

Macroeconomics in Context, Fourth Edition

Chapter 15: Deficits and Debt

You may have seen the national debt clock in New York City that continually shows how much our debt is increasing by the second. The total amount of the debt, which presently exceeds \$30 trillion, seems very large. But what does it mean? Why does the country borrow so much money? To whom is all this money owed? Is it a serious problem? Is it possible for the United States to stop borrowing? This chapter goes into detail in answering these questions and examines the relationship between the national debt and the economy. But first we provide some historical context to the notion of a national debt.

1 Deficits and the National Debt

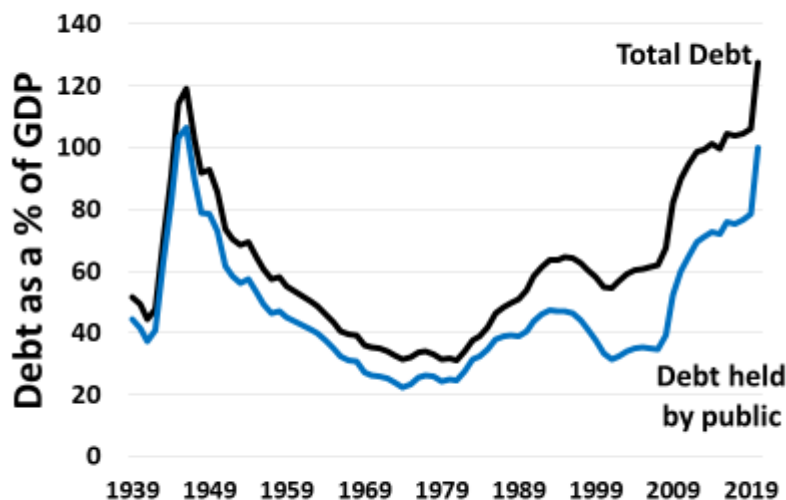
Perhaps because the two terms sound so much alike, many people confuse the government's deficit with the government *debt*. But the two "D words" are very different. The deficit totalled \$2.8 trillion in fiscal 2021, while total federal debt exceeded \$30 trillion by early 2022. The reason the second number is much larger than the first is that the debt represents deficits accumulated over many years. In economists' terms, we can say that the government deficit is a *flow* variable while its debt is a *stock* variable. (See Chapter 1 for this distinction.) Large deficits following the COVID-19 recession of 2020 added significantly to the total debt. While the size of the deficit is expected to decline after the need for pandemic assistance diminishes, the debt is projected to continue increasing for the foreseeable future.*

In general, the government's debt rises when the government runs a deficit and falls when it runs a surplus.† Figure 15.1 shows how the government's debt, measured as a percentage of GDP, has varied since 1939. (The total debt figures alone can be misleading since they do not take into account economic growth or inflation.) The two lines on the graph indicate the total government debt and the part of government debt held by the public (as opposed to debt held by government agencies, which is money that the government effectively owes to itself). After hitting a high of more than 100 percent of GDP during World War II, the debt generally declined as a percentage of GDP until 1980. It rose between 1980 and 1995, then declined again relative to GDP until 2001. Since 2001, the debt has mostly risen, with particularly sharp increases in the years following the 2007–2009 and 2020 recessions. As of 2020, the national debt as a percent of GDP was above its World War II peak.

* The federal fiscal year runs from October to September, so fiscal 2020 is October 2019 to September 2020, and fiscal 2021 is October 2020 to September 2021.

† Although the arithmetic requires that the debt rise when the government is in deficit—because the only way to finance a deficit is to borrow money—in the case of a surplus it is possible for the government to hold some funds in reserve, for example, to finance future expenditures. It is usually the case, however, that governments will use some of their surplus to reduce existing debt.

Figure 15.1 U.S. National Debt as a Percentage of GDP, 1939–2020



Source: Federal Reserve Bank of St. Louis. FRED Economic Database.

What is the impact on the economy of government debt? One commonly expressed view of the government’s debt is that it represents a burden on future generations of citizens. There is some truth to this assertion, but it is also somewhat misleading. It implicitly compares the government’s debt to the debt of a private citizen. Certainly, if you personally accumulated a huge debt, it would not be good for your financial future. But government debt is different in some important ways.

First, about half of government debt held by the public is, directly or indirectly, owed to U.S. citizens. When people own Treasury bills (T-bills), Treasury notes, or Treasury bonds, they own government IOUs. From their point of view, the government debt is an asset, a form of wealth. If your grandmother gives you a U.S. Savings Bond, she is giving you a benefit, not a burden. These assets are some of the safest ones that you can own.

Second, government debt does not have to be paid off. Old debt can be “rolled over,” that is, replaced by new debt. Provided that the size of the debt does not grow too quickly, the government’s credit is good—there will always be people interested in buying and holding government bonds. Most economists use the rule of thumb that as long as the rate of increase in government’s debt is not significantly greater than that of GDP for several years in a row it does not represent a severe problem for the economy. As Figure 15.1 shows, following the 2007–2009 recession and the pandemic-induced downturn in 2020, persistently large deficits caused the debt to rise much more rapidly than GDP. But unless sustained, this is not in itself a problem. The rapid increase in debt relative to GDP during World War II was, after all, followed by nearly two decades of relative economic prosperity.

Third, the U.S. government pays interest in U.S. dollars. A country such as Argentina that owes money to other countries and must pay interest in a foreign currency (the U.S. dollar) can get into big trouble and eventually be forced to default on its debt. But it is much easier to manage a debt that is denominated in your own

currency. Even if some of the debt is owed to foreigners, the United States does not have to obtain foreign currency to pay it. And so long as foreigners are willing to continue holding U.S. government bonds, it will not be necessary to pay it at all—instead, the debt can be rolled over as new bonds replace old ones.

None of this should encourage us to believe that government debt is never a concern. Rising debt creates several significant problems. First, interest must be paid on the debt. This means that a larger share of future budgets must be devoted to paying interest, leaving less for other needs. It is also true that the largest holders of government bonds tend to be wealthier people, so most of the interest paid by the government goes to better-off individuals. If this payment is not counteracted by changes in the tax system, it encourages increased income inequality—a growing concern, as discussed in the previous chapter.

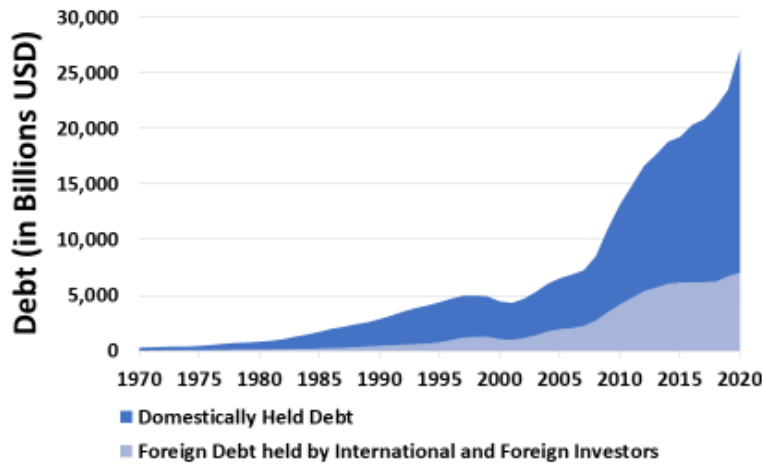
Government debt also creates a problem of generational equity—future taxpayers will have to pay more interest because of government borrowing today. Thus, it is a burden on future generations in that debt finance detracts from other important functions that the government could be performing. The portion of tax receipts that goes to debt service (paying the interest, if not the principal, of the government's debt) is not available for other uses such as education, health, etc.

A second problem is that in recent years an increasing proportion of the debt has been borrowed from governments, corporations, and individuals in foreign countries. As evident from Figure 15.2, US debt to foreigners has increased considerably since 1970, both in absolute terms and as a fraction of total debt. The interest payments on this portion of the debt must therefore be made to others outside the country. That means that the United States must earn enough income from its exports and other sources to pay not only for its imports but also for interest payments to the rest of the world (as shown by the discussion of the balance of payments in Chapter 13). Alternatively, the country could borrow more, but it is best to avoid this solution, since it would just make the overall foreign debt problem larger in the long run.

Large foreign holdings of debt also pose another problem—what if those foreign debt holders decided to sell the U.S. bonds that they own? In that case, the government might have trouble finding enough people who are willing to hold government bonds (that is, lend money to the government). This could cause interest rates to rise sharply, which in turn would push the government budget further into deficit and could tip the economy into recession.

The question “Is government debt worth it?” can be answered only if we consider what that debt is used to finance. In this respect, an analogy to personal or business debt is appropriate. Most people—including economists—do not reject consumer and corporate debt. Rather, our judgment about debt depends on the benefits received.

Figure 15.2 Domestic and Foreign Holdings of U.S. Debt (billions of dollars), 1970–2020



Source: Federal Reserve Bank of St. Louis. FRED Economic Database.

For example, if debt is accumulated for gambling, it is a bad idea. If the bet does not pay off, then it is very difficult to pay the interest on the debt (not to mention the principal). But if the government borrows to pay for intelligently planned investment, it can be very beneficial. If the investment leads to economic growth, the government’s ability to collect tax revenue is enhanced. This kind of borrowing can pay for itself, as long as the investment is not for wasteful spending, poorly planned or unnecessary projects, or unnecessary short-term consumption.

Even if the debt finances current spending, it can be justifiable if it is seen as necessary to maintain or protect valuable aspects of life. Few were opposed, for example, to the government borrowing undertaken to assist the tens of millions of families adversely affected by the economic fallout from the COVID-19 pandemic. As of late 2021, Congress had spent more than \$4 trillion on pandemic relief, and a significant portion of this sum will add to the national debt. Similarly, programs to provide relief for hurricane and wildfire damage in hard-hit communities are generally viewed as necessary spending.[§] The management of debt generally involves standard principles of wise stewardship of finances. But when we apply them to government deficits and debt, we must also weigh the economic costs and benefits of different spending and tax policies.

Discussion Questions

1. What is the difference between the deficit and the national debt? How are they related?
2. “The national debt is a huge burden on our economy.” How would you evaluate this statement?

[§] Notably, even politicians who have opposed government disaster relief for other states have usually been quick to accept it for their own.

2 The U.S. National Debt: A Historical Perspective

2.1 Two Centuries of Deficits and Debt

Deficit financing has been part of U.S. history from the very beginning. The Continental Congress of 1776 put the country into debt in order to continue its fight for independence from Great Britain. As is done today, Congress issued bonds in order to finance the country's war effort. There was considerable controversy after the war regarding the role of the new federal government in absorbing the debts incurred by individual states. Alexander Hamilton, secretary of the Treasury under George Washington, was prominent among those who believed that, by introducing greater flexibility into the money supply, a national debt had the potential to strengthen the economy and the country. Despite opposition from other political leaders—John Adams and Thomas Jefferson among them—Hamilton helped set in motion a process through which the federal government regularly relied on debt to finance its operations.

After the United States became independent from Great Britain, its federal government generally repaid its debts fairly quickly. The War of 1812, however, proved very costly, and the national debt approached 15 percent of national income by 1816. In the nineteenth and early twentieth centuries, it was primarily wars that depleted the government's finances. The Civil War was especially costly—the debt approached 40 percent of total national income at its peak—but the Mexican-American and Spanish-American wars also added to the national debt. By 1900 the debt had fallen below 5 percent of total GDP, but budget deficits during World War I again pushed the national debt beyond 40 percent of GDP.

In terms of its effect on government finances, the Great Depression of the 1930s was truly a watershed. The economic crisis ultimately led to President Franklin D. Roosevelt's New Deal social programs. From that point on, federal spending on social programs—in addition to military spending, which soared during World War II and remained high afterwards—has figured prominently in the total debt figures. Consequently, since 1931 the U.S. federal budget has been in surplus only seven years, compared with the years from independence until 1931, during which surpluses were twice as frequent as deficits. National debt in relation to income rose significantly during the 1930s, but World War II had an even greater impact. Because consumer goods were rationed, savings accumulated, and many people used them to purchase U.S. war bonds (a form of debt), which helped finance U.S. participation in World War II. After the war, the national debt totalled an unprecedented 122 percent of GDP.

2.2 "Supply-Side" Economics

After World War II, the debt generally declined as a percentage of GDP until 1980. The national debt was just over \$900 billion in 1981 but rose by nearly \$2 trillion during the next eight years. In other words, over those eight years the country incurred twice as much debt as it had in its first 200 years! How did this happen?

Ronald Reagan's 1980 presidential campaign leaned heavily on the principles of "supply-side" economics, which promised that offering more benefits and incentives to the individuals and groups that held the most wealth and productive capital would stimulate rapid investment growth and job creation. According to this principle, tax cuts would pay for themselves through greater revenues from an expanded economy. This is consistent with the oft heard but controversial concept of "trickle-down" economics,

which is the idea that benefits enjoyed by the well-off eventually percolate (i.e., trickle down) to everyone else.

The major policy experiment with supply side economics was the Economic Recovery Act (ERA, 1981), which cut income and corporate tax rates, substantially reducing government revenues. At the same time, military spending increased in the 1980s. Consequently, the annual budget deficit, which had been 2.7 percent of GDP in 1980, grew to an annual average of about 4 percent during the Reagan presidency (see Chapter 9, Figure 9.5). A portion of the debt increase was due to cyclical factors, specifically an unusually deep recession in 1981–82. Most of it, however, resulted from the failure of supply-side economics to produce the revenue growth that was needed to make up for the tax cut.

2.3 1989 to the Present

In absolute terms, the national debt continued to grow after Reagan left office, despite the fact that by then public awareness of the government's fiscal problems had grown. In an attempt to address persistent deficits, President George H.W. Bush raised tax rates slightly and signed a bill in 1990 requiring that all spending increases be matched by either decreases in spending in other areas or tax increases, in a system known as PAYGO ("pay as you go").

Despite the introduction of that system, another recession (1990–91) and the first Iraq war kept deficits in the range of 4 percent of GDP annually. It also did not help matters that sizable sums had to be used to bail out many savings and loan banks that collapsed due to losses from risky and ill-conceived real estate investments (a precursor of the real estate bubble of the twenty-first century). In 1992 the national debt was \$4 trillion.

Bush's PAYGO policy was continued under the administration of Bill Clinton. Congress again raised income tax rates, and the end of the Cold War allowed the federal government to lower military expenditures (although only relative to GDP, not in absolute terms), a side benefit often referred to as a "peace dividend." At the same time, the economy emerged from recession and began a period of sustained growth. The resulting movement from the trough to the peak of the business cycle from 1992 to 2000 generated surpluses in the overall federal budget from 1998 to 2001, a feat that had not been achieved since 1969. This period of budget surpluses, however, was short-lived.

During the presidency of George W. Bush (2001–2009), a combination of recession, tax cuts, and increased military expenditures pushed the budget back into deficit and caused the debt to increase further. By 2008, the debt totaled almost 70 percent of GDP. During the first Obama Administration (2009–2013), annual deficits averaged around 8 percent of GDP, and the national debt rose to just over 100 percent of GDP, as the government deployed an \$800 billion fiscal policy package to keep the 2007–2009 recession from turning into a full-fledged depression. Tax revenue fell sharply, from \$2.5 trillion in 2008 to \$2.1 trillion in 2009 and, as is normal in a recession, expenditures increased due to automatic stabilizers (see Chapter 9, Figure 9.5). The combination of these factors with continued military expenses in Iraq and Afghanistan led to record deficits of more than \$1 trillion.

After 2012 the annual deficit fell to a historically more normal level around 2.5 to 4 percent of GDP, only rising again to 4.6 percent (or nearly \$1 trillion) by 2019, as a result of the Trump tax cuts of 2017. National debt remained at just over 100 percent of GDP. In 2020, however, government outlays jumped by 50 percent in response to

the pandemic emergency, sending the deficit to 14.9 percent of GDP (over \$3 trillion), far more than it had been even at the peak of the financial crisis a decade earlier. By the end of 2020, the national debt had soared to almost 128 percent of GDP. The budget deficit declined in 2021, but remained high at \$2.8 trillion..

Discussion Questions

1. Has the U.S. federal government ever had a budget surplus? When was the last time? Was there ever a time that the government was not in debt?
2. What causes budget deficits? Are budget deficits necessarily a bad thing?

3 The Debt and Its Links to Finance

3.1 Taxonomy of Debt Types

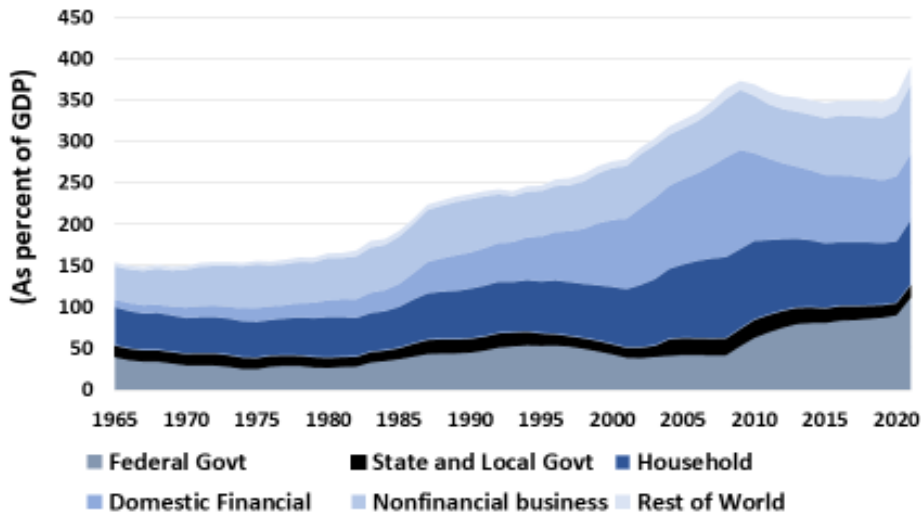
In the popular press, one encounters different estimates of the country's debt, which can vary considerably depending on whether it refers to government debt or all debt including government and private debt. U.S. total debt, including both public and private debt, is now approaching 400 percent of GDP. Most of this, however, is household, financial, and business debt (Figure 15.3). Some confusion has been caused by differing terminology relating to the debt, so it may be helpful to distinguish between different categories.

The term "national debt" usually refers to the **gross federal debt**, which is actually the total debt outstanding for the federal government (Table 15.1). It is not, however, the same as the **debt held by the public**. The gross federal debt includes money that the federal government "borrows" from other government accounts. Prominent examples include Social Security and Medicare, which, as noted earlier, are classified as "off budget." Basically, when the government collects more in tax revenue for these programs than it pays out, it realizes an off-budget surplus. It is then in a position to "borrow" the surplus, or at least a portion of it, as an alternative to borrowing money from the public. So, it is the debt held by the public, not the gross federal debt, that is a direct consequence of federal budget deficits.

gross federal debt: total amount owed by the federal government to all claimants, including foreigners, the public in the United States, and other government accounts

debt held by the public: the gross federal debt minus the debt owed to other government accounts

Figure 15.3 Total U.S. Indebtedness as a Percentage of GDP, 1965–2021



Source: Federal Reserve Bank of St. Louis, FRED Economic Database.

Table 15.1 Debt Taxonomy

	Debt type	Description
Government	Gross federal debt	Generally synonymous with the national debt; refers to the total amount of money owed by the federal government to all claimants
	Debt held by public	Gross federal debt minus debt held in government accounts
	Internal debt	The share of the gross federal debt owned by domestic individuals or groups
	External debt	The share of the gross federal debt owned by foreign individuals or groups
	State and local debt	The total value of all state and local bonds outstanding

	Debt type	Description
Private	Households and not-for-profits	Includes mortgage debt, credit card debt, and bank loans
	Financial sector	Total of all corporate debt for financial industry
	Nonfinancial business	All corporate debt and bank borrowing for nonfinancial business

As discussed in Chapter 11, the Federal Reserve is an active participant in the market for U.S. bonds, as it buys and sells them to conduct its open market operations in hopes of influencing interest rates. So, the Fed also holds a significant share of the federal debt. Somewhat confusingly, its share is also considered a part of the debt held by the public (since the Fed is not a government agency, but technically independent, as explained in Chapter 11).

One final distinction is between the **internal debt** and the **external debt**. The internal debt refers to the portion of the gross federal debt that is owned by individuals or groups within the country, and the external debt represents the portion held by foreigners or foreign groups.

internal debt: the portion of the gross federal debt that is owed to individuals or groups within the country

external debt: the portion of the gross federal debt that is owed to foreign individuals or groups

Like the federal government, state and municipal governments also often rely on borrowing to fund their operations. They issue a variety of bond instruments to acquire funds from the public, which in a sense add to the country's total indebtedness. This is also a point of frequent confusion. In its common usage, the term "national debt" refers only to the federal portion of the debt. This seems reasonable, because it is the debt that is directly related to fiscal policy and how it affects the national economy. Yet if we speak of the total debt of the country, it appears misleading to exclude the state and local debt. And the picture becomes even more complicated, because a complete accounting of debt would also include all household debt (e.g., mortgage and credit card), financial sector debt, and the debt of non-financial business, which includes both bank loans outstanding and corporate bonds issued to finance private debt.

If we add all the categories to represent the total indebtedness of the whole country, we find that, in 2021, it approached 400 percent of GDP and was more than double what it had been as recently as the 1980 (Figure 15.3). Such an inclusive debt concept is not of great significance in ordinary times, since, as discussed in Chapter 10, most of the debt exists as an *asset* in someone else's balance sheet. During the run-up to the Great Recession of 2007-8, however, the rapidly rising debt, especially notable in the financial sector, should have been setting off alarm bells, as it meant that the country as a whole had used up much of the leeway in terms of borrowing capacity

that could have been drawn on to get out of a recession. Note that after the Great Recession, overall debt levels fell as a percent of GDP through 2019, with a particularly marked reduction in household debt.

While the level of total indebtedness might be misleading, *changes* in the level, especially as significant as those we've seen in recent years, could portend future difficulties. Although it is true that the United States owes most of the trillions of dollars in debt "to itself," the fact conceals two important details: inequality over to whom the debt is owed, and the fact that such sizable sums reflect a much greater degree of leverage (debt as related to personal or corporate assets) than in the past, which could signify greater economic instability in the future. As we can see in Figure 15.3, the US response to the global pandemic has sent total indebtedness soaring anew.

3.2 Federal Government Borrowing: Potential Problems

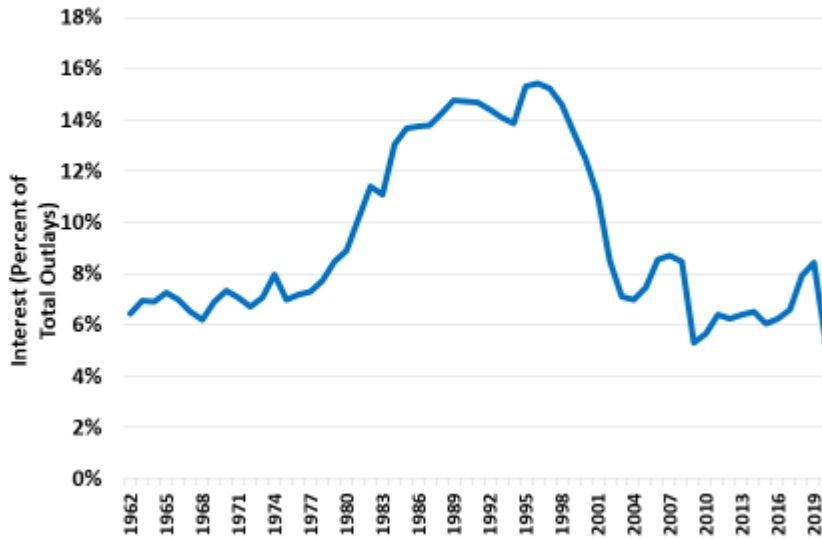
In earlier chapters we saw that when the government borrows money, it issues bonds on which it must pay interest. The interest payments form part of the annual federal budget. Figure 15.4 shows how these payments as a percentage of federal spending have varied over time. Note that interest payments accounted for a much greater portion of the budget during the 1980s and 1990s than they do now. Considering that federal debt as a percentage of GDP has risen quite rapidly over the past decade, how can this be? The answer is that the unusually low interest rates that have prevailed over most of the past two decades make this possible.

If interest rates are lower throughout the economy, the Treasury can issue new debt (e.g., Treasury bonds) at a low interest rate. When it does so, it is effectively reducing the portion of the federal budget that must be set aside for debt service. The phenomenon is not unlike the low monthly payments a homeowner makes after obtaining a mortgage with a very low interest rate.

As of March 2022, the interest rate on a 10-year Treasury bond was about 1.8 percent. This is extremely low from a historical perspective (see Figure 15.5). The 10-year rate has been below 3 percent for virtually the entire time from 2011 to 2022, even falling to just over 0.5 percent in mid-2020.

One might think that at such low interest rates, borrowing was especially cheap, making it a good time for the government to run a budget deficit and accumulate debt. It is important to consider, however, that interest rates are likely to rise in future, increasing the burden of servicing the debt. The argument for adding to federal debt seems stronger if the government spends on programs that produce a high multiplier effect (as discussed in Chapter 9). With low interest rates, the gain from the multiplier effect (in terms of the increase in aggregate demand) is potentially larger than the loss (in terms of adding to the debt burden), which would make the net gain positive.

Figure 15.4 Interest Payments as Percentage of Total Federal Outlays, 1962–2020



Source: Federal Reserve Bank of St. Louis, FRED Economic Database.

Figure 15.5 The Interest Rate on 10-Year Treasury Bonds, 1980–2022



Source: Federal Reserve Bank of St. Louis, FRED Economic Database.

It may be counterproductive, however, to allow the debt to grow if it is financing “low-multiplier” activities. An example is tax cuts for the wealthy, which, as we saw in Chapter 9, do not produce as much “bang for the buck” as tax cuts that benefit lower-income families and individuals, or new spending on constructive activities. A useful

way of understanding the problem is to imagine the federal government as a private business. Would a business borrow money at an interest rate higher than its expected rate of return? Of course not. The government's situation is a bit more complicated because it needs to assess the projected "social return" on its expenditures (e.g., a more educated citizenry, better infrastructure). The problem is that it is seldom easy to express the social return in dollars.

Another concern with mounting debt is that if debt relative to GDP becomes sufficiently large, lenders might start to doubt the borrowers' ability to repay. If the doubt were severe and widespread, it could affect the bond market and, as a result, the national economy. Risk-averse investors would sell their bonds, driving bond prices down. When bond prices go down, bond yields (rates of return) go up (as noted in the Appendix to Chapter 11), because the amount that the government has to pay in interest on the bond becomes higher relative to the value of the bond. Any new bonds that are then issued will have to match this higher rate of return, meaning that the government will have to pay more in debt service costs in future.

The greater the unease over the borrower's ability to pay, the higher the interest rate that the borrower must offer in order to attract lenders. In the summer of 2011 Standard and Poor's, one of the major ratings agencies, downgraded U.S. government debt from AAA to AA+ as a result of a political impasse between the Obama Administration and the Republican Congress that created doubt about the reliability of government debt payments. Fortunately for the United States, even with this downgrade, its debt remained very much in demand.

A third potential problem with too much debt concerns exactly how it gets repaid. An indebted country must repay the principal on its debt and service it with interest payments. To do so, it must either engage in new borrowing, raise tax revenues, or, more likely, both. We have seen that increasing tax rates has the potential to reduce consumption and investment, hurting GDP growth and employment. New borrowing carries no such problems, though it does postpone repayment further into the future and increases the total size of the debt over time. It is also possible to finance a federal budget deficit with bonds that are purchased by the Fed from the Treasury.[‡] If the Fed buys new bonds directly from the Treasury upon issuance, it is known as **monetizing the debt**. In effect, this action combines expansionary fiscal and monetary policy. If, on the other hand, the Fed buys Treasury bonds on the secondary market, it merely amounts to an expansionary monetary policy, as we saw in Chapter 11.

monetizing the debt: the purchase of new debt from the Treasury by the Federal Reserve

Monetizing the debt risks causing inflation, especially if the increase in the money supply is large and continues over a long period. If such inflation does occur, the bond markets would then demand higher interest rates on new debt to compensate for the anticipated loss from inflation. How serious is this danger? Some economists believe that a mild to moderate increase in inflation is not necessarily a problem, especially if it occurs in a depressed economy facing a looming threat of deflation. As we saw in Chapter 10, deflation would in most circumstances be more dangerous than inflation, while mild inflation has historically been associated with economic recoveries and gains in domestic employment. Severe inflation, however, would be very damaging to

[‡] This process is often described – or depending on one's viewpoint, derided – as "printing money."

the economy, and other economists point to this as a possible long-term result of increasing government debt.

Even moderate inflation carries significant economic risk. The Federal Reserve is likely to respond to observed inflation by raising interest rates—as described in Chapter 12—thereby restraining economic activity and possibly pushing the economy into recession.

Discussion Questions

1. How many different “types” of debt can you think of? Which one do people usually mean when they speak about the “national debt”?
2. What are some potential problems with excessive federal debt? How can the debt be managed or repaid?

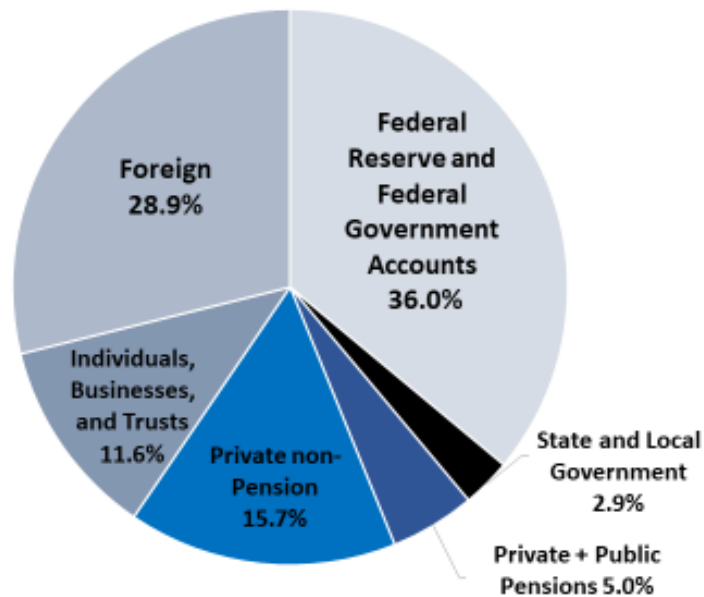
4 Political Economy of the Debt

4.1 Who Owns the Debt?

We have already seen that when the federal government goes into debt, it sells government bonds. But who buys these bonds? It might surprise you to see how ownership of the gross federal debt is divided up. Federal Reserve and U.S. government holdings account for over one third of the debt (Figure 15.6). We might, in other words, say that the US government owes one-third of its debt to *itself*.

Social Security is the largest of the government accounts that hold federal debt. Among many other funds, the principal ones are the funds for federal employee retirement, federal hospital insurance, and federal disability insurance. State and local governments, perhaps surprisingly, account for another 2.9 percent of Federal debt. States and municipalities with budget surpluses will often buy federal debt because it is considered mostly risk free. The domestic private sector owns 15.7 percent of the federal debt in the form of bonds, which are found in a variety of locations: banks, insurance companies, and mutual funds, among others. Private and public pensions together account for another 5 percent of the total, and individuals, companies, and trusts hold 11.6 percent of Federal debt. Finally, foreigners own 28.9 percent of the debt —this is the U.S. external debt.

Figure 15.6 Ownership of Gross Federal Debt, 2019



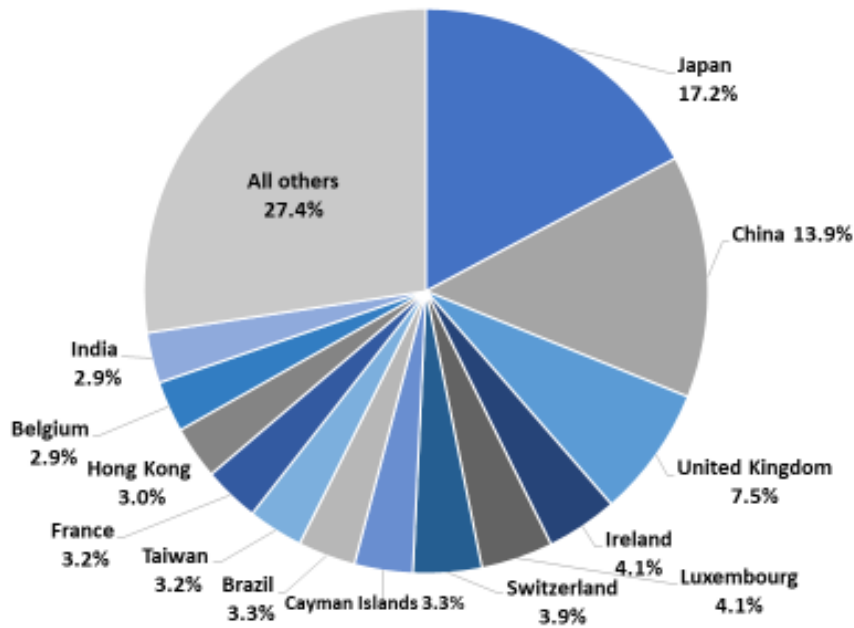
Source: Treasury Department, 2021, Tables OFS-1; Distribution of Federal Securities by Class of Investors and Type of Issues, Table OFS-2; Estimated Ownership of US Treasury Securities and Table.

In 2021, Japan and China together owned more than 30 percent of the external U.S. debt (Figure 15.7), a reflection of the large trade surpluses that the two countries have had with the United States for several decades. As we saw in Chapter 13, when China and Japan export more to the United States than they import from us, they acquire a surplus of U.S. dollars, which they then use to buy U.S. federal debt. Why do they choose to hold U.S. government debt? For the same reason that domestic investors, state and local governments, and the Social Security trust fund trustees do: U.S. Federal debt is widely perceived as returning risk-free income.

Eleven countries—the United Kingdom, Ireland, Luxembourg, Switzerland, the Cayman Islands, Brazil, Taiwan, France, Hong Kong, Belgium, and India—accounted for over 40 percent of the U.S. external debt. Other countries collectively owned 27.4 percent of the U.S. external debt as of 2021.

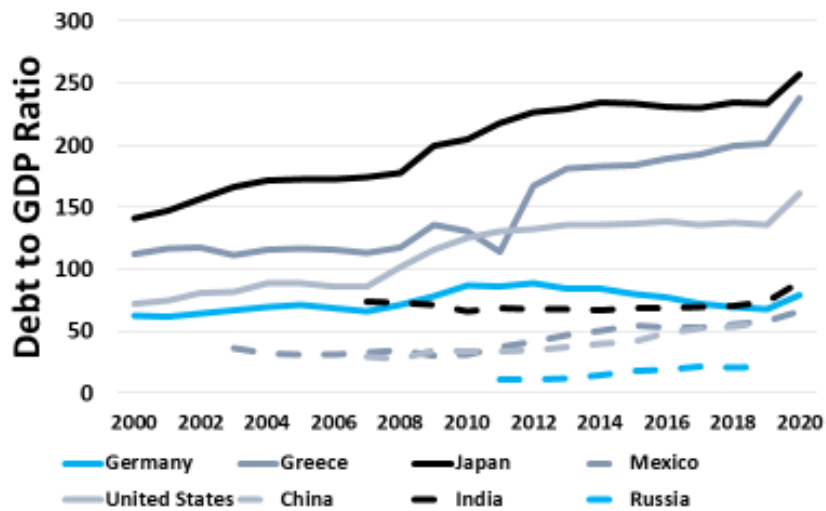
Although in absolute terms the U.S. debt is by far the highest in the world, it is a very different story if we look at total debt in relation to GDP. Japan’s ratio of debt to GDP has risen since its economic slowdown started in the 1990s and is currently 256 percent of GDP (Figure 15.8). Nevertheless, Japanese bonds are still bought and traded on the secondary market, which may be a testament to the widespread belief in the stability of the Japanese economy. This is in contrast to Greece, which has had to raise interest rates on its bonds substantially to attract continued investors. Like Japan, Greece has a high debt to GDP ratio (237 percent) but is clearly considered less credit worthy.

Figure 15.7 Foreign Holders of Gross Federal Debt, 2021



Source: Treasury Department, 2021, Major Foreign Holders of Treasury Securities.

Figure 15.8 Debt-GDP Ratios, an International Comparison, 2000–2020



Source: OECD, General Government Debt, www.oecd.org
 Note: U.S. debt figures include Federal, state, and local debt.

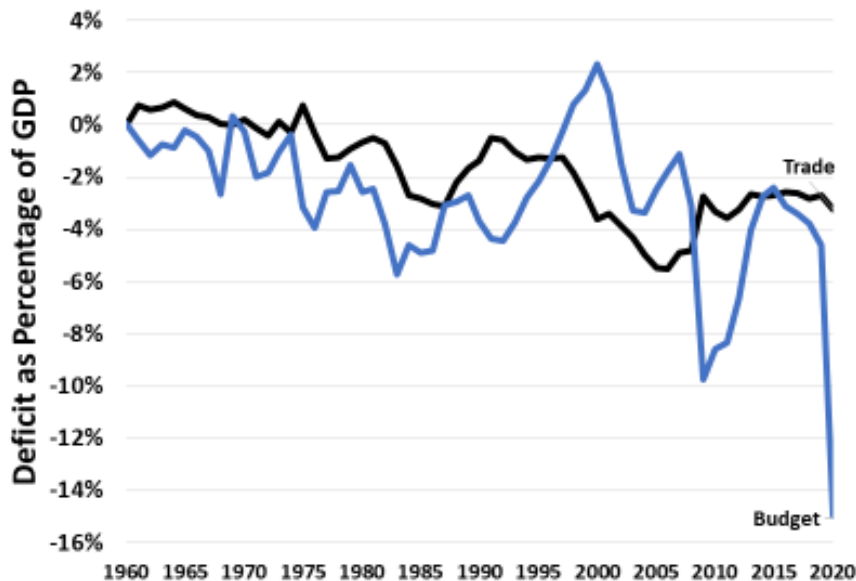
Including state and local debt, the U.S. debt to GDP ratio more than doubled from 72 percent in 2000 to over 161 percent in 2020, impelled by tax cuts, the financial crisis, and the more recent global pandemic. Still, the U.S. situation continues to resemble Japan’s, in that growing indebtedness has not noticeably altered investor confidence, allowing the U.S. bond yields to remain relatively low.

4.2 The Twin Deficits

As we have seen, the term “deficit” can refer either to a government’s finances or to a country’s trade balance. The fact that the two types of deficits are closely linked adds to the not infrequent confusion between the terms. Indeed, our debt to other countries as measured in terms of their ownership of our bonds is related *both* to our budget and trade deficits. Yet as we can see from Figure 15.9, the trend lines do not always move together.

Up until the early to mid-1970s, the trade balance in the United States was around 1 percent of GDP, a relatively insubstantial amount, and frequently changed from surplus to deficit and vice-versa. The federal budget, on the other hand, was consistently in deficit (with a brief exception in 1969), though mostly at less than 2 percent of GDP. Starting in the mid-1970s, however, both the federal budget and the trade balance turned sharply more negative. The United States has failed to run a trade surplus (i.e., exports greater than imports) since then, and its trade deficit has not been below 2 percent of GDP since 1998, reaching almost 6 percent in 2005 and 2006. The federal budget balance has been even more volatile over this forty-year period, swinging from a surplus of more than 2 percent of GDP in the year 2000 (one of only four years since 1969 that the budget was in surplus) to a deficit of almost 15 percent most recently, in 2020.

Figure 15.9 United States Twin Deficits as Percent of GDP, 1960–2020



Sources: CBO and U.S. Census Bureau.

As discussed in Chapter 13, if a country has positive net exports, it means that it will have a surplus of funds (foreign exchange) to lend to other countries. If, in contrast, a country has negative net exports, it typically must borrow from foreigners, essentially to pay for the difference. If the government budget is in deficit, as also discussed in Chapter 13, this tends to create or increase a trade deficit, unless it is financed by a surplus of domestic savings—which has generally not been the case for the United States. Thus, while the two deficits do not move together in lockstep, the **twin deficits hypothesis** states that they should usually broadly move in the same direction.

twin deficits hypothesis: the belief in a causal link between a country's budget balance and its trade balance.

4.3 The Balanced Budget Debate

If balancing the budget were legally required, the United States could not have accumulated a national debt. Hoping to avoid uncontrolled debt dependence, many in the past have advocated legislation, or even an amendment to the Constitution, requiring that the budget be balanced. While this idea sounds attractive to many people, the economic consequences would be severe.

Most states have a balanced budget requirement that forces them to cut services and government employees during a recession. The federal government often provides aid to allow states to minimize cost cutting, in an attempt to prevent the economy from weakening further. States have no other recourse because, unlike the federal government, they are unable to create additional funds. In large part, this explains why, as discussed in Chapter 9, states (as well as municipalities) often practice “procyclical” instead of countercyclical policy, which tends to worsen rather than counteract recessions.

A balanced budget amendment would effectively make the federal government little different from the states. Proponents argue that such a law would prevent the federal government from imprudently running deficits, potentially causing inflation, in good economic times. But there is a very serious downside, in that such an amendment would make the federal government powerless to use countercyclical policy to fight recessions.

In 1985, Congress passed the Balanced Budget and Emergency Deficit Control Act, more popularly known as the Gramm-Rudman-Hollings act (named after the senators who sponsored it). It required that a limit be set on the annual deficit and that the limit be reduced until a balanced budget was achieved in 1991. While less stringent than a constitutional requirement, the **deficit ceiling** was nevertheless strict. Not meeting it would require spending to be reduced automatically to the point where the deficit was no higher than the prescribed limit for that year. This proved too much for Congress, and even for the Supreme Court, which found the automatic reduction provision unconstitutional.

deficit ceiling: a congressionally mandated limit on the size of the federal budget deficit

Congress frequently has contentious debates over raising the **debt ceiling**. (This is different from a deficit ceiling. According to rules set by Congress, a vote of Congress is required to increase the debt beyond a set amount, called the debt

ceiling.) As the debt approaches the mandated ceiling, the country confronts the prospect of not being able to borrow fresh funds to pay bonds that are coming due for payment. The risk of such a default would be a decline in the perceived creditworthiness of the United States. As noted earlier, in 2011 Standard and Poor's lowered the grade of U.S. Treasury bonds from AAA to AA+ as a result of a debt ceiling crisis, the first time in history that this had happened.

debt ceiling: a congressionally mandated limit on the size of the gross federal debt

Following heated and partisan negotiations, Congress and the President struck a deal in 2011, allowing the debt ceiling to be raised (by about a trillion dollars). Since then, debt ceiling deadlines have become an issue every few years. The debt ceiling was suspended three times during the Trump presidency, and recently increased under Biden. In October of 2021, Congress increased the debt ceiling by \$480 billion, only to increase it by another \$2.5 *trillion* in December of the same year.

The periodic focus on the debt ceiling is in many ways misleading. If Congress and the President want to avoid increasing the debt, they would have to agree on a balanced budget, in which case the debt ceiling would no longer be an issue. But that is a lot easier said than done. A balanced budget would either require drastic cutbacks in popular programs such as Social Security, or significant tax increases. In the long run, of course, it is important to keep debt levels under control, but it is a mistake to presume that the federal government should maintain zero debt. The ability to use deficits at appropriate times to generate a fiscal stimulus is what sets the federal government apart from the states and cities and possibly protects a weak economy from sinking deeper.

An alternative approach to balanced budgets is the principle of **functional finance**, which requires that national governments do their utmost to ensure that aggregate demand remain at a reasonable level, ideally achieving full employment. The assumption behind this principle is that the healthy economic growth that resulted would ensure that the government could sustainably finance its debt with greater tax revenue. A similar argument that it is more important to focus on current employment than debt levels is put forward by advocates of the Modern Monetary Theory (MMT) school, as discussed in Chapter 11. This point of view is in direct conflict with the perspective of deficit “hawks,” who would maintain absolute limits on deficit and debt levels.

functional finance: the idea that a sovereign government should finance current needs and provide for adequate aggregate demand to maintain employment levels

Who are the hawks? Even this is not a simple question; while Republicans are traditionally regarded as the party of fiscal “prudence,” in recent years both Republicans and Democrats have found themselves on either side of the controversy. But there are major differences even among those not so concerned about deficits. Keynesians like economist Paul Krugman have long believed that the government should be spending more in such areas as infrastructure investment; most Republican members of Congress, in contrast, believe that the government should be taxing less. From the standpoint of fiscal balance, the two approaches are equivalent. But from an equity standpoint they are very different. Federal government spending tends to benefit the broad population, while major tax cuts, including the Reagan tax cuts of the 1980s and the Bush tax cuts of the 2000s, have disproportionately benefitted the well-

off. As noted in Chapter 14, tax cuts that primarily benefit upper-income groups have contributed to the recent intensification of inequality in the United States.

Discussion Questions

1. Should there be a balanced budget amendment to the Constitution? What problems might such an amendment create?
2. What is the difference between the budget deficit and the trade deficit? Are they related? How?

5 Deficit Projections and Potential Policy Responses

5.1 Deficit Projections

The U.S. annual federal deficit declined from a peak of 10 percent of GDP in 2009 to 2.4 percent of GDP in fiscal 2015 (Figure 15.10). It then increased again, shooting up to nearly 15 percent of GDP in response to the global pandemic. The Congressional Budget Office (CBO), which provides non-partisan economic analysis for Congress, expects the deficit to remain in double digits for 2021, and projects that the deficit will then drop sharply and remain at 3 to 5 percent of GDP for the remainder of the decade.¹ This is greater than the annual average of about 3.3 percent over the past fifty years, implying a continual increase in overall Federal debt.²

Figure 15.10 Annual Deficit as a Percent of GDP, Actual and Projected 1962–2031

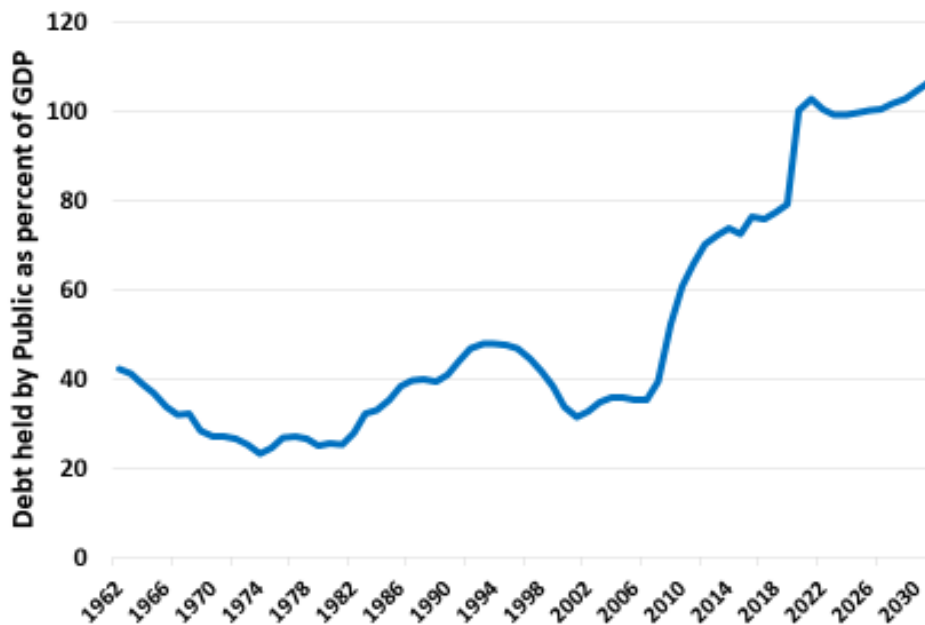
Source: Congressional Budget Office, 2021.



Note: Data from 2020 to 2031 are projected.

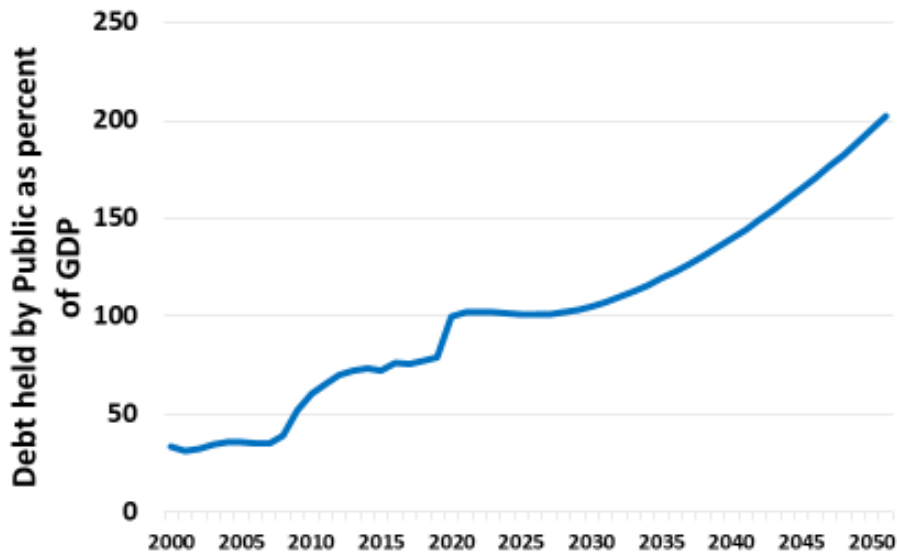
The Federal debt held by the public is accordingly projected to increase slightly from about 100 percent of GDP in 2020 to about 106 percent by 2031 (Figure 15.11). But the longer-term outlook is more severe (see Figure 15.12). According to a CBO analysis conducted one year into the COVID-19 pandemic, “Federal debt held by the public will reach double the size of the economy, rising from 79 percent of GDP at the end of 2019 and 100 percent of GDP at the end of Fiscal Year FY 2020 to 202 percent of GDP by 2051. Projected debt in 2051 will be over 4.5 times the 50-year average of 44 percent of GDP and will be on track to double the previous record of 106 percent of GDP a few years later.”

Figure 15.11 Federal Debt Held by the Public as a Percent of GDP, Actual and Projected 1962–2031



Source: Congressional Budget Office, 2021.
Note: Data from 2020 to 2031 are projected.

Figure 15.12 Federal Debt Held by the Public as a Percent of GDP, Long-Term Projection 2000–2051



Source: Congressional Budget Office, 2021.

Note: Data from 2020 to 2050 are projected.

In addition to insufficient revenue—a problem aggravated by Trump’s 2017 tax cuts (Box 15.1)—there are other factors contributing to the projections that deficits will remain at relatively high levels, causing a significant increase in total debt over time. First are the demographic pressures of an aging population. According to estimates from the US Census, 21 percent of the country’s population will be 65 or older by 2030—compared to 17 percent today—after which the elderly population will only continue growing until at least 2060. What this means is that a smaller share of the US population will be working to support a greater share of retirees, putting further strain on government finances.

Box 15.1 Trump’s Most Enduring Legacy?

The Trump tax cuts of 2017 have left a legacy of insufficient revenue that will seriously affect budgetary management for decades. “The growth in the annual deficit under Trump ranks as the third-biggest increase, relative to the size of the economy, of any US presidential administration, according to a calculation by Eugene Steuerle, cofounder of the Urban-Brookings Tax Policy Center. And unlike George W. Bush and Abraham Lincoln, who oversaw the larger relative increases in deficits, Trump did not launch two foreign conflicts or have to pay for a civil war.”³

Federal finances under Trump had already deteriorated before the pandemic, as revenues fell as a percent of GDP following the tax cuts. Major spending

increases in response to the pandemic then caused both the deficit and the debt to soar.

“After he took office, Trump predicted that economic growth created by the 2017 tax cut, would help eliminate the budget deficit and let the United States begin to pay down its debt. On July 27, 2018, he told Fox News’s Sean Hannity, ‘We have \$21 trillion in debt. When [the 2017 tax cut] really kicks in, we’ll start paying off that debt like it’s water.’ That’s not how it played out. Trump’s tax cuts, especially the sharp reduction in the corporate tax rate to 21 percent from 35 percent, took a big bite out of federal revenue.”

“The actual amount of revenue collected in FY2018 was significantly lower than the Congressional Budget Office’s (CBO) projection of FY2018 revenue made in January 2017—before the tax cuts were signed into law in December 2017. The shortfall was \$275 billion, or 7.6% of revenues that were expected before the tax cuts took place.”⁴

“As of Dec. 31, 2020, the national debt had jumped to \$27.75 trillion, up 39 percent from \$19.95 trillion when Trump was sworn in . . . about \$23,500 in new federal debt for every person in the country.”⁵

“Analyses have also shown that the overall effects have largely benefited corporations and wealthy Americans more than middle-class and low-wage workers. The corporate tax cuts, in particular, failed to translate to the promised wage and economic growth.”⁶

Second, US health care costs are projected to continue increasing. According to the Centers for Medicare and Medicaid services, national health care spending is expected to grow at an average annual rate of 5.4 percent, significantly faster than projected GDP growth. The two factors are closely related and suggest that a focus on health care should be an important component of any significant long-term budgetary reforms in the United States. Social Security and Medicare taxes and outlays are, as we have seen, considered “off budget.” In other words, Social Security taxes are dedicated to finance Social Security benefits, not military or social expenditures. One might, therefore, justifiably question whether old-age or health-related taxes and spending should be affected by the debate over the deficit.

The reality is, unfortunately, more complex. Since, as noted earlier, one of the many federal government creditors (i.e., buyers of Treasury bonds) is the Social Security trust fund itself, many of the hundreds of billions of dollars held in the fund are invested in government debt. Social Security recipients are therefore, in part, paid from the income as federal debt held by the Social Security system comes due. This reinforces concerns about future sustainability of the deficit. As the number of retirees grows relative to the working age population (which contributes Social Security taxes), full payment of Social Security benefits will require an additional contribution from the Federal budget, increasing the size of the deficit. If nothing changed, the government could eventually face a choice between paying Social Security beneficiaries or other creditors (see Box 15.2).

Box 15.2 How Can the U.S. Salvage Social Security?

In a 2016 report to Congress, the Social Security Board of Trustees projected that the [Social Security] program's funds will be depleted by 2034, after which only 79 percent of what was promised to American retirees will be paid out. The "crisis" of Social Security isn't that it's going bankrupt or that there won't be any benefits paid out after 2034. It's that the system may not be able to pay all of what retirees put in and were promised—an issue that, according to many polls, is very important to many Americans both young and elderly.

What can be done to put Social Security on a sounder basis before 2034? A number of possible solutions have been proposed:

- Raising the payroll tax by about 2 percent, which would be enough to make Social Security solvent for the next 75 years.⁷
- Raising or eliminating the cap on the Social Security payroll tax. The Social Security tax only applies to income earned below a certain threshold—\$147,000 in 2022. It is thus regressive, taking a higher proportion of income from lower-income taxpayers. Eliminating the cap would make the tax less regressive by requiring more affluent taxpayers to contribute more.
- Raising the retirement age, which would reduce the amount of benefits paid out over the lifetime of recipients.
- Indexing benefits to inflation using techniques such as the chained CPI (discussed in Chapter 4) that yield a smaller annual increase in benefits.

There really are only two basic answers to the Social Security problem: increase revenue or reduce benefits. Any potential solution will thus run into political opposition from those who would pay higher taxes or receive lower benefits. To be politically feasible, any potential compromise needs to be perceived as fair as well as effective in preserving income security for everyone in the system. Measures such as raising the retirement age would disproportionately harm lower-income individuals, as they rely more heavily on Social Security benefits, and would therefore be likely to encounter significant political opposition.

Rejecting the idea of reducing benefits, Senator Elizabeth Warren has proposed an across-the-board *increase* in Social Security benefits and in Supplementary Security income for people with disabilities. She proposes to pay for this with a substantial increase in contributions from upper-income taxpayers: "a new 14.8 percent payroll tax on individuals who earn more than \$250,000 a year, to be split by workers and their employers, and a 14.8 percent tax on investment income that would apply to the top 2 percent of earners."⁸ This would convert the Social Security tax from a regressive tax (with lower income people paying a higher proportion of income in tax) to a progressive tax (with higher income people paying a higher proportion).

The issues of meeting growing needs and of diminishing tax revenues are linked. Assuming that the CBO projections on deficit increases are correct, lower tax receipts will aggravate problems such as the adequate funding of Social Security and health costs. Advocates of the 2017 tax cuts argued that the positive effect of the tax cuts on the economy would, over the long term, bring in higher revenues—essentially the "supply-side" argument discussed earlier. But the overall effect of the cuts has been shown to be higher, not lower, deficits.

In addition, it is broadly assumed that the historically low interest rates of the past decade are unsustainable. When rates *do* go up, a significant increase in interest payments on the federal debt is likely. Although the lending rate was only around 1 percent in 2020, the Federal budget could eventually be hit with an annual interest charge several times what it currently pays. Such an event would make an already difficult debt problem that much more difficult to handle.

5.2 Future Policy Choices

Given these foreseeable issues with debt and deficits, the principle that the United States requires long-term budgetary reform is widely accepted. The basic math dictates that the choices are limited to revenue (i.e., tax) increases, spending cuts, or—most realistically—some combination of the two.

The controversial issues concern *which* taxes should be increased (and for whom), and *which* expenditures should be cut. The recent patterns of Federal spending and revenues give some indications of what the options for the future may be. After generally declining in the two decades following 1980, Federal spending increased from 17.7 percent of GDP in 2000 to 31.2 percent in 2020. The spike in Federal spending in 2020 was pandemic-induced (the ratio was 21 percent in 2019), and the CBO expects the number to taper into the 21-23 percent range for the remainder of the decade. But this is still significantly higher than projected revenues, which are not expected to exceed about 18 percent of GDP.⁹

New challenges that will unquestionably be costly to address include climate change, future pandemics, and supporting an aging population. The United States will need to confront these challenges while trying to reduce—or at least stabilize—its debt as a percent of GDP. Therefore, as controversial as they are, revenue (i.e., tax) increases will likely be essential.

Experience has taught us that tax cuts are counterproductive because they fail to promote sufficient growth to increase overall tax revenues. But we also know that tax increases have the potential to dampen economic activity. The main difficulty, then, will be to address the country's upcoming challenges while achieving fiscal stability.

Possible policies to consider can be summarized as follows:

- Increase revenues through growth-promoting policies. Of course, the *type* of growth matters. As noted in Chapter 9, responding to climate change is likely to require major “green” infrastructure changes, with the potential to create many new jobs. To lower deficits, this job creation must generate sufficient tax revenue to pay for them in the long term.
- Eliminating government subsidies for fossil-fuel and chemical-intensive industries would generate revenue, but there may be a case for moving these subsidies to sectors relying on renewable energy and environmentally efficient approaches. This would be effective climate policy, but might mean no net revenue increase.
- Tax reform, such as lowering rates for middle-class earners, while closing loopholes that allow the wealthy to avoid taxes and repealing tax cuts for upper-income individuals and large corporations.
- Instituting a general wealth tax as a reliable means of generating revenue. Another possibility is to introduce a tax on financially speculative transactions—such as futures and derivatives trading—as an indirect means of encouraging economically-productive investment, while raising revenue.

- Increase revenue through environmentally oriented taxes such as taxes on carbon emissions or (Federal) consumption taxes. These would require rebates or dividends for lower-income taxpayers in order to avoid a regressive impact (since the poor on average spend a greater percentage of their income).
- Reduce “mandatory” spending on programs such as Social Security, Medicare, Medicaid, and the Affordable Care Act. Cuts to these programs are likely to increase inequity, but spending reductions could be achieved through holding down health care costs, which has already been achieved to some extent in Medicare and through Affordable Care Act provisions.
- Increase efficiency of spending in health care and other areas, seeking more “bang for the buck” including state/Federal and public/private collaboration initiatives. This is especially critical in anticipation of future pandemics and other health crises that experts predict.
- To the extent that any of these policies can be successful in reducing deficits and long-term growth of the debt, interest costs will also be reduced.

While there is broad agreement that some combination of these policies will be needed to avoid a long-term increase in debt, the question of which policies to implement will remain controversial.

5.3 Debt and Deficits in Context

The debate over debts and deficits should be placed in a larger macroeconomic context as well as a social and environmental context. Given the strong negative impacts of wide inequalities on the social and economic health of a society, it makes sense that major federal policies, regarding both spending and taxing, should emphasize reducing inequality. Addressing environmental concerns and improving infrastructure are also important priorities.

Our review of the history of debt and deficits indicates that neither is inherently bad for the economy, and that deficits in times of recession are often essential to helping the economy recover. But some degree of balance is required. Deficits must be limited as a percent of GDP, and long-term increases in the debt burden should be avoided. Some combination of the policies we have discussed can promote both a healthy economy and a manageable debt.

Gaining sufficient political support for such policies will represent a major challenge, but perhaps not an insurmountable one since some aspects, such as greater tax equity and job-creating investment, may prove politically popular.

Discussion Questions

1. Do you think that we can reduce deficits while also avoiding an increase in tax rates? Why would political leaders consider tax hikes? Should everyone experience the same increase?
2. Are there tax policies that can reduce the deficit while also addressing social and environmental problems?

Review Questions

1. What is the difference between the national debt and a deficit?
2. What years were debt/GDP levels the highest in the United States? What years were the lowest?
3. What was the role of the national debt in the early period of U.S. history? What was Hamilton's vision for the U.S. national debt?
4. How did the national debt picture change with the New Deal and World War II?
5. What factors contributed to the federal surplus during the Clinton administration, and why did it turn into a deficit in the following Bush administration?
6. Summarize some of the potential problems with government debt.
7. What does it mean to monetize the debt?
8. How do European policies of austerity differ from U.S. policies regarding debt and deficits?
9. What do we mean by 'twin deficits'? How are the two types of deficits related?
10. What are the pros and cons of a balanced budget amendment?

Exercises

1. Go to Federal Reserve Economic Database (<http://research.stlouisfed.org/fred2/>) and look in categories/national accounts for recent data on the U.S. national debt as a percent of GDP and recent figures on budget deficits. What does this tell you about recent trends? Compare the period 1990–2007 to more recent years. Do the figures indicate that we may be returning to a more "normal" situation regarding debt and deficits?
2. Search the internet and locate relatively recent debt/GDP data for European countries. Construct a table of Eurozone members and their debt/GDP ratios based on your search. Review the convergence criteria for participation in the Eurozone presented in the chapter. Don't forget to document your source(s)! What did you discover in this exercise? Explain your answer.
3. The chapter identifies and explains several reasons why it is inappropriate to compare the government debt to the debt of a private citizen. Which of these explanations are consistent with the presentation in the chapter?
 - a. Governments have the ability to "roll over" their debt more or less endlessly.
 - b. Governments cannot default on their debt obligations.
 - c. A significant portion of the government debt is owed to U.S. citizens.
 - d. The U.S. government pays interest on its debt in dollars that it prints.
 - e. Government debt is always used to finance investment.

4. The chapter identifies and explains several reasons why we are likely to observe relatively high deficits in the U.S. even as the economy stabilizes. Which of these explanations is consistent with the chapter's presentation?
 - a. Health care costs are expected to continue to increase.
 - b. Young adults are having too many children and that creates demographic pressures.
 - c. Federal subsidies of health care are expected to grow.
 - d. The rising costs of higher education will contribute to deficits.
 - e. Interest payments on the debt will likely increase in the future.

5. The chapter is very clear that it's dangerous to assume that, "government debt is never a concern." Which of the following are reasons articulated in the chapter for why debt can be a concern?
 - a. Foreign holders of U.S. debt may decide to sell their bonds.
 - b. A larger share of future budgets must be devoted to interest payments.
 - c. It is always unwise for governments to get into debt
 - d. Interest payments to high income individuals could exacerbate income inequality.
 - e. Deficit spending during a recession will only make the economic downturn worse.

6. Match each concept in Column A with a definition or example in Column B.

Column A	Column B
a. Debt	1. The portion of the gross federal debt that is owed to individuals or groups within the country
b. Deficit	2. A congressionally mandated limit on the size of the federal debt
c. Gross federal debt	3. The portion of the gross federal debt that is owed to foreign individuals or groups
d. Debt held by the public	4. A stock variable that represents the accumulation of deficits over many years
e. Internal debt	5. The gross federal debt minus the debt owed to other government accounts such as Social Security and Medicare
f. External debt	6. A policy of deficit cutting that reduces public expenditures and/ or raises taxes to balance the budget
g. Monetizing the debt	7. A flow variable that measures the excess of spending over revenue collections

Column A	Column B
h. Debt ceiling	8. The requirements that EU countries must satisfy as a condition for participating in the Eurozone
i. Austerity	9. The purchase of new debt from the Treasury Department by the Federal Reserve
j. Convergence criteria	10. Total amount owed by the federal government to all claimants, including foreigners, the public in the United States, and other government accounts

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⁹ Congressional Budget Office, 2021.