

Objectives for Chapter 18: Fiscal Policy (This is a technical chapter and may require two class periods.)

At the end of Chapter 18, you will be able to answer the following:

1. How is the government purchases multiplier calculated? (Review) How is the *taxation multiplier* calculated? Why is it lower than the government purchases multiplier? How is the *transfers multiplier* calculated?
2. Given some gaps and marginal propensities to consume, calculate how much government purchases, taxes, or transfers should be changed.
3. Explain why an equal increase (decrease) in government purchases and net taxes (taxes minus transfers) has an expansionary (contractionary) effect.
4. What is the *balanced budget multiplier*?
5. Explain why discretionary fiscal policy has not been very effective in reducing recessions in the United States.
6. What are the “*time lags*”?
7. What is meant by “*automatic stabilization*”? What are the main automatic stabilizers?
8. What is meant by “*official budget deficit*”? by “*structural deficit*”? Why is the structural budget deficit a better measure of the **intent** of fiscal policy?
9. What does it mean that “**fiscal policy is expansionary (or contractionary)**”? How does one determine whether fiscal policy is expansionary or contractionary?
10. In what ways might budget deficits be bad for an economy? In what ways might they be good for an economy?
11. What is meant by “*crowding-out*”?
12. Explain the **relation between the budget deficits and the trade deficits**.
13. What is meant by the “*national debt*”? What is the difference between “budget deficit” and “national debt”? What is the difference between “gross national debt” and “*net national debt*”?
14. What is the difference between a *Treasury bill, a Treasury note, and a Treasury bond*?
15. What has been the **trend** of the national debt in total and in relation to GDP?
16. To whom is the national debt owed? How is the national debt financed?
17. Is it true that the burden of repaying the national debt is being passed on to our children? Why?
18. Is it true that the national debt could bring the nation into bankruptcy? Why?

Chapter 18: Fiscal Policy (latest revision September 2004)

In 1946, with World War II over and with the Great Depression only recently ended, Congress passed the **Employment Act**. This act committed the government of the United States to “promote maximum employment, production, and purchasing power”. The President was mandated to issue a report each year explaining how he will achieve these goals (this report is called **The Economic Report of the President**). A new agency, the **Council of Economic Advisers**, was created to advise the President in writing this report. Although “maximum employment” was not defined in the act, the

federal government was for the first time committed to manage the American economy in an attempt to bring about “full employment”. The role of the federal government in the American economy has been very different since the passage of this act. From that time forward, any President who failed to achieve good economic performance would be considered a failed President. “Good economic performance” requires low rates of unemployment, low rates of inflation, and high rates of economic growth. Presidents Ford, Carter, and Bush (41) were defeated in their re-election campaigns in large part because they did not achieve “good economic performance”.

The main tools available to the President and the Congress to achieve good economic performance are those of **fiscal policy**. Fiscal policy involves changes in government spending (discussed in Chapter 17) and in taxes (discussed in Chapter 18). *The difference between government spending and tax revenues determines the amount of budget deficit or budget surplus.* As we will see in this chapter, fiscal policy is of two types: *discretionary and automatic.* Discretionary fiscal policy, which involves deliberate decision-making by the government, receives most of the public’s attention. It is associated with the ideas of Keynes. But as we will see, discretionary fiscal policy has generally not been very successful in achieving good economic performance. While the public pays little attention to automatic fiscal policy, it has been the more effective of the two types.

Despite the commitment of the government to “maximum employment” in 1946, the first use of discretionary fiscal policy did not come until the early 1960s with the Presidency of John F. Kennedy, who brought into his administration the first group of economic advisers who were Keynesians. President Kennedy had been elected in large part because of the high unemployment and slow economic growth that existed in 1960. As we shall see, his discretionary fiscal policy involved reducing taxes in order to reduce unemployment and increase economic growth rates. Reducing tax revenues also meant increasing budget deficits. For the first time, these budget deficits were seen as an acceptable means to lower unemployment. The approach to fiscal policy that began in the early 1960s has been used consistently since that time. So for example, in 2001, facing rising unemployment and slow economic growth, President George W. Bush also proposed to reduce taxes and to accept the resulting budget deficits.

In this chapter, we shall first examine **discretionary fiscal policy**. We will explain how it operates, give an example, and then explain why it has generally not been very successful in achieving good economic performance. Second, we will examine **automatic fiscal policy**. We will explain how it operates and the effects it has had on overall economic performance. Third, we shall examine the effects of **budget deficits and surpluses**. Finally, we will examine the result of all of the budget deficits --- called the **national debt**. In this part of the course, we are considering the period 1940 to 1970. The ideas discussed in this chapter were born during this period. But since these ideas have had great effects in the period since 1970, we shall also discuss examples from the more recent period.

1. Discretionary Fiscal Policy

“**Discretion**” refers to deliberate choice on the part of government agencies. One such choice involves the amount of discretionary government spending --- purchases and

transfers. Let us begin with government purchases and first review a concept we have already learned --- **the government purchases multiplier**. In Chapter 13, government purchases were deliberately increased by \$1,000. The marginal propensity to consume in that example was 0.8. What we discovered was that Real GDP increased by \$5,000, not by \$1,000. How did this happen? In Chapter 13, we assumed that the government spent the additional \$1000 buying computers from Dell. This gave Dell \$1000 of additional income. That additional income went to the company's workers, owners, and suppliers. What did they do with their additional \$1000 of income? With a marginal propensity to consume of 0.8, they would increase their consumption by \$800 (.8 times \$1000). We called this **induced consumption**. The other \$200 of additional income was saved. The workers, owners, and suppliers of Dell spent an additional \$800 buying goods at Sears. This provided an additional \$800 of income for the workers, owners, and suppliers of Sears. What did they do with this additional income? The answer is that they spent \$640 of it (0.8 times \$640) and saved the other \$160. So we have another \$640 of **induced consumption**. The workers, owners, and suppliers of Sears spent \$640 of additional income buying food at Vons. This gave the workers, owners, and suppliers of Vons an additional \$640 of income. What did they do with this additional income? The answer is that they spent an additional \$512 (0.8 times \$640) and saved the other \$128. So we have yet another \$512 of **induced consumption**. In each succeeding round, consumers spent 80% of the addition to their income and saved the rest. When all rounds were completed, total spending rose by \$5000.

Let us summarize.	+1000 Purchases by the Government
	+ 800 Induced Consumption by Dell
	+ 640 Induced Consumption by Sears
	+ 512 Induced Consumption by Vons

	= +5000 Increase in Equilibrium Real GDP

We know the sum was \$5,000 because we knew the multiplier formula.

$$\text{Multiplier} = \frac{1}{1 - \text{Marginal Propensity to Consume}}$$

(Take the marginal propensity to consume, subtract it from 1, and then divide the result into 1. So take 0.8, subtract it from 1, and the result is 0.2 (the marginal propensity to save). Take 0.2 and divide it into 1 and the result is 5.)

Now let us examine a second discretionary fiscal policy --- reducing taxes.

Assume that taxes are reduced by the same \$1,000. Those who receive that tax reduction will now have \$1,000 more in disposable income. What will they do with this \$1,000? With a marginal propensity to consume of 0.8, they would increase their consumption by \$800 (.8 times \$1000)-- **induced consumption**. They would save the other \$200 of their additional disposable income. Assume they spent the additional \$800 buying goods at Sears. This provided an additional \$800 of income for the workers, owners, and suppliers of Sears. What did they do with this additional income? The answer is that they spent \$640 of it (0.8 times \$640) -- **induced consumption** -- and saved the other

\$160. From this point on, the story is the same as it was for government purchases. Let us summarize.

+ 800 **Induced Consumption** by Those Receiving the Tax Reduction
 + 640 **Induced Consumption** by Sears
 + 512 **Induced Consumption** by Vons

What does this total? Compare it to the numbers for government purchases. You can see that all of the numbers are the same except for the first \$1,000. Therefore, the sum must be **\$4,000** (\$1,000 less than for government purchases). Therefore, we have a different multiplier. We call it the tax multiplier. *The tax multiplier is a number that multiplies a change in taxes in order to calculate the change in Real GDP.* In this case the tax multiplier is equal to 4 (\$1,000 times 4 = \$4,000).

$$\begin{array}{ccc} \text{Change in Taxes} & \times & \text{Tax Multiplier} & = & \text{Change in Real GDP} \\ (\$1,000) & & (4) & & (\$4,000) \end{array}$$

To calculate the tax multiplier, there is a new formula. As with the government purchases multiplier, it is best to just remember it. The denominator is the same as before but the numerator is different.

$$\text{Tax Multiplier} = \frac{\text{Marginal Propensity to Consume}}{1 - \text{Marginal Propensity to Consume}}$$

(Take the marginal propensity to consume, subtract it from 1, and then divide it into the marginal propensity to consume. Since the marginal propensity to consume is equal to 0.8, the calculation becomes:

$$\frac{0.8}{1-0.8} = \frac{0.8}{0.2} = 4 \quad \text{OR} \quad \frac{4/5}{1-4/5} = \frac{4/5}{1/5} = 4$$

Test Your Understanding

What is the tax multiplier if the marginal propensity to consume is 0.75? 0.5? 0.9?

Why is the tax multiplier lower than the government purchases multiplier?

Examine the two columns of numbers. When the government purchases \$1,000 worth of goods, all \$1,000 is spent. In this case, all \$1,000 is spent to buy computers from Dell. But when the government lowers taxes by \$1,000, not all of the \$1,000 is spent. In fact, only \$800 is spent (0.8 times \$1,000). The rest of the \$1,000 (\$200) is saved. **If government purchases, every dollar is spent to buy goods or services. If government reduces taxes, only part of that money is spent to buy goods and services. Therefore, government purchases have a greater multiplier effect than does reducing taxes.**

To see if this point is understood, **consider the third discretionary fiscal policy --- changing transfers.** Transfers involve the government taking income from one person and transferring it to another person. The government does not do the spending itself.

The largest government transfer program is Social Security. Assume that transfers are increased by the same \$1,000. Will Real GDP ultimately rise by \$5,000 or by \$4,000? The answer is \$4,000. *Transfers have the same effect as taxes.* The transfers multiplier, like the tax multiplier, is equal to 4. If the government raises transfers by \$1,000, some people will have \$1,000 more of disposable income. What will they do with this \$1,000? The answer is that they will spend \$800 of it (0.8 times \$1,000) and save the other \$200. Again, not all of the \$1,000 is spent. *Government purchases have a larger effect, dollar for dollar, than do taxes or transfers.*

In Chapter 13, it was noted that the government purchases multiplier in reality is lower than is implied by the formula. In fact, the real government purchases multiplier is estimated to be about 2.0. The same is true for the tax multiplier and the transfers multiplier, and for the same reasons. These are usually estimated to be about 1.0.

Test Your Understanding

1. Assume that equilibrium Real GDP will be \$100,000. Potential Real GDP will be \$140,000. The marginal propensity to consume is $4/5$.

Government purchases should _____ (increase or decrease?) by \$ _____

OR Taxes should _____ (increase or decrease?) by \$ _____

OR Transfers should _____ (increase or decrease?) by \$ _____

2. Assume that Equilibrium Real GDP and Potential Real GDP are both equal to \$10,000. The marginal propensity to consume is $9/10$. Then, taxes are lowered by \$1,000. To pay for this, government purchases are also lowered by \$1,000.

The new Equilibrium real GDP is \$ _____.

There is a/an _____ gap equal to \$ _____.

The multiplier here is called the *balanced budget multiplier*. *It is a number that multiplies an equal change in both government purchases and taxes.* You can see in this case that the balanced budget multiplier is equal to 1.

3. What are your answers to question #2 if, when taxes were lowered by \$1,000, transfers had also been lowered by \$1,000 (instead of government purchases)?

As mentioned, the Kennedy administration was the first to use this approach to policy making. Upon entering office in 1961, the President's economic advisers estimated the equilibrium Real GDP for the next three years. They then estimated the Potential Real GDP. In that day, the term Potential Real GDP was not used --- in fact, they created the term. *Potential Real GDP is the amount of production necessary to have full-employment.* The advisers to President Kennedy had to define and estimate full-employment. In doing so, they created the terms "frictional", "seasonal", "cyclical", and "structural" unemployment that you first learned in Chapter 3. *They defined "full employment" as existing when everyone unemployed was of the frictional, seasonal, or structural type (no one was of the cyclical type),* and estimated this as occurring if the unemployment rate is 4%. Potential Real GDP was then the amount of production necessary to have a rate of unemployment of 4%. Using these concepts, the advisers estimated that there would be a recessionary gap of approximately \$30 billion for 1962, 1963, and 1964. This means that equilibrium Real GDP would fall \$30 billion below the Potential Real GDP in each of these years. *Being Keynesians, they did not believe that this recessionary gap would be eliminated by itself. Discretionary fiscal policy was needed.* (Review the argument in Chapter 11.) As you can see from your calculations,

any of the fiscal policy choices would work. The President chose to reduce taxes. The advisers then had to estimate the **tax multiplier**. They estimated that it was 2.3. Therefore, taxes needed to be lowered by an amount that, when multiplied by 2.3, would cause the equilibrium Real GDP to rise by \$30 billion. That amount is \$13 billion (\$13 billion times 2.3 equals \$30 billion). So the President proposed a reduction in taxes of \$13 billion -- \$10 billion for individuals and \$3 billion for businesses.

President Kennedy's tax reduction was not passed until 1964 – several months after his assassination. His advisers had predicted that the unemployment rate would fall to 4% as a result of the tax reduction. By June of 1965, the unemployment rate had fallen to 4.1%. This is an amazingly good result considering that this was the first attempt of this kind. However, no attempt to use fiscal policy has ever succeeded as well as this experience. When we compare this tax change to later tax changes, keep in mind the reasoning behind this one. *Lowering taxes was supposed to increase disposable income. Higher disposable income would increase consumer spending. Lower business taxes would increase business investment spending. Greater consumer and business investment spending would have a multiplier effect, inducing further rounds of spending. As spending increased, businesses would produce more goods, raising production (Real GDP). As they produced more goods, they would need to hire more workers. So unemployment would fall until it was at full employment (4%).* Such was the reasoning.

As we have mentioned, **discretionary fiscal policy has not played much of a role in achieving good economic performance**. The Kennedy tax cut of 1964 may be one of the few examples of successful discretionary fiscal policy. The problem comes from what are called *“time lags”*. Generally, recessions develop quickly and are not expected. It takes time to be certain that there is indeed a recession. For example, the recession that is now officially designated as having begun in March of 2001 was not fully recognized as a recession until October of 2001. And most recessions do not last for much over one year. The process of changing tax laws or of changing discretionary government spending typically takes six to nine months. If government spending is to be increased, people will argue about what areas should be increased. If taxes are to be reduced, people will argue about whose taxes should be reduced. By the time the government spending is actually raised or the taxes are actually reduced, the recession is likely to be over. **In the United States, our knowledge is lacking and our institutions are not appropriate for us to utilize discretionary fiscal policy in a timely manner.** Therefore, it has been fortunate that we have automatic fiscal policy.

2. Automatic Fiscal Policy

Generally, since the end of World War II, the recessions experienced in the United States have not been as severe as those that had existed before 1940. Certainly nothing like the Great Depression has occurred. Part of the reason for this fortunate occurrence has been the existence of the *“automatic stabilizers”*. Remember that we want actual (equilibrium) Real GDP to be equal to the Potential Real GDP. *Something is stabilizing if it increases actual Real GDP when it is too low (that is, when there is a recessionary gap and actual Real GDP is below the Potential Real GDP) and decreases actual Real*

GDP when it is too high (that is, when there is an inflationary gap and actual Real GDP is above the Potential Real GDP). And something that does this without the need for government action is called an ***“automatic stabilizer”***. Certain aspects of fiscal policy tend to act as automatic stabilizers. Remember that fiscal policy involves government spending and taxes. Let us consider each in turn.

Certain types of government spending act as automatic stabilizers. Those types are examples of what are called ***“entitlements”***. These are a large part of the mandatory government spending discussed in the previous chapter. ***In an entitlement program, the government does not specify an amount it will spend. Instead, the government specifies who is entitled to certain benefits and how much that person is entitled to.*** Three examples of entitlements that are automatic stabilizers are **unemployment benefits, welfare spending, and Social Security spending.**

(1) To be entitled to unemployment benefits, one must be unemployed, must have been laid-off (not fired for cause or quit), must have worked on the job for at least a year, and must be willing to accept a suitable job. If one is entitled, one gets an average of about \$350 per week for 26 weeks. (Recently, this has been extended to 39 weeks in states with high unemployment rates.) What happens to spending on unemployment benefits when there is a recessionary gap? The answer is that it increases. ***During a period of recessionary gap, more people become unemployed and therefore become entitled to the unemployment benefits. This automatic increase in government spending is stabilizing*** --- it helps to increase Real GDP at a time that it is too low by giving people a greater ability to buy goods and services.

(2) To be entitled to welfare spending (TANF), one must have children, must have an income below a certain amount, and must be either seeking work or training for work. In all states, female-heads of families are entitled if they meet the other conditions. In some states, including California, two-parent families can be entitled if the main income earner becomes unemployed. What happens to spending on welfare when there is a recessionary gap? The answer is that it rises. ***During a period in which there is a recessionary gap, more people become unemployed. As their incomes decline, they are more likely to become entitled to the welfare spending. This automatic increase in government spending is also stabilizing*** --- it also helps to increase Real GDP at a time it is too low by giving people a greater ability to buy goods and services.

(3) What it takes to be entitled to Social Security was covered in Chapter 16. Imagine that one is at least age 62 and still working. Now there is a recession and that person loses the job. Instead of starting over someplace else, the person decides to retire. What happens to spending for Social Security? The answer is that it rises. ***Again, this automatic increase in government spending is stabilizing --- it gives people a greater ability to buy goods and services at a time when that is needed.*** A “ballpark figure” is that because of these three entitlement programs, ***each one percentage point increase in the unemployment rate (say from 4% to 5%) will increase government spending by about \$5 billion automatically.***

Income taxes also act as an automatic stabilizer. In fact, taxes are the most important automatic stabilizer. Assume there is a recessionary gap. Production has fallen and unemployment has risen. As a result, people’s incomes have fallen. What will happen to the tax payments people will make to the government? With lower incomes,

people will pay less in taxes. But remember that the income tax is progressive. *When incomes fall, not only do people pay tax on lower income, they pay a lower percent of a lower income. So, tax revenues fall proportionally more than incomes fall. The automatic fall in taxes give consumers greater disposable income than they would otherwise have. With greater disposable income, consumers will spend more. Greater consumer spending is stabilizing;* it is just what is needed to help increase production during a period of recessionary gap. A “ballpark figure” is that *each one-percentage point increase in the unemployment rate will decrease tax revenues approximately \$25 billion.*

Test Your Understanding

1. The changes to the tax system initiated by President Reagan in 1981 and again in 1986 were discussed in the previous chapter. Review these changes. It is estimated that **the income tax provides only half the amount of automatic stabilization as it did in 1980.** Explain why the changes that were made in 1981 and especially in 1986 reduced the extent of automatic stabilization of the income tax.

Putting this together, we can see that *if the unemployment rate rises by one percentage point, say from 4% to 5%, the budget deficit will increase by about \$30 billion.* This is determined because government spending will rise about \$5 billion and tax revenues will fall about \$25 billion. The \$30 billion is a “ballpark figure” and is not meant to be accurate. But it should give us a reasonable estimate. Is this particular budget deficit “good” or “bad”? This budget deficit is “good”. *This budget deficit increases consumer spending and therefore increases production at a time when production is too low to provide full employment. Because of this budget deficit, fewer people are unemployed and people’s incomes are higher than they would have been had there been no budget deficit.* Where does the federal government get the money to pay for this budget deficit? It borrows from business, banks, and individuals. Remember that the government in this example is borrowing money that no one else wants to spend. Consumers are choosing to save this money and not spend it. Banks would like to lend the money to businesses, but the businesses do not want to borrow it. (If they did borrow it, they would not have been a recessionary gap.) The money borrowed by the government is given to unemployed workers as unemployment benefits, to low income people as welfare benefits, to older people as Social Security benefits, and to those who have had their incomes decline as a tax reduction. These people spend this money, reducing the decline in production.

Because this deficit is not a bad thing and because this deficit was not caused by any deliberate government action, **the actual budget deficit does not give us a good measure of the effect of government fiscal policy on the economy.** A budget deficit can be caused by government actions. Or a budget deficit can be caused by rising unemployment. The first of these may be harmful to the economy while the second may not be. Remember that the budget deficit of the federal government needs to be evaluated differently than the budget deficit of an individual. If I have a budget deficit (that is, I spend more than my income), I make up the difference by borrowing. This could become a problem for me. If I borrow a large enough amount, it could present a problem for my bank. But it would never present a problem for the American economy. I am simply too

insignificant. On the other hand, **we need to evaluate the federal government’s budget deficit specifically by whether or not it causes a problem for the American economy.**

To do so, we need to calculate what is called the **“structural budget deficit”**. **For each year, we ask what the federal budget deficit or surplus would have been if the country had had full employment (that is, an unemployment rate of 4%).** For example, assume that the actual budget deficit was \$30 billion at a time when the actual unemployment rate was 5%. Using our “ballpark figure”, we know that each one- percentage point increase in the unemployment rate causes the budget deficit to rise by \$30 billion. The structural budget deficit is therefore zero (\$30 billion minus \$30 billion). The entire \$30 billion budget deficit was caused by the fact that unemployment was actually 5%. That is, the entire \$30 billion budget deficit was caused by the automatic stabilizers (\$5 billion in additional government spending on unemployment benefits, welfare, and Social Security and \$25 billion less in tax revenues). If the unemployment rate had been 4%, the actual budget deficit would have been \$30 billion less – or zero.

The structural budget deficit is always calculated at the same unemployment rate. Therefore, changes in the unemployment rate cannot cause changes in the structural budget deficit. **The only reason that the structural budget deficit can change from year to year is that the federal government took some specific action to change government spending or tax revenues. Therefore, the structural budget deficit or surplus (not the actual budget deficit or surplus) measures the intent of fiscal policy.** If the structural budget deficit rises from year to year (or the structural budget surplus falls), we say that fiscal policy has been **expansionary** (expanding aggregate demand and therefore expanding Real GDP). If the structural budget deficit falls from year to year (or the structural budget surplus rises), we say that fiscal policy has been **contractionary** (contracting aggregate demand and therefore contracting Real GDP).

Test Your Understanding

1. Year (Fiscal)	Deficit (Billions)	Unemployment Rate	Structural Budget Deficit
1960	- 0.3	5.5%	
1961	3.3	6.7%	
1962	7.1	5.5%	
1963	4.8	5.7%	
1964	5.9	5.2%	
1965	1.4	4.5%	
1966	3.7	3.8%	
1967	8.6	3.8%	
1968	25.2	3.6%	
1969	-3.2	3.5%	
1970	2.8	4.9%	
1971	23.0	5.9%	
1972	23.4	5.6%	
1973	14.9	4.9%	
1974	6.1	5.6%	
1975	53.2	8.5%	
1976	73.7	7.7%	
1977	53.7	7.1%	
1978	59.2	6.1%	
1979	40.7	5.8%	

1980	73.8	7.1%
1981	79.0	7.6%
1982	128.0	9.7%
1983	207.8	9.6%
1984	185.4	7.5%
1985	212.3	7.2%
1986	221.2	7.0%
1987	149.8	6.2%
1988	155.2	5.5%
1989	152.5	5.3%

- = surplus rate taken in December

- Based on the **official budget deficit**, in what years was fiscal policy expansionary and in what years was it contractionary?
- Based on the **structural budget deficit**, in what years was fiscal policy expansionary and in what years was it contractionary? Although this is not likely to be correct, calculate the structural budget deficit by assuming that full employment was 4% throughout the entire period and that each rise in the unemployment rate increases the budget deficit by \$30 billion.
- Examine the data. In the years that fiscal policy was expansionary, did unemployment fall in the following years? And in the years that fiscal policy was contractionary, did unemployment rise in the following years?

<u>Fiscal Year</u>	<u>Official Budget Deficit</u> (billions)	<u>Unemployment Rate</u>
1992	\$290	7.5%
1993	\$255	6.9%
1994	\$203	6.1%
1995	\$164	5.6%
1996	\$107	5.4%
1997	\$ 22	4.9%
1998	-\$ 69 (Surplus)	4.5%
1999	-\$125 (Surplus)	4.2%
2000	-\$236 (Surplus)	4.0%
2001	-\$127 (Surplus)	4.8%

Assuming a natural rate of unemployment of 4.0%, what is the **structural (full-employment) budget deficit** for:

1992	_____	1997	_____
1993	_____	1998	_____
1994	_____	1999	_____
1995	_____	2000	_____
1996	_____	2001	_____

Was fiscal policy **expansionary or contractionary** from 1992 to 2001? **Why?**

President Clinton claims that his proposal (passed in 1993) to reduce government spending and raise taxes is the reason for the decline in the official budget deficit from 1993 to 2000.

Republicans claim that the decline in the official budget deficit is totally the result of an improving economy. **Who is right?**

3. In FY2001, the federal government ran a surplus of \$127 billion. In FY2002, the federal government ran a deficit of \$106 billion. This is a shift of \$233 billion in one year. In 2001, the unemployment rate was 4.8% and in 2002 the unemployment rate was 5.6% (assume). How much of the shift from a budget surplus to a budget deficit was caused by the recession and the rise in unemployment? How much of the shift was caused by discretionary fiscal policy? What were these discretionary fiscal policies?

3. The Effects of Budget Deficits and Surpluses

We know that the actual budget deficits may be good or bad for an economy, depending on whether the economy is experiencing recession or not. But most economists argue that structural budget deficits are bad for an economy. Let us examine some of the economic reasons that have been given for this argument. **First, a weak argument made for many years was that budget deficits are bad because they can cause inflation.** The argument makes sense: increasing government spending or decreasing taxes both act to increase aggregate demand (spending). If there is a recessionary gap (so that spending is insufficient to buy all of the goods and services that can be produced if there is full employment), the increase in aggregate demand is desirable. But if no recessionary gap exists, the increase in spending can create inflation. **The period from the early 1980s through the middle 1990s was the period of the highest budget deficits. Yet, this was also a period of very low rates of inflation.** So while the argument that budget deficits can cause inflation is logical, it seems there are other, more powerful factors in determining rates of inflation.

Second, the best argument that structural budget deficits are bad for an economy is the argument that these budget deficits decrease the rate of economic growth. When the government incurs a budget deficit, it pays for this deficit by borrowing. As we will see, it borrows mainly from American individuals, businesses, and banks. Because the government borrows a large amount, it causes the **interest rates to rise.** (The interest rate is the price of borrowing money. The government is adding to the demand to borrow money. Greater demand causes the price to rise.) We know the higher interest rates will cause **business investment spending to fall.** Business investment spending is the buying of capital goods by businesses, goods that would be used to increase production. The government is borrowing the money, not the private businesses. ***The businesses would have used the money to buy capital goods that would have been used to increase production. Government does not use the money to buy goods that would increase production. Therefore, a possible growth in production does not occur.*** The standard of living grows slower than it would have grown had the businesses borrowed the money instead of the government. This phenomenon has a name: it is called **“crowding out”**. The government effectively crowds out the businesses from the borrowing of money. It is hard to measure how great this effect has been. But there is no doubt that the United States would be a significantly richer country today if the budget deficits of 1954 to 1998 had not been incurred.

Third, a parallel argument that structural budget deficits are bad for the economy involves international trade. As we just saw, the existence of a budget deficit causes interest rates to rise. And as we learned much earlier, a rise in interest rates in the United States causes the American dollar to appreciate. (A rise of interest rates in the United States decreases the demand for foreign money and increases the supply of foreign money, as both Americans and foreigners desire to lend in the United States. The price of foreign money falls; that is, the dollar appreciates.) ***When the American dollar appreciates, American exports decrease and American imports increase.*** The rise of interest rates in the United States in the early 1980s was the cause of the beginning of the American **trade deficit**. The high budget deficits during that time were one cause of the rise in interest rates that occurred.

In summary, although budget deficits can be desirable during times of recession, they can be quite harmful at other times. They can add to the rate of inflation. More importantly, they cause crowding out and therefore reduce the rate of growth of overall production. And they can increase the American trade deficit and, in the process, increase the debt that Americans owe to foreigners. In FY2002, budget deficits re-emerged after five years of budget surpluses. Since 2002 was a year in which there was a recessionary gap, these budget deficits may be helpful. But these budget deficits are expected to continue indefinitely. After the economy is fully recovered, they could be a cause for concern.

4. The National Debt

Test Your Understanding

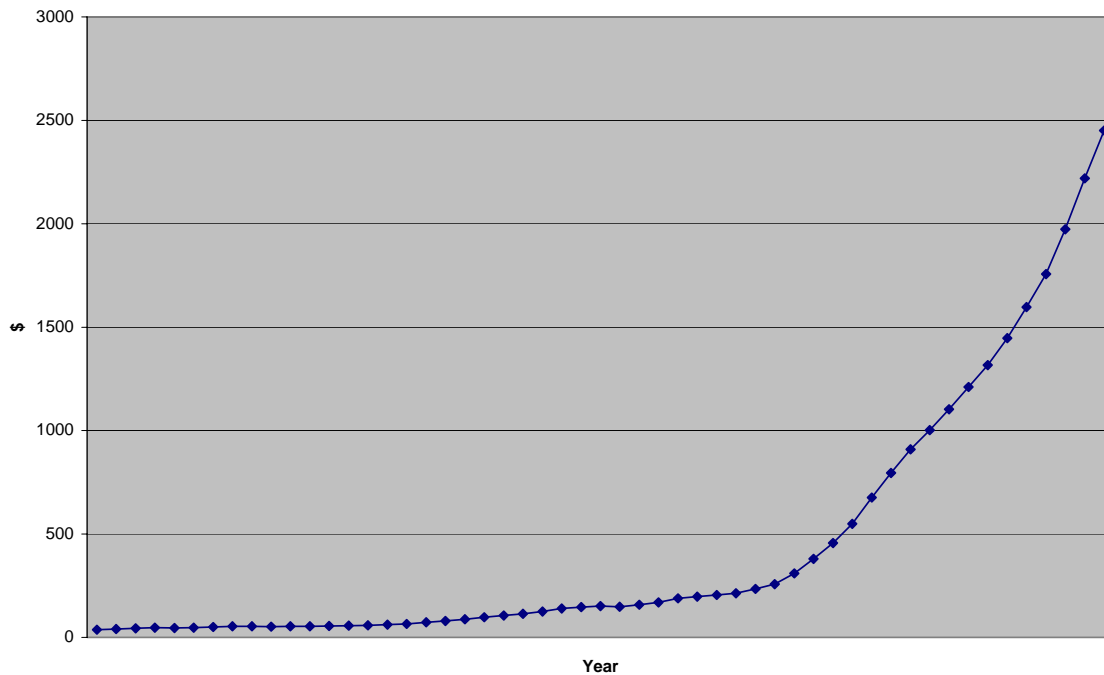
Before you read this section, decide whether you believe the following statements to be true or false. After you read this section, come back to these questions. How have your answers changed?

1. When the federal government has a budget deficit, the national debt rises.
2. The National Debt is higher today than ever before.
3. The National Debt as a Percent of GDP is higher today than ever before.
4. In the near future, the national debt will be repaid.
5. The national debt passes a large burden on to our children and grandchildren.
6. The national debt will force the U.S. to declare bankruptcy.

The budget deficits that have been incurred are responsible for what is called the **“national debt”**. But the two terms should not be confused. *The national debt is the accumulation of all of the borrowing done by the federal government. It is the total of all of the government budget deficits that have ever been incurred. The budget deficit is that year’s addition to the national debt.* For FY2004, the gross national debt was estimated to grow to \$7,321 billion. This means that the Treasury Department of the federal government will owe \$7,321 billion by October of 2004. Much of this debt is typically in three forms: bills, notes, or bonds. *Bills are government debt that comes due in one year or less. Notes are government debt that comes due in more than one year but usually less than ten years. Bonds are government debt that comes due in ten years or more.*

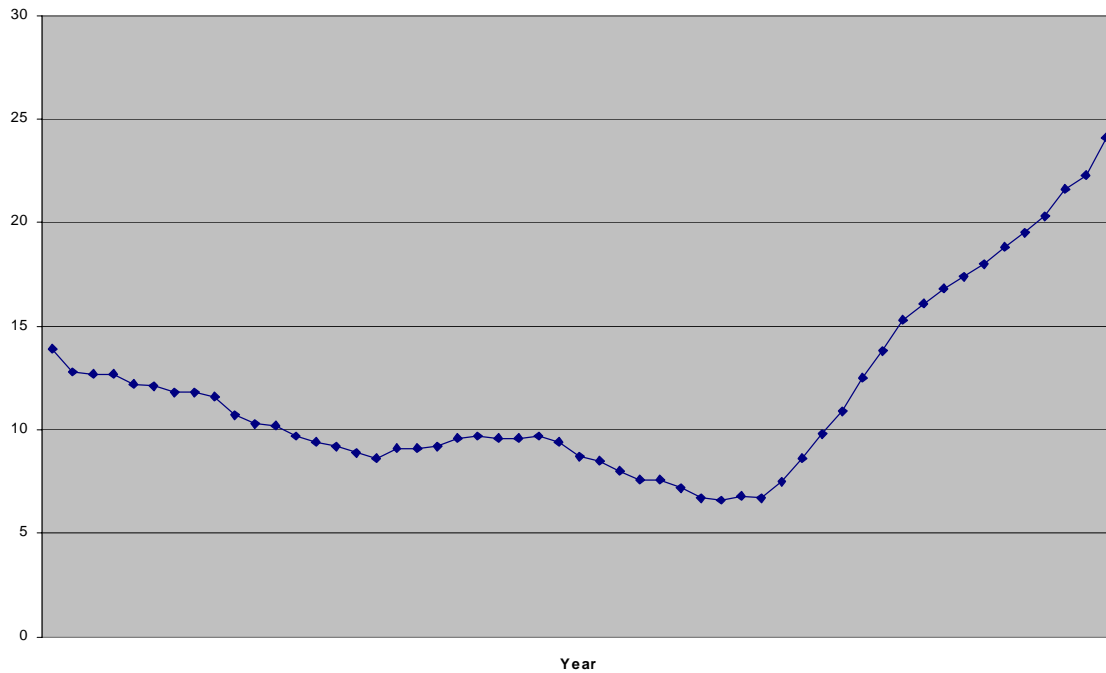
Of this total debt of the Treasury Department of the federal government, \$3,155 billion (43%) is held by other government agencies. Most of this \$3,320 billion is held by the Social Security Administration or by the Federal Reserve System. The reason the holding of government debt by the Social Security Administration was discussed in Chapter 16. The reason for the holding of government debt by the Federal Reserve System will be discussed in a later chapter. One government agency owing another government agency is no different than my left hand owing my right hand. They are both part of me. So this debt has no real effects on the economy. The \$4,166 billion that is left (\$7,321 minus \$3,155) is called the *net national debt*. The chart below shows the growth of the net national debt over time. Notice that the great growth in the debt occurred after 1980.

Net National Debt 1950-2001



Is a gross national debt of \$7,321 billion (or a net national debt of \$4,166 billion) expensive? Of course, this seems like a tremendous amount of money to you and me. But the question is similar to my saying: “I have a debt of \$1 million”. Is this expensive? To answer this, you have to know who I am. If I have a modest income, a debt of \$1 million would be outrageous. But if I were a billionaire, a debt of \$1 million would seem very small. So it is for the United States. **We need to compare the net national debt to the national income in order to evaluate the size of the debt.** The chart below shows the net national debt as a percent of GDP. Notice that this fraction fell until 1980. In fact, the percent that existed in 1945 was higher than we have ever experienced since. *From 1945 to 1980, the national debt was growing but the GDP was growing faster. After 1980, this situation reversed.* The net national debt as a percent of GDP rose; the national debt was rising faster than the GDP was rising. The percent is now higher than it was in 1950.

Net National Debt as a Percent of GDP 1950-2001



If this is the debt of the Treasury Department of the federal government, **to whom is this debt owed?** As of June of 2001, the net national debt was held in the following percentages:

American Banks and Other Financial Institutions.	7.1%
American Individuals as U.S. Savings Bonds	6.8
American Private Pension Funds	4.7
State and Local Government Pension Funds	7.0
American Insurance Companies	3.4
American Mutual Funds	12.9
State and Local Governments	8.0
Foreign and International	42.9
Other Investors	7.2

Notice that **nearly half of the privately held debt is owed to foreigners.** (*But this is only 25% of the total debt*, as the rest is owed by the Treasury Department of the federal government to other federal government agencies.) The rest of the privately held debt is owed to various groups of Americans.

Test Your Understanding

Go to the National Debt link on my web site:

1. What was the federal (national) debt in the most recent year?
 What was the federal (national) debt in 1980?
 What was the federal (national) debt in 1946?
2. What percent of the total federal (national) debt has occurred since 1980?
 (You need to calculate this yourself.)

3. Fill in the following table for debt as a percent of GDP (right side of the on-screen table):

Year	Total	Held by the Federal Government
1946		
1970		
1980		
Most Recent Year		

The debt of the federal government is different from the debt of a private individual. If you or I incur a debt, we will ultimately have to pay it back (or it will be paid from our estates). But this is not true for the government. **Government has two advantages that you and I do not have. First, people have unlimited faith in it and see no risk in lending to it. Second, the debt of the government is marketable.** If one lends to the government and then wants one's money back, all one has to do is sell the debt. There is an organized market to do this. Suppose that the government borrows from me for one year. When the year is concluded, where does the government get the money to pay me? The answer is that it borrows. **Most commonly, it borrows from me to pay me. This is called "rolling over" the debt.** Lending to the government is a good way of saving --- it pays decent interest, it is risk free, and the debt can be sold (it is liquid). So, if I wish to continue saving when the debt is due, I simply buy another bill or note or bond. In doing so, I am lending the government the money it needs to pay me back. **What if I do not want to "roll over" my debt? In that case, the government simply borrows from another person and uses the money to pay me.** As long as people are willing to lend to the government, the government can do this indefinitely. The debt simply accumulates. It need never be paid off. Of course, since the government must pay interest on the debt, the amount of the debt would grow and grow. (The British once sold what were called "consols". These were government borrowings that would never be paid back. They paid interest at a given rate forever. People would buy them because of the interest. If one then wanted the money back, one would sell them to other people in an organized trading market.)

Does the national debt impose a burden on future generations, your children and grandchildren? To some extent, this involves confusion between the concepts of the national debt and the budget deficit. **The budget deficit is this year's addition to the national debt; it definitely would impose a burden on future generations through the crowding out effect.** The budget deficit forces the government to borrow, raising interest rates and therefore decreasing business investment spending. The businesses would have bought capital goods. The capital goods would have increased the ability to produce goods and services. The government does not buy capital goods. Therefore, there are fewer goods and services produced in future generations than there could have been.

But the part of the national debt that was incurred in the past is another matter. When World War II was fought (1941 to 1945), it was paid for largely by government borrowing. The people who paid for the war are those who lived through it. They paid for the war by sacrificing whatever they would have bought to lend money to the government to fight the war. You and I today are not paying for World War II. It is true that the debt that was incurred to fight the war is still in existence. **But the asset that is the other side of that debt also exists. We have inherited the debt and we have also inherited the asset. In effect, we owe this past debt to ourselves.** And so it will be

with today's national debt and future generations. They will owe it to themselves as well. (Of course almost 25% of the national debt is owed to foreigners. This is a real debt and will have to be paid. But this debt is more likely to be a burden on us and not on future generations, as this debt may need to be paid relatively soon.)

While, as Americans, we owe the past portion of the national debt to ourselves, **the Americans who own the debt and the Americans who pay the taxes are not the same individuals**. If you do not own any debt of the federal government, the existence of the debt does place a burden on you. To pay the interest, the government must either have higher taxes or spend less on other government spending programs. In either case, you sacrifice because of the existence of the national debt. On the other hand, if you own a large amount of the debt, you benefit. You gain a good interest rate with a very safe form of saving. **Since those who hold a large amount of the debt are likely to be richer people, the existence of the debt may shift wealth away from the middle and lower classes and in favor of the rich.**

One last argument about the national debt is less debatable. Sometimes one hears the argument that the national debt is driving the United States into bankruptcy. This, of course, is nonsense. First, in relation to GDP, the national debt is not very high. Most individuals who own a home have greater debt in relation to their income than does the United States. Second, the United States government has some powers that an individual does not. It can borrow indefinitely because people have faith that its debts will be paid back. It can tax. (Imagine if you could borrow and then pay back your debt by taking money from your neighbor.) And it can create money (but, of course, this would cause inflation). While several countries have faced the equivalent of bankruptcy when they could not make payments on loans made from other countries, the United States does not currently face this problem.

Test Your Understanding

From 1998 to 2001, the government had a budget surplus. During the 2000 Presidential election, the projection was that this surplus would continue to exist at least through 2010. Both Presidential candidates proposed that at least part of this surplus be used to pay off the net national debt. President Bush's original proposal assumed that the net national debt would be paid off by around 2012. What advantages can you see in using the budget surplus to pay off the net national debt?

5. Conclusion

The expectation that the federal government is responsible for the performance of the economy and the resulting development of fiscal policy occurred during the period following World War II. In this chapter, we have evaluated discretionary fiscal policy and found that it has not been very effective. We have also evaluated the automatic stabilizers. These have definitely reduced the severity of the recessions that have been experienced. Finally, the postwar period has been one in which the federal government experienced budget deficits most of the time. We have evaluated the measurement of these budget deficits or surpluses and examined the effects they might have on the economy. We have also evaluated the measure of the national debt (the accumulation of

all of the budget deficits over time) and examined the effects that it might have on the economy. This discussion of fiscal policy will be important as we examine the more recent periods.

Practice Quiz for Chapter 18

- If the marginal propensity to consume is 0.9 (9/10) and the government **decreases taxes** by \$10 billion, Equilibrium Real GDP will
 - rise by \$ 9 billion
 - rise by \$10 billion
 - rise by \$ 90 billion
 - rise by \$100 billion
- In question 1, if the government **increases transfers** by the same \$10 billion, Equilibrium Real GDP will
 - rise by \$ 9 billion
 - rise by \$10 billion
 - rise by \$ 90 billion
 - rise by \$100 billion
- Assume that equilibrium real GDP is \$5,000. The government decides to **raise government purchases** by \$200. To offset this, the government **raises taxes** by \$200. The marginal propensity to consume is 2/3. As a result of both changes, the new equilibrium real GDP is:
 - \$4,800
 - \$5,000
 - \$5,133
 - \$5,200
 - \$6,400
- Which of the following is **NOT** an **automatic stabilizer**?
 - unemployment benefits
 - defense spending
 - the progressive income tax
 - welfare spending
- If the unemployment rate is 6%, the natural rate of unemployment is 4%, and the official budget deficit is \$90 billion, what is the **structural budget deficit** equal to?
 - \$30 billion
 - \$60 billion
 - \$90 billion
 - \$120 billion
- We know that **fiscal policy is contractionary** if the:
 - official budget deficit is increasing
 - official budget deficit is decreasing
 - structural budget deficit is increasing
 - structural budget deficit is decreasing
- If the federal government has a budget deficit, it borrows. Interest rates _____. Business investment spending _____. (Answer rises or falls)
 - rise; rises
 - rise; falls
 - fall; rises
 - fall; falls
- It is argued that structural budget deficits might be bad for an economy because
 - they can add to inflationary pressures
 - they can cause crowding out
 - they can appreciate the dollar, worsening the trade deficit
 - all of the above
- The **net national debt** is
 - the gross national debt minus depreciation
 - the gross national debt minus the part held by federal government agencies
 - the gross national debt minus the part held by foreigners
 - the gross national debt minus the part caused by high unemployment
- Which of the following statements is true about the **gross national debt**?
 - It has been growing in total since 1980
 - It fell as a percent of GDP from 1980 to 1999
 - It is owed mainly to foreign governments
 - It is causing the United States to be on the verge on bankruptcy