

2. STEWARDSHIP: TOWARD A FEDERAL BALANCE SHEET

Introduction

This chapter presents a framework for describing the financial condition of the Federal Government and its performance as a steward of publicly owned assets. Although parts of the presentation are similar in appearance to a business balance sheet, they are not the same. The Government's sovereign powers have no counterparts in the business world, and its resources and responsibilities are broader than the assets and liabilities found on a typical balance sheet. For this reason, it is not possible to judge how well the Government is discharging its stewardship obligations simply from an examination of its formal assets and liabilities. A review of how national welfare and security are faring in light of Government policy is also needed.

Because of the differences between Government and business, and the serious limitations that exist in the available data, the material presented below must be interpreted cautiously. The conclusions are necessarily tentative and subject to future revision as the estimating methods are improved and better data become available.

The presentation consists of three parts:

- The first part is summarized in Table 2-1, which shows what the Federal Government owns and what it owes. This table is closest in appearance to a business balance sheet. The assets and liabilities shown here are strictly defined. The assets are only those owned by the Government, while the liabilities result from past Government actions that have created binding commitments to make future payments. Government assets and liabilities could be defined more broadly than this, but if they were, they would no longer correspond to the assets and liabilities that appear on a balance sheet.
- The second part is summarized in Table 2-2, which presents possible paths for the Federal budget extending into the distant future. The section shows how the deficit is affected in the long run by changes in policy and by changes in economic or demographic behavior. This is the best context in which to examine the balance between Federal resources and responsibilities, and it is the clearest way to indicate the long-run financial burdens that the Government faces. Some future claims deserve special emphasis because of their importance in individual retirement planning. Table 2-3 summarizes the condition of the social security and Medicare trust funds under current law and how and why that condition has changed since 1994.

- The final part of the presentation is intended to show some of the ways in which Federal activities contribute to social and economic well-being. Table 2-4 indicates how Federal investments have contributed to national wealth. Table 2-5 offers a set of economic and social indicators. The measures of well- or ill-being in this table are all affected to a greater or lesser degree by Government actions.

The Federal Government does not have a single bottom line that would reveal its financial status at a glance, but this presentation offers a balanced view of the condition of the Government's finances and its stewardship of resources.

The Government's formal liabilities exceed the value of assets in its possession, and the gap has widened markedly over the last 15 years. Even so, national wealth has continued to rise, partly as a result of investments the Government has made or sponsored in physical and human capital. The Government's net liabilities are very large but they amount to only about 6 percent of total national wealth. Furthermore, if the President's 1997 budget is enacted, Federal debt in the hands of the public—the main category of Federal liabilities—will expand much less rapidly in the future than it did prior to 1993. By the year 2002 the deficit would be eliminated, and for several years after that Federal debt held by the public would actually decline. Eventually, a deficit is likely to reemerge if action is not taken to confront the demographic transition caused by the retirement of the baby boom, but that problem will be much easier to deal with because of actions taken by this Administration.

Relationship with FASAB Objectives

The framework presented here meets one of the four objectives¹ of Federal financial reporting recommended by the Federal Accounting Standards Advisory Board and adopted for use by the Federal Government in September 1993. This Stewardship objective says:

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

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

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

¹ *Objectives of Federal Financial Reporting*, Statement of Federal Financial Accounting Concepts Number 1, September 2, 1993. The other three objectives relate to budgetary integrity, operating performance, and systems and controls.

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

The Board is in the process of developing recommendations as to the specific accounting standards that would meet this objective. This experimental presentation explores one possible approach for meeting the objective at the Government-wide level.

What Can Be Learned from a Balance Sheet Approach

The budget is an essential tool for allotting resources within the Federal Government and between public and private sectors, but the standard budget presentation, with its focus on annual outlays, receipts, and the deficit, does not provide sufficient information for a full analysis of the Government's financial and investment decisions. It is useful to project the deficit forward to see how current decisions will affect the future balance of Federal resources and responsibilities. The information about the stocks of Federal assets and liabilities can be useful as well. It is also important to examine the effects of Government financial decisions on the private sector and State and local Governments. This is especially true for Federal investments, which often generate returns that flow mainly to households, private businesses or other levels of Government, rather than back to the Federal Treasury. The framework presented here is a first step toward filling some of these needs.

The Government's sovereign powers to tax, regulate commerce, and set monetary policy give it resources that no private individual or business possesses. Although these resources are not assets in any conventional sense, they need to be considered in a comprehensive review of the Government's financial condition. Formal Government obligations such as Treasury notes clearly belong on the other side of the ledger. These debts have obvious counterparts in the business world.

There are other Government obligations, however, which have no obvious analogues in business accounting. For example, the Government's obligation to promote the general welfare has led in the twentieth century to the establishment of a number of social policy programs. These programs are at the center of the debate over how best to discharge the Federal Government's responsibilities. Although changes in these programs are inevitable and even desirable, it is very likely that many of them will remain as Federal obligations for the foreseeable future. Programs such as Medicare may be changed, but they are unlikely to be eliminated. In its budget planning, it would be prudent for the Federal Government to assume that there will be a

continuing need to fund such programs. They are not legally binding liabilities, however, and they would not be included on a business balance sheet.

Almost all of the broader Federal resources and responsibilities are subject to change through the political process, and future decisions by Congress and the President are likely to alter them. In a financial sense, the discounted present value of such obligations is much more uncertain than is the current value of the official Government debt, or even the value of Government-owned assets. This is another reason for keeping such constitutional and moral obligations separate from the Government's liabilities strictly defined.

The best way to see how future resources line up with future responsibilities is to project the Federal budget forward in time. The budget offers a comprehensive picture of Federal receipts and spending, and by projecting it forward it is possible to learn the implications of current and past policy decisions. Some projections of this sort are presented below. The budget does not show, however, whether the public is receiving value for its tax dollars. Knowing that would require comprehensive performance measures for Government programs, and broad statistical information about conditions in the U.S. economy and society for which Government is wholly or partly responsible. Some of these data are currently available but much more would need to be developed to obtain a full picture.

The presentation that follows consists of a series of tables and charts. No one of these is a "Government balance sheet," but all of them together serve many of the functions of a balance sheet. The schematic diagram, Chart 2-1, shows how they fit together. The tables and charts should be viewed as an ensemble, the main elements of which can be grouped together in two broad categories—assets/resources and liabilities/responsibilities.

- Reading down the left-hand side of the diagram shows the range of Federal resources, including assets the Government owns, tax receipts it can expect to collect, and national wealth that provides the base for Government revenues.
- Reading down the right-hand side reveals the full range of Federal obligations and responsibilities, beginning with Government's acknowledged liabilities (such as the debt held by the public) based on past actions, and going on to include future budget outlays. This column potentially would include a set of indicators highlighting areas where Government activity might require adjustment, either through new investment or through reductions or reallocations of existing resources.

CHART 2-1. A BALANCE SHEET PRESENTATION FOR THE FEDERAL GOVERNMENT

ASSETS/RESOURCES		LIABILITIES/RESPONSIBILITIES
<p style="text-align: center;">Federal Assets</p> <p>Financial Assets Gold and Foreign Exchange Other Monetary Assets Mortgages and Other Loans Less Expected Loan Losses Other Financial Assets</p> <p>Physical Assets Fixed Reproducible Capital Defense Nondefense Inventories Non-reproducible Capital Land Mineral Rights</p>	<p>Federal Governmental Assets and Liabilities (Table 2-1)</p>	<p style="text-align: center;">Federal Liabilities</p> <p>Financial Liabilities Currency and Bank Reserves Debt Held by the Public Miscellaneous Guarantees and Insurance Liabilities Deposit Insurance Pension Benefit Guarantees Loan Guarantees Other Insurance Federal Pension Liabilities</p> <p>Net Balance</p>
<p style="text-align: center;">Resources/Receipts</p> <p>Projected Receipts</p>	<p>Long-Run Federal Budget Projections (Table 2-2)</p>	<p style="text-align: center;">Responsibilities/Outlays</p> <p>Discretionary Outlays Mandatory Outlays Social Security Health Programs Other Programs Net Interest</p> <p>Deficit</p>
<p style="text-align: center;">National Assets/Resources</p> <p>Federally Owned Physical Assets State & Local Physical Assets Federal Contribution Privately Owned Physical Assets Education Capital Federal Contribution R&D Capital Federal Contribution</p>	<p>National Wealth (Table 2-4)</p>	<p style="text-align: center;">National Needs/Conditions</p> <p>Indicators of economic, social, educational, and environmental conditions to be used as a guide to Government investment and management.</p>

Table 2-1. GOVERNMENT ASSETS AND LIABILITIES *

(As of the end of the fiscal year, in billions of 1995 dollars)

	1960	1965	1970	1975	1980	1985	1990	1993	1994	1995
ASSETS										
Financial assets:										
Gold and Foreign Exchange	98	69	58	130	322	154	194	171	171	183
Other Monetary Assets	37	53	32	15	38	24	31	39	31	34
Mortgages and Other Loans	122	156	202	202	278	341	276	230	218	193
Less Expected Loan Losses	-1	-2	-4	-9	-16	-16	-18	-24	-26	-22
Other Financial Assets	58	77	64	64	84	108	166	202	190	188
Subtotal	314	353	351	403	706	611	648	618	584	576
Physical Assets:										
Fixed Reproducible Capital:										
Defense	826	842	839	683	586	694	771	782	780	744
Nondefense	146	175	189	216	248	249	254	251	256	255
Inventories	252	218	203	181	220	252	219	179	170	168
Nonreproducible Capital:										
Land	87	121	151	234	296	318	315	241	237	235
Mineral Rights	314	291	241	334	607	683	457	388	360	335
Subtotal	1,626	1,646	1,622	1,647	1,958	2,197	2,016	1,841	1,803	1,737
Total assets	1,940	2,000	1,972	2,050	2,664	2,808	2,664	2,459	2,387	2,313
LIABILITIES										
Financial liabilities:										
Currency and Bank Reserves	220	241	267	272	273	290	348	396	422	437
Debt held by the Public	954	941	800	787	1,019	1,809	2,483	3,072	3,158	3,219
Miscellaneous	28	29	31	33	44	55	82	59	60	61
Subtotal	1,202	1,211	1,097	1,092	1,336	2,153	2,913	3,527	3,640	3,717
Insurance Liabilities:										
Deposit Insurance	0	0	0	0	2	9	67	13	8	4
Pension Benefit Guarantee Corp	0	0	0	41	30	41	40	63	31	19
Loan Guarantees	0	0	2	6	12	10	14	28	30	27
Other Insurance	30	27	21	19	26	16	19	18	17	16
Subtotal	30	27	23	67	69	76	140	122	86	66
Federal Pension Liabilities	734	930	1,104	1,256	1,707	1,693	1,625	1,563	1,541	1,513
Total liabilities	1,966	2,168	2,225	2,414	3,112	3,922	4,678	5,212	5,267	5,296
Balance	-26	-169	-252	-364	-448	-1,114	-2,014	-2,753	-2,880	-2,983
Per capita (in 1995 dollars)	-146	-867	-1,231	-1,686	-1,961	-4,658	-8,034	-10,635	-11,018	-11,312
Ratio to GDP (in percent)	-1.1	-5.4	-6.9	-8.7	-9.0	-19.1	-30.4	-39.5	-39.9	-40.7

*This table shows assets and liabilities for the Government as a whole, including the Federal Reserve System. Therefore, it does not break out separately the assets held in Government accounts, such as social security, that are the obligation of specific Government agencies. Estimates for 1995 are extrapolated in some cases.

THE FEDERAL GOVERNMENT'S ASSETS AND LIABILITIES

Table 2-1 summarizes what the Government owes as a result of its past operations, along with the value of what it owns, for a number of years beginning in 1960. The values of assets and liabilities are measured in terms of constant 1995 dollars. For all of this period, Government liabilities have exceeded the value of assets, but until the early 1980s the disparity was relatively small, and for many years it deteriorated only gradually.

In the late 1970s, a speculative run-up in the prices of oil, gold, and other real assets temporarily boosted Federal asset values, but since then they have declined.² Currently, the total real value of Federal assets

is estimated to be about 20 percent greater than it was in 1960. Meanwhile, Federal liabilities have increased by almost 170 percent in real terms. The sharp decline in the Federal net asset position that began in the 1980s was principally due to the large Federal budget deficits that began at that time along with the drop in asset values. Currently, the net excess of liabilities over assets is about \$3 trillion or over \$11,000 per capita.

Assets

The assets in Table 2-1 reflect a comprehensive list of the financial and physical resources owned by the Federal Government. The list corresponds to items that

²This temporary improvement highlights the importance of the other tables in this presentation. What is good for the Federal Government as an asset holder is not necessarily favorable to the economy. The decline in inflation in the early 1980s reversed the speculative

runup in gold and other commodity prices. This reduced the balance of Federal net assets, but it was good for the economy.

would appear on a typical balance sheet, but it does not constitute an exhaustive catalogue of Federal resources. For example, the Government's most important financial resource, its ability to tax, is not reflected.

Financial Assets: At the end of 1995, the Federal Government's holdings of financial assets amounted to about \$570 billion. Government-held mortgages and other loans (measured in constant dollars) reached a peak in the mid-1980s. Since then, Federal loans have declined. The holdings of mortgages, in particular, have declined sharply over the last three years as the holdings acquired from failed Savings and Loan institutions have been liquidated.

The face value of mortgages and other loans overstates their economic value because of future losses and the interest subsidy on these loans. These estimated losses are subtracted from the face value of outstanding loans to obtain a better estimate of their economic worth.

Over time, variations in the price of gold have accounted for major swings in this category. Since 1980, gold prices have fallen, and the real value of U.S. gold and foreign exchange holdings have dropped by over 40 percent. Last year, for the first time in several years, these assets rose in value.

Reproducible Capital: The Federal Government is a major investor in physical capital. Government-owned stocks of fixed capital amounted to about \$1.0 trillion in 1995. About three-quarters of this capital took the form of defense equipment or structures. From 1960 to 1981, the net stock of defense capital fell as a share of GDP, but between 1982 and 1991, the ratio generally held steady. Since 1991, the reduction in defense purchases following the end of the Cold War has caused a decline in the ratio of these stocks to GDP of about 1½ percentage point.

Non-reproducible Capital: The Government owns significant amounts of land and mineral deposits. There are no official estimates of the market value of these holdings. Researchers in the private sector have estimated what they are worth, and these estimates are extrapolated in Table 2-1. Private land values are about 20 percent lower than they were at the end of the 1980s, although they have risen somewhat since 1993. It is assumed here that Federal land has shared in this decline. Oil prices have fluctuated but are lower now than they were five years ago. These shifts are likely to have pulled down the value of Federal mineral deposits.

Total Assets: The total real value of Government assets has declined about 15 percent over the last 10 years, principally because of declines in the real prices of gold, land, and minerals. At the end of 1995, the Government's holdings of all assets were worth about \$2.3 trillion.

Liabilities

The liabilities listed in Table 2-1 are analogous to those of a business corporation. They include public debt, Federal trade credit, and Federal pension obligations owed to its workers. Other potential claims on Federal resources are not reflected.

Financial Liabilities: These amounted to about \$3.7 trillion at the end of 1995. The largest component was Federal debt held by the public, amounting to over \$3.2 trillion. This measure of Federal debt is net of the holdings of the Federal Reserve System. Those holdings exceeded \$380 billion in 1995. Although independent in its policy deliberations, the Federal Reserve is part of the Federal Government, and for that reason its assets and liabilities are included here in the Federal totals. In addition to debt held by the public, the Government's financial liabilities include \$440 billion in currency and bank reserves, which are mainly obligations of the Federal Reserve System, and about \$60 billion in miscellaneous liabilities.

Guarantees and Insurance Liabilities: The Federal Government has contingent liabilities arising from loan guarantees and insurance programs. When the Government offers insurance, the initial outlays may be small or, if a fee is charged, they may even be negative, but the risk of future outlays associated with such commitments can be huge. In the past, the cost of such risks was not recognized until after a loss was realized. In the last few years, however, techniques have been developed which permit estimates to be made of the accruing costs arising from these commitments. The estimates are reported in Table 2-1. The resolution of the many failures in the Savings and Loan and banking industries have helped to reduce the losses in this category by about half since 1990.

Federal Pension Liabilities: The Federal Government owes pension benefits to its retired workers and to current employees who will eventually retire. The amount of these liabilities is large. As of 1995, the discounted present value of the benefits is estimated to have been around \$1.5 trillion.³

The Balance of Net Liabilities

The balance between Federal liabilities and Federal assets has deteriorated over the past 15 years at a rapid rate. In 1980, the negative balance was less than 11 percent of GDP. Currently, it is estimated to be over 40 percent. The budget deficit has declined since 1992, however, and this has slowed the rate of decline in the net asset position. If the Administration's budget proposals were to be enacted, it is likely that the rate of decline in the net asset position would be halted and even reversed.

³These pension liabilities are expressed as the actuarial present value of benefits accrued-to-date based on past and projected salaries. The cost of retiree health benefits is not included. The 1995 liability is extrapolated from recent trends.

THE BALANCE OF RESOURCES AND RESPONSIBILITIES

The data summarized in Table 2-1 are useful in showing the consequences of past Government policies, but Government's continuing commitments to provide public services are not reflected there, nor can the Government's broader resources be displayed in a table limited only to the assets that it owns. A better way to examine the balance between future Government obligations and resources is by projecting the overall budget. The budget offers the most comprehensive measure of the Government's financial burdens and its resources. By projecting total receipts and outlays, it is possible to examine whether there will be sufficient resources to support all of the Government's ongoing obligations.

The Federal Government's responsibilities extend well beyond the five-year window (or the expanded seven-year window) that has been the focus of recent budget analysis and debate. There is no time limit on Government's constitutional responsibilities, and programs like social security are clearly expected to continue indefinitely.

This part of the presentation shows some alternative long-run projections of the Federal budget that extend through the year 2050. Forecasting the economy and the budget over such a long period is highly uncertain. Future budget outcomes depend on a host of unknowns—constantly changing economic conditions, unforeseen international developments, unexpected demographic shifts, the unpredictable forces of technological advance, and unknown future political preferences. Those uncertainties increase the further projections are pushed into the future. Even so, long-run budget projections are needed to assess the full implications of current action or inaction.

It is evident even now that there will be mounting challenges to the budget after the turn of the century. The huge baby-boom generation born in the years after World War II is aging and will begin to retire in little more than a decade. By 2008, the first baby-boomers will become eligible for social security. In the years that follow there will be serious strains on the budget because of increased expenditures for both social security and Medicare. Long-range projections can offer a sense of the seriousness of these strains and what may be needed to withstand them.

The Long-Range Outlook for the Budget.—Since the Administration took office there have been major changes in the long-run budget outlook. In January 1993, the deficit was clearly on an unsustainable trajectory. Had current policies continued unchanged the deficit would have steadily mounted not only in dollar terms, but relative to the size of the economy.⁴ The Omnibus Budget Reconciliation Act of 1993 (OBRA)

⁴Over very long periods when the rate of inflation is positive, comparisons of dollar values are meaningless. Even the low rate of inflation assumed in this budget will reduce the value of a 1995 dollar by over 60 percent by 2030, and by almost 80 percent by the year 2050. For long-run comparisons, it is much more useful to examine the ratio of the deficit and other budget categories to the overall size of the economy as measured by GDP.

changed that. Not only did it produce a decline in the near-term deficit, but it also brought down the long-term budget deficit as well. The policies in OBRA were sufficient to maintain the deficit as a stable share of GDP into the next century. This was a marked improvement over the long-term outlook that the Administration inherited.

Despite this improvement, the long-run picture for the budget has remained threatening. A GAO study released in 1992 concluded that, "the economic and political reality is that the nation cannot continue on the current path" of increasing long-run deficits. More recently, the 1994 report of the Bipartisan Commission on Entitlement and Tax Reform found that there exists a "long-term imbalance between the Government's entitlement promises and the funds it will have available to pay for them." On a narrower front, the annual trustees' reports for both the social security and Medicare trust funds project a long-run actuarial deficiency for these programs, and have for some time.

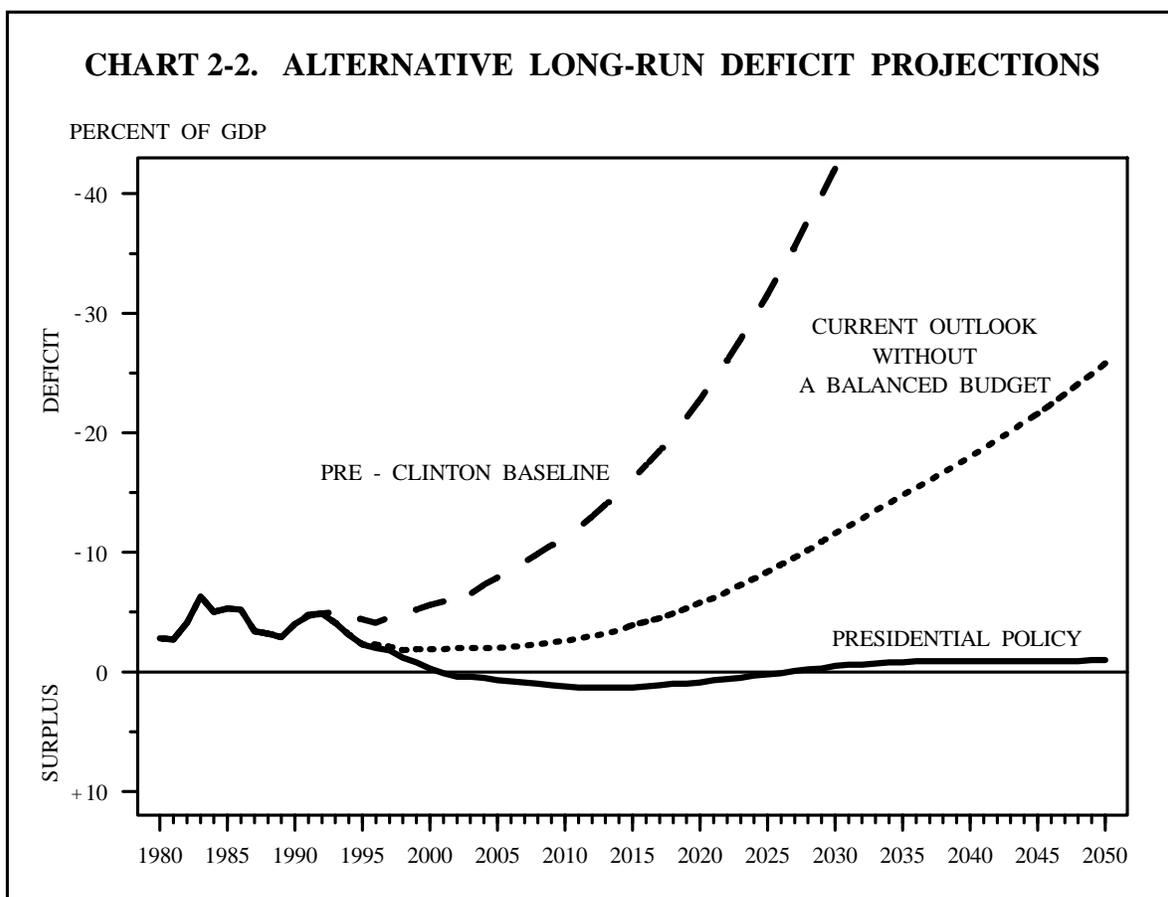
Economic and Demographic Projections.—Long-run budget projections must be based on a long-run demographic and economic forecast. Otherwise, it is impossible to estimate either future resources or the potential claims on them. The forecast used here is an extension of the Administration's economic projections described in the first chapter of this volume. Inflation, unemployment and interest rates are assumed to hold stable at their values in the year 2006. The real rate of economic growth is determined by the expected growth of the labor force and labor productivity. Productivity is assumed to continue rising at the same rate as in the Administration's medium-term projections, approximately 1.2 percent per year.⁵

Population growth is expected to slow over the next several decades. This is consistent with recent trends in the birth rate and an expected decline in the proportion of women in their childbearing years. The slowdown is expected to lower the rate of population growth from over 1 percent per year to about half that rate by the year 2020.⁶ Labor force participation is also expected to decline as the population ages. Together these trends imply a slowdown in real economic growth beginning around the year 2005. The rate of real GDP growth slows to less than 1.5 percent per year after 2020 because of these trends.

The Deficit Outlook.—Chart 2-2 shows three alternative deficit projections: a projection based on the policies in place prior to enactment of OBRA, the current outlook before incorporating the President's proposals to balance the budget, and a projection that shows the long-run outlook assuming those proposals are adopted.

⁵This projection is stated in terms of the new chain-weighted measures for GDP introduced by the Bureau of Economic Analysis in January. On the unrevised basis, the projected growth rate is about one-half percentage point higher.

⁶The population growth assumptions in these projections are based on the intermediate assumptions in the 1995 social security trustees' report for the period after 2006.



The chart clearly illustrates the dramatic improvement in the deficit that has already been achieved and shows that more is possible, not only in the short run but also in the long run. If the budget were balanced by 2002, the task of achieving fiscal stability when the demographic bulge hits after 2005 would be substantially reduced.

Along the pre-OBRA baseline, the deficit reaches over 40 percent of GDP by the year 2030. OBRA reduced the deficit by extending the caps on discretionary outlays; reforming Medicare; changing the rules for other entitlement programs; and raising tax rates on upper-income taxpayers, among other measures. A strengthening of the economic outlook also improved the deficit projection following the enactment of OBRA. In the current context, it is notable that OBRA lowered the deficit in the long term as well as in the short term. This would require that the discretionary savings achieved in 1994–1998 be preserved by holding the level of real discretionary spending constant thereafter. A return to the prior spending trajectory would partially undo these savings. Similarly, the savings in Medicare and other entitlements would need to be preserved.

Despite the improvement in the outlook after the passage of OBRA, serious long-run problems remain. Beginning around the year 2010 and continuing throughout the next several decades, the deficit would rise, eventually reaching unsustainable levels. The initial increase is caused by the expected retirement of the baby-boom generation that puts new strains on social security and Medicare. By 2030, the deficit reaches 12 percent of GDP, and by 2050, it is 26 percent. Table 2–2 shows alternative long-range budget projections for the major spending categories. The table shows that the entitlement programs are the major driving force behind the rise in the deficit in the long run.

Social security benefits, driven by the retirement of the baby-boom generation, rise from around 5 percent of GDP in 2000 to over 7 percent in 2030. The rise in Federal health care is even greater. Without the President's policies, Medicare and Medicaid together would reach 4 percent of GDP in 2000 and then continue to rise to 11 percent by the year 2030. As entitlement spending rises, if no corrective action is taken, the deficit grows rapidly. Initially, the programmatic spending is responsible for the increase, but as time passes a vicious spiral takes hold in which more bor-

Table 2-2. ALTERNATIVE BUDGET PROJECTIONS

(Percent of GDP)

	1995	2000	2005	2010	2020	2030	2040	2050
Current outlook without a balanced budget:								
Receipts	19.3	19.3	19.2	19.2	19.2	19.4	19.4	19.5
Outlays	21.7	21.3	21.2	21.8	25.0	30.9	37.4	45.3
Discretionary	7.8	6.5	5.8	5.3	4.5	4.0	3.4	3.0
Mandatory	10.6	11.7	12.4	13.4	16.4	19.7	21.5	22.5
Social security	4.8	4.7	4.7	4.8	6.0	7.1	7.6	8.0
Medicare and Medicaid	3.5	4.3	5.2	6.2	8.3	10.7	12.3	13.0
Net interest	3.3	3.1	3.0	3.1	4.1	7.3	12.5	19.8
Deficit	-2.3	-1.9	-2.0	-2.6	-5.8	-11.6	-18.0	-25.8
Federal debt held by public	51.4	50.8	49.5	50.5	68.4	121.0	207.8	327.0
Presidential policy (balanced budget):								
Receipts	19.3	19.4	19.4	19.3	19.4	19.5	19.5	19.6
Outlays	21.7	19.7	18.7	18.1	18.5	20.0	20.5	20.6
Discretionary	7.8	6.0	5.4	4.9	4.2	3.7	3.2	2.8
Mandatory	10.6	11.1	11.4	12.0	14.0	16.1	16.8	17.1
Social security	4.8	4.7	4.7	4.8	6.0	7.1	7.6	8.0
Medicare and Medicaid	3.5	3.9	4.3	4.9	6.0	7.2	7.7	7.7
Net interest	3.3	2.6	1.9	1.2	0.3	0.2	0.4	0.7
Deficit	-2.3	-0.3	0.7	1.2	0.9	-0.5	-0.9	-1.0
Federal debt held by public	51.4	47.0	35.6	24.1	6.5	3.7	9.5	14.2

rowing leads to higher Federal interest payments on the growing debt, which is financed in turn by yet more borrowing. The spiral is unstable in that if it continued unchecked it would eventually drive the debt and the deficit to infinity. Long before that point, a financial crisis would surely be triggered that would force some type of action on the Federal Government—action that was certain to be drastic and painful.

The long-run deficit outlook would be much improved if the President's budget proposals were enacted. Balancing the budget would set it on a solid footing for several decades. There is no justification in these projections for the concern sometimes expressed that a balanced budget would be a transitory phenomenon, to be followed quickly by a return of large and growing deficits. Under the Administration's economic and demographic assumptions that would not happen. The additional savings projected for the entitlements and the further reduction in discretionary spending leave the budget in a much improved position compared with the outlook in the absence of these changes. The lower level of Federal debt and interest that result from a balanced budget also help to maintain a budget surplus in these projections in the period beyond 2006.

Even with the improvements caused by a balanced budget, a very long-run deficit problem would remain as a result of the expected strains on social security and the health programs in the period following the retirement of the baby-boom generation. Balancing the budget would enable the Government to run a surplus over the following decades without further major policy initiatives. Eventually, the surplus would dissipate to be followed by a reappearance of the unified budget deficit.⁷ By the year 2050, however, the deficit would still be lower, as a percentage of GDP, than it was

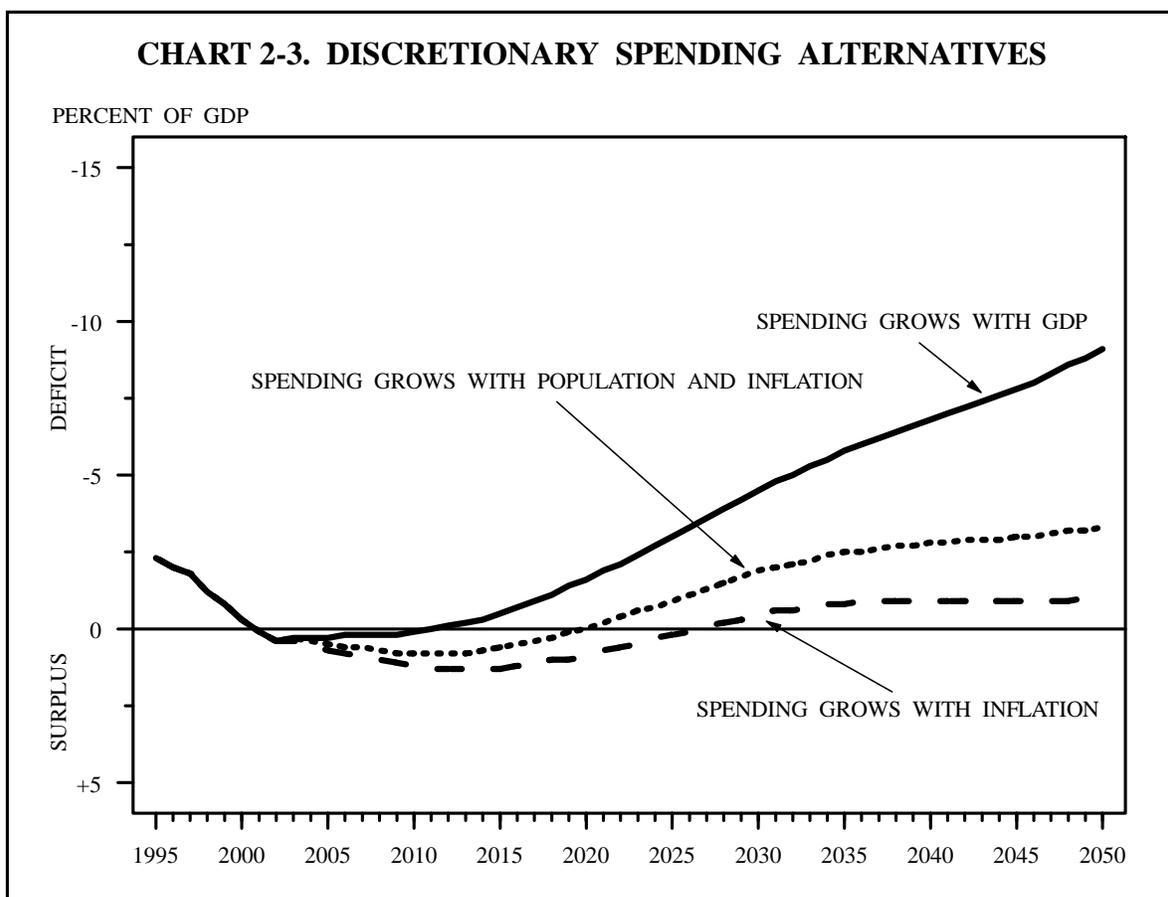
in 1992. To prevent the reemergence of a deficit, policies would have to be changed to reform social security and check the growth of Medicare and Medicaid.

Alternative Scenarios.—Budget projections are uncertain, and long-run projections are especially so. Therefore, it is essential to study how such projections can vary under reasonable variations in assumptions. A number of such alternative scenarios have been developed for these projections. Each alternative focuses on one of the key uncertainties in the outlook. Generally, the scenarios highlight negative possibilities rather than positive ones to show the risks in the outlook.

1. *Discretionary Spending.* The projections assume that discretionary spending is held constant in real terms once budget balance is reached. This is a strong assumption in a long-run context, although it is the usual assumption when current services projections are made, and currently discretionary spending is only half as large as a percent of GDP as it was 30 years ago. What makes it questionable is the fact that with real economic growth occurring and population rising, the public demand for Government services—more national parks, better transportation, additional Federal support for scientific research—might be expected to increase as well. It also assumes that the Nation's real defense needs will not vary from the proposed levels at the end of the current budget period. Alternative assumptions that allow for these programs to grow with population or overall economic activity are shown in Chart 2-3. These alternative assumptions worsen the deficit outlook.

2. *Health Spending:* The most volatile element of recent budgets has been Federal health spending. Expenditures for Medicare and Medicaid have grown faster than other entitlements, and even after the reforms

⁷These projections assume that any surplus is used to reduce the debt. This depends on political choices in future years.



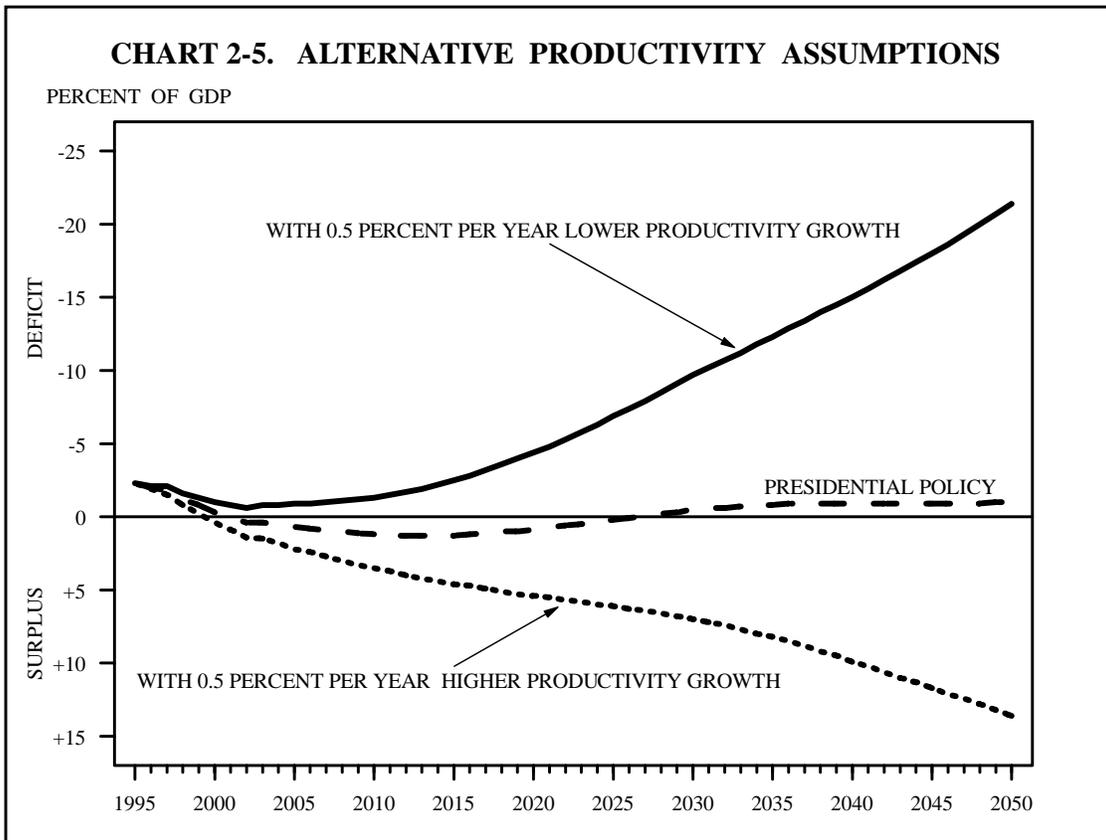
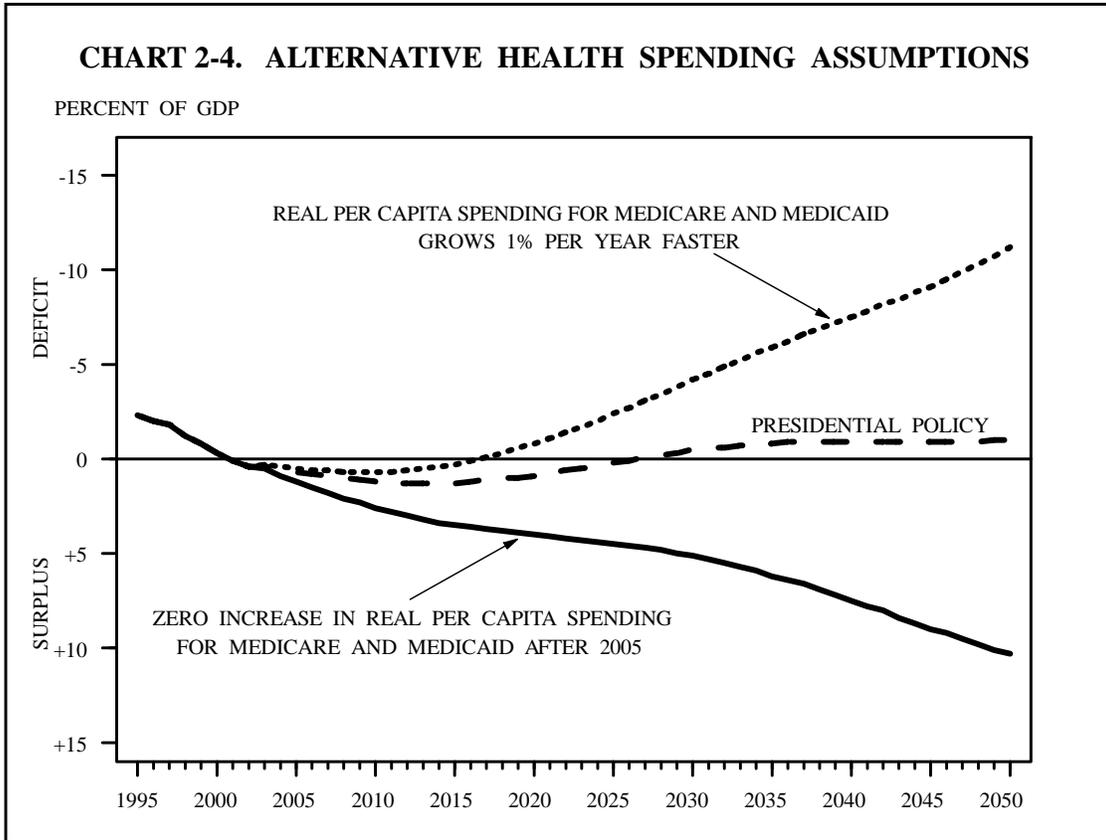
in the President's budget, which go a long way toward reining in their growth, they continue to rise more rapidly. In the long-run projections, the growth of real per capita spending for Medicare, following the Medicare trustees' assumptions, is assumed to slow down gradually. Per capita Medicaid spending is constrained by the proposed cap on per capita spending. The beneficiary populations vary with the demographic assumptions. The alternative scenario shows what would happen instead if faster trends in spending for these programs resumed after 2006. Chart 2-4 shows the resulting deficit outlook from such assumptions.

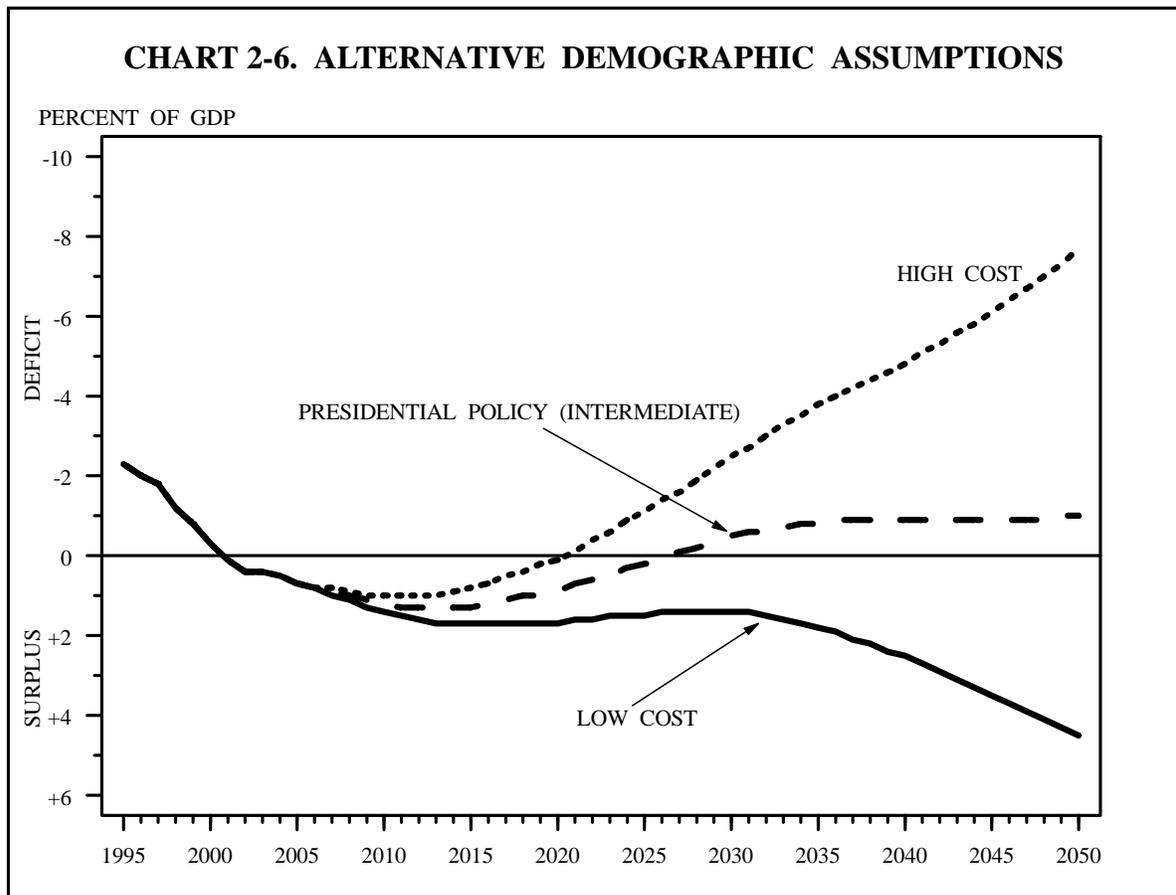
3. *Productivity*: The slowdown in productivity growth in the U.S. economy that began in 1973 is responsible for much of the weaker performance of U.S. income growth since that time. Indeed, over the long run, productivity gains are the principal source of higher incomes, so slower growth of productivity necessarily means a slower rise in living standards. Productivity can be affected by changes in the budget deficit, but many other factors influence it as well. Educational achievement, R&D, energy prices, regulation, changes in business organization, and competition all affect productivity. The alternative scenarios illustrate what would happen to the budget deficit in the long run if productivity growth were higher or lower. A higher

rate of growth would make the task of preserving a balanced budget much easier; a lower growth rate would have the opposite effect. Chart 2-5 shows how the deficit varies with changes of one-half percentage point of average productivity growth.

4. *Population*: In the long-run, demographics dominate the projections. Changes in population growth feed into real economic growth through the effect on labor supply and employment. Changes in demographics also affect spending under the entitlement programs. Much of the long-run problem that remains even with a balanced budget is due to expected demographic shifts. Chart 2-6 illustrates how important these are by showing what would happen to the deficit under the alternative demographic assumptions used by the social security trustees in their most recent report.

Conclusion.—OBRA improved the long-run deficit outlook dramatically, but even so the deficit is still projected to increase beginning around the year 2010, and to rise to unacceptable levels by mid-century. The President's current budget proposals would not only balance the budget, but go some distance toward resolving the long-run deficit problem as well. The long-run budget problem is not the result of irresponsible discretionary spending, and while it is necessary to control discretionary spending, and while it is necessary to con-





control discretionary spending, doing this alone will not be enough to solve the long-run problem.

Actuarial Balance in the Social Security and Medicare Trust Funds.—Because of the critical role of the social security and Medicare programs to the long-range budget outlook, it is worthwhile to examine the status of these programs more closely. Table 2-3 shows the changes in the 75-year actuarial balances of the social security and Medicare Trust Funds since 1994. There was only a small change in the consolidated balance for the OASDI Trust Funds which combines the separate funds set up for retirement and disability insurance. Legislation to shift resources from the retirement fund to the disability fund prevented the latter from becoming insolvent. The combined OASDI fund is not projected to become depleted until 2030. In 1995, the trustees for the Hospital Insurance Trust Fund projected that under intermediate assumptions, the HI trust fund would be insolvent in 2002,

one year later than projected in 1994. More recent data has shown, however, that outlays exceeded income in 1995, sooner than was expected. In addition, baseline spending for HI has slightly increased from Mid-Session Review baseline estimates, primarily to reflect anticipated growth in home health spending. The trustees are expected to revise the projected exhaustion date for HI later this Spring in their 1996 Report. Because the trustees' analysis considers a wide range of factors, including additional experience in the current fiscal year, new analyses of the factors affecting HI benefit growth during fiscal years 1990-95, updated projections of HI payroll tax income and current interest rate expectations, it is not possible to accurately predict the exhaustion date until the Report is completed. Furthermore, the trustees' estimates do not take account of possible legislative changes, such as those proposed in this budget, that would postpone the date at which the fund is depleted.

TABLE 2-3. CHANGE IN 75-YEAR ACTUARIAL BALANCE FOR OASDI AND HI TRUST FUNDS (INTERMEDIATE ASSUMPTIONS)

(As a percent of taxable payroll)

	OASI	DI	OASDI	HI
Actuarial balance in 1994 report	-1.46	-0.66	-2.13	-4.14
Changes in balance due to changes in:				
Valuation period	-0.06	-0.01	-0.07	-0.10
Economic and demographic assumptions	0.13	0.01	0.14	0.01
Disability assumptions	0.00	-0.05	-0.05	0.00
Legislation	-0.40	0.40	0.00	0.00
Methods	-0.06	-0.01	-0.07	0.00
Hospital costs	0.00	0.00	0.00	0.64
Other	0.00	0.00	0.00	0.07
Total changes	-0.40	0.35	-0.05	0.62
Actuarial balance in 1995 report	-1.87	-0.31	-2.17	-3.52

NATIONAL WEALTH AND WELFARE

Unlike a private corporation, the Federal Government routinely invests in ways that do not add directly to its own assets. For example, Federal grants are frequently used to fund capital projects by State or local Governments for highways and other purposes. Such investments are valuable to the public which pays for them with taxes, but they are not owned by the Federal Government.

The Federal Government also invests in education and research and development (R&D). These outlays contribute to future productivity and are in that sense analogous to investments in physical capital. Indeed, economists have computed stocks of human and knowledge capital to reflect the accumulation of such investments. Nonetheless, these capital stocks are not owned by the Federal Government, nor would they appear on a business balance sheet.

Table 2-4 presents a national balance sheet. It includes estimates of total national wealth classified in three categories: physical assets, education capital, and R&D capital. The Federal Government has made contributions to each of these categories, and these contributions are also shown in the table. Data in this table are especially uncertain because of the assumptions needed to prepare the estimates. Overall, the Federal contribution to the current level of national wealth is about 7½ percent, which is down from around 8 percent at the end of the 1980s, and from over 12 percent in 1960.

Physical Assets

These include stocks of plant and equipment, office buildings, residential structures, land, and Government's physical assets such as military hardware, office buildings, and highways. Automobiles and consumer appliances are also included in this category. The total amount of such capital is vast, amounting to around \$26 trillion in 1995; by comparison, GDP was about \$7 trillion.

The Federal Government's contribution to this stock of capital includes its own physical assets plus \$0.6 trillion in accumulated grants to State and local governments for capital projects. The Federal Government has financed about one-quarter of the physical capital held by other levels of Government.

Education Capital

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

For this table, an estimate has been made of the stock of capital represented by the Nation's investment in education. The estimate is based on the cost of replacing the years of schooling embodied in the U.S. population aged 16 and over. The idea is to measure how much it would cost to reeducate the U.S. workforce at today's prices.

This is a crude measure, but it can provide a rough order of magnitude. According to this measure, the stock of education capital amounted to \$28 trillion in 1995, of which about 3 percent was financed by the Federal Government. The total exceeds the Nation's stock of physical capital. The main investors in education capital have been State and local Governments, parents, and the students themselves who forgo earning opportunities in order to acquire education.

Even broader concepts of human capital have been considered. Not all useful training occurs in school, or formal training programs at work. Much informal and yet invaluable learning occurs within families or on the job. Labor compensation amounts to about two-thirds of national income. Therefore, it is conceivable that the total value of human capital might be as large as three times the estimated value of physical capital. Thus, it can be seen that the estimates offered here are in a sense conservative, because they reflect only the costs of acquiring formal education.

TABLE 2-4. NATIONAL WEALTH
(As of the end of the fiscal year, in trillions of 1995 dollars)

	1960	1965	1970	1975	1980	1985	1990	1993	1994	1995
ASSETS										
Publicly owned physical assets:										
Structures and Equipment	2.0	2.3	2.8	3.4	3.7	3.7	3.9	4.0	4.0	4.1
Federally owned or financed	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.6	1.6
Federally owned	1.0	1.0	1.0	0.9	0.8	0.9	1.0	1.0	1.0	1.0
Grants to State & Local	0.1	0.2	0.2	0.4	0.5	0.5	0.6	0.6	0.6	0.6
Funded by State and local Governments	0.9	1.1	1.5	2.1	2.4	2.2	2.3	2.4	2.4	2.5
Other Federal assets	0.7	0.7	0.6	0.9	1.4	1.4	1.1	0.9	0.9	0.9
Subtotal	2.7	3.0	3.5	4.3	5.2	5.1	5.0	4.9	4.9	4.9
Privately Owned Physical Assets:										
Reproducible Assets	5.4	6.2	7.9	10.2	13.0	13.6	15.0	15.3	15.8	16.2
Residential Structures	1.9	2.2	2.7	3.6	4.9	4.9	5.4	5.7	5.9	6.1
Nonresidential Plant and equipment	1.9	2.3	3.0	4.0	5.0	5.6	6.0	6.0	6.1	6.3
Inventories	0.7	0.7	0.9	1.1	1.3	1.2	1.3	1.2	1.2	1.3
Consumer Durables	0.9	1.0	1.3	1.5	1.7	1.9	2.3	2.4	2.5	2.6
Land	1.9	2.3	2.6	3.4	5.1	5.9	5.9	4.5	4.5	4.4
Subtotal	7.3	8.5	10.5	13.6	18.1	19.4	20.9	19.8	20.3	20.7
Education Capital:										
Federally Financed	0.1	0.1	0.2	0.3	0.4	0.5	0.7	0.8	0.8	0.8
Financed from Other Sources	6.1	7.9	10.6	12.3	15.0	18.1	22.8	25.0	25.9	26.7
Subtotal	6.1	8.0	10.8	12.6	15.4	18.6	23.5	25.8	26.7	27.5
Research and Development Capital:										
Federally Financed R&D	0.2	0.3	0.5	0.5	0.6	0.7	0.8	0.8	0.8	0.9
R&D Financed from Other Sources	0.1	0.2	0.3	0.4	0.4	0.6	0.8	0.9	1.0	1.0
Subtotal	0.3	0.5	0.7	0.9	1.0	1.3	1.6	1.8	1.8	1.9
Total assets	16.5	20.1	25.5	31.3	39.7	44.4	51.0	52.3	53.7	55.0
LIABILITIES:										
Net Claims of Foreigners on U.S.	(0.2)	(0.2)	(0.2)	(0.2)	(0.5)	(0.2)	0.3	0.6	0.7	0.9
Balance	16.7	20.3	25.7	31.5	40.2	44.6	50.7	51.7	52.9	54.1
Per capita (thousands of 1995 dollars) ..	92.2	104.4	125.5	145.8	176.1	186.5	202.1	199.7	202.6	205.1
ADDENDA:										
Total Federally funded capital	2.1	2.3	2.6	3.0	3.8	4.1	4.2	4.1	4.1	4.1
Percent of national wealth	12.3	11.3	10.2	9.5	9.4	9.1	8.2	8.0	7.8	7.6

Research and Development Capital

Research and Development can also be thought of as an investment, because R&D represents a current expenditure for which there is a prospect of future returns. After adjusting for depreciation, the flow of R&D investment can be added up to provide an estimate of the current R&D stock.⁸ That stock is estimated to have been about \$1.9 trillion in 1995. Although this is a large amount of research, it is a relatively small portion of total National wealth. About half of this stock was funded by the Federal Government.

Liabilities

When considering the debts of the Nation as a whole, the debts that Americans owe to one another cancel out. This does not mean they are unimportant. The buildup in debt largely owed to other Americans was partly responsible for the sluggishness of the recovery

⁸R&D depreciates in the sense that the economic value of applied research and development tends to decline with the passage of time which leads to movement in the technological frontier.

from the 1990–1991 recession in its early stages. Indeed, the debt explosion in the 1980s may have helped to bring on the recession in the first place.

However, these debts do not belong on the national balance sheet. If they were included, there would have to be offsetting entries. Only the net debt that is owed to foreigners belongs on the national balance sheet. America's foreign debt has been increasing rapidly in recent years, as a consequence of the U.S. trade deficit, but the size of this debt is small compared with the total stock of assets. It amounted to about 1½ percent of the total in 1995.

Most of the Federal debt held by the public is owned by Americans, so it does not appear in Table 2-4. Only that portion of the Federal debt held by foreigners is included. Even so, it is of interest to compare the imbalance between Federal assets and liabilities with national wealth. The Government will have to service the debt or repay it, and its ability to do so without disrupting the economy will depend in part on the wealth of the private sector. Currently, the Federal net asset

imbalance, as estimated in Table 2-1, amounts to about 5½ percent of total U.S. wealth as shown in Table 2-4.

Trends in National Wealth

The net stock of wealth in the United States at the end of 1995 was about \$55 trillion. Since 1980 it has increased in real terms at an annual rate of 2.2 percent per year—about half the 4.5 percent rate it averaged from 1960 to 1980. (All comparisons are in terms of constant 1995 dollars.) Public capital formation slowed down markedly between the two periods. The real value of the net stock of publicly owned physical capital was actually lower in 1995 than in 1980—\$4.9 trillion versus \$5.1 trillion in the earlier year. Since 1980, Federal grants to State and local governments for capital projects have grown less rapidly, while capital funded directly by State and local governments has grown at an average rate of only 0.1 percent per year.

Private capital formation in physical assets has also grown more slowly since 1980. The net stock of nonresidential plant and equipment grew 1.6 percent per year from 1980 to 1995 compared with 4.9 percent in the 1960s and 1970s, and the stock of business inventories actually declined. Overall, the stock of privately owned physical capital grew at an average rate of just 0.9 percent per year between 1980 and 1995.

The accumulation of education capital, as measured here, also slowed down in the 1980s, but not nearly as much. It grew at an average rate of 4.7 percent per year in the 1960s and 1970s, about the same as the average rate of growth in private physical capital during the same period. Since 1980, education capital has grown at a 4.4 percent annual rate. This reflects the extra resources devoted to schooling in this period, and the fact that such resources were rising in relative value. R&D stocks have grown at about the same rate as education capital since 1980.

Other Federal Influences on Economic Growth

Many Federal policies have contributed to the slowdown in capital formation shown here. Federal investment policies obviously were important, but the Federal Government also contributes to wealth in ways that cannot be easily captured in a formal presentation. Monetary and fiscal policies affect the rate and direction of capital formation. Regulatory and tax policies affect how capital is invested, as do the Federal Government's credit assistance policies.

One important channel of influence is the Federal budget deficit, which determines the size of the Federal Government's borrowing requirements. Smaller deficits in the 1980s would have resulted in a smaller gap between Federal liabilities and assets than is shown in Table 2-1. It is also likely that, had the \$3 trillion in added Federal debt since 1980 been avoided, a significant share of these funds would have gone into private investment. National wealth might have been 2 to 4 percent larger in 1995 had fiscal policy avoided the buildup in the debt.

Social Indicators

There are certain broad responsibilities that are unique to the Federal Government. Especially important are the Government's role in fostering healthy economic conditions, promoting health and social welfare, and protecting the environment. Table 2-5 offers a rough cut of information that can be useful in assessing how well the Federal Government has been doing in promoting these general objectives.

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

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

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

An example of this occurs during economic recessions when reductions in tax collections lead to increased Government borrowing that adds to Federal liabilities. This deterioration in the Federal balance sheet provides an automatic stabilizer for the private sector. State Government, local government and private budgets are strengthened by allowing the Federal budget to run a deficit. More stringent Federal budgetary controls could be used to hold down Federal borrowing during such periods, but only at the risk of aggravating the downturn.

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

An Interactive Analytical Framework

No single framework can encompass all of the factors that affect the financial condition of the Federal Government. Nor can any framework serve as a substitute for actual analysis. Nevertheless, the framework presented above offers a useful way to examine the financial aspects of Federal policies. Increased Federal sup-

Table 2-5. ECONOMIC AND SOCIAL INDICATORS

General categories	Specific measures	1960	1965	1970	1975	1980	1985	1990	1991	1992	1993	1994 ¹	1995
Economic:													
Living Standards	Real GDP per person (1992 dollars)	12,512	14,792	16,521	17,896	20,252	22,345	24,559	24,058	24,447	24,728	25,335	25,591
	Average annual percent change	0.4	3.4	2.2	1.6	2.5	2.0	1.9	-2.0	1.6	1.2	2.5	1.0
	Median family income (1994 dollars):												
	All families	25,866	30,147	35,407	36,177	37,857	38,200	40,087	39,105	38,632	37,905	38,782	NA
	Married couple families	27,030	31,482	37,735	39,204	41,671	42,835	45,237	44,607	44,249	44,106	44,959	NA
	Female householder, no husband present	13,660	15,305	18,276	18,048	18,742	18,814	19,199	18,163	17,984	17,890	18,236	NA
	Income share of middle three quintiles (%)	54.0	53.9	53.6	53.5	53.4	52.0	51.2	51.4	51.0	43.9	49.0	NA
	Poverty rate (%) ²	22.2	17.3	12.6	12.3	13.0	14.0	13.5	14.2	14.8	15.1	14.5	NA
	Economic security inflation and unemployment:												
	Civilian unemployment (%)	5.5	4.5	4.9	8.5	7.1	7.2	5.5	6.7	7.4	6.8	6.1	5.6
	CPI-U (year over year % change)	2.0	1.3	4.3	6.8	8.9	5.5	4.0	4.2	3.0	3.0	2.6	2.8
	Employment prospects	Increase in total payroll employment (millions, Dec. to Dec.)	-0.5	2.9	-0.5	0.4	0.2	2.5	0.3	-0.9	1.2	2.8	3.5
Managerial or professional jobs (% of civilian employment)		NA	NA	NA	NA	22.2	24.1	26.0	26.5	26.5	27.1	27.5	28.3
Wealth creation	Net national saving rate (% of NNP)	11.4	13.3	9.3	6.8	7.3	6.2	4.2	4.1	2.7	2.8	3.9	4.7
Innovation	Patents issued to U.S. residents (thous.)	42.0	53.6	50.1	51.4	40.8	43.4	53.0	57.8	58.7	61.1	64.2	64.4
	Multifactor productivity (average percent change)	1.1	3.2	1.1	1.3	0.7	0.6	0.3	-1.0	1.4	0.5	0.8	NA
Social:													
Families	Children living with a single parent (% of all children)	9.2	10.2	12.9	16.4	18.6	20.2	21.6	22.4	22.8	23.3	23.1	NA
Safe communities	Violent crime rate (per 100,000 population) ³	160	199	364	482	597	557	732	758	758	746	716	NA
	Murder rate (per 100,000 population)	5.1	5.1	7.8	9.6	10.2	7.9	9.4	9.8	9.3	9.5	9.0	NA
	Juvenile crime (murders per 100,000 persons age 14-17)	NA	NA	NA	NA	8.2	7.1	15.8	17.3	17.5	18.6	NA	NA
Health and illness	Infant mortality (per 1,000 live births)	26.0	24.7	20.0	16.1	12.6	10.6	9.2	8.9	8.5	8.4	7.9	NA
	Low birthweight (<2,500 gms) babies (%)	7.7	8.3	7.9	7.4	6.8	6.8	7.0	7.1	7.1	7.2	NA	NA
	Life expectancy at birth (years)	69.7	70.2	70.8	72.6	73.7	74.7	75.4	75.5	75.8	75.5	75.7	NA
	Cigarette smokers (% population 18 and over)	NA	42.4	39.5	36.4	33.2	30.1	25.5	25.6	26.5	25.0	NA	NA
	Bed disability days (average days per person)	6.0	6.2	6.1	6.6	7.0	6.1	6.2	6.5	6.3	6.7	NA	NA
	National health expenditures (% of GDP)	5.2	5.8	7.2	8.1	9.0	10.4	12.1	12.8	13.1	13.5	NA	NA
Learning	High school graduates (% of population 25 and older)	44.6	49.0	55.2	62.5	68.6	73.9	77.6	78.4	79.4	80.2	80.9	NA
	College graduates (% of population 25 and older)	8.4	9.4	11.0	13.9	17.0	19.4	21.3	21.4	21.4	21.9	22.2	NA
	National assessment of educational progress ⁴ :												
	Mathematics	NA	NA	NA	304	298	302	305	NA	307	NA	NA	NA
	Science	NA	NA	305	296	283	288	290	NA	294	NA	NA	NA
Participation	Voting for President (% eligible population)	62.8	NA	NA	NA	52.6	NA	NA	NA	55.2	NA	NA	NA
	Voting for Congress (% of eligible population)	58.5	NA	43.5	NA	47.4	NA	33.1	NA	50.8	NA	36.0	NA
	Individual charitable giving per capita (1994 dollars)	199	238	286	304	331	349	427	423	422	419	NA	NA
Environment:													
Air quality	Population living in counties with ozone levels exceeding the standard (millions)	NA	NA	NA	NA	NA	76	63	70	43	51	50	NA
Water quality	Population served by secondary treatment or better (millions)	NA	NA	NA	NA	NA	134	155	157	159	162	164	166

¹ Data are preliminary for infant mortality and life expectancy.

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

³ Not all crimes are reported, and the fraction that go unreported may have varied over time.

⁴ Dates shown in table for the national educational assessments are approximate.

port for investment, the reduction in Federal absorption of saving through deficit reduction, and other Administration policies to enhance economic growth are expected to promote national wealth and improve the fu-

ture financial condition of the Federal Government. As that occurs, the efforts will be clearly revealed in these tables.

TECHNICAL NOTE: SOURCES OF DATA AND METHOD OF ESTIMATING

Federally Owned Assets and Liabilities

Assets

Financial Assets: The source of data is the Federal Reserve Board's Flow-of-Funds Accounts. Two adjustments were made to these data. First, U.S. Government holdings of financial assets were consolidated with the holdings of the monetary authority, i.e., the Federal Reserve System. Second, the gold stock, which is valued in the Flow-of-Funds at a constant historical price, is revalued using the market value for gold.

Physical Assets

Fixed Reproducible Capital: Estimates were developed from the OMB historical database for physical capital outlays. The database extends back to 1940 and was supplemented by data from other selected sources for 1915-1939. The source data are in current dollars. To estimate investment flows in constant dollars, it is necessary to deflate the nominal investment series. This was done using BEA price deflators for Federal purchases of durables and structures. These price deflators are available going back as far as 1940. For earlier years, deflators were based on Census Bureau historical statistics for constant price public capital for-

mation. The capital stock series were adjusted for depreciation on a straight-line basis, assuming useful lives of 46 years for water and power projects; 40 years for other direct Federal construction; and 16 years for major nondefense equipment and for defense procurement.

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

Estimates were updated using changes in the value of private land from the Flow-of-Funds Balance Sheets and in the Producer Price Index for Crude Energy Materials. The Bureau of Economic Analysis is in the process of preparing satellite accounts to accompany the National Income and Product Accounts that will report on changes in mineral deposits for the Nation as a whole, but this work is not yet completed.

Liabilities

Financial Liabilities: The principal source of data is the Federal Reserve’s Flow-of-Funds Accounts.

Contingent Liabilities: Sources of data are the OMB Deposit Insurance Model and the OMB Pension Guarantee Model. Historical data on contingent liabilities for deposit insurance were also drawn from the Congressional Budget Office’s study, *The Economic Effects of the Savings and Loan Crisis*, issued January 1992.

Pension Liabilities: For 1979–1994, the estimates are the actuarial accrued liabilities as reported in the annual reports for the Civil Service Retirement System, the Federal Employees Retirement System, and the Military Retirement System (adjusted for inflation). Estimates for the years before 1979 are not actuarial; they are extrapolations. The estimate for 1994 is a projection.

Long-Run Budget Projections

The long-run budget projections are based on long-run demographic and economic projections. A model of the Federal budget developed at OMB computes the budgetary implications of this forecast.

Demographic and Economic Projections: For the years 1996–2006 the assumptions are identical to those used in the budget. As always, these budget assumptions reflect the President’s policy proposals, in this case that the budget be balanced. The long-run projections extend these budget assumptions by holding inflation, interest rates, and unemployment constant at the levels assumed in the budget for 2006. Population growth and labor force participation are extended using the intermediate assumptions from the 1995 social security trustees’ report and Bureau of Labor Statistics projections. The projected rate of growth for real GDP is built up from the labor force assumptions and an assumed rate of productivity growth. The assumed rate of productivity growth is held constant at the average

rate of growth implied by the budget’s economic assumptions. The economic forecast used to project the budget in the absence of the President’s balanced budget proposals is altered to reflect the higher interest rates and lower profits that would be expected to prevail under these circumstances.

Budget Projections: For the years 1996–2006, the projections follow the budget. After 2006, receipts are projected using simple rules of thumb linking income taxes, payroll taxes, excise taxes, and other receipts to projected tax bases derived from the economic forecast. Outlays are computed in different ways. Discretionary spending grows at the rate of inflation. Social security, Medicare, and Federal pension outlays are projected using the most recent actuarial forecasts available at the time the budget was prepared (April 1995 for social security). These projections are repriced using Administration inflation assumptions. Other entitlement programs are projected based on rules of thumb linking program spending to elements of the economic and demographic forecast such as the poverty rate.

National Balance Sheet Data

Publicly Owned Physical Assets: Basic sources of data for the federally owned or financed stocks of capital are the investment flows computed by OMB from the budget database. Federal grants for State and local Government capital were added together with adjustments for inflation and depreciation in the same way as described above for direct Federal investment. Data for total State and local Government capital come from the capital stock data prepared by the BEA.

Privately Owned Physical Assets: Data are from the Flow-of-Funds national balance sheet. Preliminary estimates for 1995 were prepared based on net investment from the National Income and Product Accounts.

Education Capital: The stock of education capital is computed by valuing the cost of replacing the total years of education embodied in the U.S. population 16 years of age and older at the current cost of providing schooling. The estimated cost includes both direct expenditures in the private and public sectors and an estimate of students’ forgone earnings, i.e., it reflects the opportunity cost of education.

For this presentation, Federal investment in education capital is a portion of the Federal outlays included in the conduct of education and training. This portion includes direct Federal outlays and grants for elementary, secondary, and vocational education and for higher education. The data exclude Federal outlays for physical capital at educational institutions and for research and development conducted at colleges and universities because these outlays are classified elsewhere as investment in physical capital and investment in R&D capital. The data also exclude outlays under the GI Bill; outlays for graduate and post-graduate education spending in HHS, Defense and Agriculture; and most outlays for vocational training.

Data on investment in education financed from other sources come from educational institution reports on

the sources of their funds, published in U.S. Department of Education, *Digest of Education Statistics*. Education capital is assumed not to depreciate, but to be retired when a person dies. An education capital stock computed using this method with different source data can be found in Walter McMahon, "Relative Returns To Human and Physical Capital in the U.S. and Efficient Investment Strategies," *Economics of Education Review*, Vol. 10, No. 4, 1991. The method is described in detail in Walter McMahon, *Investment in Higher Education*, 1974.

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

Federally funded capital stock estimates were prepared using the perpetual inventory method in which annual investment flows are cumulated to arrive at a capital stock. This stock was adjusted for depreciation by assuming an annual rate of depreciation of 10 percent on the outstanding balance for applied research and development. Basic research is assumed not to depreciate. The 1993 Budget contains additional details on the estimates of the total federally financed R&D stock, as well as its national defense and nondefense

components (see *Budget for Fiscal Year 1993*, January 1992, Part Three, pages 39–40).

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

Experimental estimates of R&D capital stocks have recently been prepared by BEA. The results are described in "A Satellite Account for Research and Development," *Survey of Current Business*, November 1994. These BEA estimates are lower than those presented here primarily because BEA assumes that the stock of basic research depreciates, while the estimates in Table 2–4 assume that basic research does not depreciate. BEA also assumes a slightly higher rate of depreciation for applied research and development, 11 percent, compared with the 10 percent rate used here.

Social Indicators

The main sources for the data in this table are the Government statistical agencies. Generally, the data are publicly available in the President's annual *Economic Report* and the *Statistical Abstract of the United States*.