



Global Development Policy Center
Economics in Context Initiative

Debt & Deficits: Economic and Political Issues

By Nathan Perry



An ECI Teaching Module on Social and Environmental Issues in Economics

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NOTE – terms denoted in bold face are defined in the KEY TERMS AND CONCEPTS section at the end of the module.

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1. INTRODUCTION

"A national debt, if it is not excessive, will be to us a national blessing."
-Alexander Hamilton

Since the creation of the U.S. national debt shortly after the country's founding, there has been debate over the role and existence of the U.S. federal debt. In modern times, the debate over how to deal with debt and deficits has become a major economic and political issue, both in the U.S. and other countries. As of 2019, the U.S. national debt stood at approximately \$22.5 trillion dollars, or over \$66,000 per U.S. resident.

What is the national debt and how did it get so high? How will the national debt affect jobs, or to economic growth? Will foreign countries stop buying U.S. debt? Is it possible to get rid of the debt, and what are the consequences?

National debt is an issue for many countries in addition to the U.S. How are other countries' debt issues different from those of the United States? Can the solution for the United States work for the rest of the world? Or is it possible that debt is not that important? How these questions are answered and what solutions are implemented over time will have immediate effects on fiscal policy, as well as on short run and long run growth prospects.

Economics is a social science that draws from history, political science, and an assortment of other fields in order to understand the world. To understand the role of deficits and debt in our society, this module will address specific economic questions, and will also present the historical and political contexts. This background is important for making appropriate decisions on policies to respond to deficits and debt.

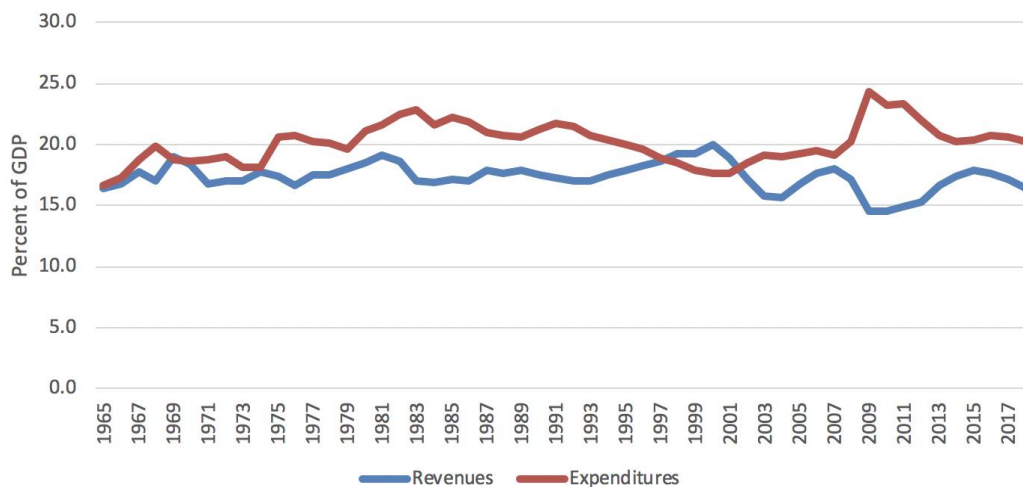
2. THE BUDGET

2.1 Understanding the Budget

There is an important distinction between a budget deficit and total debt. The **national debt** is the total amount borrowed and owed by the federal government. A **budget deficit** is the yearly accrual of debt, or how much expenditures exceed revenues on a yearly basis. Conversely, a **budget surplus** is the amount by which revenues exceed expenditures on a yearly basis. Another way to think of this is that debt is a stock (i.e., accumulation) variable, and deficit is a flow (i.e., change) variable, with the flow of deficits adding to the stock of debt. Figure 1 illustrates revenues and expenditures, as a percentage of GDP, since 1965.

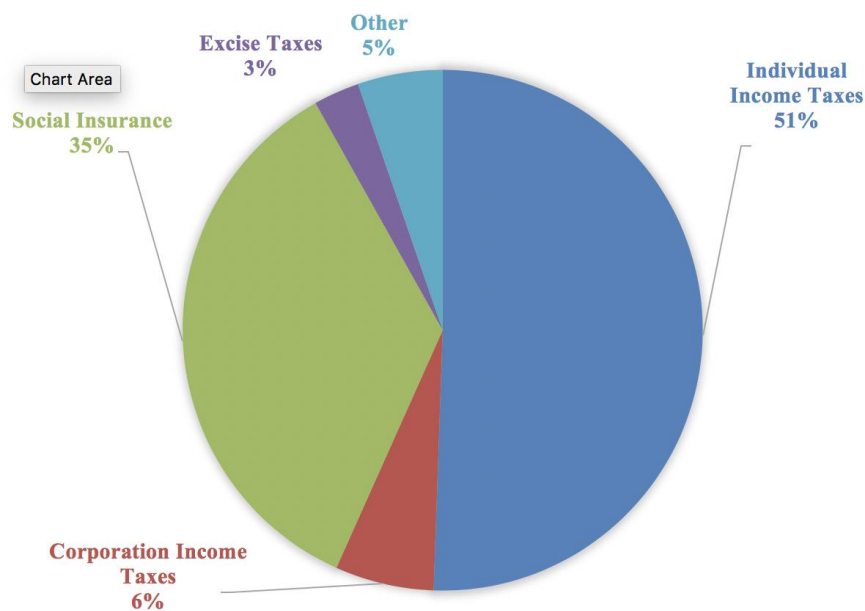
A budget deficit occurs when government expenditures are greater than government revenues. This can arise from either a shortfall of revenue, an increase in expenditures, or both. Figure 2 illustrates sources of U.S. government revenue for 2018. Income taxes are the largest source of revenue at 51%, with social insurance taxes such as the FICA tax (Federal Insurance Contributions Act) second at 35% of revenues. Corporate taxes are 6% of the total, and excise and other taxes contribute another 3% and 5% respectively.

Figure 1. U.S. Revenues and Expenditures as a Percentage of GDP, 1965-2018



Source: Whitehouse.gov

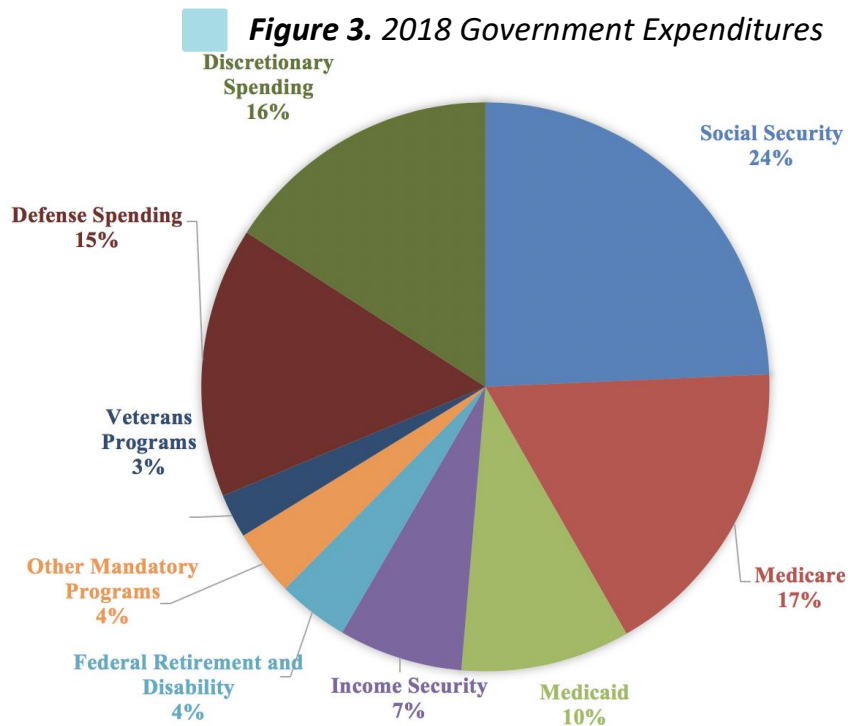
Figure 2. 2018 Revenue Sources



Source: Whitehouse.gov, Table 2.1

Figure 3 illustrates government expenditures, or what the Federal government spends its money on. Social Security spending takes up 24% of the budget, while Medicare (healthcare spending for the elderly, 17%), discretionary spending (16%), and defense spending (15%) are the other biggest spending components. Medicaid (healthcare for the poor) takes up 10% of the budget. Income security consists of unemployment insurance, TANF (Temporary Assistance to Needy Families), Foster Care, food stamps, and several other smaller programs that don't belong in one of the other

categories and totals 7% of spending. These programs are part of the **social safety net**, which all U.S. citizens have access to if they meet eligibility requirements. The final 11% is made of Retirement and Disability, veterans' programs, and "Other Programs," which is all other spending.



Source: Whitehouse.gov, Table 3.1

Government spending is divided up into what is called discretionary and mandatory spending. **Discretionary spending** is optional, and can be implemented at any time, as long as Congress approves the bill without a presidential veto. In Figure 3 this primarily includes defense spending and non-defense discretionary spending. This is different from **mandatory spending**, which is spending that is built into the budget and required by law. Examples of mandatory spending are Social Security and Medicare.

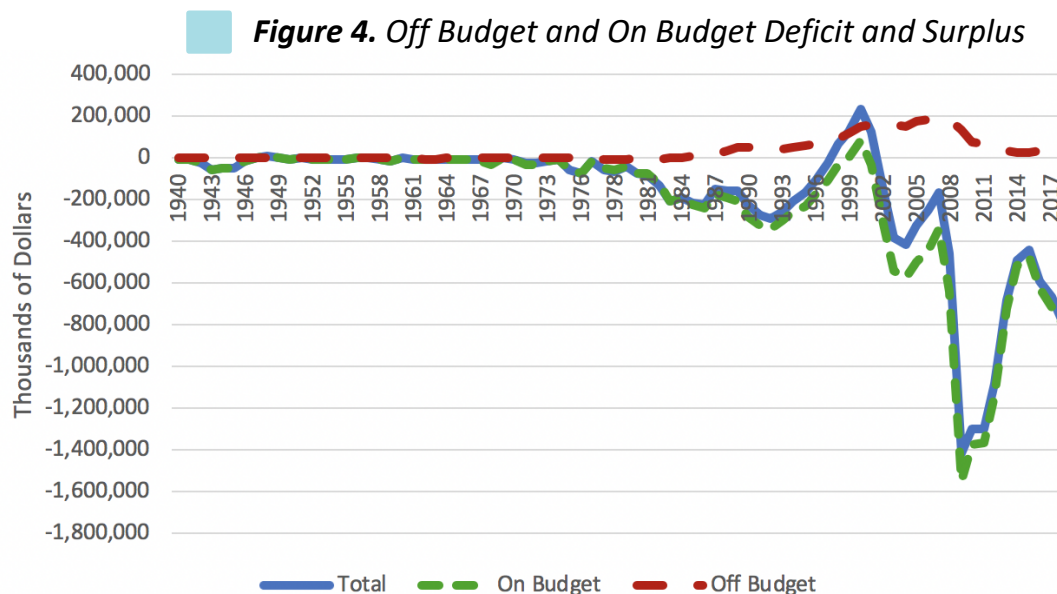
There is another important way the budget is divided; off budget expenditures and on budget expenditures. **Off budget expenditures** are government funded programs that are exempt from the normal budgeting process because they have their own sources of funding separate from congressional appropriation. Social Security and Medicare are the two primary off budget items. **On budget expenditures** are everything else that relies on general revenue from Congress, such as military spending or spending on Federal Highways. Each of these depend on Congress approving the budget every year.

Off budget and on budget expenditures are added to obtain the yearly total expenditure numbers. Both off budget and on budget expenditures may generate either a surplus or a deficit, depending on whether they are larger or smaller than their funding sources. For example, Social Security runs

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a deficit in years when the total collected in social security taxes is less than the total paid out from this program to retirees.

Figure 4 shows the total on and off budget deficits and surpluses from 1940 to 2018. Off budget revenues rose after 1983 due to the increase in Social Security taxes that were necessary to cover the baby boom generation's retirement, creating a surplus in this category which provided a small offset to the total budget deficit. On-budget deficits usually fluctuate with economic conditions, increasing sharply during recessionary periods.



Sources: *Whitehouse.gov, Table 1.2*

The cumulative total of net budget deficits is the national debt. As noted above, the total national debt figure sounds very high, but we need to be a bit careful about how we evaluate this. Suppose you were asked to determine which country has a worse debt problem: Japan, which as of 2018 had approximately \$10 trillion in total government debt, or the United States, with over \$22 trillion. Many people would answer the U.S., but this is incorrect since the U.S. economy is nearly three times the size of Japan's.

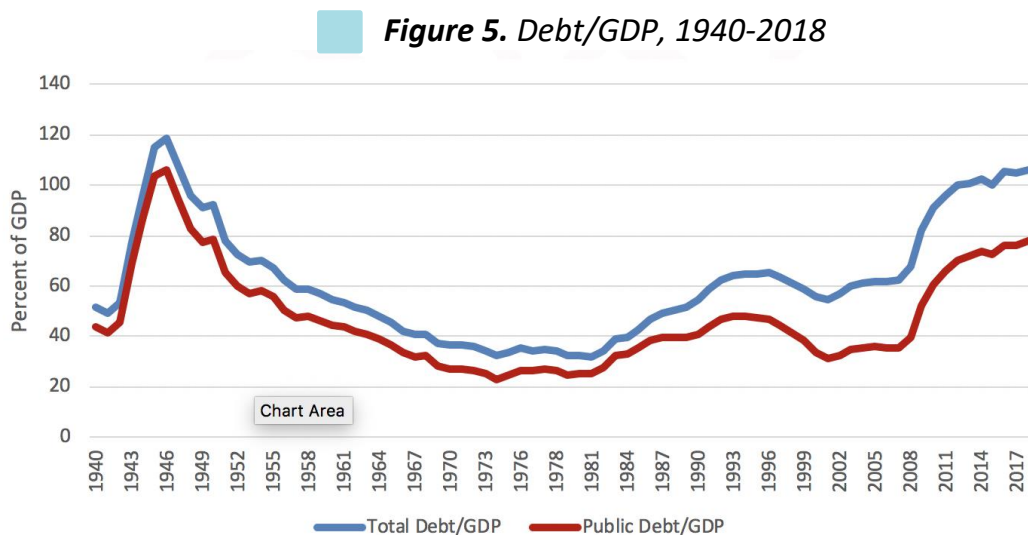
In order to compare the fiscal positions of countries accurately, we must think of the figures in relation to GDP – that is, look at the debt to GDP and deficit to GDP ratios. This allows us to view the deficit and the debt as a percentage of total output, which gives an indication of the national ability to manage the debt. The U.S. has a debt/GDP ratio of 106%, compared to Japan's 237%. This indicates that Japan is much more heavily indebted when measured by the ability to repay its debt.

Figure 5 illustrates the debt/GDP ratio and Figure 6 illustrates the deficit/GDP ratio for the United States from 1940 to 2018. This is a more accurate way to compare deficits and debt over time. Figure 4 provides information on debt and deficits in dollar terms, but this does not take into

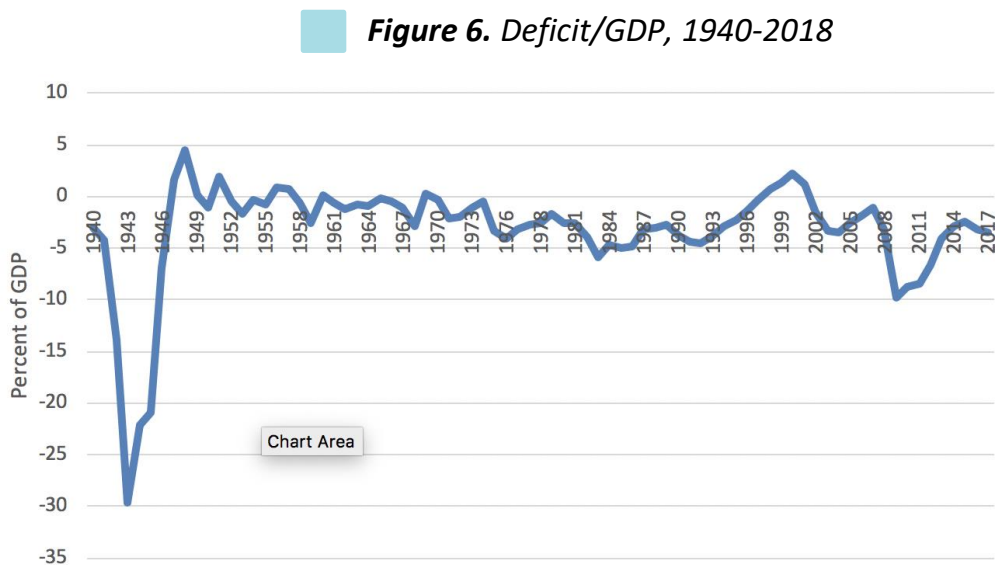
DEBT AND DEFICITS: ECONOMIC AND POLITICAL ISSUES

account either inflation or the growth of the economy over time. Taking debt as a percentage of GDP allows for a deficit comparison over time based on the government's ability to pay.

Figure 5 illustrates both total debt as a percentage of GDP and public debt as a percentage of GDP. The total debt includes money that the federal government borrows from other government accounts. An example of debt that government owes to other government accounts would be the Social Security administration holding treasury bonds. **Public debt** is the debt that the federal government owes to those outside of the federal government. It subtracts the debt that government owes to other government accounts. The **total debt** includes both public debt and the debt that government owes to itself.



Sources: Whitehouse.gov, Table 7.1



Sources: Whitehouse.gov, Table 1.2

2.2 Who Is Responsible For The Deficit?

People sometimes tend to place disproportionate blame or credit on the president when it comes to matters relating to the budget deficit. According to the U.S. Constitution, it is Congress that approves spending bills; the president only has veto power. Many policies for which Congress is essentially responsible, such as tax rates, spending bills, and economic policies that affect tax revenue, can all have a large impact on the budget. Of course, presidents can influence Congressional decision-making, and as we will see have often promoted particular budget approaches, including some that have tended to increase the deficit.

There are other factors that affect the budget besides our elected officials' policy. One is the effect of the business cycle on both revenue and expenditures. The portion of the deficit that is caused by fluctuations in the business cycle is called the **cyclical deficit**. Deficits can be caused by a fall in tax revenue or an increase in expenditures. Taxable revenue generally falls during a recession either because of declines in income due to job losses or because of lower profits. In an economic boom, these revenues increase because of job growth and profit growth and can reduce the deficit.

Look back at the graph in Figure 1 and notice how far revenues fell after the recession in 2008, and then see how they recovered after the economy recovered. **Structural deficits**, in contrast, are deficits that exist when the economy is at full capacity. A structural deficit indicates that even at full employment, spending is too high or revenue collection too low to balance the budget.

During recessions it is likely that expenditures will grow faster than revenues, in part because in recessions a number of government expenditures automatically increase due to **automatic stabilizers**, such as unemployment benefits and Medicaid programs. There is less demand for these programs during an economic boom when unemployment is lower, so automatic stabilizer expenditures fall during a boom.

Expenditures may also increase in a recession because of **discretionary fiscal policy**, which are more active and deliberate policy decisions instituted to remedy recessions or high inflation. During recessions, it is common to have some sort of spending bill to stimulate economic activity. In the recession of 2001, President Bush pushed a program of tax rebate checks which was meant to increase consumer spending. In 2009, President Obama passed the American Economic Recovery Act which had a mix of infrastructure spending and tax cuts intended to increase aggregate demand.

A famous example of spending during a recession is the New Deal programs passed by President Roosevelt in the 1930's that put American workers to work at a time when unemployment was as high as 25%. What is less common is expansionary fiscal policy during an economic boom. President Trump's 2017 tax cuts are an example of this. Cutting taxes in a boom leaves less fiscal policy options during a downturn, and can lead to worse deficits during the next recession.

At the trough of a recession, government revenue is normally at its lowest point and expenditures tend to be higher, and vice versa in an economic boom. This is one of the reasons that government budgets were balanced during the tech stock boom in 1998, and that budget deficits were so large in 2009 during the worst part of the financial crisis-induced recession.

Perfectly balancing the budget over the business cycle would entail cutting expenditures, including automatic stabilizers, when people rely on these programs the most. We all pay taxes for unemployment insurance and expect to receive it when we need it, and the duration of unemployment insurance is often extended during severe recessions. On the revenue side, raising taxes is also not advisable during a recession because it would hurt consumer spending power when the economy needs it most. A policy of running surpluses during good economic times and running deficits in bad economic times is called “**countercyclical policy**.”

2.3 How Does Government Borrow?

Government issues debt by selling **treasury bonds**. Treasury bonds are sold at different maturities, or times until the debt contract expires. The Federal Government sells 30 year bonds, 10 year bonds, and a host of shorter term bonds. Each year the Treasury Department pays out interest on the bonds to meet their obligations. When the bond matures, the government pays back the original amount of the bond. If the government does not have cash or excess revenue to pay off the bond, or if it has different budget priorities, the debt is "rolled over"; that is, new debt is issued to pay expiring debt.

A simple analogy is a house loan. Suppose that a family owes \$300,000 on their new house with a mortgage payment of \$1,500 a month, and that is what the family budgets for. This family does not consider whether they can afford \$300,000 in payments, they ask if they can afford \$1,500. The Federal Government is similar in this regard, as the debt obligation is the cost of paying interest payments on the bonds. The combination of interest and principal payments is called **debt service**. If servicing the bond payments becomes too high, the debt becomes a large part of the budget. Because of this, interest rates are very important to the cost of running a deficit. If the interest rates on bonds are low, then issuing and servicing debt becomes cheap. If interest rates are high, then issuing and servicing newly issued bonds can become more expensive.

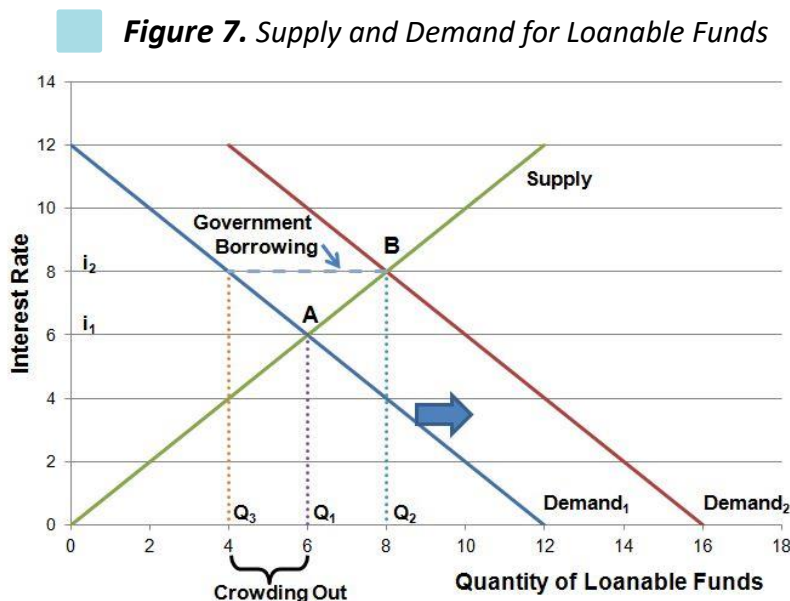
3. THEORIES OF DEFICITS

3.1 Classical Theory of Deficits

What effects do deficits have on the economy? Economists have different views on this question. According to the classical theory of deficits, budget deficits have the effect of increasing current consumption by government or consumers, but this is counterbalanced by a fall in investment. By definition, if consumption rises then savings must fall. A fall in savings raises interest rates, which then reduces investment. The phenomenon by which budget deficits increase interest rates and reduce investment is called **crowding out**.

This can be shown by the loanable funds model presented in Figure 7 below. The supply curve in this model represents savings. As interest rates rise, people are more likely to save. The demand curve represents the demand for investment funds. It has a downward slope because as interest rates increase, assuming other economic factors are constant, businesses generally want to invest less.

Suppose government borrows money to run a budget deficit. This would shift the demand for loanable funds out. This has the effect of raising the interest rate, which makes investment more expensive.



Point A is the initial equilibrium in the model, and Q_1 represents the quantity of loanable funds available to private business. When government runs a deficit, they borrow money from the loanable funds market. This shifts the demand from Demand₁ to Demand₂, and pushes the interest rate, which represents the cost of borrowing, up. Now private business has to borrow at a higher interest rate, and as a result they borrow less. This reduction in business demand for investment, shown on the graph as the difference between Q_1 and Q_3 , is the amount of crowding out. Now that government is borrowing, they have crowded out private business by increasing the interest rate from i_1 to i_2 , and reduced the quantity that business will be willing to borrow from Q_1 to Q_3 .

In the classical model, the loanable funds market, if left to itself, would balance out savings and investment, thereby keeping the economy at or close to full employment. There would be no need for government deficit spending, and such spending would be counterproductive because the crowding out effect means that the effect of deficit spending would be to shift funds from investment to government consumption. For this reason, classically-oriented economists generally oppose government deficit spending.

3.2 Keynesian Theory of Deficits

Keynesian economists see the issue differently. In his celebrated work "The General Theory of Employment, Interest and Money," John Maynard Keynes acknowledged the potential impact of crowding out. However, he did not believe that an economy would experience full crowding out if there were slack in the economy. Keynes argued that the economy would experience only partial crowding out, with practically no crowding out at times of deep recession.

There are several facets to this argument. The first is that the rate of interest is not the only factor that affects savings and investment decisions. Keynes argued that the investment decision is also affected by expectations of future profit, which is based on a number of factors, including what Keynes called "animal spirits," or the state of mind or emotional psychology of the investor. In good economic times or on the upswing in a business cycle, businesses purchase capital goods because their profits are high and they have optimistic expectations about the future. At the bottom of a business cycle, business people are pessimistic about economic prospects and their profit margins are low, so they do not invest.

This is the opposite of how businesses would invest if businesses only cared about the cost of borrowing (interest rate) and ignored future expectations. At the peak of a business cycle, interest rates are generally high because people would rather invest in stocks or more lucrative savings options, rather than bonds which generally yield less, so sellers of bonds must offer a higher rate of return. At the bottom of a business cycle interest rates are often low because people become risk averse and want safe U.S. treasury bonds, enabling the government to sell bonds with low rates of return. In other words, the interest rate is not the only variable driving investment. Even if government spending increased interest rates, this would not necessarily decrease investment if businesses had a positive view of economic prospects.

A second argument relates to the multiplier. If there is slack in the economy, and if government spending has positive **multiplier effects**, then the total impact of spending can outweigh any loss of investment due to the higher interest rates. This means that government spending can increase total output, which can have positive effects on investment because of profit expectations.

When government spending creates more investment, this is called **crowding in**. During the Great Depression, economists at the time believed that as the economy worsened and as investment and consumption fell, people would buy treasury bonds to be safe, pushing yields down. This fall in interest rates would then increase investment, bringing the economic system back to full-employment equilibrium (as in the classical model shown in Figure 7).

Keynes argued that this might not happen for two reasons. First, as described above, investment is not just a function of interest rates but a function of how future profit opportunities are perceived. Second, people have the option to hoard money, finding other places to put it (such as under the mattress), instead of investing in productive activities, which are perceived as risky. Banks can also hoard money simply by not investing it. Because of this Keynes argued that the economy could be stuck in a potentially permanent low-level equilibrium, with no adjustment mechanism, and would need governments to run deficits, spend money, and replace the lost investment spending with government spending until investor and consumer confidence returned.

A third argument is also related to positive multiplier effects. A multiplier effect larger than 1.0 means that if government spending increases by \$1 billion dollars, the total effect on the economy will be larger, say \$2 billion dollars (indicating a multiplier of 2). This can be explained with a story: Suppose government increases spending by building new roads. The construction workers are now paid an income, and they spend this income at Target. Since Target now has an increase in demand, they hire more workers, and those workers, with their new income, spend their money

at Seven Eleven. This process continues until the government spending of \$1 billion dollars has increased GDP by \$2 billion dollars.

With the spending multiplier increasing income, in a Keynesian world the effective money supply would also increase, as more investors seek loans and banks provide them. This is called **endogenous money**. If the money supply increases as income increases, then there will be no crowding out effects, because a new supply of money has been created endogenously (i.e. within the banking system) to support the increase in demand for borrowing.

Since crowding out depends on a shortage of money (loanable funds), in a Keynesian endogenous money world, there can be no crowding out. You can think of this as an investor going to a bank and asking for a loan. The bank can use its cash reserves to grant the loan, or issue commercial paper (a short-term corporate bond) to raise the funds to meet the demand for loans. Ultimately this is only constrained by 1) the world supply of savings, which is not really a constraint in a world where a "global savings glut" exists or 2) the ability of an economy to generate demand. In this system there is never a shortage of money or loanable funds, so crowding out is simply not an issue.

For these reasons, Keynesian economists often support deficit spending, especially in times of recession. They argue that at such times the beneficial multiplier effects of increased spending far outweigh any concerns about crowding out. At times when the economy is in a boom, there is no need for deficit spending, and crowding out may become more of a factor. This leads Keynesians to advocate countercyclical policy, as described earlier.

4. HISTORY OF DEBT AND DEFICITS

4.1 The Creation of the U.S. National Debt

The creation of the national debt was crucial to the success of the newly formed United States after the Revolutionary War. Alexander Hamilton played perhaps the most important role in the creation of the national debt. Hamilton argued that the Federal Government should take on the war debt that states accrued during the revolutionary war. This was a hotly debated issue because many of the revolutionary debt holders were wealthy merchants in large cities, who had purchased the debt far below par value, some for as little as 10 percent of the face value of the bond. James Madison and others saw this as unfair speculation and tried to undercut the speculators by paying the current debt holders part of the debt and the original holders the rest.

Alexander Hamilton, who was appointed the first secretary of the treasury in 1789, helped defeat Madison's plan, and sought to use government debt not just as a source of borrowing, but to create a liquid market with a more flexible money supply. Hamilton saw that not paying off the war debts would anger wealthy citizens of the newly formed United States, while issuing new debt to pay off state debts would ensure a vested financial interest from the wealthy in the success of the new country. He created the first national debt based on tax revenue from the tariff law of 1789. A treasury bond became a promise to pay back with interest in the future, financed by tariffs, which were the primary source of income for the new government. Banks holding government bonds could issue bank notes backed by the bonds. These bonds could also serve as collateral for bank

loans, which would improve the ability of farmers, industry, and banks to take out a loan and invest in their businesses.

Hamilton anticipated that a strong, liquid, functioning debt market, made more liquid and supported by U.S. treasury bonds, would instill faith in foreign lenders and allow the U.S. government and businesses access to foreign lending. All this was dependent on their credit rating, which in turn was dependent on the U.S. repaying its promised debts. Hamilton's first sign of success came when European governments started buying U.S. treasury bonds during the French revolution period (1792-1812) and the ensuing wars. By 1794 the U.S. had one of the highest credit ratings in the European world.

Hamilton's national debt plans were opposed by many, including Thomas Jefferson and John Adams. Jefferson argued that people in office were politicians, not statesmen, and would create bureaucracy that would be dependent on government money and debt. Jefferson did not like the power that Hamilton's plan brought to the Federal government, and wanted a balanced budget amendment to prevent congress from borrowing. John Adams famously quipped that "every dollar of a bank bill that is issued beyond the quantity of gold and silver in the vaults represents nothing, and is therefore a cheat upon somebody." Despite these counterarguments, Hamilton's debt plan was successful and facilitated a highly functional financial system of borrowing, credit, and investment that helped to spur growth in the early years of the United States and continues to this day. Even Thomas Jefferson, who opposed the national debt, could not have made the Louisiana Purchase without it several years later.

Table 1. *Founding Fathers Debt and Deficit Arguments*

Reasons for the National Debt (Hamilton)	Reasons Against the National Debt (Jefferson and Adams)
Allows new debts to fund projects	A balanced budget amendment would restrain excessive spending
Kept political stability in a country known for tax rebellions by spreading the debt payments over several generations and not increasing taxes on one	Thought politicians would create bureaucracy that would be dependent on government money and debt
Bonds served as a steady source of income for elderly who bought them	Increase in debt is a tax on future citizens
Provided commercial banks and insurance companies with liquid secondary reserves, and an asset that businesses could use to secure loans	The ability to issue debt gives the Federal Government more power
Gave debt holders a vested interest in the United States succeeding	Debt favored the rich who owned government bonds
Established a secondary market for bonds which accelerated the creation of other financial asset markets such as corporate equities (stocks) and corporate bonds	Allowed excessive money creation, above the true value of gold and silver

4.2 The Great Depression, Macroeconomics, and the Deficit

Once the national debt had been established, it continued to play a significant role in financing government expenditures, including in times of war such as the Civil War. The role of budget deficits and government debt in the economy changed significantly after 1929, when the great stock market crash helped to push the United States and the rest of the world into a depression. Before 1930, the Federal government ran a surplus 92 times and a deficit 46 times. From 1931-2018, the federal government would run a deficit 80 years, and a surplus for 7 years. What caused this dramatic change in government behavior?

First, the Great Depression brought a drastic drop in tax revenues. Efforts by the Hoover administration (1928-1932) to increase tax revenues by imposing a tariff on imported goods (Smoot-Hawley) and increasing income taxes only served to hurt the economy further. Franklin Roosevelt ran as a president who would balance the budget, but when he entered office in 1933, the pragmatic Roosevelt decided to run deliberate budget deficits in order to avoid repeating the mistakes of the Hoover administration.

By 1933, unemployment was spiraling out of control at a rate of 25%, and Roosevelt had to do something about it both to fix the economy and avoid the fates of fascist Italy and Germany, as well as communist Russia, all of whose political revolutions were in large part caused by economic disaster. Roosevelt decided to institute the New Deal, an array of programs designed to get people back to work. These New Deal programs added structural deficits to the already existing cyclical deficits.

These policies were further encouraged by a paradigm shift in economic thinking. In 1936, John Maynard Keynes published the "The General Theory of Employment, Interest, and Money," in which he argued that government should play an active role in helping the economy out of a recession. Keynes argued that it was possible to stay in a state of disequilibrium for decades, and that while an economy might adjust in the long run on its own, "in the long run we are all dead." By this he meant that simply waiting for the economy to recover would lead to unacceptable economic damage.

Keynes advocated deficit spending in the form of fiscal policy and monetary policy that would induce spending and economic activity. Governments should run deficits during bad economic times, and balance the budget during good times. In many ways the New Deal was exactly what Keynes was describing, although Keynes believed that to get the economy out of a depression, spending would have to increase well beyond the 5% of GDP that was spent during the 1930's.

Many Keynesians argue that the New Deal was simply not enough spending to create the economic activity necessary to pull the U.S. out of the depression. When the U.S. entered WWII, the economy began to see the effect of the type of spending Keynes advocated. Wartime spending approached 30% of GDP in 1943 (considerably increasing aggregate demand) and created strong multiplier effects. Young men leaving for war overseas reduced the workforce and lowered the unemployment rate to almost zero. By 1946, the debt/GDP ratio would be 121%.

4.3 Deficits and “Supply Side” Economics

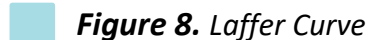
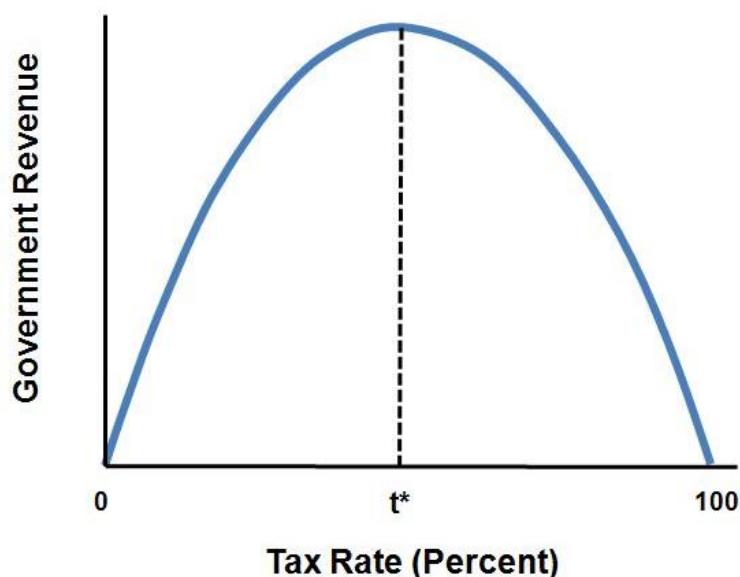
From the end of WWII to the late 1970's, budget deficits averaged 0.8% of GDP, with the highest budget deficit in 1976 at 4.2% of GDP. Economic stagnation in the 1970's changed this pattern. The 1980's represented a turning point in the economy and especially in the government budget. In 1982, the Reagan administration introduced changes to Social Security due to the rising costs of the program. The result was a relatively large increase in taxes to cover the expected retirement of the baby boom generation. This is the reason for the increase in off budget revenues in the early 1980's (see Figure 4).

On budget revenues were a different story. Reagan inherited a budget deficit of 2.7% of GDP in 1980, and by 1983 that deficit had risen to 6% of GDP, and only significantly fell to 3.2% in 1987. Budget deficits during the Reagan period averaged over 4%. The deficits were a combination of decreased revenues and increased expenditures. On the revenue side, the economic recovery act (ERA) of 1981 cut income and corporate taxes, which reduced revenues. On the expenditure side, military spending doubled from 1980 to 1988 to compete with Soviet spending with the intention of ending the Cold War.

The emphasis of the 1981 ERA was cutting taxes for upper income earners. This tax cut and the theory behind it have been given several names, including "Reaganomics," "trickle-down economics", and "supply side economics." This theory has two basic tenets: one that draws from an old economic theory, and one that was relatively new. The first tenet follows the basic classical model of growth. The classical model of growth in its simplest form shows that as savings increase, investment increases, which leads to growth. An increase in savings lowers interest rates, which reduces the cost of investment, and spurs investment. Investment means the purchase of capital goods, or the expansion of business. As business is expanded, jobs are created, which is how wealth is supposed to trickle down to the average worker.

According to this theory, taxes should be cut for the people who have the highest marginal propensity to save (meaning that they will save a high proportion of any additional income). This is the opposite of the Keynesian position. Keynesians argue that tax cuts for lower-income people would lead to economic stimulus due to their higher marginal propensity to consume (meaning that they will spend a high proportion of any additional income). But the classical approach favors tax cuts for the wealthy, on the theory that they are likely to save more and thus promote productive investment. In addition, cutting taxes on higher incomes and on investment returns should increase the incentive to work and invest.

This argument was connected to deficits using what is known as the "Laffer Curve," named after its inventor, economist Arthur Laffer. Figure 8 illustrates the Laffer Curve, which plots government revenue on the Y axis and the tax rate on the X axis. The idea is that there is an optimal tax rate that maximizes government revenue. To illustrate, let us begin with two extreme examples. Supposing that the tax rate is 100 percent of income, how much would you work? Probably not at all unless you were forced to, and as a result government would not receive any tax revenue. What if the tax rate was zero percent? You might work a lot, but government would not receive any revenue this way either.

A blue square icon followed by the text "Figure 8. Laffer Curve".

Following Laffer's theory, Reagan argued that the 70 percent top tax rate in 1981 was too high in that it discouraged people from working. He argued that if that rate were lowered, government revenue would not fall because of lower tax rates, but rather would increase because workers would have an incentive to work more hours. The increase in productive work would, at least in theory, more than offset the revenue lost per dollar earned (in economic terms, they would be "revenue neutral" or "revenue positive"). In terms of the Laffer curve, this implied that the economy was on the right-hand side of the curve to start with, such that reducing the tax rate t would lead to an increase in overall government revenue.

Politically, this was an effective argument because it allowed traditional fiscal conservatives to agree to a tax cut, based on the theoretical position that this tax cut would not increase the budget deficit. In practice, the Reagan tax cuts were not revenue neutral but instead created the largest deficits since WWII. Revenue did not rise with tax cuts as Reagan predicted. Reagan's budget advisor David Stockman admitted in *The Triumph of Politics, the Inside Story of the Reagan Revolution* that the revenue projections showing tax cuts causing revenue increases were largely fabricated in order to push the bill through Congress.

Despite this outcome, the same argument was used again during the George W. Bush administration in 2001, and the Trump administration in 2017. Once again, each administration suggested that tax cuts would create so much growth, and therefore taxable revenue, that they would not increase deficits. And once again, the actual effect of sweeping tax cuts was persistent deficits. This experience has led most economists to conclude that under most circumstances tax cuts lead to lower, not higher, revenues (see Box 1).

BOX 1: CAN TAX CUTS INCREASE REVENUES? ECONOMISTS WEIGH IN

A 2012 survey of academic economists sought to determine the opinion of the Laffer curve theory in the economics profession. Two questions were asked:

The first was “A cut in federal income tax rates in the U.S. right now would lead to higher GDP within five years than without the tax cut.” Thirty five percent of economists in the survey answered agree, 35% were uncertain, 5% disagreed, 3% strongly disagreed, and 5% had no opinion.

The second question asked was “A cut in federal income tax rates in the U.S. right now would raise taxable income enough so that the annual total tax revenue would be higher within five years than without the tax cut.” This second question addresses the Laffer curve theory that tax cuts can create so much growth that they are either revenue neutral or revenue positive. Zero percent agreed with this statement, 8% were uncertain, 33% disagreed, 38% strongly disagreed, and 5% had no opinion. The results of this survey show that economists feel there may be some credence to the argument that tax cuts lead to increased growth, but very little credence to the idea that tax cuts can be revenue neutral or “pay for themselves”.¹

Many economists and political scientists argue that deficits during the Reagan and Bush administration were actually intentional, and part of a broader political-economic strategy called "starve the beast." This concept is based on the premise that government is generally inefficient, and that private markets can take care of everything more efficiently than the government can. Thus fiscal and monetary policies should be designed to limit government's role.

The strategy proceeds as follows: A large tax cut is passed, supported by the argument that it will cause an increase in revenue. In fact the tax cut leads to higher deficits, so the president goes to the American people and gives the voters a choice: to raise taxes (which is never popular), or to cut spending. The hope is that faced with a deficit "crisis," the American voter is likely to vote for a cut in social spending rather than an increase in taxes. By creating a budget deficit, you intentionally "starve the beast," forcing government spending to fall.

4.4 Policy Responses to Deficits

Facing deficits inherited from the Reagan Administration, Congress passed a bill in 1990, signed by President George H.W. Bush, requiring all spending increases to be matched by spending decreases or tax increases. This system was called PAYGO, and was intended to keep budget deficits from increasing. Despite PAYGO, the 1991 recession along with the first Iraq war pushed deficits to an average of 4% of GDP by 1992. The Clinton administration continued the PAYGO policy, and also pushed through a tax increase. Higher taxes, coupled with an economic boom and the accompanying increase in government revenue, began to balance budgets. On the expenditure

¹ <http://www.igmchicago.org/surveys/laffer-curve>

side, the end of the Cold War allowed the Federal government to lower military expenditures, often described as a "peace dividend."

The last three years of the Clinton administration were surplus years, as was the first year of the G.W. Bush administration. Then deficits jumped to 3.5 percent by 2003. What series of events cause this to happen? There were five main reasons why the country's fiscal balance changed from surplus to deficit.

- 1) The stock market decline of 2000-2002, resulting from the bursting of the "dot-com bubble". In what Federal Reserve Chairman Alan Greenspan called "irrational exuberance," stock investors and speculators had bid up the price of technology companies well beyond a sustainable value. When there was no one left willing to buy, prices started to fall drastically. The preceding five years had seen massive revenue boosts from the stock market boom. These revenues fell sharply after the dot-com bubble popped.
- 2) The bursting of the dot-com bubble pushed the U.S. into recession, causing revenue to fall even further.
- 3) The Bush tax cuts of 2001 and 2003 caused a further decline in revenue.
- 4) An increase in military spending occurred due to the Iraq war.
- 5) There was also an increase in non-defense spending on programs such as Medicare Part D, an expansion of Medicare to cover drug prescriptions.

During the first Obama administration, deficits rose further. Deficits were primarily a result of the very severe recession of 2007-9. President Obama took office in January 2009, roughly 13 months after the start of the recession. The recession was caused by a financial crisis resulting from a bubble in the real estate market, which eventually translated through mortgage-backed securities and other housing related securities into a broader financial bubble and crisis. Tax revenue fell from 2.5 trillion dollars in 2008 to 2.1 trillion in 2009. As is normal in a recession, expenditures increased due to automatic stabilizers.

In addition, discretionary policy took the form of significant expenses for bank bailouts, and a \$787 billion fiscal policy package (the American Recovery and Reinvestment Act of 2009). The combination of recession, higher automatic stabilizer expenses, expanded government spending to stimulate the economy, together with the existing Bush tax cuts and costs of the wars in Iraq and Afghanistan, led to the highest deficits since World War II, about 10% of GDP.

But as the economy began to recover, deficits fell again. The temporary government stimulus plan expired, automatic stabilizer expenses fell, and revenues started to increase. In addition, some areas of government spending were subject to cutbacks, and some of the Bush tax cuts for higher-income groups were allowed to expire. By 2013, the deficit had fallen to about 4% of GDP. Deficits fell to a low of 2.42% of GDP in 2015.

In 2017, President Trump signed the Tax Cuts and Jobs Act, which cut corporate taxes from 35% to 21%, cut individual tax rates, doubled the standard deduction, and eliminated personal exemptions. The tax cut was meant to create economic stimulation, following the same principle as the supply side tax cuts discussed above. The argument by proponents of the tax cuts was that the economic growth created in the long run due to the tax cuts will be worth the short term debt. The result has been similar to the earlier Reagan and Bush tax cuts— the deficit has increased

significantly, exceeding \$1 trillion by fiscal 2019 – approximately double its level in the last year of the Obama administration and about 5% of GDP. Table 2 illustrates the average deficit per president per term.

Table 2. Deficit Average for Post-Great Depression Presidents

President	Deficit average
Roosevelt I	-4.9%
Roosevelt II	-2.2%
Roosevelt III	-17.5%
Roosevelt/Truman	-5.5%
Truman	+0.2%
Eisenhower I	-0.47%
Eisenhower II	-0.5%
Kennedy/Johnson	-0.9%
Johnson	-1.1%
Nixon	-1.0%
Nixon/Ford	-2.2%
Carter	-2.4
Reagan I	-4.3%
Reagan II	-4.0%
Bush Senior	-3.8%
Clinton I	-2.5%
Clinton II	+1.0
G.W. Bush I	-1.8%
G.W. Bush II	-2.1%
Obama I	-8.5%
Obama II	-3.1%
Trump (2017 and 2018)	-3.7%

Sources: Whitehouse.gov

5. GOVERNMENT DEBT

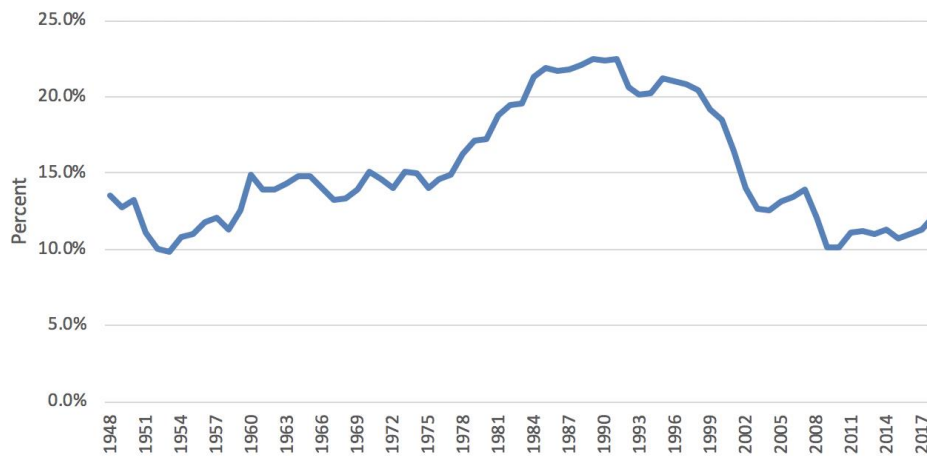
5.1 What Are the Problems With Government Debt?

Most economists agree that some government debt is necessary and not harmful to an economy, but opinions change when debt levels rise. What are some of the problems that can arise as a result of too much government debt? The first is that debt has to be repaid, and this repayment comes in the form of interest payments on bonds.² This is called debt servicing, and is part of the yearly government budget.

² It is possible for governments to print money to pay off debt, or simply default (fail to pay the debt). These however are not desirable options, since they have very damaging consequences for the economy.

Figure 9 illustrates the interest payments on debt as a percentage of Federal spending. Current debt servicing as a percentage of GDP is relatively low. This is due to low interest rates—interest rates, as the graph shows, have been falling since the mid 1980's, with particularly low rates since 2008. When the Treasury Department can sell a treasury bond for a low interest rate, the payments are lower, much like when you borrow to buy a house at a low interest rate.

Figure 9. Interest Payments as a Percent of Federal Spending



Sources: BEA.gov, Table 3.2

Figure 10. U.S. 10-Year Treasury Rate



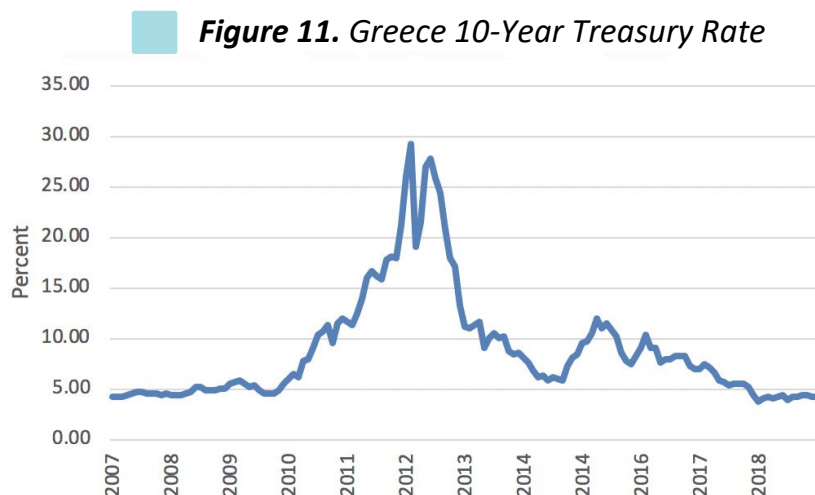
Source: St. Louis Federal Reserve Bank

Interest payments were a higher percentage of federal spending in the 1980's and 1990's because interest rates were higher. As interest rates have fallen, the spending necessary to service the debt has fallen. Figure 10 illustrates the 10-year treasury bond yield. Notice this yield peaks in the early 1980's as well. When interest rates are low, it is less costly for government to run a budget deficit and accumulate debt. This is especially true if government can spend on things that benefit the

economy, and have a high multiplier effect. For instance, if the government spending multiplier for infrastructure spending is 2, then 100 billion in deficit spending would create 200 billion in total economic activity. With low interest rates the revenue gain from the multiplier effect is likely to be larger than the cost of future debt payments, making the net gain positive (see Box 2). Notice the low interest rates post 2008 (Figure 10) and how this relates to the low interest payments as a percentage of Federal spending in Figure 9.

The second issue with accumulating too much debt is that borrowers, both domestic and international, may at some point start to believe that the debt cannot be repaid. In this situation, investors who do not like the additional risk will sell the bonds, driving their price down and their yield up.³ When the government issues new debt, it must pay a much higher interest rate, making borrowing more expensive. In extreme cases, it is possible that nobody will be willing to buy the newly issued debt.

An example of interest rates rising when bond holders begin to doubt the ability of the government to pay back the debt occurred in Greece during the recent European financial crisis. Starting in the summer of 2010, Greece's low growth and high debt levels created concern among holders of Greek bonds. This is apparent in Figure 11 from 2010 to 2013. After the European economy started to recover from the effects of the 2008 recession, Greece stabilized and interest rates returned to normal levels.



Source: Bank of Greece

Bond holders who are worried about the ability of a government to repay the debt, or worry about government policy that impedes on the ability to repay the debt are sometimes called "**bond vigilantes**." These "bond vigilantes" are simply bond holders who see too much risk and either sell, or require a higher interest rate to justify taking the risk of holding the bond.

³ There is an inverse relationship between a bond's price and its yield. The yield is the percentage return an existing bond promises at a given price. It depends on the bond's interest rate at inception. So, given a fixed interest rate on a specific bond, the higher the price of the bond, the lower its yield. If, for example, a 10 year Treasury bond has a face value of \$1,000 with a 5 percent interest rate (i.e., paying \$50/year), buying the bond at \$800 would result in a yield of $\$50/\$800 = 6.25\%$, while buying the same bond for \$1,200 instead yields $\$50/\$1,200 = 4.17\%$.

BOX 2: DEFICIT SPENDING TO MAXIMIZE THE MULTIPLIER EFFECT

Mark Zandi, economist at Moody's, testified before Congress in 2012 about his empirical multiplier calculations, shown in Table 3 below. According to Keynesian theory, deficit spending in a recession can replace falling investment and promote recovery. If used correctly, government spending can employ people, which gets them spending money, which would then employ more workers who spend money. If the goal in a recession is to maximize the efficiency of government spending, what should government spend money on?

Table 3: Multiplier Impacts of tax cuts and spending increases

<u>Tax Cuts</u>	<u>Multiplier</u>
Nonrefundable Lump-Sum Tax Rebate	1.01
Refundable Lump-Sum Tax Rebate	1.22
<u>Temporary Tax Cuts</u>	
Child Tax Credit	1.38
Payroll Tax Holidays for Employees	1.27
Earned Income Tax Credit	1.24
Job Tax Credit	1.20
Making Work Pay	1.19
Payroll Tax Holiday for Employers	1.05
Across the Board Tax Cut	0.98
Housing Tax Credit	0.82
Accelerated Depreciation	0.29
Loss Carryback	0.25
<u>Permanent Tax Cuts</u>	
Extend Alternative Minimum Tax Patch	0.53
Make Bush Income Tax Cuts Permanent	0.39
Make Dividend and Capital Gains Tax Cuts Permanent	0.35
Cut Corporate Tax Rate	0.32
<u>Spending Increases</u>	
Extend Unemployment Insurance Benefits	1.55
Temporarily Increase Food Stamps	1.71
Issue General Aid to State Governments	1.34
Increase Infrastructure Spending	1.44
Temporary Federal Financing of Work-Share Programs	1.64
Increase in Defense Spending	1.53
Low Income Home Energy Assistance Program	1.13

Keynes argued that in general the multiplier is highest when counter-recessionary money goes to those who have the highest marginal propensity to consume (mpc). This means spending should

go to those who are unemployed or who are poor, because those without much income generally spend every penny of it. Zandi's multiplier calculations illustrate this, with unemployment benefits, temporary food stamps, aid to state governments (to prevent layoffs), and infrastructure spending all having high multiplier effects.

Keynesian theory also suggests spending money on schools, parks, and roads to both employ people who need work and to build things that improve society. This is why infrastructure spending was an important part of the 2009 Obama stimulus package. The lowest multiplier effects are associated with entities with the lowest mpc, such as cutting the corporate tax rate and extending the Bush tax cuts. These policies get less "bang for the buck," and are supply-side policies that are not expected to increase spending in the short run.

Source: <https://www.economy.com/mark-zandi/documents/2012-02-07-JEC-Payroll-Tax.pdf>.

This is a bigger issue in countries that are significantly less wealthy than the highly industrialized countries. When a financial crisis hits, countries that do not have a large share of global GDP are less able to fix their debt problems or convince bond holders that as debt increases due to a recession, that they can continue to make interest payments on their debt. The Argentine debt default in 2001 is another example of a less wealthy country with fewer options in responding to a financial crisis (see Box 3).

The third issue concerns to how the debt gets repaid. A country has two ways to repay debt or service interest payments: through tax revenues, and through “monetizing” the debt. Increasing taxes to meet debt servicing requirements can hurt GDP, as taxes can reduce both consumption and investment. Debt can only be repaid if the budget is balanced or running a surplus, and even in this scenario paying off the total debt can take some time. Cutbacks in government spending, also needed to balance the budget, can depress the economy further. This painful process has caused extreme political conflict in Greece and other highly indebted nations.

Monetizing the debt means, in effect, printing money. To monetize the debt, the Treasury department would sell treasury bonds. The Federal Reserve would buy these treasury bonds, and the Treasury would pay interest on the debt. The Federal Reserve would return the interest on the debt to the Treasury, less operating expenses. Since Congress does not control the Federal Reserve, this is how government can in effect “print money” to pay off debt.

Many economists believe that monetizing the debt raises the threat of creating inflation because of the increase in money supply. However, other economists believe that a small increase in inflation can be a positive thing for the economy because in a depressed economy inflationary forces can counter the threat of deflation—falling prices that can further depress business activity.

The option of monetizing the debt, however, is only open to countries that control the currency in which their debt is denominated. It was not available to Greece, whose debt was in euros, nor to Argentina, whose debt was primarily in dollars.

BOX 3: EMERGING ECONOMIES AND POTENTIAL DEBT CRISIS

The International Monetary Fund (IMF) has warned that many developing countries may be creating a debt crisis by increasing their rate of borrowing in recent years. Although debt levels in developing countries improved from 2006 through 2014, lowering debt-to-GDP levels from 66% to 48%. As of 2019 debt-to-GDP levels have increased to over 50%. The average debt ratios of low-income countries are now back to 2007 levels. In 2018, the IMF found that 40% of developing countries may face significant challenges related to debt repayment, up 21% from 2013. The IMF staff paper indicates that more low-income countries will likely face a debt crisis in the future.

One of the concerns expressed by the IMF is that countries have borrowed through non-concessional loans as opposed to concessional loans. Concessional loans are loans granted to low income countries at a lower interest rate. Non-concessional loans are loans obtained through the private market, either through other countries such as China or India, or through commercial banks and other entities. The interest rate and repayment terms on non-concessional loans are higher and stricter. If interest rates were to increase, or a national or global recession lowered government revenues, increases in non-concessional loans have the potential to create a debt crisis in these countries.

Expanded debt problems can be caused by a variety of factors, including low government revenues, inefficient tax policies, weaknesses in the rule of law, or poor use of the borrowed funds (using funds for consumption, and not investment that creates future growth). Many developing countries do not have the tax base that most developed countries have. Developing countries have many people who are poor and living off a subsistence wage who cannot afford a tax increase. There are also many people in poor rural areas that are essentially “off the grid” in terms of taxation, rendering it difficult to collect taxes. This is why so many developing countries choose to print money to pay off debt, which devalues their currency. This is called seigniorage revenue and is inflationary.

Debt problems in developing countries have sometimes become serious enough to lead to debt default. A few examples of countries that have defaulted on some or all of their debt include Venezuela in 2017, Greece in 2015, Ecuador in 2008, Belize in 2006, and Argentina in 2001. The most recent default was in Venezuela, which had not just a debt crisis but an economic and political collapse, rendering them unable to pay their debt.

Sources: <https://www.ft.com/content/0b875b52-2d26-11e8-9b4b-bc4b9f08f381>
<https://www.imf.org/en/Publications/FM/Issues/2018/04/06/fiscal-monitor-april-2018>
https://www.un.org/esa/ffd/wp-content/uploads/2016/01/Debt-crisis-prevention_IMF_IATF-Issue-Brief.pdf

The fourth issue is called **generational accounting**, which is the idea that incurring debt in the present pushes the debt burden onto future generations. If debt is used for economic stimulus that

can increase long term growth, and if this creates enough growth to create new taxable income, then it is possible that incurring new debt would not create a burden on future generations, and would in fact help them. This is because if the debt incurred in the present creates enough growth in the future then new taxable economic activity has been created, in which case the debt “pays for itself.” But if the debt is not used for something that would contribute to long term economic growth, then it will cause later generations to incur a tax burden, as more of the future government funds would have to go to debt payment instead of investing in education or health care of the population.

Recent research on how a country’s debt level may affect overall economic growth shows mixed findings. For example, Reinhart and Rogoff (2010) examine 44 countries and find that median growth rates fall by 1% when debt-to-GDP levels rise above 90%. This threshold is lower for emerging economies, slowing growth by 2% when debt reaches 60% of GDP, and can cut growth in half for higher levels.⁴ However, other scholars including Herndon, Ash, and Pollin (2013) dispute this claim and find that growth rates are “not dramatically different” above the 90% debt-to-GDP threshold versus below it.⁵ In addition to this, a 2014 study by IMF researchers Pescatori, Sandri, and Simon provides evidence that there is no particular debt threshold in which growth prospects are altered.⁶ Ultimately, there is no consensus on the debt threshold level, as there are likely too many factors over time that contribute to a country’s ability to accumulate and manage its debt.

5.2 Who Owns the Debt?

Figure 12 illustrates that while nearly one third of the U.S. debt is held by entities located outside the country, the larger part is owned by U.S. citizens—in some cases directly, as individuals, but more often through citizens' ownership interests in social security, pension funds, state and local governments, and the Federal Reserve. While national and international insurance companies and banks are also holders of U.S. debt, the reality is that we actually owe most of the debt to ourselves!

The category accounting for the highest percentage of government debt is foreign and international holdings. Intra-government debt, which is the Social Security trust fund and the Medicare trust fund, both “off- budget” items that have their own sources of funding, is the next largest ownership category at 27%. These funds buy treasury bonds as a way to gain risk- free revenue for the trust fund. The Federal Reserve holds 11% of outstanding treasury bonds as part of its policy of conducting open market operations.⁷ Pension funds and mutual funds own 4% and 8% of the debt, respectively. U.S. Treasury bonds give people looking to retire a safe, risk free return that is a part of almost every retirement portfolio.

Foreign entities own 29% of the debt; an exact itemization by country is found in Table 4. Table 4 lists the largest holders of U.S. debt as a percentage of the total debt. It shows that China is the

⁴ Rogoff, 2010.

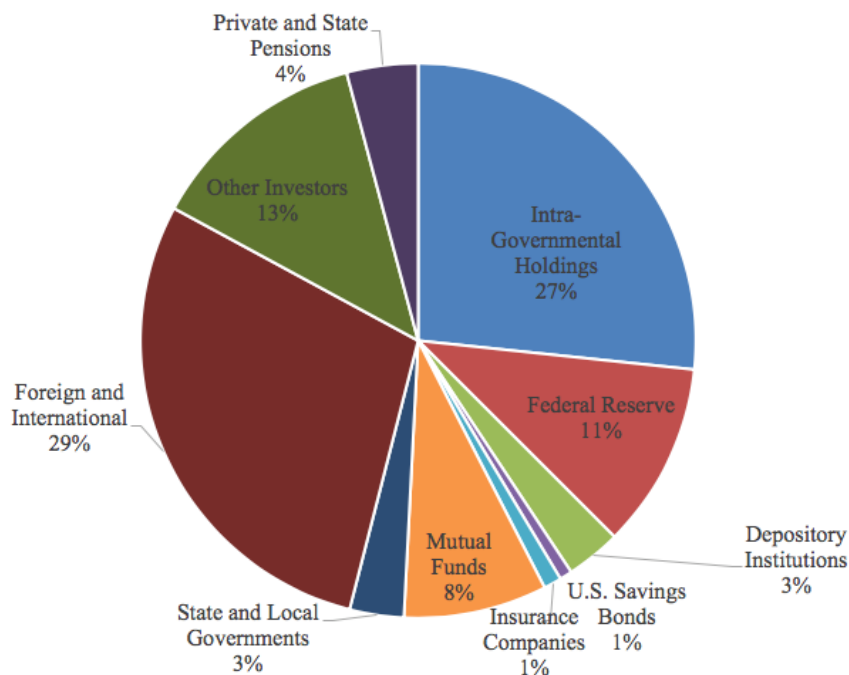
⁵ Herndon, 2013.

⁶ Pescatori, 2014.

⁷ “Open market operations” is the name given to the process of the Federal Reserve buying and selling short term debt to manipulate and control the Federal Funds rate. The Federal Funds rate is the rate at which banks borrow from other banks to meet their overnight reserve requirements.

largest holder of treasury bonds internationally holding 5.2% of U.S. debt, followed closely by Japan at 4.8%. Included in the “rest of world” category is oil exporters, because countries that sell oil in dollars use the same dollars to buy treasury bonds to maintain their dollar liquidity and safely store their excess savings, as well as Caribbean banking centers.

Figure 12. Debt Ownership, 2018



Sources: Bureau of the Fiscal Service

Table 4. Largest Holders of U.S. Treasury Bonds as a Percentage of Total U.S. Debt, 2018

Largest Foreign Holders of U.S. Treasury Bonds	Percentage of Total U.S. Treasury Bonds
China	5.2%
Japan	4.8%
Brazil	1.4%
United Kingdom	1.3%
Ireland	1.3%
Luxembourg	1.0%
Switzerland	1.1%
Rest of World	12.9%

Sources: <http://www.treasury.gov/resource-center/data-chart-center/tic/Documents/mfhhis01.txt>

5.3 International Comparisons of Debt/GDP ratios

Although in absolute terms the U.S. debt is by far the highest in the world, it is a different story when we consider debt relative to GDP. Table 5 illustrates international debt/GDP ratio comparisons.

Table 5. International Debt/GDP Ratios

Year	Canada	France	Germany	Italy	Japan	United Kingdom	United States
2011	81.9	87.8	78.6	116.5	222.1	80.8	99.7
2012	85.5	90.6	79.9	123.4	229.0	84.1	103.2
2013	86.2	93.4	77.4	129.0	232.5	85.2	104.8
2014	85.7	94.9	74.5	131.8	236.1	87.0	104.4
2015	91.3	95.6	70.8	131.6	231.6	87.9	104.7
2016	91.8	96.6	67.9	131.4	236.3	87.9	106.9
2017	90.1	98.5	63.9	131.3	234.9	87.1	106.2
2018	90.6	98.6	59.8	132.0	237.1	86.9	105.8

Sources: www.imf.org.

Note: 2018 numbers are IMF staff estimates for Canada, France, Italy, Japan, and U.S.

Japan has had a very high debt to GDP ratio, resulting from depressed economic conditions starting in the 1990's, and currently has a debt to GDP ratio of 237.1%. Japanese bonds are still bought and traded, and Japan is not on the edge of disaster. Italy is second in this list with 132%, followed by the United States as 105.8%.

International debt levels in many countries skyrocketed from 2007 to 2011 as a result of the recession, but have not come down during the subsequent expansion period. Every country in Table 5, except Germany (which has reduced debt) has seen debt levels increase during the post crisis expansion period. This sets the world economy up for constraints in the next recession, as looming debt levels could limit what debt could be incurred to fight the next recession.

6. POLITICAL ECONOMY OF DEFICITS

6.1 U.S. Global Hegemony and Global Imbalances

Generally, in the bond market the riskier an asset becomes the higher the yield on the bond. But is there a point where investors will simply refuse to buy newly issued debt? This is improbable but possible, at which point the government will simply not be able to borrow (see Box 4). This is especially unlikely in the United States, which has the world's biggest economy, the largest tax base, and can monetize the debt without constraints. There is an apparently insatiable demand for U.S. treasury bonds because of the role that the U.S. and the dollar play in the world economy. The U.S. is what is known as a "**global hegemon**," which means that the U.S. is the dominant military and economic power in the world.

BOX 4. WHEN DO PEOPLE STOP BUYING GOVERNMENT BONDS?

You have probably heard talk on financial news programs about the possibility of foreign countries or private investors not being willing to buy U.S. debt if it gets too high. Does the U.S. have so much debt that no one trusts Treasury bonds anymore? To answer this question we need to understand how bonds are assessed for risk.

All bonds sold on the open market are rated by rating agencies, whose job it is to assess the riskiness of various assets, including government bonds, and to provide each a risk rating. The three rating agencies are Moody's, S&P, and Fitch. A top bond rating from S&P and Fitch would be AAA, and ratings go all the way down to D. Moody's has a similar scale but has different letters, such as Aaa for their top rating and C for their worst rating. These agencies rate government debt so that investors can make informed decisions about the level of risk they are taking. A high-risk bond has to yield more than a low-risk bond in order to persuade borrowers to take on the additional risk, so AAA bonds generally have a lower yield, and bonds rated BBB have a higher yield. Rating agencies rate government bonds based on the ability and political commitment of the government to repay their debt to the bond holders.

For instance, the 10 year Treasury bond has historically been rated AAA because the U.S. has the largest tax base, the political commitment to pay back the debt, and ultimately the ability to monetize the debt as a last resort. Generally the threat of monetization is treated negatively by the bond market as it begins to anticipate inflation, which will reduce the return on bonds. By comparison to the U.S., Greece, like other less wealthy, less powerful countries, suffers from having a much smaller tax base, a population that is significantly divided on the desirability of repaying their debt, and no ability to use monetary policy to help them do so. During the European debt crisis Greece's bond ratings were very low, making it necessary for Greece to offer high interest rates to attract any buyers. This created a situation in which issuing new debt becomes a very expensive way to alleviate short term macroeconomic problems.

In 2011, several rating agencies including S&P downgraded the U.S. Treasury bond. S&P changed their rating from AAA to AA+ due to high budget deficits, high debt levels, and the inability of Congress to raise the debt ceiling (discussed further in Section V below). Despite this, the U.S. Treasury bond was in high demand, as shown by the 10 year treasury yield falling from 3.20 in the first quarter of 2011 when the downgrade occurred, to a quarterly low of 1.95 in the first quarter of 2013 (note that an increase in bond demand drives price up and yield down). The downgrade was based not so much on economic factors as on the perceived inability of the Congress and President to agree on the budget and debt management, leading to a danger of default. Fears of government shutdown faded, but rating agencies have warned several times that a prolonged government shutdown would hurt the U.S. credit rating.

Rating agencies do not just rate for the United States, they rate for all bonds across the globe. Although since 2017 most economies are performing better than during the Great Recession, debt is still accumulating, and rating agencies have reacted. For instance, in late 2018, in reaction to the Italian government's potential plan to increase deficit spending to alleviate economic problems (which is a violation of the European Union deficit rules), Moody's downgraded Italian debt to reflect the increase in risk that investors would face. In similar fashion, Fitch downgraded the

country of Oman's debt to "junk" status, reflecting volatile but falling oil revenues creating risk to investors.

Because of the economic dominance of the U.S. and its currency, countries around the world are compelled to store dollars for international transactions, such as the trade of goods, the purchase of oil and other commodities that are priced in dollars, as well as for exchange rate intervention and manipulation of their own currency. For this reason, most countries have a large stockpile of dollar reserves. But instead of just holding dollars they hold treasury bonds, which are liquid, dollar denominated assets that bring a small return. Thus the high demand for U.S. dollars creates a high demand for U.S. treasury bonds.

The U.S. is one of the few countries that can sell all of its bonds in its own currency. This gives the United States the advantage of being able to run large budget deficits and have its bonds still be seen as a safe, risk-free investment. In fact, if the U.S. stopped issuing treasury bonds, the world financial system, which is dollar based and dollar reliant, would have to change significantly.

The United States established its hegemonic position in the aftermath of World War II. Since the early 1980's what is known as the global imbalance problem has accelerated and has created several important problems in the United States and the world. **Global imbalances** are the sustained existence of large current account deficits in one country and large current account surpluses in another country.

The **current account** consists of the trade deficit or surplus (exports minus imports), factor income (earnings on foreign investments minus payments made to foreign investors), and cash transfers. If one country continually runs a current account deficit, it must be financed from either increased domestic savings, or in the case of the United States, borrowing from other countries in the form of Treasury bonds. The way we keep track of the financing flows is through the capital account. The **capital account** consists of the net financial flows of stocks, bonds, loans, foreign direct investment (FDI), and reserves for a particular country.

One of the causes of the global imbalance problem, specifically with trade deficits, is that since the 1970's the U.S. manufacturing base has eroded. This has happened for several reasons, including lower labor costs abroad and a strong demand for the U.S. dollar. A strong dollar makes U.S. goods more expensive to the rest of the world, but makes foreign imports cheaper. This less expensive foreign competition has added to the erosion of the U.S.'s manufacturing base and is one of the reasons that foreign goods such as Chinese imports are so cheap. The strong dollar also hurts U.S. exporters by making their goods more expensive on world markets. As a result of these factors, the U.S. has run trade deficits for almost 30 years.

Because U.S. manufacturers saw diminishing profit opportunities, the U.S. economy gradually moved towards finance and services sector activities. Because the U.S. does not export what it used to, it runs a large trade deficit, which means that the U.S. is buying more than it is selling. The U.S. funds that gap by borrowing cheaply from other nations, which contributes to the budget deficit. When other countries collect dollars from the goods they sell to the U.S., they simply fund

the purchases by buying Treasury bonds with those dollars. This has allowed to U.S. to run both trade deficits and budget deficits for the last 30 years. The cost has been accumulated debt and the erosion of the manufacturing sector in the U.S.

The United States has a large current account deficit, which is financed through a large capital account surplus, which means the U.S. borrows from foreigners to buy more than it sells. Other countries like China have large current account surpluses due to the nature of their export driven economy. The United States buys much of what China produces. China takes that money and buys U.S. treasury bonds, allowing the U.S. to run large budget deficits.

Because so many countries, including China, are dependent on the U.S. buying their exports, because the U.S. is used to buying low priced imports, and because of the international demand for the U.S. dollar, this system of global imbalances is likely to persist and potentially worsen. Many economists see this as one of the fundamental issues in the world economy today.

6.2 Austerity vs. Expansion: The Debate over Deficits

Since the financial crisis and budget shortfalls brought about by the world recession, the political debates in countries across the world have centered around austerity vs. fiscal expansion. **Austerity** is a policy of deficit cutting that reduces public expenditures to balance the budget, whereas **fiscal expansion** is the policy of increasing budget deficits using Keynesian fiscal policy principles to alleviate short term economic problems. Austerity measures are often undertaken in the context of falling revenues, or during difficult economic times.

This has been an important political debate in the United States and in the rest of the world, with conservatives generally arguing for the cutting of social programs to balance the budget. Liberals generally argue for the expansion of social services in bad economic times because that is when the demand is highest for services such as unemployment, health programs, and general assistance programs. Keynesians argue that when private spending falls government must increase spending to close the gap and prevent the economy from further weakening. This fiscal stimulus can encourage business and consumer optimism and shift out aggregate demand. Reducing government spending, however, has the opposite effect. This can be seen in terms of the basic macroeconomic equation:

$$Y = C + I + G + (X-M)$$

where Y is GDP, C is consumption, I is investment, G is government spending, and (X-M) is net exports. In a recession, investment and consumption are both falling due to decreased business expectations and high unemployment rates. If both C and I are falling, and (X-M) is difficult to control, the only option left to stabilize GDP is government spending. If government spending were also cut, that would mean that C, I, and G would be falling at the same time! This would cause a drastic reduction in aggregate demand, pushing the economy further into a recession.

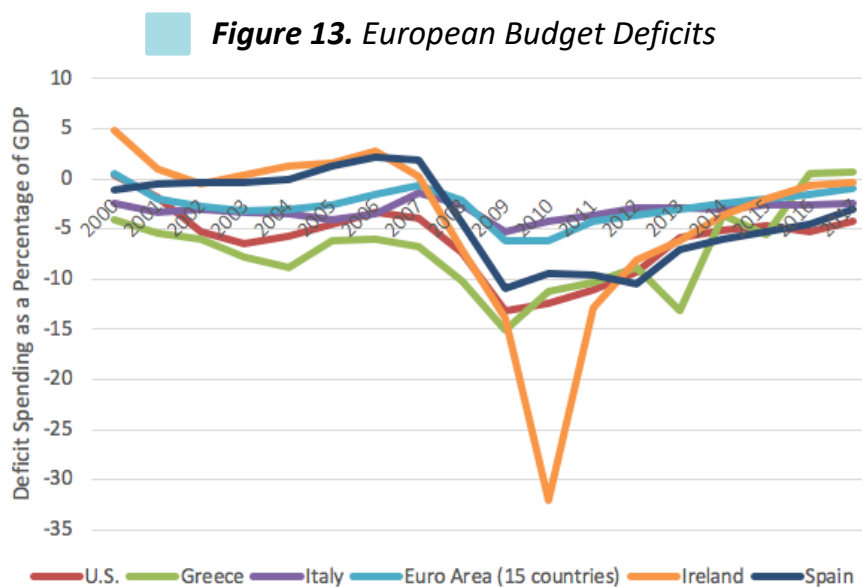
The debate over austerity has been between those who believe that it is essential to improve fiscal balance, even in bad economic times, and those who argue that promoting economic recovery is

more important, and may actually be more effective in lowering budget deficits in the medium to long term, due to increased tax revenues from a growing economy.

6.3 European Sovereign Debt Crisis

The European sovereign debt problem developed in a similar way to the 2008 financial crisis in the United States. A real estate bubble and excess bank leverage and speculation caused a financial collapse when real estate prices could no longer sustain themselves. Governments, forced with the choice of complete financial collapse or the bailout of banks with public money, chose the latter.

The recession resulting from the financial crisis caused government revenues to fall and expenditures to rise, increasing the deficit and debt levels. Austerity policies then reduced demand further, worsening recessionary conditions. European governments were faced with problems similar to the U.S., including falling tax revenues, increased expenditures, and a continued banking crisis, but due to stricter austerity policies Europe was much slower to recover. Figure 13 illustrates European budget deficits at the start of the financial crisis through the present period post-recovery. Each economy's budget deficits recovered as their economy improved.



Source: OECD

There is a significant difference between the financial crisis, recession, and deficit issues faced by the United States compared to the members of the European Union. The European Union has a monetary union that conducts monetary policy for every country collectively, but not a fiscal union that would allow similar coordination of Keynesian, austerity, or other such policies. European countries conduct fiscal policy independently, but must maintain a budget deficit of less than 3% of GDP and debt/GDP ratio of less than 60% in order to meet the entry requirements for membership in the European Union.⁸ The United States has no such requirements and can run the

⁸ This is according to the European Union's Stability and Growth Pact.

deficits necessary to boost short term aggregate demand. Because of this agreement, members of the European Union have intense political pressure to impose austerity measures to keep deficits and debt down, giving them a built-in disadvantage in severe economic times.

The United States also has the privilege of having dollar hegemony, as well as a Federal Reserve that is not accountable to other countries, and has a dual mandate to fight both inflation and unemployment. The U.S. has the ability to employ countercyclical fiscal policy and to use monetary policy such as lower interest rates and quantitative easing to try to spur economic activity. The European Central Bank (ECB), in contrast, is responsible for monetary policy that affects many countries, and has historically been focused on fighting inflation, although in more recent times the ECB also has accepted a goal of promoting economic recovery.

Monetary policy that is good for Italy may not be good for Germany. For instance, suppose Italy has high unemployment and Germany has low unemployment. If the ECB lowered interest rates for everyone it would benefit Italy, but might burden Germany's strong economy with inflation. Because of this the European Central Bank follows a singular mandate to control inflation and avoid country favoritism, but it has done relatively little to stem extremely high rates of unemployment, especially in the Southern European countries: Spain, Portugal, Italy, and Greece.

When deficits started to increase as a result of recessionary forces, bondholders became increasingly worried about the low growth rates in countries like Spain, Italy, Portugal, Greece, and Ireland. These bondholders are those who were defined above as "bond vigilantes." As a result of what bond holders perceived as danger of default, potential buyers required a higher yield to compensate for the risk on government bonds. This made issuing and rolling over debt very expensive, which added to the fiscal problems of these countries.

Low growth rates and high debt/GDP ratios mean that countries may not be able to pay back their debt. Many countries find that the only means of lowering interest rates is to impose austerity to balance the budget. This can initiate a vicious cycle, because as austerity is imposed, growth rates worsen, which accelerates the risk and inhibits the ability of the government to raise revenue and pay interest on debt.

Austerity measures created extensive social unrest, particularly in Greece from 2010-2012 as many voters reacted negatively to social programs being cut while public money was used to bail out banks due to the financial crisis. Many citizens would rather have seen their country default on their debt than have retirement pension and social programs cut as a result of a banking crisis for which they were not responsible. This unrest has subsided as the economy has stabilized.

The EU imposing austerity and the U.S. implementing fiscal expansion set the stage for some interesting empirical studies on the subject. Many of these studies, including one from House, Proebsting, and Tesar (2017) show that countries that imposed austerity were associated with lower per capita GDP growth, lower inflation, and higher net exports.⁹ They find that no change in government spending instead of austerity would have reduced GDP losses by 25% in the European Union.

⁹ House, 2017.

6.4 Balanced Budget Amendment and PAYGO

Currently it is not legally required for the U.S. Congress to balance the budget. This means that the U.S. Federal government has the ability to run deficits. Since the creation of the Constitution there has been discussion about creating a constitutional amendment to prohibit Congress from running deficits. Before 1929, deficits generally only existed during wartime, so there was no political will to enact an amendment. Since the Great Depression and the "invention" of macroeconomics, deficit spending has been commonplace in the U.S. and around the world. The first attempt at a constitutional amendment came in 1936, as an effort to curb New Deal deficit spending.

A constitutional amendment seems to become politically popular every time deficits get too large. Proponents of a balanced budget amendment argue that it would force Congress to keep the budget balanced, and would prevent potentially inflationary effects of deficit spending. The negative outcome would be that the federal government could not use countercyclical policy to fight recessions.

Most states have a balanced budget amendment and face disadvantages such as cutting services and laying off government employees during a recession. Often the federal government will provide state aid to allow states to minimize the cost cutting in an attempt to prevent the economy from getting worse. A balanced budget amendment would impose these same constraints upon the federal government.

Under a balanced budget amendment, when a recession hits and revenue falls because of less tax collection, the federal government would be forced to cut services and spending when people need it most. A balanced budget amendment essentially imposes austerity on the federal government. One potential benefit of a balanced budget amendment would be that government could not imprudently run deficits in good economic times, which can have an inflationary effect by shifting out the aggregate demand curve to the right, pushing prices higher.

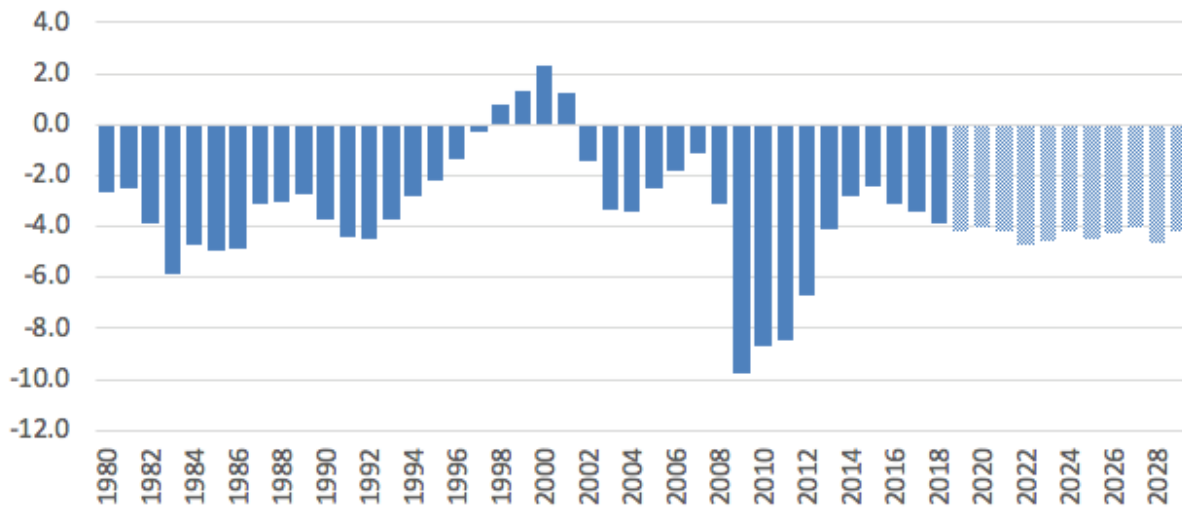
Another option that does not require a constitutional amendment, and that has been used in the past is the PAYGO, or "Pay As You Go" system. As described above in Section 3, PAYGO requires new spending to be offset either by other spending cuts or by new revenues. PAYGO was instituted in 1990 during the George H.W. Bush administration and continued during the Clinton administration, but abandoned during the George W. Bush administration as a result of recession and tax cuts which led to rising budget deficits. PAYGO was enacted again by a Democratic Congress in 2007, but as the 2007-9 recession hit, PAYGO once again became unrealistic. Since PAYGO seems ineffective and a balanced budget amendment seems too drastic, the debate over how to limit deficits continues, often with great political acrimony.

6.5 Deficit Projections and Solutions

Every year the Congressional Budget Office creates budget forecasts based on economic trends, expiring or new tax laws, and off-budget program projections, in order to forecast the future fiscal needs of the country. The Congressional Budget Office forecasts are widely used to help Congress and other interested parties make decisions about government budgets.

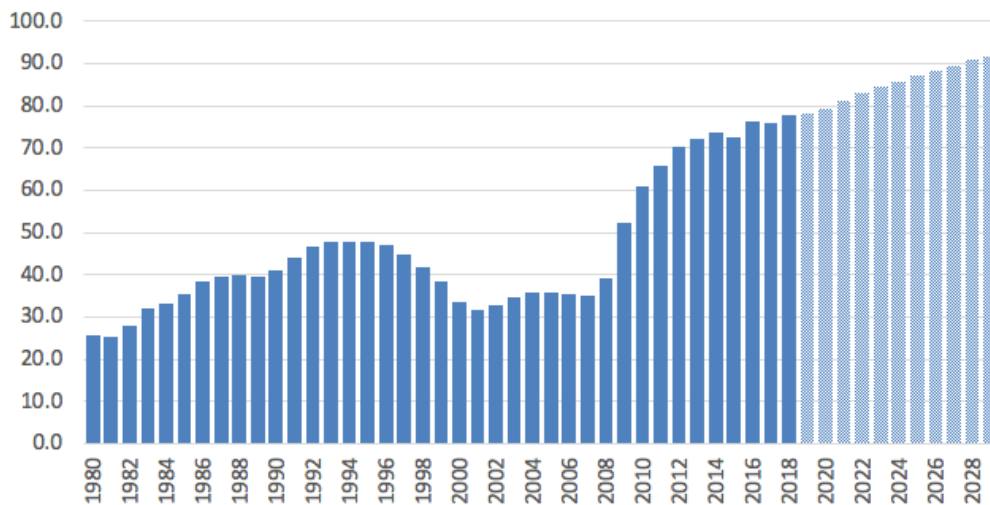
The Trump tax cuts of 2017 reduced government revenues, and hence the CBO is forecasting higher deficits over the next several years, averaging -4.4%, compared to the historical average of -2.9% (see Figure 14 and Box 5). Debt is also expected to grow to record levels over the next several years (Figure 15).

Figure 14. CBO Deficit and Deficit Projections



Source: CBO Updated Budget Projections: Fiscal Years 2013 to 2023 (May 2013)
<http://www.cbo.gov/publication/44195>

Figure 15. CBO Public Debt as a % of GDP Projections



Source: CBO Historical Budget data, and CBO The Budget and Economic Outlook: 2018 to 2028

BOX 5. TAX CUTS AT THE TOP OF THE BUSINESS CYCLE

On the surface, the 2017 Trump tax cuts don't seem that out of the ordinary in politics. Republican presidents historically have preferred fiscal policy in the form of tax cuts, specifically to corporations or upper incomes to spur supply side growth. However, these tax cuts were out of the ordinary in that they were passed in strong economic times, as opposed to a recessionary period. Before the Trump tax cuts the most recent supply side tax cut was Bush's 2001 tax cut, which came on the heels of the 2001 recession. The Reagan tax cut was in part a response to the 1981 recession. An exception is the 1964 Kennedy tax cut, which was passed to spur growth but was not during a recessionary period. Obama's economic stimulus package, passed in 2009 in response to the Great Recession, included some tax cuts, but emphasized expanded spending intended to maximize multiplier effects.

2017 and 2018 were considered strong years for GDP growth, continuing the expansionary period that started after the Great Recession. If the economy was doing so well, why cut taxes, and how does this affect the deficit?

In good economic times, tax revenues increase while in bad economic times, tax revenues decrease. Keynesian theory advises "spending against the wind," where government should incur deficits and spend on fiscal policy programs during recessions, and spend less when stimulus is not needed in good times. What is the impact of cutting taxes when the economy is doing relatively well?

While tax cuts in relatively good times may spur growth further, they pose a threat of increasing deficits and debt over the longer term. The problem is that deficits have a cyclical component, meaning that the deficit is likely to increase during the next recession. Cutting taxes at the top of the business cycle ensures that deficits will be much deeper, and may limit the government's ability to respond to a recession with expansionary fiscal policy.

Supply side advocates would argue that tax cuts would create enough new economic activity in the long run to offset short term increases in deficits. Regardless of who is right, the stage is set for large deficits in the next recession, which will make fiscal policy action more difficult.

The CBO lists four consequences of the growing debt including:

- 1) Rising federal spending on interest payments
- 2) Lower capital stock as a result of federal borrowing reducing national savings. This would lead to lower productivity and lower wages than if the debt were smaller.
- 3) Lawmakers have less flexibility to use tax and spending policies to respond to economic crisis.
- 4) The likelihood of a fiscal crisis would increase, as investors would be more cautious to buy U.S. debt in the event of a financial crisis. Since the great recession, the economy has been steadily growing. However, if and when the business cycle inevitably turns the deficit and

debt situation will be considerably worse, with less options for fiscal policy spending to fight the next recession.

6.6 Debt Ceiling, Fiscal Cliff, and Budget Sequestration

A **debt ceiling** is a restriction on the amount of national debt that can be issued by the Treasury department. Since Congress authorizes spending through legislation, the debt ceiling does not restrict deficits or Congress's ability to spend; it only restricts the Treasury Department's ability to pay for the expenditures that have already been incurred. In 2011, Congress was unable to reach an agreement to raise the debt ceiling due to concerns about deficit spending and political deadlock between a Republican House and a Democratic President and Senate.

This near default on U.S. treasury debt resulted in a downgrade of the U.S. credit rating (see Box 4 above) and had the potential to cause domestic and international financial turmoil. Congress finally raised the debt limit with the Budget Control Act of 2011 which delayed the debt ceiling until December 31st, 2012. This date became known as the **fiscal cliff**, a combination of tax rate increases (mainly the expiration of the Bush tax cuts) and decreases in government spending, which according to the Congressional Budget Office would have potentially led to renewed recession.

The fiscal cliff solution came in the form of the American Taxpayer Relief Act of 2012, which was enacted January 2nd 2013. The act made several changes to the tax code, including increasing top marginal tax rates, eliminating some deductions for higher income earners, and raising the estate tax rate (though with a high exemption of \$5 million).

When President Obama signed the Budget Control Act of 2011 to avert the debt ceiling crisis, part of this act required a "super committee" be formed to provide deficit reduction legislation to reduce the deficit by \$1.2 trillion over 10 years. The super committee was unable to agree on a final proposal, which activated another part of the Budget Control Act requiring automatic cuts to kick in across the board (both in defense spending and domestic spending) if new legislation was not created. These automatic across-the-board cuts are known as **budget sequestration**. The "sequester", as it became known, began in March of 2013 and has been a source of economic and political tension due to its indiscriminate nature. In late 2013, lawmakers reached a budgetary agreement that relaxed some parts of the sequester, and in 2019 another budget agreement essentially eliminated sequestration, raising spending by over \$300 billion.¹⁰

Since 2013, the U.S. economy has performed significantly better and budget deficits have fallen drastically, lowering the interest in political battles over deficits and debt. However, when there are disagreements in Congress about funding resulting in a failure to pass funding legislation or to raise the debt ceiling, the result is what is called a **government shutdown**. In late 2013 the government was shut down for 16 days while lawmakers debated the budget for the next year. This particular dispute was in regards to a Republican attempt to delay funding for Obama's Affordable Health Care Act. In late 2017, lawmakers were unable to decide on appropriations bill to fund the government for 2018 due to a disagreement regarding immigration policy. The result

¹⁰ Cochrane, 2019.

was a three-day government shutdown. A similar but worse disagreement over border security funding occurred in December/January of 2018/2019, when the government was shut down for 35 days. The budget agreement reached later in 2019 seemed to indicate a lack of appetite for further budget conflict or shutdowns, and if sustained will ensure no debt ceiling crisis through at least 2021. But it continues the trend to increasing deficits and rising debt.¹¹

7. CONCLUSION

Policy makers face difficult decisions in the coming years in dealing with deficit and debt related issues. The policy decisions involved imply tradeoffs that make simple solutions (like “balanced budget” amendments) more complicated than they seem. There is not a clear consensus among economists or the general voting public as to if or to what extent the debt burden is a problem, let alone agree on what policies should be enacted to reduce debt. But by not managing debt more carefully during the most recent expansion, the next recession will incur even higher debt. Expanding debt indefinitely means a higher percentage of spending in the future goes to servicing the debt, which could result in higher taxes, and in lower spending on public programs including education, health and infrastructure. As long as interest rates stay low this debt burden may be manageable, for now. But major decisions about priorities on spending, tax levels, and deficits will certainly need to be taken in the years to come.

¹¹ Associated Press, 2019.

KEY TERMS

austerity: a policy of deficit cutting that reduces public expenditures and/or raises taxes to balance the budget

automatic stabilizers: programs of government spending that automatically increase during downturns in the business cycle

budget deficit: the total amount at a given time that the Federal Government has borrowed and still owes

budget sequestration: automatic cuts to Federal spending

budget surplus: the amount by which revenues exceed expenditures in a given year

countercyclical policy: the budgeting strategy where deficits are run in bad economic times and surpluses are run in good economic times, ideally balancing the budget over several years

crowding out: a reduction in the availability of private capital resulting from federal government borrowing to finance budget deficits

crowding in: the process by which government spending increases expectations of the economy due to multiplier effects, thereby inducing investment

cyclical deficits: the portion of the deficit that is caused by fluctuations in the business cycle

current account: consists of the trade deficit or surplus (exports minus imports), factor income (earnings on foreign investments minus payments made to foreign investors), and cash transfers

capital account: shows the net financial flows of stocks, bonds, loans, foreign direct investment (FDI), and reserves for a particular country

debt ceiling: a restriction on the amount of national debt that can be issued by the Treasury department

debt service: the combination of interest and principal repayment on a debt

discretionary fiscal policy: which are more active and deliberate policy decisions instituted to remedy recessions or high inflation

discretionary spending: spending that requires an appropriations bill from congress

endogenous money: an economic theory stating that the money supply is determined within the economic system, and not solely by the Central Bank

fiscal expansion: a policy of increasing budget deficits to alleviate short term economic problems

DEBT AND DEFICITS: ECONOMIC AND POLITICAL ISSUES

fiscal cliff: an increase in tax rates and a decrease in government spending due to the Budget Control Act of 2011, modified by the American Taxpayer Relief Act of 2012

generational accounting: the measure of the impact of current debt accumulation on future generations.

global hegemon: the dominant military and economic power in the world

global imbalances: the existence of large current account deficits and large current account surpluses in different parts of the world, which many economists believe to be unsustainable

government shutdown: when government offices and functions can no longer remain open due to lack of funding.

mandatory spending: spending on existing programs that are required by law such as Social Security and Medicare

monetize the debt: when a central bank buys government debt as it is issued (equivalent to printing money)

multiplier effect: the aggregate effect of a change in an economic variable on total output

national debt: the total amount borrowed and owed by the Federal Government

off budget expenditures: government funded programs that are exempt from the normal budgeting process because they have their own sources of funding separate from congressional appropriation

on budget expenditures: all federal expenditures that rely on general tax revenue subject to congressional approval each year

public debt: The debt that the federal government owes to those outside of the federal government.

seigniorage revenue: When a country prints money to pay for spending.

structural deficits: the portion of the deficit (or surplus) that results from tax and spending policy dictated by the president and Congress at their discretion

total debt: The total amount of debt the federal government owes, includes both public debt and debt to itself.

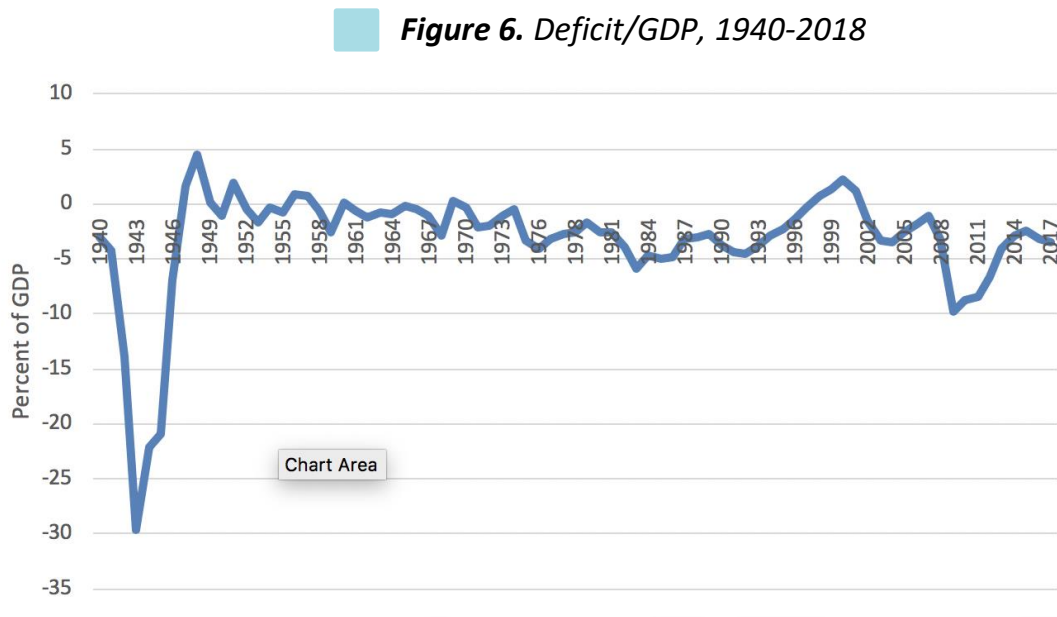
treasury bond: A bond issued by the U.S. treasury.

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DISCUSSION QUESTIONS

- 1) Many people confuse the deficit and the national debt. What is difference, and what is the actual relationship between the two?
- 2) Why was the budget deficit in 2009 so large? (See Figure 6.) Was this a revenue or an expenditure issue, or both? What happened to deficits from 2010 to 2015? Explain.



Sources: Whitehouse.gov, Table 1.2

- 3) Summarize the differences between the classical theory of deficits and the Keynesian theory of deficits. What are the policy implications of each theory?
- 4) Do you think that deficit spending can sometimes be a good thing? What would be the implications of never running a government deficit?
- 5) Explain the importance of the creation of the U.S. national debt and briefly describe its role in U.S. history. Why have some political leaders favored, and others opposed, deficits and a national debt?
- 6) In recent decades deficits seem to have become standard practice in the U.S. What events led to this happening? What led to the brief period of surpluses around 1999-2000 (refer to Figure 6), and why did the budget then go back into deficit?
- 7) What does it mean that most of the U.S. debt is owned by its own citizens? Who is buying this debt, for what reason, and are they likely to continue doing so?

- 8) What are the advantages and disadvantages of having a government debt? Does the debt pose immediate dangers to the economy? How does the answer differ for different countries such as the U.S. Greece, and Japan?
- 9) Explain how global imbalances are in part caused by the U.S. dollar being used as the world reserve currency. What are the advantages and disadvantages this gives to the U.S.?
- 10) In your opinion, is the austerity debate about economics or about politics? Explain how the austerity debate could be largely political. Make sure to include all arguments from the section.
- 11) What are the fundamental differences between the ability of the U.S. to handle the financial crisis and the European Union to handle the crisis? Why does this put extra pressure on Europe for austerity? What can we expect in the next recession?

REVIEW QUESTIONS

- 1) What is the difference between the national debt and a deficit?
- 2) What is the difference between discretionary spending and mandatory spending?
- 3) What is the difference between off budget and on budget expenditures? Provide examples of each.
- 4) What years were debt/GDP levels the highest in the United States? What years were the lowest?
- 5) What years were deficits/GDP the highest in the United States? What years were the lowest?
- 6) What is a cyclical deficit? What is a structural deficit? How are they different?
- 7) What is crowding out? How specifically does crowding out happen? Explain.
- 8) What is crowding in?
- 9) What is endogenous money? How does this relate to crowding out?
- 10) What was Hamilton's vision for the U.S. national debt? Why did he feel it was so important?
- 11) What was the opposing view of Jefferson, Adams, and Madison? How did they argue against the creation of a national debt?
- 12) What was the New Deal, and how did it relate to deficit spending?
- 13) What are the two aspects of Reaganomics?

- 14) Describe the “starve the beast” strategy. Do you think this would be an effective strategy for reducing government spending?
- 15) What are the 4 reasons that the surplus of the Clinton administration turned into a deficit in the following Bush administration?
- 16) Summarize some of the problems with government debt.
- 17) Refer to Box 1. What are the benefits of running budget deficits?
- 18) Why did Greece's bond yields get so high after 2010? When did they come back down?
- 19) What does it mean to monetize the debt?
- 20) According to Table 4, who had the highest debt/GDP ratio in 2018?
- 21) What is a global hegemon?
- 22) When did the U.S. become the global hegemon?
- 23) What is austerity? What is fiscal expansion? How are they at odds?
- 24) According to the Simpson-Bowles plan, what are the six broad ideas for cutting deficits over the next 10 years?
- 25) What are the pros and cons to a balanced budget amendment?

EXERCISES

- 1) List the percentage of each given government expenditure:

Expenditure	Percentage
Social Security	
Defense	
Non-Defense	
Medicare	
Income Security	
Medicaid	
Retirement and Disability	

- 2) What is countercyclical policy, and how can government use it to both balance the budget and combat economic recession?

- 3) Suppose country A had government debt of 12 trillion dollars, and country B had a government debt of 8 trillion dollars. Is it correct to say that country A has the worse debt problem? Why or why not?
- 4) Draw a business cycle graph and show in general what happens to interest rates at different points in the cycle. Assume that everything else in the economy is held constant.
- 5) During the 2008-2010 recession, budget deficits were very high yet interest rates were low. According to crowding out theory, interest rates should be rising as a result of high budget deficits. What other factors may affect interest rates in a recession besides a budget deficit?
- 6) True or False:
 - a) Alexander Hamilton thought that a national debt would provide aristocratic bondholders with a financial incentive for the U.S. to succeed as a nation.
 - b) James Madison was strongly in favor of repaying revolutionary war debt.
 - c) The U.S. Government almost always ran budget deficits before 1929.
 - d) In 1933, Franklin D. Roosevelt ran on a platform of budget deficits to help the economy.
 - e) George W. Bush balanced the budget during his presidential tenure (2000-2008).
 - f) President Trump's tax cuts have reduced deficits in his first two years of his presidency.
- 7) Refer to Table 2, showing surplus or deficit levels since the Great Depression, to identify the Presidential terms with the highest deficits, and also the brief periods of surplus. What do you think accounts for these variations?
- 8) Draw and label a Laffer curve. Now use the graph to explain the argument that cutting taxes can actually increase government revenue. What are some problems with this analysis?
- 9) Who was the global hegemon before the U.S.? This will require you to do some reading or internet searches outside of this module.
- 10) What are the CBO's projected debt numbers in 10 years? What about deficit numbers? What would you cut from the budget to stop this from happening?