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The Honorable Bill Bradley
United States Senate

The Honorable Pete V. Domenici
United States Senate

The Honorable Jim Sasser
United States Senate

The Honorable Leon E. Panetta
House of Representatives

The Honorable Lee H. Hamilton
House of Representatives

As requested by Senators Bradley and Domenici, who were subsequently joined by Senator Sasser, and Representatives Panetta and Hamilton, this report examines the long-term effects of the federal budget and discusses ways of enhancing the long-term perspective in budgeting.

The federal budget is structurally unbalanced. This imbalance will do increasing damage to the economy in the future and is unsustainable in the long term. Action to hold the deficit at its expected postrecession level would mitigate some of these negative effects, but in the long run would require increasingly painful decisions and still would not yield an adequately rising standard of living for future generations.

This erosion of the nation's future economic strength is being exacerbated by the increasing allocation of federal budget resources to current consumption rather than to investment programs. Because deficit control alone will not secure adequate economic growth, more emphasis needs to be placed on federal investment in infrastructure, human capital, and research and development.

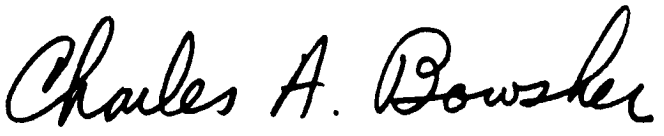
To deal with these issues, the budget process needs to adopt a longer term planning horizon linking fiscal policy with broader goals for the economy. In addition, a new decision-making framework is needed to highlight the choice between consumption and investment spending throughout the budget process.

If the nation is to achieve a budget policy that serves the interests of future generations, difficult choices are required concerning what responsibilities the federal government will carry and how those activities will be financed. No part of the budget can be exempt from such an examination, but the dimensions of the problem are such that the dominant program areas must

receive concentrated attention. We must decide how much we need and can afford to spend on national security. We must find effective ways of controlling the escalating costs of health care. And we must think clearly about the overall budget implications of the retirement in the next century of the baby boom generation.

Regardless of the approach that is chosen, prompt and meaningful action is essential. In the end, action is unavoidable. The longer it is delayed, the more painful it will be.

This report was prepared under the direction of Harry S. Havens, Assistant Comptroller General, who may be reached at (202) 275-4730 if there are any questions.



Charles A. Bowsher
Comptroller General
of the United States

Executive Summary

The nation's long-term economic future depends in large part upon budget and investment decisions made today. Current trends, however, are not encouraging. Federal budget deficits have absorbed increasing proportions of national saving that would otherwise have been available to finance investment, either public or private.

In addition to their effect on national saving and investment, the deficits and the short-term budgetary focus they have engendered have placed and continue to place a disproportionate strain on federal investment activities. Investment in physical capital, human capital, and research and development plays a key role in economic growth, directly and by creating an environment conducive to private sector investment. Yet these spending categories have declined as a share of total federal spending.

Failure to reverse these trends in fiscal policy and the composition of federal spending will doom future generations to a stagnating standard of living, damage U.S. competitiveness and influence in the world, and hamper our ability to address pressing national needs.

This report is the second of a series addressing the long-term implications of the federal budget deficit. In The Budget Deficit: Outlook, Implications, and Choices (GAO/OCG-90-5, September 12, 1990), GAO discussed the dimensions of the deficit problem, policy options that might be adopted to attack the problem, and basic budget reform initiatives. This report builds on and moves beyond that discussion by examining the role of federal fiscal policy in increasing economic growth, specifically in increasing the amount of investment and/or the return on investment. In addition, the report discusses how changes in budget presentation and process might help decisionmakers place a greater emphasis on long-term consequences of budget decisions.

Deficit Reduction Is Necessary to Increase Future Economic Growth

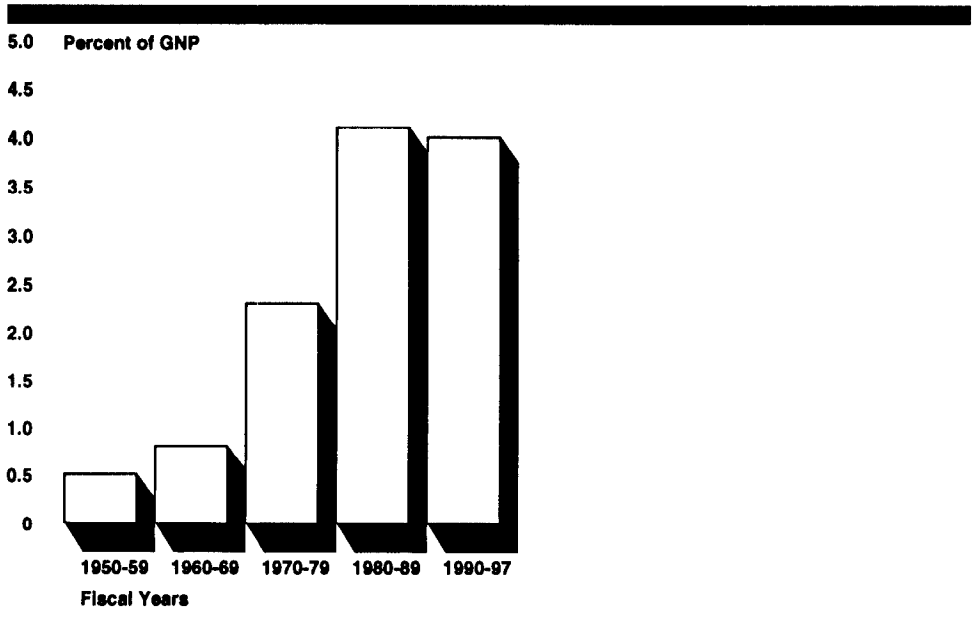
Long-term economic growth is central to almost all our major concerns as a society. Investment is critical to economic growth. The surest way to increase the resources available for investment is to increase national savings, and the surest way to increase national savings is to reduce the federal deficit.

However, despite the passage of various deficit reduction measures, deficits remain embedded in federal fiscal policy. Legislation such as the Balanced Budget and Emergency Deficit Control Act of 1985, (commonly known as Gramm-Rudman-Hollings), and the more recent Omnibus

Budget Reconciliation Act of 1990 (including the Budget Enforcement Act) constrained deficits but have not stopped their growth. Both measures suffered from significant, albeit different, design problems. Gramm-Rudman-Hollings exempted the largest domestic programs and encouraged misleading budgeting and accounting practices. The Budget Enforcement Act (BEA) places temporary caps on discretionary spending but for mandatory spending such as Medicare, Medicaid, deposit insurance and interest costs—the factors that now drive the deficit—the BEA only constrains legislated policy changes. Neither law contained a mechanism to force a reconsideration of past decisions or of the design of existing programs in light of their current and future effect on the deficit.

The average unified budget deficit during the decade of the 1980s was 4.1 percent of the Gross National Product (GNP), up from 2.1 percent the previous decade. (See figure 1.) At 6.3 percent of GNP, the Congressional Budget Office's (CBO) fiscal year 1992 deficit of $368 billion exceeds these averages. Although CBO projects deficits to decline to around 3 percent by 1997, the average deficit for the 1990s will remain at 4 percent. Moreover, absent a change in policy, CBO projects deficits again rising toward the 4 percent deficit level through the turn of the century.

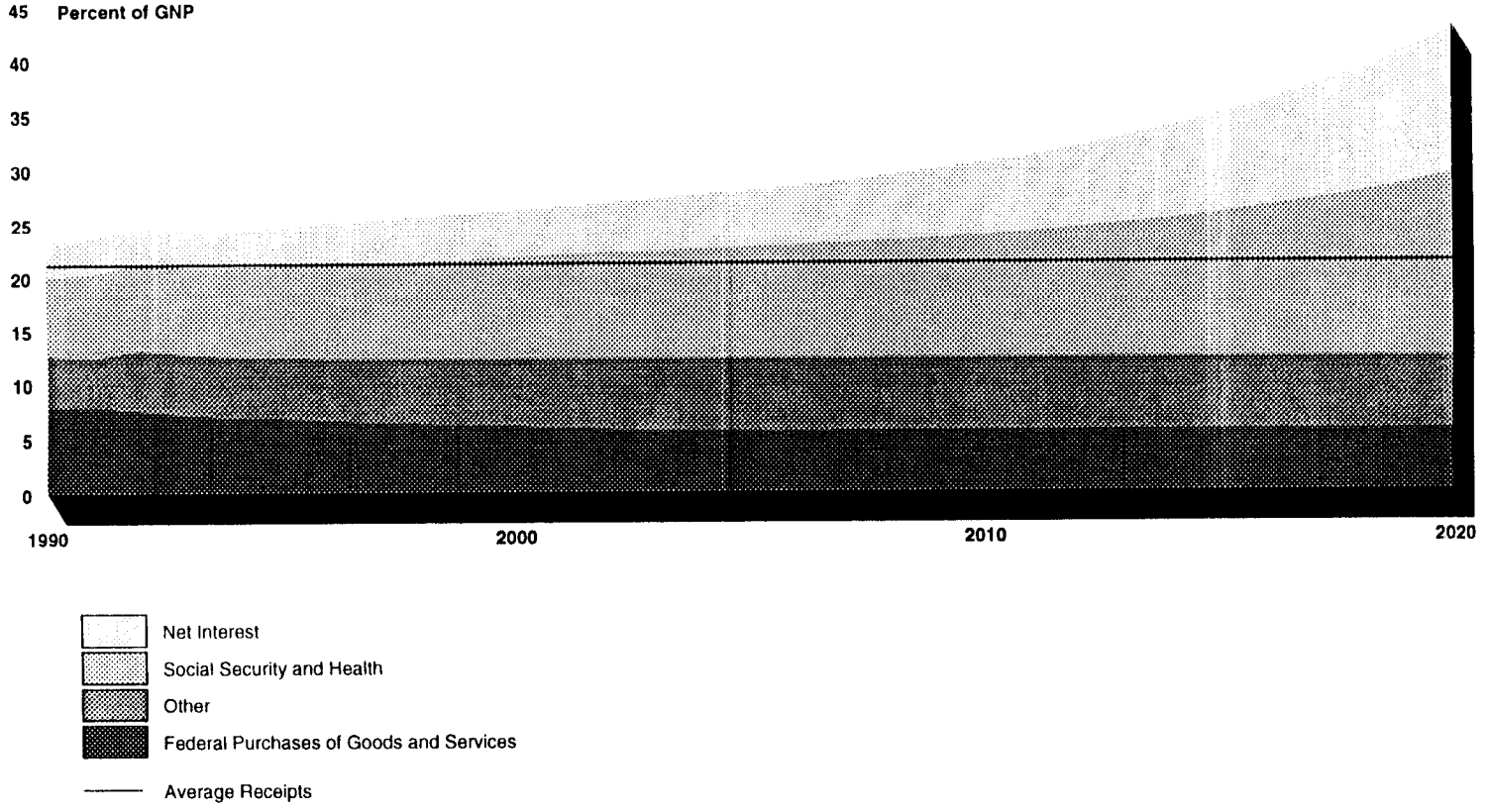
Figure 1: Average Deficit by Decade (1950-1997)



Source: Budget of the U.S. Government, 1950-91; CBO projections, 1992-97

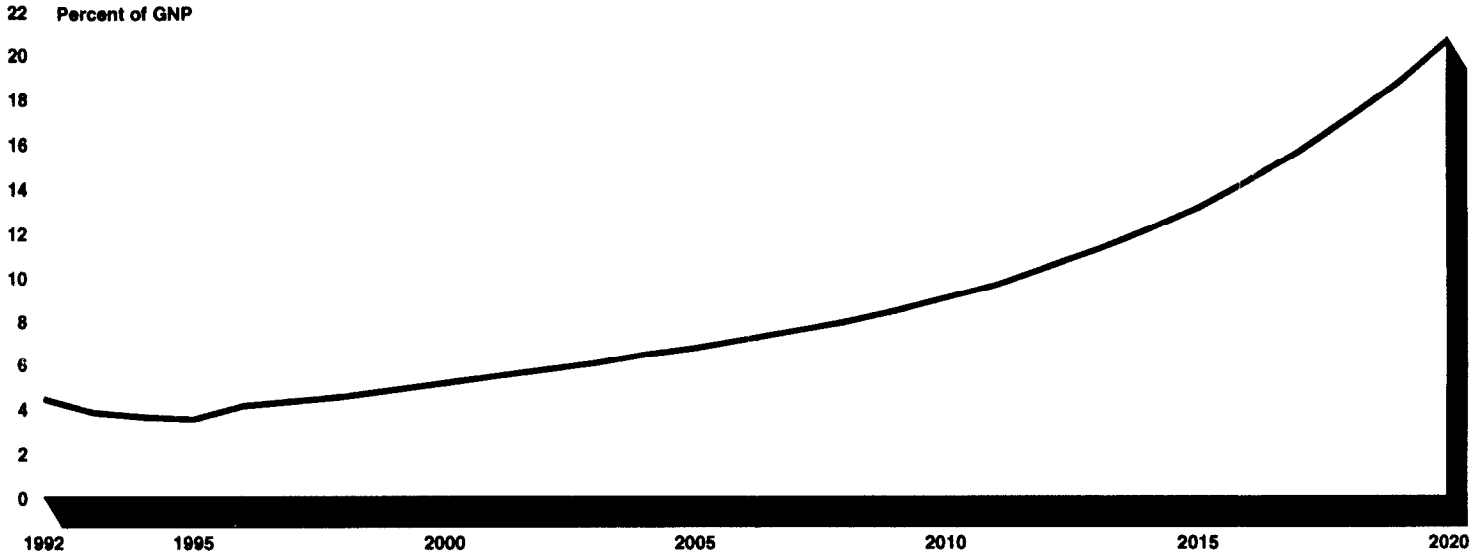
If nothing is done to reverse current trends, deficits could explode over the longer term. If current tax and spending policies are continued, GAO's projection of current trends, using an adaptation of a long-term growth model developed by the Federal Reserve Bank of New York, suggests federal spending could increase from 23.3 percent of GNP to 42.4 percent of GNP by 2020 while revenues could rise from 20.3 to 21.8 percent. (See figure 2.)

Figure 2: Federal Expenditures in the No Action Scenario



The resulting explosion of the deficit to 20.6 percent of GNP (see figure 3) by 2020 is due in part to the projected dramatic rise in spending for interest, health care, and retirement and in part to the fact that higher deficits and lower savings slow the growth of real GNP.

Figure 3: No Action Scenario Budget Deficits (1992-2020)

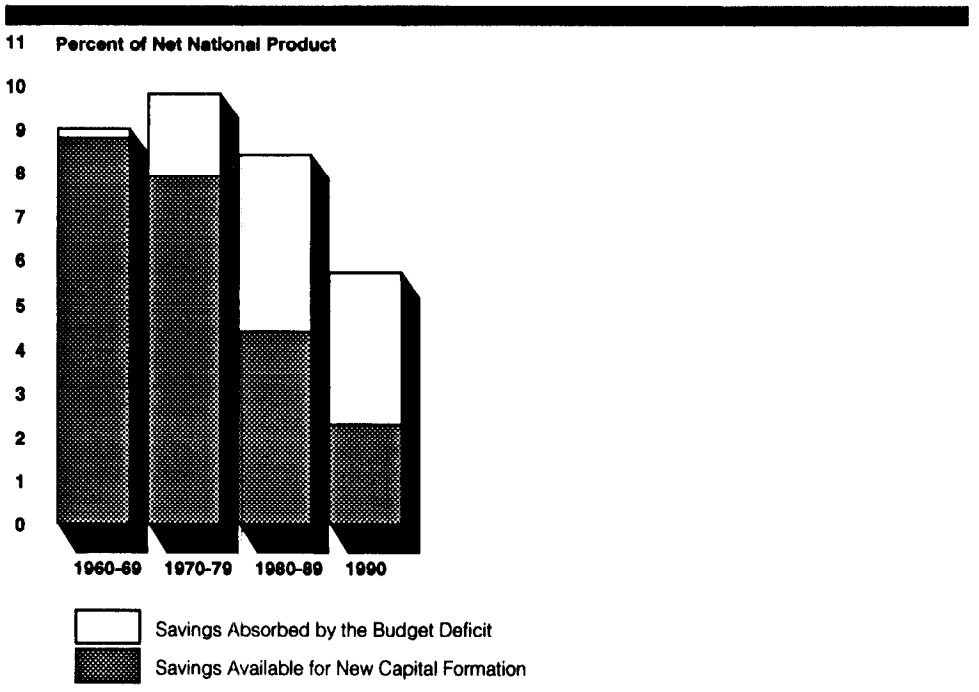


Although such "no action" projections are useful to illustrate the need for policy change, inaction is not a sustainable policy. If timely policy action were not taken, at some point external events would force belated and more painful policy changes. Accordingly, the key question facing policymakers is not whether to undertake major deficit reduction, but when and how. GAO's analysis shows that the timing of deficit reduction has a great impact on both the amount of sacrifice required and the economic benefits realized.

Deficits Inhibit Investment

The short-run damage from deficits may not be as visible as the short-term costs involved in dealing with it. However, deficits matter in the long run because they consume savings that otherwise could be productively invested. Federal borrowing to finance the deficit has absorbed an increasing portion of net national savings since the 1960s. Meanwhile, the national saving rate declined during the 1980s. As a result, at the same time federal borrowing was increasing, net national savings available for new capital investment was dropping sharply. (See figure 4.)

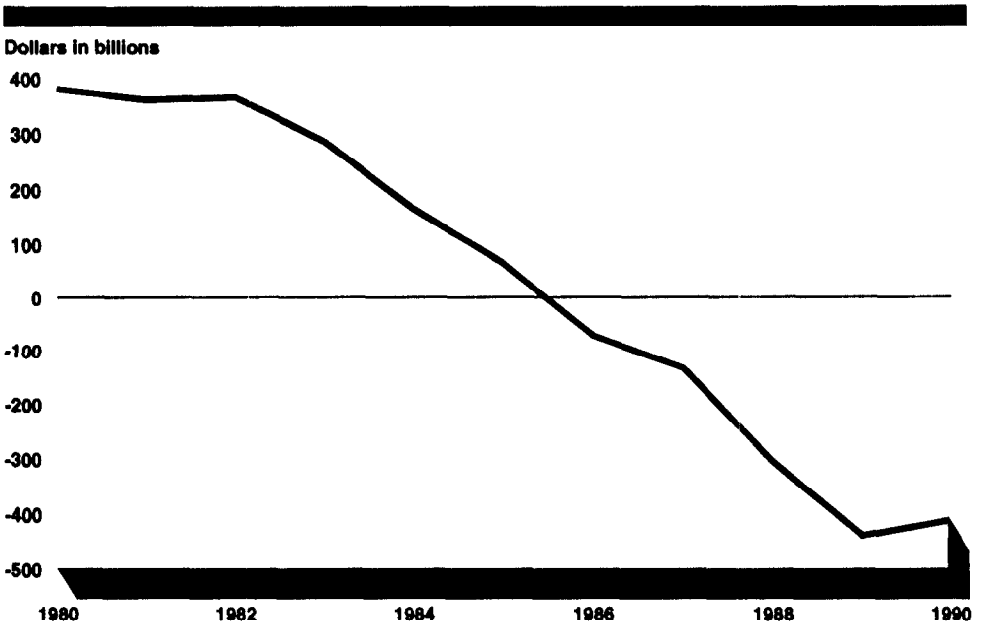
Figure 4: Effect of the Federal Budget Deficit on Net National Savings (1960-1990)



Source: Economic Report of the President, February 1992

In the absence of increased national savings, deficits must be financed either by a reduction in private investment or by an influx of foreign capital. During the 1980s, foreign capital helped finance government borrowing and permitted investment to exceed the level national savings alone could support. The deteriorating U.S. net international investment position (see figure 5) shows the nation's increasing reliance on foreign investment during this period.

Figure 5: U.S. Net International Investment Position (1980-1990)



Source: Survey of Current Business, June 1991

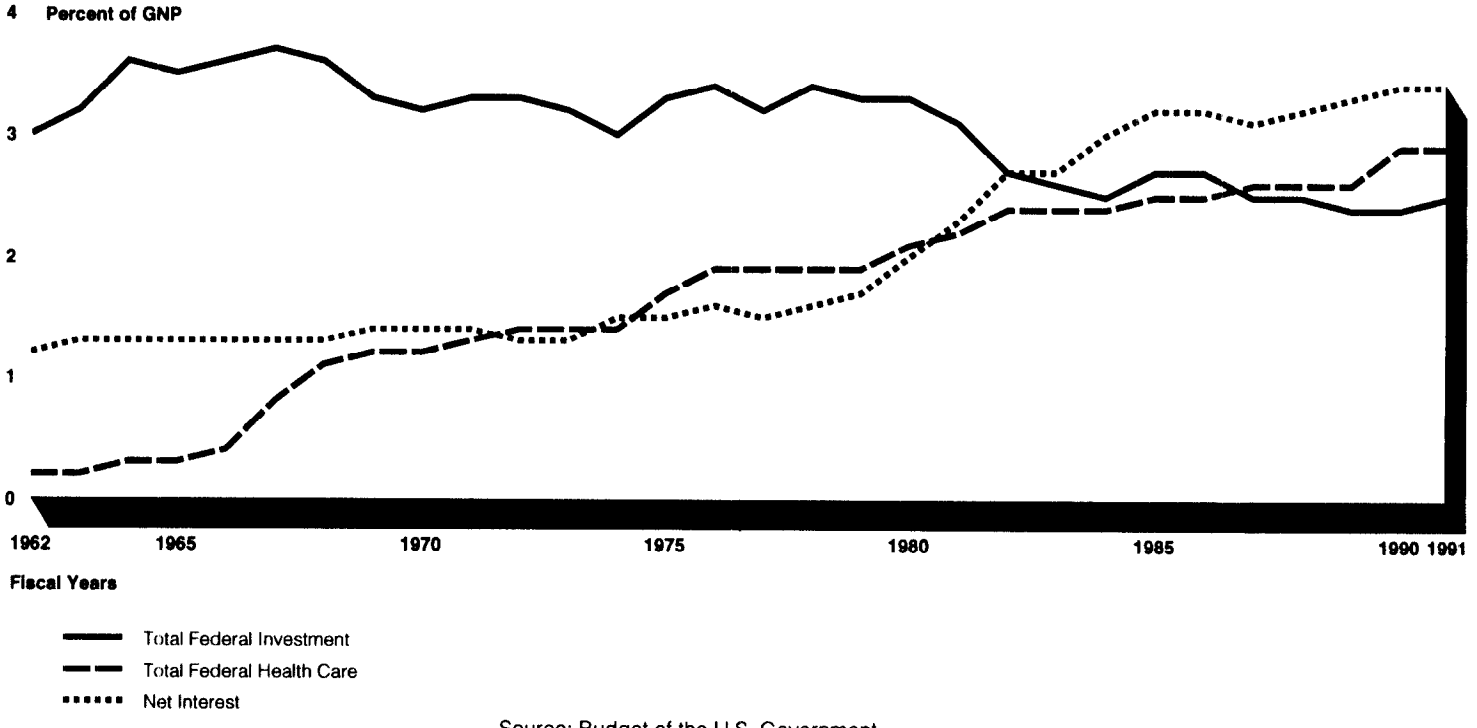
Although in the short run such reliance has prevented capital shortfalls, in the future, profits and interest payments will flow abroad from the U.S. Furthermore, should foreign investment decline, the nation could face increased interest rates as the reduced availability of capital raises its cost. An increase in national saving and a reduction in federal borrowing would reduce U.S. dependence on foreign capital and help cushion the U.S. economy from the effects of reduced foreign investment levels.

If the budget deficits had financed an equivalently higher level of public sector investment, the depressing effect on long-term economic growth might have been mitigated. But that is not what happened. When deficits are embedded in the budget as they are today, each year's interest costs add to the deficit an increment which must in turn be financed by still greater interest payments. Only policy changes that reduce the underlying deficit can cause a permanent shift in this pattern. The continued growth of interest costs, and that of "other" mandatory spending has meant a decline in funds available to finance discretionary programs. Since investment-oriented programs are financed out of discretionary funds, this

shift in the composition of federal spending has dictated a decline in funding for investment.

Economists generally agree that well-chosen public investments aid economic growth, although the impacts of specific types of investment vary greatly and are still debated. Federal spending with the greatest long-term economic payoff—investment in nondefense physical capital, public programs, enhancing human capital, and in research and development (R&D)—has dropped as a percent of GNP while spending for consumption and interest on the debt has absorbed an increasing share. The share of federal outlays devoted to investment has recently been surpassed both by outlays for health and for net interest on the public debt as shown in figure 6.

Figure 6: Federal Investment, Health, and Net Interest Outlays (1962-1991)



Source: Budget of the U.S. Government

Changing the Current Fiscal Path Now Would Better Prepare the Nation for Economic and Financial Challenges of the 21st Century

The long-term benefits of fiscal policy change are difficult to appreciate, particularly when compared with the steep short-term costs necessary to achieve significant deficit reduction. To clarify the consequences of significant change in fiscal policy, GAO adapted the long-term economic growth model developed by economists at the Federal Reserve Bank of New York. The assumptions incorporated in this model are relatively conservative with regard to the relationship between capital investment and the growth in national output; hence, it is likely that the model understates the long-term benefits of changes in fiscal policy.

A major reduction in the long-run structural budget deficit, by reducing current consumption, would yield long-term benefits in the form of higher national saving, higher investment, more rapid economic growth, and a lower foreign debt. To illustrate these consequences, GAO analyzed three hypothetical deficit reduction paths through the year 2020:

- A "muddling through" scenario in which the deficit, as measured in the National Income and Product Accounts, is held to 3 percent of GNP over the period.
- A "balanced" budget scenario where balance is achieved in 2001 and maintained.
- A "surplus" scenario where a 2 percent surplus is reached in 2005 and maintained until 2010, at which time the surplus is phased down to reach budget balance by 2020.

GAO compared the consequences of these alternatives to one another as well as to the consequences of taking no action, where deficits are projected to grow to 20.6 percent of GNP (see figure 7). The results are shown in table 1.

Figure 7: Alternate Deficit/Surplus Paths (1992-2020)

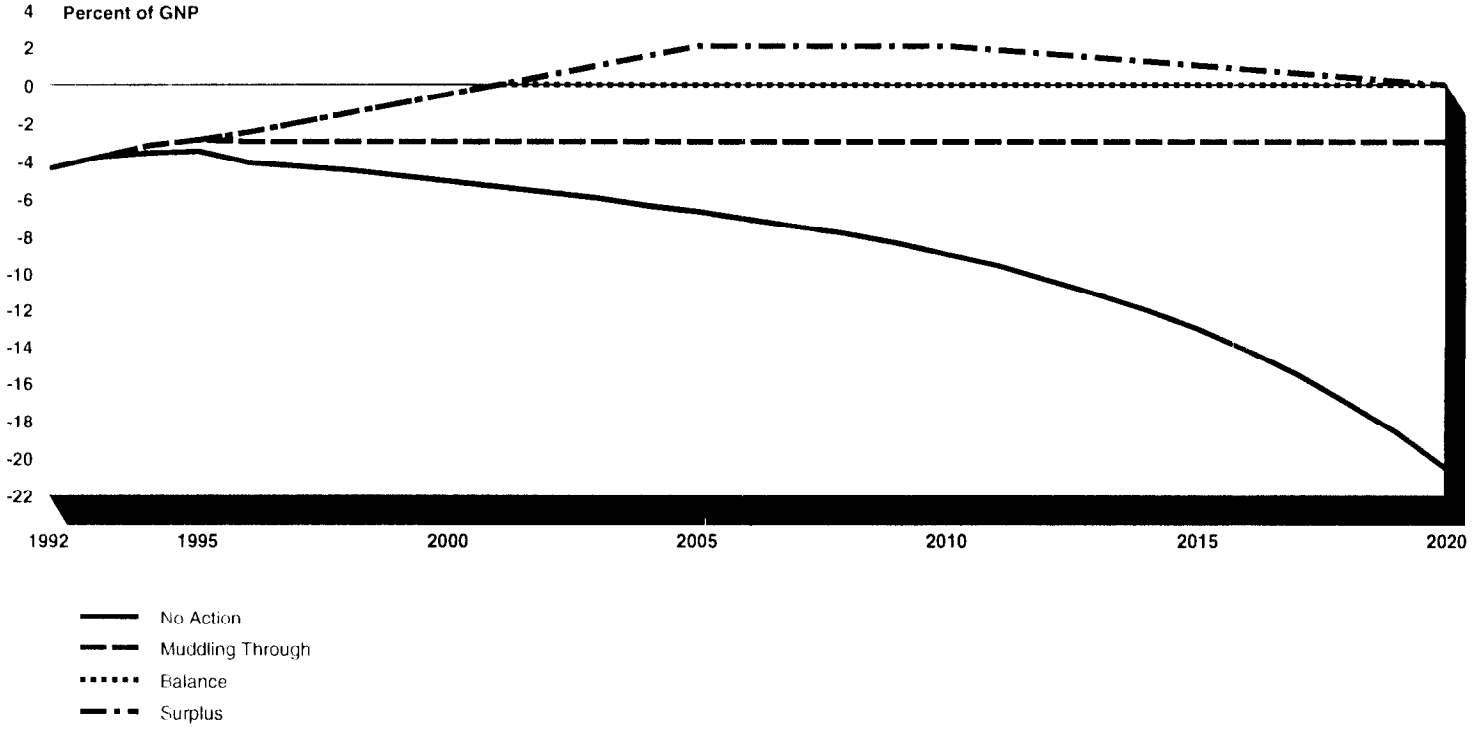


Table 1: Results of Alternate Deficit Paths for 2020

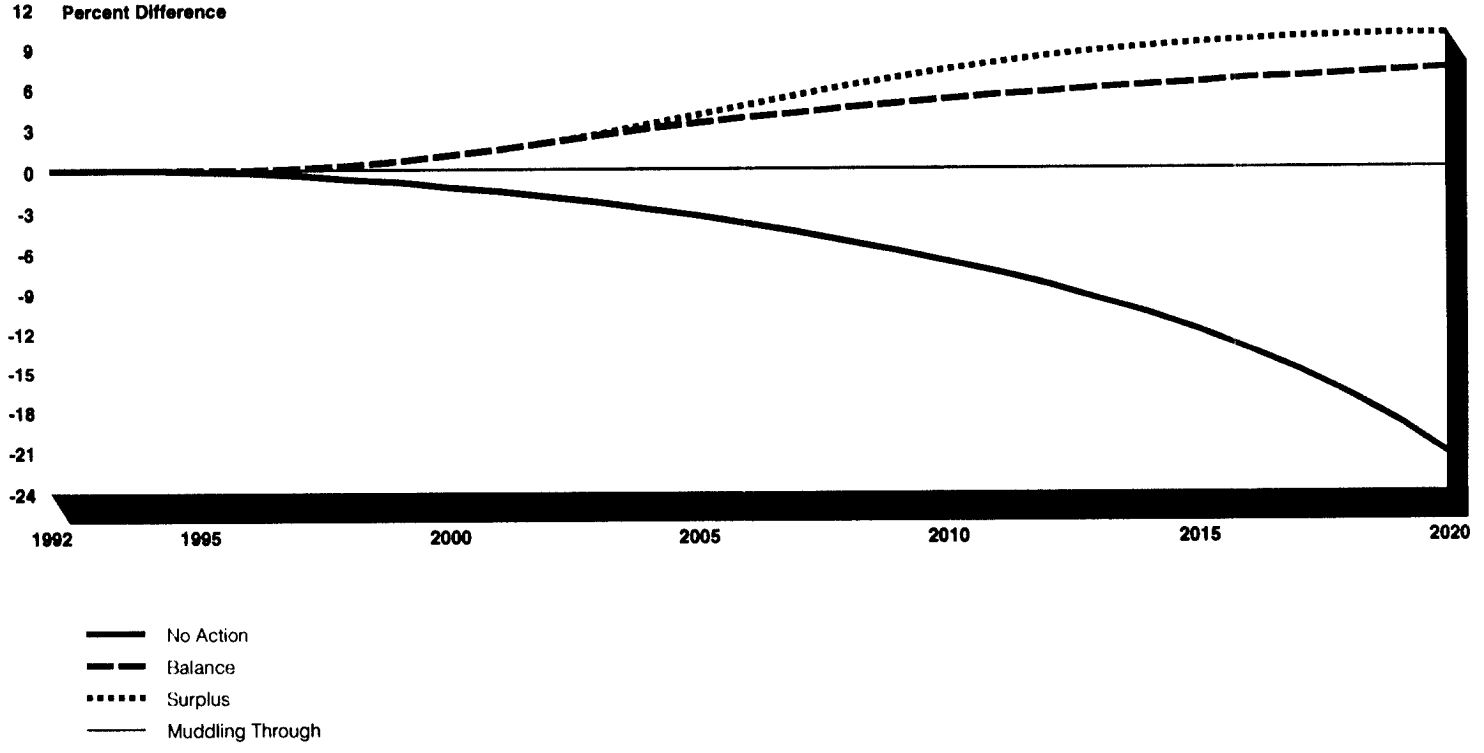
Per capita 1992 dollars

	No action	Muddling through	Balance	Surplus
Real GNP	$23,875	$30,374	$32,555	$33,353
Debt held by the public[a]	$45,816	$16,702	$ 4,665	$ 219
Foreign debt[a]	$19,243	$ 8,460	$ 3,748	$ 1,979

[a]Foreign debt is the negative of the net international investment position (NIIP). The term "debt" is not strictly appropriate. Also, the values for federal debt and foreign debt cannot be added, since some of the U.S. debt held by the public is held by foreigners and forms part of the NIIP.

Both the balance and surplus paths would promote greater economic growth than either muddling through or taking no action. The balanced budget alternative increases real GNP in 2020 by 7.2 percent over the muddling through alternative. Choosing a budget surplus increases it by 9.8 percent. Compared to doing nothing, the surplus alternative increases real GNP in 2020 by 39.7 percent (see figure 8).

Figure 8: Difference in GNP Between Muddling Through and Alternate Deficit Paths (1992-2020)



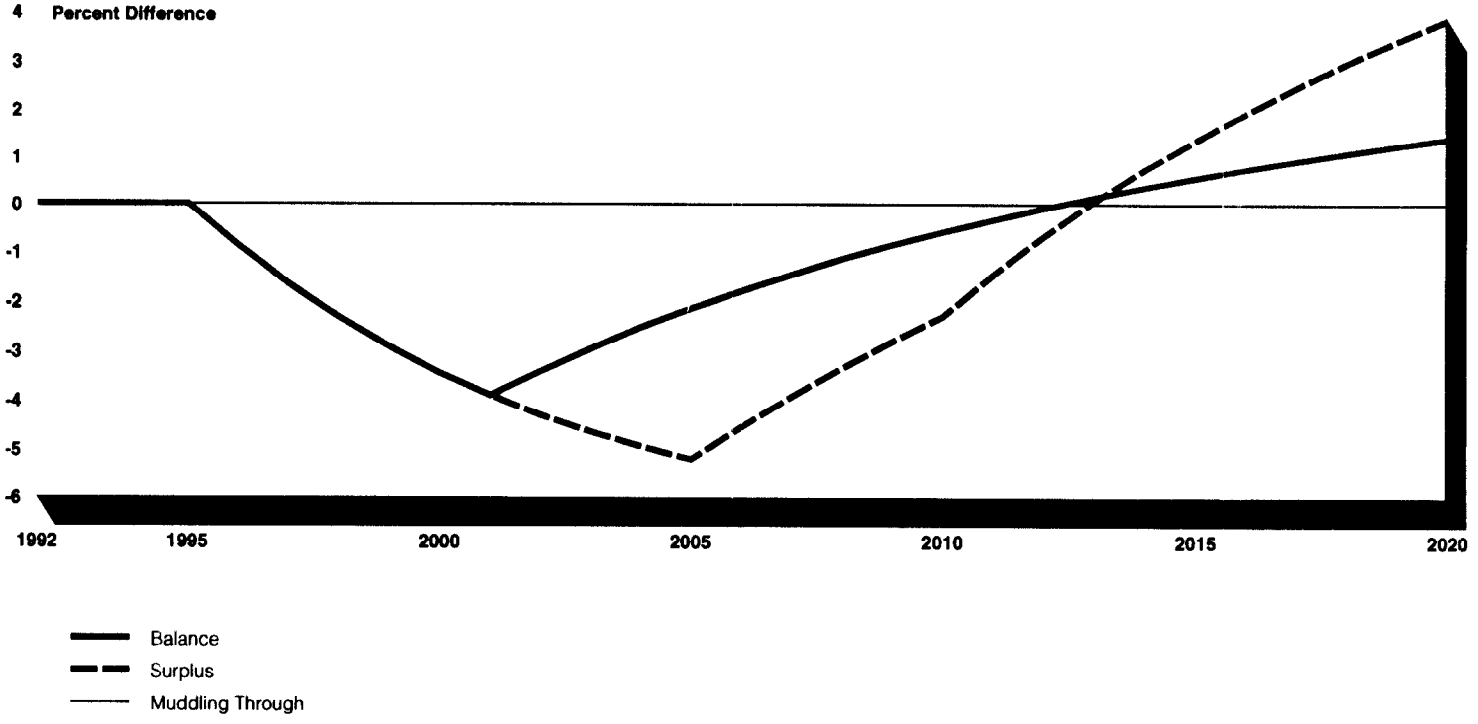
While muddling through implies a stream of trade and current account deficits and a continuing decline in the U.S. net international investment position, both the balance and surplus scenarios produce more favorable foreign investment paths than that of the 1980s. The differences in foreign debt are striking and important.

Just as interest accelerates deficit growth, so it magnifies the impact of deficit reduction. Early action to reduce the deficit pays huge dividends in lower interest costs. Declining interest costs reduce the amount of deficit reduction that must come from program cuts or revenue increases. The more rapidly interest costs can be brought down, the less sacrifice required.

Moving from our current fiscal policy path to either the balance or surplus path will require sacrifice. Since deficit reduction results in using more of current output for investment and less for consumption, consumption is

adversely affected in the near term. In the long term, however, the higher national saving rate brought about by deficit reduction raises consumption significantly beyond levels that would otherwise have been achieved. (See figure 9.)

Figure 9: Difference in Per Capita Consumption Between Muddling Through and Alternate Deficit Paths (1992-2020)



Is it worth it? GAO believes it is. The nation must act before external events force action. The question is really whether it is worth the price to act sooner rather than later. Acting sooner changes the dynamics of compound interest from enemy to ally. Making policy changes to reduce the deficit reaps benefits in reduced interest costs which in turn reduce the deficit. Prompt action means a more strongly growing economy which in turn will reduce the burden borne by this generation's grandchildren when it must finance the baby boom's retirement. Finally, only the surplus path creates the opportunity later to relax the budget constraints somewhat to address new or existing but unmet national needs.

Aging of America Adds Urgency to Deficit Reduction

In addition to the dynamics of compound interest, demographics argue for early action. Today the baby boom generation is in its prime working years, but by the year 2020 most of its members will have retired. Since a relatively smaller working population will have to support the large baby boom generation in its retirement, it is imperative that a deficit path be chosen that maximizes economic growth and output in the first part of the next century. Only a strongly growing economy will prevent stagnation in the living standards for these future workers.

The fruits of economic growth, however, take time to ripen. To create an economy in which both this relatively smaller working population and the large retiree population have acceptable living standards, action must be taken now. Waiting until the demographic shift occurs is too late.

Fundamental Policy Changes Are Necessary to Achieve Lasting Deficit Reduction

While improvements in the efficiency and effectiveness of current programs and policies are essential to ensure that taxpayer resources are not wasted, making government "lean and mean" is not enough to do the job. Improving internal controls and management efficiency in such programs as Medicare or tax enforcement offer significant benefits far beyond budgetary savings, but their fiscal benefits alone cannot be expected to provide the ballast needed to achieve desired fiscal policy shifts. Further, new claims on budgetary resources such as cleanup at the nation's nuclear weapons complexes and hazardous waste sites could add additional costs above the baseline, thereby exceeding any efficiency savings achieved.

Savings of the magnitude needed will, therefore, require fundamental policy changes. The explosion in the deficit is driven by skyrocketing interest costs, continuing large increases in health care costs, and, after 2010, a jump in retirement costs as the baby boom generation retires. Interest costs can only be reduced indirectly, for example, by reducing the debt that must be financed. While no area of the budget can be exempt from serious examination and reconsideration, the dimensions of the problem are such that control of health care costs and resolution of the future Social Security financing dilemma are necessary for any lasting progress.

Although the alternatives appear daunting, several industrialized countries—Germany, Australia, Japan, and the United Kingdom—experienced large deficits in the 1980s yet achieved surpluses by the end of the decade. The impetus for these fiscal policy changes

included a recognition of impending economic crisis and a willingness to accept short-term discomfort as the price for long-term economic gain.

Budget Reform Is Needed

Although the budget process cannot be blamed for the existence of or the size of the deficit, changes in that process are necessary to facilitate and encourage focus on the long-term consequences of decisions.

Fiscal Policy Should Support Long-Term Economic Goals

At the macroeconomic level, the budget process needs to adopt a longer term planning horizon linking fiscal policy with broader goals for the performance of the economy. Such long-term economic goals as real GNP growth and domestic savings should become the focus of policymaking which should then drive subsequent fiscal policy choices needed to attain these goals.

This kind of policymaking framework would seek to change the terms of the policy debate by focusing attention on economic goals and associated fiscal policy paths some 30 years into the future. The significant but short-term sacrifices of deficit reduction could be more easily compared to the long-term benefits accruing from such changes in budget policy. Further, when considered over the longer term, deficit reduction savings become exponential, thanks largely to reductions in net interest expense and in other areas where spending and revenues are influenced by the performance of the economy.

Increase the Budget's Investment Orientation

Although federal programs vary considerably in their impact on the private economy, the present budget process and structure do not encourage decisionmakers to take these differences into account in allocating resources. Further, there is no framework to consider the investment implications of federal tax policy subsidies, such as depreciation rules or the research and experimentation tax credit, when making decisions on related spending programs. If planning for long-term economic growth is to become a central objective of the budget process, a new decisionmaking framework is needed, one in which the choice between consumption and investment spending is highlighted throughout the decision process, rather than being displayed for information purposes after the fact.

If such a framework were in place, the Congress, each year, could determine explicitly the aggregate funding for total investment-related

programs, as well as for the physical capital, human capital and R&D components of that total. To support such a decision process focusing on investment choices, improvements would be needed in the tools and information used to evaluate the relative impacts or rates of return of the various federal investment programs, to ensure that limited federal resources are used to promote the best choices among competing strategies and programs.

GAO believes that the one-year-at-a-time focus of budgeting has failed to serve the nation's needs. To build the foundation for a more productive nation in the future, it is essential that the budget process adopt a more future-oriented focus with respect both to aggregate fiscal policy and to the composition of spending.

Conclusion

A continuation of our current taxing and spending policies would, if sustained, slow economic growth, drive the deficit to 20.6 percent of GNP, and lead to a world in which the federal government pays rapidly increasing interest bills, rapidly increasing health care costs, and an enormous retirement bill. The economic and political reality is that the nation cannot continue on the current path. The question is when and how to act to reduce the federal deficit.

Changes of the necessary magnitude require a discussion of what the American people wish their government to do and how they wish to pay for it. The sooner action is taken to bring the deficit under control and to make the composition of federal spending more conducive to investment, the less the sacrifice, and the greater the benefit.

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Abbreviations

BEA	Budget Enforcement Act of 1990
CBO	Congressional Budget Office
CEA	Council of Economic Advisers
FRBNY	Federal Reserve Bank of New York
GDP	Gross Domestic Product
GNP	Gross National Product
GRH	Gramm-Rudman-Hollings
HCFA	Health Care Financing Administration
HI	Hospital Insurance
NFI	net foreign investment
NIPA	National Income and Product Accounts
NIIP	net international investment position
OMB	Office of Management and Budget
OECD	Organization for Economic Cooperation and Development
OBRA	Omnibus Budget Reconciliation Act of 1990
OASDI	Old Age, Survivors, and Disability Insurance
SSA	Social Security Administration
SMI	Supplementary Medical Insurance

Introduction

This report examines the role of federal fiscal policy in influencing economic growth, more specifically in increasing the amount of investment and the return on investment. Continuing large federal deficits absorb savings otherwise available to finance investment, either public or private. In addition, deficits have placed a disproportionate strain on federal investment activities. If deficits are not reduced, the government will have no fiscal flexibility to increase its investment in better infrastructure, technology, and skills.

In a very real sense, bringing the federal deficit down and changing the composition of federal spending represent a test of our ability to build a strong economic future for the generations that succeed us. In this report we begin a discussion of how changes in budget presentation and process might help decisionmakers place a greater emphasis on long-term consequences of budget decisions. We also look at the nature of the policy changes that will be necessary to return to a situation in which federal fiscal policy has a positive impact on growth.

This report builds on and moves beyond an earlier report, The Budget Deficit: Outlook, Implications, and Choices (GAO/OCG-90-5, September 12, 1990) which provided our views on the dimensions of the deficit problem, on choices that could be implemented to attack that problem, and on basic budget reform initiatives. In that report, we argued for a "surplus" equal to 2 percent of GNP which would restore domestic savings to levels more consistent with higher growth periods of the postwar era.

Objectives, Scope, and Methodology

The objectives of this report are (1) to examine the impact of the federal deficit on, and its significance for, long-term economic growth and the composition of federal spending, (2) to describe trends and forces driving the deficit, (3) to illustrate the impact of alternative fiscal policy paths on economic growth and on the composition of federal spending, (4) to describe the nature of the policy changes needed to reduce the deficit significantly, and (5) to begin the discussion of changes in budget presentation and the budget process that would increase the focus on long-term implications of various choices.

For the definition, measurement, and trends in the deficit, we relied mainly on the Office of Management and Budget's (OMB) historical budget data and the Congressional Budget Office's (CBO) baseline projection estimates.

For this report, we have generally used the unified budget deficit as defined in the report of the President's Commission on Budget Concepts in 1967. This results in a deficit that closely approximates the federal public sector borrowing requirement. For purposes of the model described in chapter 4, we use the deficit as defined in the federal sector of the U.S. Department of Commerce National Income and Product Accounts (NIPA), as is customary among economic forecasters. In recent years, receipt and expenditure totals as defined by the NIPA have been very close to the unified budget, especially when expressed as a percent of GNP. However, the NIPA deficit excludes transactions involving existing assets and therefore excludes deposit insurance outlays. Both definitions include Social Security and the Postal Service.

We are aware that the unified budget deficit has been criticized as a flawed or even perverse measure of fiscal policy.[1] While we believe that no single figure or concept can alone provide a sufficient guide to budget policy, the unified budget deficit remains a useful general measure for gauging fiscal policy because of its comprehensiveness and its close relationship to government borrowing from the public.

We used data from the Organization for Economic Cooperation and Development (OECD) to compare U.S. deficits, savings, and economic growth with other industrialized nations. We also examined the fiscal policy changes instituted by other industrialized nations. This examination involved analysis of OECD data and published explanations of the fiscal policy changes, as well as interviews with embassy staffs of several OECD countries.

In our discussion of the budget deficit's impact on saving for long-term economic growth, we relied on standard economic theory and used statistical information found in the Economic Report of the President, February 1992. We compiled historical OMB budget data to document the trends for federal investment spending. In our discussion of the economic returns for investment spending, we consulted current literature on this topic.

To estimate the implications of alternative fiscal policy paths, we adapted an economic growth model developed by economists at the Federal

[1]Robert Eisner and Paul J. Pieper, "A New View of the Federal Debt and Budget Deficits," The American Economic Review, March 1984 and "How to Make Sense of the Deficit," The Public Interest, no. 78, Winter 1985. See also, Laurence J. Kotlikoff, "From Deficit Delusion to the Fiscal Balance Rule: Looking for an Economically Meaningful Way to Assess Fiscal Policy," National Bureau of Economic Research, Inc., February 1989.

Reserve Bank of New York (FRBNY). This model incorporates simple representations of the various sources of economic growth; we used it to explore how fiscal policy affects the gross domestic savings rate and hence the rate of capital accumulation. We simulated the growth of the economy to the year 2020 assuming no further action is taken to modify current deficit trends. We also estimated economic growth under three different deficit reduction scenarios: "muddling through" with deficits equal to 3 percent of GNP, a "balanced" budget, and a budget surplus. The alternative paths are explained in greater detail in chapter 4. The model is described more fully in appendix I.

To examine possible spending and revenue options for achieving significant deficit reduction, we drew on GAO's accumulated work and information from other sources, including other federal government agencies. We inventoried GAO's work pointing to (1) potential savings from improved management or program reforms and (2) spending increases that would be necessary to achieve current policy goals. This process enabled us to assess whether the requisite budgetary savings could be achieved by improving the management or efficiency of programs or whether more fundamental alternatives should be put on the table. A number of these alternatives were presented more fully in the September 1990 report. We developed the section of the report dealing with changes in budget processes from our previous and on-going work in this area.

Throughout the report we present budgetary and economic information as a percentage of the Gross National Product (GNP). We use this measure instead of the Gross Domestic Product (GDP)—which is now used nearly uniformly in the federal government when presenting federal budget information—because GNP is the more appropriate indicator of the incomes available to U.S. residents from all sources, including sources abroad, and thus it provides a better basis for measuring national saving and investment rates.

We asked staff at the Congressional Budget Office, the Council of Economic Advisers (CEA), and the Office of Management and Budget for their review of our data and other factual material. We received comments from CBO and CEA. Their review was primarily technical and related to various economic and budget assumptions underlying the analysis. We have incorporated their comments where appropriate.

Drafts of this report were also reviewed by a number of outside advisors who were selected on the basis of their expertise in the areas under

discussion. We convened two panels of economists, one of which concentrated on the plausibility of the model referred to in chapter 4. The second panel reviewed the report as a whole. The panelists brought a diversity of views on the various issues and, where appropriate, we incorporated their comments.

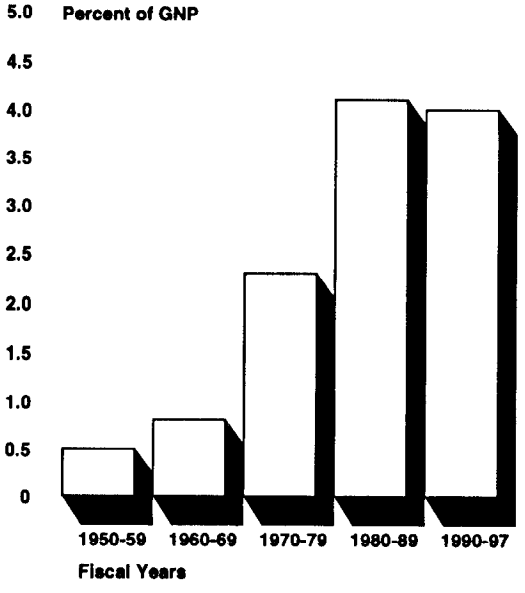
The Deficit Outlook

Federal budget deficits have grown in the decades since World War II. They remain imbedded in the budget as a result of rapidly rising mandated spending supported by relatively flat revenue growth. Understanding the definition and measurement of deficits, their components, and their resistance to reduction measures is critical to the process of eliminating them.

Deficits Have Increased Rapidly Since the 1950s

During the 1950s, the federal deficit averaged less than 1 percent of GNP. By the 1970s, the average was 2.3 percent. Then in the 1980s it doubled to 4.1 percent. This year—fiscal year 1992—the deficit is expected to reach 6.3 percent of GNP before dropping back. CBO projects 1990s deficits averaging 4.0 percent over the decade. (See figure 2.1.)[1]

Figure 2.1: Average Deficit by Decade (1950-1997)



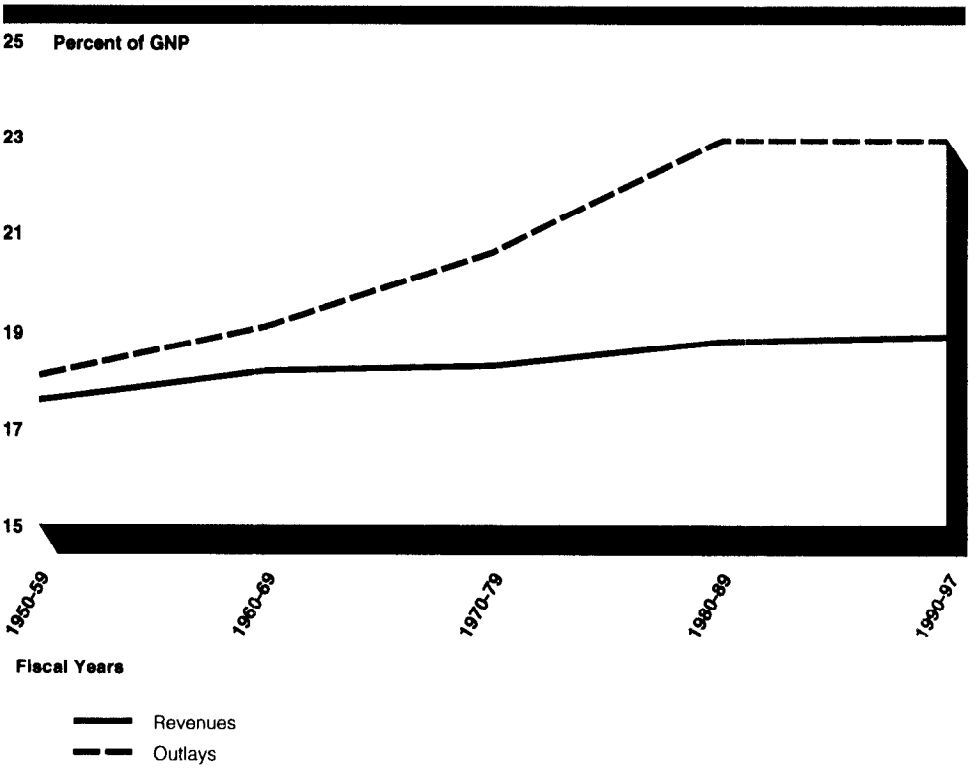
Source: Budget of the U.S. Government, 1950-91; CBO projections, 1992-97

Although at its simplest the deficit is the gap between outlays and receipts, identifying its causes requires disaggregation of the two sides of the

[1]Averages for the 1990s represent budget actuals for 1990 and 1991, and CBO projections for 1992 through 1997.

deficit. (See figure 2.2.) Revenues have grown slightly—from 17.6 percent of GNP in the 1950s to 18.9 percent in the 1990s—but the nature of the revenue stream has changed significantly. Outlays have not only increased—from 18.1 percent to 22.9 percent—but also have changed in composition. These composition changes have major implications for attempts to reduce the deficit.

Figure 2.2: Total Revenues and Outlays (1950-1997)

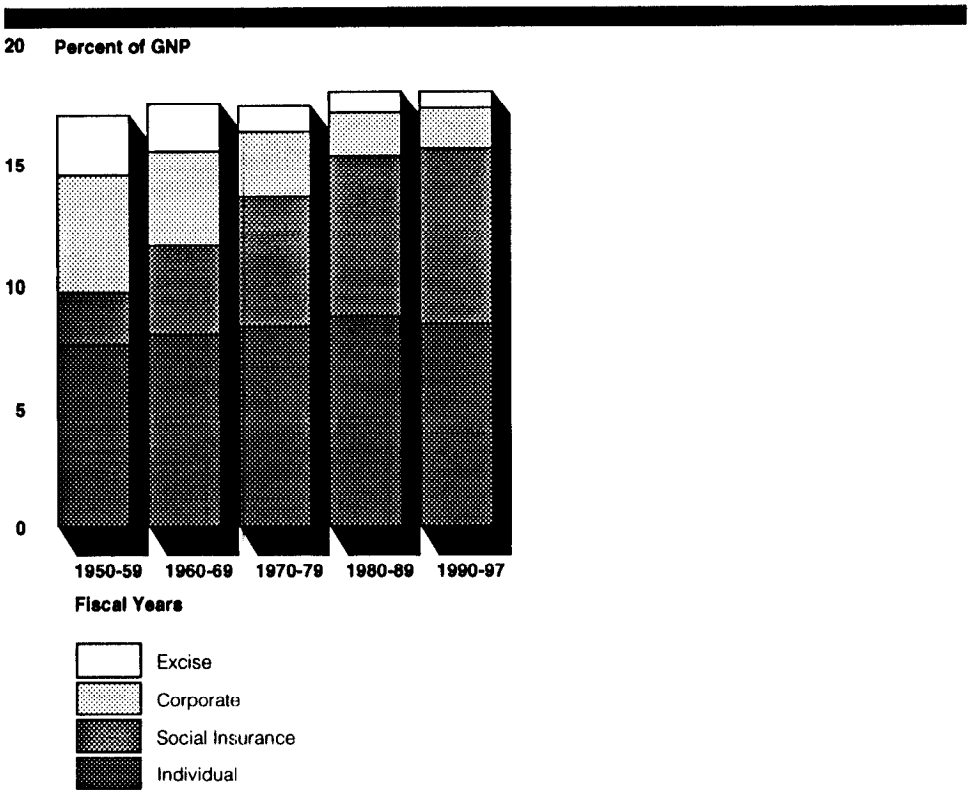


Source: Budget of the U.S. Government, 1950-91; CBO projections 1992-97

Growth in Social Insurance Receipts Masks Decline in Other Revenues

Total receipts remained stable as a share of GNP because the increase in social insurance receipts—from 2.1 percent of GNP in the 1950s to 7.2 percent of GNP in the 1990s—was nearly matched by a decline in corporate income and excise tax revenues (from 7.3 percent to 2.4 percent). (See figure 2.3.)

Figure 2.3: Revenues by Source (1950-1997)



Notes: Excludes other receipts which do not exceed 1 percent of GNP. Receipts for Medicare began in 1966.

Source: Budget of the U.S. Government, 1950-91; CBO projections 1992-97

The decline in corporate income tax receipts as a share of GNP largely reflects the contraction of corporate profit as a component of national income. Over the 40-year period from 1950 to 1990, corporate profits, as measured in the national income accounts, dropped from 14.9 percent of GNP to 5.5 percent. Several factors are advanced as explanations for this drop in the corporate tax base:[2] rising interest rates and, more recently, increasing debt-to-equity ratios reduced corporate profits. Rate reductions and increased business investment tax preferences also contributed to the relative decline in revenue from the corporate profits tax.

[2]See, for example, C. Eugene Steuerle, The Tax Decade: How Taxes Came to Dominate the Public Agenda (Washington, D.C.: The Urban Institute Press 1992) and James M. Poterba, "Why Didn't the Tax Reform Act of 1986 Raise Corporate Taxes?," National Bureau of Economic Research, Inc., Working Paper No. 3940, December 1991.

The decline in excise tax revenues may be largely attributable to the excise tax structure. Instead of a percentage of the item's price, excise taxes tend to be set at a fixed dollar amount, and these amounts have not kept up with inflation.[3]

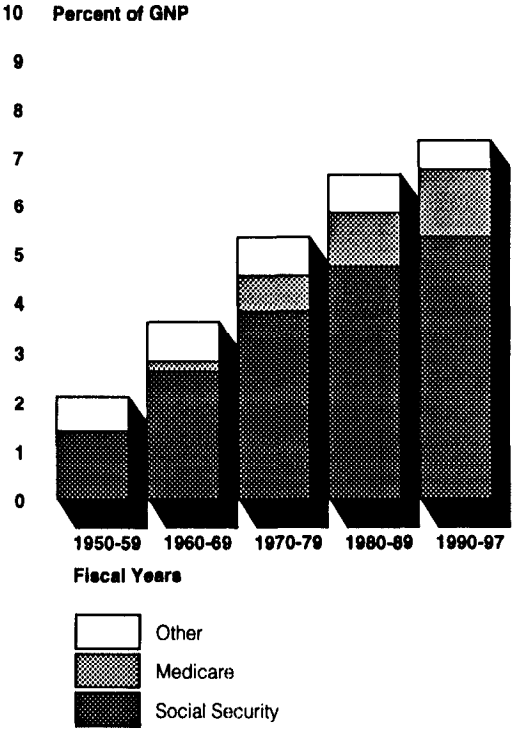
Although personal income tax receipts have been relatively stable since the 1950s, the design of that tax has changed. Rates were lowered in the 1980s, but the tax base was broadened as part of the tax reform package of 1986. In addition, the 1981 tax law's indexing of tax brackets, the standard deduction, and the personal exemption has meant that inflation no longer causes receipts to rise automatically as a percent of GNP. Although rate reductions thus far account for greater revenue losses than bracket indexing, the latter may exert more long-range effects on personal income tax receipts.

The growth in social insurance receipts—which take the form of payroll taxes—has been driven by Social Security. (See figure 2.4.) Social Security payroll tax revenues have grown from 1.4 percent of GNP during the 1950s to a projected 5.3 percent in the 1990s. This in turn is largely a function of rising payroll tax rates which have quadrupled in 40 years—from 3.0 percent of taxable wages in 1950 to 12.6 percent in 1991.[4]

[3]For a more detailed discussion of excise tax trends, see Tax Policy: Revenue Potential of Restoring Excise Taxes to Past Levels (GAO/GGD-89-52, May 1989).

[4]Payroll tax rates include both employer and employee shares.

Figure 2.4: Social Insurance Revenues (1950-1997)



Notes: Receipts for Medicare began in 1966.

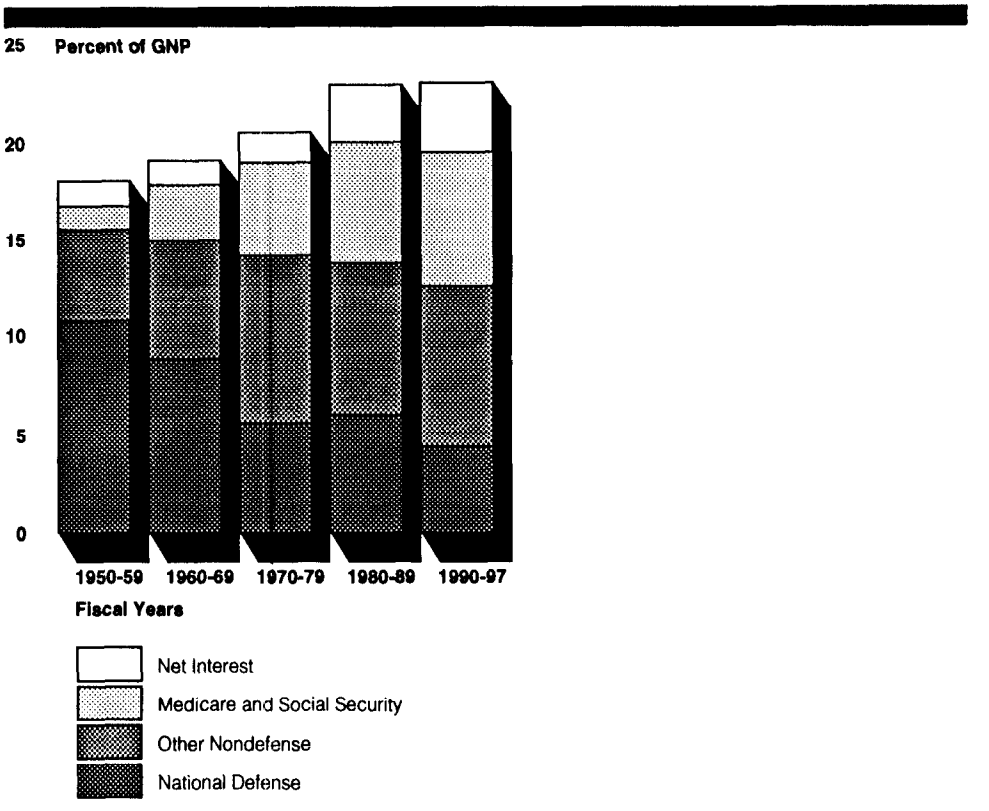
Source: Budget of the U.S. Government, 1950-91; CBO projections 1992-97

Medicare has been a lesser contributor to the growth in social insurance receipts. Since its inception in 1966, Medicare's dedicated payroll tax has provided the majority of the program's funding. The tax is projected to equal 1.4 percent of GNP in the 1990s.

Defense and Other Discretionary Outlays Declined While Mandatory Outlays Grew Rapidly

Nondefense outlays increased from 7.4 percent of GNP in the 1950s to 18.5 percent in the 1990s. (See figure 2.5.)

Figure 2.5: Outlays by Function
(1950-1997)



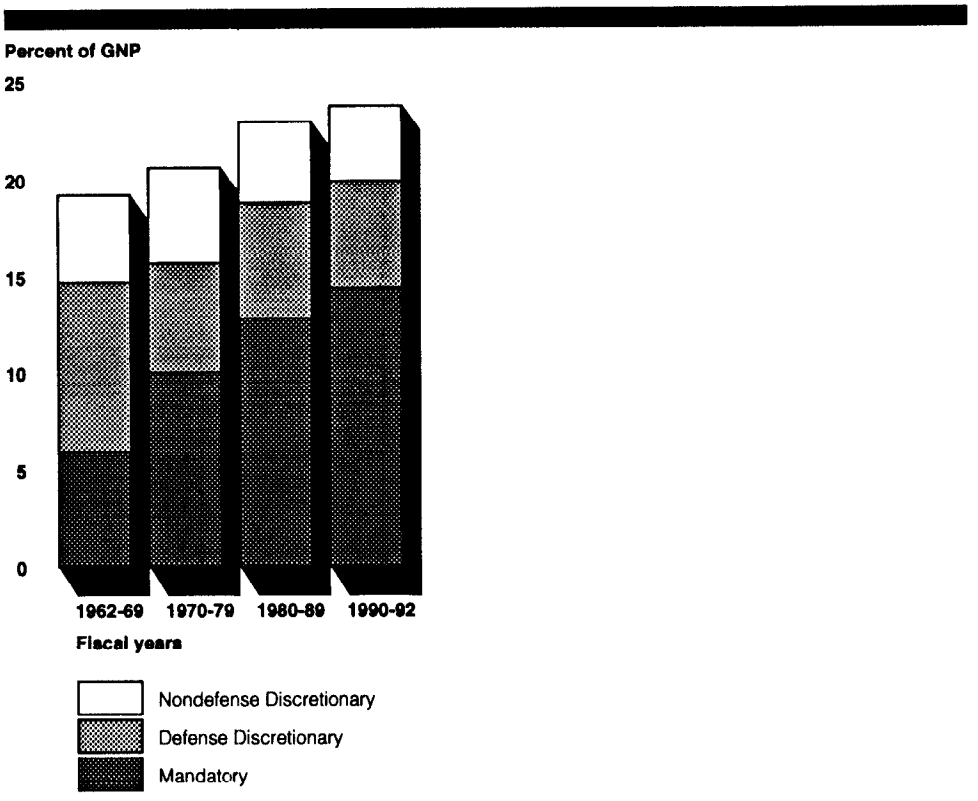
Notes: Outlays for Medicare began in 1966.

Source: Budget of the U.S. Government, 1950-91; CBO projections 1992-97

It is informative to further divide these outlays into discretionary and mandatory outlays. Since 1962,[5] mandatory outlays have risen from an average of 5.9 percent of GNP in the 1960s to 12.8 percent in the 1980s, and to 14.4 percent in the early 1990s. (See figure 2.6.) In contrast, discretionary outlays have fallen from 13.2 percent of GNP in the 1960s to 10.1 percent of GNP in the 1980s, and 9.3 percent in 1990-1992.

[5]OMB reports mandatory and discretionary outlay categories only as far back as 1962.

Figure 2.6: Mandatory and Discretionary Outlays (1962-1992)



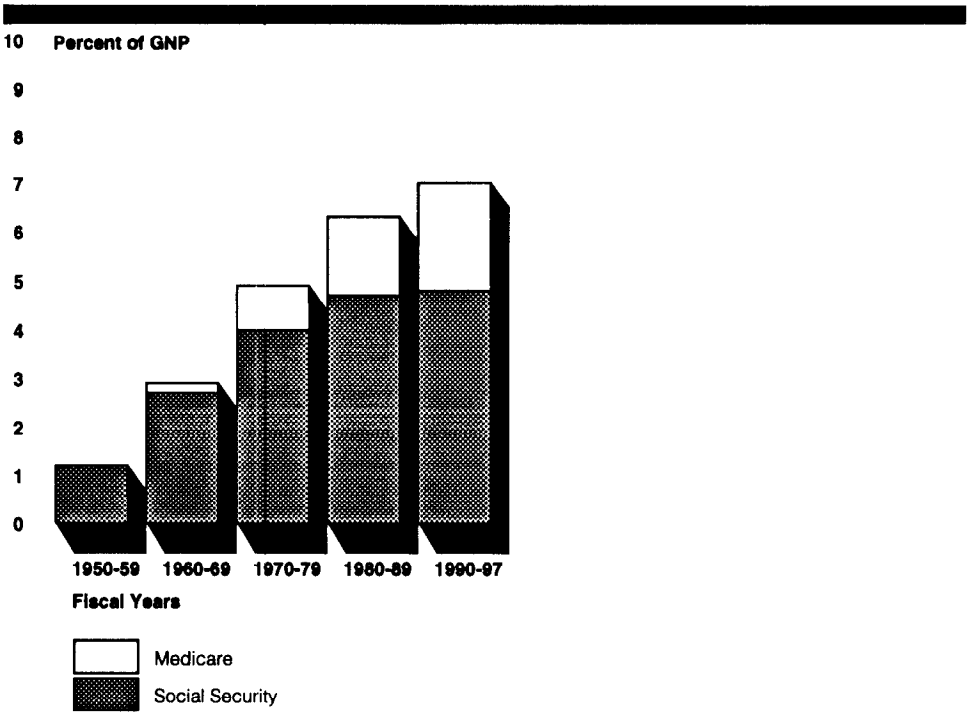
Source: Budget of the U.S. Government, 1950-91; CBO projections 1992

The programs contributing most to the mandatory growth include Social Security, Medicare, Medicaid, net interest, and, most recently, the costs associated with thrift and banking failures.

The nonmedical Social Security programs (Old Age Survivors and Disability Insurance (OASDI)) dominated this trend, increasing from 1.2 percent of GNP in the 1950s to 4.8 percent in the 1980s. OASDI is projected to remain stable as a share of GNP in the 1990s and beyond, and will not resume its growth until the baby boom begins to retire in 2010.

Medicare has become the fastest growing large program in the budget; it has gone from 0.2 percent at its inception in 1966 to a projected 2.2 percent of GNP in the 1990s. (See figure 2.7.)

Figure 2.7: Medicare and Social Security Outlays (1950-1997)



Notes: Outlays for Medicare began in 1966.

Source: Budget of the U.S. Government, 1950-91; CBO projections 1992-97

Medicaid, although a small proportion of mandatory outlays, grew from 0.1 percent of GNP in 1966 to 0.9 percent in 1991. Much of this growth occurred in the late 1980s and shows no signs of abating in the future. With the slowing of Social Security's growth in the 1980s, Medicare and Medicaid have become two of the primary drivers of the recent growth in outlays.

Net interest costs have also played a large role in recent outlay growth. As a share of GNP, interest payments have grown from 1.3 percent in the 1950s to a projected 3.5 percent in the 1990s. Interest has absorbed an ever greater share of federal spending, growing from an average of 7.3 percent of federal outlays in the 1950s to 13.8 percent in 1992.

Growth of public debt is responsible in part for the steep rise in interest costs over the last decade. From the 1950s through the 1960s, even as the average deficit was increasing from 0.4 percent to 0.8 percent of GNP,

federal debt held by the public fell from 82 percent to 30 percent of GNP. Although the average deficit more than doubled again in the 1970s, the debt-to-GNP ratio continued dropping to 26 percent in 1979, as the economy grew more rapidly than the debt. By the end of the 1980s, however, these trends reversed and the debt-to-GNP ratio grew to almost 43 percent of GNP. That, coupled with the high real interest rates of the 1980s, created the sharp increase in interest costs.

Given the rapid outlay growth in entitlements and mandatory programs, only the sharp decline in discretionary outlays prevented even larger deficits. Defense discretionary outlays dropped from 8.8 percent of GNP in the 1960s to 5.5 percent in the early 1990s, accounting for most of the 3.9 percentage point drop in discretionary outlays as a percentage of GNP.

The message from these budget trends is ominous. The only area of real revenue growth—social insurance receipts—supports primarily trust fund activities. General revenues have in fact declined as a percent of GNP. Meanwhile, mandatory costs financed from general revenues—interest, Medicaid, and the general fund subsidy for Medicare—have grown such that they have overwhelmed offsetting discretionary reductions and placed a growing demand on slower-growing receipts. Deficits become embedded in such a fiscal system.

The Structural Deficit Shows Cyclical Economic Change Is Not to Blame

In the short term, the deficit is highly sensitive to economic conditions. In other words, the deficit increases or decreases with changes in economic activity. This cyclical deficit—the deficit that is a function of the business cycle—should be less of a cause for concern than the structural deficit, the deficit remaining after removing the effects of cyclical factors. Focusing on the structural deficit allows us to separate out the impact of the economic downturn on the budget deficit.

Trends in the structural deficit show a growing problem. CBO estimates of that deficit have been rising. Even excluding deposit insurance outlays, which can be viewed as one-time needs, the structural deficit has risen from 2.8 percent of GNP in 1989 to 3.6 percent in 1992. Although the increase is not as steep as that of the total cash deficit, the structural deficit figures demonstrate that not all the recent growth in the cash deficit can be attributed to economic conditions and deposit insurance outlays.

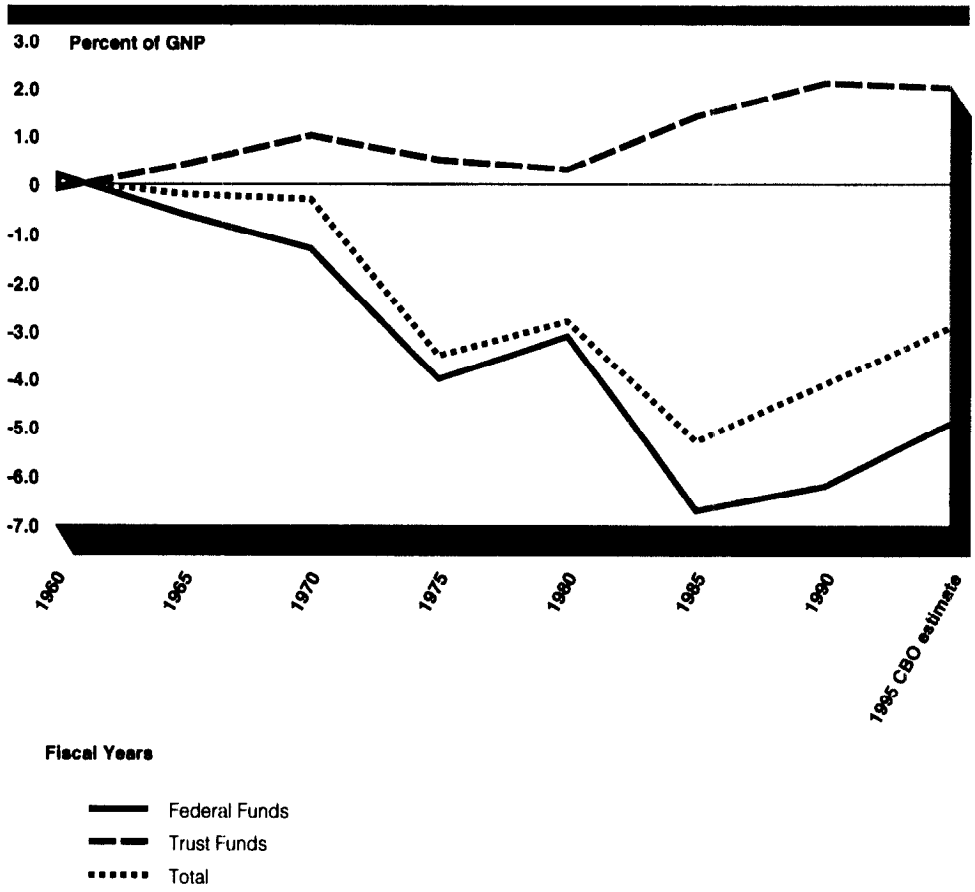
Trust Fund Surpluses Mask the Full Extent of the Federal Funds Deficit

The unified budget[6] measures the cash position of the U.S. government. It is a fairly accurate measure of the economic impact of the deficit, but it masks the composition of that deficit and hence—in today's budget—understates the need for action. Separating trust funds financed by dedicated taxes or contributions from activities financed by general revenues and borrowing—the federal funds portion—gives a clearer picture of the source of the problem.

Social Security and other retirement trust funds have run large surpluses. Inclusion of the trust funds in deficit calculations has therefore masked the federal funds deficit. For example, in 1991, the reported total deficit of $268.7 billion actually represented the net effect of a $112.3 billion trust fund surplus and a $381.0 billion deficit in the rest of government. The federal funds deficit has also grown much faster than the unified deficit, mushrooming from less than 1 percent of GNP in 1960 to about 7 percent of GNP in 1985. (See figure 2.8.)

[6]The unified budget defines the deficit as the difference between total cash revenues and cash outlays for the federal government.

Figure 2.8: Federal Funds, Trust Funds, and Total Deficits/Surpluses (1960-1995)



Source: Budget of the U.S. Government, 1950-97; CBO projections, 1995

Previous GAO reports[7] have discussed this issue in greater detail, demonstrating that federal fiscal problems are a manifestation of the large and growing federal fund deficits. Unless the imbalance in this part of the budget is addressed, real progress on the deficit will be unlikely in the immediate future.

[7]The Budget Deficit: Outlook, Implications, and Choices (GAO/OCG-90-5, September 12, 1990) and Social Security: The Trust Fund Reserve Accumulation, the Economy, and the Federal Budget (GAO/HRD-89-44, January 19, 1989).

Recent Legislative Attempts to Control the Deficit

Gramm-Rudman-Hollings Legislation Proved Ineffective

The Balanced Budget and Emergency Deficit Control Act of 1985, Public Law 99-177, also known as Gramm-Rudman-Hollings (GRH), attempted to eliminate the deficit by setting declining annual deficit targets. GRH provided for automatic, across-the-board spending reductions—sequestration—if the deficit targets were exceeded. GAO has criticized the GRH procedures for leading not to meaningful deficit reduction, but rather to a whole new generation of off-budget and other misleading practices that hid the true magnitude of the deficit problem. When even these practices failed to avoid sequestration, the deficit targets were simply revised, and the date for achieving a balanced budget was postponed. Thus, instead of the government reaching a balanced budget in fiscal year 1991, the original GRH target, the deficit reached record levels.

GRH not only failed to reduce the deficit, its enforcement measures were incapable of controlling those areas responsible for deficit growth. Most of the increases in the deficit under GRH were a function of the costs of savings and loan failures, rising interest costs, and a weakening economy, which led to much lower revenues and somewhat higher spending on mandatory programs. GRH had exempted major entitlement programs (for example, Social Security and Medicaid) from sequestration and limited the cuts that could be imposed on others, such as Medicare. Under GRH, the sequester "axe" thus fell most heavily on annually appropriated discretionary spending. This relatively narrow "sequestrable base" (about 28 percent of the budget) meant that, as the deficit grew, the rate of sequester required to reach the GRH target exceeded levels deemed acceptable (or even possible) and did not address the underlying causes of deficit growth.

OBRA Changes Focus of Budget Control

Passage of the Omnibus Budget Reconciliation Act of 1990 (OBRA), Public Law 101-508, changed the focus of budget control from the overall deficit level to current spending and tax decisions. In doing so it both increased the complexity of the budget process and offered what appeared to be a more effective approach to deficit reduction. OBRA put into law an agreement between the legislative and executive branches to achieve $482 billion in budgetary savings over a 5-year period. The Budget

Enforcement Act of 1990 (BEA), Title XIII of OBRA, constrains appropriations to comply with established limits and prevents most new legislation from adding to the deficit. Although BEA has tempered spending growth, deficits have grown nonetheless.

BEA modified budget enforcement procedures to ensure future fiscal discipline. In contrast to the previous GRH enforcement procedure, BEA is not designed to control the deficit directly, at least through fiscal year 1993. Instead, BEA sets caps on discretionary spending (both budget authority and outlays) for defense, international, and domestic appropriations.[8] In addition, BEA requires that legislated increases in mandatory spending authorized in substantive law or cuts in taxes be offset by reductions in other mandatory programs or by revenue increases.

However, BEA attempts to control only the effects of annual appropriations and legislated changes or additions to mandatory programs. It does not require offsets for mandatory program increases or revenue decreases driven by inflation, recession, growth in the numbers of people eligible for a program, or the other external factors that influence mandatory spending programs and revenues under existing law. Thus, BEA shares with GRH the lack of a mechanism for controlling or reducing deficits embedded in the system because of the combination of past decisions—existing program design for mandatory programs, tax rates and coverage, or interest on the existing debt.

For fiscal years 1994 and 1995, BEA establishes a single cap on total discretionary spending. The distribution of discretionary spending among categories, and hence the distribution of the spending cuts required, has been left for the President and the Congress to determine.[9]

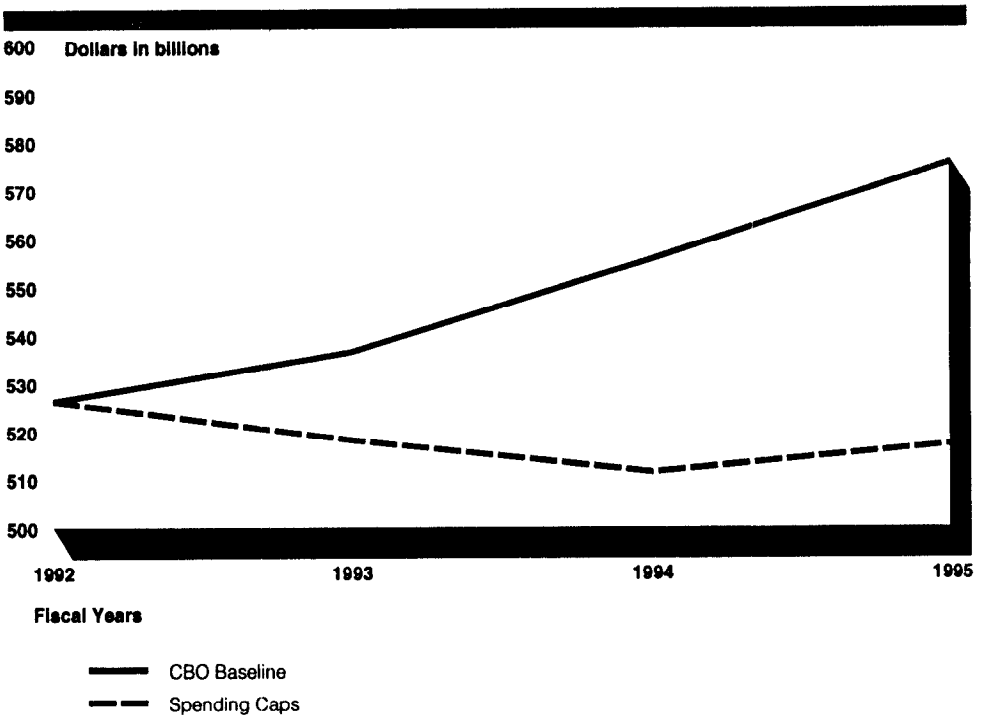
According to CBO's March 1992 estimates,[10] in nominal dollars, achieving the 1993 discretionary spending limits require budget authority cuts of an estimated $13.2 billion in defense programs and $6.5 billion in domestic programs. Total cuts in discretionary budget authority required to comply with the spending limits are estimated to be $58.6 billion in 1995. Figure 2.9 illustrates the growing gap between BEA limits and baseline projections.

[8]Discretionary programs are funded through appropriation acts.

[9]For the purposes of BEA, the three separate categories cease to exist after fiscal year 1993. We use the term category in regard to fiscal years 1994 and 1995 to refer to the set of programs included previously in each category by BEA.

[10]Congressional Budget Office, An Analysis of the President's Budgetary Proposals for Fiscal Year 1993, p. 145.

Figure 2.9: Total Discretionary Budget Authority (1992-1995)



Source: CBO projections

Budget authority cuts of this magnitude will be difficult, whatever the distribution among the categories and programs. If the President and the Congress cannot make the cuts required to conform to BEA spending limits, sequestration would be mandated.

BEA therefore restricts fiscal policy options. If policymakers abide by BEA's enforcement procedures, and do not invoke provisions allowing emergency spending increases or tax cuts, they forego the option of providing new, short-term economic stimulus in response to recession. However, they would also avoid adding to the already huge federal deficit. This dilemma illustrates one of the negative effects of large federal deficits. Without the current deficit problem, policymakers would have much more flexibility to pursue anti-recession fiscal policies or meet other, currently unfunded public needs.

Deficits Could Explode in the Next Century

The negotiations that led to OBRA were aimed at significant deficit reduction. However, a weakening economy and increasing expenditures to protect the depositors of failed thrift institutions eroded the effect of the legislated savings. Other factors such as technical reestimates and some legislation have increased the deficit as well. Table 2.1 compares CBO's estimates of the deficit prepared shortly after OBRA was enacted with current CBO and OMB baseline projections. CBO's most recent baseline projections show deficits declining from 1992 levels to approximately $200 billion by 1995, around 3 percent of GNP. Although OBRA will not produce deficits as low as the authors of the law anticipated, its implementation constrains what might otherwise have been much larger deficits.

Table 2.1: CBO and OMB Deficit Baseline Projections

Dollars in billions

Fiscal year	1991	1992	1993	1994	1995
CBO December 1990 estimates	-253	-262	-170	-56	-29
CBO February 1992 estimates[a]	-269	-368	-336	-267	-203
OMB February 1992 estimates[a]	-269	-400	-350	-212	-194

[a]OMB and CBO figures represent actual 1991 results.

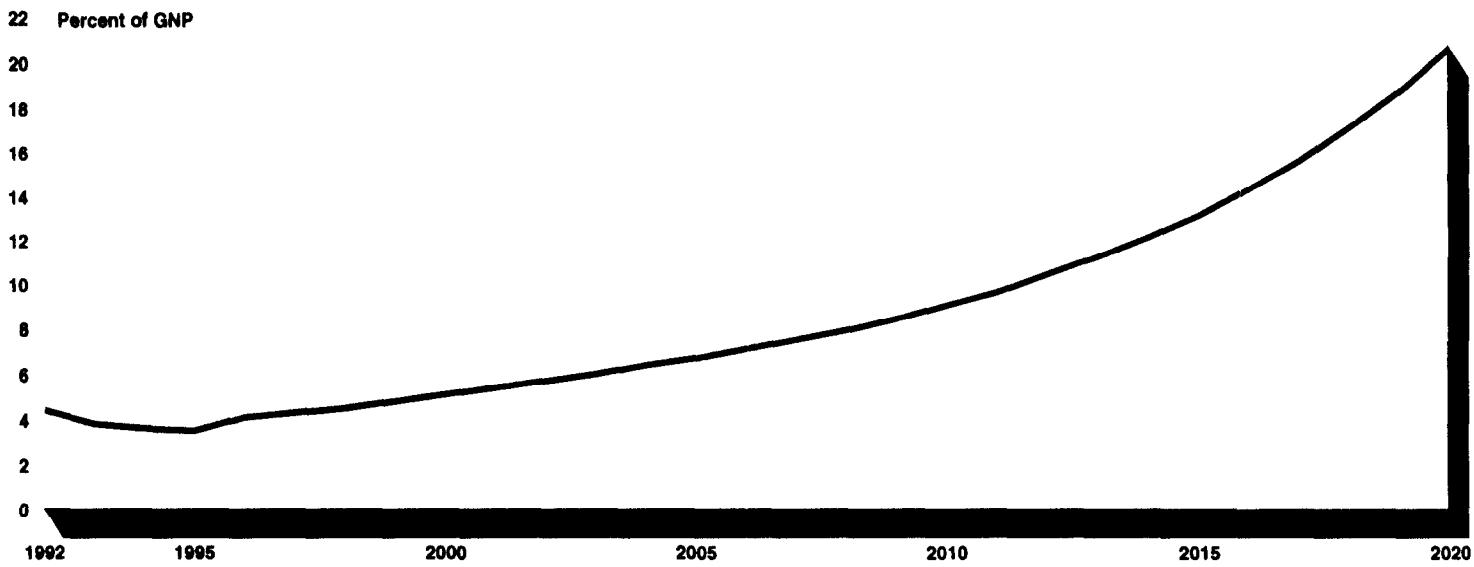
For the remainder of the 1990s, CBO projects baseline deficits of approximately 3 percent of GNP. Longer-run CBO baseline projections suggest deficits will rise to around 4 percent of GNP by the year 2002.

Because CBO baseline projections reflect the continuation of current policies under current law, the results unsurprisingly suggest no dramatic change. Baseline projections show significant change only when analysts anticipate large irregular expenditures within current legal authority or significant economic swings. Such conditions are relatively rare—the result of outlays covering losses by thrift institutions, for a recent example—and are especially difficult to quantify. Current CBO projections do not foresee any other swings of this sort in the next decade.

GAO analysis, however, identifies a danger that, if current policies continue, federal expenditures could exceed 40 percent of GNP and deficits could explode to 20 percent of GNP by the year 2020. These projections, which, like CBO baselines, assume current policies under current law, differ from CBO figures in that they extend for almost 30 years and they incorporate the negative effect of deficit spending on long-term economic performance. The model we used for this purpose and its results are

described in chapter 4 and appendix I. The deficit's steep increase after 2010 (see figure 2.10) reflects the symbiotic relationship of the growing debt and the increased interest costs associated with financing it, as well as rising retirement and health care costs. In the GAO model, however, this is happening in the environment of an economy which is growing ever more slowly due to the debilitating effect of the deficits on national saving and investment, and which actually contracts in the final years of the projection period.

Figure 2.10: No Action Scenario Budget Deficits (1992-2020)



Although these projections present what some would consider an economic extreme, they do represent the logical extension of current tax and spending policies. The model assumes no policy reaction, however, even as rapidly increasing debt begins to cripple the economy. This is unlikely. Heightened sensitivity to the implications of rising deficits, as evidenced most recently by the passage of OBRA, suggests that policymakers might not allow this to happen. Furthermore, external events, for example, the international reaction to a deteriorating U.S. economy and rapidly rising international debt, would be likely to force action before 2020. Nevertheless, GAO's projections illustrate that

preventing economic and fiscal catastrophe will require significant and continuing deficit reduction well into the next century.

Economic Policy Considerations

There are continuing discussions on the budget deficit, its effect on the economy, and how best to measure it. The issue is not a simple one. The deficit is the net result of many transactions that affect receipts and outlays. The economic impact of those transactions may vary and the composition of them may change. Other economic factors, such as private saving and the availability of foreign capital may affect the impact of the deficit on the economy. Nevertheless, in our view, large and continued deficits are likely to seriously inhibit the growth of the economy under current and presently foreseeable economic conditions.

In this chapter, we discuss the sources of economic growth to provide a context for understanding why deficits matter. We then review evidence on the recent history of saving, investment, and productivity growth in the U.S. economy and identify points at which the budget deficit may have shaped that history.

Sources of Economic Growth

Economic growth is not a simple matter. Numerous factors contribute to growth, and the relationships among them are complex and not fully understood. Ultimately, no action available at the federal level can guarantee success in the quest for improved economic performance; the economy is simply too big and there are too many decisionmakers involved for that to be possible. The task for federal policy in promoting growth is to provide a supportive context in which other actors—including individuals, business firms, state and local governments, and nonprofit organizations—can identify and pursue opportunities for economic advance.

To accomplish this, the federal government must first seek to adhere to the old medical maxim, "first of all, do no harm." This is a nontrivial challenge in view of the complexity and unpredictability of the economic system, the many ways in which the system's performance falls short of what might be desired, and the wealth of ideas advanced for attempting to improve that performance in one way or another. The second challenge for the federal government is to perform efficiently and effectively the many important tasks that other parts of the system cannot do, such as providing macroeconomic stability, assuring national security, and dealing with a wide range of problems where effective policies are possible only at the national level. In carrying out these tasks, federal activity sometimes affects economic growth directly, and almost always affects it indirectly.

In the following discussion, we address in turn the main sources of economic growth that have been identified in the economics literature.[1]

Increased Labor Input

Over extended periods, the nation's total output tends to rise with its population. This is because a larger population can generally provide greater labor input to production. The correspondence between population and labor input is not, however, precise. In projecting labor input, it is necessary to take account of changing demographic patterns that affect the relative proportions of potential workers and other groups in the population. For example, the growing proportion of women in the work force has been a major factor since the end of World War II. As discussed in appendix II, the long-run outlook for the American economy now includes a marked rise in the ratio of the retired population to the working population beginning in about 2010. A number of factors besides demographics also affect overall rates of participation in the labor force. Unemployment and other sources of change in hours worked per member of the labor force also enter the picture. Finally, the economy's ability to translate increased hours worked into increased output is affected by its ability to provide the other sources of growth identified below. Sufficiently serious deficiencies in these other areas can mean that output trends down as population trends up.

Although the ability to maintain standards of living for an ever-rising population is not something that should be taken for granted, most of the discussion of economic growth has been concerned with the sources of growth in output per capita, or, more precisely, per hour worked. Growth in these terms is much more directly related to rising standards of living than is growth in total output. Achieving such growth means increasing the productivity of labor—getting more output per hour worked.

Capital Accumulation

Workers produce more per hour when they have more and better equipment to work with—and also more and better skills to permit them to work that equipment effectively. This general point can be well illustrated by mundane examples: Consider the transformation of ditch-digging from a relatively slow and somewhat imprecise process involving several ordinary shovels, much human energy, and low skill levels to a faster and more precise process often involving a single power digger controlled by an appropriately skilled operator. The difference

[1]The discussion here draws on various sources in the scholarly literature on economic growth, but particularly on Nicholas Stern, "The Determinants of Growth," The Economic Journal, vol. 101 (January 1991), pp. 122-133.

between an advanced industrial economy with a high standard of living and a less developed country with a low standard of living can be largely described in terms of the elements of this example, varied in the details and repeated across millions of individual tasks.

Publicly-owned capital can play a vital role in economic growth, increasing the productivity of private capital and labor. The classic example is transportation infrastructure. It is generally recognized, for example, that the development of our national highway system made a substantial contribution to the growth of productivity in the United States in this century.

If standards of living are to advance, the economy must meet some minimum standards in terms of its levels of investment in physical and human capital. Equipment that wears out must be replaced; younger workers entering the labor force have the time but need also the skills to replace what is being lost as older workers retire. If the labor force itself is growing—as it has for all but brief intervals in American economic history—a more demanding requirement is implied. Not only must depreciation be made good, but the additional workers of the new generation must be trained and equipped to a standard comparable to that of the old. Otherwise, output per worker, and living standards, may fall.

Improved Products and Processes

As just noted, the accumulation of physical capital provides workers with more and better equipment. The availability of better equipment is a reflection of the advance of technological knowledge that underlies the ability to design and produce such equipment. The growth of technology also makes possible the development of better products generally—better materials and better consumer goods, for example.

Since the late 18th century, economic possibilities have been expanded enormously through interacting advances in technology, science, and economic organization. This fundamental dynamic continues to transform the economies of the advanced industrial countries at what seems to be an ever-increasing rate. From the viewpoint of consumers around the world, this fierce international competition in the creation of new products and processes is almost always beneficial.

To producers, it poses a major challenge. Success and prosperity go to those individuals, business firms, and national economies that remain at or near the leading edge of technological and organizational advance.

Maintaining such a position requires sustained and effective action by government at all levels, as well as by the private sector. It can be impaired by allowing primary and secondary education to deteriorate, or by neglecting to invest research and development effort in areas that do not attract private investors but nevertheless provide crucially important foundations for future economic growth.

Improved Resource Allocation

Economic growth typically involves extended periods in which labor and capital inputs are shifted out of some categories of use and into others where they are more productive or the need for them is more urgent. In American economic history, two great episodes of this type stand out: the settling of the continent with the westward movement of the frontier and the subsequent decline in the farm population as improved productivity in agriculture freed labor and capital for other uses. This sort of redeployment of productive resources is going on all the time, though not on the same grand scale. It is a vitally important process in economic growth and one that can be stalemated by faulty public policies that inappropriately interfere with the mobility of labor and capital.

Adequate Physical and Social Infrastructure

In economically advanced countries, private economic activity goes forward in an environment of services and resources that are largely provided by units of government or by regulated enterprises. Examples include not only elements of physical infrastructure such as highways, airports, air traffic control, and water and sewer systems but also elements of the social infrastructure that provide public safety, adjudication of disputes, regulation of financial institutions for safety and soundness, control of environmental hazards, and many other services.

The facilities and systems that provide these services are subject to deterioration and breakdown as a result of congestion, overload, and neglect. They typically come to the forefront in discussions of economic growth only when these stress conditions arise, and they are then perceived as obstacles to growth because they are inadequate or malfunctioning. Growth proceeds smoothly with adequate infrastructure as its unobtrusive backdrop.

Improved Organization and Management

The underlying relationships that determine the output obtainable from a given collection of inputs are partly matters of technology, but they are also matters of organization and management. In recent years, it has

become increasingly clear that differing approaches to the tasks of management are a key determinant of differences in the effectiveness of business firms and other organizations.[2] An economy that lags in the adoption of demonstrably effective management approaches is as much disadvantaged in international competition as one that lags in the adoption of advanced technology.

Role of Expectations

Although "wishing will not make it so," the prospects for economic growth are enhanced when expectations regarding the future are favorable and encouraging to investors. Conversely, there is a real possibility that fear of the economic future can close off paths to economic advance that would otherwise be available. When the economies of cities, regions or nations fall into distress, a self-reinforcing cycle of pessimism can set in. Initial distress erodes the tax base, causing governments to cut services and raise taxes. This directly reduces the profitability of investment and prompts fears of further policy moves of the same sort. The unfavorable outlook for investment then further erodes the tax base, renewing the cycle. For this reason, strong early action that lends credibility to a claim that "the worst is behind us" may yield results superior to those generated by the message "we will try to muddle through on the basis of current policy." The latter stance may lead investors to hedge their bets against the possibility that the promised narrow escape from policy change cannot be delivered—thus increasing the chance that it cannot in fact be delivered.

From this discussion it is apparent that government at all levels plays an important role in economic growth, from the education and training of the work force to the support of basic research, to the provision of the public infrastructure within which the private sector operates. The federal government has major responsibilities in each of these areas, a subject that will be explored more extensively in chapter 5 of this report. In addition, the federal government has unique responsibilities for assuring economic stability and an overall economic climate conducive to growth and development. It is in this arena that the federal budget deficit is of vital importance.

Why Deficits Matter

Deficits are likely to reduce long-run growth primarily because they consume private domestic savings that otherwise would be available to

[2]For a discussion of recent developments in this area, see Management Practices: U.S. Companies Improve Performance Through Quality Efforts (GAO/NSIAD-91-190, May 2, 1991).

finance productive investment. The more the federal government borrows to finance the deficit, the lower the national saving rate is likely to be.

The federal government is simply one of the many entities in the economy that can add to or draw from the national savings pool. If the total savings of all the other entities in the economy is assumed constant, a federal budget deficit absorbs national savings as a matter of simple arithmetic. We believe that this simple proposition is generally a reliable guide to the economic impact of budget deficits in the long term. The statement must be qualified, however, by a recognition that there are circumstances in which the savings of other entities might not remain constant when the federal deficit changes. For example, when the economy is in recession and its productive capacity is underutilized, a reduction in the budget deficit may depress economic activity generally, causing other actors to save less. In the macroeconomic simulations presented in our previous report,[3] we found indications that deficit reduction induced some offsetting reduction in private savings. In the short term, the private saving decline offset as much as a third of the federal saving increase.

It is sometimes argued that, in response to increased government deficits, private saving will increase in anticipation of future taxes that will be imposed to pay the interest on increased government debt. While an effect of this type might occur in some circumstances, it appears unlikely that the effect would be of substantial magnitude under typical conditions. Casual examination of the experience of the 1980s provides no support for the view that deficits are offset by private saving, and academic research on the question has reached the same conclusion.

Finally, the impact of saving on economic growth depends critically on what is done with the savings. If the particular investments financed are not chosen by sound economic criteria, the benefits in terms of economic growth may not be realized. If the overall social, political, and economic environment is not conducive to investment, the savings may flow abroad to finance investment opportunities elsewhere.

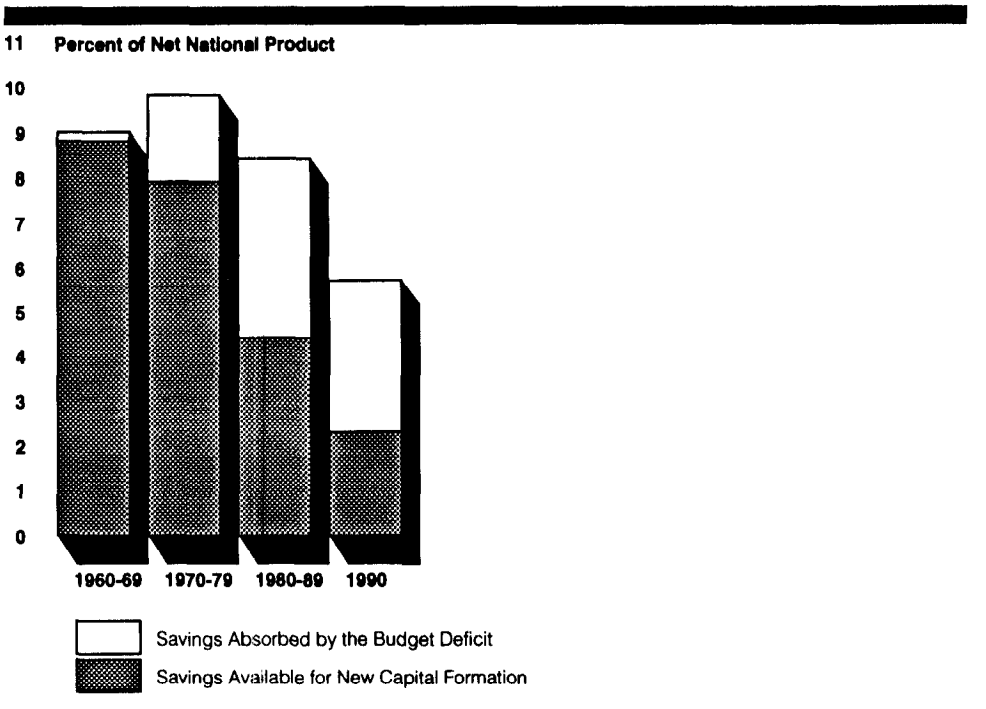
Review of Recent Experience

Since the 1960s, the federal deficit has absorbed an increasing proportion of net national savings. (See figure 3.1.) During the 1960s, the budget deficit absorbed approximately 2 percent of net national savings generated by the private sector and state and local governments. During the 1970s,

[3]See appendix I in Budget Deficit: Appendixes on Outlook, Implications, and Choices (GAO/OCG-90-5A, September 28, 1990).

the federal deficit absorbed 19 percent of the net saving of other sectors. By the 1980s, nearly one-half (48 percent) of that savings was needed to finance the budget deficit. This trend continues: In 1990 the deficit absorbed 58 percent of net national savings from the rest of the economy.

Figure 3.1: Effect of the Federal Budget Deficit on Net National Savings (1960-1990)



Source: Economic Report of the President, February 1992

Foreign savings can also finance domestic investment. This takes place not only through direct investment by foreigners in U.S. assets, but also when foreigners increase their holdings of U.S. securities and other financial investments. For example, when foreigners help finance the budget deficit through purchase of government securities, some net national savings is freed up for investment in physical capital.

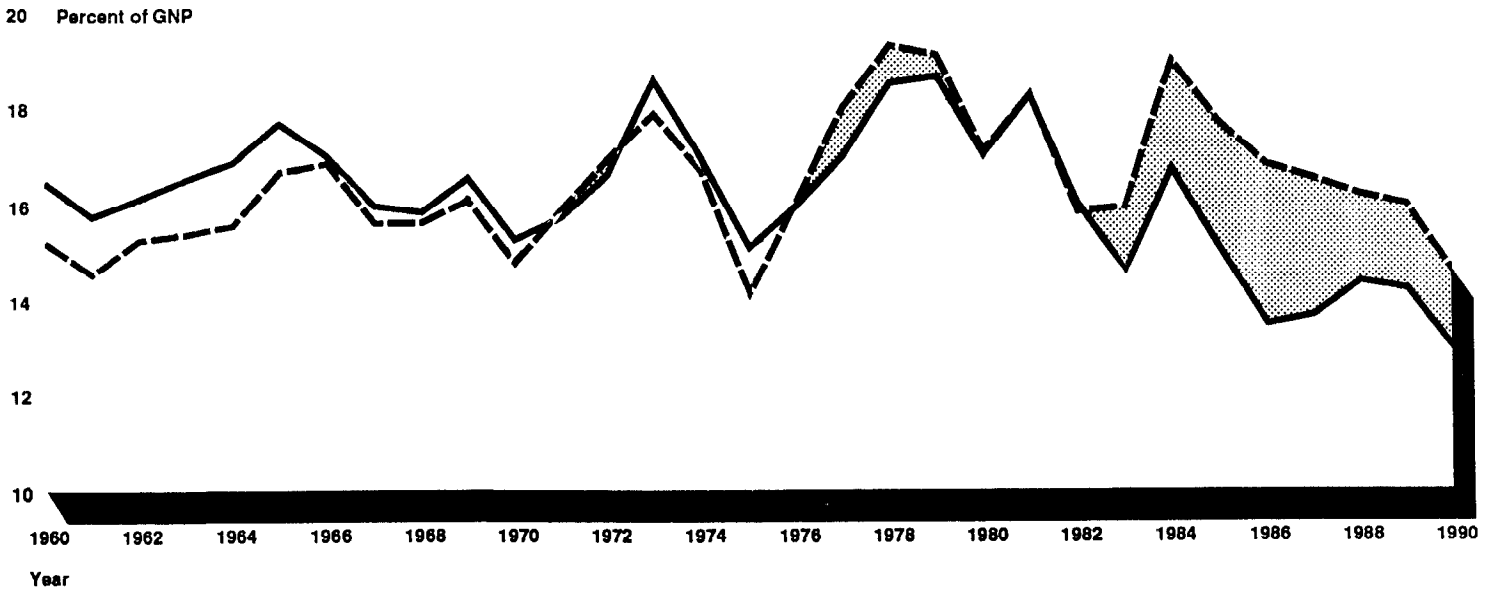
Foreign savings have been an important source of funds during the past decade, and without them U.S. investment would have experienced a greater decline. The problem with investment financed from abroad is that the United States must ultimately pay dividends or interest to the foreign

owners of the assets involved. Nevertheless, if net national savings are insufficient to take full advantage of the investment opportunities in the economy, it is helpful to have foreign investment fill the gap. Activities financed by such investment bid for U.S. labor, land, and other resources. In that process, some of the returns from foreign-financed activity accrue to U.S. citizens.

Investment

Since 1984, U.S. domestic investment has been relatively weak. In 1990, gross private domestic investment was only 14.5 percent of GNP, compared to 19 percent in 1984. But even this low level of investment was not being met by gross saving. In fact, gross saving has been insufficient to finance domestic investment in every year since 1983. Figure 3.2 shows this trend. The gap between gross saving and private domestic investment since 1982 represents capital inflows from abroad. Foreign capital bridged the gap between investment and savings, and allowed domestic investment to remain above the level that gross saving alone would have permitted.

Figure 3.2: Gross Saving and Gross Private Domestic Investment (1960-1990)

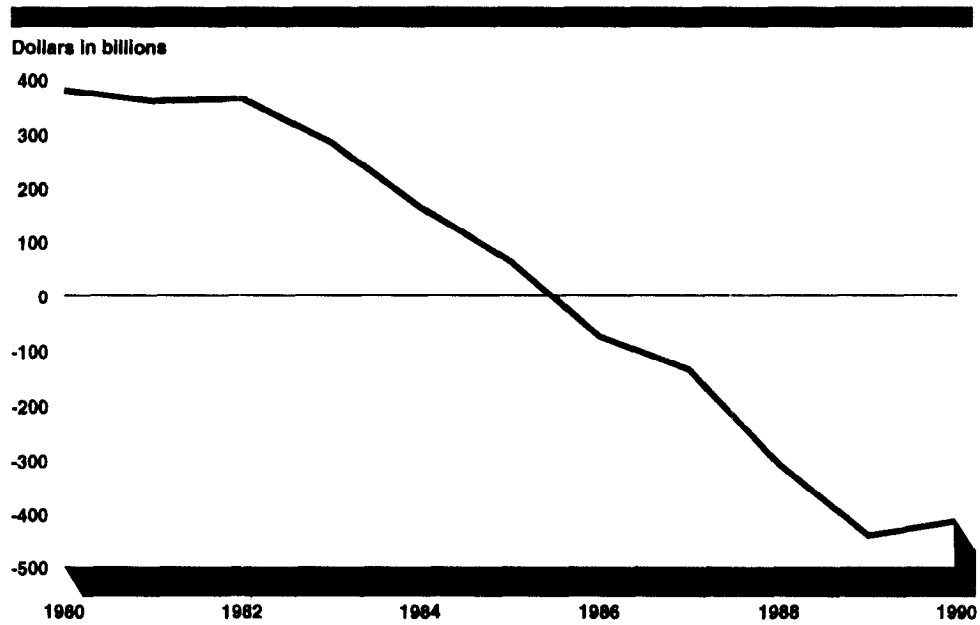


Source: Economic Report of the President, February 1992

Figure 3.3 shows the effect of recent U.S. reliance on foreign capital on the balance of debt and equity claims between the United States and the rest of the world.[4] The net international investment position of the United States deteriorated between 1982 and 1989. A slight improvement occurred in 1990, but the balance remained adverse to the United States to the sum of approximately $412 billion.

[4]Data reflected in this figure show U.S. investment abroad and foreign investment in the United States stated at current cost, or replacement cost, consistent with data from the Bureau of Economic Analysis (Department of Commerce) and the Federal Reserve Board on U.S. reproducible wealth and U.S. domestic wealth, respectively. The prior measurement problem of undervaluation of older U.S. owned assets versus recent foreign investment was rectified in 1991.

Figure 3.3: U.S. Net International Investment Position (1980-1990)

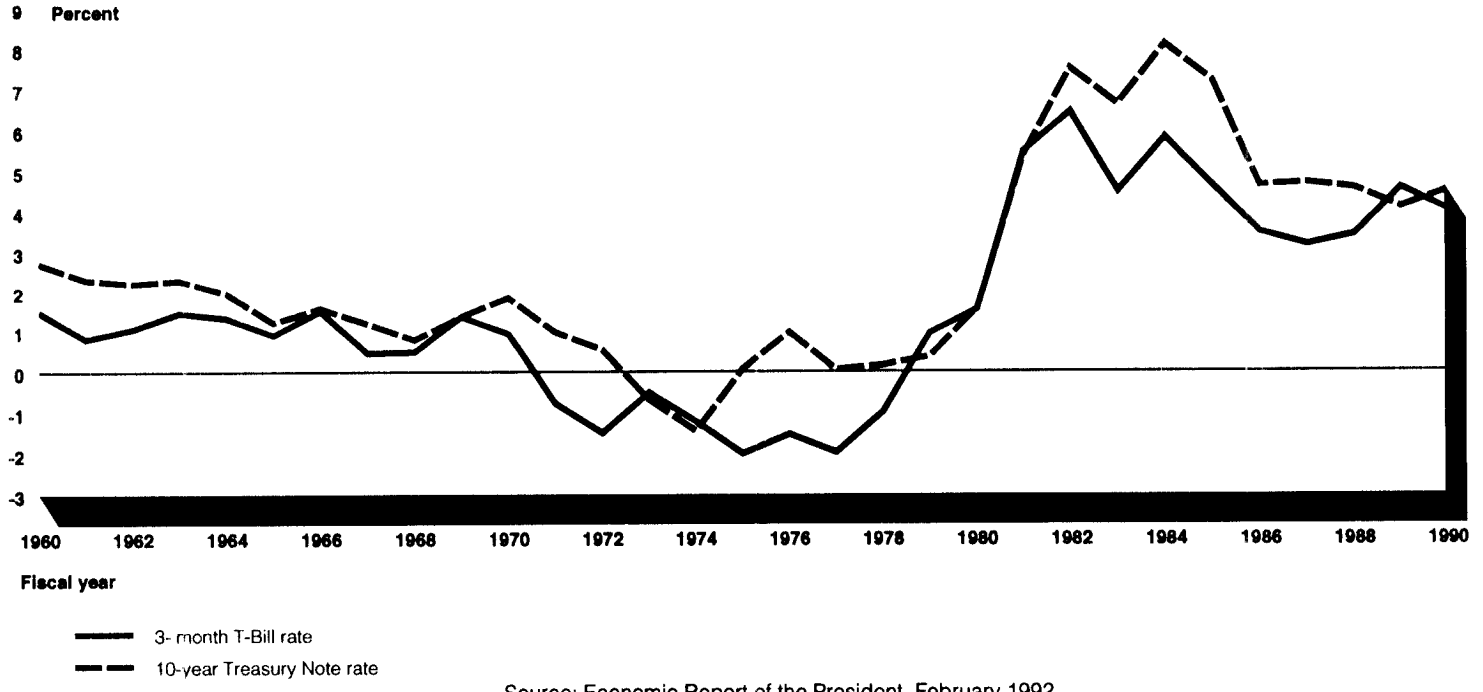


Source: Survey of Current Business, June 1991

The budget deficit and low saving appear to have contributed to high real interest rates. Figure 3.4 shows the historical pattern of real interest rates.[5] Real rates have fallen since 1984 and particularly in response to the current recession; however, longer-term rates have remained above historical norms. High real rates increase the cost of investment, decrease the accumulation of capital, inhibit economic growth, and ultimately reduce the standard of living.

[5]Real interest rates are nominal rates adjusted for inflation. The real interest rate for a given year is calculated as that year's average nominal rate deflated by the average annual change in the GDP deflator between the years before and after the one for which the interest rate applies.

Figure 3.4: Real Interest Rates (1960-1990)



Source: Economic Report of the President, February 1992

The continued U.S. reliance on foreign capital also raises concerns about future real interest rates. Recent studies have pointed to a current worldwide shortage of saving.[6] The competing demands of the industrial and developing world, reconstruction of Kuwait, German reunification, and reform in Eastern Europe and the Commonwealth of Independent States are not likely to be met by the current rate of saving in the international community. Without a commensurate rise in the availability of global savings, real interest rates are predicted to rise further. These new demands could draw foreign capital away from the United States unless checked by a further increase in U.S. interest rates.

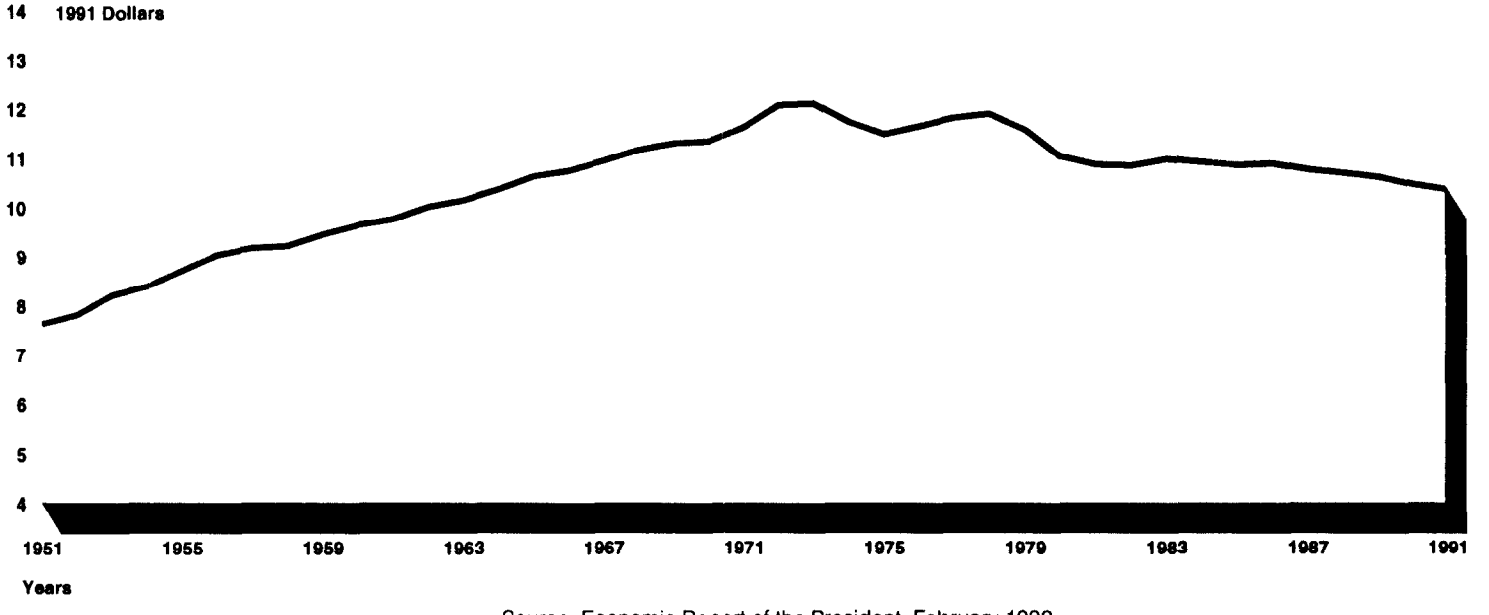
Productivity Growth

Figure 3.5 examines trends in real wages between 1951 and 1991. The steady rise in average hourly earnings between 1951 and 1973 coincides

[6]International Monetary Fund, World Economic Outlook, 1991.

with high productivity growth of 2.3 percent.[7] The stagnation in real average hourly earnings that began in 1973 correlates to the slowdown in productivity growth that occurred at the same time. In 1991, a recession year, real wages dipped slightly below their 1964 level. A somewhat more favorable picture is presented by trends in total compensation, which includes fringe benefits. However, the rise in fringe benefits is partly associated with rising costs of health care.

Figure 3.5: Average Hourly Earnings (1951-1991)



Source: Economic Report of the President, February 1992

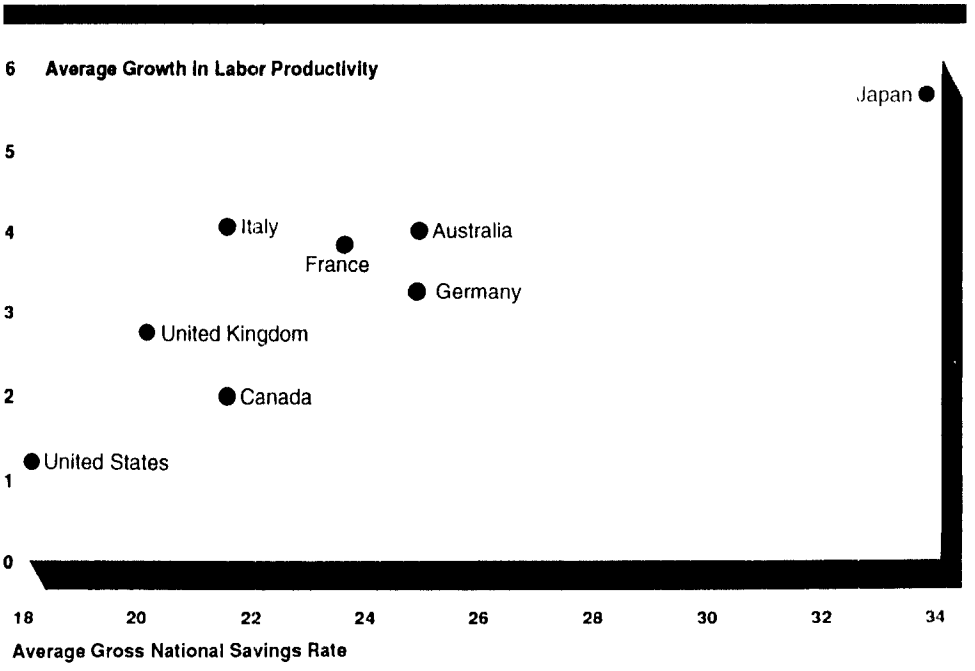
In the 1980s, U.S. saving and productivity growth were lower than during the period 1960 through 1973. Compared to seven large industrialized countries in the Organization for Economic Cooperation and Development (OECD),[8] the United States had the lowest average labor productivity growth and the lowest saving rate during 1960 through 1988. Figure 3.6 shows this

[7]The recent comprehensive revision of the National Income and Product Accounts by the Department of Commerce has not been completed for the period 1951 through 1959.

[8]The OECD includes Japan, Australia, New Zealand, and most industrialized countries in Western Europe and North America.

comparison and suggests that those countries which grow are those which save.[9] While the very long-term relationship between saving and productivity growth remains controversial among economists, there is little reason to doubt that a rise in the U.S. saving rate will yield significant productivity gains over a span of a few decades. The projections presented in the following chapter are more likely to understate these benefits than to overstate them.

Figure 3.6: Relationship Between Gross National Saving Rate and Productivity Growth (1960-1988)



Source: Organization for Economic Cooperation and Development

[9]OECD's definition of saving (shown here) differs in its treatment of government capital from the NIPA definition shown in figure 3.2.

The Effects of Federal Fiscal Policy

To estimate the long-term effects of federal fiscal policy on economic growth and the federal budget, we used an economic growth model to simulate the impact of different policies through the year 2020. We found that projected increases in health care and Social Security expenditures produce a dismaying picture when combined with other current trends in revenue and expenditure policies: Under this combination of assumptions, the budget deficit is projected to reach 20.6 percent of GNP by 2020 and the economy is on a path that is clearly unsustainable. Accordingly, we believe that policymakers will have no choice but to deal with deficits during this period.

We have explored the effect of three alternative deficit reduction paths. In so doing, we found that measures of economic strength improve as deficits are reduced, and that the greatest benefits accrue when deficits are eliminated early.

Our analysis here focuses on the long-run consequences of deficit reduction and does not address the short-term problems of macroeconomic policy that would arise as deficit reduction is carried out. Those problems were addressed in our 1990 report.[1] Our analysis found support for the view that monetary policy can largely offset the contractionary impact of deficit reduction, without causing inflation. As a percentage of GNP, the pace of deficit reduction considered in this report is somewhat slower than that analyzed in the previous report. This should improve the prospects for a successful transition assisted by monetary policy.

Economic Growth Model

We used an adaptation of a growth model developed by economists at the Federal Reserve Bank of New York (FRBNY) to explore how fiscal policy affects the gross domestic saving rate and hence the rate of capital accumulation. The model incorporates simple representations of the sources of growth—labor input, capital accumulation, and the various influences affecting total factor productivity. In our adaptation of the model, we experimented with various assumptions for total factor productivity growth, but ultimately chose the model's "traditional" formulation—a simple trend of 1 percent per year.

To permit a closer analysis of the federal budget's impact on the economy, we appended a simple, but flexible, representation of the budget to the

[1]See particularly appendix I in Budget Deficit: Appendixes on Outlook, Implications, and Choices (GAO/OCG-90-5A, September 28, 1990).

basic growth model. Our projections of current policy through 2020 are based on CBO's estimates through 1995, with projections beyond based on historical trends. The model assumes some continued decline in the share of GNP devoted to defense spending, while spending for programs other than health, defense, and Social Security rises by an offsetting amount. Spending for Social Security and health grows rapidly, based on Social Security Administration and Health Care Financing Administration projections through 2020.[2] Also, federal receipts are projected to remain at slightly over 20 percent of GNP (on a National Income and Product Accounts (NIPA) basis). A more detailed description of the model is in appendix I.

A simulation exercise of this sort cannot be conducted without making assumptions, each of which is surrounded by substantial uncertainty. Because of all this uncertainty, these projections should not be regarded as predictions. Also, some of the simplifying assumptions of the growth model become increasingly strained as the projected path of the economy deviates far from historical experience. Nevertheless, we believe that the projections provide useful information for choosing long-run fiscal policy objectives. Changes in the assumptions, for the most part, would affect the different projections similarly and leave the differences between them largely unaffected. And it is the differences between the paths that matter for policy-making.

Alternate Fiscal Policy Paths

The growth model helps identify both the near-term sacrifices and the long-term benefits of significant deficit reduction. GAO projected the results from following three distinctly different deficit reduction paths from 1996 through 2020.

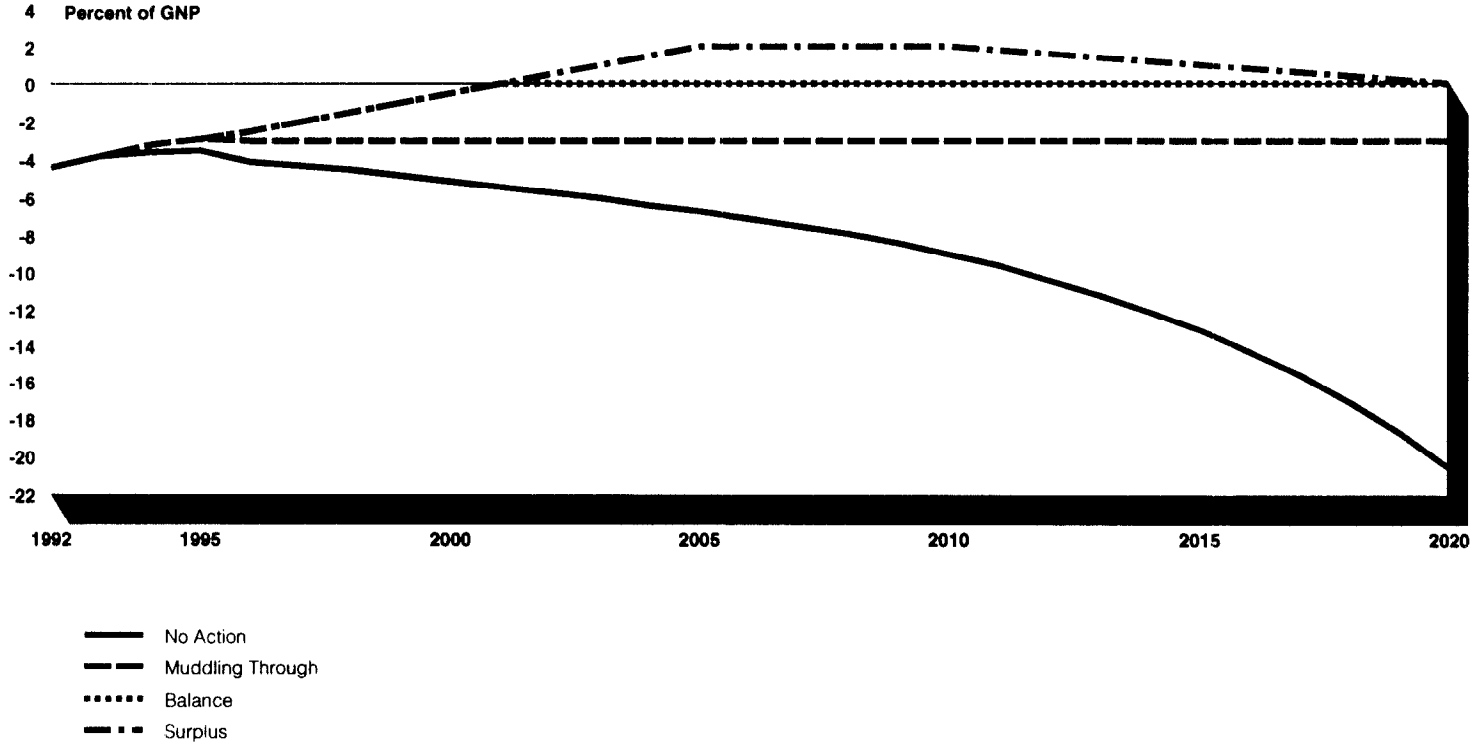
- One was a muddling through scenario in which the deficit is held at 3 percent of GNP on a NIPA basis. This corresponds closely to the deficits CBO projects for the middle of the decade.
- Another was a balanced budget scenario in which balance is achieved in 2001 and maintained.
- Yet another was a surplus scenario in which a 2-percent surplus is reached in 2005, and maintained until 2010, at which time the surplus is phased down to reach budget balance by 2020.

[2]In this report, we used data from the 1991 report of the Social Security and Medicare trustees. Data in the 1992 report are somewhat more pessimistic, but became available too late to be reflected in this report.

Although each of these scenarios should be considered on its own merits, it is also important to compare these options with the projected effects of current revenue and expenditure policies without further deficit reduction. From this perspective, the continuation of current policies appears to become unsustainable, both economically and fiscally. Accordingly, the key question facing policymakers is not whether to undertake major deficit reduction but when and how.

Figure 4.1 shows the deficit path under the three alternate deficit reduction policies as well as the result projected under the no action option described in the following paragraph.

Figure 4.1: Alternate Deficit/Surplus Paths (1992-2020)



Backdrop: The No Action Option

To provide a reference point to assess alternate policy paths we used the model to portray what deficits could look like, assuming a passive policy stance toward current and future pressures on the budget. Specifically,

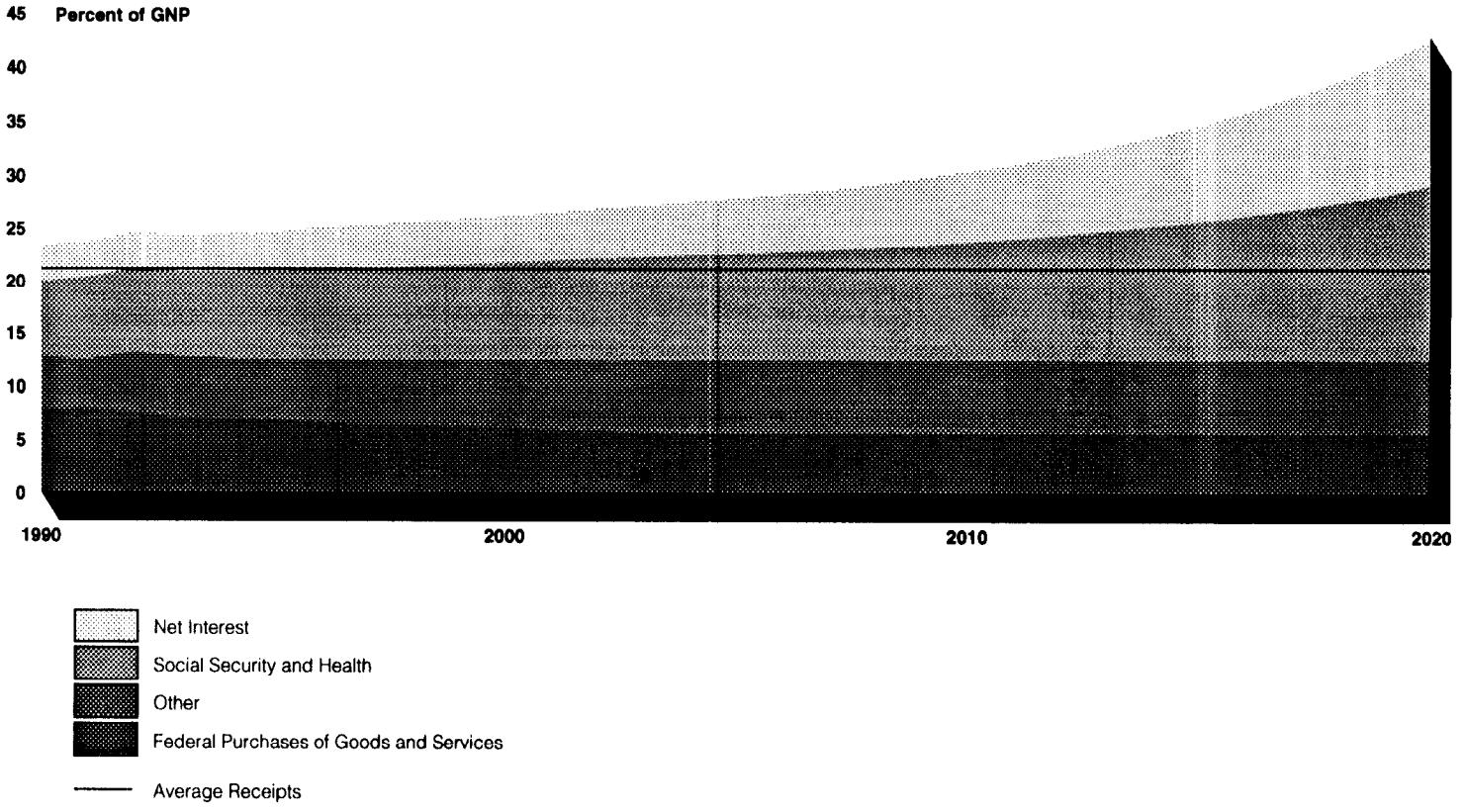
this no action scenario assumes that anticipated future increases in health care expenditures and Social Security, as well as rising interest costs, occur without being accommodated by major policy adjustments in receipts or other spending. In this sense, it assumes that no action is taken to reduce the deficit, while major forces operate to increase it.

Figure 4.2 portrays the results of this scenario. The composition of total federal spending is shown in successive layers. In the bottom layer, federal purchases of goods and services is projected to decrease because of defense spending cuts, but other spending rises in an equal amount.[3] The result is the horizontal line shown at over 12 percent of GNP. Above that line are the volatile categories of spending responsible for long-term outlay growth. Social Security and health care costs add approximately 7.4 percent of GNP currently—but increase to 16.7 percent in 2020.[4] Net interest costs equal 13.4 percent of GNP by 2020, bringing total federal outlays to 42.4 percent of GNP.

[3]Defense spending decreases to 3.5 percent of GNP by 2004 and remains at that level through 2020. "Other" spending is a residual category. In NIPA terminology it represents transfer payments excluding Social Security and Medicare, plus grants-in-aid to state and local governments less Medicaid, plus two much smaller categories (subsidies less current surplus of government enterprises, and wage accruals less disbursements). The picture would be only slightly different if it were assumed that domestic programs involving purchases of goods and services were increased instead of transfer and grant programs.

[4]In the no action projection, Social Security and health costs are held at the same dollar levels projected in muddling through. Thus, the high percentage of GNP in 2020 is partly a reflection of the low GNP that no action produces.

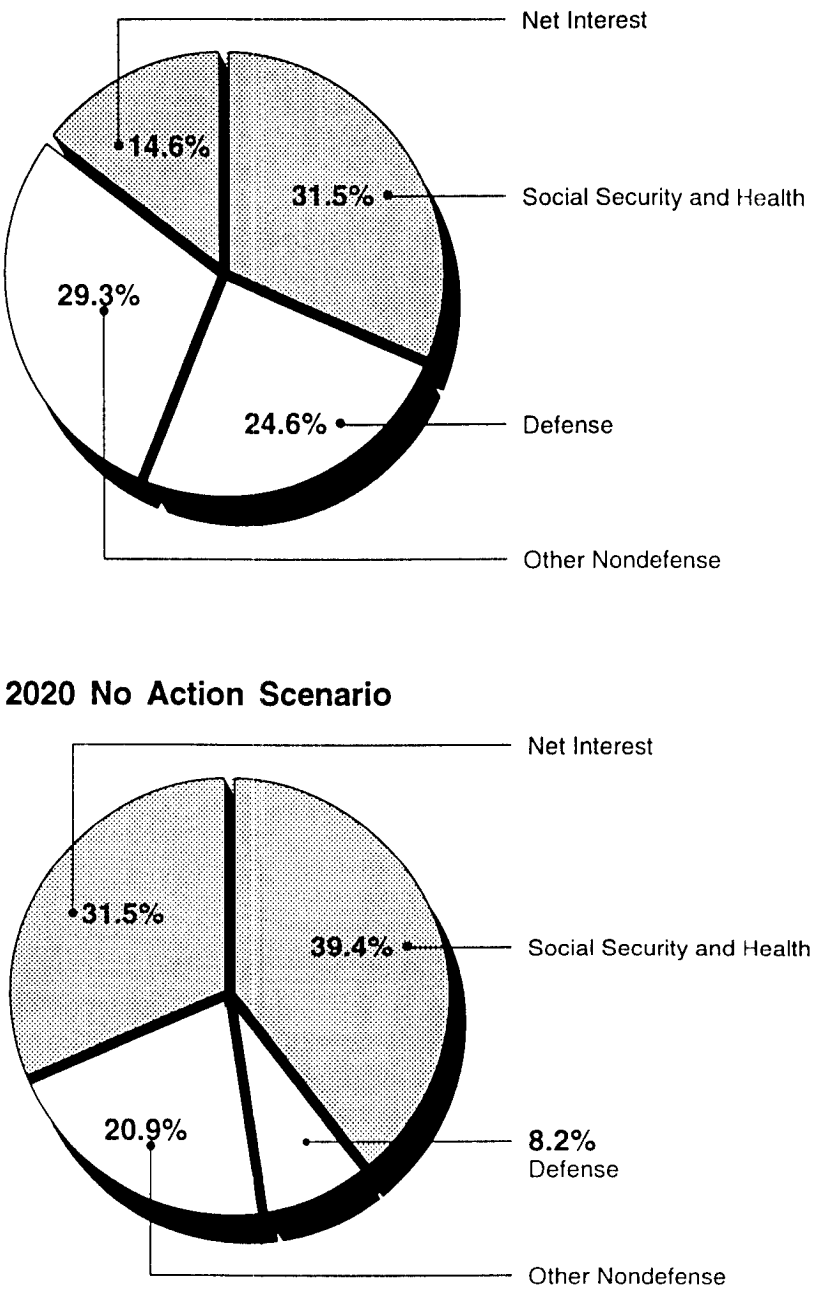
Figure 4.2: Federal Expenditures in the No Action Scenario



As a result, the deficit explodes to 20.6 percent of GNP by 2020, due in part to the projected dramatic rise in spending and in part to the fact that higher deficits and lower savings slow the growth of real GNP.

Figure 4.3 provides an alternative view of the shift in the composition of federal expenditures toward the mandated outlays for interest, Social Security, and health, to a point where they dominate the budget as never before.

Figure 4.3: Share of Federal Expenditures



Taken one by one, the assumptions that generate this dramatic picture seem highly plausible. The dynamic factors in the situation are Social Security, and health care costs, and the interest burden of higher debt. The remainder of federal spending is projected at a level in relation to GNP that is consistent with recent experience. While controversy is unceasing about the merits of individual programs within these totals, a change in the totals themselves that is large enough to affect the picture significantly would represent, once again, a major departure from the policies of the past.

The combination of these plausible assumptions with our economic model generates outcomes that are alarming and may seem quite implausible. While the model contains simplifying assumptions that are strained by the extreme conditions that emerge in the no action scenario, we do not believe that the limitations of the model account for its alarming results. In some respects, the model clearly errs on the side of over-optimism. For example, the interest rate on the national debt is projected as constant in the face of a collapse of the overall saving rate and rising rates of return in the private sector. A more realistic assumption would produce a more rapid explosion of interest expenditures than that shown in figure 4.2. Similarly, the assumption that total factor productivity growth continues at a steady one percent rate in the face of a collapse of investment is on the optimistic side.

We believe, therefore, that inaction is not a sustainable policy. If the economy is not diverted from that general path by prompt policy change on a major scale—an "action" response—it will ultimately be diverted by some combination of galloping inflation, higher interest rates, and the unwillingness of foreign investors to sustain a deteriorating American economy.

In short, the no action projection makes a compelling case that major policy action must be taken. The question is when and how much. As the following analysis will show, the timing of deficit reduction has a great bearing on the magnitude of the sacrifice required as well as the economic benefits ultimately realized.

Alternatives to Inaction

Substantial near-term action to reduce the deficit is required even to achieve the muddling through path of a 3-percent deficit. Assuming $38 billion of deficit reduction under OBRA through 1995, another $27 billion in revenue and/or spending changes, for a total of $65 billion, is necessary to maintain the deficit at 3-percent of GNP in 1996. Once this

initial dose of deficit reduction is accomplished, the muddling through path might seem to represent a kind of stable equilibrium. However, our projections show that simply maintaining a 3-percent deficit offers no escape either from progressively harder decisions or from an unacceptable economic future. It only postpones the date of a full confrontation with the underlying problem. After 2005, the amount of deficit reduction action required annually to stay on the 3-percent path increases exponentially. Measured in constant dollars, it exceeds half a trillion dollars by 2020 and is still rising.

Close examination of the muddling through simulation reveals the weakness of this policy. The 3-percent deficit is small enough to stabilize interest costs in relation to GNP; given the assumption of offsetting changes in defense and "other," the near-term deficit reduction required can be viewed as an offset to the near-term rise in health care spending. But this leaves the longer-term rise in health and Social Security expenditures to be financed by more borrowing. In the interval 2005-2020, outlays for these programs rise by a combined total of 3.32 percent of GNP; this is reflected almost precisely in a requirement for additional deficit reduction in the amount of 3.33 percent of GNP. Furthermore, this scenario requires annual interest payments of almost $400 billion by 2020. That is money not available for social programs, for defense, or government investment.

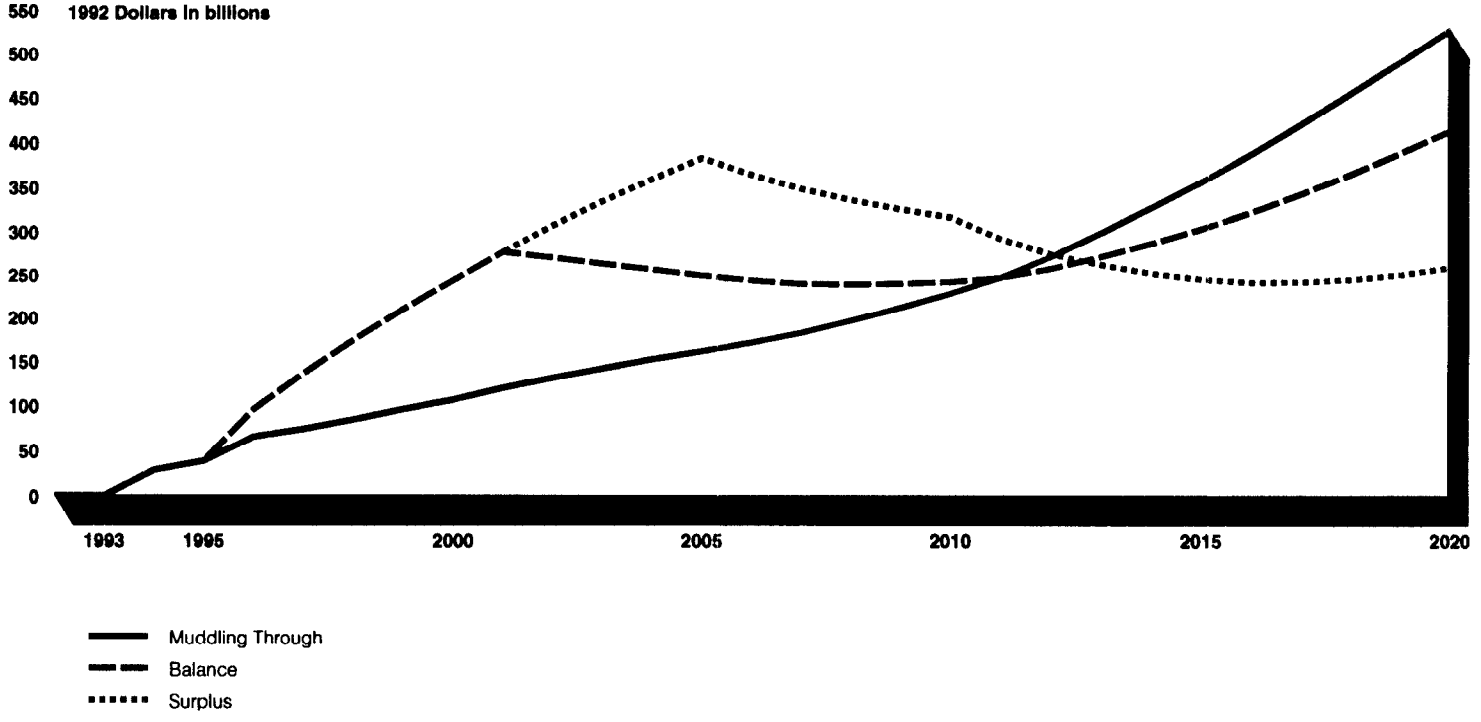
In contrast, under both the balanced budget and the surplus paths, the deficit is reduced after 1995 at the rate of 0.5 percent of GNP per year and eliminated by 2001 through a series of steeper and earlier actions. In the balanced budget path, balance is then maintained throughout the simulation period (to 2020). Under the surplus scenario, restraint continues until a surplus equal to 2 percent of GNP is reached in 2005. This surplus is maintained through 2010 at which point the public debt has been reduced to less than a third of its peak value in real terms. Between 2010 and 2020 the surplus is phased out so the budget is again balanced in 2020. As the federal fiscal position shifts from surplus back to balance, some of the constraints of the earlier period can be relaxed.

Figure 4.4 plots the amounts of year-by-year spending cuts or revenue increases required to stay on each of the paths.[5] Since these curves

[5]As noted in appendix I, the simplifying assumptions of the model are particularly strained in the no action and surplus scenarios. In particular, figure 4.4 likely overstates the amount of deficit reduction required on the surplus path because the model does not allow for the induced decline in interest rates that would attend a declining national debt and falling real rates of return on capital. To some extent, the same may be true of the balance path. This tends to underscore rather than detract from our observations regarding the merit of early deficit reduction—not only are there future interest cost savings at constant rates, but there are further benefits by way of induced reductions in rates.

represent year-by-year requirements, any "permanent" fiscal change such as cancellation of a program or enactment of a new tax would affect all of the years.

Figure 4.4: Deficit Reduction Required (1993-2020)



During the early part of the period, the muddling through option seems easier than the other paths, but as time passes the reductions necessary become steeper and the decisions to achieve them harder. In contrast, difficult decisions are initially necessary in the balance and surplus paths to bring the deficit down to zero and to shift to surplus, but early in the next decade economic growth and the benefits of reduced interest costs from a lower debt burden begin to ease the task.

Weighing the Alternatives

Some action to address the deficit problem is required. Action that is stronger and taken sooner yields greater long-range benefits in a number of dimensions of economic performance and fiscal soundness. But such

action also involves a larger measure of difficult choices and sacrifices in the near term.

Are the balance or surplus paths worth the extra effort? One way to answer that question is to ask whether today's generation, which benefitted from the post-World War II boom, wants to leave the next generation a weaker economy or whether the nation is prepared to act to assure sustained prosperity in the first part of the next century. Another way to think about the question is to compare the aggregate amount of deficit reduction to the benefits such reduction brings. Compared to muddling through, either the balance or the surplus path offers benefits on many dimensions.

Summary measures of the projected situation in 2020 are presented in table 4.1. For ease of interpretation, they are presented in per capita terms, in constant 1992 dollars. By these measures, it is clear that the long-term outlook is improved by the more stringent deficit reduction actions of the balance and surplus paths.

Table 4.1: The Economic and Fiscal Position in 2020

Per capita 1992 dollars

	No action	Muddling through	Balance	Surplus
Real GNP	$23,875	$30,374	$32,555	$33,353
Debt held by the public[a]	$45,816	$16,702	$ 4,665	$ 219
Foreign debt[a]	$19,243	$ 8,460	$ 3,748	$ 1,979

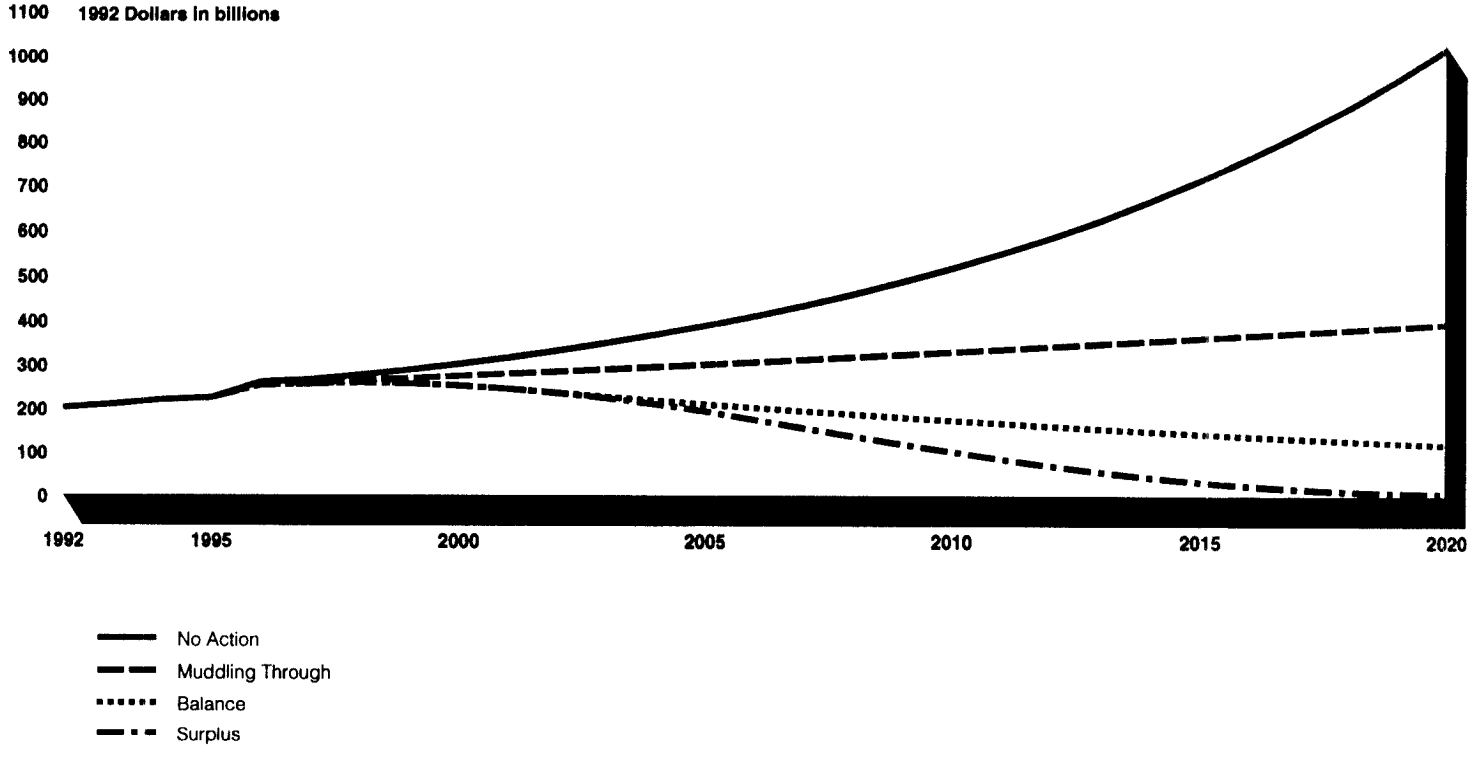
[a]Foreign debt is the negative of the net international investment position (NIIP). The term "debt" is not strictly appropriate. Also, the values for federal debt and foreign debt cannot be added, since some of the U.S. debt held by the public is held by foreigners and forms part of the NIIP.

Interest

Interest is the bane of deficit arithmetic, but it becomes a boon for alternatives that aim at steep and early deficit reduction. Figure 4.5 provides a more detailed view of the paths' interest costs. Interest savings accumulated under the balance and surplus paths substantially reduce the amount of noninterest spending cuts and/or revenue increases needed to meet these deficit reduction targets. Ultimately, the surplus path provides virtually complete relief from the burden of interest costs on the federal budget. Interest costs in 2020 drop to only $5.5 billion (in 1992 dollars) under the surplus path, compared to $116 billion under "balance," $393 billion under muddling through and over a trillion dollars with no

action. As noted earlier, the no action results should be treated with caution since it is unlikely that the path could be sustained as far as 2020.

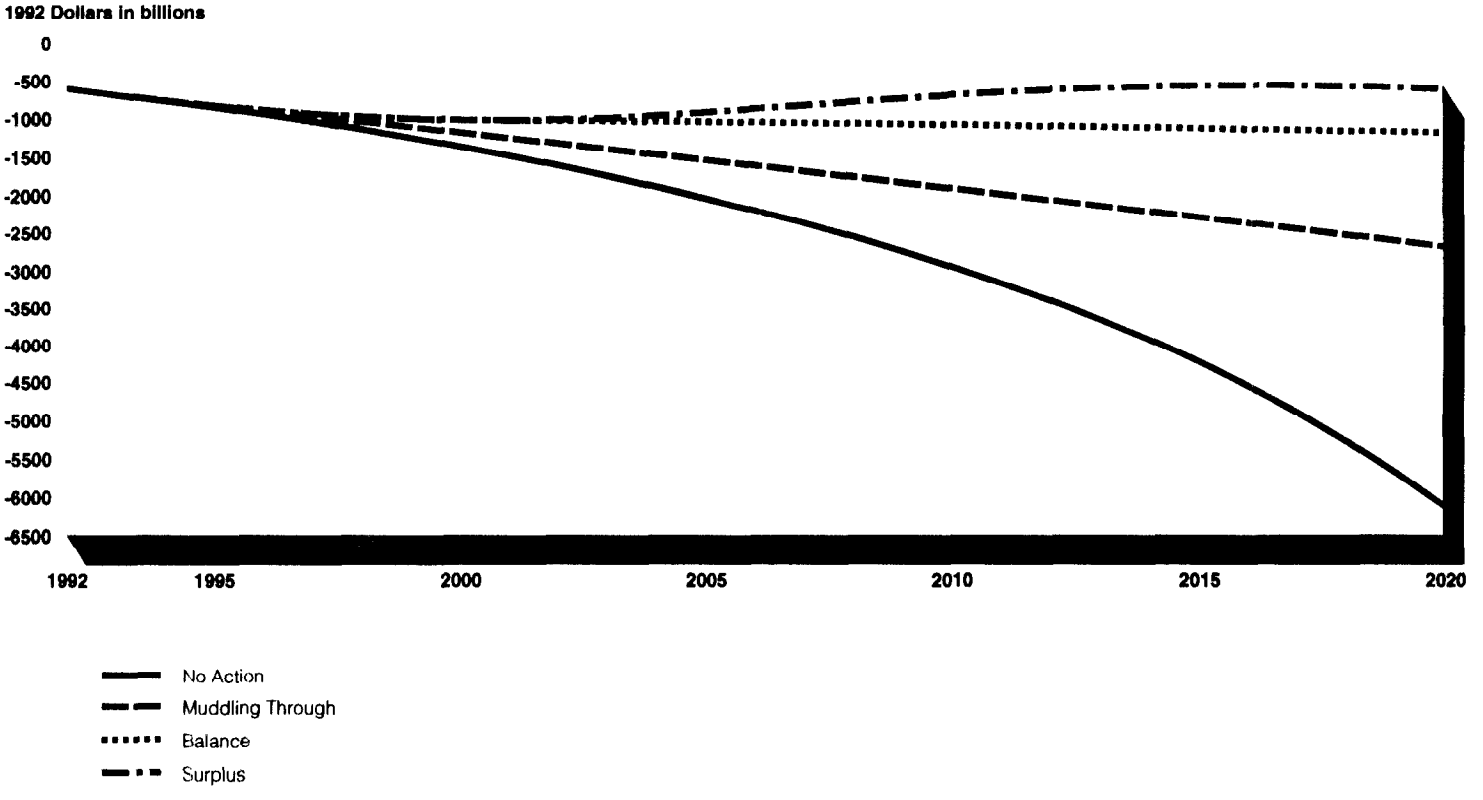
Figure 4.5: Net Interest Costs (1992-2020)



International Investment Position

While muddling through implies an endless series of trade and current account deficits and a continuing decline in the U.S. net international investment position, both the balance and surplus scenarios produce more favorable foreign investment paths than that of the 1980s. (See figure 4.6.) The projections indicate that a greater share of domestic investment would be financed by domestic sources, keeping the net profits and gains from such investments in this country.

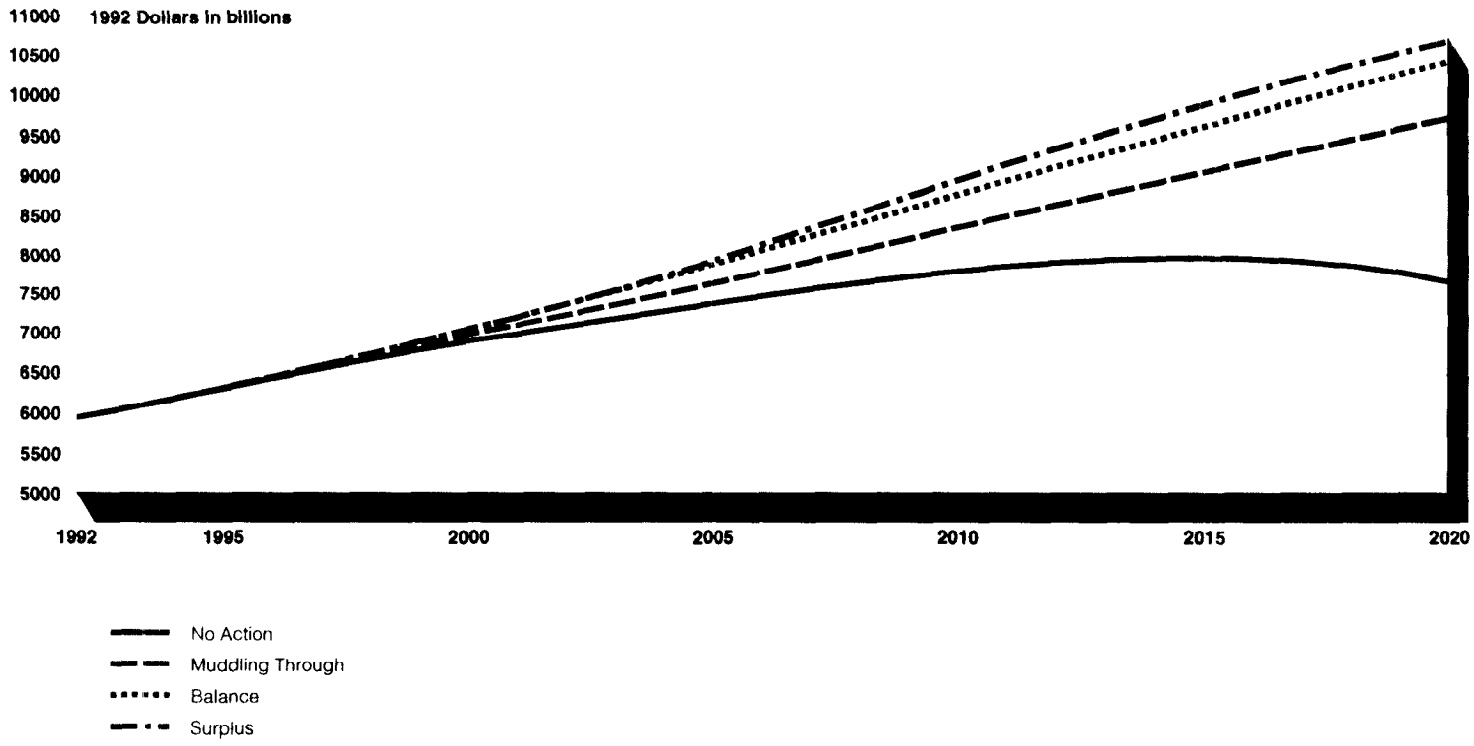
Figure 4.6: Net International Investment Position (1992-2020)



Gross National Product

Major gains in economic output are achieved under the balance and surplus paths. Figure 4.7 shows real GNP under the three policy paths and the no action projection. In 2020, the balanced budget alternative increases real GNP (in 1992 dollars) by 7.2 percent over muddling through. Choosing a budget surplus increases it by 9.8 percent. (Compared to the no action projection, the surplus path increases real GNP by 39.7 percent.) A portion of this increased output is required, however, to cover depreciation on the larger capital stock that higher saving has produced.

Figure 4.7: Real GNP (1992-2020)



The gains associated with deficit reduction do not, of course, come without cost. The hard choices necessary to achieve either balance or surplus would compared to no action or muddling through temporarily reduce consumption until 2005. This is to be expected. Higher savings necessarily mean less consumption, but also mean higher living standards for the future.

There are also important gains from early and major deficit reduction that go beyond those revealed by figures representing averages over the population as a whole. As expenditures for federal entitlement programs and net interest mount, more and more personal consumption is financed by government checks. While the recipients of such checks will logically feel entitled to them, the resistance to paying the necessary taxes may be expected to be strong—even among the recipients of the benefits. This problem is likely to be more manageable if living standards are not deteriorating for tax-paying workers who are not current recipients of

bond interest, Social Security, Medicare, or Medicaid. The per capita economic gains that deficit reduction yields could be magnified if they were concentrated among tax-paying workers. Such a result should be attainable in the fiscal context of the balance and surplus scenarios.

Consumption

The sacrifices required by deficit reduction are reflected in the figures for per capita consumption derived from our projections. Since the major purpose of deficit reduction is to use more of current output for investment and less for consumption, it is no surprise that consumption is adversely affected in the near term. More stringent deficit reduction measures produce correspondingly larger adverse effects. In the long term, the higher national saving rate brought about by deficit reduction pays off not only in terms of higher domestic output and lower foreign indebtedness, but also in higher consumption. More stringent deficit reduction measures produce correspondingly larger consumption increases in the future.

In none of our deficit reduction projections does per capita real consumption actually decline in the near term. Thus, no sacrifice relative to current conditions is implied in the aggregate figures, nor is there any year-to-year decline after the 1991 dip associated with the recession.[6] Individuals and groups whose living standards are declining for other reasons could, however, suffer additional setbacks because of the deficit reduction program.

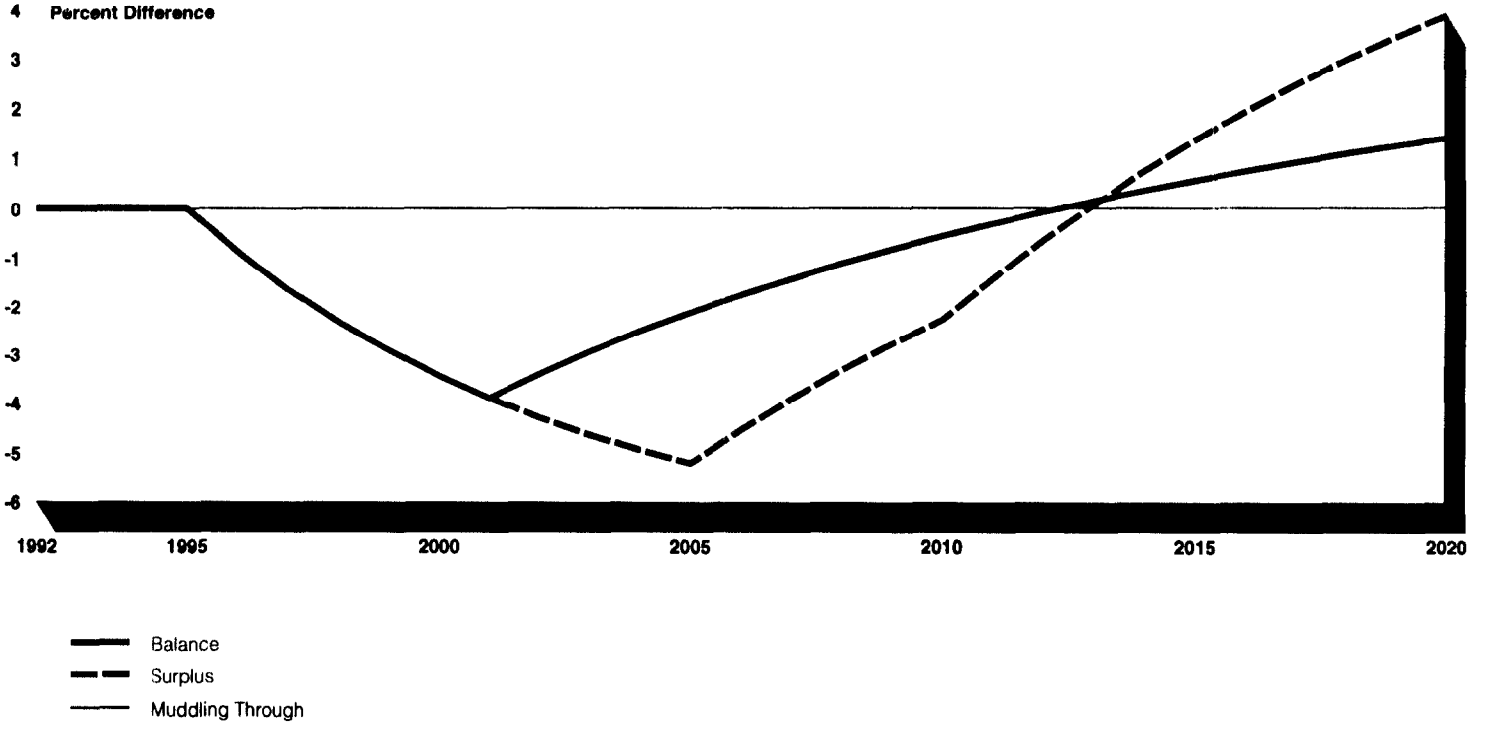
Per capita consumption does grow slowly over the period when deficit reduction is undertaken. From 1995 through 2005, the growth rate is 0.8 percent per year on the surplus path. Over the following 10 years under that same scenario, it is 1.7 percent per year.

Figure 4.8 shows per capita consumption levels for the balance and surplus paths relative to those achieved with muddling through. Under the balance path, there are 6 years of decline relative to muddling through; on the surplus path there are 10. These correspond exactly to the years of swing toward balance or surplus in the budget. After the swing is completed, per capita consumption begins to recover toward the level achieved with muddling through, and surpasses that level by 2013. The diverging paths of consumption growth after 2013 reflect the cumulative

[6]Aside from the effect of the recession on hours worked in 1991, the projections do not include business cycle effects. The actual paths of all economic variables, including consumption, are certain to be more erratic than the projections indicate because of business cycles and other factors. In this sense, year-to-year declines in consumption are not ruled out.

effects of deficit reduction on the domestic capital stock and foreign debt, which outweigh the effects of a continuing higher saving rate.

Figure 4.8: Difference in Per Capita Consumption Between Muddling Through and Alternate Deficit Paths (1992-2020)



The no action scenario shows higher per capita consumption than muddling through. This is because the effects of a declining saving rate on consumption appear promptly, whereas the weakening of the economy takes time. At the end of the projection period, per capita consumption is declining toward the muddling through level, in spite of the still-falling saving rate.

As we have discussed previously, the no action scenario does not portray an alternative that is realistically available for the full period of the projection. The more remote the year, the greater the strain on the various simplifying assumptions that underlie the projection. In particular, the willingness of foreign investors to take an ever increasing stake in an economy on such a path is extremely doubtful. By about the year 2012, the

gross domestic saving rate in the no action projection falls to levels characteristic of low-saving countries in the developing world, almost all of which experienced debt servicing difficulties in the 1980s. While asset sales might well permit the United States to continue a consumption binge longer than a developing country could, the emerging economic crisis would certainly discourage not only foreign loans but also foreign purchase of assets located in the United States and thus subject to great policy uncertainties.

Conclusion

These results show that choosing either the balance or the surplus policy path can be a preemptive strike against the otherwise inexorable spiral driven by Social Security, health, and interest payments. Although requiring steep and early cuts, the surplus path would yield strong dividends for private economic growth. Moreover, it would free government from the ever-mounting interest cost burdens and seemingly endless preoccupation with deficits.

In contrast, the muddling through path requires one to make harder and harder decisions just to stay in place, partly just to offset the growing interest costs that compound with the deficit. It likely has other disadvantages not captured by the simulation exercise, including milder versions of the depressing effects on public and private investment discussed under the no action scenario. To select this path is to fend off the disaster of inaction, but it would lock the nation into many years of unpleasant and relatively unproductive deficit debates rather than debates about what government ought to do and how it should be done. It is death by a thousand cuts.

Furthermore, demographics argue for action early. Today, the baby boom generation is in its prime working years. Forty-nine percent of the population is in the labor force. By the year 2020 that share will have fallen to 44 percent. Most of the baby boom generation will have retired. As we discuss in more detail in appendix II, these trends increase pressures on the budget and on the next generation to finance the Social Security benefits for a larger population of elderly. The pain of deficit reduction can be more easily borne if spread across a large working population. Furthermore, action taken early pays benefits in terms of economic growth. A strongly growing economy can support both present commitments to a growing elderly population and a rising living standard for the future working population.

Long-Term Economic Implications of Choices Within the Budget

As previous chapters of this report have demonstrated, the objective of enhancing long-term economic growth through overall fiscal policy is not well served by a budget process preoccupied with short-term results. That preoccupation has also affected choices within the budget. This chapter considers the choice between spending which is consumption oriented and that which is of a capital investment or developmental character. It discusses an approach to reforming the structure and presentation of budget data which would facilitate a process of making budget choices with a goal of promoting long-term economic growth.

Role of Federal Investment-Oriented Programs

A higher level of national savings is essential to the achievement of a higher rate of economic growth but, by itself, is not sufficient to assure that result. Certain other ingredients are necessary, including stability in the social, political, and economic environment. In addition, however, economic growth depends on an efficient public infrastructure, an educated work force, an expanding base of knowledge, and a continuing infusion of innovations.

In the past, the federal government, through its investments in physical capital, human capital, and research and development, has played an important role in providing an environment conducive to growth. Thus the composition of federal spending, as well as overall fiscal policy, can effect long-term economic growth in significant ways.

Physical capital represents investments in infrastructure, such as highways, bridges, airports, and water systems. The potential economic impact from infrastructure investments varies greatly. There is strong evidence that investment in certain types of projects, such as airports and highways, result in long-term economic returns. CBO also cites a recent cost-benefit study estimating that building additional runway capacity with an annual cost of $1.5 billion would yield annual benefits of $11 billion for several years, clearly suggesting a high rate of return. In a recent report,[1] CBO estimates a 30 to 40 percent expected real rate of return on investment to maintain current highway conditions, although the return range may understate costs in urban areas and benefits overall. In CBO's view, rates of return for highway maintenance would far exceed that for spending for new highway capacity.

[1]How Federal Spending for Infrastructure and Other Public Investments Affects the Economy, Congressional Budget Office, July 1991.

According to CBO, economic benefits could be achieved through more efficient use of existing infrastructure assets. For example, setting highway taxes based on vehicle weight per axle and distance driven would create incentives for actions that would reduce the damage to roads. At airports, charging more for taking off and landing during peak periods could also provide net benefits.

Human capital represents investments in the productive capacity of people through activities such as education and training. The economic effects of government investments in human capital are difficult to measure, and the measurement problem is compounded by the fact that most human capital programs pursue social as well as economic goals. Education and training programs are generally considered to represent investments in human capital and the available evidence suggests that they increase the earnings of participants. Other benefits are also reported. For example, an evaluation of the Job Corps program found that participants committed fewer major crimes. Some have suggested that social service, health, and nutritional assistance programs also represent investments in human capital. In these areas, however, the effects on economic performance are even more difficult to establish, and the programs are generally justified in terms of social goals.

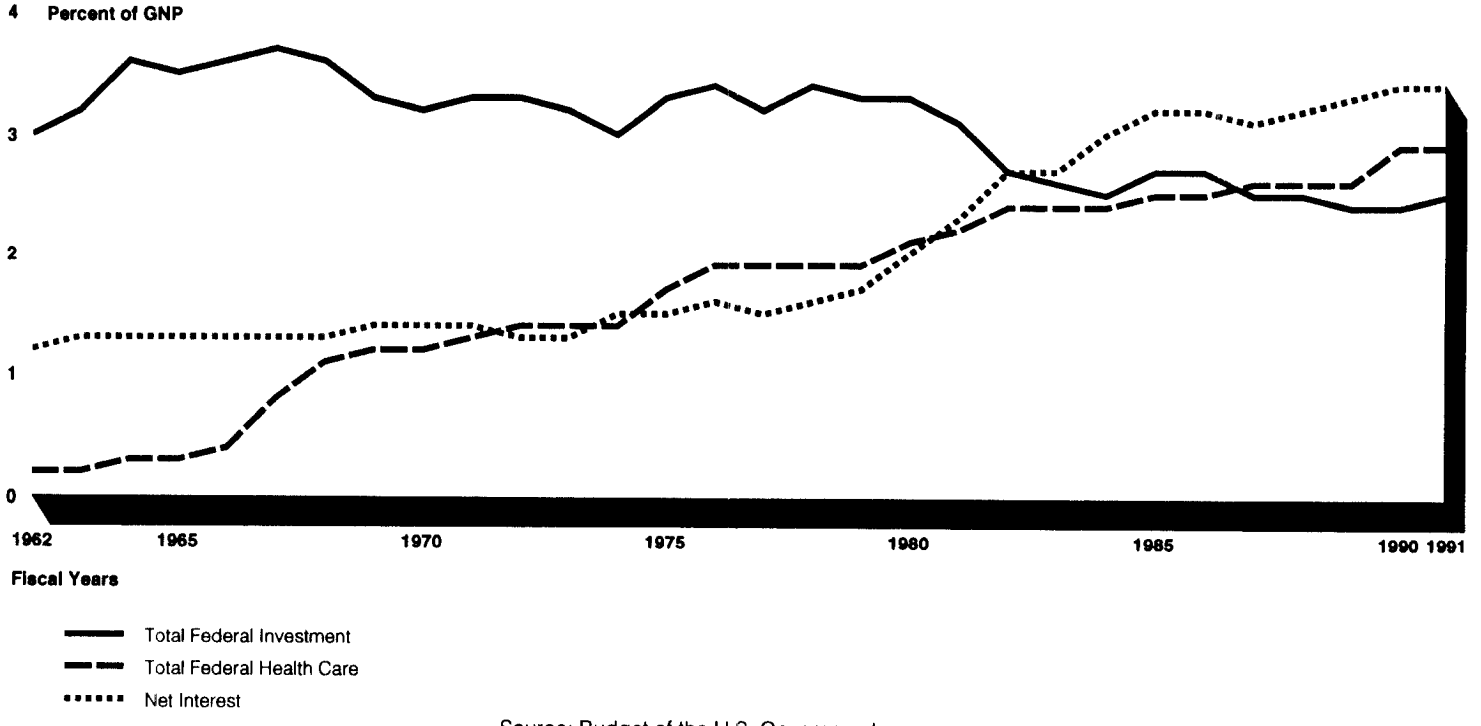
Investment in research and development creates knowledge that can lead to new products or more efficient production processes. Techniques for measuring the economic returns for research and development are not yet well developed. However, the accumulated evidence offers some support for federal spending in this area. For example, there is evidence of economic returns over the long-term for basic research and for academic research in science and engineering. However, federally funded research and development is usually evaluated on the basis of its contribution to agency missions, rather than in terms of its likely effect on the overall economy.

Trends in Federal Investment Spending

At this juncture, there is no analytic basis for determining the optimum level of federal investment nor for determining the ideal mix among physical capital, human capital, and research and development. Nevertheless, a recent slowdown in spending for these purposes has raised concerns about the increasing inadequacies of the nation's infrastructure, education, and scientific and technical abilities.

As seen in figure 5.1, between 1980 and 1984, total federal outlays for investment programs declined as a share of GNP. Since that time, they have remained relatively stable at the lower level. For comparison, we show the trend line of federal spending for health care and net interest, which were historically much smaller than investment spending. In 1983, net interest first exceeded investment spending. Health spending caught up with investment 4 years later.

Figure 5.1: Federal Investment, Health, and Net Interest Outlays (1962-1991)

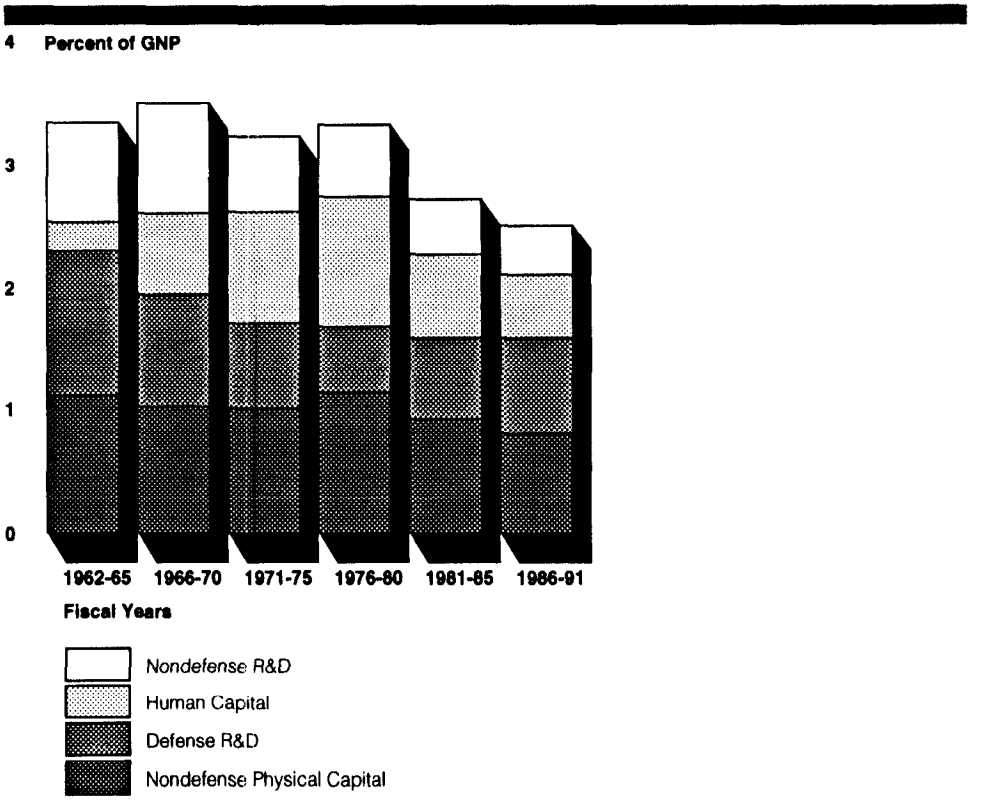


Source: Budget of the U.S. Government

The trend for the components of investment spending differs somewhat from that for the total, as can be seen in figure 5.2. Investment in nondefense physical capital has been relatively stable, expanding somewhat in the 1970s and contracting somewhat in the 1980s, but generally remaining at approximately the level of the 1960s. Defense

research and development contracted through the 1960s and 1970s as a share of GNP. Despite nominal growth in the 1980s, spending as a percent of GNP remains substantially below the level of the early 1960s. Human capital investment expanded dramatically in the 1960s and then contracted in the 1980s. Civilian research and development has declined throughout the period and now represents only about half the share of GNP that it represented in the early 1960s.

Figure 5.2: Federal Investment Outlays (1962-1991)



Source: Budget of the U.S. Government

Budget Lacks Investment Orientation

These trends represent the accumulated results of a large number of individual budget decisions regarding dozens of programs. There is little reason to believe that they represent the result of an explicit strategy or set of priorities for the government's investment program because the federal budget is not structured to facilitate decisions on that basis. The budget treats all expenditures the same and is largely indifferent to the

long term investment character of some federal activities. These activities, unlike spending for current consumption, produce various types of assets that are intended to generate future benefits to the government or to the economy as a whole.

Although federal programs vary considerably in their short- and long-term effects on the nation's economy, the present budget structure does not encourage decisionmakers to take these differences into account in allocating resources. A supplemental display is provided in the budget document listing programs and associated spending considered to have an investment character, but this information is assembled after the fact rather than being used as a basis for decisions in the executive branch or in the Congress.

In the Congress, for example, budget resolution allocations are based on the functional budget classifications, focusing on the programmatic objectives of spending such as health, defense or social services. While some functional categories have a larger investment component than others, investment-oriented programs are intermingled with consumption programs throughout this budget structure. Consequently, the Congress does not have information on the investment implications of its budgetary allocations nor the means of enforcing them. Therefore, in the present arrangements, it is difficult either to determine in the aggregate whether a proposed budget is more or less investment-oriented than previous budgets or alternative proposals or to move systematically toward a more investment oriented budget if the Congress wished to do so.

Another shortcoming is that the budget does not provide a comprehensive framework for considering the investment implications of other related federal tax subsidies and regulations. Tax expenditures are a major tool used by the federal government to influence economic activity and, in some areas, have a far more profound effect on private economic choices than direct federal spending programs do.

The Joint Committee on Taxation estimates that $375 billion of potential revenue will be forgone through some 127 tax expenditure programs in fiscal year 1992.[2] Some of these tax expenditures, such as accelerated depreciation, research and experimentation tax credit and the tax exclusion for state and local bonds for infrastructure are asserted to have a large potential impact on investment.

[2]Estimates of Federal Tax Expenditures for Fiscal Years 1992-1996 (JCS-4-91, March 11, 1991), p. 6.

Despite the potential significance of tax expenditures as part of an investment oriented budget, the decision process currently provides no formal opportunity for policymakers to consider these activities as part of the overall resource allocation process. Lacking this linkage, it is more difficult to judge the overall investment and growth implications of alternative budget proposals or to focus on choices among potentially duplicative or overlapping tax and spending programs in such areas as job creation and economic development.

Adding to the difficulty of making future-oriented spending choices is the general lack of rigorous analysis and evaluation of investment-oriented spending programs and tax expenditures. In this context, one of the most serious gaps is credible analysis, based on empirical data, of the direction and magnitude of the effect of such activities on the future productivity of the economy. While assertions of favorable effects are often found, and may be correct, the evidence supporting them is often quite scanty.

A Developmental Investment Budget Would Promote a Long-Term Growth Perspective

The creation of a developmental investment budget within the overall unified budget would provide a framework for developing, displaying, and analyzing the information needed for policymakers to consider the investment effects of budget decisions. It would also create a vehicle that could be used to structure the process of making decisions about the allocation of investment resources.

We have previously proposed a revised budget structure that would distinguish between capital and operating expenses.[3] Under that proposal, capital and operating requirements would be shown for each of three major components of the budget: general, trust, and enterprise funds. That approach retained the unified budget totals to ensure a continued focus on the government's total financial operations, which is essential for assessing overall fiscal policy.

Our views on budget structure have further evolved in the development of this report. In presenting the investment portion of the budget, we believe it is useful to make a distinction between "federally-owned capital" and "developmental investments." Table 5.1 recasts the fiscal year 1991 results into this restructured format. Although we made some adjustments in the

[3]Managing the Cost of Government: Proposals for Reforming Federal Budgetary Practices (GAO/AFMD-90-1, October 1989).

definitions for trust funds and enterprises,[4] we generally relied on OMB data in assigning activities to the various categories.

Table 5.1: Fiscal Year 1991 Budget Restructured According to GAO Proposal

Dollars in billions

Budget category	Revenues	Expenses & investments	Surplus (deficit)
Operating budget			
General	$ 742.3	$ 959.1	$(216.8)
Trust	588.0	452.1	135.9
Enterprise	124.7	185.9	(61.2)
Total	**$1,454.9**	**$1,597.1**	**$(142.2)**
Federal capital			
General	5.1	50.1	(45.1)
Trust	0.0	0.2	(0.2)
Enterprise	0.0	3.3	(3.3)
Total	**$ 5.1**	**$ 53.7**	**$ (48.6)**
Developmental capital			
General	25.2	99.9	(74.6)
Trust	0.6	0.6	0.1
Enterprise	0.0	3.4	(3.4)
Total	**$ 25.9**	**$ 103.8**	**$ (78.0)**
Unified budget			
General	772.6	1109.1	(336.6)
Trust	588.6	452.9	135.7
Enterprise	124.7	192.6	(67.9)
Total	**$1,485.8**	**$1,754.6**	**$(268.7)**

Note: Totals may not add due to rounding.

Federally-owned capital would consist of office buildings, equipment, weapons systems, and other assets that are owned by the government for use in its operations. The proper justification for investments in this category is that they will improve the efficiency and effectiveness with which government agencies carry out their missions. Thus the focus of budgeting in this area should be on ensuring that necessary capital is provided and is used as efficiently as possible.

[4]We restricted the trust fund category to those funds which, like Social Security, use earmarked receipts to fund mandatory payments. We generally limited the enterprise category to substantially self-financed business-type operations selling a product or service to the public.

Developmental investments would include grants and loans to nonfederal entities for improving physical infrastructure, research and development, and investment in human capital through education and training. A primary purpose of these activities is to improve the prospects for higher rates of economic growth in the future. That should be a principal focus of budgeting in this category, assigning available resources to programs and activities where there is the greatest likelihood of encouraging long-term economic growth.

The creation of explicit categories for governmental capital and developmental investment expenditures should not be viewed as a license to run deficits to finance these categories. In the short-run, both consumption and investment goods use economic resources, and deficit financing for either will absorb resources that would otherwise be available for private investment. Deficits also raise federal interest costs, regardless of the source of the deficit.

Furthermore, the long-run return on federal investment is less well understood than returns on private investment, and it is not subject to the same market discipline. The appropriate size of the deficit, therefore, should be determined in the context of overall fiscal policy objectives, without regard to the nature of the activities being financed within the budget. The choice between spending for investment and spending for consumption should be seen as the setting of priorities within an overall fiscal constraint, not as a reason for relaxing that constraint and permitting a larger deficit.

We are continuing to evaluate the definitions of what programs to include in the various categories in our restructured budget and expect to make further changes in the future. One area that we plan to explore is ways of incorporating tax expenditures in a more comprehensive budget framework to allow decisionmakers to consider all relevant federal resource commitments and subsidies bearing on common national objectives.

The transformation of the federal budget into a future-oriented and investment-conscious vehicle will have to go beyond the mere provision of new information. Building on these displays, the budget choices themselves need to be framed in these terms. Specifically, the capital budget totals for federal and developmental investment need to become one of the central issues in making budgetary decisions. In our view, the Congress should explicitly decide the aggregate funding desired for each

of these categories, as well as for the subcategories relating to human capital, research and development and infrastructure.

Improving Selection and Design of Investment Programs

Increased visibility for investment programs in the budget is an important step in attaining a larger objective, assuring that the proper amount of resources are provided for these programs, and that those resources are used with maximum effectiveness and efficiency. This means making choices among competing investment strategies and programs so that limited federal resources can be used in ways that will have the greatest favorable effect on long-term economic growth. Ultimately, federal investment will increase net long-term wealth only if the benefits are greater than those that could be obtained from other uses of the funds, including reducing the deficit by an equivalent amount to boost private investment.

Ideally, policymakers would have access to measures of the relative rates of return from federal investment programs as a basis for making resource allocation decisions among competing programs. As noted earlier, however, reliable data of this sort are notable primarily for their absence. Additional research is needed to establish greater confidence in estimates of the economic effects of various types of public investment. While scientific precision in this field is unlikely, greater knowledge is required if policymakers are to make informed judgments about the relative merit of alternative investment programs and of investment programs compared to consumption programs. A program found to have minimal impact on private economic growth can then be either examined in terms of its value based on other consumption-oriented criteria or phased out in favor of other strategies.

Research of this sort can also help target changes in program design needed to enhance a program's impact on productivity and growth. For example, a considerable portion of federal infrastructure investment takes the form of grants to state and local governments, and the ultimate effects are critically dependent on the way those governments respond. Numerous studies have shown that state and local governments often use federal grants to substitute for their own investment spending, thereby potentially nullifying the incremental investment contribution of the federal program. A Department of Treasury report summarizing the econometric literature in this area concluded that a large portion of

federal aid is used to supplant state and local funds.[5] In this report Treasury cited one finding that over 62 cents of every federal dollar for primary, secondary, and urban highways (not including interstate highways) was used to reduce states' own-source outlays.

Similarly, our studies have found that some tax expenditures fall short of their objectives, as the program subsidizes activities that firms would have undertaken in the absence of the subsidy. For example, we found that of the employers receiving targeted jobs tax credits, 55 percent hired eligible unemployed workers through their normal, routine business practices and were able to take the credit when those hired happened to be in the targeted groups.[6] Another study found that the research and experimentation tax credit stimulated only $1 billion to $2.5 billion of additional research and development spending at a cost of over $7 billion in forgone revenue, in part because a poorly designed incentive structure reduced the subsidy for firms increasing their spending.[7]

Such findings can have important implications for the design of programs to assure that the intended objective will be attained without excessive costs. For example, the stimulative effect of the research and experimentation tax credit was probably improved when the Congress enacted changes in 1989 to alter the basis for computing the credit.

Specific studies of this sort can make a valuable contribution where they are available. However, their cost and the limited resources available for gathering and analyzing the needed data will make it difficult to promptly produce such studies covering all the important issues. Less expensive and more timely information is needed.

The growing interest in systematic performance measures for federal agencies may prove helpful in this regard. Where it is plausible to presume (even on the basis of imprecise evidence) that a program has favorable effects on economic performance, intermediate measures of program performance that fall well short of a full-scale evaluation may be acceptable for purposes of budgeting.

[5]Federal-State-Local Fiscal Relations: A Report to the President and the Congress, Department of the Treasury, September 1985.

[6]Targeted Jobs Tax Credit: Employer Actions to Recruit, Hire and Retain Eligible Workers Vary, (GAO/HRD-91-33, February 20, 1991).

[7]The Research Tax Credit Has Stimulated Some Additional Research Spending (GAO/GGD-89-114, September 1989).

A well-developed performance measurement system for a human capital program, for example, might routinely provide data on the number of people served, their characteristics, the services provided, and the cost of those services. These data, which could be required from those operating the program, could then be linked to a national system of routine follow-up for a sample of participants to determine subsequent employment status and wages. Taken together, these data would provide a continuing basis for assessing program accomplishments and setting budgetary priorities.

The recent approach to budgeting, focusing on each year's choices in isolation, has not served the nation's needs. Even the 5-year perspective introduced with the Omnibus Budget Reconciliation Act of 1990 does not adequately illuminate the long-term implications of decisions regarding both overall fiscal policy and program priorities within the budget. It has left our elected leaders, and the electorate itself, largely uninformed of the likely consequences of today's decisions for their own future and for future generations. Only if we change the framework of the debate to one that emphasizes the long-term consequences of both fiscal policy decisions and of relative priorities within the budget, can we hope to develop a national consensus on the potentially discomforting actions needed to achieve the future we want for ourselves and the next generation.

Deficit Reduction Requires Major Change

The amount of deficit reduction needed to achieve either balance or a surplus will be difficult, if not impossible, to achieve if any major areas of spending or potential revenues are set "off the table." The very magnitude of the changes needed is likely to prompt a major debate over the role of the federal government and how to pay for it. This process, although politically painful, might result in a new consensus reducing the federal role in financing certain services or benefits. Alternatively, it might lead to a collective decision to increase federal revenues to pay for the services we expect government to provide, perhaps to a level more commensurate with the taxes levied in other industrialized democracies.

To achieve the necessary deficit reduction, decisionmakers will need to look at large and/or growing areas of the budget. Mandatory spending is a logical category for examination because it has grown to be the largest sector of federal spending. Within that category a particular candidate for review is health care spending, which has risen exponentially. In addition, Social Security outlays are projected to exceed revenues by the end of the period covered by this report (1990-2020) unless adjustments are made to revenues or benefits in the meantime. At that point, Social Security will be adding to the total deficit rather than offsetting it as is the case today. Although defense spending is already slated for reductions over the next several years, it might become a candidate for additional reductions as the nation continues to define its changing role in the world. Domestic discretionary spending, which took large budgetary hits in the 1980s, should not be exempt from scrutiny. However, in this area, the result could well be changes in the mix and focus of federal spending rather than a reduction in the amount of that spending. While a fundamental change in the federal role in domestic policy might lead to spending cuts, these could be offset if the nation decides to increase public investment programs. Finally, revenues could be addressed as part of deficit reduction package.

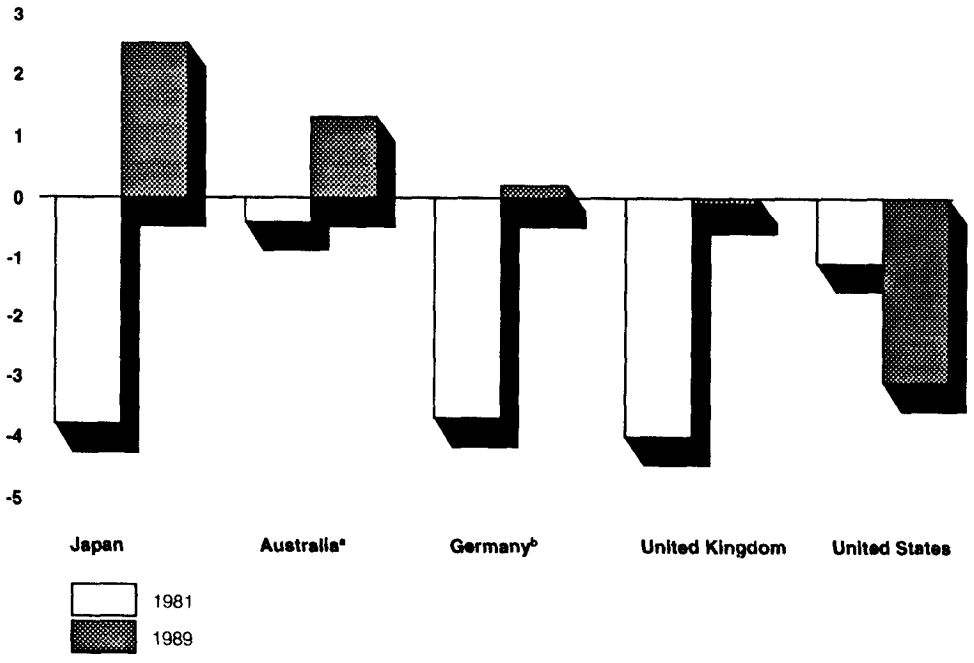
This is not to say that improved efficiency and/or management reforms should be ignored. The taxpayers have a right to demand that programs be well-managed. We have always advocated and continue to advocate improved financial management and good internal controls to provide the taxpayer with confidence that his/her tax dollars are being used as intended and that programs are being run efficiently. However, top-quality and efficient management of programs as they are currently structured will not produce enough savings to solve the deficit problem.

Deficit Elimination Is Not Unprecedented

The United States is not facing a challenge no other government has faced and met. Government deficits are not unique to this country. In fact, deficits were common throughout the industrialized community in the 1980s. In 1981, 16 Organization for Economic Cooperation and Development (OECD) member countries, including the United States, had general government deficits. (General government includes federal, state, and local governments.) However, unlike the United States, several countries that experienced high deficits were able to achieve a general government surplus by 1989.

A common standardized measurement used to compare deficits among countries is net lending—the OECD measurement most comparable to the U.S. concept of budget deficit or surplus. Figure 6.1 illustrates that deficits in the United States as a percent of GDP increased from 1981 to 1989, in contrast to what happened in four other OECD countries (Japan, United Kingdom, Germany, Australia).

Figure 6.1: Net Lending as a Percent of GDP, 1981 and 1989



[a]By 1983, Australia's deficit increased to 3.6 percent. Data for Australia for 1989 is preliminary.

[b]Data for the Federal Republic of Germany was used.

Source: Organization for Economic Cooperation and Development

Table 6.1 illustrates the magnitude of deficit change that was achieved as a percent of GDP in 1981 and 1989.

Table 6.1: Deficit(-) or Surplus(+) as a Percent of GDP

	1981	1989	Difference
Japan	-3.8	+2.5	+6.3
United Kingdom	-4.0	-0.1	+3.9
Germany	-3.7	+0.2	+3.9
Australia	-0.4	+1.3	+1.7
United States	-1.1	-3.1	-1.9

Note: Totals may not add due to rounding.

Germany, Japan, Australia, and the United Kingdom achieved deficit reduction through various measures, including targeting reduction in social welfare programs, privatizing national holdings, limiting growth of programs, increasing efficiency, and reducing federal government or agency administrative costs. Although several nations changed their tax policies, their deficits were not significantly reduced by such measures. In fact, Germany and the United Kingdom reduced receipts as a percent of GDP during the 8 year period but reduced spending by a substantially greater amount. However, in both Germany and the United Kingdom, government spending and receipts represent a much larger portion of their respective GDPs than in the United States.

As noted in our September 1990 report,[1] the ratio of taxes to GDP is higher in almost all of the other members of the OECD than it is in the United States. This is true whether one compares total tax revenue (all levels of government) in each nation or only central government tax revenue.

During periods of economic growth in the 1980s, the comparison countries maintained their deficit reduction measures so that the benefits of economic growth went directly to reducing the general government deficit to promote continued economic growth. Even during a recession, fiscal policy focused on reducing the general government deficit. During the 1983-1984 recession in Australia, means testing was reinstated for age and service pensions for persons aged 70 and over.

[1]GAO/OCG-90-5, September 12, 1990.

In each of the four countries, the elimination of deficits provided for future economic flexibility. For example, as a result of having reduced its deficit over the decade, West Germany was better positioned to handle the costs of reunification with East Germany. Reunification has meant renewed German budget deficits in the early 1990s, but revenue measures were enacted concurrently to keep the budget deficit within acceptable limits.

Germany, Japan, and Australia were reaching economic crisis and elected officials acted to change the situation. The citizenry also supported deficit reduction policies when they involved government spending cuts because the cuts affected almost all areas of government. In Japan, the public did not want to defer debt and unfairly burden future generations.

The government leadership also supported change, and in several situations, fiscal credibility was an issue in government elections. In each of the comparison countries, the national government took the lead in reducing expenditures.

Although many of the changes implemented in these countries are not applicable to our situation, we can learn from their deficit reduction experience. These countries recognized government deficits as a major threat and adopted changes to abate that threat, notwithstanding the temporary discomfort that these changes imposed on taxpayers and program beneficiaries. Those discomforts were accepted as the short-term price to be paid for long-term economic growth and stability.

Structural Changes in Policies Are Necessary

GAO's work has identified a number of opportunities for savings to be achieved through more efficient administration of current policies and programs. Further opportunities for efficiency savings will undoubtedly be revealed in future work by GAO, the Inspectors General, and others. In addition, GAO has called for a major strengthening of internal controls and significant improvements in federal management systems to prevent fraud, waste, abuse, and mismanagement.

These efforts are important in their own right to assure that taxpayer resources are used efficiently, effectively, and appropriately. They also will contribute to the attack on the deficit, and by highlighting the areas of highest risk, can provide information which will be helpful in controlling potential future increases in the deficit. By themselves, however, improved efficiency and a sustained attack on fraud, waste, abuse, and mismanagement—while critically needed—are not enough. The deficit is much too large to be solved in that fashion. Moreover, other work by GAO

has identified additional claims on budgetary resources in excess of the baseline that appear to outweigh the identified savings from these sources.

Table 6.2 illustrates this point. Our estimates of savings achievable in 2000 through more efficient management of today's policies and programs are shown in the last two columns, and include such items as joint military service sharing of common supply systems and improved enforcement of tax laws. The first two columns show estimates of the increased spending over and above the baseline necessary to achieve stated policies or fulfill program mandates. This category includes items such as cleanup of the nuclear weapons complex and investment authorized by the Intermodal Surface Transportation Efficiency Act of 1991.[2]

Table 6.2: Costs and Savings to the Baseline for the Year 2000 Identified in GAO's Work

Dollars in billions

	Additional costs		Potential savings	
Programs	**High**	**Low**	**High**	**Low**
Defense	0.0	0.0	9.4	9.4
Nuclear Weapons Complex	4.5	3.0	0.0	0.0
NASA	4.3	4.3	0.0	0.0
Environmental Protection	2.2	2.2	0.0	0.0
Transportation	2.1	2.1	0.0	0.0
Education & Children	7.6	3.1	1.5	0.6
Health	0.0	0.0	4.2	4.1
Tax Compliance	0.0	0.0	2.9	2.9
Federal Employees Pay	9.7	1.8	0.0	0.0
Other	0.9	0.9	0.4	0.3
Total	**31.3**	**17.4**	**18.4**	**17.4**

Note: Totals may not add due to rounding.

These estimates are based only on our work. The reports of the Inspectors General in the most recent two years, for example, have identified approximately $8 billion in savings, although some of these savings overlap with those we identified. Better cost accounting and more fully developed performance measurement systems could improve our understanding of the relationship between management improvements and program outcomes, but improvements in program measurement and operations are insufficient to deal with deficits of the magnitude facing the

[2]To estimate the range of costs, we used the CBO summer 1991 baseline, extended it to 2000, and adjusted it to conform to the discretionary spending limits in the 1990 Budget Enforcement Act.

nation today and in the future. Tough decisions about the goals and design of government programs must be made.

Fiscal Policy Change Must Focus on the Deficit's Sources

As we observed in chapter 4, meaningful long-term deficit reduction means making painful choices now to avoid even more pain in the future. The sizeable deficit reduction called for in the alternative fiscal policy paths will be difficult to achieve if any of the major factors responsible for the deficit are not addressed. Gramm-Rudman-Hollings failed to reduce the deficit in part because the sequester mechanisms did not apply to major deficit drivers such as interest on the debt, Medicaid, and the general fund subsidy to Medicare. Although this report is not intended to present detailed policy options to reduce the deficit, it is clear that the magnitude of the reductions required will inevitably prompt debate about both the appropriateness of the federal role in a number of key policy areas as well as how to pay for it.

Containing Mandatory Spending Involves Control of Health Care Costs and Resolving Future Social Security Financing Issues

Mandatory spending is expected to reach $751 billion in fiscal year 1993, fully half of federal outlays for that year. One of the two fastest growing components, interest payments, can only be reduced by actions taken in other areas.

Health care, especially Medicare and Medicaid, is the major programmatic growth component in the entitlements category in the 1990s and beyond. Federal health care costs for Medicare and Medicaid are projected by CBO to grow from 13.5 percent of the budget in 1992 to 25 percent by 2002. Department of Health and Human Services data indicate that Medicare and Medicaid outlays will grow as a percent of GNP from 2.8 percent in 1990 to 7.1 percent by 2020, as the nation's growing population of elderly add new financial burdens to an already overburdened health care financing system.[3]

Any serious deficit reduction effort must come to grips with the runaway spending in Medicare and Medicaid, but these costs are bound up in the nation's overall approach to supplying and financing health care. Restructuring eligibility and benefits for the federal programs might constrain federal outlays, but only by shifting those costs to others, an approach that has proven in the past to be no more than a temporary palliative. We have concluded that the only workable approach is to

[3]In this report we used data from the 1991 report of the Social Security and Medicare Trustees. The 1992 report, which is somewhat more pessimistic, became available too late to be reflected in this report.

control underlying costs, which will require a significant reform of the system. Such reform is vital, not only because of the role of health care in the overall economy, but also because of the central importance of health care cost control in managing the federal budget.[4]

Countries that have been more successful than we in controlling health care costs have usually put major sectors of their health care systems on budgets. While such strategies show promise, they require a far greater degree of government involvement in supervising and regulating health care than Americans have traditionally preferred. As an alternative, some have advocated greater reliance on the promotion of managed care networks and on competition among such networks to control costs. Such strategies necessarily involve some restriction on consumer choice. We do not know how effective they might be.

Experience both here and abroad suggests that successfully containing health care costs is as difficult a challenge as any that our political system has faced in recent times. It involves technical choices with implications that are not well understood, either by the experts or by average citizens, and it implies policies that will constrain the future growth in incomes of important segments of society. Such changes will require a broad political consensus that recognizes both the importance of dealing with the issues as well as the need to appraise honestly the merits of conflicting points of view.

Social Security is now poised to become the largest single federal program and, as such, will be a candidate for review as part of a long-term deficit reduction program. The elderly are expected to represent a larger proportion of the American population by 2020, when the majority of the post-World War II baby boom generation will be reaching retirement age. This, in combination with the proportionate decline in the working-age population, will mean that financing current benefit levels for this larger group will represent a significantly larger burden for the next generation of workers. Specifically, between 1990 and 2020, elderly Americans will increase from over 12 to almost 17 percent of the total population, while those of working age (between 16 and 64) will shrink from 64 to 59 percent. (See appendix II for further discussion of demographic factors affecting Social Security and other programs for the elderly.)

[4]The 1991 projections indicate that the fund balances of the Hospital Insurance (HI) Trust Fund (part A of Medicare) will be exhausted shortly after the turn of the century. At that point (if not before) the inability to continue paying benefits will force corrective action. If that produces effective cost containment or additional federal revenue, it would have a favorable effect on the deficit. However, if the HI problem is solved by shifting some of the existing Social Security payroll tax to the HI fund, it would not affect the total deficit and would accelerate future problems in financing Social Security.

Since 1984, the Social Security program has not only paid its own way on a cash basis, but it has also been accumulating large trust fund balances which will help with the anticipated increase in retirees in the mid-21st century. That bulge in retirements is already reflected in a 75-year actuarial deficit for the Social Security program, even as the balances in the trust fund continue to accumulate. The trust fund balance will be drawn down beginning in 2017 and will be exhausted by 2041 absent changes in benefits or payroll taxes. During this period, further adjustments in revenues or benefits will be required. Early deficit reduction would make this choice easier by boosting economic growth and increasing the economic well-being of future workers, thereby reducing the prospective burden of any payroll tax increases.

If considered only from the standpoint of financing Social Security, the adjustments needed to restore long-term balance could be postponed beyond the period covered by this report (1990-2020) because of the huge trust fund surpluses that will have accumulated in the meantime. Any such adjustments that took effect during this period would increase that surplus and thereby improve the unified budget picture. However, they would not directly reduce the federal funds deficit that is the principal source of our fiscal problem.[5]

Discretionary Spending Reductions Must Hinge on Defense Policy

In contrast to mandatory spending, spending for discretionary programs—defense, domestic, and international—has fallen, from over 10 percent of GNP in 1980 to 7.4 percent by 1995, assuming full compliance with the spending caps in the Budget Enforcement Act. Reductions in these programs reflect both the relative decline of defense following the buildup in the early 1980s as well as the cuts made during the entire period in domestic discretionary spending.

Although defense outlays have declined as a percent of GNP (see chapter 2) and have not directly contributed to the recent growth of the deficit, defense spending continues to represent a large part of the federal budget and therefore must be considered a potential area for future savings. Savings are expected in defense as a result of changes in the international arena, but the magnitude of these savings will depend greatly on what size

[5]One approach that would affect the general fund would be full taxation of Social Security benefits, with the proceeds deposited in the general fund. If Social Security benefits were taxed the same as other pension income, the additional revenue yield would be approximately $10 billion in 1993 increasing to $27 billion in 1997. In addition, the current proceeds from the partial taxation of such benefits (about $6 billion), which are currently deposited in the trust funds, could be shifted to the general fund.

and structure force is deemed necessary and affordable to ensure national security in a rapidly changing world.

The President recently proposed defense reductions equal to approximately $9 billion below the enacted 1992 levels. Deeper cuts have also been proposed, premised on a differing view of the nation's defense profile for the post-Cold War era.

Although we believe effective deficit reduction must include reductions in defense spending, we do not mean to suggest that nondefense discretionary programs should be removed from the debate and that no further savings could come from these programs. No federal activities should be kept off the table in the reexamination of federal priorities vis-a-vis deficit reduction. However, this category of outlays is relatively small and has received disproportionate reductions in recent years. In addition, enhancing the federal role in improving the environment for investment arguably calls for increased funding for federal research, infrastructure, and human capital programs included in domestic discretionary expenditures. Within this category the question may be less reducing the total than changing the mix of spending.

Deficit Reduction Will Require a Re-Examination of the Federal Role

Changes of the magnitude necessary to right national fiscal policy will require hard choices in areas touching most Americans.[6] In our view, the analysis in this report demonstrates that the fundamental trade-off between the federal role, the revenues to finance that role, and the nation's long-term economic health cannot be escaped. The necessary choices can be postponed but the longer they are postponed the harsher those choices become.

As noted earlier, both the Medicare and Social Security programs have their own dynamics. The impending insolvency of the Medicare program shortly after the turn of the century will force action at that point, if not before, to reduce costs or increase revenues with potentially favorable effects on the total deficit. In Social Security that point will not be reached until after the period covered by this report because of the accumulated

[6]We presented a variety of approaches to cut spending and increase revenue in The Budget Deficit: Outlook, Implications, and Choices (GAO/OCG-90-5, September 12, 1990) and its appendix (GAO/OCG-90-5A, September 28, 1990) and believe that the discussion in these volumes continues to provide a useful framework for considering deficit reducing policies. In addition, the Congressional Budget Office published Reducing the Deficit: Spending and Revenue Options in February 1992 which also describes potential policy options.

trust fund balances. In drawing down those balances, however, Social Security will add to the deficit rather than offsetting it as is the case today.

The extent to which policymakers succeed in constraining the deficit on the spending side of the budget will define the fiscal policy path that can be achieved without additional revenues. It appears to us, however, that only a dramatic reduction in the federal role with respect to financing health care, and domestic and defense discretionary programs would permit the balance or surplus paths to be achieved without additional revenues. Even the muddling through path, if pursued without additional revenues, will force the same sort of reduced role, though on a gradual (but increasingly intense) basis. The changes necessary call for a serious discussion about the roles and the allocation of responsibilities between the different levels of government and between government and the private sector. What services and activities do we wish from government, and how do we wish to pay for them?

Few in our nation could remain unaffected by these changes, and many will express their vehement opposition to them. And yet they are necessary. The experience of previous years' deficit reduction agreements reveals that those painfully negotiated agreements did not solve the problem, largely because they did not address the drivers of the deficit. Tinkering around the edges only guarantees that we will have to deal with the problem again. To ensure an economic future for our children, these mistakes must not be repeated.

Observations and Conclusions

The purpose of this report is to examine the ways in which budget policy affects the nation's long-run economic future. The analysis centers on the role of the budget in determining the pace of investment and thus influencing the rate of growth of productivity and potential output of the economy. Two aspects of the budget are most relevant. One is the aggregate deficit or surplus, which directly affects the nation's supply of savings to finance productive investment in the economy. The other is the government's own investment activities, supporting infrastructure, the development of knowledge, and the growth of human capital, which play an important role in providing an environment conducive to investment and increasing productivity.

Implications of Current Policy for the Deficit

In chapter 4, we analyzed the outlook for the budget and the economy of continuing along the present course. That analysis demonstrates that a no action policy with regard to the deficit is unsustainable. If continued through the year 2020, even with the assumption of an unlimited ability to borrow from abroad, it leads to a steady erosion in the growth rate of the economy and eventually to a contraction of the economy. In the more likely event that, at some point, foreign investors would refuse to supply additional capital to support the U.S. economy or would do so only at rapidly escalating interest rates, an economic crisis would probably be precipitated at an earlier time.

We also assessed the implications of a muddling through policy, involving recurring efforts to reduce the deficit, perhaps along the lines of the steps taken in 1990, that succeed in constraining the deficit to 3 percent of GNP, but without eliminating the deficit entirely. We conclude that this, too, is untenable over the long term. Because of the continuing growth of entitlement programs and the growing burden of interest on the ever-growing debt, the actions needed to stay within the 3 percent of GNP constraint become ever more difficult, while the budget resources available for carrying out government's national security and domestic program responsibilities steadily contract. While the implications for the national economy of the muddling through approach are less devastating than the no action scenario, they still imply an economy that grows only slowly, with ominous implications for the ability to sustain both the commitments made to the retiring baby boomers and a satisfactory standard of living for the working age population in 2020 and beyond.

Because of the evident inability to sustain either a no action or a muddling through approach to budgeting in the long term, we analyzed the

implications of restoring budgetary balance early in the 21st Century and of going beyond this to achieve a temporary surplus which is then phased down to balance by 2020. Each of these paths, once established, appears sustainable, yielding a significantly more rapidly growing economy. Of the two, the surplus path is more advantageous in two respects. First, the additional national savings represented by the surplus, reflected in a declining burden of public debt, makes possible a higher pace of domestically financed capital investment, adding to the economic growth rate. Second, the declining burden of interest on the debt frees up budgetary resources, making it much easier to sustain that path, once it is established.

From this analysis, we conclude that eliminating the budget deficit and, if possible, achieving a budget surplus should be among the nation's highest priorities. Because of the accumulating burden of interest on the mounting public debt, it is important to move rapidly in this regard. Postponing action only adds to the difficulty of the task.

Yet budgeting practices of the recent past do not facilitate for the long-term approach that would be necessary, focusing instead upon short-range deficit reduction. We believe that, at the macroeconomic level, the budget should provide a long-term framework for moving away from deficits. However, the federal planning horizon has not extended past 5 years, nor has it been grounded upon a linkage of fiscal policy with the long-term economic outlook.

Budgeting for long-term economic growth should become a central feature of the federal budget process, requiring a much longer-term planning horizon than is now in place. Although the multiyear focus of the Budget Enforcement Act of 1990 (BEA) is an improvement over the previous year-by-year budgeting that was characteristic of the way the original Gramm-Rudman-Hollings approach was implemented, planning for longer-range economic goals will require exploring the implications of fiscal policy for as much as 30 years or more into the future. A BEA-like process of 5-year budget agreements could be implemented in the context of a 20-to-30 year fiscal policy path.

Given the tendency during the last decade to focus on very short term budget policy, the realism of proposing much longer time periods may be viewed with legitimate skepticism. However, commitments to long-term goals are not alien to American society. For example, the interstate highway program took a generation to plan and complete. The Social

Security system has been structured with very long time horizons in mind, and has undergone major restructuring in both 1977 and 1983. As a nation, we also anticipated, and as a result met, the educational capacity needs of the baby boom all the way from primary school through college.

The estimation process underlying budget decisionmaking will have to improve to support such long-range thinking. As we have observed in a recent report,[1] estimating problems under our current system reflect not only the uncertainties of economic forecasting but also a range of factors well beyond economic variables. A more rigorous approach to agency outlay estimates, greater use of modeling techniques, and realistic assumptions about future claims on budgetary resources—including those not provided for in current law—could help assure greater accuracy in budget projections, providing the underpinning for a medium or long-range perspective.

Radical change in the budget process is not essential to address tax and spending choices necessary to follow fiscal paths toward budgetary balance or surplus. Although process reform could prove beneficial, available fiscal choices are already well known[2] and could be made under existing rules and practices. However, we do believe that a process that explicitly links current fiscal policy to its effects on long-term economic growth would help provide the impetus for addressing this persistent national fiscal problem.

Once a decision is made to follow a fiscal policy path with deficit reduction as a key element, the government must focus upon effective means to reduce the deficit. One of the key driving forces of deficit growth is the continuing escalation of costs of the government's health care financing programs. Failure to control the costs of Medicare and Medicaid will make it very difficult—if not impossible—to achieve even the muddling through scenario without dramatic increases in taxes or dramatic cuts in other programs, to say nothing of achieving the balance or surplus paths. Thus the government's health care policies must play a central role in establishing the nation's long-term fiscal policy. However, as our other work has demonstrated, the future of Medicare and Medicaid costs is inescapably bound up in the nation's overall approach to supplying and financing health care. Based on that work, we have concluded that the

[1]Budget Issues: 1991 Budget Estimates: What Went Wrong, (GAO/OCG-92-1, January 15, 1992).

[2]See, for example, The Budget Deficit: Outlook, Implications, and Choices (GAO/OCG-90-5, September 12, 1990) or CBO's February 1992 report, Reducing the Deficit: Spending and Revenue Options for a variety of deficit reduction options.

only workable approach entails fundamental reform of the health care system, in which the objective is to control the underlying costs, rather than to shift them from one sector of the economy to another. The analysis in this report demonstrates that such reform is vital, not only because of the role of health care in the overall economy, but also because of the critical importance of health care cost control to the ability to manage the federal budget.

Implications of Federal Investment Spending

The second dimension in which federal budgetary policy affects long-run economic growth and future standards of living involves the composition of spending. It is clear that some spending supports current consumption while other spending is of an investment character, intended to increase overall input in the future. It is generally recognized that investment in public infrastructure, human capital, and research and development can play a vital role in creating an environment conducive to investment and growth. However, the analytical foundation for determining the long-run economic consequences of choosing to spend money on one program or another is not well developed.

At this point, we can characterize investment-oriented programs as being more likely to promote future economic growth than consumption programs, but we can quantify the differences only rarely and with little confidence in the precision of the results. Nevertheless, if decisionmakers are to move toward a future-oriented approach to budgeting, we believe it is important that they begin focusing on the choices arrayed in these terms. The decisions about how the available budgetary resources are deployed, and the implications of those choices for the future, should be an important complement to a future-oriented approach to decisions about aggregate fiscal policy.

To encourage a continuing focus on the choice between investment and current consumption throughout the budget process, we conclude that it is necessary to restructure the way budget data is presented, highlighting the amounts proposed for current operations, government capital spending, and developmental investment. However, such a structure of budget data must not detract from a focus on the future implications of aggregate fiscal policy. The decision about the level of spending for capital and developmental investment must be seen as a choice about how to deploy available budgetary resources, not as a justification for increasing total spending and the deficit. Accordingly, we believe that the government should move toward a budget presentation that retains the unified budget

totals as a basis for decisions about aggregate fiscal policy while also focusing on the spending choices that must be made in terms of their operating, capital, and developmental character in lieu of the functional categories that are currently employed.

In summary, we conclude that the one-year-at-a-time focus of budgeting has failed to serve the nation's needs. To build the foundation for a more productive nation in the future, it is essential that the budget process adopt a more future-oriented focus with respect both to aggregate fiscal policy and to the composition of spending.

The Economic Growth Model

GAO's analysis of the implications of alternative fiscal policy paths relies in substantial part on an economic growth model developed by economists at the Federal Reserve Bank of New York (FRBNY).[1] In its essential features, the model is a close relative of others that have been used to investigate issues akin to those that motivate this report.[2] Although these basic features reflect an approach to understanding economic growth that was originally developed in the 1950s, the FRBNY model also has features that facilitate the exploration of some of the differing interpretations of the sources of growth that have been put forward in the intervening years.

Sources of Economic Growth

The model incorporates simple representations of three sources of economic growth: increased labor input, capital accumulation, and the advance of "total factor productivity." The latter is a catch-all category reflecting sources of growth not captured in straightforward measures of aggregate labor input and aggregate physical capital employed. As discussed in chapter 3, these include not only the improvements in products and processes yielded by advancing technology, but also improved quality of labor and capital inputs, reallocation of inputs to uses where they are more productive, and improvements in physical and social infrastructure.

Increased Labor Input

Economic growth is partly dependent on how much labor is contributed. If demographic trends favor an increase in the working age population relative to dependents, labor input can rise apace. Other factors such as unemployment, choices between work, education and leisure, the general level of health, and the availability of support services such as transportation and day care also affect the number of hours worked for a given population size.

Capital Accumulation

Investment in physical capital makes workers more productive by providing them with more and better tools and equipment. Capital accumulation is positive only if new additions to the nation's stock of plant and equipment are more than adequate to replace the equipment that

[1]Ethan S. Harris and Charles Steindel, "The Decline in U.S. Saving and Its Implications for Economic Growth," FRBNY Quarterly Review, Winter 1991, pp. 1-19. The principal equations of the growth model are set forth in the appendix to the article.

[2]See, for example, Henry J. Aaron, et. al., Can America Afford to Grow Old? (Washington, D.C.: Brookings Institution, 1989); Keith M. Carlson, "On Maintaining a Rising U.S. Standard of Living Into the Mid-21st Century," Federal Reserve Bank of St. Louis Review, v. 72 (1990), pp. 3-16.

is wearing out. When the labor force is increasing, still further investment is needed if the level of capital per worker is not to fall.

Other Sources: Total Factor Productivity Growth

In the past few decades, economists have devoted much research effort to understanding the many influences on the growth of total output that are not captured by the simple measurements of the aggregate amount of hours worked and physical capital employed. Although there is considerable consensus on the list of such influences and on the fact that they are collectively important, there is no similar consensus regarding their relative importance or the mechanisms by which the effect on growth is realized. Under these circumstances, and after some exploration of alternative assumptions about the causes of total factor productivity growth, we ultimately chose the "traditional" formulation incorporated in the FRBNY model for our main projections—a simple trend growth of 1 percent per year in total factor productivity.

From a policy point of view, forms of investment that produce "spillover" benefits are of particular interest, since these are areas where the investment incentives presented to individuals and firms may not reflect the full social benefits of those investments. Investments in elementary and secondary education, in basic science and technology, and in machinery have all been argued to have this characteristic.

In developing our projections, we made key assumptions about labor inputs and savings. First, our labor input assumptions follow those of the Social Security Administration actuaries that underlie the economic assumptions of "Alternative II" in the 1991 Annual Report of the Federal Old-Age and Survivors Insurance and Disability Trust Fund.[3] These projections reflect changes in the working age population, particularly the increasing rate of retirement by the baby boom generation after 2010. They also reflect projections of labor force participation rates, unemployment rates, and weekly hours worked.

Second, our basic assumption about the gross saving rate is that the gross savings generated in the private sector plus the surpluses of state and local government remain constant at 16.5 percent of GNP. This level is above that achieved recently, but well below the high average level of 19.0 percent that was attained in the period 1976-84. The overall gross saving rate is then 16.5 percent plus the federal surplus (negative for deficit).

[3]The 1992 report, with somewhat more adverse cost trends, was received too late to be used in this work.

The FRBNY model from which we started also incorporated a simple representation of net financial flows between the U.S. economy and the rest of the world. Essentially, the rest of the world is treated as analogous to a bank where the U.S. can make deposits or withdrawals or draw on a credit line. Every year there are income flows to or from this bank, corresponding to interest received on deposits or paid on advances. The quantity corresponding to the bank balance (positive or negative) is called the net international investment position (NIIP) of the United States, while the net flow of interest on the balance is known as GNP originating in the rest of the world.[4]

Since the FRBNY model was formulated, there have been both major data revisions and major conceptual changes regarding the international accounts of the United States. One major conceptual change is that interest paid on foreign-owned securities of the U.S. government is now treated as an import of factor services and is part of the rest of the world account, a departure from its previous treatment as a transfer payment. Another change is that imports and exports of factor services are now excluded from net exports reported as a use of GDP, and are identified separately in the rest of the world account. These developments necessitated some modification of the FRBNY treatment of the foreign sector, and in fact facilitate a simple treatment of that sector. Our revised version is akin to the original in spirit and not dramatically different in its predictions.

A particularly important assumption concerning the foreign sector is represented by the equation that allocates gross saving between its foreign and domestic investment uses. This equation, accepted from the FRBNY model, states that net foreign investment (NFI) as a percentage of GNP is given by the equation

$$NFI/GNP = -.015 + .333*(s - .13)$$

where "s" is the gross national saving rate, S/GNP. Although this equation is broadly consistent with the experience of the 1980s, its future accuracy is open to question. Particularly as the global economy becomes increasingly integrated, differences in rates of return on real investment are likely to become increasingly influential determinants of international flows of savings.

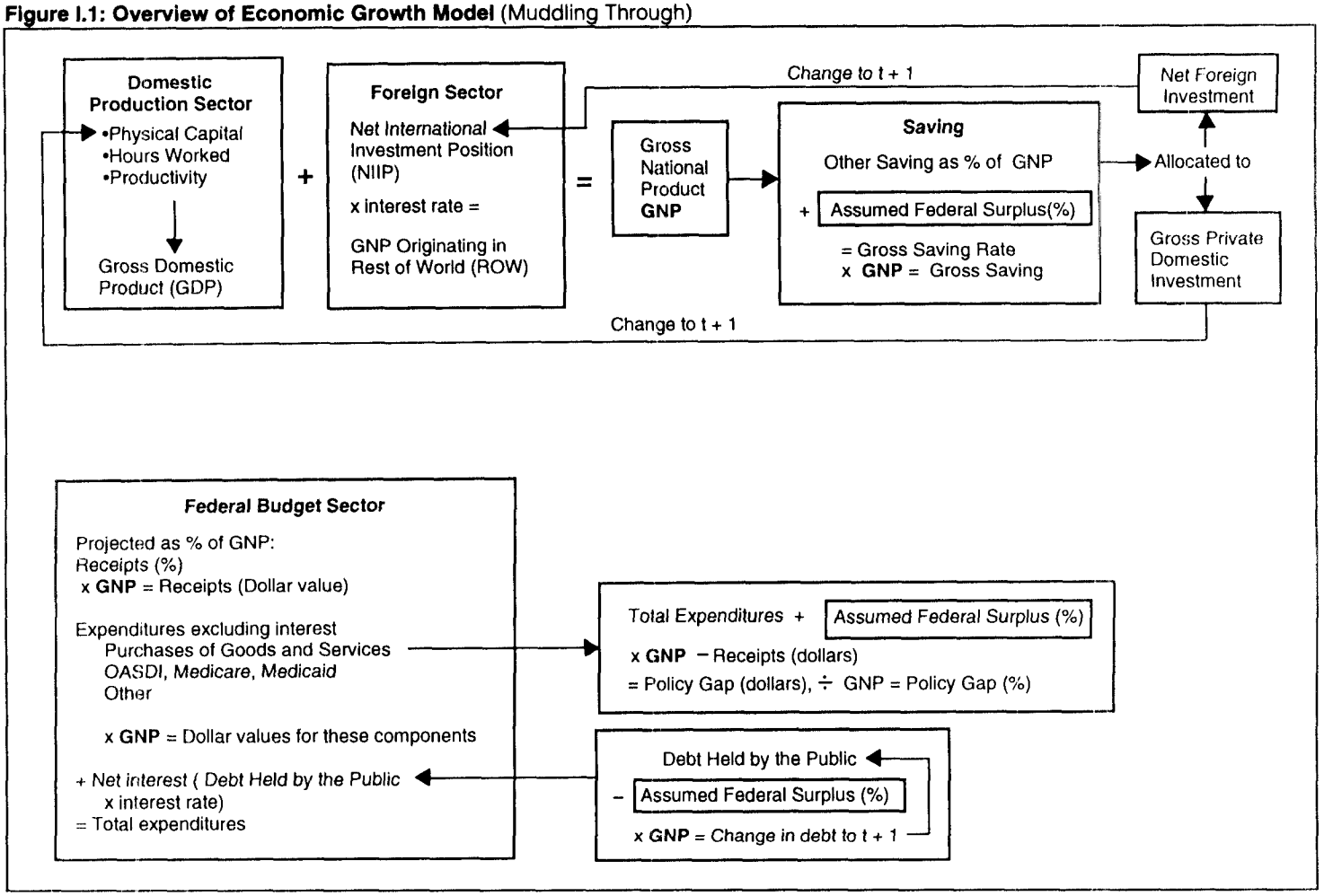
[4]The situation is actually more complex than the bank analogy suggests. Nevertheless, the bank analogy is a valid guide to the likely long-term consequences for international income flows of large changes in the net international investment position.

It should be emphasized that any attempt to model the foreign sector of a given economy taken in isolation necessarily involves a highly stylized and static representation of the international economic environment. A more sophisticated approach, which models a changing international environment in detail, would be more satisfactory from a logical point of view but would confront the same major uncertainties concerning the actual course of world economic development, exchange rates, and rates of return. For these reasons, the results of the projections that relate to the international account should be treated with particular caution. They are at best illustrative of what the future might hold. The appropriate level of caution is especially high for the no action and surplus scenarios, which involve the most radical changes in the relative proportions of physical capital, federal debt, and net claims on foreigners.

Overview of the Model

Figure I.1 provides an overview of the full model employed in our projections. The FRBNY model from which we started included the Domestic Production Sector and (in slightly different form) the Foreign Sector shown in the figure. Because that model was developed primarily for the purpose of exploring the implications of different assumptions about saving, the gross domestic saving rate (gross saving/GNP) plays a central role in it. To permit a closer analysis of impact of federal budgetary policy on the economy, we appended to this scheme a simple representation of the influence of the federal budget and the national debt. The specific representation of the budget follows the logical structure of national income accounting, which differs slightly from the budget categories that are familiar under current law.

Figure I.1: Overview of Economic Growth Model (Muddling Through)



As described in the report, we applied the basic model to explore four different scenarios, each of which is significantly different in its key assumptions and resulting outcomes and also slightly different in its logical structure. Figure I.1 relates directly to the muddling through scenario. Of the four projections that we present, muddling through is the closest to being an attempt at actual prediction of the budgetary and economic future. Its economic policy assumptions involve neither an implausible indifference to unfavorable economic developments nor a foresighted effort to address long-run problems before serious symptoms appear.

As the figure indicates, the Assumed Federal Surplus as a percentage of GNP links the major sectors of the model. (This surplus is represented by a negative number in many individual years of our projections; i.e., it is actually a deficit.) It appears as the key determinant of the overall gross saving rate, given an assumption that non-federal sources of saving contribute a constant percentage of GNP. In this role, it influences both the amount of physical capital put in place in the domestic economy (gross private domestic investment) and the net change in U.S. claims on the rest of the world (net foreign investment). By both channels, it affects GNP in the following year. It also appears as a key factor affecting the projected path of the debt held by the public, and hence of the level of net interest payments, a component of federal expenditure.

Finally, because the model incorporates independent assumptions about the time paths of federal receipts, expenditures, and the assumed surplus (or deficit), there is generally an implied inconsistency: expenditures exceed the sum of the projected receipts and the assumed surplus. We call this discrepancy a policy gap. It is the amount by which receipts would have to be increased, or expenditures reduced, to actually achieve the assumed surplus. Strictly speaking, the national income accounting framework implies that the projection as a whole remains internally consistent only if, year by year, the policy gap is precisely closed by some combination of increases in receipts and decreases in expenditures other than federal purchases of goods and services (which includes compensation of federal employees). Whether a reduction in federal purchases of goods and services is part of the program to eliminate the policy gap makes only a modest difference so far as the model's projection of growth is concerned. In practice, it would make a difference whether such cutbacks were targeted on consumption-oriented or investment-oriented federal programs.

The GNP itself is another major source of connection among the sectors of the model. In each annual time period, the GNP determined by the domestic production sector and the foreign sector appears as a multiplier of key percentages elsewhere in the model, thus determining the dollar values of the corresponding variables. The variables determined in this way in the muddling through scenario include gross saving, federal receipts, and all federal expenditures except net interest. Also, the GNP multiplies the assumed federal surplus percentage to determine the change in the national debt.

The results of the model that are reported in dollars are reported in constant 1992 dollars. The original FRBNY model was constructed before the recent re-basing of the national accounts on a 1987 base, and its real dollars are constant 1982 dollars. Conceptually, this remains the case, and the restatement to 1992 dollars is for convenience of interpretation. In service of the same purpose, our 1992 dollars results reflect actual and projected inflation for 1991 and 1992, rather than the 4 percent inflation rate assumed in the model. Quantitatively, our 1992 constant dollar values are derived from 1982 constant dollar values by multiplying by 1.402.

In summary, the model generates the projected future one year at a time, with the key mechanism being the effect of the saving rate on the domestic capital stock and on the relationship between the levels of U.S. investment abroad and foreign investment in the United States. The level of the federal budget deficit is a major determinant of the saving rate and hence of the growth of output. However, the level of the national debt, the international investment position, and the general fiscal situation of the federal government are also strongly shaped by the budget deficit, apart from the indirect effects associated with changes in economic growth.

Use of CBO Budgetary Projections

For the years 1991-1995, our figures for federal receipts and expenditures and for debt held by the public are derived from data presented by the Congressional Budget Office (CBO) in The Economic and Budget Outlook: Fiscal Years 1993-1997. In general, we followed the dollar values in appendix C of that document, after converting from the fiscal year basis to an approximation of the corresponding calendar years. The exception is our expenditure category Social Security and health, which was obtained as a percentage of GNP from the Social Security Administration (Social Security) and the Health Care Financing Administration (Medicare and Medicaid). Our Social Security expenditure figures relate only to the transfer payment component of Social Security expenditures—a small adjustment in the projected percentages reflects this fact. The other category, as a percentage of GNP, is computed as a residual to reconcile the independently derived estimate for Social Security and health with the remainder of CBO's estimated total expenditures after excluding the categories federal purchases of goods and services and net interest.

The reductions in discretionary spending required by the Budget Enforcement Act in 1994 and 1995 are reflected in our analysis as policy gaps for those years.

Receipts are projected to follow CBO's projections in dollar terms to 1995. Thereafter, they continue at the same percentage of GDP reached in our projections at that point, which is 20.8 percent. Receipts as a percentage of GNP vary from this figure both within and across our four projections because of changing relationships between GNP and GDP.

Differences in Assumptions Underlying the Projections

Since our muddling through projection of economic growth corresponds closely to the GNP growth projections made by actuaries at the Social Security Administration (SSA) and the Health Care Financing Administration (HCFA), the constant dollar values of expenditures that emerge from this projection also correspond closely to those projected at SSA and HCFA. We maintain these same constant dollar values for Social Security and health expenditures in the other projections; only differences in economic growth among the projections underlie the difference that emerge in the ratio of these expenditures to GNP.

In the balance and surplus projections we also freeze most other components of federal expenditure at the same constant dollar values that emerge from the muddling through projection. The expenditure item for net interest paid is the only exception to this rule; in each case net interest is governed by the actual development of the national debt in that projection.

In the no action projection, the economy grows very slowly and even turns toward negative growth at the end. If federal expenditures were held constant at the levels projected under muddling through, the drag of the deficit on the economy would be even greater. Thus, the poor performance of the economy in the no action projection occurs in spite of the fact that federal expenditures (other than Social Security, health, and net interest) are mirroring the slow (or negative) growth of the economy.

As explained above, federal receipts are projected to continue in the next century at just under 21 percent on a NIPA basis. We also assume in the no action and muddling through scenarios described in the report that federal expenditures other than those for interest, health care, and Social Security will continue at roughly the same percentages of GNP now projected by CBO for the mid-1990s. More specifically, we assumed offsetting changes in federal purchases of goods and the residual category other, with the

former decreasing because of falling defense expenditures.[5] Together, these two expenditure categories correspond to 12.3 percent of GNP in the years 1995 and later, down from 12.6 percent in 1990.

The differing paths of the gross saving rate, derived from the differing paths of the budget deficit described in the report, are the dominant source of differences among the projections in terms of the growth performance of the economy. (For the no action scenario, the deficit path was itself calculated to yield a policy gap of zero; for the others the assumed deficit was introduced directly to the model.) Other differences in the projected development of the economy are the results of the logic of the model operating on the assumed change in the saving rate, together with the differences in the treatment of government expenditure described above. Table I.1 summarizes some of the key quantitative assumptions in the model that are common to the various projections.

[5]As stated in chapter 4, the "other" category is defined as follows in relation to the national income accounts: transfer payments excluding Social Security and Medicare, plus grants-in-aid to state and local governments less Medicaid, plus subsidies less current surplus of government enterprises, plus wage accruals less disbursements. The term "health care expenditures" as used in chapter 4 refers to Medicare and Medicaid. Other federal expenditures on health care, for example, veterans' hospitals, are comparatively modest in amount and do not change significantly in relation to GNP.

Table I.1: Key Assumptions of the Projections

Item	Assumed value	Comment
Common to all projections		
Saving rate: private sector + state & local surplus	16.5% of GNP	Gross savings
Total factor productivity (rate of growth)	1% per year	Same as in the FRBNY model, "traditional" version
Inflation rate	4% per year	Same as in the FRBNY model
Interest rate (average on the national debt)	7.8% per year	Net interest paid/debt held by the public (7.7% in 1990)
Surplus/Deficit 1991-95 (% of GNP)		Deficit is on NIPA basis and follows CBO projections of dollar values for deficit
	–3.5% for 1991	
	–4.4% for 1992	
	–3.8% for 1993	
	–3.2% for 1994	Does not apply to no action
	–2.9% for 1995	Does not apply to no action
State and local government expenditures		
Compensation	7.0% of GNP	After 1992
Total purchases of goods and services	11.77% of GNP	After 1992
For muddling through projection		
Federal government expenditures		
Defense compensation	1.40% of GNP	After 2003, down from 2.16%
Nondefense compensation	1.00% of GNP	.99% in 1990
Total defense purchases of goods and services	3.50% of GNP	After 2003, down from 5.74% in 1990
Total nondefense purchases of goods and services	2.05% of GNP	2.02% in 1990
Health	2.76% to 7.41% of GNP	Follows HCFA projections
OASDI	4.59% to 5.75% of GNP	Follows SSA projections for Alternative II

Changing American Demographics Affect the Fiscal Future

The elderly are expected to represent a larger proportion of the American population by 2020. The majority of the post-World War II baby boom generation will be reaching retirement age by that time. In addition, medical advances will likely continue to increase life expectancy, allowing an aging retired population to live longer. At the same time, however, the working-age population will have declined.

These demographic changes will heighten federal budgetary pressures as we move toward the 21st century. Under current policy, the elderly are entitled to certain benefits provided by the federal government. These benefit programs—including Social Security, Medicare, and Medicaid—already consume a large share of the federal nondefense budget. Recent growth in these programs' outlays, especially for health-related activities, has been tremendous. As the aged population grows and as life expectancies increase, so will the demand for and the cost of these entitlements. These additional costs would be more easily accommodated if federal fiscal policies produced surpluses rather than deficits.

Deficits are continuing to accumulate, however, and the proportion of workers who must finance the elderly's benefits will soon shrink. If present commitments to the elderly are to be maintained, the economy must expand to provide greater per capita resources to the smaller working age population. Otherwise the workers' standard of living will decline.

The Costs of Maintaining Elderly Dependents Will Rise

According to federal projections,[1] elderly Americans will increase as a percentage of the population, while the proportion of the population of working age will decline. Between 1990 and 2020, the number of Americans 65 years and older will increase from over 12 percent of the total population to almost 17 percent, while those between the ages of 16 and 64 will shrink from 64 to 59 percent (see table II.1).

[1]Office of the Actuary, Social Security Administration.

Table II.1: Composition of the Population (as a Percent of the Total Population)

Decade	Newborn to 15 years	16 years to 64 years	65 years and over
1990	24	64	12
2000	24	64	13
2010	23	64	13
2020	24	59	17

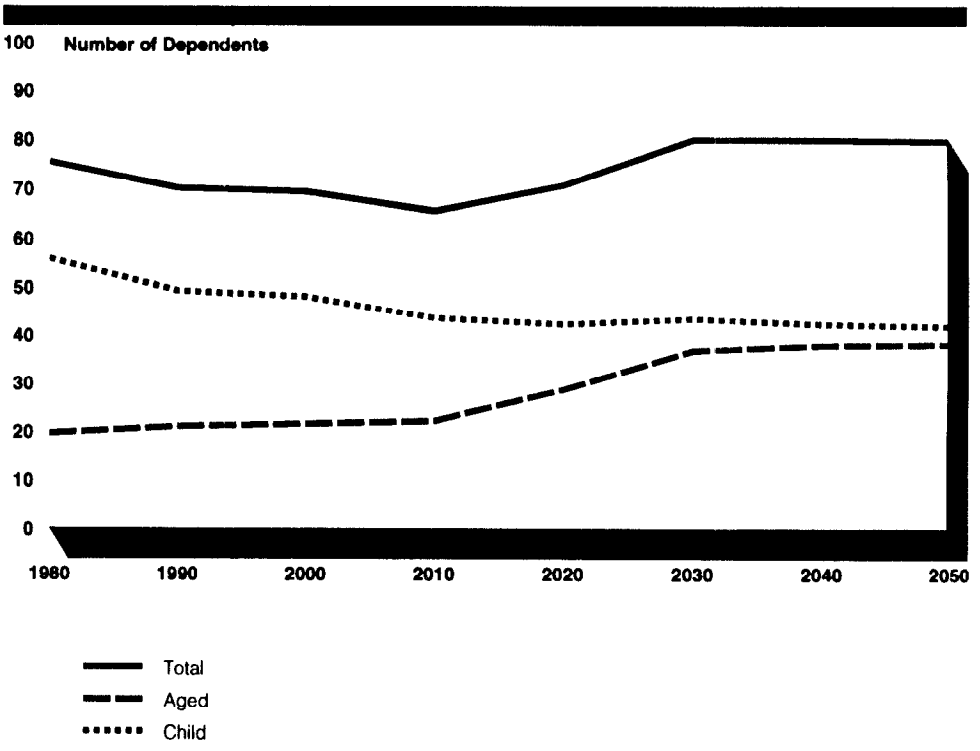
The downward trend in the working-age population is mirrored in projections for the labor force. Defined as individuals working plus those who are looking for work, the labor force declines from 49 percent to 44 percent as a proportion of the total population between 1990 and 2020.[2]

As the elderly population grows, so does the demand for federal benefits paid to older Americans. Entitlement programs such as Social Security and Medicare are funded mainly from payroll taxes. By the year 2020, the increased benefit demand will be financed by a smaller labor force, a development that would require either higher payroll taxes, reduction of benefits to the elderly, or some combination. A strongly growing economy over the intervening decades, however, could help ensure that present commitments to the elderly population can be maintained while also supporting a rising living standard for the working population.

A review of changes in the dependency ratio elaborates on these trends and their potential economic impact. The dependency ratio reports the dependent population, comprised of children (newborn to age 19) and the elderly (age 65 and over), as a proportion of the population most likely to work (age 20 to 64). The population aged 20 to 64 supports children and the elderly directly through family arrangements and indirectly through taxes for social programs. The dependency ratio therefore acts as an indicator of the possible future financial burden shouldered by the working age population. A ratio of .75, for example, indicates that four people in the working-age group support three dependents, regardless of whether the dependents are children or the elderly. Figure II.1 shows trends in dependency ratios since 1980.

[2]The labor force projection assumes immigration levels consistent with current policies.

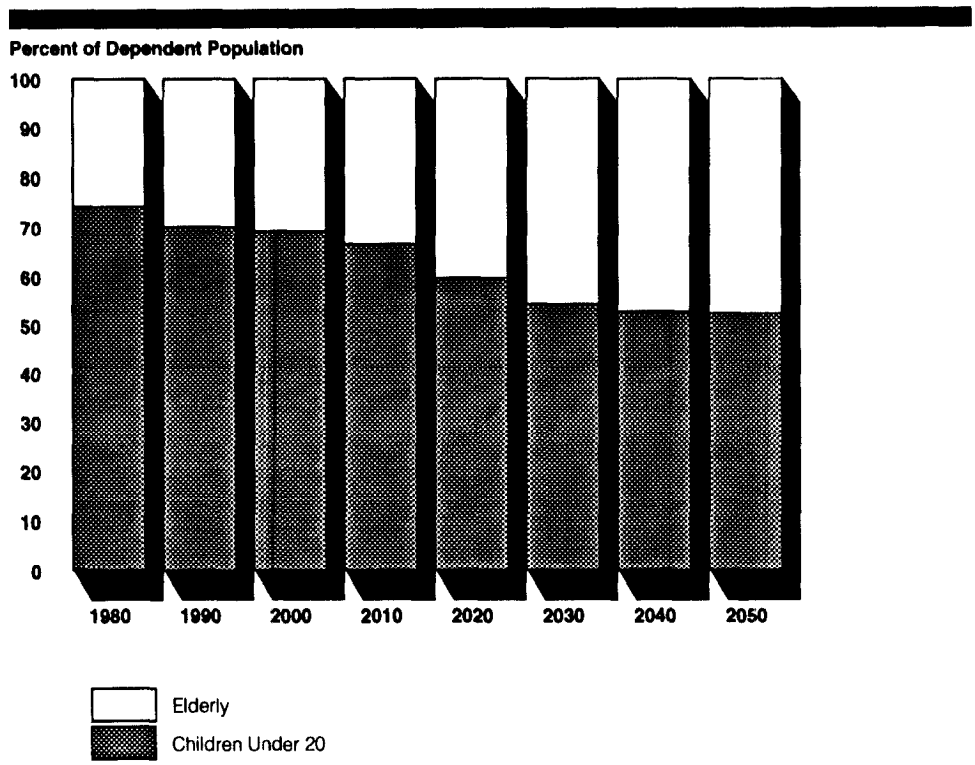
Figure II.1: Dependents Per 100 People Aged 20 to 64 (1980-2050)



Source: 1991 Annual Report of the Federal Old Age, Survivors, and Disability Insurance Trust Funds

While the dependency ratio is projected to remain relatively stable through 2020, the composition of the dependent population will change dramatically, increasing federal costs in its wake. During the 1960s and 1970s, the elderly comprised almost 20 percent of the dependent population. By the year 2000, the elderly will comprise 31 percent and, by 2050, the percentage will rise to approximately 50 percent of the dependent population (see figure II.2). The changing composition of the dependent population has considerable implications for federal expenditures because the character and pattern of spending for children and the elderly are notably different.

Figure II.2: Changes in the Composition of the Dependent Population (1980-2050)



Programs targeted for children, of which elementary and secondary education constitute the largest single expenditure item, are funded primarily by state and local governments. In fiscal year 1990, the federal government spent approximately $70 billion of the estimated $280 billion public expenditures for children. On a per capita basis, federal expenditures amounted to over $1,000 per child, compared to state and local expenditures of more than $3,500 per child.

Conversely, programs targeted for the elderly, such as Social Security and Medicare, are essentially federal programs. In fiscal year 1990, federal expenditures amounted to approximately $11,000 per aged person. In contrast, state spending on the elderly consists mainly of the state share of Medicaid costs and supplementation to the federal Supplementary Security Income program. Together the two programs in 1990 accounted for $11.8 billion of state and local spending, or $369 per aged person.

Assuming the continuation of current policies, future pressure on the federal budget due to demographic changes is evident. The demand on the

public sector of the dependent children population is likely to change little. The dependent population under 20, although decreasing as a ratio of the total population, remains relatively constant in absolute number. In contrast, the public sector will experience tremendous demand due to growth of the elderly population. The pressure from this demographic shift will greatly affect the federal budget, where the primary responsibility for financing benefits for this population lies.

Federal Entitlement Programs for the Elderly Are Growing

The aging of America greatly impacts certain federal entitlement programs. Assuming that current expenditure and revenue policies remain in place, Social Security, Medicare, and Medicaid will absorb a growing proportion of federal resources. CBO projects that between 1991 through 1997, federal spending for these programs will increase by 37 percent in constant 1992 dollars. When the share of Medicaid spent on the nonelderly is factored out, growth for these three programs is still high, approximately 31 percent. Old Age, Survivors and Disability Insurance (OASDI) and Health Care Financing Administration (HCFA) data indicate even greater growth in the 21st century. In contrast, CBO's baseline projections for discretionary programs show spending will decrease approximately 11 percent during this same period due to the effects of the BEA discretionary spending caps.

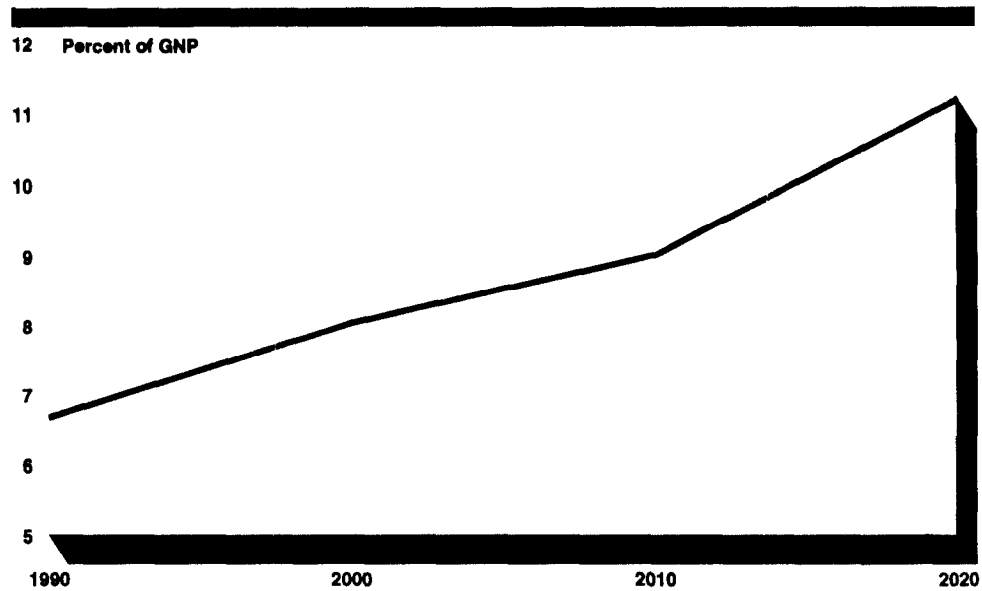
Social Security and Medicare

Assuming that current benefit commitments continue, Social Security and Medicare will grow relative to GNP.[3] From 1990 through 2020, expenditures for the two federal programs will grow 185 percent compared to GNP growth of 66 percent. The disparity in growth rates means Social Security and Medicare will expand from 6.7 percent of GNP to 11.2 percent[4] (see figure II.3) or, in other words, by 2020, $1 out of every $9 spent in the U.S. economy will be for these programs.

[3]As our report was being prepared for publication, new projections for Social Security and Medicare were released. Because the projections were issued late in our report preparation phase, we used the 1991 projections in our discussion.

[4]Social Security outlay projections are from the 1991 Annual Report of the Board of Trustees of the Old-Age and Survivors Insurance and Disability Insurance Trust Funds. Medicare outlay projections are from the (1) 1991 Annual Report of the Board of Trustees of the Federal Hospital Insurance Trust Fund, (2) 1991 Annual Report of the Board of the Trustees Federal Supplementary Medical Insurance Trust Fund, and (3) Report on Medicare Projections by the Health Technical Panel to the 1991 Advisory Council on Social Security. We use GNP projections from our economic growth model.

Figure II.3: Growth in Social Security and Medicare (1990-2020)



The Old Age, Survivors, and Disability Insurance (OASDI) programs provide a retirement pension (Social Security) for Americans age 62 and over. A small portion of the program also finances survivors and disability benefits for individuals under 62. Medicare is comprised of two programs, Hospital Insurance (HI) and the Supplementary Medical Insurance (SMI). HI pays for inpatient hospital, skilled nursing facility, hospice, and home health care. HI is automatic for most Americans when they reach age 65 because they made mandatory contributions during employment. SMI pays for outpatients' services such as physician, laboratory, and durable medical equipment. All Americans age 65 and older and the disabled who have met certain eligibility requirements may enroll in SMI if they pay the monthly premium, which covered 24.5 percent of the cost of the program in fiscal year 1991. The remainder of the cost of the SMI program, $36 billion in fiscal year 1991, is financed by a subsidy from the general fund and interest earned on the fund balance.

The Social Security and Medicare projections point not only to escalating costs but to an imbalance in financing as well. The OASDI and HI trust funds are accumulating surpluses (excluding interest income) from their payroll tax collections. The OASDI surplus will continue until 2017,[5] when the

[5]We use alternative II projections of the OASDI trust funds. Alternative II represents the Board of Trustees' best estimates of the future course of the population and economy.

annual outgo for the first time will exceed the annual income. By 2041, the surplus accumulated between 1983 and 2017 will be completely exhausted. In the HI fund, reserves are projected to become exhausted in 2005. Under current financing, HI will become insolvent even before the anticipated explosion in the demand for program services which result from the baby-boom generation's retirement.

The increase in health care costs for the elderly is a manifestation of the general problem of escalating health care costs in the United States. In 1990, national health care expenditures were approximately 12 percent of GNP and they are projected to increase to 16 percent by the end of the century. Initiatives to reduce health care costs, whether they originate with private businesses, the federal government, or state and local governments, have not substantially slowed the growth of overall national health spending. To contain the spiraling growth in these costs, the U.S. needs to develop fundamental reforms as suggested in our previous work.[6]

Medicaid

Medicaid has assumed a substantial share of the costs of health care for the elderly since its inception under Title XIX of the Social Security Act of 1965. Medicaid is a state-administered program whose financing is a shared state-federal responsibility. It funds medical care for low-income Americans of all ages. Long-term care, which is comprised of skilled nursing home care and intermediate care, is the largest component of Medicaid expenditures for the elderly, accounting for 65 percent of Medicaid spending on this group in 1989. Medicaid also pays for prescription drugs, physician services, and other care for the low-income population, including the low-income elderly.

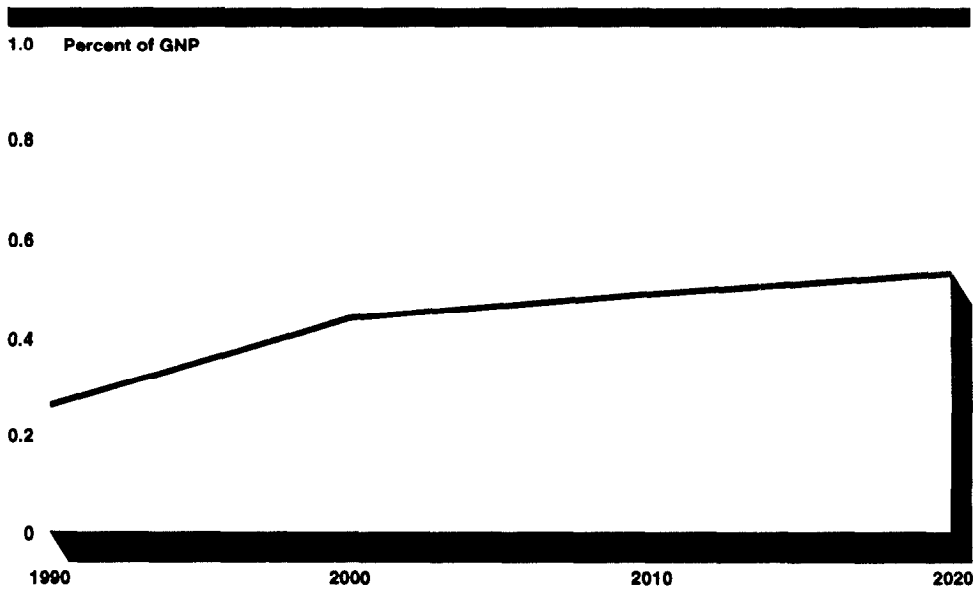
The elderly's share of Medicaid expenditures has declined. Between 1977 and 1987, expenditures for the elderly decreased from 41 percent to 39 percent of total Medicaid expenditures. Recent legislation, which requires extension of Medicaid coverage to more children and pregnant women, will reinforce this downward trend. Recent projections indicate that the elderly's share of Medicaid will stabilize at 30 percent starting in the year 1997.

Nevertheless, Medicaid has become increasingly important to the elderly. Between 1980 and 1990, federal and state Medicaid expenditures for the

[6]For example, U.S. Health Care Spending, Trends, Contributing Factors, and Proposals for Reform, (GAO/HRD-91-102, June 10, 1991); Private Health Insurance: Problems Caused by a Segmented Market, (GAO/HRD-91-114, July 2, 1991); and Canadian Health Insurance: Lessons for the United States, (GAO/HRD-91-90, June 4, 1991).

elderly grew 54.8 percent, compared with the 46.5 percent growth rate for combined federal and state outlays during the same time period. Furthermore, federal growth is expected to continue (see figure II.4).[7]

Figure II.4: Growth in Medicaid Outlays for the Elderly (1990-2020)

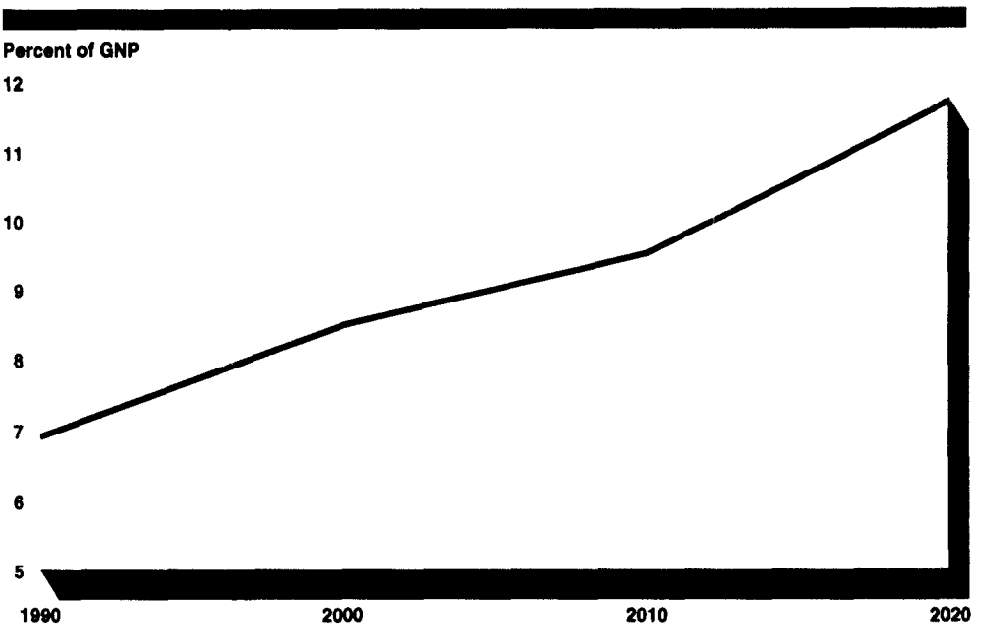


Costs Are Growing Faster Than the Economy

Federal spending on major entitlements for the elderly is projected to grow rapidly. Together, Social Security, Medicare, and Medicaid expenditures—only those amounts actually spent on older Americans—are expected to grow from $409 billion to $1.15 trillion (in constant 1992 dollars) between 1990 and 2020 (see figure II.5). Through these three programs, the elderly's claim of 6.9 percent of GNP in 1990 will grow to 11.7 percent by 2020.

[7]Projections for Medicaid were obtained from the Health Care Financing Administration.

Figure II.5: Growth in Entitlement Programs for the Elderly (1990-2020)



Payroll Taxes Would Rise Under Current Fiscal Policies

Under current policy the elderly are entitled to certain benefits from the government. If these benefits are indeed to be maintained through the year 2020, their costs would be financed by a shrinking working age population. This would mean increased payroll taxes. The rise in these tax rates have serious negative implications for the working population's future standard of living.

These additional demands might be more easily accommodated if the federal budget generated surpluses rather than deficits. Deficit reduction would have a two-fold effect. First, as discussed in chapter 4, chronic budget deficits hamper long-term economic growth. Reducing the deficit encourages more private productive investment, which in turn enhances economic growth. Secondly, resources that would have gone to pay interest on an increasing debt could be used for productive investments by the government. The ability of the government and the private sector to invest productively strengthens the economy. With a strong economy and an expanded payroll base, the government can more readily address budgetary demands without compromising standards of living.