

# Chapter 12



## BUDGET BALANCE AND GOVERNMENT DEBT

**LEARNING OBJECTIVES** After reading this chapter, you should be able to:

- Discuss the federal government budget deficit or surplus and issues involved in measuring the budget balance and its impact on interest rates, national saving, economic growth, and resource use.
- Define the net federal debt and explain how growth of the debt is related to the federal budget balance.
- Describe the ownership pattern of the national debt and the distinction between external and internal debt, and the burden of the debt.
- Examine economic issues relating to borrowing by state and local governments.

Governments can spend more than they collect from taxes and other sources of revenue by borrowing. By running up the public debt, governments can put off the burden of taxation to the future. When government spending exceeds revenues, the result is a budget deficit. Budget deficits have been common for the federal government in the United States since 1960. State and local governments by and large are required by state law to keep their budgets in balance and borrow only to finance capital expenditures. Since 1960, it has been common for state and local governments to run modest budget surpluses. However, unanticipated declines in revenue can result in deficits for state and local government that require rebalancing of their budgets. The recession that began in late 2007 resulted in sharp declines in revenues for most state governments in 2008 and 2009. Several states had budget deficits amounting to more than 20 percent of their planned expenditures. The deficits forced these state governments to cut expenditures, layoff or furlough state employees, and increase tax rates to bring their budgets back into balance.

The recession was also having a major impact on the federal government's budget balance in 2009. Revenues declined in that year and expenditures for transfer programs such as unemployment insurance increased while extraordinary expenditures were incurred to cope with a financial crisis and stimulate an economy with an unemployment approaching 10 percent. By 2009 the federal budget deficit was moving in the range of an unprecedented \$1.5 trillion—an amount equal to 11 percent of GDP! Projections by the Congressional Budget Office in 2009 indicated that based on likely scenarios for federal spending and tax collections, the federal budget was likely to continue to be in deficit through 2020 although the share of the deficit as percent of GDP was likely to decline significantly after 2010 to a range between 2 and 4 percent of GDP. In the future, most of the growth of federal spending contributing to future deficits, other than interest on the federal debt, will result from three major entitlement programs: Medicare, Medicaid, and Social Security. Expenditure for these programs will result mainly as a result of aging of the population. This chapter will discuss why there is good reason to be concerned about negative economic effects of chronic government deficits. To control those deficits in the future will require initiatives that reduce the rate of growth of entitlement programs contributing to the deficit.

Borrowing by the federal government to finance public expenditures has been the rule rather than the exception in the United States since 1960. The brief four-year period of federal budget surpluses between 1998 and 2001 demonstrated that budget surpluses, just like deficits, can be used to finance government expenditures or tax rate reductions. A surplus gives politicians the opportunity to fund new programs without increasing taxes or to slash taxes without cutting back on public expenditure. The federal budget surplus that prevailed from 1998–2001 was dissipated over a four-year period, in part, due to a recession in 2001 and slowdown in the economy's rate of growth that cut tax collections. However, tax cuts enacted in 2001 along with increased demands for spending for national defense and homeland security also contributed to the demise of the surplus. If surpluses are allowed to persist, they can be used to pay off and reduce the federal government's debt. Used in this way, budget surpluses increase national saving and make more funds available in credit markets. The increase in national saving could lower real interest rates,

contribute to more investment, and thereby increase the economy's rate of economic growth. This faster growth would increase the tax base and mean that a given amount of government spending could be financed with lower tax rates in the future. The opposite is true if budget deficits are allowed to persist. Budget deficits absorb funds from credit market and contribute to declines in national saving. The decline in national saving can increase real interest rates, reduce private investment, reduce economic growth, and decrease future living standards.

This chapter examines the federal budget balance and the role that both borrowing and budget surpluses play in public finance. We look at effects on interest rates, saving, investment, and future living standards. We also analyze the federal debt and its effect on the economy along with the consequences of reducing the debt.

## THE FEDERAL BUDGET BALANCE

Why all the concern about the federal budget balance (deficit or surplus) and the government debt? What, if anything, is wrong with government borrowing as a means of financing its activities? What should be done with a government budget surplus? Should the budget always be balanced with neither a deficit nor a surplus in any year? In 2008 and 2009 a huge federal budget deficit emerged as spending was increased and tax revenues declined. The deficit in that year was helping to stabilize an economy in recession. However, the size of the federal budget deficit (or surplus) can have long-term effects on saving, investment, the nation's long-term rate of growth. Fiscal policy, the use of the government budget to stabilize the economy, can help move the economy back to full employment during recessions but long-term concerns about the impact of a deficit on national saving and future living standards must also be considered. The federal budget deficits since 1980 have been mainly structural in the sense that they represented basic imbalances between federal revenues and spending. These deficits would have persisted even if the economy were at full employment. For example, the U.S. economy was operating at close to full employment in 1996 when the unemployment rate was below 5.5 percent for most of the year. However, during that year the federal government incurred a deficit of \$107 billion. Similarly, in 2005, when the economy was also running close to full employment with an unemployment rate of 5.1 percent, the federal government ran a deficit of \$318 billion.

When a recession hits, such as the major recession that began in late 2007 in the United States, the deficit tends to grow as both revenues decline in response to the decline in economic activity and expenditures for entitlement programs grow as more citizens become eligible for transfers as a result of declines in employment and income. The financial crisis that triggered the recession also resulted in emergency spending by the federal government to assist businesses in the financial and automotive sectors of the economy and prevent the undesirable effects of their economic failure. A stimulus bill designed to increase employment during the recession also added to federal spending causing the federal deficit to run up to levels unseen since World War II.

Rather than looking at the dollar amount of a deficit or surplus, most economists prefer to measure it as a share of GDP. GDP is a measure of the aggregate

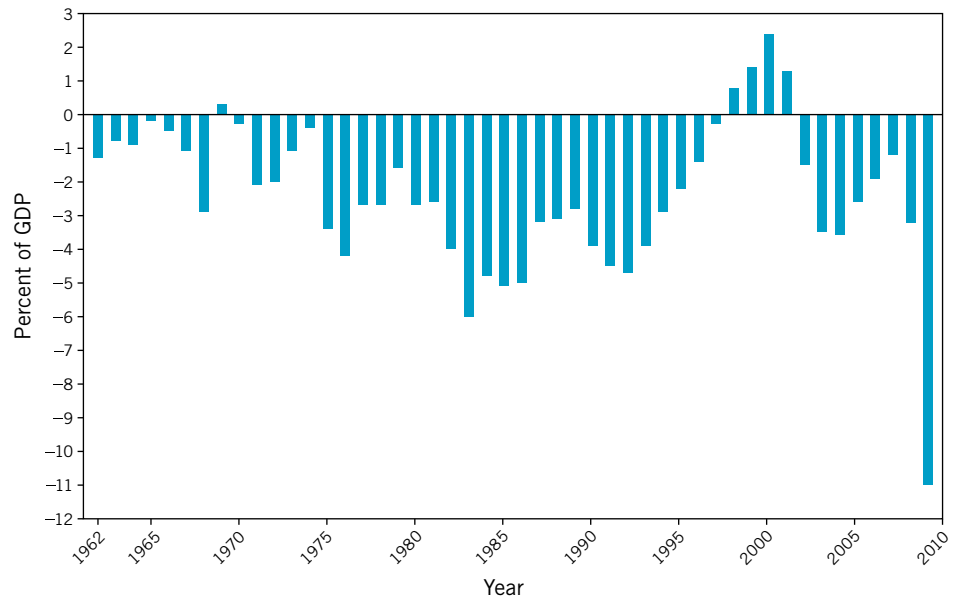
income generated from domestic production of goods and services. When we view a deficit as a percentage of GDP, we get a picture of the burden of federal borrowing as a share of aggregate income of the nation. In 2005 the federal budget deficit amounted to 2.6 percent of GDP and in 2004 it was 3.6 percent of GDP. This means that the federal government borrowed an amount equivalent to 2.6 percent of the nation's aggregate income in 2005 and even more than that in the previous year. By 2009 the federal budget deficit was approaching 11 percent of GDP! This means that in that year the federal government was borrowing the equivalent of about 11 percent of the nation's domestic income to finance federal expenditures. Much of that borrowing was financed by foreigners purchasing federal government securities. As the deficit grows so does the federal debt held by the public and foreigners. The very large deficits in 2009 and 2010 will cause the federal government debt to the public to grow from 40 percent to 60 percent of GDP by the end of 2010 and also result in federal interest payments on the debt increasing from 1 percent of GDP in 2008 to 2.5 percent of GDP by the end of 2010.

Borrowing is an alternative to current taxation as a means of financing government expenditures. A **budget deficit** is the excess of government outlays over receipts taken in from taxes, fees, and charges levied by government authorities. A **budget surplus** is the excess of government receipts over government outlays. Figure 12.1 shows how the federal budget balance as a percentage of GDP has been negative,

## Apago PDF Enhancer

FIGURE 12.1

Federal Budget Balance, 1962–2009



Source: U.S. Department of Commerce, Bureau of Economic Analysis. Deficit for 2009 is an estimate.

signifying a budget deficit, in most years over the period 1962–2009. Federal outlays have exceeded receipts in every year since 1962 except for 1969 and the period 1998–2001 when the balance was positive, indicating a budget surplus. As the federal government has borrowed, its debt has grown and so have the portions of its annual expenditures that it has had to devote to paying interest on that debt. In 2008, the federal government allocated 8.5 percent of expenditures to paying interest on its debt. Because of growth in the federal debt, it is projected that the portion of the federal budget allocated to pay interest on the federal debt will increase to 12.5 percent of federal government outlays by 2019.

From a public finance point of view, using borrowing to finance government expenditures implies lower current taxes for citizens in the year deficits are incurred, but that greater portions of future tax revenue be used to pay interest on debt instead of being used to provide government services. If budget deficits persist for many years, current generations of taxpayers will shift the burden of taxation for government goods and services they enjoy to future generations of taxpayers. As you will soon see, the deficits also can reduce living standards of future generations by contributing to reduced industrial investment and lower economic growth.

As shown in Figure 12.1, the federal budget deficit remained in a range of between 2 and 6 percent of GDP over the period 1975–1985. Although the deficit declined as a percentage of GDP between 1983 and 1989, it began to rise as a share of GDP again in 1990. However, as a result of a growing economy and new legislation, the deficit declined from 1993 to 1999. From 1998–2001 there was a budget surplus. However, the surplus provided opportunities for government to fund new programs or reduce current taxes. Many politicians and economists argued that the surplus should be “saved” for future use particularly by retiring outstanding government debt. However, President George W. Bush argued that the surplus should be used to reduce tax rates. By 2002, the federal budget balance returned to deficit in part as a result of tax cuts enacted by Congress in 2001. Between 2001 and 2008 the deficit fluctuated between 1 and 3.6 percent of GDP before climbing to about 11 percent of GDP in 2009 as a result of the recession in that year.

State and local government budgets typically are in balance or run a small surplus. However, because of unanticipated shortfalls of revenue, state and local government budgets in the aggregate had a small deficit in 2000 and 2001. The total government budget balance is obtained by adding state and local government budget balances to the federal deficit or surplus. Over the period 2002–2005 state and local budgets were in balance with neither a surplus nor a deficit. In 2009 most state governments were struggling to balance their budgets to eliminate deficits caused by the recession induced decline in revenues. In some states the deficits were running between 20 and 40 percent of current outlays and rebalancing of the budgets required major cuts in state government services and painful increases in taxes.

## The High-Employment Deficit or Surplus

The size of the federal budget deficit or surplus in any given year is influenced by the fluctuations in economic activity normally associated with the business cycle. Federal government expenditures, such as those for unemployment insurance and

public assistance to the needy, increase when unemployment rates go up. Tax revenues automatically increase with increases in employment and GDP. Corporate income tax collections are particularly sensitive to fluctuations in economic activity. Personal income tax collections based on a progressive rate structure also fluctuate with the level of economic activity.

The advantage of the automatic changes in the budget balance with the level of economic activity is that they help stabilize the economy. They do so by directly adding to the demand for goods and services when unemployment rates increase. Tax revenues decline more than proportionately with increases in unemployment, thereby maintaining disposable income. Similarly, unemployment insurance payments enable workers who are laid off to maintain their spending until they go back to work.

In any given year, the budget deficit or surplus reflects *both* the level of economic activity in that year and the structural imbalance between revenues and expenditures. It is possible to adjust for the influence of fluctuations in economic activity by computing the **high-employment deficit or surplus**. This calculation estimates the budget deficit or surplus that would prevail at a certain designated level of unemployment in the economy. The standardized level of unemployment is usually set between 5 and 6 percent. To estimate this deficit, receipts and expenditures are adjusted accordingly to reflect their levels if 94 to 95 percent of those in the labor force were actually employed. The benchmark level of unemployment is selected arbitrarily; some might argue that other levels should be used as the benchmark to calculate the deficit. In any event, after removing the impact of the deviations of economic activity from the benchmark high-employment level, any remaining deficit reflects a basic structural imbalance between government revenues and expenditures.

From 1960 to 1980, the high-employment budget deficit averaged less than 2 percent of GDP. In 1988, the economy was close enough to full employment so that the actual deficit could be viewed as the high-employment deficit. In that year, the deficit amounted to 3 percent of GDP. A positive high-employment deficit indicates that increases in the level of economic activity alone are not sufficient to eliminate the deficit. In 1995, an estimate of the high-employment deficit by the Congressional Budget Office placed its value at 1.9 percent of GDP, indicating the deficit was not the result of the sluggish economy, and the deficit was providing considerable spending power to support economic activity at a time when the U.S. economy was expanding. Clearly, the federal deficit has been used in the United States primarily as a means of financing government expenditures rather than a means to stabilize the economy.

By 1999, when the federal government ran a budget surplus, the Congressional Budget Office estimated, using a 5.2 percent standardized level of unemployment, that, at high employment, the surplus was close to zero. Even though the dollar amount of the surplus was \$126 billion, the actual unemployment rate was below the standardized level that year. Accordingly, the office adjusted revenues downward and expenditures upward to a recalculated high-employment surplus of only \$11 billion that year. In 2005 the CBO estimated that the U.S. economy's actual GDP was slightly below the high employment level of GDP

and calculated a standardized federal budget deficit of \$226 billion which was below the actual deficit of \$318 billion. In 2009 the economy was in a major recession with an unemployment rate close to 10 percent. The actual federal deficit that year of about \$1.4 to 1.5 trillion was much higher than that which would have prevailed had the economy been at full employment that year with a standardized level of unemployment of between 5 and 6 percent.

## Measuring the Budget Balance

Measurement of the federal government's budget deficit or surplus is complicated by the fact that some receipts and expenditures of the federal government operate through trust funds that are officially "off budget." The two main government operations treated in this way are Social Security and the U.S. Postal Service. In recent years, the Social Security trust funds have run a substantial surplus (in 2008 it was \$180.2 billion), and so has the U.S. Postal Service, although its surplus was small (in 2008, it amounted to \$3 billion). Even though trust funds are budgeted for separately, their revenues and expenditures affect the federal government's overall borrowing demands on the credit markets. When the Social Security trust funds run a surplus, the surplus is lent to the Treasury and reduces the Treasury's demands on the credit markets.

The *unified budget balance* is the difference between all federal government expenditures and all federal government revenues, be they "on budget" or "off budget." A unified budget deficit is the best measure of the amount of the funds that the federal government must borrow in any given year. However, from the point of view of measuring the long-term impact of a deficit or surplus on the economy, the unified budget has some shortcomings. The net economic effect of the budget depends entirely on the negative or positive saving it generates. In some cases, federal government's borrowing has been to cover existing debts of government insurance programs such as those for bank deposits and natural disasters. Such borrowing merely assumes old debt and reflects past obligations of the government that should have been included in past deficits but were not.

The *NIPA budget balance* is the official measure of the federal deficit in the National Income and Product Accounts. *The NIPA budget deficit or surplus does not include any transactions that finance preexisting debts, such as outlays for deposit insurance.* The NIPA budget is the best measure of the net new debt that results from the federal budget deficit. For this reason, the NIPA budget is most often used to gauge the long-term impact of changes in the budget balance.

Like most economic magnitudes, the federal government deficit or surplus can be adjusted for inflation. The **real budget balance** is a measure of the change in the federal debt after adjustment for the effects of inflation and changing interest rates on the real market value of the outstanding net debt. Like all debtors, the federal government benefits from inflation because a rising price level causes the real value of its previously issued outstanding debt to decline. Fluctuating interest rate levels also affect the market value of outstanding debt in a given year. When interest rates rise, the market value of outstanding debt issued at lower interest rates tends to fall. Similarly, decreases in market interest rates tend to

## P U B L I C P O L I C Y P E R S P E C T I V E

## How Did the Deficit Get So Big in 2009? The Impact of Recessions and Public Policies

In 2001 the federal government was running a surplus equal to 1.5 percent of GDP and was paying down the federal debt as it had been doing since 1998. Then beginning in 2002 the red ink started to flow and deficit finance became the norm again. By 2009 the deficit had grown to more than 10 percent of GDP and there seemed to be little chance that the federal government would balance its budget any time soon.

How did we return to deficit finance so quickly after a 4-year interval of surpluses? The growth of the deficit has its roots partially in the business cycle—recessions in 2001 and 2007–2009—but public policy also plays a part. Tax cuts and a ramping up of military spending during the administration of George W. Bush after 2001 contributed to growth in the deficit. Debt was incurred to finance both the increased military spending and extension of Medicare pharmaceutical benefits to the elderly. During the Bush administration a new Medicare prescription drug benefit (Medicare Part D) was enacted that increased health care spending. And as a result of aging of the population spending for all parts of Medicare and Medicaid has increased. Extension of health insurance benefits to the uninsured is likely to also increase health care spending. Continued military operations by the United States in Iraq and Afghanistan has increased defense expenditures. Increased spending in 2008 and 2009 to stimulate the economy in the throes of a recession also added to the red ink and a likely growth in government spending for health care and Social Security in the future is likely to further widen the gap between federal outlays and revenues.

The business cycle plays an important role in influencing the deficit. The recession of 2001 reduced tax collections for the federal government and increased spending for transfer programs. Slower growth after the recession also caused revenues to grow more slowly than previously forecast. The effect of the recession from 2007 to 2009 sharply reduced revenues again and increased spending for safety net programs such as unemployment insurance and aid to the poor.

In October of 2008 the Congress enacted the Emergency Economic Stabilization Act of 2008 in response to a financial crisis. This legislation was primarily designed to provide funds to financial institutions that had incurred losses as a result of the decline in the value of mortgage-backed securities. The Act authorized the United States Secretary of the Treasury to inject up to \$700 billion into the economy over several years to purchase illiquid assets through the Troubled Assets Relief Program (TARP) and prop up distressed banks by purchasing their corporate stock thereby giving the federal government an ownership share in the financial institutions. A sum of \$250 billion of the total was made available immediately upon enactment of the legislation with the remainder to be spent after a detailed plan was submitted by the President for approval by the Congress. It was anticipated that the bulk of the spending would occur over a period of two years.

The purpose of the legislation was to prevent erosion of confidence in the United States financial system, reduce the risk of the failure of depository institutions, and restore the health of other financial

increase the market value of outstanding debt previously issued at higher interest rates. It follows that rising interest rates contribute to decreases in real debt while falling interest rates contribute to increases in real debt.

Analysis by the Congressional Budget Office suggests that unadjusted *changes* in the surplus or deficit as a percent of GDP provide a reliable measure of the impact of the federal budget on the performance of the economy.<sup>1</sup> In particular, the

<sup>1</sup>See U.S. Congress, Congressional Budget Office, *The Federal Deficit: Does It Measure the Government's Effect on National Saving?* (Washington, D.C.: U.S. Government Printing Office, March 1990).



intermediaries vital to the functioning of credit markets. The assets acquired by the government under this program could eventually be resold at a later date thereby offsetting some of the \$700 billion cost to taxpayers with future revenue from asset sales and contributing to a reduction in the deficit. The legislation also increased deposit insurance on individual accounts at federally insured U.S. banks from \$100,000 to \$250,000, which could increase federal spending in the future if bank failures increase. Although the spending authorized by this legislation was primarily directed toward financial institutions, the primary goal was to improve the flow of credit to individuals and businesses thereby stimulating private spending and reduce foreclosures of mortgages on private homes so as to prevent further erosion in home values and tax collections.

In the first weeks of the Obama presidency, Congress enacted the American Recovery and Reinvestment Act of 2009 (ARRA). This legislation was intended to stimulate the U.S. economy with a combination of federal tax cuts, increases in transfer payments, such as unemployment insurance benefits and other social insurance, assistance to state and local governments, and an increase in federal government spending over several years in such areas as infrastructure (including roads and bridges), education, health care, and energy. Tax cuts were expected to account \$288 billion in lost revenue to the federal government. A sum of \$144 billion was allocated for fiscal relief for state and local governments while \$357 billion was allocated to increase federal government spending. Of the total for federal government spending, \$89 billion was allocated to infrastructure investment to be spent on transportation facilities, improved government facilities including environmental protection and flood

control, housing, improved public internet access, and water resource projects.

The increase in federal spending authorized under both these Acts was unprecedented in amount. Combined with estimated losses in revenue the federal government's budget deficit ballooned into the range of 10 to 11 percent of GDP.

Over the short term it was generally agreed that the stimulus to the economy from these fiscal policy actions would increase real GDP and employment. However, over the longer term there was concern that the increase in the federal deficit as a share of GDP could bid up interest rates and reduce private investment. There was also concern that if taxes were not increased and spending cut quickly enough after the economy recovered that the effects of the package could generate an inflationary process in the future.

The deficits of recent years have therefore resulted in part from increased spending and tax cuts. We have simply been financing basic federal government expenditure by borrowing. Although a fall in tax revenue and an increase in federal spending to stimulate the economy in 2009 might account for as much as 40 percent of the \$1.4 to \$1.5 trillion deficit in that year, the remainder is a result of the federal government systematically using the deficit as a means of finance.

There are two basic ways to reduce future deficits. Either spending will have to be cut or taxes will have to be increased. President Obama pledged to extend health care to the uninsured and not to raise taxes on households earning less than \$250,000 per year. The Obama administration has indicated that it is committed to policies that reduce deficit to within the range of 3 percent of GDP by 2019 if not sooner. It remains to be seen how successful those policies will actually be.

CBO concludes that changes in the unadjusted deficit *as a percent of GDP* provide a good indication of the burden of deficit finance on the public. An increase in the deficit implies an increase in the share of GDP that is borrowed by the federal government while a decrease in the deficit or an increase in the surplus signals a decrease in the share of GDP that is borrowed by the federal government. The next step is to examine the impact of government borrowing or saving on national saving and the current, and more importantly, future performance of the U.S. economy.

## CHECKPOINT



1. From a public finance point of view, what are the implications of a government budget deficit or a budget surplus?
2. How does the high-employment deficit or surplus differ from the actual deficit or surplus?
3. What is the real deficit or surplus?

## ECONOMIC EFFECTS OF THE FEDERAL BUDGET BALANCE

### A Deficit and Political Equilibrium

The mix and quantity of government services and investment depend, in part, on the means used to finance such government expenditures. By borrowing rather than using taxes to finance government activities, politicians can influence the willingness of voters to vote for increased spending. In other words, the political equilibrium quantity of government spending can be affected when we use deficit as opposed to tax finance. Deficits can affect both resource allocation (by influencing the types of government spending) and the overall size of the government sector in the economy. They also can influence prices and interest rates, thereby affecting the distribution on income.

By using deficit finance, we can keep taxes lower than they otherwise would be and still enjoy a given quantity and mix of government services. However, deficit finance also can allow higher government spending either for transfers or for purchases of goods and services without raising taxes. In fact, the federal deficits of the 1970s and 1980s were, in part, used to finance investments in military technology. However, much of the growth in federal spending during that period (as shown in Chapter 1) is accounted for by an unprecedented increase in transfers both in-kind and as income support, mainly to the elderly.<sup>2</sup>

Because borrowing to finance deficits postpones the burden of taxation to the future, it makes sense to use deficits to finance government investments that will provide a stream of future benefits. This is efficient because taxes will then be distributed among future generations who will share the benefits of such government investments as roads, structures, transportation and communication networks, and environmental protection. Traditionally, nations have relied heavily on borrowing to finance wars and investments in military technology and equipment

<sup>2</sup>During the 1980s when federal deficits were increasing as a share of GDP, spending on the elderly continued to grow, and it now absorbs nearly one-half of noninterest domestic spending by the federal government. See Rudolph G. Penner, "Federal Government Growth: Leviathan or Protector of the Elderly?" *National Tax Journal* 44, 1 (December 1991): 437–450.

under the presumption that the removal of a threat to national security will provide future benefits for which future taxpayers should pay.

However, the deficits of the 1970s and 1980s were not incurred in a period of war or a period of significant increased national investment in infrastructure. Instead, much of the growth of spending that, in effect, was financed by the deficit was in the form of transfers of income and services (especially medical services) to the poor and the elderly. These federal expenditures mainly financed consumption as opposed to investment. The ratio of taxes to GDP remained quite stable during this period at around 20 percent of GDP while federal outlays increased to 25 percent of GDP. The growing deficits of the 1970s and 1980s could be viewed as the outcome of a political system that satisfied the demand for increased federal transfer programs (many of which benefited the elderly) while preventing federal average tax rates (ATRs) from increasing significantly. It is possible that this growth in transfers could not have been approved through the political system if it were financed by increased taxes (or cuts in other types of spending) rather than by borrowing. Of course, it is difficult to pin down exactly what the deficit financed during this period because borrowing is not earmarked to any specific purpose. For example, use of the deficit also made it easier for both the Carter and Reagan administrations to gain political approval for increased government purchases for programs of investment in military technology.

A surplus also affects political equilibrium. Surpluses can be used to finance new government spending or tax rate reductions. A surplus can be maintained over the long term only if it does not give rise to political forces to spend it. During the presidential election of 2000, a major issue was what to do with the growing budget surplus. Some politicians advocated returning the surplus to “the people” through reduction in income tax rates targeted to benefit families. Others argued that the surplus should be saved to bolster the economy’s future growth rate. The surplus was used, in part, to finance tax cuts enacted in 2001.

Between 2001 and 2005 deficit finance was once again employed to finance increased military expenditures for the war in Iraq and to defend the nation against terrorism. Both tax cuts and increased spending for social insurance, such as extension of Medicare coverage for prescription drugs contributed to increased deficit spending. In 2006 the deficit moderated somewhat as the economy boomed but as the recession began in 2007 deficit finance was once again employed both to finance aid to financial institutions holding troubled assets, to assist the automotive industry and to finance the American Recovery and Reinvestment Act of 2009 to stimulate the economy.

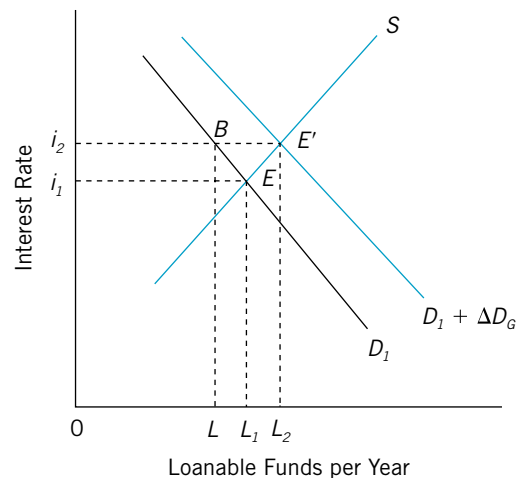
## Effect of a Deficit on Credit Markets

The economic effects of a federal budget deficit on the economy also depend on how it affects interest rates, national savings, and investment. The influence of a deficit on these economic variables is contingent on how the federal deficit influences the demand and supply of loanable funds in credit markets. A federal

budget deficit adds to the national debt and, by doing so, increases the future interest costs to the federal government. Therefore, each year more and more tax revenues must be devoted to paying interest on the national debt instead of providing goods and services to citizens. Net interest paid by the federal government has increased from 6.8 percent of total expenditures in 1959 to 15 percent of expenditures in 1999. Since 1999, net interest has fallen to 8.5 percent of federal outlays as interest rates have declined. An annual deficit of \$150 billion per year adds \$6 billion in annual interest costs to the federal budget at 4 percent interest. The increase in the federal deficit beginning in 2009 is projected to increase net interest costs for the federal government to 12.5 percent of federal outlays by 2019 and this could even be higher if interest rates rise.

The traditional view of the economic effects of federal government budget deficits hypothesizes that, other things being equal, the deficit contributes to higher interest rates. By doing so, the deficit can choke off private investment, thereby slowing the real rate of economic growth for the nation. Figure 12.2 shows that an increase in demand for loanable funds by the government to finance a deficit can increase market interest rates. The market demand for loanable funds is composed of the demand for credit by households, business firms, state and local governments, and the federal government. When the federal

**FIGURE 12.2** Government Demand for Loanable Funds and the Market Rate of Interest



An increase in government demand for loanable funds to cover budget deficits shifts the demand curve from  $D_1$  to  $D_1 + \Delta D_G$ . This increases the equilibrium market rate of interest from  $i_1$  to  $i_2$ . The higher interest rate increases the quantity of loanable funds supplied to the market but also “crowds out” some private borrowing that would have otherwise occurred. As the quantity of funds demanded for private investment falls, these funds are reallocated to finance the deficit.

government increases the demand for funds, it can bid up interest rates because it borrows a significant amount of the total available funds per year. The initial equilibrium is at point  $E$ , where the interest rate is  $i_1$  and the total quantity of funds borrowed is  $L_1$ .

As shown in Figure 12.2, an increase in government demand for funds shifts the market demand curve from  $D_1$  to  $D_1 + \Delta D_G$  and results in a new market equilibrium at  $E'$ . The market rate of interest increases to  $i_2$ , and the quantity of loanable funds supplied increases to  $L_2$ . The increase in the market rate of interest decreases the quantity of loanable funds demanded by business firms for investment. It also chokes off some borrowing by households to finance acquisition of such durable goods as automobiles and homes. At the same time, higher interest rates encourage more saving, thereby decreasing private consumption in the current year.

The budget deficit can be represented by the distance  $BE'$  in Figure 12.2, which is the difference between private borrowing,  $L$ , and total borrowing  $L_2$  after the government finances its deficit. Part of the budget deficit is financed by an increase in the quantity of loanable funds supplied to the markets represented by the distance  $L_1L_2$ . The remainder of the budget deficit is financed by a reduction in borrowing for private investment represented by the distance  $L_1L_2$ . This is a reduction in the quantity of loanable funds demanded to finance private investment that results from the increase in the market equilibrium interest rate from  $i_1$  to  $i_2$ . These funds are then reallocated to buy government securities that finance the deficit.

**Apago PDF Enhancer**

Many, but not all economists attribute the high real interest rates of the mid-1980s in the United States to the effect of the budget deficit on the demand for credit.<sup>3</sup> High interest rates hurt consumers by making it more difficult to borrow funds to purchase homes and other durable goods. They harm workers by decreasing the quantity of annual investment. This, in turn, decreases job opportunities. Reduced private investment also contributes to lagging worker productivity, resulting in lower wages than otherwise would be the case. Higher interest rates also increase the demand for U.S. dollars by foreigners who seek to invest dollars earned from foreign trade. This bids up the price of dollars

<sup>3</sup>See Laurence H. Meyer, ed., *The Economic Consequences of Government Deficits* (Boston: Kluwer-Nijhoff Publishing, 1983). Some research, however, indicates little relation between government deficits and interest rates. One such research study on the impact of federal borrowing on short-term interest rates found that increased borrowing had little effect on the market interest rates. See Gregory P. Hoelscher, "Federal Borrowing and Short-Term Interest Rates," *Southern Economic Journal* 50 (October 1983): 319–333. For more recent analysis of the impact deficits on long-term interest rates see William G. Gale and Samara R. Potter, "An Economic Evaluation of the Economic Growth and Tax Relief Reconciliation Act of 2001," *National Tax Journal*, 55 (1, March 2002): 133–186. Recent analysis does indicate that deficits do increase long-term interest rates and reduce national saving. See William G. Gale and Peter R. Orszag, "Budget Deficits, National Savings, and Interest Rates," *Brookings Papers on Economic Activity* (September 2004). Their empirical analysis suggests that each percent-of-GDP in current deficits reduces national saving by 0.5 to 0.8 percent of GDP. Each percent-of-GDP in projected future unified deficits raises forward long-term interest rates by 25 to 35 basis points, and each percent-of-GDP in projected future primary deficits raises interest rates by 40 to 70 basis points.

compared with other currencies and makes U.S. goods less competitive in international markets.

The idea that the federal deficit can increase interest rates and choke off investment is not accepted by all economists. The classical economists of 19th-century England believed that interest rates, current economic activity, and economic growth would be unaffected by the way the government financed its expenditures. David Ricardo, the famous English classical economist (1772–1832), argued that increased government borrowing can result in increased saving by forward-looking taxpayers. These taxpayers know that the government will have to raise taxes in the future to pay back what it borrowed and the interest on those funds. To prepare for the higher future tax burdens, Ricardo argued that they will increase their current saving by an amount exactly equal to the deficit. When the government runs a deficit, according to Ricardo, households will cut their consumption so they can save more and prepare for the higher future taxes they know will come.

If an increase in government borrowing to finance a deficit causes a sufficient increase in private saving to keep the level of interest rates in the economy fixed, **Ricardian equivalence** prevails. According to the idea of Ricardian equivalence, both tax finance and deficit finance have the same impact on current aggregate spending and future economic growth. If Ricardian equivalence prevails, an increase in government borrowing will be exactly offset by an equal reduction in consumption as households seek to save to finance higher future taxes. The result is no increase in aggregate current spending, no effect on interest rates, no crowding out of private investment, and therefore no reduction in future economic growth.<sup>4</sup> The idea of Ricardian equivalence has been advanced in recent years by the American economist Robert Barro of Harvard University.

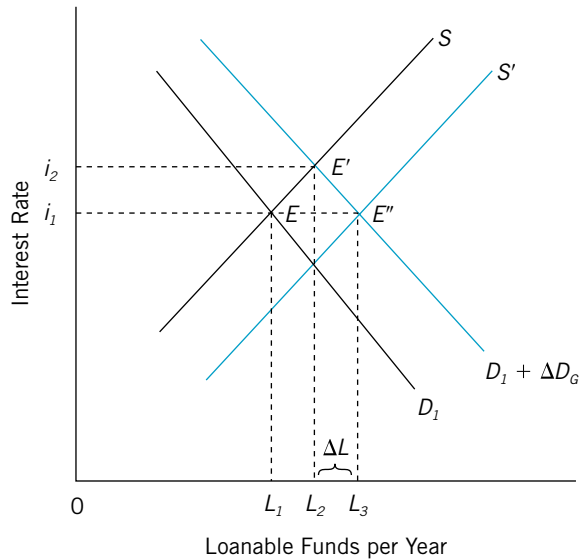
It is easy to see why increased private saving as a result of deficit finance can offset the impact of increased demand for funds on interest rates as the government borrows more to finance its deficit. The graph in Figure 12.3 shows that the increase in government borrowing to cover the deficit increases the demand for loanable funds. However, as a direct result of this borrowing, the supply of savings increases from  $S$  to  $S'$  to provide funds for higher taxes anticipated in the future. The increase in the supply of loanable funds results in a new equilibrium at point  $E$ . At that point, an additional  $\Delta L$  dollars of loanable funds are made available per year for financing future taxes resulting from the deficit. The equilibrium amount of loanable funds is now  $L_3$  dollars per year. If these extra funds exactly equal the amount of funds required to finance the deficit, the interest rate under the equilibrium is  $i_1$ , the initial level.

Thus, this view concludes that government borrowing to cover deficits does not increase the market rate of interest. It causes no crowding out of private investment or of consumer borrowing for durable goods. The deficit does not

<sup>4</sup>For a rigorous discussion of Ricardian equivalence see John J. Seater, "Does the Government Debt Matter? A Review," *Journal of Monetary Economics* 16 (July 1985): 121–131. Also see Roberto Ricciuti, "Assessing Ricardian Equivalence," *Journal of Economic Surveys*, 17 (2003): 55–78. Available at SSRN: <http://ssrn.com/abstract=377104>.

FIGURE 12.3

## Ricardian Equivalence: Deficits Do Not Affect Interest Rates



Under Ricardian equivalence, the increase in government borrowing to finance the deficit is exactly offset by an increase in annual private savings to pay the taxes necessary in the future to retire the debt. Consequently, the interest rate does not increase above its initial level,  $i_1$ .

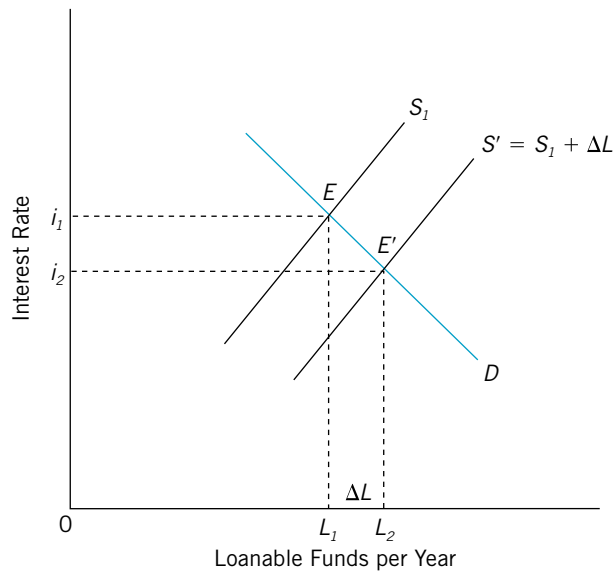
matter according to this view.<sup>5</sup> This means that changes in the deficit will not affect aggregate demand, because changes in government borrowing will be offset by changes in private saving.

Empirical research on the impact of deficits on saving suggests that an increase in saving occurs as a result of budget deficits in the United States. However, the research also indicates that the increase in saving does not appear to offset exactly the increase in government borrowing, which implies that upward pressure on interest rates is likely a result of government deficits.<sup>6</sup> Increased private saving caused by government deficits can lead to increased bequests, or intergenerational transfers, between citizens who are living now and their heirs. The increased saving by those who currently pay taxes that results from deficit-induced saving allows them to increase their own voluntary private bequests to their children beyond the amounts that would be possible if tax finance were

<sup>5</sup>Considerable empirical evidence supports this view. See Charles I. Plosser, "Government Financing Decisions and Asset Returns," *Journal of Monetary Economics* 9 (May 1982): 325–353; and John J. Seater and Roberto S. Mariano, "New Tests of the Life Cycle and Tax Discounting Hypothesis," *Journal of Monetary Economics* 15 (March 1985): 195–215.

<sup>6</sup>See Michael J. Boskin, "Consumption, Saving, and Fiscal Policy," *American Economic Review* 78, 2 (May 1988): 401–407.

**FIGURE 12.4** Impact of a Budget Surplus on Credit Markets



An increase in supply of loanable funds results from using a surplus to repay existing federal debt. By repaying the debt, the federal government adds loanable funds to the credit markets. The increase in supply lowers market interest rates and encourages more investment.

used. These bequests help the future generation to pay the higher taxes that will be necessary to cover the interest payments on the debt in the future. Similarly, the reduced tax burden on the current generation, made possible by debt finance, decreases the likelihood that these taxpayers in their old age will need transfers from their children. The compensating intergenerational transfer therefore decreases the burden of the debt on the future generation.<sup>7</sup>

### Effect of a Budget Surplus on Credit Markets

When the federal government's budget is in balance or in surplus, naturally there is no need for the government to enter the credit markets as a borrower. A balanced budget or a budget in surplus implies that the market demand for credit is equal to the private demand for credit. However, when the government runs a surplus, it can affect the supply of loanable funds available for private investment in the credit markets. Figure 12.4 illustrates the possible effect of a surplus used to retire outstanding government debt on the credit market and the equilibrium market interest rate.

<sup>7</sup>See Robert J. Barro, "Public Debt and Taxes," in *Federal Tax Reform*, ed. Michael J. Boskin (San Francisco: Institute for Contemporary Studies, 1978).



If the budget is balanced so that there is neither a surplus nor a deficit, the demand for credit will be  $D$  and that demand will be equal to private demand for credit. The market equilibrium interest will be  $i_1$ . If the government runs a surplus and uses that surplus to retire existing debt, then the supply of credit will increase from  $S_1$  to  $S'$  where  $S'$  is equal to  $S_1 + \Delta L$  and  $\Delta L$  is the amount of government debt that is retired. By retiring the debt, the federal government exchanges bonds for cash, thereby increasing the supply of loanable funds. Other things being equal, this increased supply of loanable funds causes the market equilibrium interest rate to decline from  $i_1$  to  $i_2$ . The lower interest rate increases the quantity of loanable funds demanded for investment and other private borrowing from  $L_1$  to  $L_2$ . The increased investment contributes to increases in future worker productivity and can increase future income and living standards.

If instead of being dedicated to retiring existing debt, the surplus is used as a source of public finance and therefore allows taxes to be reduced, the effects are likely to be different. If the surplus is used for tax reductions, then it supplies funds to consumers as well as investors. If households decide to use the extra funds they receive from tax cuts for consumption instead of saving, then there will be no increase in the supply of loanable funds and no decline in real interest rates. Given the meager saving rates of U.S. households (in the range of one percent of disposable income) the most likely scenario for tax cuts is, in fact, increased consumption and no increase in savings rates. Because it is saving and investment that contributes to economic growth, many economists and politicians would like surpluses to be used to retire the debt.

Of course other things can offset the potential increase in supply of loanable funds resulting from use of surpluses to retire debt. The Federal Reserve could offset the effects in credit markets with restrictive monetary policy. It is also possible that higher savings rates by government could be offset by lower savings rates by households (although this cannot get much lower), businesses, and foreigners in the United States.

To better understand the effects of the surplus on national saving and future economic growth, let's look at trends in saving in the United States and the components of national saving.

## Budget Balance, National Saving, and Economic Growth

A nation's rate of economic growth, the expansion of its potential to produce goods and services, depends on investment. Investment requires a sacrifice of current consumption so that the resources used to produce goods for today can be reallocated to the production of capital goods. When we save more, we can allocate more resources to the development of new technology, production of new machinery, and investment in people through education. The more we save today, the greater our future rate of growth of output. Conversely, the less we save, the smaller our future potential to grow.

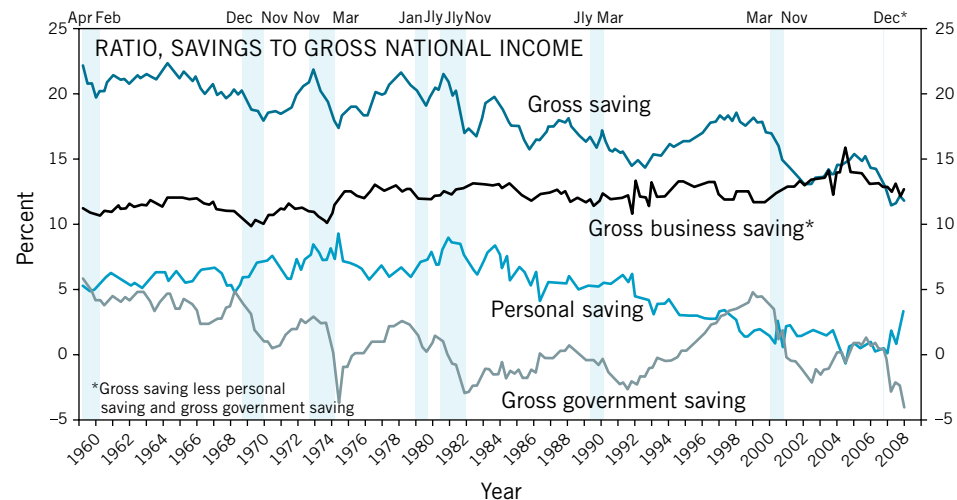
National saving is the sum of personal saving by households, business saving, and saving by the government sector. The government sector contributes to an increase in national saving when it spends less than it takes in. In other

words, for government to help increase national saving, it would have to run a budget *surplus*. When the government sector runs a deficit, it spends more than it takes in and therefore must borrow instead of save.

The net contribution of the government sector to national saving is the combined deficit or surplus of the federal government and all state and local governments. When the government sector runs a deficit, it contributes to a decline in national saving. In effect, a government deficit amounts to negative saving that absorbs loanable funds rather than making them available for investment. When the government sector runs a surplus, more revenue is taken in during the year than is spent. Just like you save when your income exceeds your expenses, so does the government sector save when revenues exceed outlays. In such cases, as explained earlier, the government sector surplus adds loanable funds to credit markets.

Figure 12.5 shows the gross national saving rate and its components from 1959 to 2009. Gross national savings declined from more than 20 percent of aggregate income to less than 12 percent in 2009. Negative saving by government in the form of deficits contributed to a decline in the national savings rate in the 1980s and the first half of the 1990s and between 2001 and 2005, government saving fell substantially in 2008 after the recession began. Gross business savings, which consist of capital consumption allowances and undistributed

**FIGURE 12.5** The National Saving Rate and Its Components, 1959–2009 (Measured as Ratio of Savings to Gross National Income)



National saving in the United States as a percent of gross national income has fallen substantially between 1998 and 2009.

**Note:** Bars indicate recession periods.

**Source:** Department of Commerce; Bureau of Economic Analysis.

corporate profits, is fairly stable and runs between 12 and 14 percent of gross national income. Personal savings of households fell precipitously between 1990 and 2007 from 6 percent of gross national income to zero. Personal saving rose in 2008 after the recession began. Since 1999, national saving has fallen to 13 percent of gross national income and government saving has plummeted from 5 percent of gross national income to minus five percent.

For most of the period between 1980 to 1995, government saving was negative. Government saving is the sum of saving by federal, state, and local governments. The major cause of negative saving by the government sector during this period was the federal budget deficit. During this same period, state and local governments in the aggregate actually ran surpluses, thereby contributing to national savings. From 1996 to 2001, government saving has been positive, thanks to a federal budget surplus and an equally strong surplus position for most state and local governments. However, by 2002 government saving had moved into negative range again because of the recurrence of deficits. As a result of budget surpluses run by state and local governments, saving moved into positive territory between 2005 and 2007. However, government saving plummeted in 2008 as a result of sharply increased federal government deficits.

Why worry about reduced savings? A reduced supply of savings can contribute to higher real interest rates and lower economic growth. If we save less, we will devote less of our current production to investment, which is the driver of future economic growth. Lower economic growth causes a slowdown in the rate of improvement of living standards. U.S. savings rates have been much lower than those of other industrial nations in recent years.

The federal deficits averaged 4.5 percent of Net National Product (which is GNP less depreciation) in the 1980s. In the 1970s, the federal deficit averaged only 2 percent of Net National Product. The rising share of GDP absorbed by the government deficit reduces national saving and lowers future living standards, other things being equal. Federal deficits are projected to average about 8 percent of GDP between 2009 and 2011.

By absorbing saving that could otherwise be used for private investment, a federal deficit can slow economic growth and reduce the rate at which our standards of living improve.

## The Incidence of Deficit Finance

What is the incidence of deficit finance? If, as many economists believe, deficit finance bids up real interest rates and contributes to both a reduction in national saving and a reduction in national investment, then deficit finance contributes to a slowdown in capital formation and economic growth. This, in turn, implies that the rate of growth of income will be slower in the future so that future taxpayers (younger people) will have lower future incomes than otherwise would be possible. Unfortunately, these young people also will be subject to higher taxes and greater portions of their tax payments being used to finance interest costs of growing federal debt. Thus, deficit finance is likely to redistribute the burden of financing government outlays from the current generation to future generations

of taxpayers. If, on average, these taxpayers have lower income than the current generation, in part, because of the undesirable effects of taxes on economic growth, then this incidence could be regressive.

However, to get a full picture of the incidence of deficit finance, we also need to look at possible offsetting effects. One possible effect is suggested by the hypothesis of Ricardian equivalence. If the current generation of taxpayers realizes that deficit finance implies higher taxes for themselves and their descendants, they could increase their current saving. This increase in saving increases the supply of loanable funds in credit markets and could offset both the negative saving of the deficit itself and any possible crowding out of private investment.

It also is possible that deficit finance permits a change in political equilibrium so that more government spending is allocated to investment in infrastructure and other spending that will yield a stream of benefits to future generations. Under these circumstances, even if private investment is crowded out as a result of higher interest rates, future economic growth rates need not decline as long as the government investment is at least as productive as the private investment that it displaces.

Government deficits also can contribute to increased government purchases that keep the economy from having severe recessions and help keep it on a steady path of economic growth near its potential. If this is the case, the deficit can actually increase private investment by contributing to economic stability. A stable economy with few severe downturns not only encourages investment by domestic producers but also can encourage inflow of foreign saving and investment.

Unfortunately, the federal deficits in the 1970s and 1980s in the United States appear to have allowed growth in federal transfers (mainly to people older than 65) that encouraged consumption rather than investment. Therefore, unless a significant increase in national saving has occurred as a result of the deficit (which does not seem to be the case), the incidence of deficit finance will be on future generations.

The incidence of a surplus also depends on how it is used. If the surplus is used to retire debt, it will contribute to lower interest rates. If those lower interest rates result in increased investment, the effects could be felt throughout the economy as increased productivity contributes to higher worker incomes. If instead the surplus is used to lower taxes, it could benefit upper-income households disproportionately. This is because the upper-income groups in the United States pay proportionately more in taxes than lower-income groups and are more likely to benefit from tax cuts.

## CHECKPOINT



1. How can a government budget deficit cause the level of interest rates to rise for an economy? How can a budget surplus cause interest rates to fall?
2. What is Ricardian equivalence, and what does it imply about the impact of a government budget deficit on the economy and the desirability of borrowing versus raising taxes to finance government expenditures?
3. What is national saving, and how does the government sector of the economy affect the national savings rate?

## GOVERNMENT DEBT

As of mid-2009, the gross public debt of the U.S. Treasury amounted to \$11.6 trillion. The debt of state and local governments amounted to an additional \$2.2 trillion. Borrowing has been a major source of government finance despite the controversy that surrounds its use. By far, the major share of controversy concerns the federal debt rather than the debt of state and local governments. This is not merely because the federal debt is larger than the debt of state and local governments, but also because of the real economic differences in the use, funding, and ownership pattern of the securities that are issued by federal governments and by state and local governing bodies. The problem of the federal, or central, government use of debt is considered next, followed by a discussion of the use of debt as a means of finance for state and local governments.

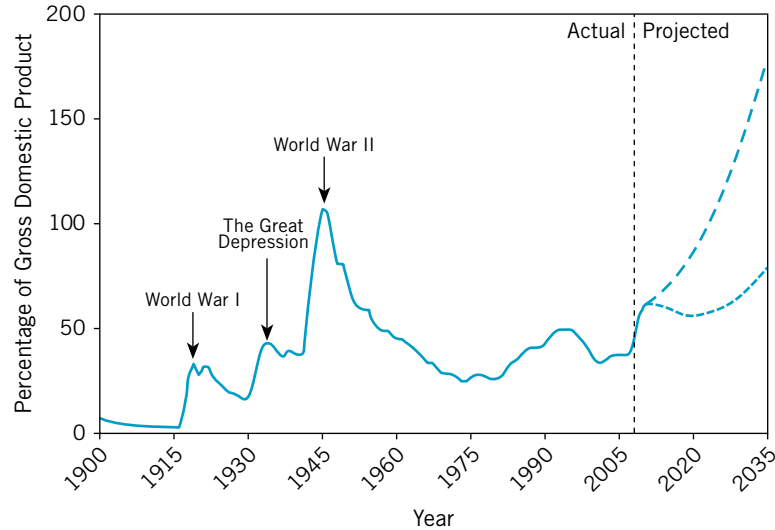
### Magnitude and Structure of Federal Debt in the United States

The **net federal debt** is that portion of the debt of the federal government held by the general public, excluding the holdings of U.S. government agencies, trust funds, and the Federal Reserve banks. As of March 2009, the net debt totaled about \$6.3 trillion, representing 45 percent of GDP. Between 1950 and 1970, however, the net federal debt, when expressed as a percentage of GDP on a fiscal year basis, declined steadily, from about 75 percent to approximately 22 percent. From 1970 to 1980, the monetary amount of debt outstanding rose astronomically, but debt as a percentage of GDP remained more or less constant. Figure 12.6 shows the net federal debt from 1900 to 2008 with projections to 2035 made by the Congressional Budget Office. Federal debt held by the public declined after World War II from more than 100 percent of GDP to 20 percent of GDP in the mid-1970s. The deficits of the last quarter of the 20th century contributed to an increased net public debt share of GDP. After peaking at 50 percent of GDP in 1995, the debt has declined as a share of GDP. Since 2001, the debt as a share of GDP has risen to nearly 50 percent of GDP.

Unless changes are made soon in the federal budget that cut spending or raise taxes, the Congressional Budget Office projects that the federal debt could rise to over 150 percent of GDP by 2035—a level that would eclipse that which prevailed and the end of World War II.

The total volume of the gross federal government debt outstanding at any point in time reflects the previous and current budget deficits and the accumulated interest burden on the securities issued to cover those deficits. To retire the public debt—that is, to allow existing issues of securities to be paid off at their maturity without replacing them with additional debt obligations of the federal government—would require that the federal government budget be operated at a surplus for a considerable number of years.

**FIGURE 12.6** Federal Debt Held by the Public as a Percentage of Gross Domestic Product 1900–2008 with Projections Under Two CBO Scenarios to 2035



Federal debt held by the public declined after World War II from more than 100 percent of GDP to 20 percent of GDP in the mid-1970s. The deficits of the last quarter of the 20th century contributed to an increased net public debt share of GDP. After peaking at 50 percent of GDP in 1995, the debt has declined as a share of GDP as a result of budget surpluses between 1998 and 2001. The graph shows a range of paths projected by the Congressional Budget Office for the share of the federal debt in the economy from 2009 to 2035. The lower path assumes higher taxes and lower spending than the upper path. The projections indicate that if spending is not cut and taxes are not increased, the net federal debt could approach 200 percent of GDP by 2035.

Source: Congressional Budget Office.

## Ownership Pattern of the Federal Debt

To help evaluate the costs of the debt, it is useful to study the structure of the federal debt in terms of its ownership pattern. Table 12.1 presents data on the gross federal debt of the U.S. Treasury by type of holder as of March 2009. As of that date, the total federal debt outstanding was \$11.5 trillion, of which 43.9 percent was held by government agencies, trust funds, and the Federal Reserve banks. The remaining 56.1 percent was held by various financial institutions and private investors and represents the net debt of the U.S. Treasury. The federal debt held by the Federal Reserve banks represents acquisitions of such securities as part of the Federal Reserve's open market activities. Such holdings represent an exchange of interest-bearing securities of the U.S. government for noninterest-bearing dollars. The Federal Reserve System purchases such securities

TABLE 12.1

Gross Public Debt of the U.S. Treasury by Holder,  
March 2009

HOLDER	AMOUNT OF DEBT (TRILLIONS OF DOLLARS)	PERCENTAGE OF TOTAL
U.S. Government Agencies, Trust Funds, and Federal Reserve Banks	4.85	43.9
Private Investors	6.30	56.1
Total	11.15	100.0

Source: U.S. Treasury, Bureau of Public Debt.

TABLE 12.2

Net Public Debt of the U.S. Treasury by Holder  
(Percent Distribution), December 2008

HOLDER	PERCENTAGE OF TOTAL
Depository Institutions	1.8
Mutual Funds	13.0
Insurance Companies	2.1
Pension Funds	7.9
State and Local Governments	8.9
Foreign and International Accounts	52.2
Other Investors	14.1
Total	100.0

Source: U.S. Department of Treasury.

in exchange for deposits in the various Federal Reserve banks, which become part of the commercial banking system's reserve base.

Table 12.2 shows the ownership pattern of the net debt outstanding as of December 2008. Depository institutions (banks) in the United States held 1.8 percent of the debt at that time while 13 percent was held by mutual funds, 8.9 percent by state and local governments, 7.9 percent by pension funds, and 52.2 percent by foreigners or in international accounts. The remainder was held mainly by various types of individual investors and businesses.

The portion of a government's indebtedness owed to its own citizens is an **internal debt**. Repayment of internal debt represents a redistribution of purchasing power from certain groups of citizens who pay taxes and other citizens who in the past have been creditors of the federal government. When a central government borrows mainly from its citizens, the opportunity cost is forgone consumption and investment in this country rather than from foreign sources. Slightly more than half of the net debt outstanding as of the end of September 2008 represented funds, or **external debt**, borrowed from abroad. When external debt is repaid, resources necessarily flow out of the nation, with a consequent

## P U B L I C P O L I C Y P E R S P E C T I V E

## Social Security and the Deficit

Social Security trust fund surpluses, which are expected to grow substantially in the years to come, are excluded from the official measures of the federal budget deficit. The idea behind this special treatment of Social Security is that the surpluses of the Social Security trust funds should add to national saving rather than help finance other government programs.

The belief that Social Security should be treated differently from other programs masks the fact that Social Security programs are exactly like any other government program. When outlays under the program exceed receipts, as they did for much of the 1970s and the 1980s, the balance on the trust fund declines, and the deficit of the Social Security programs contributes to an increase in demand for loanable funds by the government, thereby absorbing savings that could be used for other purposes. Up to the year 2023, the Social Security trust funds will grow because receipts from the payroll tax will exceed pension benefits paid. The surplus on the fund will, in effect, be loaned to the Treasury, as it is used to purchase special Treasury securities. These special government securities are interest-bearing, and the interest earned on the securities also will contribute to growth in the Social Security trust fund balance. A surplus on the trust fund accounts decreases net borrowing from the public by the federal government. The resulting increase in federal government saving that otherwise would be absorbed to finance government spending instead can be made available for private investment that can help increase productivity in private industry.

Some critics of the way the Social Security trust fund is handled argue that the balance in the fund should be invested directly in private industry through purchase of industrial stocks and bonds. But, in effect, the balance in the trust fund increases the amount of saving that can be invested in industry simply by reducing net borrowing from the public on the part of the federal government; so really,

no need exists to invest the surplus directly in private securities. As long as the Social Security trust fund surplus reduces negative saving by the government sector of the economy, the amount of funds available for private investment will be increased, and real interest rates will be lower than they otherwise would be, thereby increasing the quantity of funds demanded for new investment.

The growth of the Social Security trust fund is projected to continue through the year 2023. Thereafter, special Treasury securities will be cashed in to pay pensions for retirees who will become a growing portion of the U.S. population. When the trust funds are drawn down, the U.S. Treasury will have to repay with interest the special government securities held by the trust funds as they are cashed in to pay pension and other Social Security benefits to retirees. Where will the funds come from to do this? The answer is from taxes levied on households and business at that time. Unless the U.S. real GDP grows faster than the two to three percent per year projected now, this will require sharp increases in taxes or still larger deficits will accrue as the trust funds stop contributing to a reduction in net government lending from the public.

The answer to keeping future tax rates low or to preventing a sharp reduction in other government-provided goods and services, as government outlays for Social Security pensions and other benefits grow in the future, is increased savings today. The higher savings will allow more of our current resources to be allocated to investments that will increase future productivity and income. The rationale for Congress treating the Social Security trust fund separately is to make sure that its surplus is dedicated to an increase in national saving rather than to help finance other government programs without the need to increase taxes. It makes no difference whether the Social Security trust fund surplus is treated on budget or off budget. The fact is that its surplus, by itself, does contribute to an increase in national saving!



loss in productive opportunities. The external debt varies with interest rates in the United States relative to those that can be earned on funds abroad and the U.S. balance of international trade with the rest of the world.

When much of the U.S. debt is an internal debt, many argue that repayment will not involve export of economic resources. Those who hold this view further argue that only little concern is justified about the total volume of the debt and its interest charge because any refunding or payment of interest on the debt at maturity involves merely a redistribution of purchasing power among citizens.

However, the portion of debt actually held by foreigners has grown rapidly since 1970, and as of the end of September 2008, 52.2 percent of the debt was held by foreigners. It could grow even faster in the future if the U.S. continues to run balance-of-trade deficits, which put dollars into the hands of foreigners, and if interest rates increase significantly above those available on competing securities (both foreign and domestic). Conversion of the national debt into one that is increasingly more external can have serious consequences for future growth opportunities in the United States if taxes must be raised to pay foreigners for past loans to the federal government. Under such circumstances, paying off the debt would involve outflows of funds and real losses in productive opportunities rather than mere redistributive effects. There is also concern that heavy reliance of foreign borrowing can cause real interest rates to rise in the United States if foreigners become concerned about the foreign exchange rate of the dollar. If the dollar falls in value, the real return to foreign holders of the debt denominated in dollars will be worth less in foreign currency. If foreigners become reluctant to acquire U.S. debt for that reason then interest rates would have to rise to compensate them for foreign exchange risks. The higher interest rates could reduce real private domestic investment thereby slowing future growth in the United States.

## BORROWING BY STATE AND LOCAL GOVERNMENTS

The ability of central, or federal, governments to print money as a last resort makes the risk of default on the securities of such governments virtually nil (unless the government is overthrown). However, federal debt does remain subject to the risk of reduced value due to inflation. On the other hand, state and local governments, because they cannot monetize their debt, conceivably can default on their debt obligations. As a result, from the point of view of investors, state (or provincial) and municipal securities are inherently more risky than federal government securities. The interest that state and local governments must pay on their various security issues depends not only on the maturity of such issues but also on the risks of default as well as the risks of inflation.

Typically, the debt issues of various state and local governments are evaluated by private bond-rating services according to their riskiness based on past repayment history. If a state or local government defaults on repayment of a

security issue, its bond rating would be unfavorably affected. This will result in higher risk premiums, causing the cost of borrowing to that particular government to rise. Any given state or local government borrows such a small amount in the markets for loanable funds at any given time that it cannot influence interest rates as can the federal government.

## Characteristics of State and Local Government Debt

Because the debts of state and local governments are marketed nationally, the particular governing body that issues the securities has no control over who purchases them. Much of the holdings of the debt of any particular state or local government is likely to be in the external debt category; that is, it is held by people not residing in the government jurisdiction. This implies that issuance of the debt allows importation of funds, but repayment necessarily will involve a significant drainage of purchasing power out of the government jurisdiction in question. Thus, undue reliance on debt finance can result in a significant redistribution of future income away from residents of the locality, as tax revenues are used to pay creditors who reside in other jurisdictions. This makes borrowing by state and local governments somewhat similar to private borrowing by individuals, unlike borrowing by the federal government. Whereas the federal debt is largely an internal debt, the debt of state and local governments is largely external.

### **Apago PDF Enhancer**

## State and Local Debt Management

State and local government authorities must concern themselves with minimizing the interest burden on their debt and with the risk of default. State and local governments issue two broad types of securities to cover their debt: general obligation bonds and revenue bonds.

**General obligation bonds** are backed by the taxing power of the government that issues the securities, whereas **revenue bonds** are backed by the promise of revenue to be earned on the facility being financed by the bonds. Revenue bonds typically are used to finance roads and bridges and other facilities (such as sports stadiums) that will generate revenue through tolls and other forms of user charges. Investors often consider general obligation bonds to be safer than revenue bonds; as a result, general obligation bonds often can be floated at interest rates lower than those on revenue bonds of similar maturity for the same government unit. Nevertheless, some inherent risk does exist for investors in that even general obligation bonds are subject to default risk. This is because reductions in state or local economic activity could make it difficult for these government units to raise the tax revenues necessary to repay their debts.

Long-term debt financing by state and local governments can be justified on the basis of the benefit principle for financing capital projects. Because capital expenditures by state and local governments involve the construction of facilities (roads, public institutions, and other structures) that will provide a stream of public services to future citizens of the state or municipality, it is reasonable to

finance such expenditures through debt. This postpones the burden of taxation to future taxpayers, making particular sense in a community where citizens are mobile. Financing capital expenditures through current taxation results in the taxation of current residents who often will not be residents of the taxing jurisdiction when the capital facilities are completed. For this reason, debt finance allows collective approval for projects that will benefit future citizens, even though those citizens are not present to vote at the time of approval. Spreading the cost over time induces current residents to consider voting affirmatively for projects that they would not support if they knew they were to be taxed for the full cost in one year. Many state and local governments have separate capital budgets that involve projects financed exclusively by public borrowing.

## BURDEN OF THE DEBT

Debt financing implies the sale of a security that bears the promise to pay interest over a given number of years and to return the principal loaned at the end of the given time period. No compulsion is involved in the sale of such securities. Instead, governments compete with other borrowers in the market for loanable funds. The government pays the going market rate of interest, adjusted for risk and maturity characteristics of the obligation that it issues. Accordingly, the issuance of government debt is similar to the sale of securities that have the regular characteristics of private goods. Governments sell securities of various types and maturities (for example, savings bonds or U.S. Treasury bills) that compete with various private securities, such as commercial-bank savings deposits, savings and loan shares, bank acceptances, and corporate bonds.

A great deal of controversy exists concerning the appropriateness of debt finance by the various levels of government in the United States. The onerous burden of the debt on future generations is often cited as a reason to reduce the debt. On the other hand, many argue that because about half the public debt is held by citizens of this country rather than by foreigners, no burden exists because it is an internal debt. That is to say, because we owe much of the debt to ourselves, payment of interest and principal of the debt merely transfers income from taxpayers to debt holders. What is the *burden* of the debt, and what are the relative advantages of debt financing compared with tax financing?

### Burden of the Debt and Income Redistribution

No general agreement exists among economists concerning a definition of the burden of the debt. The **burden of the debt** is the redistributive effect of debt financing. Consider the impact of debt financing in elementary terms. When governments obtain funds to finance public expenditures by issuing debt, no compulsion is involved, unlike tax financing. Instead, securities issued by government authorities are purchased voluntarily by individual citizens, financial institutions, and other private economic units.

The individuals who purchase such securities surrender present consumption opportunities for future consumption opportunities, or they substitute public debt for private securities in their portfolio. They make this voluntary sacrifice because the return that they expect to receive on their forgone consumption exceeds their subjective estimate of the cost of sacrificing current consumption opportunities. At the same time, debt financing makes it unnecessary to increase current taxes, thereby avoiding the need to force citizens to curtail current consumption and saving. Under debt financing, private investment is “choked off” only to the extent to which increased government borrowing causes, by increasing the demand for credit, the general level of interest rates to rise. Thus, compared with tax financing, debt financing allows the current generation more private consumption opportunities over its lifetime than could be enjoyed if taxes were used.

To pay interest on the debt and return the principal, the government usually increases taxes. If so, other things being equal, taxpayers in the future undergo reductions in consumption or saving. The increased tax revenues necessary to pay interest on the debt redistribute income from the taxpayers to the holders of public debt. Because about half of the federal debt in the United States is owed to U.S. citizens, its retirement would not represent a complete drain of resources from the country; therefore, much of the effect of such retirement would be to redistribute income among citizens.

### Impact of Debt on Future Generation

Some economists argue that the burden of the debt cannot be transferred to future generations but must be borne by the present generation, because resources are withdrawn from the private sector at the time the debt is created. This definition of burden implies that debt creation merely involves forgone private consumption in the current period. It neglects the fact that this sacrifice of consumption is completely voluntary on the part of the private economic units and is compensated by greater opportunities for future consumption as a result of interest payments on government securities.<sup>8</sup>

Under the assumption that the future generation must be taxed to pay the interest burden on the debt, that generation must undergo a real reduction of income, without the compensation of increased future consumption. In this sense, the burden of the debt does fall on the future generation; it bears the brunt of compulsory taxes. The burden of the debt is a reduction in welfare for future taxpayers who do not hold or inherit government securities that are paid off in the future.<sup>9</sup> Future generations will pay more in taxes to pay interest instead of receiving government goods and services in return for those taxes. Interest amounted to about 15 percent of federal expenditures in the 1990s, so 15 cents of each dollar taxpayers paid were used to pay interest to holders of the net

<sup>8</sup>See James M. Buchanan, “The Italian Tradition in Fiscal Theory,” *Public Debt and Future Generations*, ed. James M. Ferguson (Chapel Hill: University of North Carolina Press, 1964): 48–49.

<sup>9</sup>The interpretation has been emphasized by James M. Buchanan in *Public Principles of Public Debt* (Homewood, ILL: Richard D. Irwin, 1958).

## G L O B A L P E R S P E C T I V E

## Consequences of Uncontrolled Budget Deficit Growth: The Case of Turkey

Turkish citizens have much of the taxes they pay to the government allocated to pay interest on an enormous government debt that resulted from uncontrolled deficit financing of government expenditures in the 1990s. In the early 1990s the Turkish government financed salary increases to government workers and transfers to state-owned enterprises with borrowing. In 1992 the government budget deficit was approaching a whopping 20 percent of GDP in Turkey! The central bank of Turkey assisted in the process by expanding the money stock in line with the government borrowing, and by mid-1993, inflation rates in Turkey were running at around 75 percent. A whole slew of economic problems resulted from the out-of-control fiscal situation. As investors tried to put their funds into assets denominated in foreign currencies, the exchange rate of the Turkish lira on the foreign exchange market fell precipitously, and Turkey's government debt was downgraded. By 1994 the Turkish government was forced to take draconian measures to deal with the fiscal crisis by cutting back government spending and eliminating transfers to state enterprises. Taxes were increased and a pledge was made to privatize many of the state-run enterprises. The measures designed to reduce the deficit then plunged the Turkish economy into a deep recession.

Over a decade after the fiscal crisis, Turkey is still suffering from the consequences of the enormous budget deficits of the 1990s. Between 1994 and 2004 government debt as a percent of GDP grew from less than 15 percent to nearly 60 percent. The increased debt along with increases in domestic

interest rates meant the Turkish taxpayers would see higher percentages of the tax monies used to pay interest on the government debt instead of being used to supply government services and transfers to citizens. In 2001 the Turkish government underestimated interest payments because of an unexpected increase in market rates of interest and had to borrow to finance the gap between appropriated funds for interest payments and actual payments. Borrowing to cover the costs of past deficits pushed up interest rates and resulted in more deficit spending! Interest payments by the Turkish government rose from about 7 percent of GDP in 1995 to 23 percent of GDP in 2001. Between 2001 and 2004 interest payments as a share of GDP declined to about 13 percent.

Interest payments accounted for more than half of the Turkish government's outlays in 2001 compared to 20 percent of outlays in 1990. By 2004 interest outlays were still accounting for about 40 percent of government spending. Turkish citizens continue to pay the price of past uncontrolled deficit finance by being forced to have large portions of their tax payments allocated to providing interest income to the government's creditors. The huge government debt in Turkey resulting from deficit finance contributed to inflation, recession, and a government sector that finds it difficult to finance government spending for public goods and social insurance because of a huge interest burden that is likely to remain with it for many years. All citizens of governments that rely too heavily on budget deficit finance should learn a lesson from the Turkish economy. There is a heavy price to pay in the future for borrowing recklessly.

federal debt rather than to provide such services as roads and education. In 2002, interest on the net federal debt was 8.5 percent of federal expenditure. By 2005 interest on the federal debt climbed to 10 percent of total federal outlays. By 2008 interest on the federal debt had fallen to 8.5 percent of federal spending. However, unless the budget deficit is reduced in future years, interest payments are projected to rise to 12.5 percent of federal outlays by 2019.

Future generations also will suffer a reduction in their living standards as a result of the federal debt if past deficits cause interest rates to rise and reduce

private investment. A reduction in private investment implies that the capital stock of the nation will grow more slowly than it would have otherwise. The effect will be lower economic growth for the economy. Because workers in the private sector will have less capital to work with than they otherwise would have, productivity and therefore their incomes also will be lower. This implies a growing national debt and a reduction in future living standards. This burden, however, can be offset if increased saving by the current generation of taxpayers results from the use of deficit financing. According to this view of government deficits, this is a likely outcome and will result in increased bequests to future taxpayers that offset the burden of the debt.

The burden of the debt can also be offset if the revenue obtained from the issuance of public debt is used to finance projects that yield future benefits. On the basis of the benefit principle, it might be viewed as efficient to transfer the burden of present expenditures to future generations if it can be demonstrated that particular expenditures will benefit them. For example, it is reasonable to postpone until the future the burden of taxes for financing war, because the benefits of a successfully completed (that is, won) war will accrue to those living in the country in the future.

Unfortunately, the federal deficits of the 1970s and 1980s were not accompanied by new government investment. Instead, they helped finance federal entitlement programs, including Social Security pensions, Medicare, and Medicaid. These programs have important social benefits but they finance mainly consumption expenditures.

### Use of Borrowing to Finance Capital Expenditures by Nonfederal Governments

The transference of the burden of finance to the future has particular relevance for capital expenditures undertaken by state and local governments because the makeup of the population in these areas changes over time. Such changes are due not solely to the life cycle of individuals but also because individual citizens move in and out of the area. This implies that the population that receives the benefits of current capital expenditures (for example, a new sewer system or a new school) might be in the future a completely different aggregation of people compared with those who currently live in the area.

Therefore, on the basis of the benefit principle, it is legitimate to finance projects that yield the bulk of their benefits in the future, and in a particular local area, through borrowing. The taxes levied to pay the interest and principal on the debt can coincide more or less with the benefits flowing from the project. Those actually receiving the benefits—the individuals of the future tax base—also will bear the tax cost of financing the projects. The postponement of taxes as a result of debt issue is often referred to as “pay-as-you-use” finance. Citizens are taxed for capital expenditures at the time the expenditures yield benefits, not at the time the capital expenditures are initiated. The principle underlying this method of finance is similar to that of financing an automobile or a

home through a loan. Many local governments have special capital budgets that list expenditures to be financed by the issuance of public debt.

## CHECKPOINT

1. What is the net federal debt, and how much of it is an external debt?
2. What is the possible future burden of the net federal debt?
3. Under what circumstances can borrowing by state and local governments contribute to improved resource allocation?



## NATIONAL SAVING AND GOVERNMENT BUDGET BALANCE

National saving in the United States remains low by international standards. Little increase in private saving occurred either in the 1980s or 1990s to offset the negative effects of federal deficits on the national savings rate. Federal government surpluses make a positive contribution to our national savings rate. A federal budget surplus reduces the net federal debt and puts downward pressure on interest rates. Unless a budget surplus causes private saving to decline (as would be the case if Ricardian equivalence held), a budget surplus would increase national saving.

A federal budget surplus can offset low household savings rates in the United States and contribute to an increase in the availability of funds for private investment and lower interest rates. A compelling argument in favor of running a budget surplus is to help increase national saving to pay Social Security pensions in the 21st century. As the proportion of the population that is retired increases in the 21st century, additional tax revenue will be required to pay Social Security pensions. Unless the economy grows more rapidly than the two to three percent rate of income increase anticipated in the near future, higher tax rates will be needed to finance the pensions of future retirees. Increased investment made possible by increasing our savings through a budget surplus can help increase the future growth rate and make it possible to generate tax revenue without sharply increased tax rates after the year 2023.

Some politicians and economists argue that it would be a good idea to continue to run surpluses for many years and use the proceeds to pay off the federal government's public debt. According to various estimates, this could be accomplished if the federal government runs surpluses and if the surpluses are not used to reduce tax rates and thus reduce future surpluses.

But is it desirable to have a debt-free government? Like most economic questions, the answer to this one is complicated because there are both gainers and losers if the debt is paid down. It is also good fiscal practice to finance certain types of government expenditures with borrowing. In particular, capital expenditures are good candidates for debt finance. Because investments like roads, new public buildings, defense, water resources, and other capital projects provide streams of benefits over time to both the current and future generations, it makes

good sense to borrow to finance their costs. In this way the current generation does not pay the entire bill for a project that will provide benefits to future generations as well. As the interest and principle of the debt are paid off in the future, the future taxpayers who will also be beneficiaries of the projects will pay a share of the taxes. Public debt financing of capital projects allows application of the benefit principle of taxation through a “pay-as-you-use” method.

Surpluses will decrease the debt each year they prevail. As pointed out previously in this chapter, the annual reduction in the debt adds loanable funds to the credit markets and can contribute to lower interest rates and increased private investment. Because increased investment contributes to higher economic growth, reducing the debt can make future income greater than it would otherwise be. This, in turn, means that the same tax rates in the future will generate more revenue than they would otherwise have done. This extra revenue is important because after the year 2023 when the bill for Social Security pension spending and Medicare will inevitably rise because of aging of the population, more revenue (either from taxes, borrowing, or cuts in other federal spending) will be required.

The argument about the actual size of the debt really is not about the fundamental issues of government finance. Some debt is always desirable to finance capital expenditure, so there is no reason for the debt to be zero in any given year. The issue regarding the use of the surpluses is more important. If we think the best and most reliable way to raise our national savings rate is through increased government saving, then using the surpluses to pay off the debt is a good strategy—but it does not necessarily have to be carried to the extreme of eliminating the debt.

It also makes little difference where the surplus comes from. Currently the Social Security trust funds are taking in more funds from the payroll tax than they are spending on current benefits. This surplus is lent to the federal government and cannot be used to finance new federal programs. When the special government securities issued by the Treasury must be paid to the Social Security system in the future, the Treasury will have to fund the payments out of general revenues. This means that it will either have to use tax revenues or borrow to pay for pensions when Social Security expenditures will exceed tax collections after the year 2023 or so as a result of aging of the population.

So the real issue remains—should deficits be avoided and should surpluses be used to increase national saving and promote future economic growth, or should surpluses be used to lower taxes today (or increase government spending)? Setting a goal for reducing the government debt to zero simply represents an attempt to guarantee the maximum impact on saving and benefits to future generations. Using the surpluses to simply lower taxes for current taxpayers represents another extreme. Under this scenario, we could balance the budget each year. By running neither a surplus nor a deficit, we do not add to national saving. In this case, the benefits accrue to taxpayers, and if they use their increased purchasing power for consumption, there is no benefit for the future generations. Here, if saving rates are lower and interest rates higher as a result, the economic growth rate will not increase and tax rates on future generations to finance Social Security pensions and Medicare will be correspondingly higher unless we choose to run large government deficits at that time.



## SUMMARY

A budget deficit or surplus reflects an imbalance between expenditures and revenues. Deficits increase the federal debt and also can contribute to higher market interest rates and increased inflation.

Borrowing to finance public expenditures postpones the tax burden to the future. A budget surplus adds to national savings and can lower interest rates and increase investments.

The federal debt is largely internal in the sense that about half of it is owed to U.S. citizens and institutions. Repayment of the federal debt does not imply a significant drain of either capital or productive opportunities out of the nation. Repayment of internal debt represents mainly a redistribution of income within the nation, away from taxpayers and toward citizens who hold government securities.

Because state and local governments lack the power to create money, the securities of these governments are

inherently more risky to investors than are those of the federal government. State and local debt holdings are likely to be more external to the issuing jurisdiction than are federal debt holdings, implying that repayment of such debt might withdraw significant amounts of resources to other jurisdictions.

The burden of the government debt can be defined as the decrease in well-being of citizens who are taxed to pay off the principal and interest on past debt. It can be argued that no burden is incurred until the debt is repaid, because purchasers of government securities lend money to the government voluntarily, without compulsion. Presumably, they are compensated for any lost consumption or investment opportunities by the rate of interest that they receive. The burden of the debt on future generations can be offset if current taxpayers increase saving to pay taxes anticipated in the future as a result of the deficit.

## LOOKING FORWARD

Part 4 considers tax theory and practice in detail. Major forms and methods of taxation in the United States are analyzed and detailed. Before beginning Part 4,

**Apago PDF Enhancer**

students should be certain that they have mastered the analysis in Part 3.

## KEY CONCEPTS

Budget Deficit  
 Budget Surplus  
 Burden of the Debt  
 External Debt  
 General Obligation Bonds  
 High-Employment Deficit or Surplus

Internal Debt  
 Net Federal Debt  
 Real Budget Balance  
 Revenue Bonds  
 Ricardian Equivalence

## REVIEW QUESTIONS

1. Explain why a budget deficit in a given year when the unemployment rate is 10 percent could be, in fact, a surplus in that year if the unemployment rate were 5 percent.
2. Why do some economists argue that budget deficits contribute to increased market rates of interest and reduced private investment?
3. What is Ricardian equivalence? Why does it imply that budget deficits cannot influence interest rates?
4. What is the significance of the distinction between internal debt and external debt?
5. Why is the actual net liability of the federal government much less than the gross public debt? How do

increases in market rates of interest and increased inflation affect the burden of the debt?

6. In what sense does repayment of the federal debt constitute a redistribution of income among citizens?
7. How can deficit finance influence political equilibrium? Has deficit finance been associated with increased federal investment in the United States?
8. Why is repayment of state and local government debt more likely to drain purchasing power from citizens of state and local governments?
9. What are some of the advantages of financing capital expenditures with debt for governments with mobile populations?
10. In what sense does the use of debt financing by a national government impose a burden on the future generation? How does debt financing increase the “wealth” of the current generation compared with tax financing? Under what circumstances will the burden of the debt on future generations be offset?

## PROBLEMS

1. The current market rate of interest is 8 percent. At that rate of interest, businesses borrow \$500 billion per year for investment and consumers borrow \$100 billion per year to finance purchases. The government is currently borrowing \$100 billion per year to cover its budget deficit. Derive the market demand for loanable funds, and show how investors and consumers will be affected if the budget deficit increases to \$200 billion per year. Show the impact on the market rate of interest, assuming that taxpayers do not anticipate any future tax increases. How would your conclusion differ if taxpayers fully anticipate future tax increases?
2. Suppose 90 percent of the net federal debt was acquired by foreign investors. How would this affect the burden of the debt for U.S. citizens?
3. The classical economists argued that budget deficits would not affect current spending. Suppose the federal government increases its purchases of goods and services by \$100 billion this year. Classical economists who believe in the idea of Ricardian equivalence would argue that the increase in federal spending would have no effect on aggregate spending in the economy and no effect on private investment. Explain how a \$100 billion increase in spending financed by a deficit can have no effect on the economy other than a reallocation of resources from private to government use.
4. Trace the implications of a government budget surplus on the following:
  - a. national saving
  - b. interest rates
  - c. private investment
  - d. economic growth
  - e. future living standards
 When tracing the effects of the budget surplus, list the assumptions you are making.
5. Suppose gross saving in the United States is 20 percent of Gross National Product (GNP). If business saving is 15 percent of GNP and government saving is 4 percent of GNP, what percent of GNP is personal saving? Explain why a federal budget surplus increases national saving while a budget deficit decreases national saving. How can a federal budget deficit increase market equilibrium interest rates and reduce private investment and future economic growth?

## ADDITIONAL READINGS

- Alesino, Alberto. “The Political Economy of the Budget Surplus in the United States.” *Journal of Economic Perspectives* 14, 3 (Summer 2000): 3–19. An analysis of the economics and politics of budget surpluses. Other articles on the budget balance and fiscal policy are also included in this issue of the journal.
- Barro, Robert J. “Public Debt and Taxes.” In *Federal Tax Reform*, edited by Michael J. Boskin, 189–209. San Francisco: Institute for Contemporary Studies, 1978. A readable summary of some of Barro’s ideas on debt versus taxes.
- Buchanan, James M. *Public Principles of Public Debt*. Homewood, Ill.: Richard D. Irwin, 1958. A classic analysis of the burden of debt.
- Schultze, Charles L. “Of Wolves, Termites, and Pussycats or, Why We Should Worry about the Budget Deficit.”

*The Brookings Review* (Summer 1989): 26–33.  
A good review of arguments on the pros and cons of reducing a federal budget deficit.

U.S. Congressional Budget Office. *The Budget and Economic Outlook*. Washington, D.C.: U.S. Government

Printing Office, published annually. Find out in this report what the current federal budget deficit (or surplus) is now and what it is likely to be in the future.

## INTERNET RESOURCES

<http://www.treas.gov>

At the home page of the U.S. Department of Treasury, you can watch the national debt grow (or maybe even decline) and get information on the ownership of the debt. A useful FAQ link answers questions about the debt and issues in government finance and defines terms.

<http://www.whitehouse.gov>

Go to the Offices and Agencies of the President and then to the home page of the Office of Management and Budget. From this site you can search the federal budget to get information about the budget balance, the federal debt, and a host of other issues relating to government finance.

<http://www.house.gov>

Click on Committees to check out information on the budget available from the House Budget Committee, the Ways and Means Committee, and the Joint Economic Committee.

<http://www.concordcoalition.org>

The Concord Coalition monitors government budget issues with particular emphasis on Social Security and Medicare. This nonpartisan institution compiles information on the government budget surplus and issues relating to its use.

**Apago PDF Enhancer**