Lending and financial transactions							
Defense timing adjustment	2	4	1	1	1	1	1
Geographic exclusions	-5	-6	-6	-7	-7	-7	-8
Other	1	-8	-7	-2	-3	-6	-3
Total	-23	7	-33	-3	2	-7	-4
Deficit (NIPA basis)	268	273	220	194	192	191	196

SOURCE: Congressional Budget Office.

a. Department of Commerce, *Survey of Current Business* (April 1993).

b. Includes Social Security and the Postal Service.

c. Less than \$500 million.

**Table 2-9.**  
**Projections of Baseline Receipts and Expenditures Measured by the**  
**National Income and Product Accounts (By fiscal year, in billions of dollars)**

	Actual 1992 <sup>a</sup>	1993	1994	1995	1996	1997	1998
<b>Receipts</b>							
Personal Tax and Nontax Receipts	486	505	551	599	639	672	711
Corporate Profits Tax Accruals	111	127	136	142	149	156	162
Indirect Business Tax and Nontax Accruals	81	86	89	93	95	97	96
Contributions for Social Insurance	<u>485</u>	<u>509</u>	<u>546</u>	<u>578</u>	<u>609</u>	<u>640</u>	<u>670</u>
Total	1,162	1,227	1,322	1,413	1,491	1,565	1,638
<b>Expenditures</b>							
Purchases of Goods and Services							
Defense	314	308	303	308	316	324	333
Nondefense	<u>131</u>	<u>139</u>	<u>145</u>	<u>151</u>	<u>155</u>	<u>160</u>	<u>165</u>
Subtotal	445	448	448	460	472	484	498
Transfer Payments							
Domestic	594	634	666	710	753	801	851
Foreign	<u>10</u>	<u>14</u>	<u>14</u>	<u>15</u>	<u>15</u>	<u>15</u>	<u>16</u>
Subtotal	603	648	680	724	768	816	866
Grants-in-Aid to State and Local Governments	169	186	202	216	230	246	265
Net Interest	188	185	190	202	215	225	235
Subsidies Less Current Surplus of Government Enterprises	25	34	32	30	30	31	33
Required Reductions in Discretionary Spending	<u>n.a.</u>	<u>n.a.</u>	<u>-11</u>	<u>-25</u>	<u>-32</u>	<u>-47</u>	<u>-62</u>
Total	1,430	1,500	1,542	1,607	1,683	1,756	1,834
<b>Deficit</b>							
Deficit	268	273	220	194	192	191	196

SOURCE: Congressional Budget Office.

NOTE: n.a. = not applicable.

a. Department of Commerce, *Survey of Current Business* (April 1993).

Classifying government expenditures as to their purpose and destination is somewhat more problematic. Defense and nondefense purchases of goods and services clearly enter directly into gross domestic product. Other categories (chiefly transfers, grants, and interest) contain payments to individuals or state and local governments. Ultimately, these payments may enter GDP as consumption, as state or local purchases, or as yet another category of demand depending on how recipients use the funds. For example, Social Security payments (the biggest transfer program) may be used for a variety of purchases--from durable goods to services--and will not be counted as part of GDP until the funds are spent.

As discussed earlier in this chapter, the Budget Enforcement Act of 1990 and the Omnibus Budget Reconciliation Act of 1993 imposed caps on discretionary spending through 1998. These caps impose a virtual freeze on such outlays. The final expenditure entry in Table 2-9 depicts the unspecified savings needed to comply with the caps in 1994 and beyond, relative to a path that would permit such spending to keep pace with inflation. The savings cannot be assigned to particular NIPA categories but are most likely to come from defense and nondefense purchases and grants.

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# Appendixes





# Evaluating CBO's Record of Economic Forecasts

Since publishing its first forecast in 1976, the Congressional Budget Office has compiled a record of economic predictions that compares favorably with the track records of four Administrations as well as with the consensus forecasts of a sizable sample of economic forecasters. Although the margin is slight, CBO's forecasts have generally been closer than the Administration's to the actual values of several economic indicators that are important for projecting the budget. Moreover, during the 10 years for which comparisons are possible, CBO's forecasts have been about as accurate as the average of the 50 or so private-sector forecasts that constitute the *Blue Chip* consensus survey. Comparing CBO's forecasts with this survey suggests that, although CBO's economic predictions have sometimes missed the mark by margins large enough to contribute to sizable misestimates of the deficit, these errors probably reflect limitations that confront all forecasters.

These conclusions echo the findings of previous studies published by CBO and other government and academic reviewers. They emerge from an evaluation of the accuracy of short-term forecasts of growth in real gross national product (GNP), inflation in the consumer price index (CPI), and measures of the interest rate on three-month Treasury bills, both in nominal and inflation-adjusted (real) terms. In this evaluation, CBO has compiled two-year averages of its forecasts for these indicators and compared them with the historical values as well as with the corresponding forecasts of the Administration and the *Blue Chip* consensus.

A comparison of forecasts issued early in each calendar year from 1976 through 1991

indicates that both CBO and the Administration have tended to err toward optimism in their forecasts for a two-year horizon--that is, the average forecast error exceeded zero for real growth and was less than zero for interest rates and inflation. On average, the errors in the Administration's forecasts were slightly larger than in CBO's. Moreover, an examination of longer-term projections of growth of real GNP reaches similar conclusions: CBO's errors in projecting four-year average growth of real GNP were optimistic on average and smaller than the Administration's. Finally, CBO's forecasts appear to be about as accurate as the average of the *Blue Chip* forecasters over the period for which comparable *Blue Chip* forecasts are available (1982-1991).

Note, however, that the differences between the three forecasts are too small to be statistically significant. The small number of forecasts available for the analysis makes it difficult to distinguish meaningful differences in forecast performance from those differences that might arise randomly. As a result, the statistics presented here are not reliable indicators of the future performance of any of the three forecasters.

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## Data Sources

This section describes the sources used and calculations made in compiling the basic historical and forecast data for growth in real GNP, CPI inflation, and short-term interest rates. Although each of these series has an important influence on budget projections, an accurate forecast of the two-year average growth of real GNP is the most critical

economic factor in accurately estimating the deficit for the upcoming budget year. Two-year average forecasts published in early 1992 and 1993 could not be included because historical values for 1993 and 1994 are not yet available.<sup>1</sup> The data were therefore compiled for the years 1976 through 1991.

## Selection of Historical Data

The choice of historical data was dictated by the nature of the individual forecasts examined. For CPI inflation and short-term interest rates, this choice was clear-cut. Choosing a series for real economic growth was less so.

**CPI Inflation.** Two-year averages of CPI inflation were calculated from calendar year averages of monthly data published by the Bureau of Labor Statistics. For all of the years examined here, the Administration published its forecasts for the CPI-W (the price index for urban wage earners and clerical workers), the measure used to index federal entitlement programs. By contrast, for all but four of its forecasts (1986 through 1989), CBO based its inflation forecast on the CPI-U (the price index for all urban consumers), a more widely cited measure of inflation and the one now used to index federal income tax brackets. Although annual fluctuations in the CPI-U and CPI-W are virtually indistinguishable in most years, they differ in some years; therefore, historical data for both series were used to evaluate the alternative forecast records.

**Short-Term Interest Rates.** Two-year averages of nominal short-term interest rates were similarly developed from calendar year aver-

ages of monthly data published by the Board of Governors of the Federal Reserve System. Historical values for the interest rate on three-month Treasury bills were used in evaluating the forecasts. Separate historical values for real interest rates were calculated using the inflation rate appropriate for each forecaster. In each case, the two-year average nominal interest rate was discounted by the two-year average rate of inflation. The resulting real short-term interest rates were very similar to each other.

**Real GNP Growth.** The selection of historical values for growth of real GNP was complicated not by differences in the measure the individual forecasters predicted through the years--CBO, the Administration, and the *Blue Chip* consensus all published forecasts of the same measure--but by the periodic benchmark revisions of the historical values themselves. For example, during the 1976-1985 period, the forecasters published estimates for a measure of growth in real GNP that was based on 1972 prices. In late 1985, however, the Bureau of Economic Analysis (BEA) discontinued this 1972-dollar series and began to publish GNP on a 1982-dollar basis. As a result, an official series of values for GNP growth in 1972 dollars is not available for years after 1984. BEA revised the benchmark again in the second half of 1991; it discontinued 1982-dollar GNP and began to publish GNP on a 1987-dollar basis. Consequently, the historical annual series for 1982-dollar GNP is available only through 1990.

By updating the series to reflect more recent prices, BEA's benchmark revisions yield a measure of real GNP that is more relevant for analyzing contemporary movements in real growth. But the process makes it difficult to evaluate forecasts of real growth produced over a period of years for series that are subsequently discontinued. Recently, however, the difficulties presented by periodic revisions of the data have been diminished by the availability of a new measure of real growth. In 1992, BEA began to publish and regularly update an alternative series for real GNP that

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1. In early 1992, CBO began to publish forecasts and projections of gross domestic product rather than GNP. This switch will not be reflected in the evaluation of CBO's forecast until data for 1993 are available. In addition, the Clinton Administration adopted CBO's economic assumptions as the basis for its budget in early 1993. As a result, once the 1993 data are available, the errors for that early 1993 forecast will be virtually the same for CBO and the Administration.

essentially merges the various base years.<sup>2</sup> CBO used that measure--the benchmark-years-weighted index of real GNP--to evaluate the forecasts.<sup>3</sup>

## Sources for Forecast Data

The evaluation used calendar year forecasts and projections, which CBO has published early each year since 1976, timed so as to coincide with the publication of the Administration's budget proposals. The Administration's forecasts were taken from the Administration's budget in all but one case: the forecast made in early 1981 was taken from the new Reagan Administration's revisions to President Carter's last budget. The corresponding CBO forecast was taken from a projection published in its analysis of the Reagan budget proposals. That forecast did not include the economic effects of the new Administration's fiscal policy proposals.

The average forecasts of the *Blue Chip* consensus survey were taken from those published in the same month as CBO's forecasts. Because the *Blue Chip* consensus did not begin publishing its two-year forecasts until the middle of 1981, the first consensus forecasts available for use in this analysis were published in early 1982.

2. For details on the conceptual basis and empirical characteristics of this new series, see A. H. Young, "Alternative Measures of Change in Real Output and Prices," *Survey of Current Business* (April 1992), pp. 32-48; J. E. Triplett, "Economic Theory and BEA's Alternative Quantity and Price Indexes," *Survey of Current Business* (April 1992), pp. 49-52; and A. H. Young, "Alternative Measures of Change in Real Output and Prices: Quarterly Estimates for 1959-92," *Survey of Current Business* (March 1993), pp. 31-41.

3. Alternative approaches to updating the 1972-dollar and 1982-dollar series did not substantially affect the evaluation of the forecasts. These alternatives included an extension of the 1982-dollar series using a 57-component disaggregation of GNP, a method used in other forecast evaluations. See, for example, S. K. McNees, "How Accurate Are Macroeconomic Forecasts?" *New England Economic Review* (July/August 1988), pp. 15-36.

## Measuring Bias and Accuracy

Following earlier studies of economic forecasts, this evaluation of CBO's forecasts focuses on two aspects of forecast performance: statistical bias and accuracy.

The statistical bias of a forecast is the extent to which a forecast can be expected to differ from what actually occurs. This evaluation uses the *mean error* to measure statistical bias. This statistic--the average of all the forecast errors--is the simplest and most widely used measure of forecast bias. In calculating the mean error, underestimates and overestimates will offset each other. As a result, the mean error imperfectly measures the quality of a forecast--a small mean error would result if all the errors were small or if all the errors were large but the overestimates and underestimates happened to offset each other.

The accuracy of a forecast is the degree to which forecast values are dispersed around actual outcomes. Measures of accuracy more clearly reflect the usual meaning of forecast performance than does the mean error. This evaluation uses two measures of accuracy. The *mean absolute error*--the average of the forecast errors without regard to arithmetic sign--indicates the average distance between forecasts and actual values without regard to whether individual forecasts are overestimates or underestimates. The *root mean square error*--calculated by first taking the square of all errors, then taking the square root of the average of the squared errors--also shows the size of the error without regard to sign, but it gives greater weight to larger errors.

These three statistics do not exhaust the available supply of measures of forecast performance. For example, to test for statistical bias in CBO's forecasts, previous studies have used measures that are slightly more elaborate than the mean error. Those studies have generally concluded, as does this evaluation,

that the bias in CBO's short-term economic forecasts is not statistically significant.<sup>4</sup> Also, a number of methods have been developed to evaluate a forecast's efficiency. Forecast efficiency indicates the extent to which a particular forecast could have been improved by using additional information at the forecaster's disposal at the time the forecast was made.<sup>5</sup> The use of the *Blue Chip* consensus in this evaluation can be interpreted as a proxy for an efficient forecast; that CBO's forecasts are about as accurate as the *Blue Chip* is an approximate indication of forecast efficiency.

These more elaborate measures are not necessarily reliable indicators when the sample of observations is small, such as the 16 observations that make up the sample of CBO's two-year forecasts. Small samples present three broad types of difficulties for evaluations of forecasts, including those based on the simple measures presented here. First, small samples reduce the reliability of statistical tests that are based on the assumption that the underlying population follows a normal distribution. The more elaborate tests of forecast performance are all based on such an assumption concerning the hypothetical ideal forecast

with which the actual forecasts are compared. Second, in small samples, a relatively large weight is assigned to individual forecast errors in the calculation of summary measures. The mean error, for example, can fluctuate in arithmetic sign when additional observations are added to a small sample. Finally, the small sample means that CBO's forecast history cannot be used in a statistically reliable way to indicate either the direction or the size of future estimating errors.

Apart from the general caution that should attend statistical conclusions based on small samples, there are several other reasons to view this evaluation of CBO's forecasts with particular caution. First, the procedures and purposes of CBO's and the Administration's forecasts have changed over the past 17 years and may change in the future. For example, in the late 1970s, CBO characterized its long-term projection as a goal for the economy, whereas CBO now considers it a projection that will prevail on average if the economy continues to reflect historical trends. Second, an institution's ability to forecast may change over time because of changes in personnel and methods. Finally, forecast errors increase when the economy is more volatile. When the economy undergoes a recession, the errors of all three forecasters tend to be larger than the average of the 16 forecasts examined here.

4. Another approach to testing a forecast for bias is based on linear regression analysis of actual and forecast values. For details on this method, see J. Mincer and V. Zarnowitz, "The Evaluation of Economic Forecasts," in J. Mincer, ed., *Economic Forecasts and Expectations* (New York: National Bureau of Economic Research, 1969). This approach is not used here because of the small sample size. However, previous studies that have used this method to evaluate the short-term forecasts of CBO and the Administration have not been able to reject the hypothesis that those forecasts are unbiased. See, for example, M. T. Belongia, "Are Economic Forecasts by Government Agencies Biased? Accurate?" *Review*, Federal Reserve Bank of St. Louis, vol. 70, no. 6 (November/December 1988), pp. 15-23.

5. For studies that have examined the relative efficiency of CBO's forecasts, see Belongia, "Are Economic Forecasts by Government Agencies Biased? Accurate?"; and S. M. Miller, "Forecasting Federal Budget Deficits: How Reliable Are U.S. Congressional Budget Office Projections?" *Applied Economics*, vol. 23 (December 1991), pp. 1789-1799. Although both of these studies identify series that might have been used to make CBO's forecasts more accurate, they rely on statistics that assume a larger sample than is available. Moreover, although statistical tests can identify sources of inefficiency in a forecast after the fact, these tests generally do not indicate how such inefficiencies may be used to improve forecasts at the time they are made.

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## CBO's Forecast Record

CBO's forecasts have been evaluated over two-year and four-year periods. The period of most interest for forecasters of the budget is two years. Because the central focus of the Administration's and CBO's winter publications is the budget projection for the fiscal year beginning in October of that year, an economic forecast that is accurate not only for the months leading up to the budget year but also for the months of the budget year itself will provide the basis for a more accurate forecast of the deficit. A four-year horizon is used to examine

the accuracy of longer-term projections of real GNP growth.

## Short-Term Forecasts

CBO's two-year forecasts have been slightly more accurate overall and suffer from slightly less statistical bias than the Administration's. In most cases, however, the differences are slim. Furthermore, CBO's forecast is about as accurate as the *Blue Chip* average forecast.

An accurate forecast for two-year growth of real GNP is the most important factor in minimizing errors in forecasting the deficit for the budget year. Accurate forecasts of inflation, nominal GNP growth, and nominal interest rates are less important for forecasting deficits now than they were in the late 1970s and early 1980s. The reason is that, given current law and the level of the national debt, inflation increases both revenues and outlays by similar amounts. Revenues increase with inflation because taxes are levied on nominal incomes. Outlays increase because various entitlement programs are indexed to inflation and because nominal interest rates tend to increase with inflation, which in turn increases the cost of servicing the federal debt.<sup>6</sup>

**Real GNP Growth.** For the two-year forecasts made between 1976 and 1991, CBO had a slightly better record than the Administration in forecasting real GNP growth (see Table A-1). Both CBO and the Administration tended to overestimate growth of real GNP on average. For the 16 forecasts made during the 1976-1991 period, the average errors were 0.5 percentage points for CBO and 0.7 percentage points for the Administration. The root mean square errors for this period were 1.1 percentage points for CBO and 1.4 percentage points for the Administration. For the 10 forecasts made in 1982 through 1991, CBO's forecasts of

two-year growth of real GNP were as accurate as the *Blue Chip* average.

Forecast errors tend to grow larger when the economy is more unstable. This tendency can be clearly seen in the forecasts of growth of real GNP by comparing the large errors for the years from 1979 through 1983--when the economy went through its most turbulent recessionary period of the postwar era--with the smaller errors recorded for later years. Similarly, the recent business cycle accounts for the large errors in the forecasts made in 1989 through 1991; during this period, CBO's errors were only slightly larger than those of the *Blue Chip*.

**CPI Inflation.** The records for forecasting the average annual growth of the consumer price index over the two-year horizon are very similar (see Table A-2). Both CBO and the Administration underestimated future inflation in their forecasts for 1977 through 1980, and both tended to overestimate inflation in their forecasts for 1981 through 1986. The average measures of bias and accuracy are virtually the same for CBO and the Administration. CBO was closer to the true value in 6 of the 16 periods, the Administration was closer in 7 periods, and the two forecasters had identical errors in 3 periods.

For the 1982-1991 forecasts, CBO's inflation forecasts appear to be slightly more accurate than those of both the Administration and the *Blue Chip* consensus.

**Nominal Short-Term Interest Rates.** For the 1976-1991 forecasts, CBO's record is slightly more accurate than the Administration's for nominal short-term interest rates over the two-year horizon (see Table A-3). On average, both forecasters underestimated interest rates, although CBO's mean error was smaller than the Administration's. For the 1982-1991 period, the mean absolute error of CBO's forecasts is only slightly above those of the Administration and the *Blue Chip*.

**Real Short-Term Interest Rates.** For the forecasts made in 1976 through 1991, CBO

6. Rules of thumb for estimating the effect on the deficit of changes in various macroeconomic variables are given in Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 1994-1998* (January 1993), pp. 109-113.

had a slight edge over the Administration in estimating short-term interest rates adjusted for inflation (see Table A-4). Both CBO and the Administration had an optimistic bias; that is, they forecast lower interest rates, adjusted for inflation, than actually occurred on average, but the Administration's bias was greater. The Administration's mean absolute and root mean square errors were also larger. CBO's forecast was closer to the actual value in 9 of the 16 periods; the Administration's was closer in only 6.

For forecasts made between 1982 and 1991, CBO's errors are generally similar in both direction and magnitude to those of the *Blue Chip* consensus.

## Longer-Term Projections

The Administration's errors for real GNP growth for the more distant future, measured here as four years ahead, were larger than CBO's. Although this comparative advantage for CBO does not directly affect the estimates of the deficit for the budget year, accuracy in the longer term is obviously important for budgetary planning over several years. Neither the Administration nor CBO, however, considers its projections to be its best guess about the year-to-year course of the economy. The Administration indicates that its projection is based on the adoption of the President's

budget, and in recent years, CBO has considered its projections an indication of the average future performance of the economy if major historical trends prevail. Neither forecaster attempts to anticipate cyclical fluctuations in the projection period.

CBO's projections of medium-term growth in real GNP for 1976 through 1989 were nearly always closer to actual growth than were the Administration's. The Administration's projections showed an upward bias of 1.3 percentage points for the average annual rate of real GNP growth over four-year periods, compared with an upward bias of 0.9 percentage points for CBO's (see Table A-5). These biases resulted largely from the inability of the projections made in early 1977 through 1980 to anticipate the recessions of 1980 and 1982. Through the subsequent years of expansion until the most recent recession, the upward bias was much smaller for the Administration's projections and smaller yet for CBO's.

The size of the root mean square errors for the entire period for both CBO and, to a lesser extent, the Administration is also largely the result of errors in projections made during the first five years. CBO had a definite edge in the projections made in January 1981 and 1982 and a lesser edge in later years. CBO's projection of four-year real GNP growth was more accurate than the Administration's for 13 of the 14 periods compared here.

**Table A-1.**  
**Comparison of CBO, Administration, and *Blue Chip* Forecasts of the Two-Year Average Growth Rate of Real GNP (By calendar year, errors in percentage points)**

	Actual			Benchmark- Years- Weighted Index	CBO		Administration		<i>Blue Chip</i>	
	1972 Dollars	1982 Dollars	1987 Dollars		Forecast	Error	Forecast	Error	Forecast	Error
1976-1977	6.7	4.8	4.8	5.5	6.2	0.7	5.9	0.5	a	a
1977-1978	5.2	5.0	4.7	5.2	5.5	0.3	5.1	0	a	a
1978-1979	3.9	3.9	3.8	4.1	4.7	0.6	4.7	0.6	a	a
1979-1980	1.3	1.1	1.1	1.5	2.7	1.2	2.9	1.4	a	a
1980-1981	1.1	0.9	0.5	1.2	0.5	-0.7	0.5	-0.7	a	a
1981-1982	0.2	-0.3	-0.4	0.2	2.1	1.9	2.6	2.4	a	a
1982-1983	0.7	0.5	0.7	0.9	2.1	1.3	2.7	1.8	2.0	1.2
1983-1984	5.2	5.2	4.9	5.1	3.4	-1.7	2.6	-2.5	3.5	-1.6
1984-1985	b	5.1	4.4	4.7	4.7	0	4.7	0	4.3	-0.4
1985-1986	b	3.0	2.8	2.8	3.3	0.5	3.9	1.1	3.2	0.3
1986-1987	b	3.1	2.9	2.9	3.1	0.3	3.7	0.8	3.0	0.1
1987-1988	b	3.9	3.5	3.5	2.9	-0.6	3.3	-0.2	2.8	-0.7
1988-1989	b	3.5	3.3	3.3	2.4	-0.8	3.0	-0.3	2.1	-1.1
1989-1990	b	1.7	1.8	1.7	2.5	0.8	3.2	1.5	2.2	0.5
1990-1991	b	c	-0.2	-0.2	2.0	2.2	2.8	3.0	1.9	2.1
1991-1992	b	c	0.4	0.3	1.6	1.3	1.4	1.0	1.2	0.9
Statistics for 1976-1991										
Mean error	n.a.	n.a.	n.a.	n.a.	n.a.	0.5	n.a.	0.7	n.a.	n.a.
Mean absolute error	n.a.	n.a.	n.a.	n.a.	n.a.	0.9	n.a.	1.1	n.a.	n.a.
Root mean square error	n.a.	n.a.	n.a.	n.a.	n.a.	1.1	n.a.	1.4	n.a.	n.a.
Statistics for 1982-1991										
Mean error	n.a.	n.a.	n.a.	n.a.	n.a.	0.3	n.a.	0.6	n.a.	0.1
Mean absolute error	n.a.	n.a.	n.a.	n.a.	n.a.	0.9	n.a.	1.2	n.a.	0.9
Root mean square error	n.a.	n.a.	n.a.	n.a.	n.a.	1.1	n.a.	1.5	n.a.	1.1

SOURCES: Congressional Budget Office; Office of Management and Budget; Eggert Economic Enterprises, Inc., *Blue Chip Economic Indicators*; Department of Commerce, Bureau of Economic Analysis.

NOTES: Actual values are the two-year growth rates for real gross national product (GNP) last reported by the Bureau of Economic Analysis, not the first reported values. Forecast values are for the average annual growth of real GNP over the two-year period. The forecasts were issued in the first quarter of the initial year of the period or in December of the preceding year. Errors are forecast values minus actual values; thus, a positive error is an overestimate. The benchmark-years-weighted index of actual GNP was used in calculating the errors.

n.a. = not applicable.

- a. Two-year forecasts for the *Blue Chip* consensus were not available until 1982.
- b. Data for 1972-dollar GNP are available only through the third quarter of 1985.
- c. Data for 1982-dollar GNP are available only through the third quarter of 1991.

**Table A-2.**  
**Comparison of CBO, Administration, and Blue Chip Forecasts of the Two-Year Average Inflation Rate in the Consumer Price Index (By calendar year, errors in percentage points)**

	Actual		CBO		Administration		Blue Chip	
	CPI-U	CPI-W	Forecast	Error	Forecast	Error	Forecast	Error
1976-1977	6.1	6.1	7.1	1.0	6.1	0	a	a
1977-1978	7.0	7.0	4.9	-2.1	5.2	-1.8	a	a
1978-1979	9.4	9.5	5.8	-3.6	6.0	-3.5	a	a
1979-1980	12.4	12.5	8.1	-4.3	7.4	-5.0	a	a
1980-1981	11.9	11.9	10.1	-1.8	10.5	-1.4	a	a
1981-1982	8.2	8.1	10.4	2.1	9.7	1.6	a	a
1982-1983	4.6	4.5	7.2	2.6	6.6	2.1	7.2	2.6
1983-1984	3.8	3.3	4.7	1.0	4.7	1.5	4.9	1.1
1984-1985	3.9	3.5	4.9	1.0	4.5	1.0	5.2	1.3
1985-1986	2.7	2.5	4.1	1.4	4.2	1.7	4.3	1.6
1986-1987	2.8	2.6	3.8	1.2	3.8	1.2	3.8	1.0
1987-1988	3.9	3.8	3.9	0.1	3.3	-0.5	3.6	-0.2
1988-1989	4.4	4.4	4.7	0.3	4.2	-0.2	4.3	-0.1
1989-1990	5.1	5.0	4.9	-0.1	3.7	-1.3	4.7	-0.4
1990-1991	4.8	4.6	4.1	-0.7	3.9	-0.7	4.1	-0.7
1991-1992	3.6	3.5	4.2	0.6	4.6	1.1	4.4	0.8
Statistics for 1976-1991								
Mean error	n.a.	n.a.	n.a.	-0.1	n.a.	-0.2	n.a.	n.a.
Mean absolute error	n.a.	n.a.	n.a.	1.5	n.a.	1.5	n.a.	n.a.
Root mean square error	n.a.	n.a.	n.a.	1.9	n.a.	1.9	n.a.	n.a.
Statistics for 1982-1991								
Mean error	n.a.	n.a.	n.a.	0.7	n.a.	0.6	n.a.	0.7
Mean absolute error	n.a.	n.a.	n.a.	0.9	n.a.	1.1	n.a.	1.0
Root mean square error	n.a.	n.a.	n.a.	1.1	n.a.	1.3	n.a.	1.2

SOURCES: Congressional Budget Office; Office of Management and Budget; Eggert Economic Enterprises, Inc., *Blue Chip Economic Indicators*; Department of Labor, Bureau of Labor Statistics.

NOTES: Values are for the average annual growth of the consumer price index (CPI) over the two-year period. For most years, CBO forecast the CPI-U (for all urban consumers); from 1986 through 1989, CBO forecast the CPI-W (for urban wage earners and clerical workers). The Administration forecast the CPI-W, and the Blue Chip consensus forecast the CPI-U. The forecasts were issued in the first quarter of the initial year of the period or in December of the preceding year. Errors are forecast values minus actual values; thus, a positive error is an overestimate.

n.a. = not applicable.

a. Two-year forecasts for the Blue Chip consensus were not available until 1982.



**Table A-3.**  
**Comparison of CBO, Administration, and *Blue Chip* Forecasts of the Two-Year Average Interest Rate on Three-Month Treasury Bills (By calendar year, errors in percentage points)**

	Actual	CBO		Administration		<i>Blue Chip</i>	
		Forecast	Error	Forecast	Error	Forecast	Error
1976-1977	5.1	6.2	1.1	5.5	0.4	a	a
1977-1978	6.2	6.4	0.2	4.4	-1.8	a	a
1978-1979	8.6	6.0	-2.6	6.1	-2.5	a	a
1979-1980	10.8	8.3	-2.5	8.2	-2.6	a	a
1980-1981	12.8	9.5	-3.3	9.7	-3.1	a	a
1981-1982	12.4	13.2	0.9	10.0	-2.4	a	a
1982-1983	9.7	12.6	2.9	11.1	1.4	11.3	1.6
1983-1984	9.1	7.1	-2.0	7.9	-1.1	7.9	-1.2
1984-1985	8.5	8.7	0.2	8.1	-0.4	9.1	0.5
1985-1986	6.7	8.5	1.8	8.0	1.3	8.5	1.8
1986-1987	5.9	6.7	0.9	6.9	1.0	7.1	1.2
1987-1988	6.2	5.6	-0.6	5.5	-0.7	5.7	-0.5
1988-1989	7.4	6.4	-0.9	5.2	-2.1	6.1	-1.2
1989-1990	7.8	7.5	-0.3	5.9	-1.9	7.5	-0.3
1990-1991	6.5	7.0	0.6	6.0	-0.4	7.1	0.7
1991-1992	4.4	6.8	2.4	6.2	1.8	6.4	2.0
Statistics for 1976-1991							
Mean error	n.a.	n.a.	-0.1	n.a.	-0.8	n.a.	n.a.
Mean absolute error	n.a.	n.a.	1.4	n.a.	1.6	n.a.	n.a.
Root mean square error	n.a.	n.a.	1.8	n.a.	1.8	n.a.	n.a.
Statistics for 1982-1991							
Mean error	n.a.	n.a.	0.5	n.a.	-0.1	n.a.	0.5
Mean absolute error	n.a.	n.a.	1.3	n.a.	1.2	n.a.	1.1
Root mean square error	n.a.	n.a.	1.5	n.a.	1.4	n.a.	1.2

SOURCES: Congressional Budget Office; Office of Management and Budget; Eggert Economic Enterprises, Inc., *Blue Chip Economic Indicators*; Federal Reserve Board.

NOTES: Values are for the geometric average of the three-month Treasury bill rate for the two-year period. The actual values are published by the Federal Reserve Board as the rate on new issues, reported on a bank-discount basis. Although the *Blue Chip* consensus reports estimates of the secondary market rate (not the new issue rate), the historical differences between the two rates are minuscule. The forecasts were issued in the first quarter of the initial year of the period or in December of the preceding year. Errors are forecast values minus actual values; thus, a positive error is an overestimate.

n.a. = not applicable.

a. Two-year forecasts for the *Blue Chip* consensus were not available until 1982.

**Table A-4.****Comparison of CBO, Administration, and *Blue Chip* Forecasts of the Two-Year Average Interest Rate on Three-Month Treasury Bills Adjusted for Inflation (By calendar year, errors in percentage points)**

	Actual		CBO		Administration		Blue Chip	
	Based on CPI-U	Based on CPI-W	Forecast	Error	Forecast	Error	Forecast	Error
1976-1977	-0.9	-0.9	-0.8	0.1	-0.6	0.3	a	a
1977-1978	-0.8	-0.7	1.5	2.2	-0.8	-0.1	a	a
1978-1979	-0.7	-0.8	0.2	0.9	0.1	0.9	a	a
1979-1980	-1.4	-1.5	0.2	1.6	0.7	2.2	a	a
1980-1981	0.8	0.9	-0.5	-1.4	-0.7	-1.6	a	a
1981-1982	3.8	4.0	2.6	-1.2	0.3	-3.7	a	a
1982-1983	4.8	4.9	5.0	0.2	4.2	-0.8	3.8	-1.0
1983-1984	5.1	5.7	2.2	-2.9	3.1	-2.6	2.9	-2.3
1984-1985	4.4	4.9	3.6	-0.8	3.4	-1.4	3.6	-0.8
1985-1986	3.9	4.1	4.2	0.3	3.6	-0.4	4.0	0.1
1986-1987	3.0	3.2	2.8	-0.4	3.0	-0.3	3.2	0.2
1987-1988	2.3	2.4	1.7	-0.7	2.1	-0.2	2.0	-0.3
1988-1989	2.8	2.9	1.7	-1.2	1.0	-1.9	1.8	-1.0
1989-1990	2.6	2.6	2.5	-0.2	2.1	-0.6	2.7	0.1
1990-1991	1.6	1.7	2.8	1.2	2.0	0.3	2.9	1.3
1991-1992	0.8	0.9	2.5	1.7	1.5	0.6	1.9	1.1
<b>Statistics for 1976-1991</b>								
Mean error	n.a.	n.a.	n.a.	0	n.a.	-0.6	n.a.	n.a.
Mean absolute error	n.a.	n.a.	n.a.	1.1	n.a.	1.1	n.a.	n.a.
Root mean square error	n.a.	n.a.	n.a.	1.3	n.a.	1.5	n.a.	n.a.
<b>Statistics for 1982-1991</b>								
Mean error	n.a.	n.a.	n.a.	-0.3	n.a.	-0.7	n.a.	-0.2
Mean absolute error	n.a.	n.a.	n.a.	1.0	n.a.	0.9	n.a.	0.8
Root mean square error	n.a.	n.a.	n.a.	1.3	n.a.	1.2	n.a.	1.0

SOURCES: Congressional Budget Office; Office of Management and Budget; Eggert Economic Enterprises, Inc., *Blue Chip Economic Indicators*; Department of Labor, Bureau of Labor Statistics; Federal Reserve Board.

NOTES: Values are for the three-month Treasury bill rate discounted by the respective forecast for inflation as measured by the change in the consumer price index (CPI). For most years, CBO forecast the CPI-U (for all urban consumers); from 1986 through 1989, CBO forecast the CPI-W (for urban wage earners and clerical workers). The Administration forecast the CPI-W, and the *Blue Chip* consensus forecast the CPI-U. The forecasts were issued in the first quarter of the initial year of the period or in December of the preceding year. Errors are forecast values minus actual values; thus, a positive error is an overestimate.

n.a. = not applicable.

a. Two-year forecasts for the *Blue Chip* consensus were not available until 1982.

**Table A-5.**  
**Comparison of CBO and Administration Forecasts of the Four-Year Average Growth Rate of Real GNP (By calendar year, errors in percentage points)**

	Actual			Benchmark- Years- Weighted Index	CBO		Administration	
	1972 Dollars	1982 Dollars	1987 Dollars		Forecast	Error	Forecast	Error
1976-1979	5.3	4.3	4.3	4.8	5.9	1.1	6.1	1.3
1977-1980	3.2	3.0	2.9	3.3	5.4	2.1	5.4	2.1
1978-1981	2.5	2.4	2.1	2.7	4.8	2.1	4.8	2.2
1979-1982	0.7	0.4	0.4	0.9	3.6	2.7	3.7	2.8
1980-1983	0.9	0.7	0.6	1.0	2.1	1.0	2.6	1.5
1981-1984	2.7	2.4	2.2	2.6	2.6	0	3.7	1.0
1982-1985	a	2.7	2.5	2.8	2.8	0.1	3.8	1.0
1983-1986	a	4.1	3.8	4.0	3.6	-0.3	3.3	-0.7
1984-1987	a	4.1	3.6	3.8	4.1	0.3	4.3	0.6
1985-1988	a	3.5	3.2	3.2	3.3	0.2	4.0	0.8
1986-1989	a	3.3	3.1	3.1	3.3	0.2	3.8	0.7
1987-1990	a	2.8	2.6	2.6	3.0	0.4	3.4	0.8
1988-1991	a	b	1.6	1.5	2.5	1.0	3.2	1.7
1989-1992	a	b	1.1	1.0	2.3	1.3	3.2	2.2
<b>Statistics for 1976-1989</b>								
Mean error	n.a.	n.a.	n.a.	n.a.	n.a.	0.9	n.a.	1.3
Mean absolute error	n.a.	n.a.	n.a.	n.a.	n.a.	0.9	n.a.	1.4
Root mean square error	n.a.	n.a.	n.a.	n.a.	n.a.	1.2	n.a.	1.5

SOURCES: Congressional Budget Office; Office of Management and Budget; Department of Commerce, Bureau of Economic Analysis.

NOTES: Values are for the four-year growth rates for real gross national product (GNP) last reported by the Bureau of Economic Analysis, not the first reported values. Forecast values are for the average growth of real GNP over the four-year period. The forecasts were issued in the first quarter of the initial year of the period or in December of the preceding year. Errors are forecast values minus actual values; thus, a positive error is an overestimate. The benchmark-years-weighted index of actual GNP was used in calculating the errors.

n.a. = not applicable.

a. Data for 1972-dollar GNP are available only through the third quarter of 1985.

b. Data for 1982-dollar GNP are available only through the third quarter of 1991.



## Appendix B

# Major Contributors to the Revenue and Spending Projections

**T**he following analysts prepared the revenue and spending projections in this report:

### Revenue Projections

Mark Booth	Corporate income taxes, Federal Reserve System earnings
Maureen Griffin	Social insurance contributions, excise taxes, estate and gift taxes
Matthew Melillo	Excise taxes, national income and product account receipts
Linda Radey	Excise taxes
Melissa Sampson	Customs duties, miscellaneous receipts
David Weiner	Individual income taxes

### Spending Projections

#### *Defense, International Affairs, and Veterans' Affairs*

Eugene Bryton	Defense
Elizabeth Chambers	Defense
Kent Christensen	International affairs
Victoria Fraider	Veterans' benefits, defense
Raymond Hall	Defense
William Myers	Defense
Mary Helen Petrus	Veterans' compensation and pensions
Amy Plapp	Defense
Kathleen Shepherd	Veterans' benefits
Lisa Siegel	Defense
Joseph Whitehill	International affairs

#### *Human Resources*

Wayne Boyington	Civil Service Retirement, Railroad Retirement
Paul Cullinan	Social Security
Alan Fairbank	Hospital Insurance
Scott Harrison	Medicare
Jean Hearne	Medicaid
Lori Housman	Medicare
Julia Isaacs	Food stamps, foster care, child care
Deborah Kalcevic	Education

Lisa Layman	Medicare
Jeffrey Lemieux	Federal employee health benefits
Cory Oltman	Unemployment insurance, training programs
Pat Purcell	Supplemental Security Income, Medicaid
Dorothy Rosenbaum	Education, social service programs
Connie Takata	Public Health Service
John Tapogna	Aid to Families with Dependent Children, child support enforcement

*Natural and Physical Resources*

Michael Buhl	General government, Postal Service
Kim Cawley	Energy, pollution control and abatement
Patricia Conroy	Community and regional development, natural resources, general government
Peter Fontaine	Energy, Outer Continental Shelf receipts
Mark Grabowicz	Science and space, justice
Theresa Gullo	Water resources, conservation, land management
James Hearn	General government, deposit insurance
David Hull	Agriculture
Mary Maginniss	Deposit insurance
Eileen Manfredi	Agriculture
Ian McCormick	Agriculture
Susanne Mehlman	Justice, Federal Housing Administration
Marjorie Miller	Transportation
John Patterson	Transportation
Deborah Reis	Recreation, water transportation
Brent Shipp	Housing and mortgage credit
John Webb	Commerce, disaster relief

*Other*

Janet Airis	Appropriation bills
Edward Blau	Appropriation bills
Karin Carr	Budget projections, historical data
Betty Embrey	Appropriation bills
Kenneth Farris	Computer support
Glen Goodnow	Authorization bills
Alice Grant	Appropriation bills
Leslie Griffin	Budget projections, civilian agency pay
Vernon Hammett	Computer support
Ellen Hays	Other interest, credit programs
Sandra Hoffman	Computer support
Jeffrey Holland	Net interest on the public debt, national income and product accounts
Deborah Keefe	Computer support
Terri Linger	Computer support
Fritz Maier	Computer support
Kathy Ruffing	Treasury borrowing, interest, and debt
Robert Sempsey	Appropriation bills