CHAPTER 19

Government Debt and Budget Deficits

Blessed are the young, for they shall inherit the national debt.

—*Herbert Hoover*

I think we ought to just go ahead and make "zillion" a real number. "Gazillion," too. A zillion could be ten million trillions, and a gazillion could be a trillion zillions. It seems to me it's time to do this.

—*George Carlin*

When a government spends more than it collects in taxes, it has a budget deficit, which it finances by borrowing from the private sector or from foreign governments. The accumulation of past borrowing is the government debt.

Debate about the appropriate amount of government debt in the United States is as old as the country itself. Alexander Hamilton believed that "a national debt, if it is not excessive, will be to us a national blessing," while James Madison argued that "a public debt is a public curse." Indeed, the location of the nation's capital was chosen as part of a deal in which the federal government assumed the Revolutionary War debts of the states: because the northern states had larger outstanding debts, the capital was located in the South.

The debate over government debt has been particularly fervent in recent years. In the aftermath of the financial crisis of 2008–2009, the U.S. government ran very large budget deficits. These deficits were in part attributable to automatic stabilizers: tax revenue falls and government spending on programs like unemployment insurance rises when the economy goes into recession. In addition, various discretionary changes in fiscal policy aimed at stimulating the economy further increased the budget deficit. In 2011, the federal government spent $3.8 trillion while receiving $2.2 trillion in tax revenue, resulting in a budget deficit of $1.6 trillion. As a percentage of GDP, the deficit was 11 percent, making it the largest budget shortfall since World War II.

This chapter considers various aspects of the debate over the economic effects of government debt. We begin by looking at the numbers. Section 19-1 examines the size of the U.S. government debt, comparing it to the historical and international record. It also takes a brief look at what the future may hold. Section 19-2 discusses why measuring changes in government indebtedness is not as straightforward as it might seem.

We then look at how government debt affects the economy. Section 19-3 describes the traditional view of government debt, according to which government borrowing reduces national saving and crowds out capital accumulation. This view is held by most economists and has been implicit in the discussion of fiscal policy throughout this book. Section 19-4 discusses an alternative view, called *Ricardian equivalence*, which is held by a small but influential minority of economists. According to the Ricardian view, government debt does not influence national saving and capital accumulation. As we will see, the debate between the traditional and Ricardian views of government debt arises from disagreements over how consumers respond to the government's debt policy.

Section 19-5 then looks at other facets of the debate over government debt. It begins by discussing whether the government should always try to balance its budget and, if not, when a budget deficit or surplus is desirable. It also examines the effects of government debt on monetary policy, the political process, and a nation's role in the world economy.

Although this chapter provides the foundation for understanding the effects of government debt and budget deficits, the story will not be completed until the next chapter. There we will examine the financial system more broadly, including the causes of financial crises. As we will see, excessive government debt can be at the center of such crises—a lesson that several European nations have recently been learning, all too painfully.

19-1 The Size of the Government Debt

Let's begin by putting the government debt in perspective. In 2011, the debt of the U.S. federal government was $10.8 trillion. If we divide this number by 312 million, the number of people in the United States, we find that each person's share of the government debt was about $35,000. Obviously, this is not a trivial number; few people sneeze at $35,000. Yet if we compare this debt to the roughly $2 million a typical person will earn over his or her working life, the government debt does not look like the catastrophe it is sometimes made out to be.

One way to judge the size of a government's debt is to compare it to the amount of debt other countries have accumulated. Table 19-1 shows the amount of government debt for several major countries expressed as a percentage of each country's GDP. The figure here is net debt: the government's financial obligations less any financial assets that it holds. At the top of the list are the heavily indebted countries of Greece, Japan, and Italy, which have accumulated a debt that exceeds annual GDP. At the bottom are Switzerland and Australia, which have accumulated relatively small debts. The United States is more indebted than average, but it is not far from the middle of the pack. By international standards, the U.S. government is neither especially profligate nor especially frugal.

TABLE 19-1

How Indebted Are the World's Governments?

Country	Government Debt as a Percentage of GDP
Greece	133.1
Japan	127.6
Italy	100.2
Belgium	80.4
Portugal	75.8
United States	73.8
France	62.7
United Kingdom	61.7
Germany	51.5
Spain	45.6
Netherlands	37.7
Canada	33.6
Australia	4.9
Switzerland	0.4

Source: OECD Economic Outlook. Data are net financial liabilities as a percent of GDP for 2011.

Over the course of U.S. history, the indebtedness of the federal government has varied substantially. Figure 19-1 shows the ratio of the federal debt to GDP since 1791. The government debt, relative to the size of the economy, varies from close to zero in the 1830s to a maximum of 107 percent of GDP in 1945.

Historically, the primary cause of increases in the government debt is war. The debt–GDP ratio rises sharply during major wars and falls slowly during peacetime. Many economists think that this historical pattern is the appropriate way to run fiscal policy. As we will discuss more fully later in this chapter, deficit financing of wars appears optimal for reasons of both tax smoothing and generational equity.

One instance of a large increase in government debt in peacetime began in the early 1980s. When Ronald Reagan was elected president in 1980, he was committed to reducing taxes and increasing military spending. These policies, coupled with a deep recession attributable to tight monetary policy, began a long period of substantial budget deficits. The government debt expressed as a percentage of GDP roughly doubled from 26 percent in 1980 to 50 percent in 1995. The United States had never before experienced such a large increase in government debt during a period of peace and prosperity. Many economists have criticized this increase in government debt as imposing an unjustifiable burden on future generations.

The increase in government debt during the 1980s caused significant concern among many policymakers as well. The first President Bush raised taxes to reduce the deficit, breaking his "Read my lips: No new taxes" campaign pledge

FIGURE 19-1

The Ratio of Government Debt to GDP Since 1790 The U.S. federal government debt held by the public, relative to the size of the U.S. economy, rises sharply during wars and declines slowly during peacetime. A major exception is the period from 1980 to 1995, when the ratio of debt to GDP rose without the occurrence of a major military conflict.

Sources: U.S. Department of the Treasury, U.S. Department of Commerce, and T. S. Berry, "Production and Population Since 1789," Bostwick Paper No. 6, Richmond, 1988.

and, according to some political commentators, costing him reelection. In 1993, when President Clinton took office, he raised taxes yet again. These tax increases, together with spending restraint and rapid economic growth due to the information-technology boom, caused the budget deficits to shrink and eventually turn into budget surpluses. The government debt fell from 50 percent of GDP in 1995 to 33 percent in 2001.

When President George W. Bush took office in 2001, the high-tech boom in the stock market was reversing course, and the economy was heading into recession. Economic downturns automatically cause tax revenue to fall and push the budget toward deficit. In addition, tax cuts to combat the recession and increased spending for homeland security and wars in Afghanistan and Iraq further increased the budget deficit, which averaged about 3 percent of GDP during his tenure. From 2001 to 2008, government debt rose from 33 to 41 percent of GDP.

When President Barack Obama moved into the White House in 2009, the economy was in the midst of a deep recession. Tax revenues were declining as the economy shrank. In addition, one of the new president's first actions was to sign a large fiscal stimulus to prop up the aggregate demand for goods and services.

(A Case Study in Chapter 11 examines this policy.) The federal government's budget deficit was 10 percent of GDP in 2009, 9 percent in 2010, and 11 percent in 2011. The debt–GDP ratio rose to 72 percent of GDP in 2011 and was projected to continue rising, at least in the near term.

These trends led to a significant event in August 2011: Standard & Poor's, a major private agency that evaluates the safety of bonds, reduced its credit rating on U.S. government debt to one notch below the top AAA grade. For many years, U.S. government debt was considered the safest around. That is, buyers of these bonds could be completely confident that they would be repaid in full when the bond matured. Standard & Poor's, however, was sufficiently concerned about recent fiscal policy that it raised the possibility that the U.S. government might someday default.

CASE STUDY

The Troubling Long-Term Outlook for Fiscal Policy

Why did Standard & Poor's downgrade U.S. government debt? The large budget deficits from 2009 to 2011 were one reason but probably not the main one. More important was the longer-term outlook for fiscal policy. When economists project the path of U.S. fiscal policy over the next several decades, they paint a troubling picture.

One reason is demographic. Advances in medical technology have been increasing life expectancy, while improvements in birth-control techniques and changing social norms have reduced the number of children people have. Because of these developments, the elderly are becoming a larger share of the population. In 1950, the elderly population (aged 65 and older) was about 14 percent the size of the working-age population (aged 20 to 64). Now the elderly are about 21 percent of the working-age population, and that figure will rise to about 40 percent in 2050. About one-third of the federal budget is devoted to providing the elderly with pensions (mainly through the Social Security program) and health care. As more people become eligible for these "entitlements," as they are sometimes called, government spending will automatically rise over time.

A second, related reason for the troubling fiscal picture is the rising cost of health care. The government provides health care to the elderly through the Medicare system and to the poor through Medicaid. As the cost of health care increases, government spending on these programs increases as well. Policymakers have proposed various ways to stem the rise in health care costs, such as reducing the burden of lawsuits, encouraging more competition among health care providers, and promoting greater use of information technology. The health care reform act signed into law by President Obama in 2009 established a new government agency, called the Independent Payment Advisory Board, to promulgate changes in Medicare to reduce costs. Yet many health economists believe such measures will have only limited impact. A main reason for rising health care costs is medical advances that provide new, better, but often expensive ways to extend and improve our lives.

The combination of the aging population and rising health care costs will have a major impact on the federal budget. Government spending on Social Security, Medicare, and Medicaid has already risen from less than 1 percent of GDP in 1950 to about 9 percent today. The upward trajectory is not about to stop. The Congressional Budget Office estimates that if no changes are made, spending on these programs will rise to about 20 percent of GDP over the next half century.

How the United States will handle these spending pressures is an open question. The key issue is how the required fiscal adjustment will be split between tax increases and spending reductions. Some economists believe that to pay for these commitments, we will need to raise taxes as a percentage of GDP substantially above what it has been historically. Given the projected increases in spending on Social Security, Medicare, and Medicaid, paying for these benefits would require increasing all taxes by approximately one-third. Other economists believe that such high tax rates would impose too great a cost on younger workers. They believe that policymakers should reduce the promises now being made to the elderly of the future and that, at the same time, people should be encouraged to take a greater role in providing for themselves as they age. This might entail increasing the normal retirement age, while giving people more incentive to save during their working years as preparation for assuming their own retirement and health costs.

Resolving this debate will be one of the great policy challenges in the decades ahead. Neither substantial tax hikes nor substantial spending cuts are politically popular, which is why the problem has not been addressed already. Yet the only alternative is a continuation of large budget deficits and increasing government debt. At some point, as government debt rises as a share of GDP, the government's ability or willingness to service and repay these debts would be called into question. And that is the main reason why Standard & Poor's, looking ahead to these formidable challenges, downgraded the credit rating of the U.S. government. They did not say that default was a likely outcome, but they did suggest that it was a possibility. ■

19-2 Problems in Measurement

The government budget deficit equals government spending minus government revenue, which in turn equals the amount of new debt the government needs to issue to finance its operations. This definition may sound simple enough, but in fact debates over fiscal policy sometimes arise over how the budget deficit should be measured. Some economists believe that the deficit as currently measured is not a good indicator of the stance of fiscal policy. That is, they believe that the budget deficit does not accurately gauge either the impact of fiscal policy on today's economy or the burden being placed on future generations of taxpayers. In this section we discuss four problems with the usual measure of the budget deficit.

Measurement Problem 1: Inflation

The least controversial of the measurement issues is the correction for inflation. Almost all economists agree that the government's indebtedness should be measured in real terms, not in nominal terms. The measured deficit should equal the change in the government's real debt, not the change in its nominal debt.

The budget deficit as commonly measured, however, does not correct for inflation. To see how large an error this induces, consider the following example. Suppose that the real government debt is not changing; in other words, in real terms, the budget is balanced. In this case, the nominal debt must be rising at the rate of inflation. That is,

$$\Delta D/D = \pi,$$

where π is the inflation rate and D is the stock of government debt. This implies

$$\Delta D = \pi D.$$

The government would look at the change in the nominal debt ΔD and would report a budget deficit of πD. Hence, most economists believe that the reported budget deficit is overstated by the amount πD.

We can make the same argument in another way. The deficit is government expenditure minus government revenue. Part of expenditure is the interest paid on the government debt. Expenditure should include only the real interest paid on the debt rD, not the nominal interest paid iD. Because the difference between the nominal interest rate i and the real interest rate r is the inflation rate π, the budget deficit is overstated by πD.

This correction for inflation can be large, especially when inflation is high, and it can often change our evaluation of fiscal policy. For example, in 1979, the federal government reported a budget deficit of \$28 billion. Inflation was 8.6 percent, and the government debt held at the beginning of the year by the public (excluding the Federal Reserve) was \$495 billion. The deficit was therefore overstated by

$$\begin{aligned}\pi D &= 0.086 \times \$495 \text{ billion} \\ &= \$43 \text{ billion.}\end{aligned}$$

Corrected for inflation, the reported budget deficit of \$28 billion turns into a budget surplus of \$15 billion! In other words, even though nominal government debt was rising, real government debt was falling.

Measurement Problem 2: Capital Assets

Many economists believe that an accurate assessment of the government's budget deficit requires taking into account the government's assets as well as its liabilities. In particular, when measuring the government's overall indebtedness, we should subtract government assets from government debt. Therefore, the budget deficit should be measured as the change in debt minus the change in assets.

Certainly, individuals and firms treat assets and liabilities symmetrically. When a person borrows to buy a house, we do not say that he is running a budget deficit. Instead, we offset the increase in assets (the house) against the increase in debt (the mortgage) and record no change in net wealth. Perhaps we should treat the government's finances the same way.

A budget procedure that accounts for assets as well as liabilities is called **capital budgeting** because it takes into account changes in capital. For example, suppose that the government sells one of its office buildings or some of its land and uses the proceeds to reduce the government debt. Under current budget procedures, the reported deficit would be lower. Under capital budgeting, the revenue received from the sale would not lower the deficit because the reduction in debt would be offset by a reduction in assets. Similarly, under capital budgeting, government borrowing to finance the purchase of a capital good would not raise the deficit.

The major difficulty with capital budgeting is that it is hard to decide which government expenditures should count as capital expenditures. For example, should the interstate highway system be counted as an asset of the government? If so, what is its value? What about the stockpile of nuclear weapons? Should spending on education be treated as expenditure on human capital? These difficult questions must be answered if the government is to adopt a capital budget.

Economists and policymakers disagree about whether the federal government should use capital budgeting. (Many state governments already use it.) Opponents of capital budgeting argue that, although the system is superior in principle to the current system, it is too difficult to implement in practice. Proponents of capital budgeting argue that even an imperfect treatment of capital assets would be better than ignoring them altogether.

Measurement Problem 3: Uncounted Liabilities

Some economists argue that the measured budget deficit is misleading because it excludes some important government liabilities. For example, consider the pensions of government workers. These workers provide labor services to the government today, but part of their compensation is deferred to the future. In essence, these workers are providing a loan to the government. Their future pension benefits represent a government liability not very different from government debt. Yet this liability is not included as part of the government debt, and the accumulation of this liability is not included as part of the budget deficit. According to some estimates, this implicit liability is almost as large as the official government debt.

Similarly, consider the Social Security system. In some ways, the system is like a pension plan. People pay some of their income into the system when young and expect to receive benefits when old. Perhaps accumulated future Social Security benefits should be included in the government's liabilities. Estimates suggest that the government's future Social Security liabilities (less future Social Security taxes) are more than three times the government debt as officially measured.

One might argue that Social Security liabilities are different from government debt because the government can change the laws determining Social Security benefits. Yet, in principle, the government could always choose not to repay all of its debt: the government honors its debt only because it chooses to do so. Promises to pay the holders of government debt may not be fundamentally different from promises to pay the future recipients of Social Security.

A particularly difficult form of government liability to measure is the *contingent liability*—the liability that is due only if a specified event occurs. For example, the government guarantees many forms of private credit, such as student loans, mortgages for low- and moderate-income families, and deposits in banks and savings-and-loan institutions. If the borrower repays the loan, the government pays nothing; if the borrower defaults, the government makes the repayment. When the government provides this guarantee, it undertakes a liability contingent on the borrower's default. Yet this contingent liability is not reflected in the budget deficit, in part because it is not clear what dollar value to attach to it.

Measurement Problem 4: The Business Cycle

Many changes in the government's budget deficit occur automatically in response to a fluctuating economy. When the economy goes into a recession, incomes fall, so people pay less in personal income taxes. Profits fall, so corporations pay less in corporate income taxes. Fewer people are employed, so payroll tax revenue declines. More people become eligible for government assistance, such as welfare and unemployment insurance, so government spending rises. Even without any change in the laws governing taxation and spending, the budget deficit increases.

These automatic changes in the deficit are not errors in measurement because the government truly borrows more when a recession depresses tax revenue and boosts government spending. But these changes do make it more difficult to use the deficit to monitor changes in fiscal policy. That is, the deficit can rise or fall either because the government has changed policy or because the economy has changed direction. For some purposes, it would be good to know which is occurring.

To solve this problem, the government calculates a **cyclically adjusted budget deficit** (sometimes called the *full-employment budget deficit*). The cyclically adjusted deficit is based on estimates of what government spending and tax revenue would be if the economy were operating at its natural level of output and employment. The cyclically adjusted deficit is a useful measure because it reflects policy changes but not the current stage of the business cycle.

Summing Up

Economists differ in the importance they place on these measurement problems. Some believe that the problems are so severe that the budget deficit as normally measured is almost meaningless. Most take these measurement problems seriously but still view the measured budget deficit as a useful indicator of fiscal policy.

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The undisputed lesson is that to fully evaluate what fiscal policy is doing, economists and policymakers must look at more than just the measured budget deficit. And, in fact, they do. The budget documents prepared annually by the Office of Management and Budget contain much detailed information about the government's finances, including data on capital expenditures and credit programs.

No economic statistic is perfect. Whenever we see a number reported in the media, we need to know what it is measuring and what it is leaving out. This is especially true for data on government debt and budget deficits.

19-3 The Traditional View of Government Debt

Imagine that you are an economist working for the Congressional Budget Office (CBO). You receive a letter from the chair of the Senate Budget Committee:

> Dear CBO Economist:
>
> Congress is about to consider the president's request to cut all taxes by 20 percent. Before deciding whether to endorse the request, my committee would like your analysis. We see little hope of reducing government spending, so the tax cut would mean an increase in the budget deficit. How would the tax cut and budget deficit affect the economy and the economic well-being of the country?
>
> Sincerely,
> Committee Chair

Before responding to the senator, you open your favorite economics textbook—this one, of course—to see what the models predict for such a change in fiscal policy.

To analyze the long-run effects of this policy change, you turn to the models in Chapters 3 through 9. The model in Chapter 3 shows that a tax cut stimulates consumer spending and reduces national saving. The reduction in saving raises the interest rate, which crowds out investment. The Solow growth model introduced in Chapter 8 shows that lower investment eventually leads to a lower steady-state capital stock and a lower level of output. Because we concluded in Chapter 9 that the U.S. economy has less capital than in the Golden Rule steady state (the steady state with maximum consumption), the fall in steady-state capital means lower consumption and reduced economic well-being.

To analyze the short-run effects of the policy change, you turn to the *IS–LM* model in Chapters 11 and 12. This model shows that a tax cut stimulates consumer spending, which implies an expansionary shift in the *IS* curve. If there is no change in monetary policy, the shift in the *IS* curve leads to an expansionary shift in the aggregate demand curve. In the short run, when prices are sticky, the expansion in aggregate demand leads to higher output and lower unemployment.

Over time, as prices adjust, the economy returns to the natural level of output, and the higher aggregate demand results in a higher price level.

To see how international trade affects your analysis, you turn to the open-economy models in Chapters 6 and 13. The model in Chapter 6 shows that when national saving falls, people start financing investment by borrowing from abroad, causing a trade deficit. Although the inflow of capital from abroad lessens the effect of the fiscal-policy change on U.S. capital accumulation, the United States becomes indebted to foreign countries. The fiscal-policy change also causes the dollar to appreciate, which makes foreign goods cheaper in the United States and domestic goods more expensive abroad. The Mundell–Fleming model in Chapter 13 shows that the appreciation of the dollar and the resulting fall in net exports reduce the short-run expansionary impact of the fiscal change on output and employment.

With all these models in mind, you draft a response:

> Dear Senator:
>
> A tax cut financed by government borrowing would have many effects on the economy. The immediate impact of the tax cut would be to stimulate consumer spending. Higher consumer spending affects the economy in both the short run and the long run.
>
> In the short run, higher consumer spending would raise the demand for goods and services and thus raise output and employment. Interest rates would also rise, however, as investors competed for a smaller flow of saving. Higher interest rates would discourage investment and would encourage capital to flow in from abroad. The dollar would rise in value against foreign currencies, and U.S. firms would become less competitive in world markets.
>
> In the long run, the smaller national saving caused by the tax cut would mean a smaller capital stock and a greater foreign debt. Therefore, the output of the nation would be smaller, and a greater share of that output would be owed to foreigners.
>
> The overall effect of the tax cut on economic well-being is hard to judge. Current generations would benefit from higher consumption and higher employment, although inflation would likely be higher as well. Future generations would bear much of the burden of today's budget deficits: they would be born into a nation with a smaller capital stock and a larger foreign debt.
>
> Your faithful servant,
> CBO Economist

The senator replies:

> Dear CBO Economist:
>
> Thank you for your letter. It made sense to me. But yesterday my committee heard testimony from a prominent economist who called herself a "Ricardian" and who reached quite a different conclusion. She said that a tax cut by itself would not stimulate consumer spending. She concluded that the budget deficit would therefore not have all the effects you listed. What's going on here?
>
> Sincerely,
> Committee Chair

After studying Section 19-4, you write back to the senator, explaining in detail the debate over Ricardian equivalence.

FYI

Taxes and Incentives

Throughout this book we have summarized the tax system with a single variable, T. In our models, the policy instrument is the level of taxation that the government chooses; we have ignored the issue of how the government raises this tax revenue. In practice, however, taxes are not lump-sum payments but are levied on some type of economic activity. The U.S. federal government raises some revenue by taxing personal income (45 percent of tax revenue), some by taxing payrolls (36 percent), some by taxing corporate profits (12 percent), and some from other sources (7 percent).

Courses in public finance spend much time studying the pros and cons of alternative types of taxes. One lesson emphasized in such courses is that taxes affect incentives. When people are taxed on their labor earnings, they have less incentive to work hard. When people are taxed on the income from owning capital, they have less incentive to save and invest in capital. As a result, when taxes change, incentives change, and this can have macroeconomic effects. If lower tax rates encourage increased work and investment, the aggregate supply of goods and services increases.

Some economists, called *supply-siders*, believe that the incentive effects of taxes are large. Some supply-siders go so far as to suggest that tax cuts can be self-financing: a cut in tax rates induces such a large increase in aggregate supply that tax revenue increases, despite the fall in tax rates. Although all economists agree that taxes affect incentives and that incentives affect aggregate supply to some degree, most believe that the incentive effects are not large enough to make tax cuts self-financing in most circumstances.

In recent years, there has been much debate about how to reform the tax system to reduce the disincentives that impede the economy from reaching its full potential. A proposal endorsed by many economists is to move from the current income tax system toward a consumption tax. Compared to an income tax, a consumption tax would provide more incentives for saving, investment, and capital accumulation. One way of taxing consumption would be to expand the availability of tax-advantaged saving accounts, such as individual retirement accounts and 401(k) plans, which exempt saving from taxation until that saving is later withdrawn and spent. Another way of taxing consumption would be to adopt a value-added tax, a tax on consumption paid by producers rather than consumers, now used by many European countries to raise government revenue.[1]

19-4 The Ricardian View of Government Debt

The traditional view of government debt presumes that when the government cuts taxes and runs a budget deficit, consumers respond to their higher after-tax income by spending more. An alternative view, called **Ricardian equivalence**,

[1]To read more about how taxes affect the economy through incentives, the best place to start is an undergraduate textbook in public finance, such as Harvey Rosen and Ted Gayer, *Public Finance*, 8th ed. (New York: McGraw-Hill, 2007). In the more advanced literature that links public finance and macroeconomics, a classic reference is Christophe Chamley, "Optimal Taxation of Capital Income in a General Equilibrium Model With Infinite Lives," *Econometrica* 54 (May 1986): 607–622. Chamley establishes conditions under which the tax system should not distort the incentive to save (that is, conditions under which consumption taxation is superior to income taxation). The robustness of this conclusion is investigated in Andrew Atkeson, V. V. Chari, and Patrick J. Kehoe, "Taxing Capital Income: A Bad Idea," *Federal Reserve Bank of Minneapolis Quarterly Review* 23 (Summer 1999): 3–17.

questions this presumption. According to the Ricardian view, consumers are forward-looking and, therefore, base their spending decisions not only on their current income but also on their expected future income. As we explored more fully in Chapter 16, the forward-looking consumer is at the heart of many modern theories of consumption. The Ricardian view of government debt applies the logic of the forward-looking consumer to analyzing the effects of fiscal policy.

The Basic Logic of Ricardian Equivalence

Consider the response of a forward-looking consumer to the tax cut that the Senate Budget Committee is considering. The consumer might reason as follows:

> The government is cutting taxes without any plans to reduce government spending. Does this policy alter my set of opportunities? Am I richer because of this tax cut? Should I consume more?
>
> Maybe not. The government is financing the tax cut by running a budget deficit. At some point in the future, the government will have to raise taxes to pay off the debt and accumulated interest. So the policy really represents a tax cut today coupled with a tax hike in the future. The tax cut merely gives me transitory income that eventually will be taken back. I am not any better off, so I will leave my consumption unchanged.

The forward-looking consumer understands that government borrowing today means higher taxes in the future. A tax cut financed by government debt does not reduce the tax burden; it merely reschedules it. It therefore should not encourage the consumer to spend more.

One can view this argument another way. Suppose that the government borrows $1,000 from the typical citizen to give that citizen a $1,000 tax cut. In essence, this policy is the same as giving the citizen a $1,000 government bond as a gift. One side of the bond says, "The government owes you, the bondholder, $1,000 plus interest." The other side says, "You, the taxpayer, owe the government $1,000 plus interest." Overall, the gift of a bond from the government to the typical citizen does not make the citizen richer or poorer because the value of the bond is offset by the value of the future tax liability.

The general principle is that government debt is equivalent to future taxes, and if consumers are sufficiently forward-looking, future taxes are equivalent to current taxes. Hence, financing the government by debt is equivalent to financing it by taxes. This view is called *Ricardian equivalence* after the famous nineteenth-century economist David Ricardo because he first noted the theoretical argument.

The implication of Ricardian equivalence is that a debt-financed tax cut leaves consumption unaffected. Households save the extra disposable income to pay the future tax liability that the tax cut implies. This increase in private saving exactly offsets the decrease in public saving. National saving—the sum of private and public saving—remains the same. The tax cut therefore has none of the effects that the traditional analysis predicts.

The logic of Ricardian equivalence does not mean that all changes in fiscal policy are irrelevant. Changes in fiscal policy do influence consumer spending if they influence present or future government purchases. For example, suppose that the government cuts taxes today because it plans to reduce government purchases in the future. If the consumer understands that this tax cut does not require an increase in future taxes, he feels richer and raises his consumption. But note that it is the reduction in government purchases, rather than the reduction in taxes, that stimulates consumption: the announcement of a future reduction in government purchases would raise consumption today even if current taxes were unchanged because it would imply lower taxes at some time in the future.

Consumers and Future Taxes

The essence of the Ricardian view is that when people choose their level of consumption, they rationally look ahead to the future taxes implied by government debt. But how forward-looking are consumers? Defenders of the traditional view of government debt believe that the prospect of future taxes does not have as large an influence on current consumption as the Ricardian view assumes. Here are some of their arguments.[2]

Myopia Proponents of the Ricardian view of fiscal policy assume that people are rational when making such decisions as choosing how much of their income to consume and how much to save. When the government borrows to pay for current spending, rational consumers look ahead to the future taxes required to support this debt. Thus, the Ricardian view presumes that people have substantial knowledge and foresight.

One possible argument for the traditional view of tax cuts is that people are shortsighted, perhaps because they do not fully comprehend the implications of government budget deficits. It is possible that some people follow simple and not fully rational rules of thumb when choosing how much to save. Suppose, for example, that a person acts on the assumption that future taxes will be the same as current taxes. This person will fail to take account of future changes in taxes required by current government policies. A debt-financed tax cut will lead this person to believe that his lifetime income has increased, even if it hasn't. The tax cut will therefore lead to higher consumption and lower national saving.

Borrowing Constraints The Ricardian view of government debt assumes that consumers base their spending not on their current income but on their lifetime income, which includes both current and expected future income. According to the Ricardian view, a debt-financed tax cut increases current income, but it does not alter lifetime income or consumption. Advocates of the traditional view of government debt argue that current income is more important than lifetime income for those consumers who face binding borrowing constraints. A *borrowing constraint* is a limit on how much an individual can borrow from banks or other financial institutions.

[2]For a survey of the debate over Ricardian equivalence, see Douglas Bernheim, "Ricardian Equivalence: An Evaluation of Theory and Evidence," *NBER Macroeconomics Annual* (1987): 263–303. See also the symposium on budget deficits in the Spring 1989 issue of the *Journal of Economic Perspectives*.

A person who would like to consume more than his current income allows—perhaps because he expects higher income in the future—has to do so by borrowing. If he cannot borrow to finance current consumption, or can borrow only a limited amount, his current income determines his spending, regardless of what his lifetime income might be. In this case, a debt-financed tax cut raises current income and thus consumption, even though future income will be lower. In essence, when the government cuts current taxes and raises future taxes, it is giving taxpayers a loan. For a person who wanted to obtain a loan but was unable to, the tax cut expands his opportunities and stimulates consumption.

CASE STUDY

George Bush's Withholding Experiment

In early 1992, President George H.W. Bush pursued a novel policy to deal with the lingering recession in the United States. By executive order, he lowered the amount of income taxes that were being withheld from workers' paychecks. The order did not reduce the amount of taxes that workers owed; it merely delayed payment. The higher take-home pay that workers received during 1992 was to be offset by higher tax payments, or smaller tax refunds, when income taxes were due in April 1993.

What effect would you predict for this policy? According to the logic of Ricardian equivalence, consumers should realize that their lifetime resources were unchanged and, therefore, save the extra take-home pay to meet the upcoming tax liability. Yet George Bush claimed his policy would provide "money people can use to help pay for clothing, college, or to get a new car." That is, he believed that consumers would spend the extra income, thereby stimulating aggregate demand and helping the economy recover from the recession. Bush seemed to be assuming that consumers were shortsighted or faced binding borrowing constraints.

Gauging the actual effects of this policy is difficult with aggregate data because many other things were happening at the same time. Yet some evidence comes from a survey two economists conducted shortly after the policy was announced. The survey asked people what they would do with the extra income. Fifty-seven percent of the respondents said they would save it, use it to repay debts, or adjust their withholding in order to reverse the effect of Bush's executive order. Forty-three percent said they would spend the extra income. Thus, for this policy change, a majority of the population was planning to act as Ricardian theory posits. Nonetheless, Bush was partly right: many people planned to spend the extra income, even though they understood that the following year's tax bill would be higher.[3] ■

[3]Matthew D. Shapiro and Joel Slemrod, "Consumer Response to the Timing of Income: Evidence From a Change in Tax Withholding," *American Economic Review* 85 (March 1995): 274–283.

Future Generations Besides myopia and borrowing constraints, a third argument for the traditional view of government debt is that consumers expect the implied future taxes to fall not on them but on future generations. Suppose, for example, that the government cuts taxes today, issues 30-year bonds to finance the budget deficit, and then raises taxes in 30 years to repay the loan. In this case, the government debt represents a transfer of wealth from the next generation of taxpayers (which faces the tax hike) to the current generation of taxpayers (which gets the tax cut). This transfer raises the lifetime resources of the current generation, so it raises their consumption. In essence, a debt-financed tax cut stimulates consumption because it gives the current generation the opportunity to consume at the expense of the next generation.

Drawing by Dave Carpenter. From the *Wall Street Journal*. Permission, Cartoon Features Syndicate.

"What's this I hear about you adults mortgaging my future?"

Economist Robert Barro has provided a clever rejoinder to this argument to support the Ricardian view. Barro argues that because future generations are the children and grandchildren of the current generation, we should not view these various generations as independent economic actors. Instead, he argues, the appropriate assumption is that current generations care about future generations. This altruism between generations is evidenced by the gifts that many people give their children, often in the form of bequests at the time of their deaths. The existence of bequests suggests that many people are not eager to take advantage of the opportunity to consume at their children's expense.

According to Barro's analysis, the relevant decisionmaking unit is not the individual, whose life is finite, but the family, which continues forever. In other words, an individual decides how much to consume based not only on his own income but also on the income of future members of his family. A debt-financed tax cut may raise the income an individual receives in his lifetime, but it does not raise his family's overall resources. Instead of consuming the extra income from the tax cut, the individual saves it and leaves it as a bequest to his children, who will bear the future tax liability.

We can see now that the debate over government debt is really a debate over consumer behavior. The Ricardian view assumes that consumers have a long time horizon. Barro's analysis of the family implies that the consumer's time horizon, like the government's, is effectively infinite. Yet it is possible that consumers do not look ahead to the tax liabilities of future generations. Perhaps they expect their children to be richer than they are and therefore welcome the opportunity to consume at their children's expense. The fact that many people leave zero or minimal bequests to their children is consistent with this hypothesis. For these zero-bequest families, a debt-financed tax cut alters consumption by redistributing wealth among generations.[4]

[4]Robert J. Barro, "Are Government Bonds Net Wealth?" *Journal of Political Economy* 81 (1974): 1095–1117.

CASE STUDY

Why Do Parents Leave Bequests?

The debate over Ricardian equivalence is partly a debate over how different generations are linked to one another. Robert Barro's defense of the Ricardian view is based on the assumption that parents leave their children bequests because they care about them. But is altruism really the reason that parents leave bequests?

One group of economists has suggested that parents use bequests to control their children. Parents often want their children to do certain things for them, such as phoning home regularly and visiting on holidays. Perhaps parents use the implicit threat of disinheritance to induce their children to be more attentive.

To test this "strategic bequest motive," these economists examined data on how often children visit their parents. They found that the more wealthy the parent, the more often the children visit. Even more striking was another result: only wealth that can be left as a bequest induces more frequent visits. Wealth that cannot be bequeathed—such as pension wealth, which reverts to the pension company in the event of an early death—does not encourage children to visit. These findings suggest that there may be more to the relationships among generations than mere altruism.[5] ■

Making a Choice

Having seen the traditional and Ricardian views of government debt, you should ask yourself two sets of questions.

First, with which view do you agree? If the government cuts taxes today, runs a budget deficit, and raises taxes in the future, how will the policy affect the economy? Will it stimulate consumption, as the traditional view holds? Or will consumers understand that their lifetime income is unchanged and, therefore, offset the budget deficit with higher private saving?

Second, why do you hold the view that you do? If you agree with the traditional view of government debt, what is the reason? Do consumers fail to understand that higher government borrowing today means higher taxes tomorrow? Or do they ignore future taxes either because they face borrowing constraints or because future taxes will fall on future generations with which they do not feel an economic link? If you hold the Ricardian view, do you believe that consumers have the foresight to see that government borrowing today will result in future taxes levied on them or their descendants? Do you believe that consumers will save the extra income to offset that future tax liability?

We might hope that the evidence could help us decide between these two views of government debt. Yet when economists examine historical episodes of large budget deficits, the evidence is inconclusive. History can be interpreted in different ways.

Consider, for example, the experience of the 1980s. The large budget deficits, caused partly by the Reagan tax cut of 1981, seem to offer a natural experiment to test the two views of government debt. At first glance, this episode appears

[5]B. Douglas Bernheim, Andrei Shleifer, and Lawrence H. Summers, "The Strategic Bequest Motive," *Journal of Political Economy* 93 (1985): 1045–1076.

decisively to support the traditional view. The large budget deficits coincided with low national saving, high real interest rates, and a large trade deficit. Indeed, advocates of the traditional view of government debt often claim that the experience of the 1980s confirms their position.

Yet those who hold the Ricardian view of government debt interpret these events differently. Perhaps saving was low in the 1980s because people were optimistic about future economic growth—an optimism that was also reflected in a booming stock market. Or perhaps saving was low because people expected that the tax cut would eventually lead not to higher taxes but, as Reagan promised, to lower government spending. Because it is hard to rule out any of these interpretations, both views of government debt survive.

FYI

Ricardo on Ricardian Equivalence

David Ricardo was a millionaire stockbroker and one of the greatest economists of all time. His most important contribution to the field was his 1817 book *Principles of Political Economy and Taxation*, in which he developed the theory of comparative advantage, which economists still use to explain the gains from international trade. Ricardo was also a member of the British Parliament, where he put his own theories to work and opposed the corn laws, which restricted international trade in grain.

Ricardo was interested in the alternative ways in which a government might pay for its expenditure. In an 1820 article called *Essay on the Funding System*, he considered an example of a war that cost 20 million pounds. He noted that if the interest rate was 5 percent, this expense could be financed with a one-time tax of 20 million pounds, a perpetual tax of 1 million pounds, or a tax of 1.2 million pounds for 45 years. He wrote:

> In point of economy, there is no real difference in either of the modes; for twenty million in one payment, one million per annum for ever, or 1,200,000 pounds for 45 years, are precisely of the same value.

Ricardo was aware that the issue involved the linkages among generations:

> It would be difficult to convince a man possessed of 20,000 pounds, or any other sum, that a perpetual payment of 50 pounds per annum was equally burdensome with a single tax of 1000 pounds. He would have some vague notion that the 50 pounds per annum would be paid by posterity, and would not be paid by him; but if he leaves his fortune to his son, and leaves it charged with this perpetual tax, where is the difference whether he leaves him 20,000 pounds with the tax, or 19,000 pounds without it?

Although Ricardo viewed these alternative methods of government finance as equivalent, he did not think other people would view them as such:

> The people who pay taxes . . . do not manage their private affairs accordingly. We are apt to think that the war is burdensome only in proportion to what we are at the moment called to pay for it in taxes, without reflecting on the probable duration of such taxes.

Thus, Ricardo doubted that people were rational and farsighted enough to look ahead fully to their future tax liabilities.

As a policymaker, Ricardo took the government debt seriously. Before the British Parliament, he once declared:

> This would be the happiest country in the world, and its progress in prosperity would go beyond the powers of imagination to conceive, if we got rid of two great evils—the national debt and the corn laws.

It is one of the great ironies in the history of economic thought that Ricardo rejected the theory that now bears his name!

19-5 Other Perspectives on Government Debt

The policy debates over government debt have many facets. So far we have considered the traditional and Ricardian views of government debt. According to the traditional view, a government budget deficit expands aggregate demand and stimulates output in the short run but crowds out capital and depresses economic growth in the long run. According to the Ricardian view, a government budget deficit has none of these effects because consumers understand that a budget deficit represents merely the postponement of a tax burden. With these two theories as background, we now consider several other perspectives on government debt.

Balanced Budgets Versus Optimal Fiscal Policy

In the United States, many state constitutions require the state government to run a balanced budget. A recurring topic of political debate is whether the Constitution should require a balanced budget for the federal government as well. Most economists oppose a strict rule requiring the government to balance its budget. There are three reasons why optimal fiscal policy may at times call for a budget deficit or surplus.

Stabilization A budget deficit or surplus can help stabilize the economy. In essence, a balanced-budget rule would revoke the automatic stabilizing powers of the system of taxes and transfers. When the economy goes into a recession, taxes automatically fall, and transfers automatically rise. Although these automatic responses help stabilize the economy, they push the budget into deficit. A strict balanced-budget rule would require that the government raise taxes or reduce spending in a recession, but these actions would further depress aggregate demand. Discretionary fiscal policy is more likely to move in the opposite direction over the course of the business cycle. In 2009, for example, President Barack Obama signed a stimulus bill authorizing a large increase in spending to try to reduce the severity of the recession, even though it led to the largest budget deficit in more than half a century.

Tax Smoothing A budget deficit or surplus can be used to reduce the distortion of incentives caused by the tax system. As discussed earlier, high tax rates impose a cost on society by discouraging economic activity. A tax on labor earnings, for instance, reduces the incentive that people have to work long hours. Because this disincentive becomes particularly large at very high tax rates, the total social cost of taxes is minimized by keeping tax rates relatively stable rather than making them high in some years and low in others. Economists call this policy *tax smoothing*. To keep tax rates smooth, a deficit is necessary in years of unusually low income (recessions) or unusually high expenditure (wars).

Intergenerational Redistribution A budget deficit can be used to shift a tax burden from current to future generations. For example, some economists argue that if the current generation fights a war to preserve freedom, future generations benefit as well and should bear some of the burden. To pass on some of the war's costs, the current generation can finance the war with a budget deficit. The government can later retire the debt by levying taxes on the next generation.

These considerations lead most economists to reject a strict balanced-budget rule. At the very least, a rule for fiscal policy needs to take account of the recurring episodes, such as recessions and wars, during which it is reasonable for the government to run a budget deficit.

Fiscal Effects on Monetary Policy

In 1985, Paul Volcker told Congress that "the actual and prospective size of the budget deficit . . . heightens skepticism about our ability to control the money supply and contain inflation." A decade later, Alan Greenspan claimed that "a substantial reduction in the long-term prospective deficit of the United States will significantly lower very long-term inflation expectations." Both of these Fed chairmen apparently saw a link between fiscal policy and monetary policy.

We first discussed such a possibility in Chapter 5. As we saw, one way for a government to finance a budget deficit is simply to print money—a policy that leads to higher inflation. Indeed, when countries experience hyperinflation, the typical reason is that fiscal policymakers are relying on the inflation tax to pay for some of their spending. The ends of hyperinflations almost always coincide with fiscal reforms that include large cuts in government spending and therefore a reduced need for seigniorage.

In addition to this link between the budget deficit and inflation, some economists have suggested that a high level of debt might also encourage the government to create inflation. Because most government debt is specified in nominal terms, the real value of the debt falls when the price level rises. This is the usual redistribution between creditors and debtors caused by unexpected inflation—here the debtor is the government and the creditor is the private sector. But this debtor, unlike others, has access to the monetary printing press. A high level of debt might encourage the government to print money, thereby raising the price level and reducing the real value of its debts.

Despite these concerns about a possible link between government debt and monetary policy, there is little evidence that this link is important in most developed countries. In the United States, for instance, inflation was high in the 1970s, even though government debt was low relative to GDP. Monetary policymakers got inflation under control in the early 1980s, just as fiscal policymakers started running large budget deficits and increasing the government debt. Thus, although monetary policy might be driven by fiscal policy in some situations, such as during classic hyperinflations, this situation appears not to be the norm in most countries today. There are several reasons for this. First, most governments can finance deficits by selling debt and don't need to rely on seigniorage. Second, central banks often have enough independence to resist political pressure for more expansionary monetary policy. Third, and most important, policymakers in all parts of government know that inflation is a poor solution to fiscal problems.

Debt and the Political Process

Fiscal policy is made not by angels but by an imperfect political process. Some economists worry that the possibility of financing government spending by issuing debt makes that political process all the worse.

This idea has a long history. Nineteenth-century economist Knut Wicksell claimed that if the benefit of some type of government spending exceeded its cost, it should be possible to finance that spending in a way that would receive unanimous support from the voters. He concluded that government spending should be undertaken only when support is, in fact, nearly unanimous. In the case of debt finance, however, Wicksell was concerned that "the interests [of future taxpayers] are not represented at all or are represented inadequately in the tax-approving assembly."

Many economists have echoed this theme more recently. In their 1977 book *Democracy in Deficit*, James Buchanan and Richard Wagner argued for a balanced-budget rule for fiscal policy on the grounds that it "will have the effect of bringing the real costs of public outlays to the awareness of decision makers; it will tend to dispel the illusory 'something for nothing' aspects of fiscal choice." Similarly, Martin Feldstein (once an economic adviser to Ronald Reagan and a long-time critic of budget deficits) argued that "only the 'hard budget constraint' of having to balance the budget" can force politicians to judge whether spending's "benefits really justify its costs."

These arguments have led some economists to favor a constitutional amendment requiring Congress to pass a balanced budget. Often these proposals have escape clauses for times of national emergency, such as wars and depressions, when a budget deficit is a reasonable policy response. Some critics of these proposals argue that, even with the escape clauses, such a constitutional amendment would tie the hands of policymakers too severely. Others claim that Congress would easily evade the balanced-budget requirement with accounting tricks. As this discussion makes clear, the debate over the desirability of a balanced-budget amendment is as much political as economic.

International Dimensions

Government debt may affect a nation's role in the world economy. As we first saw in Chapter 6, when a government budget deficit reduces national saving, it often leads to a trade deficit, which in turn is financed by borrowing from abroad. For instance, many observers have blamed U.S. fiscal policy for the relatively recent switch of the United States from a major creditor in the world economy to a major debtor. This link between the budget deficit and the trade deficit leads to two further effects of government debt.

First, high levels of government debt may increase the risk that an economy will experience capital flight—an abrupt decline in the demand for a country's assets in world financial markets. International investors are aware that a government can always deal with its debt simply by defaulting. This approach was used as far back as 1335, when England's King Edward III defaulted on his debt to Italian bankers. More recently, several Latin American countries defaulted on their debts in the 1980s, and Russia did the same in 1998. In 2011, it seemed likely that Greece was heading toward that outcome as well (a topic we discuss in the next chapter). The higher the level of the government debt, the greater the temptation of default. Thus, as government debt increases, international investors may come to fear default and curtail their lending. If this loss of confidence occurs suddenly, the result could be the classic symptoms of capital flight: a collapse in the value of the currency and an increase in interest rates. As we discussed in Chapter 13, this is precisely what happened to Mexico in the early 1990s when default appeared likely.

Second, high levels of government debt financed by foreign borrowing may reduce a nation's political clout in world affairs. This fear was emphasized by economist Ben Friedman in his 1988 book *Day of Reckoning*. He wrote, "World power and influence have historically accrued to creditor countries. It is not coincidental that America emerged as a world power simultaneously with our transition from a debtor nation . . . to a creditor supplying investment capital to the rest of the world." Friedman suggests that if the United States continues to run large trade deficits, it will eventually lose some of its international influence. So far, the record has not been kind to this hypothesis: the United States has run trade deficits throughout the 1980s, 1990s, and the first decade of the 2000s and, nonetheless, remains a leading superpower. But perhaps other events—such as the collapse of the Soviet Union—offset the decrease in political clout that the United States would have experienced because of its increased indebtedness.

CASE STUDY

The Benefits of Indexed Bonds

In 1997, the U.S. Treasury Department started to issue bonds that pay a return based on the consumer price index. These bonds typically pay a low interest rate of about 2 percent, so a $1,000 bond pays only $20 per year in interest. But that interest payment grows with the overall price level as measured by the CPI. In addition, when the $1,000 of principal is repaid, that amount is also adjusted for changes in the CPI. The 2 percent, therefore, is a real interest rate. Professors of macroeconomics no longer need to define the real interest rate as an abstract construct. They can open the *New York Times*, point to the credit report, and say, "Look here, this is a nominal interest rate, and this is a real interest rate." (Professors in the United Kingdom and several other countries have long enjoyed this luxury because indexed bonds have been trading in other countries for years.)

Of course, making macroeconomics easier to teach was not the reason that the Treasury chose to index some of the government debt. That was just a positive externality. Its goal was to introduce a new type of government bond that would benefit bondholder and taxpayer alike. These bonds are a win–win proposition because they insulate both sides of the transaction from inflation risk. Bondholders should care about the real interest rate they earn, and taxpayers should care about the real interest rate they pay. When government bonds are specified in nominal terms, both sides take on risk that is neither productive nor necessary. The indexed bonds eliminate this inflation risk.

In addition, the indexed bonds have three other benefits.

First, the bonds may encourage the private sector to begin issuing its own indexed securities. Financial innovation is, to some extent, a public good. Once an innovation has been introduced into the market, the idea is nonexcludable (people cannot be prevented from using it) and nonrival (one person's use of the idea does not diminish other people's use of it). Just as a free market will not adequately supply the public goods of national defense and basic research, it will not adequately supply financial innovation. The Treasury's indexed bonds can be viewed as a remedy for that market failure.

Second, the bonds reduce the government's incentive to produce surprise inflation. After the budget deficits of the past few decades, the U.S. government is now a substantial debtor, and its debts are specified almost entirely in dollar terms. What is unique about the federal government, in contrast to most debtors, is that it can print the money it needs. The greater the government's nominal debts, the more incentive the government has to inflate away its debt. The Treasury's switch toward indexed debt reduces this potentially problematic incentive.

Third, the bonds provide data that might be useful for monetary policy. Many macroeconomic theories point to expected inflation as a key variable to explain the relationship between inflation and unemployment. But what is expected inflation? One way to measure it is to survey private forecasters. Another way is to look at the difference between the yield on nominal bonds and the yield on real bonds.

The Treasury's indexed bonds, therefore, produced many benefits: less inflation risk, more financial innovation, better government incentives, more informed monetary policy, and easier lives for students and teachers of macroeconomics.[6] ■

19-6 Conclusion

Fiscal policy and government debt are central in the political and economic debate worldwide. This chapter discussed some of the economic issues that lie behind the policy decisions. As we have seen, economists are not in complete agreement about the measurement or effects of government indebtedness. Nor are economists in agreement about the best budget policy. And, of course, economists are not in charge of designing and enacting budget policies. For better or worse, that role goes to our elected leaders, who follow the recommendations of their economic advisers only when they choose to.

[6] To read more about indexed bonds, see John Y. Campbell and Robert J. Shiller, "A Scorecard for Indexed Government Debt," *NBER Macroeconomics Annual* (1996): 155–197; and David W. Wilcox, "Policy Watch: The Introduction of Indexed Government Debt in the United States," *Journal of Economic Perspectives* 12 (Winter 1998): 219–227.

Summary

1. The current debt of the U.S. federal government is of moderate size compared to the debt of other countries or compared to the debt that the United States has had throughout its own history. The 1980s and early 1990s were unusual in that the ratio of debt to GDP increased during a period of peace and prosperity. From 1995 to 2001, the ratio of debt to GDP declined significantly, but after 2001 it started to rise again. It then rose precipitously in the aftermath of the financial crisis of 2008–2009.
2. Standard measures of the budget deficit are imperfect measures of fiscal policy because they do not correct for the effects of inflation, do not offset changes in government liabilities with changes in government assets, omit some liabilities altogether, and do not correct for the effects of the business cycle.
3. According to the traditional view of government debt, a debt-financed tax cut stimulates consumer spending and lowers national saving. This increase in consumer spending leads to greater aggregate demand and higher income in the short run, but it leads to a lower capital stock and lower income in the long run.
4. According to the Ricardian view of government debt, a debt-financed tax cut does not stimulate consumer spending because it does not raise consumers' overall resources—it merely reschedules taxes from the present to the future. The debate between the traditional and Ricardian views of government debt is ultimately a debate over how consumers behave. Are consumers rational or shortsighted? Do they face binding borrowing constraints? Are they economically linked to future generations through altruistic bequests? Economists' views of government debt hinge on their answers to these questions.
5. Most economists oppose a strict rule requiring a balanced budget. A budget deficit can sometimes be justified on the basis of short-run stabilization, tax smoothing, or intergenerational redistribution of the tax burden.
6. Government debt can potentially have other effects. Large government debt or budget deficits may encourage excessive monetary expansion and, therefore, lead to greater inflation. The possibility of running budget deficits may encourage politicians to unduly burden future generations when setting government spending and taxes. A high level of government debt may increase the risk of capital flight and diminish a nation's influence around the world. Economists differ in which of these effects they consider most important.

KEY CONCEPTS

Capital budgeting — Cyclically adjusted budget deficit — Ricardian equivalence

QUESTIONS FOR REVIEW

1. What was unusual about U.S. fiscal policy from 1980 to 1995?
2. Why do many economists project increasing budget deficits and government debt over the next several decades?
3. Describe four problems affecting measurement of the government budget deficit.
4. According to the traditional view of government debt, how does a debt-financed tax cut affect public saving, private saving, and national saving?
5. According to the Ricardian view of government debt, how does a debt-financed tax cut affect public saving, private saving, and national saving?
6. Do you find the traditional or the Ricardian view of government debt more credible? Why?
7. Give three reasons why a budget deficit might be a good policy choice.
8. Why might the level of government debt affect the government's incentives regarding money creation?

PROBLEMS AND APPLICATIONS

1. On April 1, 1996, Taco Bell, the fast-food chain, ran a full-page ad in the *New York Times* with this news: "In an effort to help the national debt, Taco Bell is pleased to announce that we have agreed to purchase the Liberty Bell, one of our country's most historic treasures. It will now be called the *Taco Liberty Bell* and will still be accessible to the American public for viewing. We hope our move will prompt other corporations to take similar action to do their part to reduce the country's debt." Would such actions by U.S. corporations actually reduce the national debt as it is now measured? How would your answer change if the U.S. government adopted capital budgeting? Do you think these actions represent a true reduction in the government's indebtedness? Do you think Taco Bell was serious about this plan? (*Hint:* Note the date.) Be sure to explain your answers.
2. Draft a letter to the senator described in Section 19-3, explaining the logic of the Ricardian view of government debt and evaluating its practical relevance.
3. The Social Security system levies a tax on workers and pays benefits to the elderly. Suppose that Congress increases both the tax and the benefits. For simplicity, assume that Congress announces that the increases will last for only one year.
   a. How do you suppose this change would affect the economy? (*Hint:* Think about the marginal propensities to consume of the young and the old.)
   b. Does your answer depend on whether generations are altruistically linked?
4. Some economists have proposed the rule that the cyclically adjusted budget deficit always be balanced. Compare this proposal to a strict balanced-budget rule. Which is preferable? What problems do you see with the rule requiring a balanced cyclically adjusted budget?
5. Find some recent projections for the future path of the U.S. government debt as a percentage of GDP. What assumptions are made about government spending, taxes, and economic growth? Do you think these assumptions are reasonable? If the United States experiences a productivity slowdown, how will reality differ from this projection? (*Hint:* A good place to look is www.cbo.gov.)