

GAO

May 1999

Federal Debt : Answers to Frequently Asked Questions—An Update





**United States
General Accounting Office
Washington, D.C. 20548**

**Comptroller General
of the United States**

B-282102

May 28, 1999

The Honorable Pete V. Domenici
Chairman, Committee on the Budget
United States Senate

Dear Mr. Chairman:

As you requested, this report updates information presented in our 1996 publication, Federal Debt: Answers to Frequently Asked Questions (GAO/AIMD-97-12, November 27, 1996). In this update we present current information on the federal debt, including how debt is defined and measured; who holds federal debt; how much it has grown in recent years; and its significance to the national economy. As in our earlier report, we attempt to provide the information in a clear, concise and easily understandable manner for a nontechnical audience.

This document was prepared under the direction of Paul L. Posner, Director of Budget Issues, and Susan J. Irving, Associate Director of Budget Issues, Accounting and Information Management Division, who may be reached at (202) 512-9573 if there are any questions.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'D. M. Walker', with a long horizontal line extending to the right.

David M. Walker
Comptroller General
of the United States

Preface

At the end of fiscal year 1998, the unified budget of the federal government was in surplus for the first time in almost 30 years, and surpluses were projected to continue over the next decade. With this change in the budgetary environment, discussion has begun on how the federal government should view these surpluses and to what degree debt reduction can or should be achieved.

Although the federal government has carried debt throughout virtually all of U.S. history, large annual budget deficits over the past two decades sharply increased the total amount of debt owed to the public and its associated annual interest payments. Policymakers responded to the historically high debt levels in recent years by passing several deficit reduction initiatives. These actions, along with economic growth, helped shrink annual deficits and bring about the 1998 surplus.

Even after a year of budgetary surplus, debt held by the public stands at about 44 percent of the annual size of the U.S. economy, a level that the United States rarely reached before 1940. However, the projected surpluses, if they materialize, would lead to a further reduction in this debt. Over the longer term, the retirement of the baby boom generation will place additional pressures on the budget. These pressures—including, for example, increasing demand for health services—will require further action to prevent debt from rising again in future decades.

Many citizens have recognized that a high level of federal debt has serious consequences for them. Large deficits and rising debt levels constrain future growth in incomes and living standards by reducing the amount of saving in the United States available for private investment. Deficits may also raise interest

rates, increasing household borrowing costs for homes, cars, and college loans.

In addition to these economic consequences, the federal budgetary costs of growing publicly held debt have reduced the ability of the federal government to provide services—almost 15 cents out of every federal budget dollar spent is used to pay net interest rather than to finance other public priorities. Net interest spending (in nominal terms) grew at an average rate of 10.6 percent per year between 1980 and 1998. After Social Security and Defense, net interest is the third largest spending item in the federal budget. Interest spending is the least controllable item in the budget since it is determined by the amount of past borrowing and interest rates.

Because of the complex and technical nature of debt issues, there is a substantial amount of misunderstanding and confusion surrounding them. For example, the reason the debt limit may need to be raised even in a time of budgetary surpluses is not obvious. This update addresses questions that are frequently asked about the federal debt, deficits and surpluses, and interest rates. It also addresses some questions that have arisen about debt in a time of surplus.

For readers who are interested in more detailed information on the topics covered here, we also include a short bibliography.

Preface

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Abbreviations

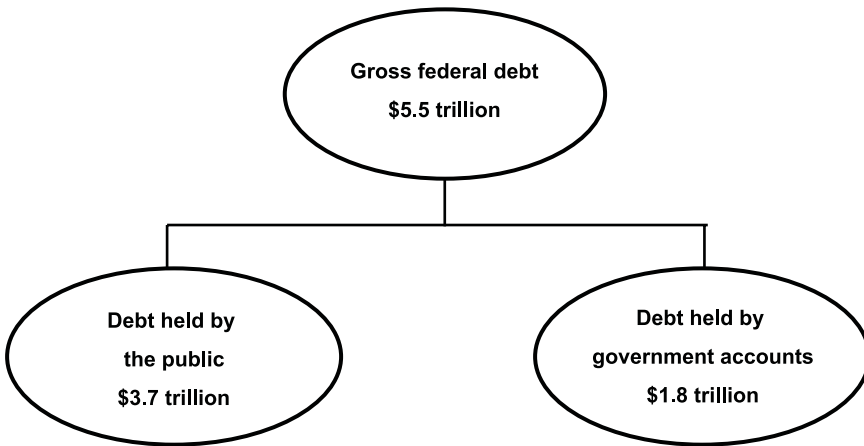
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|-----|---------------------------------|
| CBO | Congressional Budget Office |
| GDP | gross domestic product |
| GNP | gross national product |
| OMB | Office of Management and Budget |

Section I: What is the Federal Debt?

Q. How large is the federal debt?

A. Gross debt is the measure that captures all of the federal government’s outstanding debt. Gross debt—which totaled about \$5.5 trillion at the end of fiscal year 1998—is comprised of debt held by the public plus debt held by certain government accounts, such as the Social Security and Medicare trust funds. (See figure I.1.)

Figure I.1: Gross Federal Debt and Its Components
(End of Fiscal Year 1998)



Source: Department of the Treasury.

Q. What is debt held by the public?

A. The level of debt held by the public—about \$3.7 trillion at the end of fiscal year 1998¹—is a useful measure because it reflects how much of the nation's wealth is absorbed by the federal government to finance its obligations. Thus, it best represents the cumulative effect of past federal borrowing on today's economy and the federal budget. In this update, our discussions focus primarily on debt held by the public.

The amount of a borrower's debt by itself is not a good indicator of the burden imposed by that debt. A borrower's income and wealth are also important in assessing the burden of debt. Therefore, to get a better sense of the burden represented by the federal debt, debt is often measured in relation to the nation's income. Gross domestic product (GDP) is a commonly used measure of national income. The GDP is the value of all goods and services produced within the United States in a given year. It is a rough indicator of the economic base from which the government draws its revenues. Thus, the ratio of debt held by the public as a share of GDP is a good measure of the burden on the current economy. In these terms, the federal debt burden grew in all but two years from 1980 through the mid-1990s and has decreased steadily from then to the present. Figure II.3, included later, shows these changes.

¹This total is reported in the Department of the Treasury's Final Monthly Treasury Statement for Fiscal Year 1998 Through September 30, 1998 and is net of unamortized premiums and discounts on public debt securities.

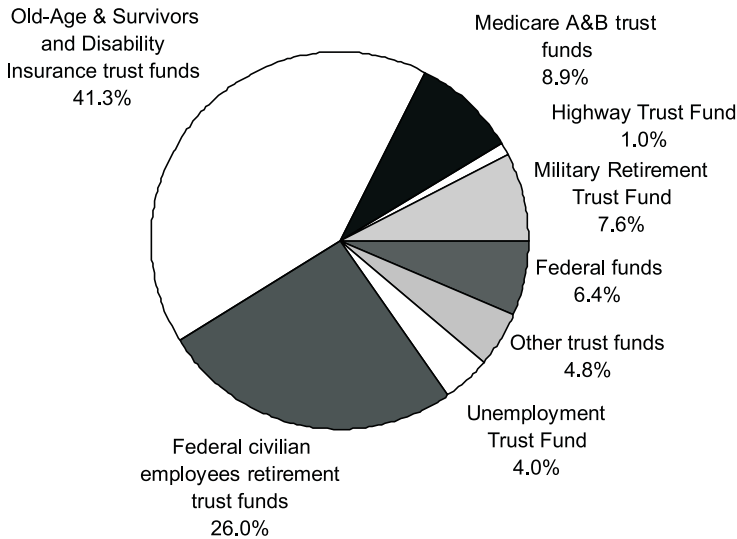
Q. What is debt held by government accounts?

A. Debt held by government accounts²—about \$1.8 trillion at the end of fiscal year 1998—primarily represents balances in the Social Security and federal civilian employee and military retirement trust funds, which account for almost 75 percent of the total. (See figure I.2.) The money is invested in special U.S. Treasury securities that are guaranteed for principal and interest by the full faith and credit of the U.S. government. These trust funds have been running annual surpluses that reduce the need for the government to borrow from the public today because, in effect, they are loaned from one part of the government to another. The transactions net out on the government's consolidated financial statements. However, they also constitute future obligations of the Treasury since the Treasury must pay back the debt held by government accounts when these accounts need to redeem their securities. Just as with the Treasury's public debt holders, the government accounts earn interest on their special Treasury holdings. Interest on securities held by a government account may be used for outlays by the account or invested in additional Treasury securities.

²Debt held by government accounts primarily reflects debt owned by federal trust funds, including Social Security. In addition to trust funds, several funds such as the Bank Insurance Fund also own government securities, but these investments represent only a small portion of the total debt held by government accounts.

Section I: What is the Federal Debt?

Figure I.2: Distribution of Federal Debt Held by Government Accounts (End of Fiscal Year 1998)



Source: OMB.

Q. What is the difference between the two types of federal debt?

A. Debt held by the public and debt held by government accounts are very different. Debt held by the public approximates the federal government's competition with other sectors in the credit markets. This competition affects current interest rates and private capital accumulation. Further, interest on debt held by the public is a current burden on taxpayers.

In contrast, debt held by the trust funds performs an accounting function, but it typically does not constitute the government's total future commitment to trust fund financed programs. It represents the cumulative annual surpluses of those trust funds plus accrued interest and also reflects a future claim on the U.S. Treasury. It does not have the current economic effects of borrowing from the public and does not currently compete with the private sector for available funds in the credit market. However, when trust funds redeem securities to obtain cash to fund expenditures, they compete with the private sector and thus have an effect on the economy.

Because debt held by the trust funds is neither equal to future benefit payments nor a measure of the commitments of the current system, it cannot be seen as a measure of this future burden. Nevertheless, it provides an important signal of the existence of this burden. Whether the debt recognizes an existing burden or constitutes a new economic burden for the future depends on whether or not these currently promised benefits would be paid even if trust fund revenues and holdings of securities were insufficient to cover the full costs.

Q. What is the debt limit? Does it provide a way to control the amount we borrow?

A. The gross debt, excluding some minor adjustments,³ is the measure that is subject to the federal debt limit. Prior to 1917, the Congress approved each issuance of debt. In 1917, to facilitate planning in World War I, the Congress established a dollar ceiling for federal borrowing, which has been

³A very small amount of the gross debt is excluded from the debt limit (less than 1 percent at the end of fiscal year 1998). The amount excluded is mainly issued by agencies other than the Department of the Treasury, such as the Tennessee Valley Authority.

raised periodically over the years. This limit, currently \$5.95 trillion, receives increased public attention periodically when the Congress and the President debate raising the limit to accommodate further borrowing. At the end of fiscal year 1998, the amount of debt subject to limit was about \$5.4 trillion.

The debt limit does not determine federal borrowing needs. These needs result from all of the revenue and spending decisions the government makes as well as the performance of the economy. Therefore, whenever the government's borrowing approaches the debt limit, the Congress and the President must eventually raise the limit to pay the government's bills as they come due.

Q. Under what circumstances would the debt limit have to be raised during periods of budget surpluses?

A. Under its January 1999 baseline projections, the Congressional Budget Office (CBO) estimates that the debt limit—currently \$5.95 trillion—will not be reached through 2009. However, some policy actions or economic changes resulting in a reduction in annual budget surpluses may cause the debt limit to be reached sooner. Additionally, any change that would increase the balances of the trust funds, such as the Social Security trust funds,⁴ would cause the debt limit to be reached sooner unless it also caused debt held by the public to fall by at least an equal amount. Interestingly, because the Social Security trust funds hold balances in special Treasury securities, Social Security reform could trigger a rise in gross debt if it led to increases in trust fund balances. In this case, debt held by government accounts would increase, causing gross debt to rise as

⁴Social Security trust funds refers to the combined Old-Age and Survivors Insurance Trust Fund and Disability Insurance Trust Fund.

Section I: What is the Federal Debt?

well unless debt held by the public were reduced commensurately.

Section II: Budgetary Effects of Federal Debt

Q. What does it mean to have a budget surplus or deficit and how are they related to federal debt?

A. The budget surplus or deficit (also called the “unified” or “total” budget surplus or deficit) is the difference between total federal spending and revenue in a given year. To finance a budget deficit,¹ the government borrows from the public. Available surpluses in trust funds reduce or eliminate the need for the government to borrow from the public to pay for current expenditures. Alternatively, when a budget surplus occurs, the government accumulates excess funds that are used to reduce debt held by the public. In other words, deficits or surpluses generally approximate the annual net change in the amount of government borrowing from the public, while the debt held by the public generally represents the amounts of unified deficits accumulated over time less any surpluses.

When the Congress makes budgetary decisions, it is also indirectly making decisions about the nominal level of debt held by the public. If the budget is in deficit, the government has to issue new debt to the public in addition to rolling over maturing debt. In the case of a balanced budget, the amount of debt held by the public would remain essentially unchanged because the government does not retire a portion of its principal each year. Rather, the Treasury pays only the interest costs of debt held by the public. The principal that comes due is paid off with cash raised

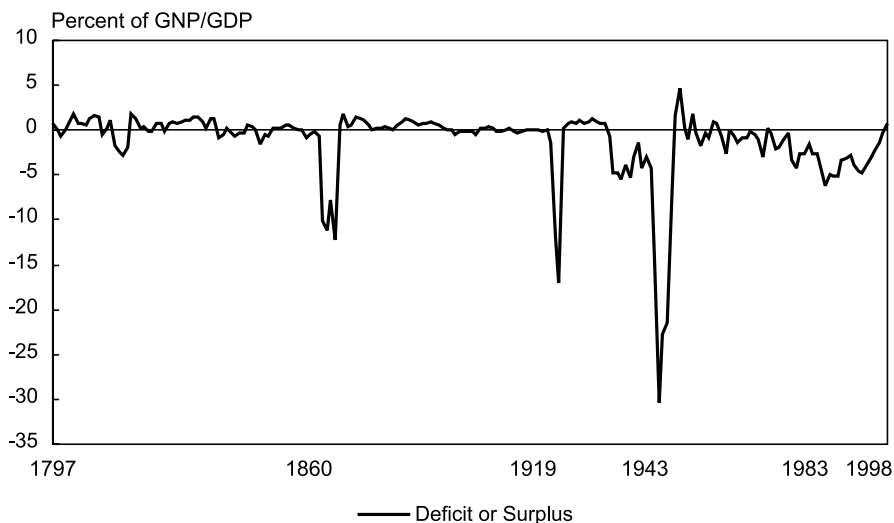
¹The surplus or deficit is approximately equal to the yearly change in the debt held by the public. However, several minor types of transactions referred to as “other means of financing” account for differences between the two amounts. These “other means” include changes in the Treasury’s cash balances, outstanding payment obligations, and net financing disbursements by the government’s loan guarantee and direct loan accounts.

Section II: Budgetary Effects of Federal Debt

by issuing new securities, and the debt is rolled over.² A unified budget surplus allows the Treasury to reduce the nominal level of debt held by the public by rolling over less debt when it matures. (See section IV for more information about the Treasury's debt management.)

Figures II.1 and II.2 show the budget surplus or deficit and the debt held by the public as shares of GDP.

Figure II.1: Surplus or Deficit as a Share of GDP (1797-1998)



Note: Data until 1940 are shown as a percent of gross national product (GNP); data from 1940 to present are shown as a percent of GDP.

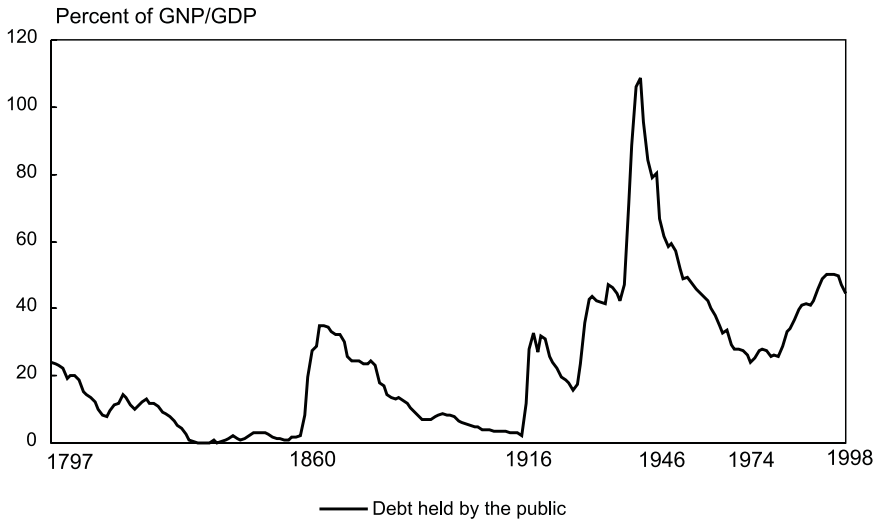
Sources: OMB and Department of Commerce.

²A balanced budget would not change debt levels themselves but would reduce the ratio of debt to GDP assuming continued economic growth.

Section II: Budgetary Effects of Federal Debt

Short deficit periods have caused increases in debt that lingered long after annual deficit levels declined. For example, the federal budget deficit increased sharply from about 4 percent to about 30 percent of the economy between the years 1941 and 1943 and, correspondingly, federal debt held by the public increased sharply until it reached its zenith as a percentage of GDP in 1946. It then took 17 years, from 1946 until 1963, for the debt-GDP ratio to return to its 1941 level.

Figure II.2: Federal Debt Held by the Public as a Share of GDP (1797-1998)



Note: Data until 1940 are shown as a percent of GNP; data from 1940 to present are shown as a percent of GDP.

Sources: OMB and Department of Commerce.

Section II: Budgetary Effects of Federal Debt

In the past, the debt-GDP measure rose substantially only as the result of wars and recessions. Borrowing during these times helped protect the nation from foreign aggression and stabilize the economy. Between the early days of the republic and the recent past, the only events that led debt held by the public to increase above 30 percent of GDP were the Civil War, World War I, the Great Depression, and World War II.

Recent increases in the debt broke with historical patterns by climbing significantly during a period marked by the absence of either a major war or depression. Beginning in the late 1970s, rising federal budget deficits fueled a corresponding increase in debt held by the public which essentially doubled as a share of GDP over a 15-year period through the mid-1990s and reached about 50 percent of GDP in 1993. Since then, the debt-GDP measure has stabilized and begun to drop, as budget deficits turned to a surplus in 1998 and economic growth continued.

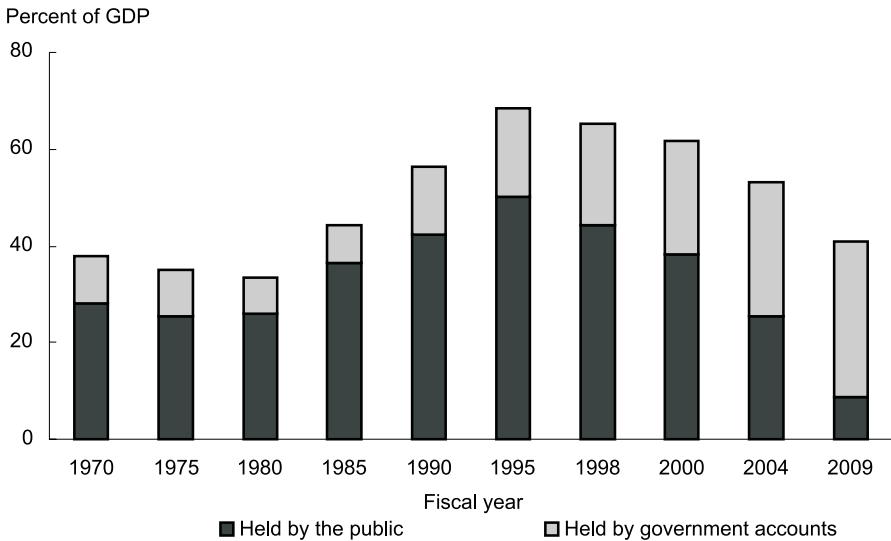
At the end of fiscal year 1998, debt held by the public was about 44 percent of GDP. While it has begun to decline, this level still is relatively high by historical standards. In fact, prior to 1990, the only time the debt-GDP measure had exceeded the current level was from World War II through 1961.

CBO's January 1999 projection shows that sustained surpluses could allow debt held by the public to drop to about 9 percent of GDP by 2009, the lowest level since 1917. CBO's projection, however, is a baseline projection that assumes no changes in tax or spending policies over the period—that is, it assumes that the entire unified budget surplus would be used to reduce debt held by the public. Under this assumption, debt held by the public as a percentage of GDP would be lower than debt held by government

Section II: Budgetary Effects of Federal Debt

accounts as a percentage of GDP beginning in 2004. Debt held by government accounts will continue to rise steadily during this timeframe under CBO's projections. (See figure II.3.)

Figure II.3: Federal Debt as a Share of GDP (1970-2009)



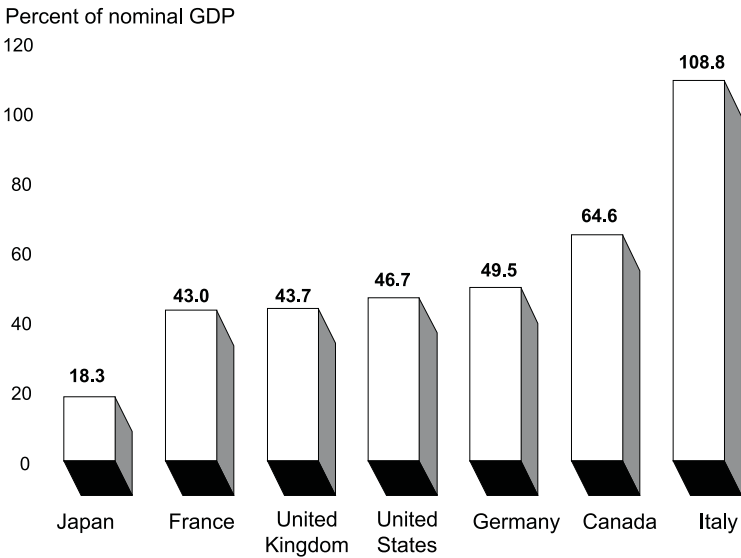
Sources: OMB and CBO (January 1999 projections for fiscal years 1999 through 2009).

While the current ratio of debt held by the public to GDP in the United States is high by historical standards, in 1997 the United States was in the middle of a group of seven major industrialized nations when

Section II: Budgetary Effects of Federal Debt

looking at net general government debt³ as a share of the economy. (See figure II.4.)

Figure II.4: Net General Government Debt of Selected Countries (1997 Estimates)



Source: Organization for Economic Cooperation and Development

³Net general government debt includes the consolidated debt of all levels of government (national, state or regional, and local).

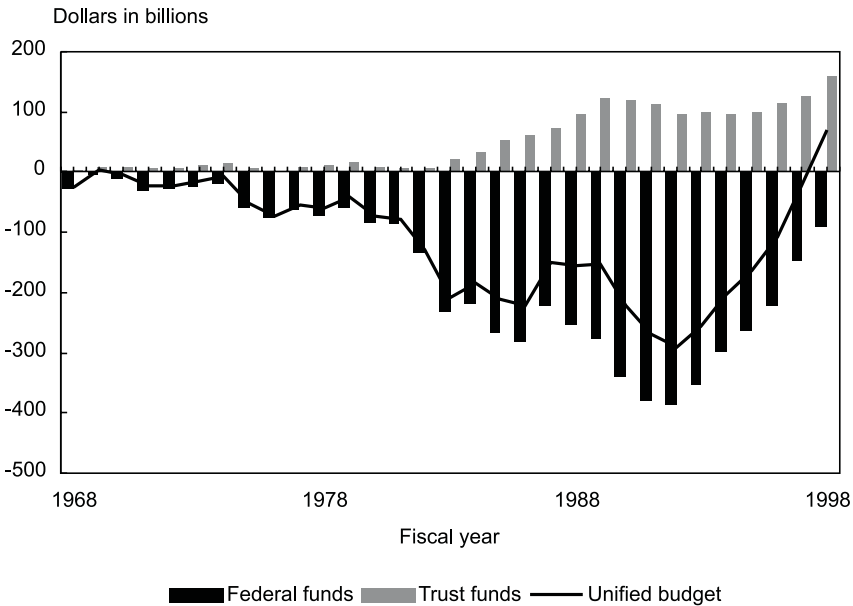
Q. What is the role of trust funds in measuring budget deficits or surpluses?

A. Although the unified budget balance is the most comprehensive measure of net annual spending or revenue in a given year, another measure—the federal funds balance—is necessary to explain annual changes in the gross federal debt. As noted earlier, the gross debt includes the debt held by federal trust fund accounts. Recently, in the aggregate, these trust funds have been running cash surpluses which are invested in special U.S. Treasury securities.⁴ These surpluses reduce the need for the federal government to borrow from the public. When the trust fund surpluses and the interest they earn from the Treasury are excluded from the budget, there is a deficit in the remainder of the budget—the so-called federal funds portion. At the end of 1998, the unified budget had a surplus of \$69.2 billion—the net result of a trust funds surplus of \$161.2 billion and a federal funds deficit of \$92.0 billion. (See figure II.5.) This is the first time since 1969 that trust funds surpluses exceeded the federal funds deficit—leading to a unified budget surplus.

⁴The Social Security trust funds have run the largest surpluses. Some other trust funds like the Hazardous Substance Superfund had deficits in 1998.

Section II: Budgetary Effects of Federal Debt

Figure II.5: Unified Budget Deficit or Surplus and Its Components (1968-1998)



Source: OMB.

When a trust fund program needs to pay benefits and expenses and these outlays exceed dedicated tax receipts, it redeems some of its Treasury securities as needed. The Treasury would need to obtain cash to pay these redemptions. Cash could be obtained in one of the following ways: increased taxes, spending cuts, increased borrowing from the public, or (if the unified budget is in surplus) retiring less debt. Some trust funds support programs with long-term commitments where current expenditures on benefits and

Section II: Budgetary Effects of Federal Debt

administration already exceed dedicated annual tax revenues (a cash deficit). The Medicare Hospital Insurance (Part A) Trust Fund has had a cash deficit since 1992 and, as needed, it redeemed a portion of its accumulated securities each year to pay current claims. The combined Social Security trust funds are projected to reach the point when current expenditures exceed annual receipts by 2014.⁵

Q. How does the federal debt affect the federal budget and how has this relationship changed over time?

A. The federal debt primarily affects the federal budget through the level of interest spending. The federal government pays interest to holders of Treasury securities. There are two measures of federal interest—net interest and gross interest. Net interest, largely the interest paid on the debt held by the public,⁶ represents the current burden of servicing the debt. It reflects the amount the government pays to its outside creditors.

Gross interest includes both interest paid to the public and the interest credited to federal government trust funds and other government accounts that hold federal debt. The trust funds interest payments do not affect either the budget or the economy because there is no net change in current spending—in effect, one

⁵This date has been recently revised from 2013. See *Social Security and Surpluses: GAO's Perspective on the President's Proposals* (GAO/T-AIMD/HEHS-99-95, February 23, 1999); *Social Security and Surpluses: GAO's Perspective on the President's Proposals* (GAO/T-AIMD/HEHS-99-96, February 23, 1999); and *Social Security: What the President's Proposal Does and Does Not Do* (GAO/T-AIMD/HEHS-99-76, February 9, 1999).

⁶In addition to the interest that the federal government pays on debt held by the public, the government also earns some interest from various sources and pays interest for purposes other than borrowing from the public. These amounts are only a small portion of net interest and, taken together, somewhat reduce its total.

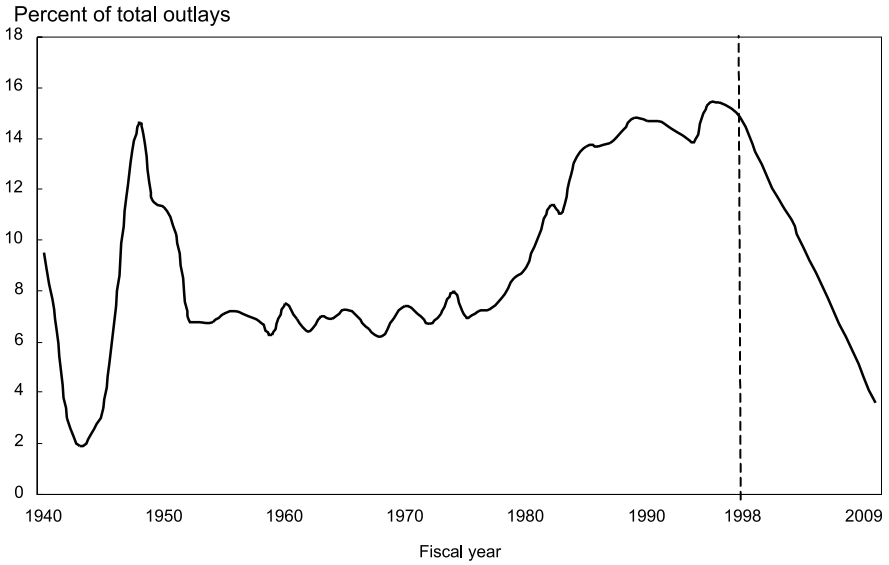
Section II: Budgetary Effects of Federal Debt

part of the government pays the interest and another part receives it. However, this interest, along with all other trust fund revenue, makes up part of the trust fund surplus, which is invested in government debt securities.

Net interest rose sharply from about 9 percent of total federal spending in fiscal year 1980 to about a 15 percent share in fiscal year 1995 and has remained almost flat since then. (See figure II.6.) In 1998, net interest spending was about \$243 billion—14.7 percent of total federal outlays—and it remained the third largest spending item in the federal budget. (See figure II.7.) This relatively large interest burden can significantly reduce budgetary flexibility. Unlike most of the budget, it cannot be changed directly.

Section II: Budgetary Effects of Federal Debt

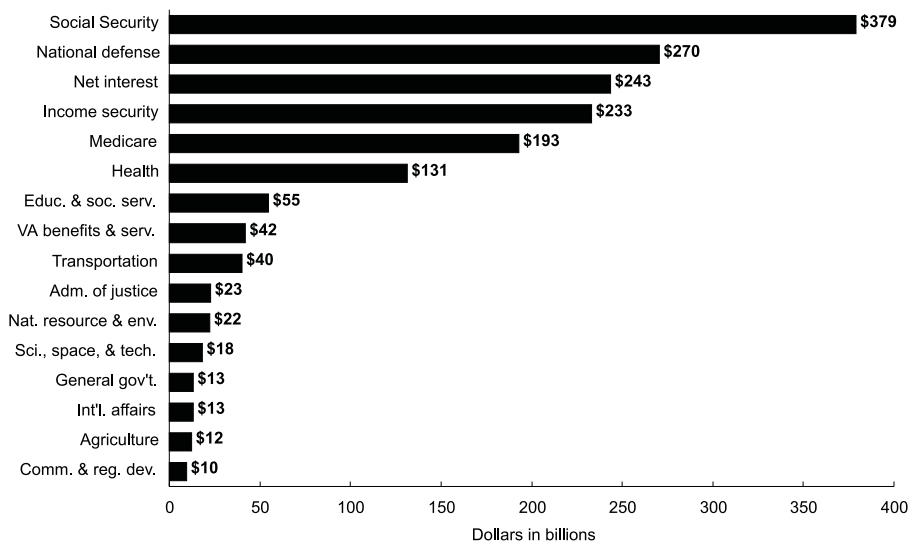
Figure II.6: Net Interest as a Share of Total Federal Outlays (1940-2009)



Sources: OMB and CBO (fiscal years 1999-2009 projection).

Section II: Budgetary Effects of Federal Debt

Figure II.7: Federal Outlays by Selected Functions (Fiscal Year 1998)



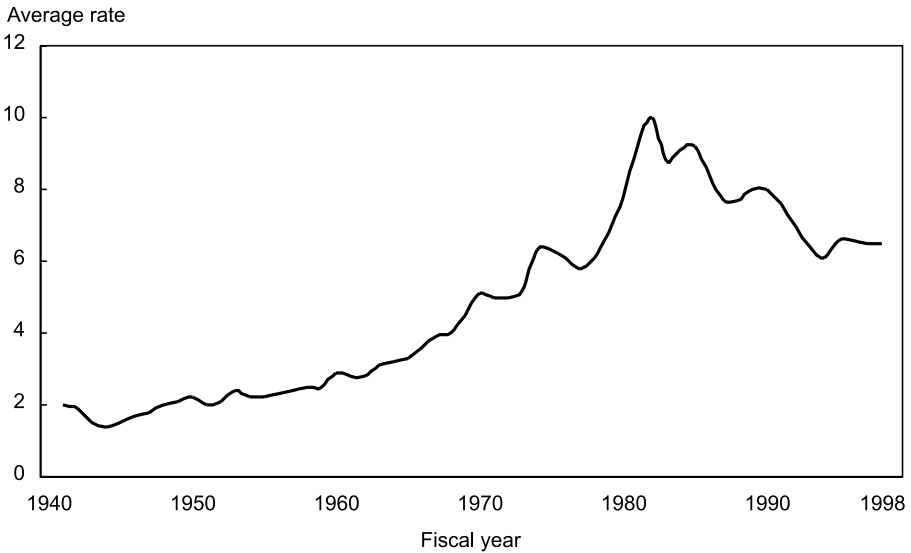
Source: OMB.

Interest spending is a function of interest rates and the amount of debt on which interest must be paid. At any given interest rate, additional borrowing will drive up interest payments. Similarly, at any given level of debt, higher interest rates increase the amount of interest paid.

Although the debt incurred during World War II was extremely large, interest rates were much lower than they are today. (See figures II.2 and II.8.)

Section II: Budgetary Effects of Federal Debt

Figure II.8: Average Interest Rate on the Federal Debt (1940-1998)



Source: OMB.

In the past, interest payments contributed to deficits and helped fuel a rising debt burden. Rising debt, in turn, raised interest costs to the budget, and the federal government increased debt held by the public to finance these interest payments.

A change from a budget deficit to a surplus reduces federal debt and replaces this “vicious cycle” with a “virtuous cycle” in which budget surpluses result in lower debt levels. Lower debt levels lead to lower

Section II: Budgetary Effects of Federal Debt

interest payments—possibly at lower interest rates.⁷ These lower interest payments in turn lead to larger potential surpluses and/or increased budget flexibility. CBO figures show that if all projected surpluses are retained and are used to reduce debt held by the public, net interest—primarily the interest paid on debt held by the public—will decline from about 15 percent of net outlays in fiscal year 1998 to about 4 percent in fiscal year 2009.⁸ (See figure II.6.) CBO numbers also show that about 23 percent of the growing budget surpluses projected over the next 10 years come from interest savings if the surplus is maintained and is fully used to reduce debt held by the public. Using CBO estimates, if the budget were to be in balance rather than in surplus from 2000-2009, net interest costs in fiscal year 2009 would be \$123 billion greater—or about \$568 billion cumulatively between now and then. Nevertheless, despite the stabilization of the interest burden since 1995, the budget remains vulnerable to changes in interest rates because the debt remains relatively high as a percentage of GDP. CBO estimates that if interest rates rise by 1 percentage point above their projected levels for fiscal years 2000-2009, the surplus would be about \$20 billion lower each year.⁹

⁷Just as deficits put upward pressure on interest rates, a period of budget surpluses should relieve this pressure. Lower interest rates then reduce interest costs.

⁸CBO, *The Economic and Budget Outlook: Fiscal Years 2000-2009*, January 1999.

⁹*Ibid.* p. 112.

Section III: Economic Effects of Federal Debt

Q. What are the economic consequences of federal borrowing?

A. Borrowing has both benefits and costs. Many believe that additional borrowing is appropriate under certain circumstances. For example, some believe that the automatic increase in federal borrowing that occurs during recessions benefits the economy by helping to maintain income and spending levels. Such net borrowing may occur in response to the reduced tax receipts that result from a shrinking economy and the increased need for federal benefit payments (for example, unemployment insurance).

Others believe that additional federal borrowing also is appropriate for investment spending, such as building roads, training workers, or conducting scientific research.¹ If an investment is well chosen, it can ultimately boost worker productivity and economic growth in the long term, producing a larger economy from which to pay the interest and principal on the borrowed funds. However, from 1986 to 1998, federal borrowing was accompanied by a decline in federal investment spending as a share of the economy.

If net federal borrowing is not used for any of the purposes described above, many believe that the costs are likely to outweigh the benefits. In this case, the benefits of any increased federal spending or tax reduction are likely to be more concentrated in the short term, while the costs tend to occur mainly in the long term. This timing difference can have important

¹However, CBO's analysis showed that many federal investment projects yield economic benefits that are small or even negative. A limited number of other federal investment projects have high returns that would be forgone without federal involvement; however, because they are few in number, their potential impact on growth is small. See The Economic Effects of Federal Spending on Infrastructure and Other Investments, June 1998.

Section III: Economic Effects of Federal Debt

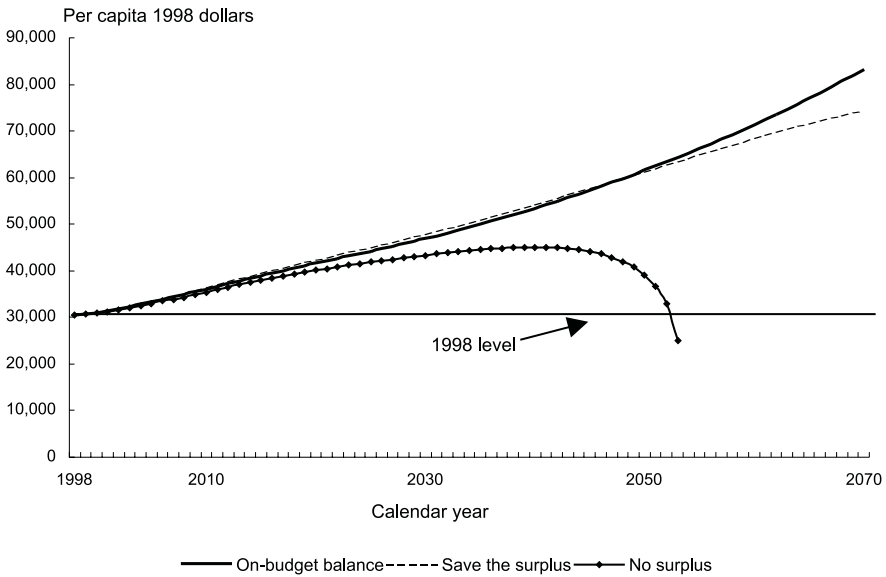
implications for different generations. The cost of today's increase in borrowing will be imposed upon tomorrow's workers and taxpayers, who may not fully share in the benefits of the additional spending (or lower taxes) made possible by the borrowing. To the extent that deficits reduce private investment, they also may reduce or slow the growth of the living standards of future generations.

Figure III.1 shows our latest simulation² illustrating that saving all or a significant share of the surplus in the near term would produce demonstrable gains in per capita GDP over the long run. This higher GDP in turn would increase the nation's economic capacity to handle all its commitments in the future.

²Simulations should not be viewed as forecasts of budgetary or economic outcomes 50 or more years in the future. Rather, they should be seen only as illustrations of the budget or economic outcomes associated with alternative policy paths based on current information about demographic and budgetary trends and the functioning of the economy.

Section III: Economic Effects of Federal Debt

Figure III.1: GDP Per Capita From GAO Simulations, 1998 to 2070



Note: The “on-budget balance” path assumes that the non-Social Security part of the budget is balanced, and the overall fiscal position of the government reflects the surplus or deficit of the Social Security trust funds. The “save the surplus” path assumes that there will be no changes in current policies and that budget surpluses through 2027 are used to reduce debt held by the public. The “no surplus” path assumes that tax cuts and permanent increases in discretionary spending eliminate the surpluses but keep the budget in balance through 2008. Thereafter, deficits reemerge as spending pressures grow.

Source: GAO long-term model.

**Section III: Economic Effects of
Federal Debt**

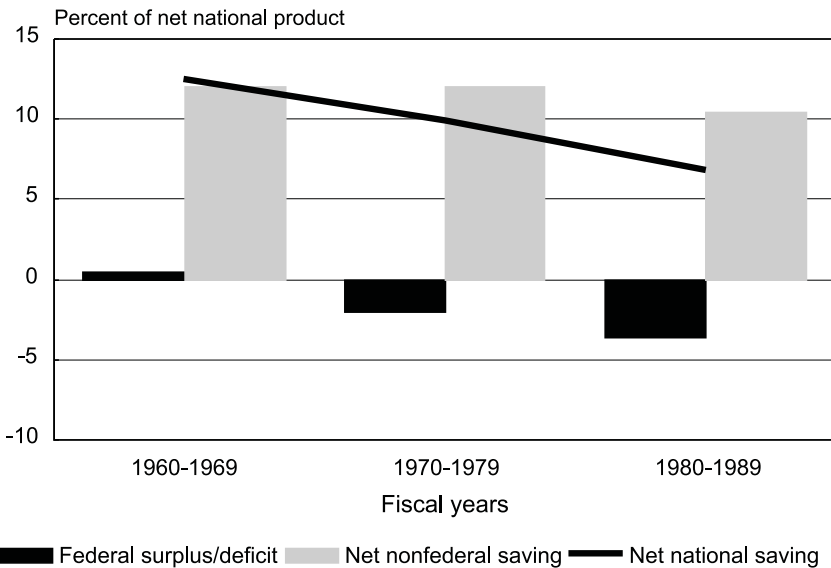
Federal borrowing can reduce the funds that are available for private investment and exert an upward pressure on interest rates. Since the federal government competes with private investors for scarce capital, federal borrowing can reduce the amount available for other investors. Government borrowing can be large enough to affect the overall level of interest rates, making borrowing more expensive for individuals and families who take out loans for homes, cars, and college.

Q. What is the interaction between federal borrowing and saving?

A. The large amounts of federal borrowing in the 1980s and 1990s occurred at a time when private saving was declining as a share of the economy. This meant that large federal government deficits further decreased a shrinking pool of domestic private savings available for private investment. The federal government ran a surplus in fiscal year 1998—for the first time since 1969—so that it added to, instead of subtracting from, the saving of other sectors. The private saving rate, however, has diminished further in 1998, reaching its lowest level since shortly after World War II. This makes the contribution of federal surpluses to national saving even more important. (See figures III.2 and III.3.)

**Section III: Economic Effects of
Federal Debt**

Figure III.2: Effect of Federal Budget Surpluses and Deficits on Net National Saving (1960-1989)

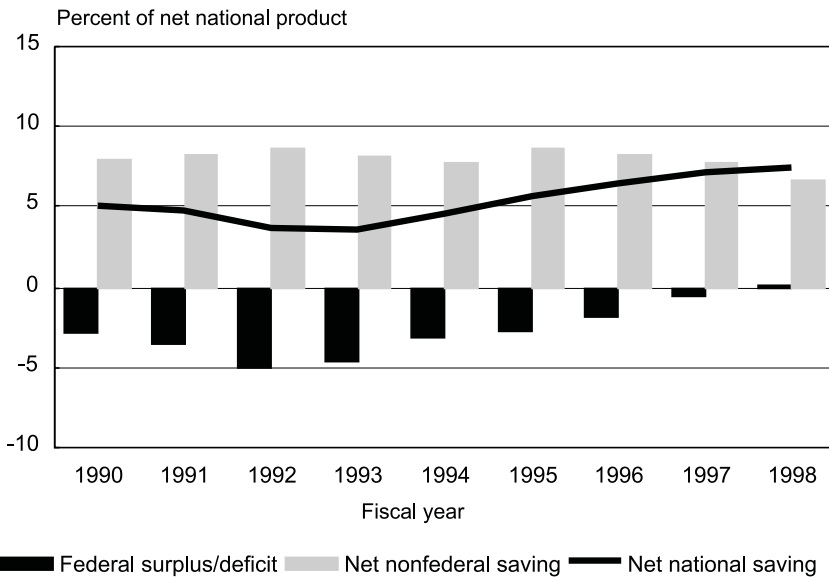


Note: Net national saving is composed of total private and public sector saving. Net nonfederal saving excludes capital depreciation and is composed of private saving and the aggregate state and local government surplus/deficit. All data are on a national income and product accounts basis.

Source: Department of Commerce.

**Section III: Economic Effects of
Federal Debt**

Figure III.3: Effect of Federal Budget Surpluses and Deficits on Net National Saving (1990-1998)



Note: Net national saving is composed of total private and public sector saving. Net nonfederal saving excludes capital depreciation and is composed of private saving and the aggregate state and local government surplus/deficit. All data are on a national income and product accounts basis.

Source: Department of Commerce.

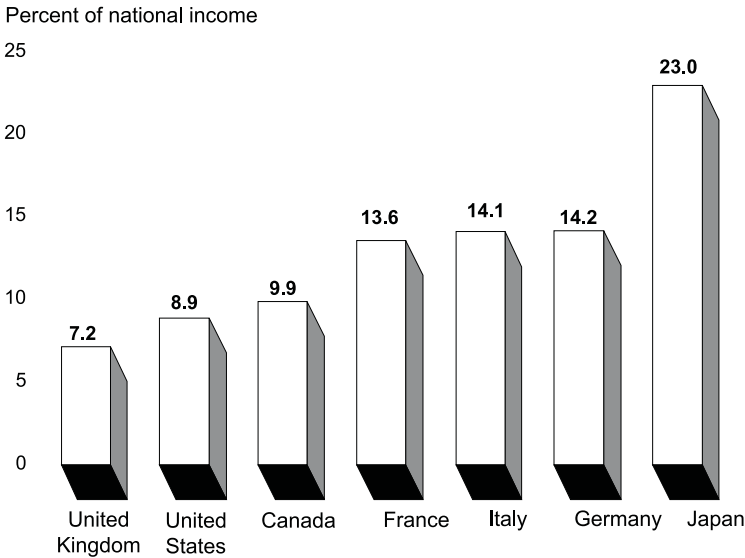
The U.S. national saving rate is not only low by historical standards, it has been well below that of other major industrial countries over the past few

**Section III: Economic Effects of
Federal Debt**

decades. From 1960 through 1996, U.S. net national saving as a share of GDP was sixth among a group of seven major industrialized countries. (See figure III.4.) A low national saving rate can have serious implications for the economy, particularly for its long-term growth. Saving provides the resources to build new factories, develop new technologies, and improve the skills of the workforce. Such investments may boost workers' productivity, which in turn produces higher wages and faster economic growth. Less investment today means slower economic growth tomorrow.

**Section III: Economic Effects of
Federal Debt**

Figure III.4: Average Net National Saving Rates of Selected Countries (1960-1997)



Source: Organization for Economic Cooperation and Development.

A drop in national saving does not necessarily result in an equivalent decline in investment because the United States can borrow from abroad to help finance domestic investment. Indeed, part of the recent decline in national saving has been offset by increased borrowing from foreign investors. The effects of foreign investment, however, are mixed. While foreign investment benefits the United States by allowing it to invest more than it saves, the interest payments on this investment flow abroad.

Some analysts believe that the United States will have to pay higher interest rates to attract foreign investment in the future. This is because other countries have economic and fiscal challenges of their own, such as the aging of the baby boom generation. Other countries could earn relatively higher returns on their savings at home if there were more profitable opportunities available in their own countries. Further, the United States dollar faces a new competitor in international capital markets—the euro, which is the single currency of 11 European countries including France, Germany, Italy, Spain, and the Netherlands. Some have suggested that the availability of the euro eventually could eliminate the unique advantage held by U.S. securities—a broad, deep market for low-risk securities denominated in an easily convertible currency. Because the debt of these countries will be denominated in a single currency, some analysts believe that euro-denominated debt securities may someday become close competitors for U.S. Treasury securities.

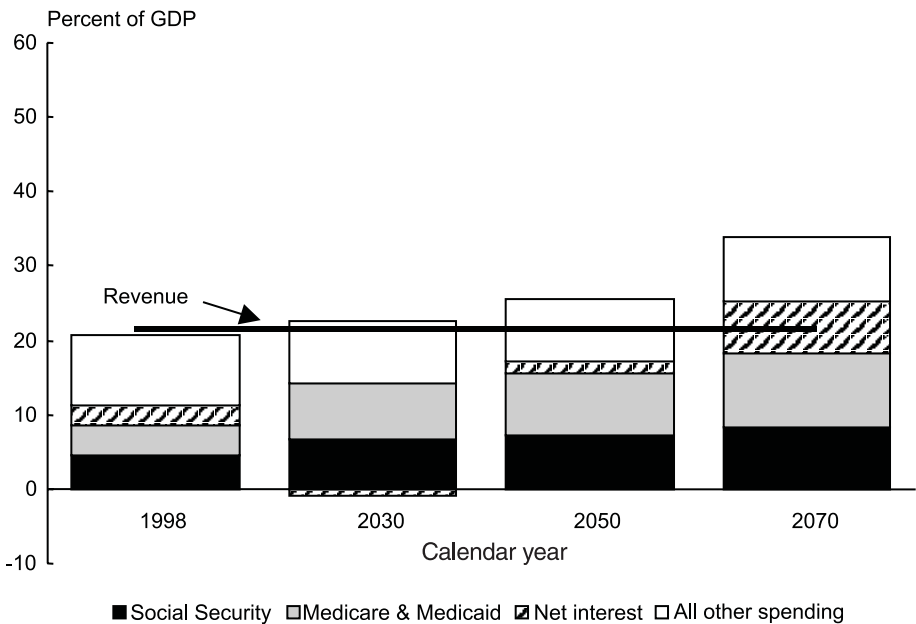
Q. What are the projected demographic changes and their implications for debt?

A. The baby boom generation's retirement has serious implications for the future path of federal debt. First, under current federal budget policies, as the baby boom generation leaves the workforce, spending pressures will grow rapidly due to increased costs of Medicare, Medicaid, and Social Security. If no further policy actions are taken, these three programs alone will double as a share of GDP by 2070. (See figure III.5.) Unless offsetting fiscal actions were taken, deficits would re-emerge in the second decade of the twenty-first century, thereby prompting higher levels of debt and interest costs. Second, because there will be fewer workers per beneficiary in the future, workers will face greater burdens in financing these

Section III: Economic Effects of Federal Debt

costs. Reducing federal debt would expand the future growth of the economy, permitting tomorrow's workforce to finance more easily the retirement costs of the baby boom generation.

Figure III.5: Spending on Social Security, Medicare, and Medicaid as a Share of GDP Through 2070 Under GAO's "Save the Surplus" Simulation



Note: In 2030, net interest as a share of GDP is -0.9 percent.

Source: GAO's long-term model.

Section IV: Federal Debt Management and Ownership

Q. How does the government borrow and what instruments are used?

A. The federal government borrows by issuing securities, mostly through the Department of the Treasury. The U.S. Treasury has the single largest outstanding stock of debt instruments in the financial markets. Most of the securities that constitute debt held by the public are marketable, meaning that once the government issues them, they can be resold by whoever owns them.¹ These marketable securities consist of bills that mature in a year or less, notes with original maturities of at least one year to over 10 years, and bonds with original maturities from more than 10 years out to 30 years. (See table IV.1.)

¹The government also issues nonmarketable securities, which cannot be resold. Examples of nonmarketable securities include savings bonds and special securities for state and local governments. The securities held by government trust funds (such as Social Security and Medicare) and other government accounts also are primarily nonmarketable.

Section IV: Federal Debt Management and Ownership

Table IV.1: Schedule of Treasury Securities Auctions

| Maturity | Frequency |
|-------------------------------------|---------------------------------|
| Treasury bills | |
| 91-day (3-month) | Weekly |
| 182-day (6-month) | Weekly |
| 52-week (1 year) | Every 4 weeks |
| Cash Management | Irregular, as needed |
| Notes | |
| 2-year | Monthly |
| 5-year | February, May, August, November |
| 10-year | February, May, August, November |
| Bonds | |
| 30-year | February, August, November |
| Inflation-indexed securities | |
| 10-year | January and July |
| 30-year | April and October |

Source: Department of the Treasury

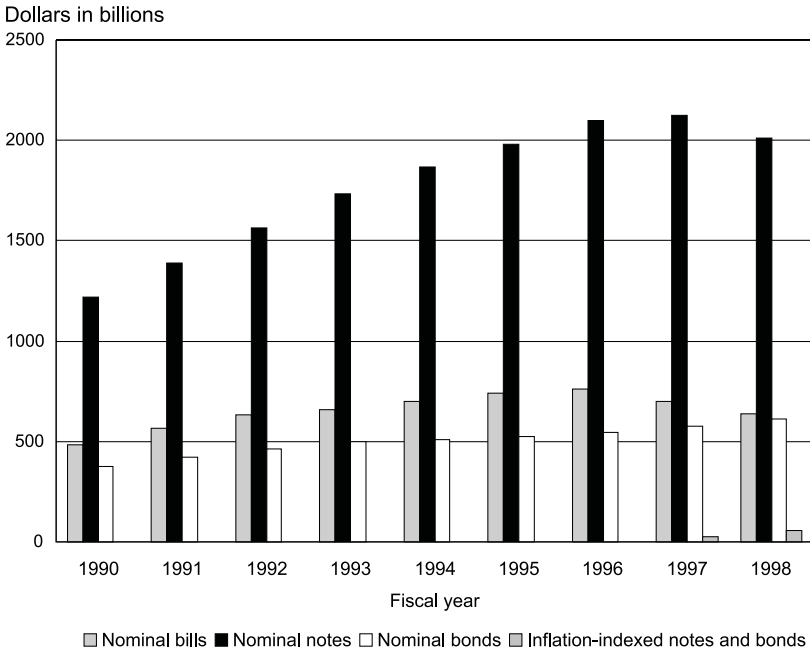
Bills are issued at a discount from the par amount—or face value—and the Treasury repays the par value at maturity. The difference constitutes interest. Notes and bonds pay interest semi-annually at a fixed rate. Most of these notes and bonds, called nominal securities, return the par value at maturity; others, called inflation-indexed securities, repay principal adjusted for inflation. At the end of fiscal year 1998, a total of \$3.3 trillion in all forms of marketable securities was outstanding.

The mix of securities changes regularly as new debt is issued. The mix of securities is important because it can have a significant influence on interest payments. For example, a long-term nominal bond typically

Section IV: Federal Debt Management and Ownership

carries a higher interest rate—or cost to the government—than a shorter term security because investors demand higher interest to compensate for what they see as greater risks, such as higher inflation in the future. However, long-term bonds offer the certainty of knowing what Treasury’s payments will be over a longer period. (See figure IV.1.)

Figure IV.1: Treasury Bills, Notes, and Bonds Outstanding (End of Fiscal Years 1990-1998)



Source: Department of the Treasury.

The Treasury introduced inflation-indexed securities in 1997 because it believed that allowing investors to avoid the risk of inflation would reduce the cost to the government of longer term securities. Interest payments on inflation-indexed securities are adjusted for inflation as they are paid because they are figured on the inflation-adjusted principal. However, the largest payments to investors are back-loaded; that is, the payments for inflation-adjusted principal are made at maturity. If inflation is higher than expected, the financing costs of inflation-indexed securities may be greater than the cost of nominal securities. The converse would be true if inflation were lower than anticipated. Both the pattern of payment and total costs of inflation-indexed securities are different from those of nominal securities. With inflation-indexed securities, small changes in inflation can have a significant effect on the budget.

The budget includes interest outlays for both nominal and inflation-indexed securities similarly—on an accrual basis rather than when the interest is paid to investors.²

Q. Who holds Treasury securities and how have investors changed over time?

A. The federal debt held by the public is owed to a wide variety of investors, including individuals, banks, businesses, pension funds, the Federal Reserve, state and local governments, and foreign governments. These buyers are attracted by the securities' perceived freedom from credit risk, ready

²On nominal securities, the interest is computed as a fixed percentage of the principal, accrued monthly in the budget, and paid in cash semi-annually. On inflation-indexed securities, the principal is adjusted for inflation, accrued monthly in the budget, and not paid until the security is redeemed. Interest on inflation-indexed securities is computed as a fixed percentage of the inflation-adjusted principal, accrued monthly in the budget, and paid in cash semi-annually.

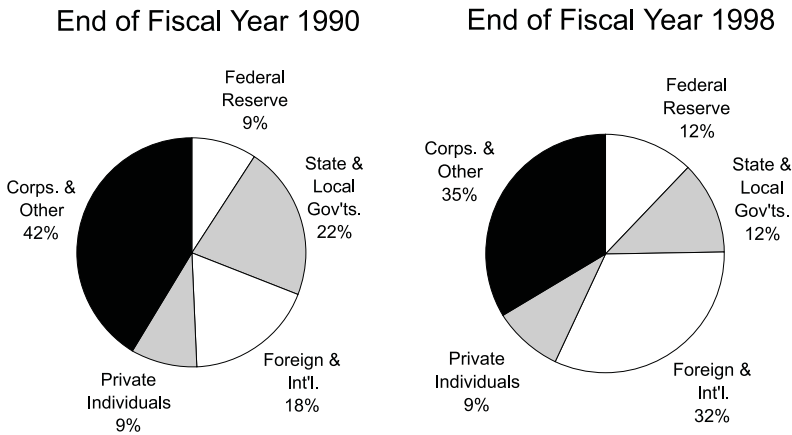
Section IV: Federal Debt Management and Ownership

marketability, exemption from state and local taxes, and wide range of maturities. The Department of the Treasury estimated that the largest share of debt held by the public—35 percent—was owned by businesses and various (mainly financial) institutions at the end of fiscal year 1998. Since the Department of the Treasury does not track sales between investors, information on ownership is estimated based on survey and actual data. (See figure IV.2.) Most securities are sold initially to dealers and brokers that resell the securities.³

³In 1997 auctions, dealers and brokers, who would likely resell Treasury securities, were allotted about 71 percent of nominal notes, about 65 percent of nominal bonds, about 55 percent of inflation-indexed notes, and about 53 percent of bills.

**Section IV: Federal Debt Management
and Ownership**

Figure IV.2: Estimated Ownership of Debt Held by the Public (End of Fiscal Years 1990 and 1998)



Note: The Treasury has indicated that it will revise the presentation of ownership statistics in the June 1999 Treasury Bulletin.

Source: Department of the Treasury, Treasury Bulletin, Tables OFS-1 and OFS-2, December 1993 and December 1998.

Although debt ownership is concentrated among businesses and other institutions, many small investors also directly own Treasury securities. For example, anyone who owns a United States savings bond holds a portion of the debt. Further, many pension funds and money market accounts include debt securities, so small investors also are represented indirectly through these holdings.

The Treasury Department estimates that about two-thirds of the debt is owed to U.S. investors, which

Section IV: Federal Debt Management and Ownership

means that interest and principal payments are made mainly to U.S. residents and institutions. The remaining one-third of the debt is owned by foreign investors, including central banks as well as private investors. Estimates of foreign and international ownership increased from about 18 percent to about 32 percent between 1990 and 1998 due, in part, to attractive returns and uncertainties in financial markets worldwide. The United States benefits from foreign purchases of government bonds because foreign investors fill part of our borrowing needs. However, to service this foreign-owned debt, the United States government must send interest payments abroad, which adds to the incomes of residents of other countries rather than to the incomes of United States residents.

State and local governments purchase special non-marketable Treasury securities, known as State and Local Government Series (SLGs) securities, to temporarily invest funds until they are needed for other purposes. For example, a state may issue debt securities or borrow funds to facilitate their financing of capital projects. In addition, states and local governments purchase other Treasury securities as investments for their pension funds. Treasury estimates that holdings by state and local governments amount to about 12.5 percent of debt held by the public in 1998—down from 22 percent in 1990 but up from a low of 11.7 percent in 1997.

Federal Reserve ownership of public debt increased from 9 percent to 12 percent between 1990 and 1998 in line with the growth in demand for bank reserves and currency.

Q. What are the Treasury's goals for debt management?

A. The U.S. Treasury has the following three principal goals for debt management:

- to ensure the government has sufficient cash at all times to pay its obligations,
- to ensure the government finances its debt at the lowest cost, and
- to promote efficient capital markets.

The first goal—sound cash management—represents the Treasury's central mission—receiving revenues and paying the expenses of the U.S. government. Cash balances vary throughout the fiscal year, reflecting the significant seasonal swing in receipts and outlays. The cycles for issuing bills, notes, and bonds are determined largely by the Treasury's cash management needs. When the budget was in deficit, the government generally borrowed heavily in all but the third quarter of the fiscal year, which includes the April income tax deadline. In fiscal year 1998, which showed a budget surplus, the government borrowed heavily in the first half of the fiscal year but reduced debt held by the public in the second half of the fiscal year. Cash on hand may vary significantly if actual revenue or outlays differ significantly from projections. The Treasury also issues cash management bills from time to time to cover seasonal low points in available cash.

Treasury officials believe the best approach to achieving the lowest cost-financing is to maintain a regular and predictable auction schedule as well as

broad and deep markets.⁴ The Treasury takes a long-term perspective on the cost of debt and does not “time the market” to take advantage of market conditions.

The efficient markets goal is achieved by issuing debt with various maturities and in sufficient amounts to appeal to the broadest range of investors. That is, the Treasury’s intent is to ensure that the market is sufficiently liquid—broad and deep—in outstanding issues. For example, the Treasury seeks to balance the needs of individual investors who may want to buy and hold short-term Treasury bills and notes with the needs of financial dealers who purchase long-term notes and bonds for resale on the secondary market. One way the Treasury balances the needs of different investors with the need to ensure sufficient amount of debt in a maturity range is by changing specific instruments in response to market demands. Prompted by reduced borrowing accompanying the surplus, for example, in May 1998, the Treasury discontinued 3-year notes because it determined that investor demand was being met with the existing 2-year and 5-year notes. To bolster market efficiency and liquidity, the Treasury also decided to auction new 5-year notes quarterly rather than monthly—allowing 4 larger auctions rather than 12 smaller ones.

⁴The regular and predictable offering schedule has helped to reduce the government’s borrowing costs because, for example, investors uncertain about the schedule may switch to alternative instruments and offerings may become compressed. Maintaining broad and deep markets appeals to a broader range of investors and mitigates refunding risks.

Q. How does the Treasury balance its three goals for debt management?

A. These three goals are interrelated, but they are not always entirely compatible. Because of this, the Treasury chooses strategies that balance its needs at a given time. These strategies include varying the size of debt issues, changing the timing of auctions, and varying the types of debt instruments it offers. For example, in the early 1990s when debt outstanding was quite large, the Treasury reduced the average maturity on the debt and issued fewer long-term bonds to lower its interest costs.

Tensions exist among the Treasury's goals. Cash management needs may not be entirely compatible with the goal of maintaining efficient markets through optimal market liquidity across the maturity spectrum. Because new Treasury bills are issued weekly, they represent an easy way for the Treasury to increase or dispose of cash balances. For example, if the Treasury received a large unexpected influx of cash it could reduce the amount of new bills it issued at the next weekly auction. If the reduction were large enough or happened often enough, this could have a negative effect on liquidity in the bill market (by reducing the supply too low to meet market demand without a premium) and, therefore, reduce market efficiency. It also will cause a greater share of the remaining debt to be shifted at least temporarily to higher interest-bearing, longer term securities. This was the case in the third quarter of fiscal year 1998 when the Treasury had to quickly absorb a surprisingly large revenue inflow from tax receipts. The Treasury significantly reduced the amount of bills it rolled over, thus raising the percentage of outstanding debt held in longer term, higher cost instruments.

Another trade-off that the Treasury must address is the relative proportions of longer-term versus shorter-term debt and the resulting implications for cost and market efficiency. Interest rates for shorter-term debt usually are lower than those for longer-term debt in part because borrowers face less interest rate risk. For the Treasury, this means that issuing short-term debt lowers the cost of borrowing today but runs the risk of higher costs when the debt must be refinanced. Issuing more long-term debt sacrifices lower costs initially for a more predictable cost over a longer term, albeit one that denies the Treasury the benefit of rate decreases before long-term debt is due. At the end of fiscal years 1997 and 1998, the Treasury held more longer term than shorter term debt.

Q. How does debt management in a time of budget surplus differ from debt management during periods of budget deficits?

A. The Treasury's three debt management goals—sufficient cash on hand, lowest cost financing, and efficient markets—remain the same regardless of whether the unified budget is in surplus or deficit. However, the Treasury may use different strategies to pursue these goals when debt levels are declining. Additionally, while the Treasury continually makes decisions on the composition of the federal debt, balancing the goals becomes more challenging when the amount of debt held by the public is being reduced.

During periods of budget deficits and increasing debt, the Treasury's primary consideration was how to make debt instruments more attractive to potential investors and whether to introduce new instruments. Under these conditions, it is easier to maximize two goals—lowest cost financing and promoting efficient

markets. In contrast, budget surpluses and reductions in debt held by the public present a particular challenge to the Treasury in achieving its goals of lowest cost financing and maintaining market efficiency. As debt held by the public falls, the trade-offs between lowest cost financing and promoting efficient markets by offering a wide variety of debt instruments with a variety of maturities and yields become more pronounced. That is, as budget surpluses reduce the need for the Treasury to issue debt to the public, the Treasury will face a challenge in sustaining efficient markets in each and every instrument. In looking at the efficient market issue, the Treasury considers the demand of potential investors for different instruments—such as those who want to purchase bills and those who want notes or bonds. This balancing act becomes more difficult with a declining supply of government securities available to the public. The Treasury also considers the needs of investors such as brokers and dealers who want to purchase nominal notes and bonds⁵ for resale on the secondary market as well as the desires of other investors that want securities such as inflation-indexed instruments to buy and hold over longer periods of time. Furthermore, introducing a new class of security, such as inflation-indexed notes and bonds, when overall debt held by the public is being reduced means that the Treasury can issue less new nominal debt to preserve the liquidity of other issues and adds complexity to achieving these goals.

To balance its goals in a time of declining debt held by the public, the Treasury has a number of options. For example, it can choose not to issue new debt to replace the maturing debt (that is, not rolling over debt) and/or it could repurchase outstanding debt in the market in advance of its maturity date. Other debt management actions—such as eliminating a debt instrument, reducing the number of debt instruments

⁵Nominal notes and bonds are not indexed for inflation.

**Section IV: Federal Debt Management
and Ownership**

in a given auction, and/or changing the auction cycle—also can be helpful in the context of debt reduction.

Section V: Key Issues in Evaluating Future Debt Levels

Q. What are the key issues in evaluating the level of debt in the future?

A. While the debt held by the public has declined recently as a share of GDP, it remains relatively high. Further reductions in the debt-to-GDP ratio will help build the fiscal capacity to provide baby boom retirees with needed retirement and health care services if such reductions lead to more private investment and greater productive capacity. Boosting saving, thus raising investment and economic growth, is a key to responding to these challenges and will create a larger economy.

However, there is no consensus on the optimal level of debt as a share of the economy or on how quickly to reduce debt. As we have seen in our nation's history, debt levels have fluctuated over time, even when there was consensus on the need to reduce debt and general progress toward that goal.

Although the situation the United States is now facing—how to respond to a budget surplus—presents new challenges, it is not unique. A number of other countries have faced such questions. Several of those countries that have come to the conclusion that their debt burden is too high have made debt levels an explicit part of their fiscal decision-making process. Australia, New Zealand, and the United Kingdom all attempt to define prudent debt levels as national goals. These debt goals can prove important in times of surplus. New Zealand, for example, used its debt goals as justification for maintaining spending restraint and attempting to run sustained surpluses. The government promised that once it met its initial debt target, it would give a tax cut. When it hit that specified debt target, it delivered on its promised tax cut.

**Section V: Key Issues in Evaluating
Future Debt Levels**

Evaluating the overall level of debt for the future involves balancing a number of considerations, such as the uses of federal borrowing (either for investment or consumption), the desired mix of private versus public investment spending, and future needs (for example, paying for the retirement of the baby boom generation).

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