Chapter 30
Government Budgets and Fiscal Policy

Introduction to Government Budgets and Fiscal Policy

All levels of government—federal, state, and local—have budgets that show how much revenue the government expects to receive in taxes and other income and how the government plans to spend it. Budgets, however, can shift dramatically within a few years, as policy decisions and unexpected events disrupt earlier tax and spending plans.

In this chapter, we revisit fiscal policy, which we first covered in Welcome to Economics! Fiscal policy is one of two policy tools for fine tuning the economy (the other is monetary policy). While policymakers at the Federal Reserve make monetary policy, Congress and the President make fiscal policy.

The discussion of fiscal policy focuses on how federal government taxing and spending affects aggregate demand. All government spending and taxes affect the economy, but fiscal policy focuses strictly on federal government policies. We begin with an overview of U.S. government spending and taxes. We then discuss fiscal policy from a short-run perspective; that is, how government uses tax and spending policies to address recession, unemployment, and inflation; how periods of recession and growth affect government budgets; and the merits of balanced budget proposals.

30.1 Government Spending

Federal spending in nominal dollars (that is, dollars not adjusted for inflation) has grown by a multiple of more than 38 over the last four decades, from $93.4 billion in 1960 to $6.8 trillion in 2020. Comparing spending over time in nominal dollars is misleading because it does not take into account inflation or growth in population and the real economy. A more useful method of comparison is to examine government spending as a percent of GDP over time.

The top line in Figure 30.2 shows the federal spending level since 1960, expressed as a share of GDP. Despite a widespread sense among many Americans that the federal government has been growing steadily larger, the graph shows that federal spending has hovered in a range from 18% to 22% of GDP most of the time since 1960. For example, throughout the latter part of the 2010s, government expenditures were around 20% of GDP. The other lines in Figure 30.2 show the major federal spending categories: national defense, Social Security, health programs, and interest payments. From the graph, we see that national defense spending as a share of GDP has generally declined since the 1960s, although there were some upward bumps in the 1980s buildup under President Ronald Reagan and in the aftermath of the terrorist attacks on September 11, 2001. In contrast, Social Security and healthcare have grown steadily as a percent of GDP. Healthcare expenditures include both payments for senior citizens (Medicare), and payments for low-income Americans (Medicaid). State governments also partially fund Medicaid. Interest payments are the final main category of government spending in Figure 30.2.

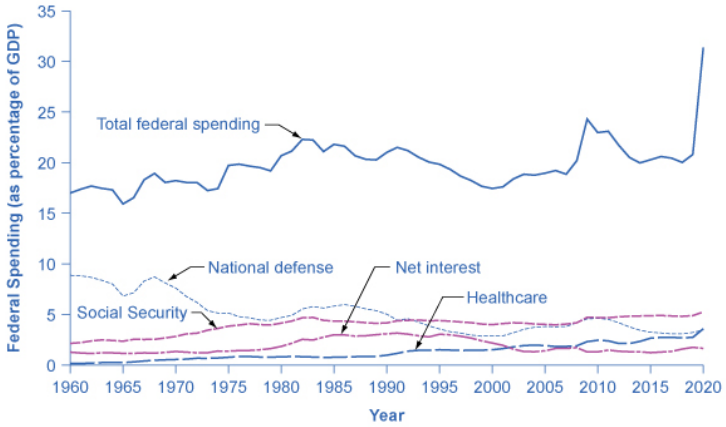

Figure 30.2 Federal Spending, 1960–2020 Since 1960, total federal spending has ranged from about 18% to 22% of GDP. It climbed above that level in 2009, quickly dropped back down to that level by 2013, and again climbed above that level in 2020. The share that the government has spent on national defense has generally declined, while the share it has spent on Social Security and on healthcare expenses (mainly Medicare and Medicaid) has increased. (Source: *Economic Report of the President*, 2021, Table B47, https://www.govinfo.gov/app/collection/erp/2021)

Each year, the government borrows funds from U.S. citizens and foreigners to cover its budget deficits. It does this by selling securities (Treasury bonds, notes, and bills)—in essence borrowing from the public and promising to repay with interest in the future. From 1961 to 1997, the U.S. government has run budget deficits, and thus borrowed funds, in almost every year. It had budget surpluses from 1998 to 2001, and then returned to deficits.

The interest payments on past federal government borrowing were typically 1–2% of GDP in the 1960s and 1970s but then climbed above 3% of GDP in the 1980s and stayed there until the late 1990s. The government was able to repay some of its past borrowing by running surpluses from 1998 to 2001 and, with help from low interest rates, the interest payments on past federal government borrowing had fallen back to 1.6% of GDP by 2020.

We investigate the government borrowing and debt patterns in more detail later in this chapter, but first we need to clarify the difference between the deficit and the debt. *The deficit is not the debt*. The difference between the deficit and the debt lies in the time frame. The government deficit (or surplus) refers to what happens with the federal government budget each year. The government debt is accumulated over time. It is the sum of all past deficits and surpluses. If you borrow $10,000 per year for each of the four years of college, you might say that your annual deficit was $10,000, but your accumulated debt over the four years is $40,000.

These four categories—national defense, Social Security, healthcare, and interest payments—generally account for roughly 60% of all federal spending, as Figure 30.3 shows. (Due to the large amount of one-time expenditures by the federal government in 2020 due to the pandemic, the 2019 statistics are presented here.) The remaining 40% wedge of the pie chart covers all other categories of federal government spending: international affairs; science and technology; natural resources and the environment; transportation; housing; education; income support for people in poverty; community and regional development; law enforcement and the judicial

system; and the administrative costs of running the government.

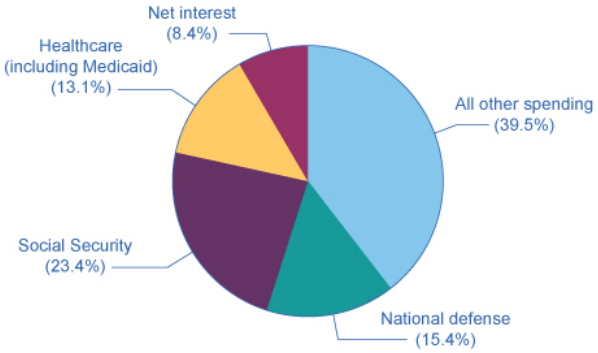

Figure 30.3 Slices of Federal Spending, 2019 About 60% of government spending goes to four major areas: national defense, Social Security, healthcare, and interest payments on past borrowing. This leaves about 40% of federal spending for all other functions of the U.S. government. (Source: https://www.whitehouse.gov/omb/budget/Historicals/)

State and Local Government Spending

Although federal government spending often gets most of the media attention, state and local government spending is also substantial—at about $3.3 trillion in 2021. Figure 30.4 shows that state and local government spending has increased during the last four decades from around 8% to around 14% today. The single biggest item is education, which accounts for about one-third of the total. The rest covers programs like highways, libraries, hospitals and healthcare, parks, and police and fire protection. Unlike the federal government, all states (except Vermont) have balanced budget laws, which means any gaps between revenues and spending must be closed by higher taxes, lower spending, drawing down their previous savings, or some combination of all of these.

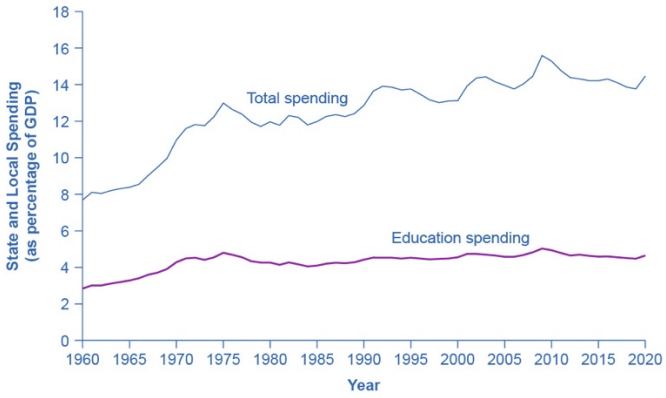

Figure 30.4 State and Local Spending, 1960–2020 Spending by state and local government increased from about 10% of GDP in the early 1960s to 14–16% by the mid-1970s. It has remained at roughly that level since. The single biggest spending item is education, including both K–12 spending and support for public colleges and universities, which has been about 4–5% of GDP in recent decades. Source: (Source: Bureau of Economic Analysis, https://apps.bea.gov/iTable/index_nipa.cfm.)

U.S. presidential candidates often run for office pledging to improve the public schools or to get tough on crime. However, in the U.S. government system, these tasks are primarily state and

local government responsibilities. In fiscal year 2020 state and local governments spent about $970 billion per year on education (including K–12 and college and university education), compared to only $100 billion by the federal government. In other words, about 90 cents of every dollar spent on education happens at the state and local level. A politician who really wants hands-on responsibility for reforming education or reducing crime might do better to run for mayor of a large city or for state governor rather than for president of the United States.

Taxes are paid by most, but not all, people who work. Even if you are part of the so-called "1099" or "gig" economy, you are considered an independent contractor and must pay taxes on the income you earn in those occupations. Taxes are also paid by consumers whenever they purchase goods and services. Taxes are used for all sorts of spending—from roads, to bridges, to schools (K–12 and public higher education), to police and other public safety functions. Taxes fund vital public services that support our communities.

30.2 Taxation

There are two main categories of taxes: those that the federal government collects and those that the state and local governments collect. What percentage the government collects and for what it uses that revenue varies greatly. The following sections will briefly explain the taxation system in the United States.

Taxes are paid by most, but not all, people who work. Even if you are part of the so-called "1099" or "gig" economy, you are considered an independent contractor and must pay taxes on the income you earn in those occupations. Taxes are also paid by consumers whenever they purchase goods and services. Taxes are used for all sorts of spending—from roads, to bridges, to schools (K–12 and public higher education), to police and other public safety functions. Taxes fund vital public services that support our communities.

Federal Taxes

Just as many Americans erroneously think that federal spending has grown considerably, many also believe that taxes have increased substantially. The top line of Figure 30.5 shows total federal taxes as a share of GDP since 1960. Although the line rises and falls, it typically remains within the range of 17% to 20% of GDP, except for 2009–2011, when taxes fell substantially below this level, due to the Great Recession.

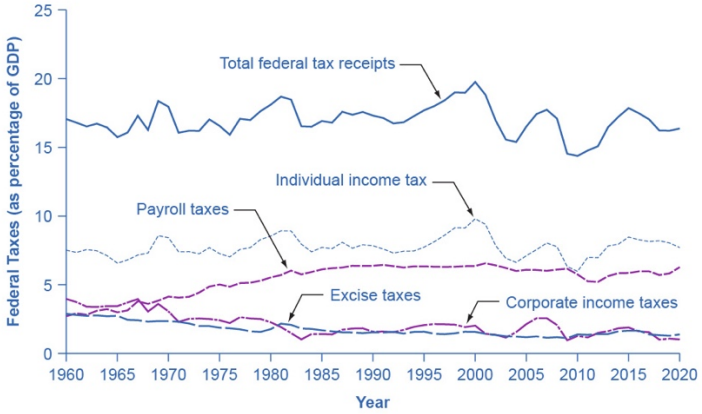

Figure 30.5 Federal Taxes, 1960–2020 Federal tax revenues have been about 17–20% of GDP during most periods in recent decades. The primary sources of federal taxes are individual

income taxes and the payroll taxes that finance Social Security and Medicare. Corporate income taxes and social insurance taxes provide smaller shares of revenue. (Source: *Economic Report of the President, 2021*. Table B-47, https://www.govinfo.gov/app/collection/erp/2021)

Figure 30.5 also shows the taxation patterns for the main categories that the federal government taxes: individual income taxes, corporate income taxes, and social insurance and retirement receipts. When most people think of federal government taxes, the first tax that comes to mind is the **individual income tax** that is due every year on April 15 (or the first business day after). The personal income tax is the largest single source of federal government revenue, but it still represents less than half of federal tax revenue.

The second largest source of federal revenue is the **payroll tax** (captured in social insurance and retirement receipts), which provides funds for Social Security and Medicare. Payroll taxes have increased steadily over time. Together, the personal income tax and the payroll tax accounted for over 85% of federal tax revenues in 2020. Although personal income tax revenues account for more total revenue than the payroll tax, nearly three-quarters of households pay more in payroll taxes than in income taxes.

The income tax is a **progressive tax**, which means that the tax rates increase as a household's income increases. Taxes also vary with marital status, family size, and other factors.
The **marginal tax rates** (the tax due on all yearly income) for a single taxpayer range from 10% to 35%, depending on income, as the following Clear It Up feature explains.

The key fact here is that the federal income tax is designed so that tax rates increase as income increases, up to a certain level. The payroll taxes that support Social Security and Medicare are designed in a different way. First, the payroll taxes for Social Security are imposed at a rate of 12.4% up to a certain wage limit, set at $137,700 in 2020. Medicare, on the other hand, pays for elderly healthcare, and is fixed at 2.9%, with no upper ceiling.

In both cases, the employer and the employee split the payroll taxes. An employee only sees 6.2% deducted from their paycheck for Social Security, and 1.45% from Medicare. However, as economists are quick to point out, the employer's half of the taxes are probably passed along to the employees in the form of lower wages, so in reality, the worker pays all of the payroll taxes. If you are a member of the "gig economy" and receive a 1099 tax statement, then you are considered an independent contractor and so you must pay the employee and employer side of the payroll tax.

We also call the Medicare payroll tax a **proportional tax**; that is, a flat percentage of all wages earned. The Social Security payroll tax is proportional up to the wage limit, but above that level it becomes a **regressive tax**, meaning that people with higher incomes pay a smaller share of their income in tax.

The third-largest source of federal tax revenue, as Figure 30.5 shows is the **corporate income tax**. The common name for corporate income is "profits." Over time, corporate income tax receipts have declined as a share of GDP, from about 4% in the 1960s to an average of 1% to 2% of GDP in the past 40 years.

The federal government has a few other, smaller sources of revenue. It imposes an **excise tax**—that is, a tax on a particular good—on gasoline, tobacco, and alcohol. As a share of GDP, the amount the government collects from these taxes has stayed nearly constant over time, from about 2% of GDP in the 1960s to roughly 3% by 2020, according to the nonpartisan Congressional Budget Office. The government also imposes an **estate and gift tax** on people who pass large amounts of assets to the next generation—either after death or during life in the form of gifts. These estate and gift taxes collected about 0.2% of GDP in 2020. By a quirk of legislation, the government repealed the estate and gift tax in 2010, but reinstated it in 2011. Other federal taxes, which are also relatively small in magnitude, include tariffs the government collects on imported goods and charges for inspections of goods entering the country.

State and Local Taxes

At the state and local level, taxes have been rising as a share of GDP over the last few decades to match the gradual rise in spending, as Figure 30.6 illustrates. The main revenue sources for state and local governments are sales taxes, property taxes, and revenue passed along from the federal government, but many state and local governments also levy personal and corporate income taxes, as well as impose a wide variety of fees and charges. The specific sources of tax revenue vary widely across state and local governments. Some states rely more on property taxes, some on sales taxes, some on income taxes, and some more on revenues from the federal government.

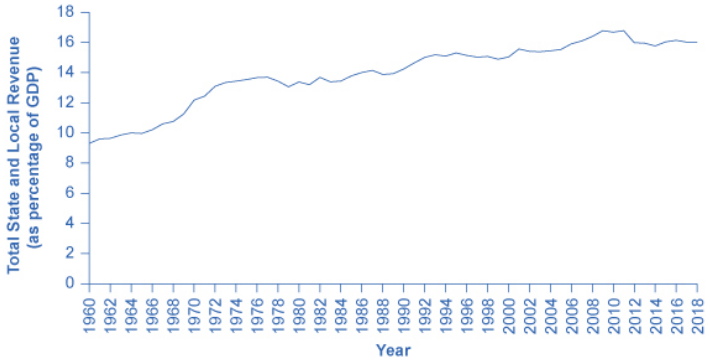

Figure 30.6 State and Local Tax Revenue as a Share of GDP, 1960–2020 State and local tax revenues have increased to match the rise in state and local spending. (Source: *Economic Report of the President, 2020.* Table B-50, https://www.govinfo.gov/app/collection/erp/2021)

30.4 Using Fiscal Policy to Fight Recession, Unemployment, and Inflation

Fiscal policy is the use of government spending and tax policy to influence the path of the economy over time. Graphically, we see that fiscal policy, whether through changes in spending or taxes, shifts the aggregate demand outward in the case of **expansionary fiscal policy** and inward in the case of **contractionary fiscal policy**. We know from the chapter on economic growth that over time the quantity and quality of our resources grow as the population and thus the labor force get larger, as businesses invest in new capital, and as technology improves. The result of this is regular shifts to the right of the aggregate supply curves, as Figure 30.10 illustrates.

The original equilibrium occurs at E_0, the intersection of aggregate demand curve AD_0 and aggregate supply curve $SRAS_0$, at an output level of 200 and a price level of 90. One year later, aggregate supply has shifted to the right to $SRAS_1$ in the process of long-term economic

growth, and aggregate demand has also shifted to the right to AD_1, keeping the economy operating at the new level of potential GDP. The new equilibrium (E_1) is an output level of 206 and a price level of 92. One more year later, aggregate supply has again shifted to the right, now to $SRAS_2$, and aggregate demand shifts right as well to AD_2. Now the equilibrium is E_2, with an output level of 212 and a price level of 94. In short, the figure shows an economy that is growing steadily year to year, producing at its potential GDP each year, with only small inflationary increases in the price level.

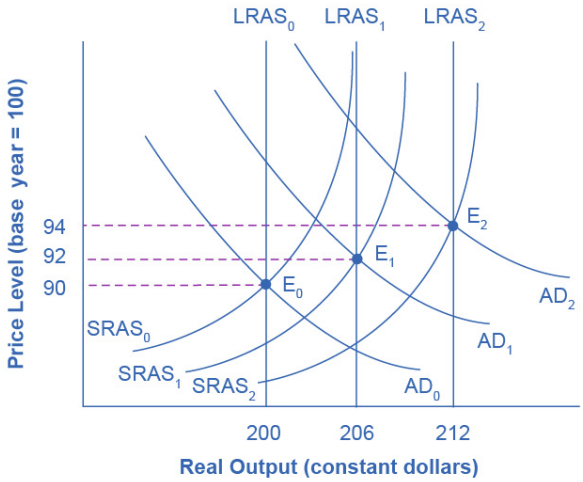

Figure 30.10 A Healthy, Growing Economy In this well-functioning economy, each year aggregate supply and aggregate demand shift to the right so that the economy proceeds from equilibrium E_0 to E_1 to E_2. Each year, the economy produces at potential GDP with only a small inflationary increase in the price level. However, if aggregate demand does not smoothly shift to the right and match increases in aggregate supply, growth with deflation can develop.

Aggregate demand and aggregate supply do not always move neatly together. Think about what causes shifts in aggregate demand over time. As aggregate supply increases, incomes tend to go up. This tends to increase consumer and investment spending, shifting the aggregate demand curve to the right, but in any given period it may not shift the same amount as aggregate supply. What happens to government spending and taxes? Government spends to pay for the ordinary business of government- items such as national defense, social security, and healthcare, as Figure 30.10 shows. Tax revenues, in part, pay for these expenditures. The result may be an increase in aggregate demand more than or less than the increase in aggregate supply. Aggregate demand may fail to increase along with aggregate supply, or aggregate demand may even shift left, for a number of possible reasons: households become hesitant about consuming; firms decide against investing as much; or perhaps the demand from other countries for exports diminishes.

For example, investment by private firms in physical capital in the U.S. economy boomed during the late 1990s, rising from 14.1% of GDP in 1993 to 17.2% in 2000, before falling back to 15.2% by 2002. Conversely, if shifts in aggregate demand run ahead of increases in aggregate supply, inflationary increases in the price level will result. Business cycles of recession and recovery are the consequence of shifts in aggregate supply and aggregate demand. As these occur, the government may choose to use fiscal policy to address the difference.

Monetary Policy and Bank Regulation shows us that a central bank can use its powers over the

banking system to engage in countercyclical—or "against the business cycle"—actions. If recession threatens, the central bank uses an expansionary monetary policy to increase the money supply, increase the quantity of loans, reduce interest rates, and shift aggregate demand to the right. If inflation threatens, the central bank uses contractionary monetary policy to reduce the money supply, reduce the quantity of loans, raise interest rates, and shift aggregate demand to the left. Fiscal policy is another macroeconomic policy tool for adjusting aggregate demand by using either government spending or taxation policy.

Expansionary Fiscal Policy

Expansionary fiscal policy increases the level of aggregate demand, through either increases in government spending or reductions in tax rates. Expansionary policy can do this by (1) increasing consumption by raising disposable income through cuts in personal income taxes or payroll taxes; (2) increasing investment spending by raising after-tax profits through cuts in business taxes; and (3) increasing government purchases through increased federal government spending on final goods and services and raising federal grants to state and local governments to increase their expenditures on final goods and services. Contractionary fiscal policy does the reverse: it decreases the level of aggregate demand by decreasing consumption, decreasing investment, and decreasing government spending, either through cuts in government spending or increases in taxes. The aggregate demand/aggregate supply model is useful in judging whether expansionary or contractionary fiscal policy is appropriate.

Consider first the situation in Figure 30.11, which is similar to the U.S. economy during the 2007-2009 recession. The intersection of aggregate demand (AD_0) and aggregate supply ($SRAS_0$) is occurring below the level of potential GDP as the LRAS curve indicates. At the equilibrium (E_0), a recession occurs and unemployment rises. In this case, expansionary fiscal policy using tax cuts or increases in government spending can shift aggregate demand to AD_1, closer to the full-employment level of output. In addition, the price level would rise back to the level P_1 associated with potential GDP.

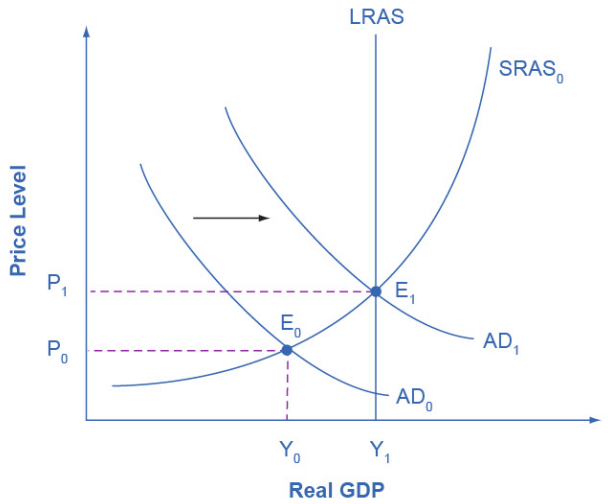

Figure 30.11 Expansionary Fiscal Policy The original equilibrium (E_0) represents a recession, occurring at a quantity of output (Y_0) below potential GDP. However, a shift of aggregate demand from AD_0 to AD_1, enacted through an expansionary fiscal policy, can move the economy to a new equilibrium output of E_1 at the level of potential GDP which the LRAS curve shows. Since the economy was originally producing below potential GDP, any inflationary

increase in the price level from P_0 to P_1 that results should be relatively small.

Should the government use tax cuts or spending increases, or a mix of the two, to carry out expansionary fiscal policy? During the 2007-2009 Great Recession, the U.S. economy suffered a 3.1% cumulative loss of GDP. That may not sound like much, but it's more than one year's average growth rate of GDP. Over that time frame, the unemployment rate doubled from 5% to 10%. The choice between whether to use tax or spending tools often has a political tinge. As a general statement, conservatives and Republicans prefer to see expansionary fiscal policy carried out by tax cuts, while liberals and Democrats prefer that the government implement expansionary fiscal policy through spending increases. In a bipartisan effort to address the extreme situation, the Obama administration and Congress passed an $830 billion expansionary policy in early 2009 involving both tax cuts and increases in government spending. At the same time, however, the federal stimulus was partially offset when state and local governments, whose budgets were hard hit by the recession, began cutting their spending.

Events were even more severe during the more recent pandemic-induced recession. In a single quarter (Quarter 2 of 2020), GDP fell by over 9%, or at an annualized rate of about 34%. Policymakers were quick to respond with expanded unemployment insurance, aid to state and local governments (so that they didn't have to cut their spending like they did during the Great Recession), grants and tax breaks for small businesses, and perhaps most significantly, stimulus checks sent to over 100 million households, totaling thousands of dollars each. Since these were mostly spending measures, they were supported more by Democrats than by Republicans, although both groups recognized the severity of the problem and were largely in agreement early on. Especially during the debates over later rounds of the stimulus checks, many discussions were had over the appropriate size and target of the checks. Ultimately, compromises were made and no side got exactly what it wanted.

The conflict over which policy tool to use can be frustrating to those who want to categorize economics as "liberal" or "conservative," or who want to use economic models to argue against their political opponents. However, advocates of smaller government, who seek to reduce taxes and government spending can use the AD AS model, as well as advocates of bigger government, who seek to raise taxes and government spending. Economic studies of specific taxing and spending programs can help inform decisions about whether the government should change taxes or spending, and in what ways. Ultimately, decisions about whether to use tax or spending mechanisms to implement macroeconomic policy is a political decision rather than a purely economic one.

Contractionary Fiscal Policy

Fiscal policy can also contribute to pushing aggregate demand beyond potential GDP in a way that leads to inflation. As Figure 30.12 shows, a very large budget deficit pushes up aggregate demand, so that the intersection of aggregate demand (AD_0) and aggregate supply ($SRAS_0$) occurs at equilibrium E_0, which is an output level above potential GDP. Economists sometimes call this an "overheating economy" where demand is so high that there is upward pressure on wages and prices, causing inflation. In this situation, contractionary fiscal policy involving federal spending cuts or tax increases can help to reduce the upward pressure on the price level by shifting aggregate demand to the left, to AD_1, and causing the new equilibrium E_1 to be at

potential GDP, where aggregate demand intersects the LRAS curve.

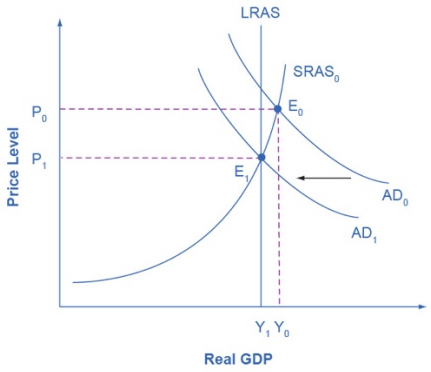

Figure 30.12 A Contractionary Fiscal Policy The economy starts at the equilibrium quantity of output Y_0, which is above potential GDP. The extremely high level of aggregate demand will generate inflationary increases in the price level. A contractionary fiscal policy can shift aggregate demand down from AD_0 to AD_1, leading to a new equilibrium output E_1, which occurs at potential GDP, where AD1 intersects the LRAS curve.

Again, the AD–AS model does not dictate how the government should carry out this contractionary fiscal policy. Some may prefer spending cuts; others may prefer tax increases; still others may say that it depends on the specific situation. The model only argues that, in this situation, the government needs to reduce aggregate demand.

30.5 Automatic Stabilizers

In 2020, more than 20 million people could collect unemployment insurance benefits to replace some of their salaries. Federal fiscal policies include **discretionary fiscal policy**, when the government passes a new law that explicitly changes tax or spending levels. The 2020 stimulus checks and increases in state and local government aid are an example. Changes in tax and spending levels can also occur automatically, due to **automatic stabilizers**, such as unemployment insurance and food stamps, which are programs that are already laws that stimulate aggregate demand in a recession and hold down aggregate demand in a potentially inflationary boom.

Counterbalancing Recession and Boom

Consider first the situation where aggregate demand has risen sharply, causing the equilibrium to occur at a level of output above potential GDP. This situation will increase inflationary pressure in the economy. The policy prescription in this setting would be a dose of contractionary fiscal policy, implemented through some combination of higher taxes and lower spending. To some extent, *both* changes happen automatically. On the tax side, a rise in aggregate demand means that workers and firms throughout the economy earn more. Because taxes are based on personal income and corporate profits, a rise in aggregate demand automatically increases tax payments. On the spending side, stronger aggregate demand typically means lower unemployment and fewer layoffs, and so there is less need for government spending on unemployment benefits, welfare, Medicaid, and other programs in the social safety net.

The process works in reverse, too. If aggregate demand were to fall sharply so that a recession occurs, then the prescription would be for expansionary fiscal policy—some mix of tax cuts and

spending increases. The lower level of aggregate demand and higher unemployment will tend to pull down personal incomes and corporate profits, an effect that will reduce the amount of taxes owed automatically. Higher unemployment and a weaker economy should lead to increased government spending on unemployment benefits, welfare, and other similar domestic programs. In 2009, the stimulus package included an extension in the time allowed to collect unemployment insurance. In addition, the automatic stabilizers react to a weakening of aggregate demand with expansionary fiscal policy and react to a strengthening of aggregate demand with contractionary fiscal policy, just as the AD/AS analysis suggests.

A combination of automatic stabilizers and discretionary fiscal policy produced the very large budget deficit in 2020. The pandemic caused high levels of unemployment, meaning less tax-generating economic activity. The high unemployment rate triggered the automatic stabilizers that reduce taxes and increase spending, due to the increased amount of unemployment insurance paid out by the federal and state governments. Most economists, even those who are concerned about a possible pattern of persistently large budget deficits, are much less concerned or even quite supportive of larger budget deficits in the short run of a few years during and immediately after a severe recession.

A glance back at economic history provides a second illustration of the power of automatic stabilizers. Remember that the length of economic upswings between recessions has become longer in the U.S. economy in recent decades (as we discussed in Unemployment). The three longest economic booms of the twentieth century happened in the 1960s, the 1980s, and the 1991–2001 time period. One reason why the economy has tipped into recession less frequently in recent decades is that the size of government spending and taxes has increased in the second half of the twentieth century. Thus, the automatic stabilizing effects from spending and taxes are now larger than they were in the first half of the twentieth century. Around 1900, for example, federal spending was only about 2% of GDP. In 1929, just before the Great Depression hit, government spending was still just 4% of GDP. In those earlier times, the smaller size of government made automatic stabilizers far less powerful than in the last few decades, when government spending often hovers at 20% of GDP or more.

30.6 Practical Problems with Discretionary Fiscal Policy

In the early 1960s, many leading economists believed that the problem of the business cycle, and the swings between cyclical unemployment and inflation, were a thing of the past. On the cover of its December 31, 1965, issue, *Time* magazine, then the premier news magazine in the United States, ran a picture of John Maynard Keynes, and the story inside identified Keynesian theories as “the prime influence on the world’s economies.” The article reported that policymakers have “used Keynesian principles not only to avoid the violent [business] cycles of prewar days but to produce phenomenal economic growth and to achieve remarkably stable prices.”

This happy consensus, however, did not last. The U.S. economy suffered one recession from December 1969 to November 1970, a deeper recession from November 1973 to March 1975, and then double-dip recessions from January to June 1980 and from July 1981 to November 1982. At various times, inflation and unemployment both soared. Clearly, the problems of macroeconomic policy had not been completely solved. As economists began to consider what had gone wrong, they identified a number of issues that make discretionary fiscal policy more difficult than it had

seemed in the rosy optimism of the mid-1960s.

Fiscal Policy and Interest Rates

Because fiscal policy affects the quantity that the government borrows in financial capital markets, it not only affects aggregate demand—it can also affect interest rates. In Figure 30.14, the original equilibrium (E_0) in the financial capital market occurs at a quantity of $800 billion and an interest rate of 6%. However, an increase in government budget deficits shifts the demand for financial capital from D_0 to D_1. The new equilibrium (E_1) occurs at a quantity of $900 billion and an interest rate of 7%.

A consensus estimate based on a number of studies is that an increase in budget deficits (or a fall in budget surplus) by 1% of GDP will cause an increase of 0.5–1.0% in the long-term interest rate.

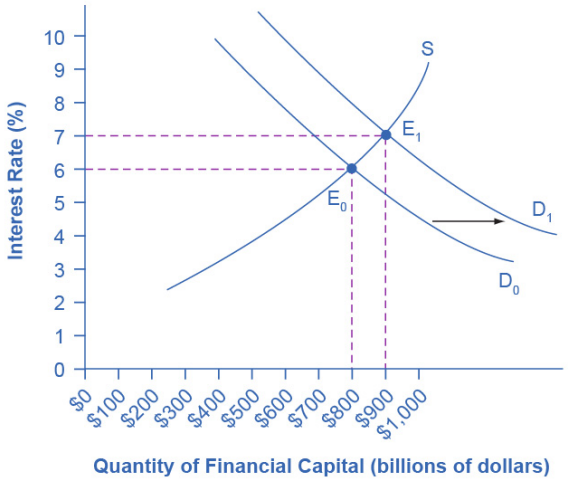

Figure 30.14 Fiscal Policy and Interest Rates When a government borrows money in the financial capital market, it causes a shift in the demand for financial capital from D_0 to D_1. As the equilibrium moves from E_0 to E_1, the equilibrium interest rate rises from 6% to 7% in this example. In this way, an expansionary fiscal policy intended to shift aggregate demand to the right can also lead to a higher interest rate, which has the effect of shifting aggregate demand back to the left.

A problem arises here. An expansionary fiscal policy, with tax cuts or spending increases, is intended to increase aggregate demand. If an expansionary fiscal policy also causes higher interest rates, then firms and households are discouraged from borrowing and spending (as occurs with tight monetary policy), thus reducing aggregate demand. Even if the direct effect of expansionary fiscal policy on increasing demand is not totally offset by lower aggregate demand from higher interest rates, fiscal policy can end up less powerful than was originally expected. We refer to this as **crowding out**, where government borrowing and spending results in higher interest rates, which reduces business investment and household consumption.

The broader lesson is that the government must coordinate fiscal and monetary policy. If expansionary fiscal policy is to work well, then the central bank can also reduce or keep short-term interest rates low. Conversely, monetary policy can also help to ensure that contractionary

fiscal policy does not lead to a recession.

Long and Variable Time Lags

The government can change monetary policy several times each year, but it takes much longer to enact fiscal policy. Imagine that the economy starts to slow down. It often takes some months before the economic statistics signal clearly that a downturn has started, and a few months more to confirm that it is truly a recession and not just a one- or two-month blip. Economists often call the time it takes to determine that a recession has occurred the **recognition lag**. After this lag, policymakers become aware of the problem and propose fiscal policy bills. The bills go into various congressional committees for hearings, negotiations, votes, and then, if passed, eventually for the president's signature. Many fiscal policy bills about spending or taxes propose changes that would start in the next budget year or would be phased in gradually over time. Economists often refer to the time it takes to pass a bill as the **legislative lag**. Finally, once the government passes the bill it takes some time to disperse the funds to the appropriate agencies to implement the programs. Economists call the time it takes to start the projects the **implementation lag**.

Moreover, the exact level of fiscal policy that the government should implement is never completely clear. Should it increase the budget deficit by 0.5% of GDP? By 1% of GDP? By 2% of GDP? In an AD/AS diagram, it is straightforward to sketch an aggregate demand curve shifting to the potential GDP level of output. In the real world, we only know roughly, not precisely, the actual level of potential output, and exactly how a spending cut or tax increase will affect aggregate demand is always somewhat controversial. Also unknown is the state of the economy at any point in time. During the early days of the Obama administration, for example, no one knew the true extent of the economy's deficit. During the 2008-2009 financial crisis, the rapid collapse of the banking system and automotive sector made it difficult to assess how quickly the economy was collapsing.

Thus, it can take many months or even more than a year to begin an expansionary fiscal policy after a recession has started—and even then, uncertainty will remain over exactly how much to expand or contract taxes and spending. When politicians attempt to use countercyclical fiscal policy to fight recession or inflation, they run the risk of responding to the macroeconomic situation of two or three years ago, in a way that may be exactly wrong for the economy at that time. George P. Schultz, a professor of economics, former Secretary of the Treasury, and Director of the Office of Management and Budget, once wrote: "While the economist is accustomed to the concept of lags, the politician likes instant results. The tension comes because, as I have seen on many occasions, the economist's lag is the politician's nightmare."

Temporary and Permanent Fiscal Policy

A temporary tax cut or spending increase will explicitly last only for a year or two, and then revert to its original level. A permanent tax cut or spending increase is expected to stay in place for the foreseeable future. The effect of temporary and permanent fiscal policies on aggregate demand can be very different. Consider how you would react if the government announced a tax cut that would last one year and then be repealed, in comparison with how you would react if the government announced a permanent tax cut. Most people and firms will react more strongly to a permanent policy change than a temporary one.

This fact creates an unavoidable difficulty for countercyclical fiscal policy. The appropriate policy may be to have an expansionary fiscal policy with large budget deficits during a recession, and then a contractionary fiscal policy with budget surpluses when the economy is growing well. However, if both policies are explicitly temporary ones, they will have a less powerful effect than a permanent policy.

Structural Economic Change Takes Time

When an economy recovers from a recession, it does not usually revert to its exact earlier shape. Instead, the economy's internal structure evolves and changes and this process can take time. For example, much of the economic growth of the mid-2000s was in the construction sector (especially of housing) and finance. However, when housing prices started falling in 2007 and the resulting financial crunch led into recession (as we discussed in Monetary Policy and Bank Regulation), both sectors contracted. The manufacturing sector of the U.S. economy has been losing jobs in recent years as well, under pressure from technological change and foreign competition. Many of the people who lost work from these sectors in the 2008-2009 Great Recession will never return to the same jobs in the same sectors of the economy. Instead, the economy will need to grow in new and different directions. Fiscal policy can increase overall demand, but the process of structural economic change—the expansion of a new set of industries and the movement of workers to those industries—inevitably takes time.

The Limitations of Fiscal Policy

Fiscal policy can help an economy that is producing below its potential GDP to expand aggregate demand so that it produces closer to potential GDP, thus lowering unemployment. However, fiscal policy cannot help an economy produce at an output level above potential GDP without causing inflation At this point, unemployment becomes so low that workers become scarce and wages rise rapidly.

Political Realties and Discretionary Fiscal Policy

A final problem for discretionary fiscal policy arises out of the difficulties of explaining to politicians how countercyclical fiscal policy that runs against the tide of the business cycle should work. Some politicians have a gut-level belief that when the economy and tax revenues slow down, it is time to hunker down, pinch pennies, and trim expenses. Countercyclical policy, however, says that when the economy has slowed, it is time for the government to stimulate the economy, raising spending, and cutting taxes. This offsets the drop in the economy in the other sectors. Conversely, when economic times are good and tax revenues are rolling in, politicians often feel that it is time for tax cuts and new spending. However, countercyclical policy says that this economic boom should be an appropriate time for keeping taxes high and restraining spending.

Politicians tend to prefer expansionary fiscal policy over contractionary policy. There is rarely a shortage of proposals for tax cuts and spending increases, especially during recessions. However, politicians are less willing to hear the message that in good economic times, they should propose tax increases and spending limits. In the economic upswing of the late 1990s and early 2000s, for example, the U.S. GDP grew rapidly. Estimates from respected government economic forecasters like the nonpartisan Congressional Budget Office and the Office of Management and

Budget stated that the GDP was above potential GDP, and that unemployment rates were unsustainably low. However, no mainstream politician took the lead in saying that the booming economic times might be an appropriate time for spending cuts or tax increases.

Discretionary Fiscal Policy: Summing Up

Expansionary fiscal policy can help to end recessions and contractionary fiscal policy can help to reduce inflation. Given the uncertainties over interest rate effects, time lags, temporary and permanent policies, and unpredictable political behavior, many economists and knowledgeable policymakers had concluded by the mid-1990s that discretionary fiscal policy was a blunt instrument, more like a club than a scalpel. It might still make sense to use it in extreme economic situations, like an especially deep or long recession. For less extreme situations, it was often preferable to let fiscal policy work through the automatic stabilizers and focus on monetary policy to steer short-term countercyclical efforts.

30.7 The Question of a Balanced Budget

For many decades, going back to the 1930s, various legislators have put forward proposals to require that the U.S. government balance its budget every year. In 1995, a proposed constitutional amendment that would require a balanced budget passed the U.S. House of Representatives by a wide margin, and failed in the U.S. Senate by only a single vote. (For the balanced budget to have become an amendment to the Constitution would have required a two-thirds vote by Congress and passage by three-quarters of the state legislatures.)

Most economists view the proposals for a perpetually balanced budget with bemusement. After all, in the short term, economists would expect the budget deficits and surpluses to fluctuate up and down with the economy and the automatic stabilizers. Economic recessions should automatically lead to larger budget deficits or smaller budget surpluses, while economic booms lead to smaller deficits or larger surpluses. A requirement that the budget be balanced each and every year would prevent these automatic stabilizers from working and would worsen the severity of economic fluctuations.

Some supporters of the balanced budget amendment like to argue that, since households must balance their own budgets, the government should too. However, this analogy between household and government behavior is severely flawed. Most households do not balance their budgets every year. Some years households borrow to buy houses or cars or to pay for medical expenses or college tuition. Other years they repay loans and save funds in retirement accounts. After retirement, they withdraw and spend those savings. Also, the government is not a household for many reasons, one of which is that the government has macroeconomic responsibilities. The argument of Keynesian macroeconomic policy is that the government needs to lean against the wind, spending when times are hard and saving when times are good, for the sake of the overall economy.

There is also no particular reason to expect a government budget to be balanced in the medium term of a few years. For example, a government may decide that by running large budget deficits, it can make crucial long-term investments in human capital and physical infrastructure that will build the country's long-term productivity. These decisions may work out well or poorly, but they are not always irrational. Such policies of ongoing government budget deficits

may persist for decades. As the U.S. experience from the end of World War II up to about 1980 shows, it is perfectly possible to run budget deficits almost every year for decades, but as long as the percentage increases in debt are smaller than the percentage growth of GDP, the debt/GDP ratio will decline at the same time.

Nothing in this argument is a claim that budget deficits are always a wise policy. In the short run, a government that runs a very large budget deficit can shift aggregate demand to the right and trigger severe inflation. Additionally, governments may borrow for foolish or impractical reasons. The Impacts of Government Borrowing will discuss how large budget deficits, by reducing national saving, can in certain cases reduce economic growth and even contribute to international financial crises. A requirement that the budget be balanced in each calendar year, however, is a misguided overreaction to the fear that in some cases, budget deficits can become too large.