Fiscal Policy 15

→ RECESSIONARY GAP
→ CROWDING OUT
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KEYNES'S REMEDY FOR THE GREAT DEPRESSION

Imagine an economy that is suffering from low levels of output and income. Unemployment is high and prices are falling. The AS/AD model (see Chapter 14) tells us that this is exactly what would occur in an economy where the aggregate demand curve has shifted to the left. Keynes concluded that the Great Depression was caused by a deficiency of spending, or aggregate demand, in our terms. His remedy was to get a boost in spending. But how? Consumers were tapped out and barely had enough to put food on the table. The unemployment rate was 25 percent in the United States. Why should businesses spend more on their plant and equipment? Many of them were on the verge of bankruptcy. Maybe foreigners could be called upon to spend more? No, our major trading partners were experiencing depressions of their own.

Keynes recommended that the federal government boost its level of spending. That would shift the aggregate demand curve to the right where it belonged. The only catch was that the government couldn't tax more to pay for the increased spending. Increasing taxes would only shift the aggregate demand curve back to the left; the government would have to spend money it didn't have. It would have to run a deficit and borrow the money to increase spending. This was unheard of at the time. Prudent governments did not spend more than they took in by way of tax revenues.

In fact, during the Great Depression tax collections were down because so many businesses were not making any profits to tax and so many households were making no income to tax. There was talk of raising the tax rate. Our aggregate supply and demand model tells us that this is exactly the wrong thing to do—increasing taxes would only shift the aggregate demand curve further to the left.

No government was willing to try Keynes's radical new idea to remedy the Great Depression and the economic bad times persisted. It wasn't until the early 1940s that World War II forced many governments to spend more money than they had and borrow to make up the difference. That was how the Great Depression was finally put behind us.

TIP

To do well on the AP Macroeconomics exam you will have to understand how government spending and tax collections affect the economy.

Today, governments have gotten over their qualms about deficit spending. Governments have been known to deficit spend even when there was no recession. Keynes would be appalled. During expansions governments should spend less than they take in through taxes. Run a surplus. These surpluses could be used to pay off the borrowings from the deficits.

FISCAL POLICY

Fiscal policy is changes in government spending and taxes to fight recessions or inflations. To remedy recessions the government should increase its level of spending and/or reduce taxes. In other words, the government should run a deficit.

The aggregate supply/aggregate demand (AS/AD) model can be used to show how deficit spending would work to cure a recession. Consider Figure 15.1, which shows an economy experiencing a recession. The aggregate demand curve and the short-run aggregate supply curve cross to the left of the long-run aggregate supply curve. Remember that the long-run aggregate supply curve is vertical at the quantity of output the economy could produce if it used its resources fully and efficiently. Since the short-run equilibrium is to the left of the vertical long-run aggregate supply curve, the economy must not be using its resources fully and/or efficiently.

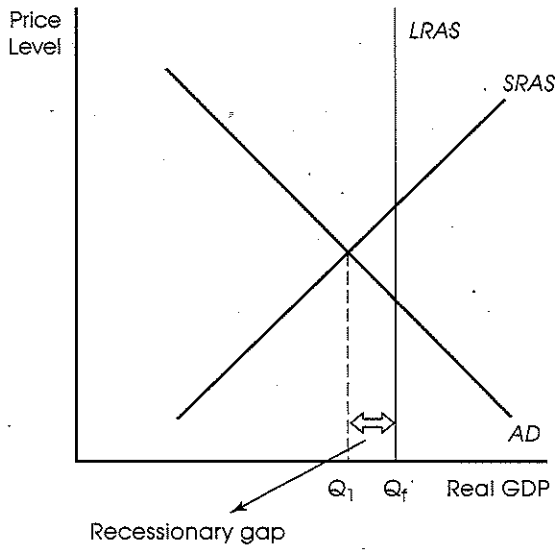


Fig. 15.1 A Recessionary Gap

The horizontal distance between the quantity of output the economy is producing, Q_1, and its potential, Q_f, is called the recessionary gap. The economy depicted in Figure 15.1 is experiencing a recession. Output is below potential and if output is low, so is income. And unemployment must be a problem if production is low. These are recessionary conditions.

Fiscal policy could be used to close the recessionary gap. An increase in government spending would shift the aggregate demand curve to the right. So would a decrease in taxes. Either of these policies would mean deficit spending on the part of the government. But when the aggregate demand curve shifts to the right, the recession is over. This is shown in Figure 15.2.

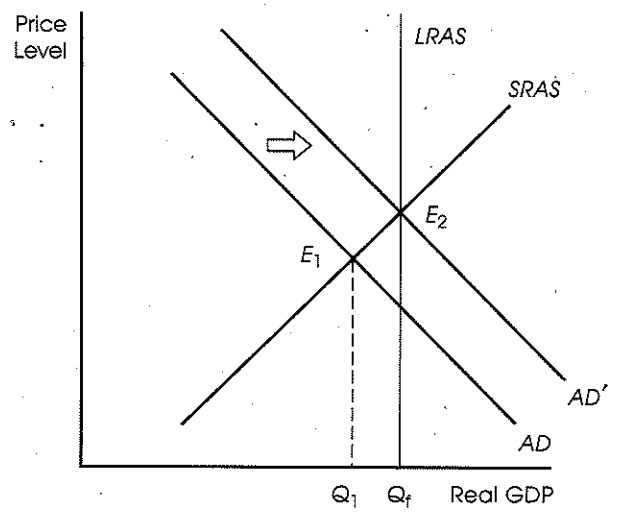


Fig. 15.2 Fiscal Policy to Close a Recessionary Gap

After the aggregate demand curve shifts to the right, the new equilibrium occurs where all three curves cross. The new quantity of output is Q_f (f for full employment) and the recession is ended. Unfortunately, the price level is higher at the new equilibrium. This means the economy experienced some inflation as a result of the fiscal policy that cured the recession. Hopefully, the costs of this inflation were worth the benefits of ending the recession.

An economy can experience the opposite sort of trouble from a recessionary gap. An inflationary gap occurs when an economy is producing above its potential. Figure 15.3 illustrates this situation.

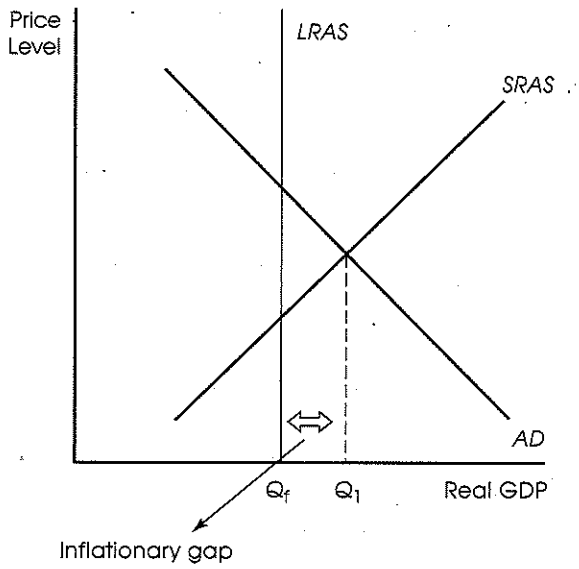


Fig. 15.3 An Inflationary Gap

The short-run aggregate supply curve crosses the aggregate demand curve to the right of the long-run aggregate supply curve. The quantity of output is Q_1, which is more than the economy's potential, Q_f. You may well ask how an economy can produce above its potential. One response is overtime. Resources are being worked more than full time. Another response is that unemployment is below 5 percent. Remember that full employment does not mean zero unemployment. We are at full employment when the unemployment rate reaches 5 percent or so. If the unemployment rate falls lower still, we can wind up producing more than our full employment potential.

The situation is not good when the economy is producing more than its potential. Inflation is typical during these times. Resources are being strained and the economy may be overheating. Prices are usually driven higher in these situations. That is why the distance between Q_f and Q_1 in Figure 15.3 is called the *inflationary gap*. Fiscal policy can be applied to resolve the problem.

The appropriate fiscal policy to close an inflationary gap is to decrease government spending and/or increase taxes. These policies would result in a surplus where government tax collections exceed government spending. This would slow the economy by curtailing the amount of spending that occurs. The aggregate demand curve shifts to the left when the government decreases its level of spending or raises taxes. This is shown in Figure 15.4.

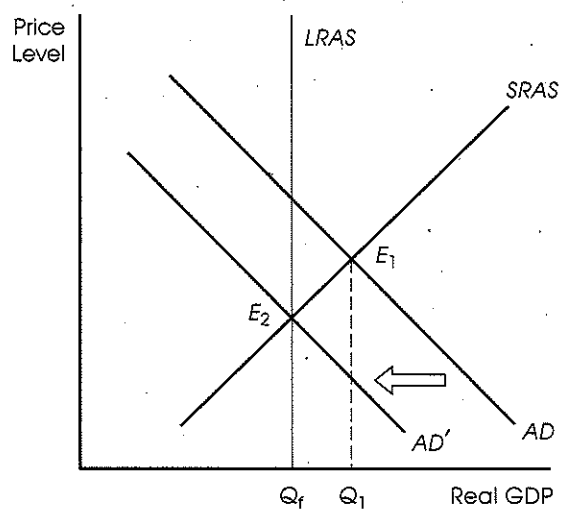


Fig. 15.4 Fiscal Policy to Close an Inflationary Gap

TIP

No matter what kind of trouble the economy finds itself in, recession or inflation, fiscal policy is a potential remedy.

After the aggregate demand curve shifts to the left, the new equilibrium is where all three curves cross. The new level of output is Q_f and there is no longer an inflationary gap; in fact, the price level is lower at the new equilibrium. This fall in prices is the inflation being cured.

To sum up, fiscal policy can be used to reposition the aggregate demand curve. Expansionary fiscal policy (tax cuts and/or increases in government spending) shifts the aggregate demand curve to the right. Contractionary fiscal policy shifts aggregate demand to the left.

MULTIPLIERS FOR FISCAL POLICY

Imagine an economy in the midst of a recession. The appropriate fiscal policy is to increase government spending or reduce taxes. Either of these changes in the government's budget will have a magnified effect on the overall economy. This is because an increase in government spending will engender further spending.

TIP

Be careful not to say that an increase in government spending increases the money supply. It does not. An increase in government spending increases aggregate demand which, in turn, increases real GDP, income, and prices in the short run. But the money supply is unchanged.

Table 15.1 Frequently Used Multipliers

MPC	Multiplier
0.5	2
0.75	4
0.8	5
0.9	10

The marginal propensity to consume (MPC) is how much is spent out of an extra dollar of income. Young people are well known to have an MPC = 1. Give them an extra dollar, and it is spent. But middle-aged people thinking about their retirement or their children's education may save 15 cents out of any extra dollars they may earn, giving them an MPC = 0.85.

Suppose the MPC = 0.8 and government spending increases by $20 billion. If the government spends the $20 billion on new roads, then the company and crews that build these roads earn $20 billion in income. They will spend $16 billion of that since the MPC = 0.8. That $16 billion will become an increase in income for the people and businesses that sold products and services to the road builders. And the story goes on and on because the 0.8 of the $16 billion will be spent in the next round.

Round	Spending	MPC = 0.8
1	$20 billion	
2	$16 billion	
3	$12.8 billion	
4	$10.24 billion	
Total	$100 billion	

We know that the total increase in spending after all the ensuing rounds amounts to $100 billion. This figure was obtained from the formula:

$$\text{Change in Real GDP} = \text{Initial Change in Spending} \times \text{Multiplier}$$
$$\$100 \text{ billion} = \$20 \text{ billion} \times 5.0$$

The marginal propensity to save (MPS) is simply 1 – MPC. If the MPC is 0.85, then the MPS = 0.15. That is, given an extra dollar of income, 15 cents will be saved.

The multiplier is equal to $1/(1 - \text{MPC}) = 5.0 (= 1/(1 - 0.8) = 1/0.2)$. This means any change in government spending will be magnified 5 times.

However, real GDP will not rise by $100 billion if the government lowers taxes by $20 billion. This is because when consumers get their tax breaks totaling $20 billion they will initially increase spending by $16 billion, assuming once again that the MPC equals 0.8. Households save $4 billion of the tax cut.

Change in Real GDP =	Initial Change in Spending	× Multiplier
$80 billion =	$16 billion	× 5.0

In this case, real GDP increases by $80 billion.

The fact that a $20 billion dollar change in government spending has a slightly more powerful impact on real GDP than a $20 billion change in taxes has an interesting implication. What would happen if the government were to increase spending by $20 billion while simultaneously *increasing* taxes by $20 billion? The increase in government spending of $20 billion would cause a $100 billion increase in real GDP, while the $20 billion increase in taxes would reduce real GDP by $80 billion. The net effect is a $20 billion increase in real GDP.

If the government has a balanced budget so that spending equals tax revenues, it can maintain the balanced budget and still stimulate real GDP. This is because if spending and tax revenues were both raised by some amount, say $20 billion, then real GDP would increase by $20 billion.

Balanced-Budget Move

Whenever the government changes spending and taxes so that the effects on the budget are neutral, this is known as a "balanced-budget" move. So an increase in government spending of $5 million and an increase in taxes of $5 million is a balanced-budget move. Similarly, a decrease in government spending of $4 billion and a decrease in taxes of $4 billion is a balanced-budget move.

In each of these cases, the change in government spending has a stronger impact than the change in taxes. Real GDP will be affected by the amount of the spending and tax change. For instance, when government increases spending by $5 million and taxes by the same amount, real GDP will increase by $5 million.

If government decreases spending by $4 billion and lowers taxes by the same amount, real GDP will decrease by $4 billion. You can arrive at this conclusion the long way: calculate the impact of the government spending change and the impact of the tax change. Then figure the net effect. Or you can take the shortcut: the balanced-budget multiplier is equal to 1. This means an increase in government spending of x dollars that is matched by an increase in tax revenues of x dollars results in an increase in real GDP of x dollars. Based on the same reasoning, a decrease in government spending of x dollars that is matched by a decrease in tax revenues of x dollars results in a decrease in real GDP of x dollars.

The Phillips Tradeoff

Fiscal policy, however, has its drawbacks. We have already seen that a fiscal policy designed to remedy a recession will result in inflation. Similarly, a fiscal policy designed to combat inflation will result in declines in output and possibly a recession. It seems that fiscal policy cannot remedy both unemployment and inflation at the same time.

The idea that inflation and unemployment move in opposite directions was first noticed by a British economist, A. W. Phillips. Looking back over 100 years of British economic history he discovered that when inflation was high, unemployment was low. When inflation was low, unemployment tended to be high. The inverse relationship between inflation and unemployment became known as the Phillips tradeoff.

Phillips graphed the relationship between inflation and unemployment. The results were similar to Figure 15.5. A high inflation rate, such as point A, is associated with a low unemployment rate. A low inflation rate, such as point B, is associated with a high unemployment rate.

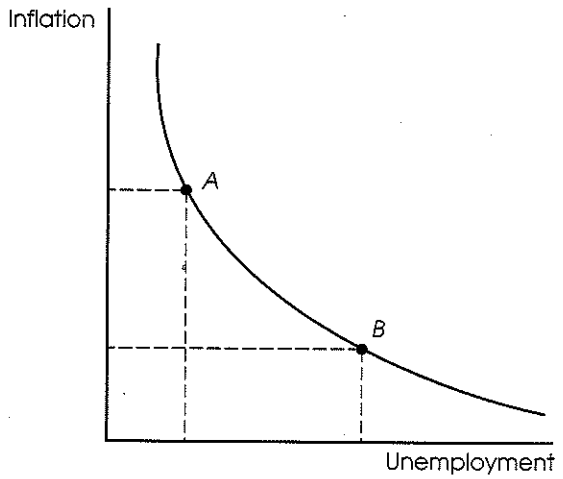


Fig. 15.5 The Phillips Curve

Phillips published his findings in 1958, and his relationship has been looked for in many economies over various time periods. For instance, it is well known that unemployment and inflation behaved according to this relationship in the United States in the 1960s, but the 1970s defied the Phillips tradeoff—both inflation and unemployment were high in the mid-1970s.

Economists are now able to explain why the Phillips relationship holds in some periods and not in others. Notice that when the aggregate demand curve shifts to the left, it results in the price level falling (lower inflation) and the quantity of output falling (higher unemployment). When the aggregate demand shifts to the right, just the opposite occurs—inflation rises and unemployment falls. All of this is in line with what Phillips discovered. This indicates that the aggregate demand curve must have been shifting about in the United States in the 1960s, while the aggregate supply curve remained stable.

Now consider what happens when the aggregate supply shifts left. Figure 15.6 depicts this event for the short run. The initial equilibrium is E_1. Then the aggregate supply curve shifts left and the new equilibrium is E_2. Prices are higher at E_2 (inflation is up) and output is lower (unemployment is up). This goes against the Phillips relationship. Indeed, it is the worst of all situations, with both inflation and unemployment rising. Economists call this *stagflation.*

If the aggregate demand curve shifts right, then the economy will slide up the Phillips curve from a point such as B in Figure 15.5 toward point A. However, if the aggregate supply curve shifts left, as in Figure 15.6, then the whole Phillips curve shifts right. The rightward shift of the Phillips curve reflects the fact that the economy has to suffer higher levels of inflation and unemployment.

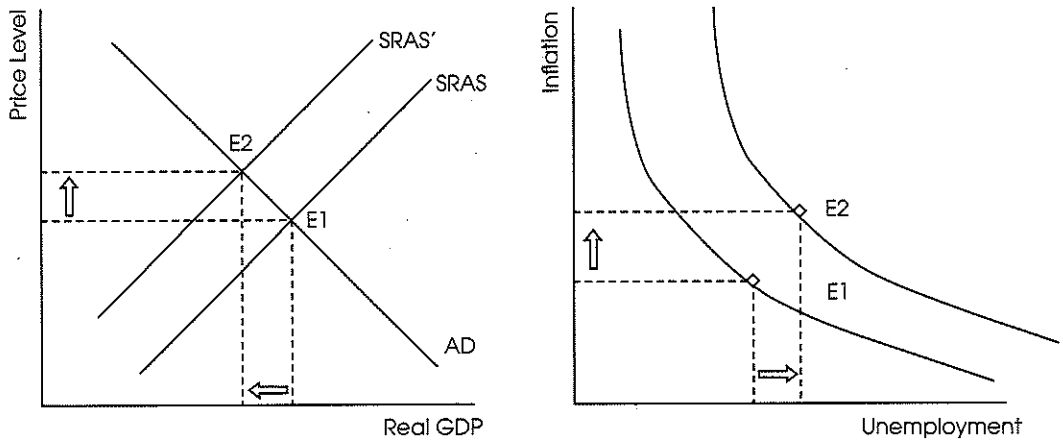


Fig. 15.6 Stagflation Shifts the Phillips Curve to the Right

The Phillips curve portrays the tradeoff between inflation and unemployment in the short run. In the long run, it is doubtful that such a relationship exists. Consider (as in Figure 15.7) an increase in aggregate demand with a long-run aggregate supply curve:

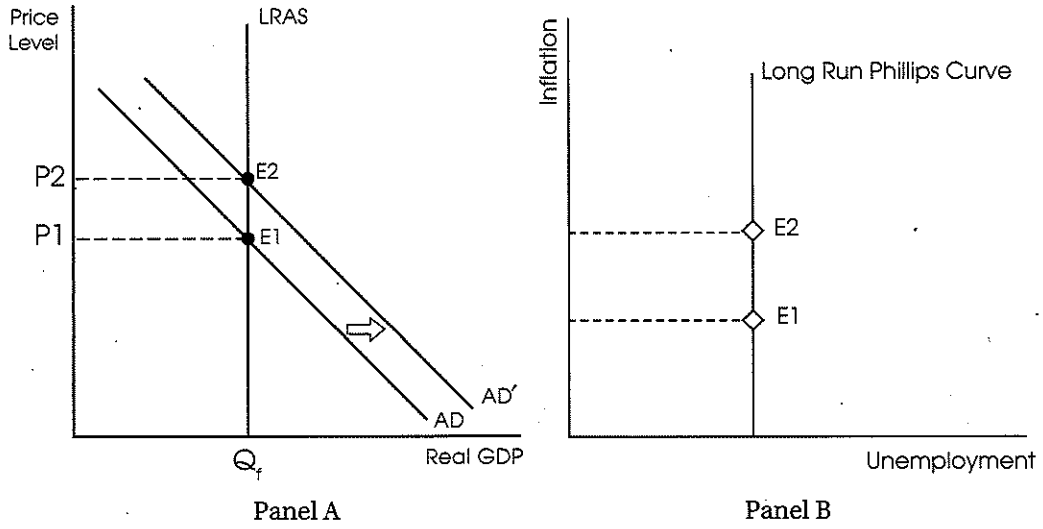


Fig. 15.7 The Phillips Curve Is Vertical in the Long Run since Changes in Aggregate Demand Affect Only Prices

The result is an increase in the price level from P_1 to P_2, but output does not change from Q_f. Therefore, unemployment will not change. We have an increase in the price level but no change in unemployment. In other words, the Phillips relationship is a vertical line in the long run.

POINTS TO REMEMBER

If the aggregate demand curve shifts right, the economy slides up the Phillips curve.
If the aggregate demand curve shifts left, the economy slides down the Phillips curve.
If either aggregate supply curve shifts left, the Phillips curve shifts right.
If either aggregate supply curve shifts right, the Phillips curve shifts left.

Stagflation

Stagflation occurs whenever the aggregate supply curve shifts to the left. Since both inflation and unemployment are rising, this defies the Phillips relationship, which concludes that unemployment and inflation move in opposite directions.

Stagflation occurred in the 1970s in the United States when the supply of a very important resource, oil, was curtailed by the formation of an oil cartel. Notice that stagflation poses a special problem for fiscal policy. If both inflation and unemployment are high, should fiscal policy be used to fight the high unemployment or the high inflation? It cannot remedy both at the same time.

Figure 15.8 shows what would happen if fiscal policy were used to fight inflation during stagflation. The initial equilibrium is E_1. Then the aggregate supply curve shifts to the left because resources are not as available. This results in stagflation and takes us to E_2. Then the government runs a surplus by raising taxes and/or lowering spending. This shifts the aggregate demand curve to the left and we end up at E_3. The price level is brought back down to its original level, but the quantity of output has fallen to new lows. The inflation has been cured but the recession has been made worse.

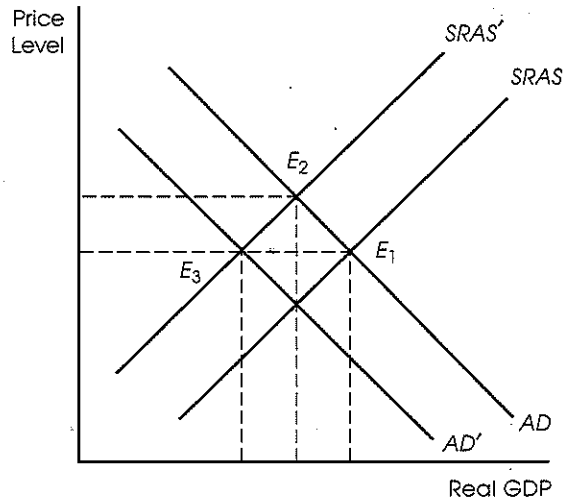


Fig. 15.8 Using Fiscal Policy to Fight Inflation During Stagflation

If fiscal policy is used to combat the recession during stagflation, then inflation will be taken to even higher levels. This is a major drawback of fiscal policy. It cannot cope with stagflation because it can remedy only one problem at the expense of another.

The true solution to stagflation is to get the aggregate supply curve to shift back to the right. This can be accomplished by making resources more available or a technological

advance. There are no standard government policies that can accomplish this quickly and effectively. *Supply-side economics* is an attempt to shift the aggregate supply curve to the right to cure stagflation. Supply-side economists recommend special tax policies and less government regulation to accomplish the task. So far, however, these policies have not been fully tested.

In any event, the Phillips relationship poses a problem for advocates of fiscal policy. The relationship indicates that fiscal policy can remedy only one of the two economic evils at a time. When both inflation and unemployment rear their heads simultaneously, fiscal policy is not appropriate.

Crowding Out

Crowding out can render fiscal policy ineffective. Crowding out is the increase in interest rates and subsequent decline in spending that occur when the government borrows money to finance a deficit.

To see how crowding out works, imagine an economy mired in a recessionary gap. Suppose the government implements the appropriate fiscal policy and runs a deficit. This means the government will need to borrow money. However, we have been ignoring the fact that if the government borrows a large portion of the funds available for lending, then interest rates would rise.

TIP

Recent AP exams have tested students' understanding of crowding out by asking questions concerning the market for loanable funds.

To understand this consider what would happen if you walked into a bank for a car loan just after the government had borrowed a good portion of the bank's loanable funds. They could give you the car loan, but probably at a higher rate of interest than before.

Now, you may decide that the monthly payments on the car and loan would be too high. You do not buy the car and hundreds of people make decisions similar to yours. The demand for cars drops and autoworkers are laid off.

Crowding out can be shown in a diagram of the market for loanable funds such as Figure 15.9, Panel A. The supply of loanable funds is upward sloping to reflect the idea that more people, banks, and institutions are willing to loan funds when interest rates are higher. The demand for funds is downward sloping to indicate that more loans are desired when the real interest rate is lower.

Do not confuse the supply and demand for loanable funds with the supply and demand for money. The supply of money is vertical because the Federal Reserve controls it. The supply of loanable funds is upward sloping because loans can come from many sources. Households are the biggest lenders in the economy if you consider depositing money in a bank a loan to the bank. Foreign central banks have become a welcome source of loanable funds in the U.S. economy.

One of the largest demanders of loanable funds in the U.S. is the federal government. When the federal government deficit spends in order to stimulate the economy, the demand for loanable funds shifts right in Figure 15.9, Panel A. This results in a higher equilibrium real interest rate. The higher interest rate discourages borrowing and spending, especially for investment. The decrease in investment spending by businesses can offset the government's expansionary fiscal policy.

Diagrammatically, crowding out is reflected in an aggregate demand curve that shifts back to the left after a fiscal policy has just shifted it to the right. This is shown in Figure 15.9, Panel B. Originally the economy is in a recession at E_1. An expansionary fiscal policy is used to shift the aggregate demand curve to the right. The new equilibrium is E_2 and the recessionary

gap is closed. However, interest rates rise because of the government borrowing associated with the fiscal policy. This is shown in the loanable funds market in Panel A. The higher rates of interest induce consumers and businesses to borrow and spend less than before. This drop in consumer and business spending shifts the aggregate demand curve back to its original position and the economy ends up back at E_1 and in recession.

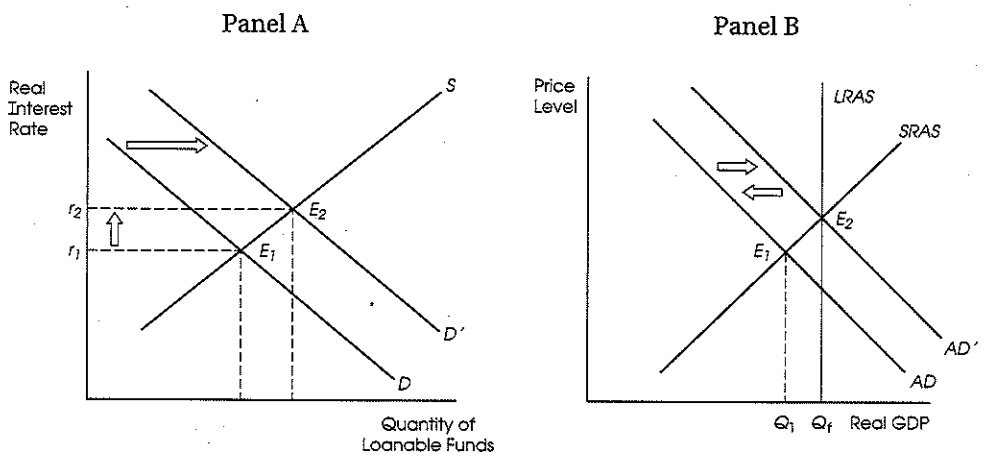


Fig. 15.9 Crowding Out

This is how crowding out can nullify the beneficial effects of fiscal policy. Crowding out is not always an issue. Sometimes there are plenty of loanable funds available and the government can borrow and deficit spend without an adverse effect on fiscal policy. Other times, the government borrowing raises interest rates, which chokes off consumer and business spending. The declines in consumer and business spending offset the increase in government spending and fiscal policy is ineffective.

Rational Expectations

In 1995 Robert Lucas of the University of Chicago won the Nobel Prize in economics "for having developed and applied the hypothesis of rational expectations, and thereby having transformed macroeconomic analysis and deepened our understanding of economic policy." This hypothesis is based on the idea that households and businesses will use all the information available to them when making economic decisions. This seems like a logical and harmless assumption, but carried to its logical conclusion, rational expectations implies that fiscal policy will be ineffective at changing the quantity of output.

Suppose the government tries to stimulate the economy through expansionary fiscal policy. The government deficit spends. People understand that such a policy results in higher prices. Even if they don't have the economic education to make this conclusion, others will, and they will read about it in the press: prices are expected to rise with expansionary fiscal policy. When households and firms expect prices to be higher in the future, they supply less labor and products right now. Why supply labor and products now when you can supply them next month at a higher price?

This reduction in supply nullifies the expansionary effect of the fiscal policy. Only prices rise because of the deficit spending by the government. The situation is illustrated in Figure 15.10.

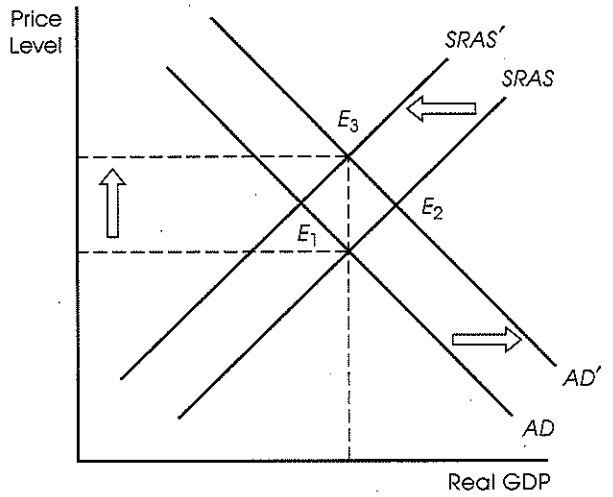


Fig. 15.10 Rational Expectations Nullify Expansionary Fiscal Policy

Initially the economy is in equilibrium at E_1. The government then deficit spends in order to increase the quantity of output. This shifts the aggregate demand curve to the right. Normally we would end up at E_2 and that would be the end of the story. However, under rational expectations we never get to E_2 because households and firms realize that the expansionary fiscal policy will result in higher prices. They are simply using the information in any economics text to reach this conclusion. Rational expectations are that people will use all the information available when making economic decisions.

Expecting higher prices for their labor and products, people and firms reduce their supply of labor and products right now. This causes the aggregate supply curve to shift to the left. The shift to the left of the aggregate supply curve occurs simultaneously with the shift to the right of the aggregate demand curve. The result is we move from E_1 directly to E_3. The quantity of output never increases; it remains unchanged. Only prices rise because of the fiscal policy.

The validity of the theory of rational expectations is still very much in question despite Professor Lucas having won the Nobel Prize for his development of it. However, the more people and firms in the economy who use the information available to them, the less effective fiscal policy will be. Along with the Phillips curve and crowding out, rational expectations are one more reason to suspect that fiscal policy will not work to cure all recessions or inflations.

Automatic Stabilizers

Automatic, or built-in, stabilizers are government policies already in place that promote deficit spending during recessions and surplus budgets during expansions. These policies prevent recessions from becoming depressions. They also help keep inflations from turning into hyperinflations.

Income taxes and antipoverty programs such as Temporary Aid to Needy Families (TANF) are examples of automatic stabilizers. Consider how income taxes are affected as the economy falls into a recession. More and more people become unemployed or make less income as the recession progresses. But when a household makes less income, it owes less in taxes. In other words, government tax revenues will automatically fall during a recession and this is exactly the type of fiscal policy called for to fight a recession.

Automatic stabilizers cannot prevent a recession because the drop in income is necessary for them to begin working. However, built-in stabilizers can prevent a recession from becoming a depression.

Let's consider how a program like TANF would work as an automatic stabilizer. Again, imagine an economy slipping into a recession. More and more households will qualify for TANF funds. Government spending on antipoverty programs automatically increases during a recession and a boost in government spending is just the sort of fiscal policy that is required to fight a recession.

Also notice that income taxes and TANF would work to prevent an expansion from becoming too exuberant. As the expansion continues, inflationary pressures build as households make more and more income. But more income means higher tax payments for households. Higher taxes are the appropriate fiscal policy to fight inflation. Also, fewer households will qualify for TANF funds as the economy expands. This means government spending on this program will be falling. Cuts in government spending are the appropriate fiscal policy to fight inflation.

Automatic stabilizers work to prevent business cycles from becoming too extreme in either direction. Many economists credit automatic stabilizers, not fiscal policy, for the decreased amplitude of business cycles since World War II.

SUMMARY

- Fiscal policy is just one of several options policymakers can use to address economic concerns such as unemployment or inflation. The appropriate fiscal policy to combat unemployment and recessions is to have the government run a deficit by spending more and/or lower tax collections. To fight inflation, the government should run a surplus by cutting government spending and raising tax rates. These policies shift the aggregate demand curve to a more suitable position.
- Students may wonder why we have recessions and inflations if fiscal policy can be used against them. The answer is that fiscal policy has drawbacks and is not completely effective. One drawback of fiscal policy is that the same policies that fight recessions promote inflation. And if the economy is suffering from stagflation, recession, and inflation simultaneously, fiscal policy can address only one of these problems while making the other worse.
- Crowding out and rational expectations can make fiscal policy completely or partially ineffective. Crowding out refers to the rise in borrowing costs to firms and households after the government borrows to deficit spend. Higher borrowing costs can result in lower spending by households and firms that would offset the expansionary fiscal policy. Rational expectations assume that people and firms will know that an expansionary fiscal policy will result in higher prices. Because prices are expected to be higher in the future, people work less and firms supply less right now. They would prefer to work and supply more later when wages and prices are higher. The reduction in supply offsets the expansionary fiscal policy.
- Yet another problem with fiscal policy is the fact that Congress and the President have to first realize the economy is in trouble, then design a fiscal policy to combat the recessionary or inflationary gap. All of this takes time. Fortunately, there are laws and programs already on the books that will work to fight recessions or inflations. These laws and programs are called automatic stabilizers. Tax laws and antipoverty programs

are examples of built-in stabilizers. Automatic stabilizers cannot prevent recessions or inflations, but they can prevent recessions from becoming depressions and inflations from becoming hyperinflations.

TERMS

Automatic Stabilizers government policies already in place that promote deficit spending during recessions and surplus budgets during expansions

Crowding Out the increase in interest rates and subsequent decline in spending that occur when the government borrows money to finance a deficit

Deficit situation that exists when government spending exceeds tax revenues

Fiscal Policy changes in government spending and taxes to fight recessions or inflations

Inflationary Gap what occurs when the equilibrium quantity of output is above potential output

Marginal Propensity to Consume (MPC) the amount of an extra dollar of income that is spent

Multiplier the degree of magnification that an initial change in spending will have on the economy

Phillips Tradeoff the inverse relationship between inflation and unemployment

Rational Expectations the idea that households and businesses will use all the information available to them when making economic decisions

Recessionary Gap what occurs when the equilibrium quantity of output is below potential output

Stagflation term used to describe the situation when the economy experiences inflation and a recession simultaneously

Surplus spending by the government that is less than tax revenues

FORMULAS

$$\text{Marginal Propensity to Consume} = \frac{\text{Change in Spending}}{\text{Change in Income}}$$

$$\text{Multiplier} = 1/(1 - \text{MPC})$$

$$\text{Total Change in Income} = \text{Initial Change in Spending} \times \text{Multiplier}$$

MULTIPLE-CHOICE REVIEW QUESTIONS

1. Fiscal policy refers to
   (A) increases in taxes to fight recessions.
   (B) decreases in taxes to fight inflations.
   (C) changes in government spending and taxes to fight recessions or inflations.
   (D) federal deficits.
   (E) federal surpluses.

2. A federal deficit occurs when
   (A) exports exceed imports.
   (B) imports exceed exports.
   (C) federal tax collections exceed spending.
   (D) federal spending exceeds federal tax revenues.
   (E) the federal government spends less than last year.

3. The appropriate fiscal policy to remedy a recession
   (A) calls for the federal government to run a deficit.
   (B) calls for the federal government to run a surplus.
   (C) is increased taxes and government spending.
   (D) is decreased government spending and taxes.
   (E) is increased taxes and reduced government spending.

4. The appropriate fiscal policy to remedy inflation calls for
   (A) the federal government to run a deficit.
   (B) the federal government to run a surplus.
   (C) increased taxes and government spending.
   (D) decreased government spending and taxes.
   (E) decreased taxes and increased government spending.

5. To close a recessionary gap with fiscal policy
   (A) the aggregate demand curve should be shifted to the right.
   (B) the aggregate demand curve should be shifted to the left.
   (C) the aggregate supply curve should be shifted to the right.
   (D) the aggregate supply curve should be shifted to the left.
   (E) prices should be raised.

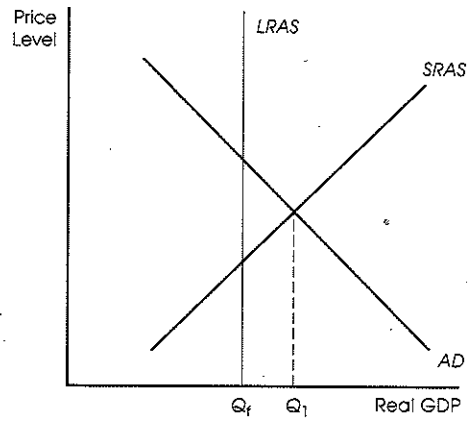
6. To close an inflationary gap with fiscal policy
   (A) the aggregate demand curve should be shifted to the right.
   (B) the aggregate demand curve should be shifted to the left.
   (C) the aggregate supply curve should be shifted to the right.
   (D) the aggregate supply curve should be shifted to the left.
   (E) prices should be lowered.

7. One drawback of using fiscal policy to close a recessionary gap is that
   (A) unemployment will rise.
   (B) taxes will have to be raised.
   (C) the equilibrium price level will rise.
   (D) government spending on important programs will have to be cut.
   (E) equilibrium output will fall.

8. Use the following three responses to answer the question: Fiscal policy is not always effective because of
   I. crowding out.
   II. rational expectations.
   III. the balanced budget amendment.
   (A) I only
   (B) II only
   (C) II and III
   (D) I and II
   (E) I, II, and III

9. Stagflation occurs when
   (A) inflation falls and unemployment rises.
   (B) inflation rises and unemployment falls.
   (C) inflation and unemployment both rise.
   (D) Inflation and output both rise.
   (E) Inflation and output both fall.

10. Study the diagram below.

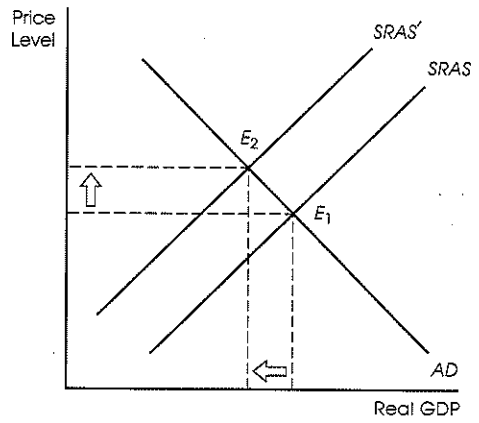


   (A) It is incorrect since Q_f can never be to the left of Q_1.
   (B) It is incorrect because AD should slope upward and AS should slope downward.
   (C) It portrays a recessionary gap.
   (D) It portrays an inflationary gap.
   (E) It portrays Phillips curves.

11. Crowding out
   (A) is one reason fiscal policy is so effective.
   (B) occurs when interest rates fall due to government borrowing.
   (C) occurs when consumers and firms spend less offsetting expansionary fiscal policy.
   (D) causes the aggregate demand curve to shift to the right.
   (E) occurs when rising interest rates cause cuts in government spending.

12. The theory of rational expectations
   (A) assumes that consumers and businesses anticipate rising prices when the government pursues an expansionary fiscal policy.
   (B) implies that fiscal policy will be effective even during stagflation.
   (C) supports the notion of a Phillips tradeoff.
   (D) assumes that consumers and businesses do not use all the information available to them.
   (E) was developed by Keynes as a remedy for the Great Depression.

13. Study the diagram below.



   (A) It shows how fiscal policy can work to cure inflation.
   (B) It shows how fiscal policy can work to close a recessionary gap.
   (C) It portrays the Phillips tradeoff.
   (D) It is incorrect because AD should slope upward and AS should slope downward.
   (E) It portrays stagflation.

14. Automatic, or built-in, stabilizers
    (A) prevent inflation.
    (B) prevent recessions from occurring.
    (C) prevent inflation and recessions from occurring.
    (D) are government policies already in place that promote deficit spending during expansions and surplus budgets during recessions.
    (E) are government policies already in place that promote deficit spending during recessions and surplus budgets during expansions.

15. The Phillips curve
    (A) shows how government spending and tax collections are related.
    (B) is upward sloping from left to right.
    (C) indicates that inflation will be high when unemployment is low.
    (D) shows how the equilibrium price level is related to fiscal policy.
    (E) shows how output and prices are related.

FREE-RESPONSE REVIEW QUESTIONS

1. Draw a diagram that portrays a recessionary gap. Be sure to label the axes of your diagram and the aggregate demand curve, the upward sloping aggregate supply curve, and the long-run aggregate supply curve.

2. Describe the fiscal policy that would be appropriate to close the recessionary gap. On the diagram show how the fiscal policy works to close the recessionary gap.

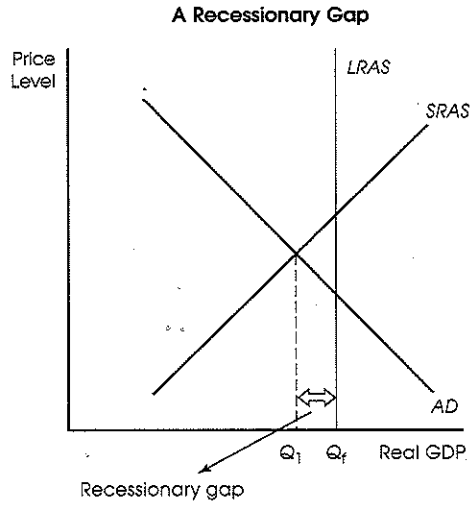
3. Draw a Phillips curve. Be sure to label the axes of your diagram. An economy that is in recession would have a low inflation rate but a high unemployment rate. Mark such a point on your Phillips curve and label it "R." Suppose a fiscal policy is implemented and this policy closes the recessionary gap. Mark and label another point on the Phillips curve to demarcate the new inflation/unemployment combination and label it "AFP" for "after the fiscal policy." Explain how you concluded where AFP would be.

Multiple-Choice Review Answers

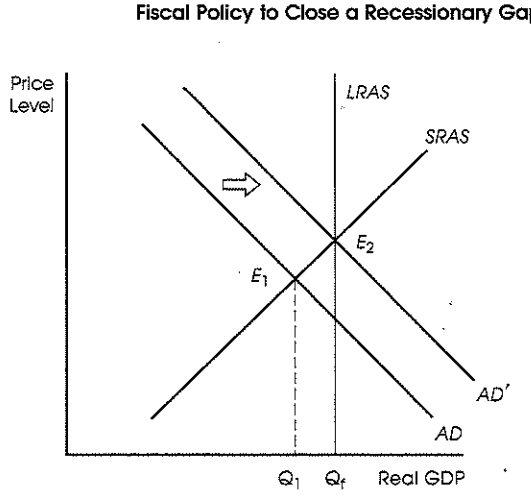
1. **(C)**	5. **(A)**	9. **(C)**	13. **(E)**
2. **(D)**	6. **(B)**	10. **(D)**	14. **(E)**
3. **(A)**	7. **(C)**	11. **(C)**	15. **(C)**
4. **(B)**	8. **(D)**	12. **(A)**	

Free-Response Review Answers

1.

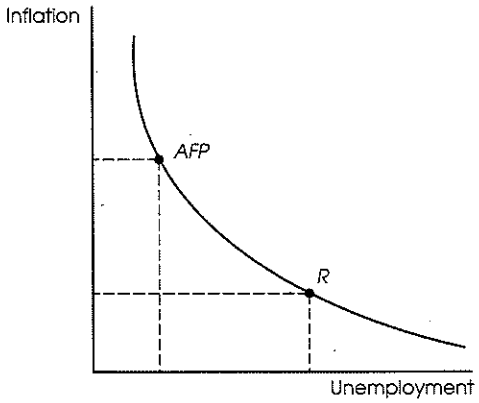


2. The appropriate fiscal policy to close a recessionary gap is for the federal government to run a deficit. This can be accomplished by the federal government increasing spending or by reducing taxes or both. Any of these policies will serve to increase aggregate demand. This is shown on the AS/AD model by a shift to the right of the aggregate demand curve.



3.

The Phillips Curve



Beginning at point R, an expansionary fiscal policy would lower the unemployment rate but raise prices. After the fiscal policy the economy would have lower unemployment but higher inflation. This is the case at point AFP. Thus, an expansionary fiscal policy serves to slide the economy up the Phillips curve.