

## Investment Demand

Investment spending consists of spending on new buildings, machinery, plant and equipment. Investment spending is a part of total spending or aggregate expenditures. Any increase in investment spending would necessarily increase total spending or aggregate expenditures.

Decisions on investment spending are based on a comparison of marginal cost and marginal benefit: If you expect a particular project to yield a greater benefit than cost, you will undertake it. One of the costs associated with investment spending is the interest expense on borrowed money to engage in the project.

### Part A

- Figure 22.1 lists the expected cost of various projects and the associated expected benefit. Fill in the decision column with Yes if you would undertake the project and No if you would not. The first example has been completed for you.



Figure 22.1

#### Comparison of Costs and Benefits of Different Projects

Cost	Benefit	Decision
\$65	\$20	No
\$55	\$30	
\$45	\$40	
\$35	\$50	
\$25	\$60	

- If interest rates fell and the cost associated with the project fell by \$15 at each level, indicate in Figure 22.2 which projects you would undertake. The first example has been completed for you.



Figure 22.2

#### Comparison of Project Costs and Benefits with Decrease in Costs

Cost	Benefit	Decision
\$50	\$20	No
	\$30	
	\$40	
	\$50	
	\$60	

Activity written by James Chasey, Homewood-Flossmoor High School, Flossmoor, Ill.

### Part B

Figure 22.3 lists the dollar value of investment projects that would be profitable at each interest rate.



Figure 22.3

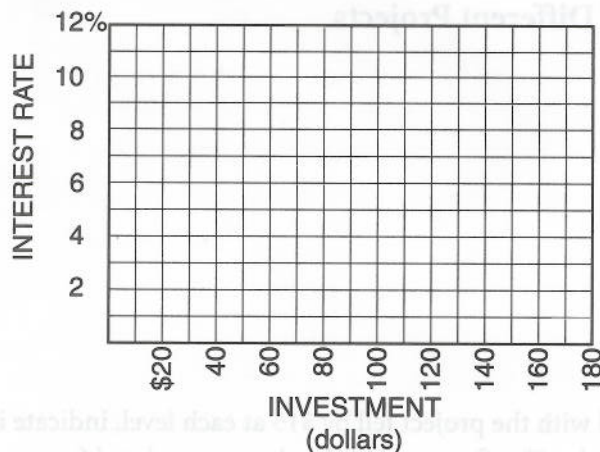
#### Country A and Country B Investment Data

Interest Rate	Country A Investment	Country B Investment
10%	\$10	\$70
8	50	75
6	90	80
4	130	85
2	170	90



Figure 22.4

#### Investment Demand Curves



- Plot the investment demand curve for Country A on Figure 22.4 and label it  $I_A$ .
- Plot the investment demand curve for Country B on Figure 22.4, and label it  $I_B$ .
- Which country would experience the larger increase in the amount of investment spending if interest rates in each country dropped from 8 percent to 6 percent?
- How would you characterize the responsiveness of investment spending to the interest rates in Country A compared with Country B?
- Assuming an MPC of 75 percent, what would be the effect on real GDP in Country A and Country B if real interest rates decline from 8 percent to 6 percent?

8. What conclusions can be reached about the elasticity of the investment demand curve and the effect a given change in interest rates would have on equilibrium real GDP?

9. Looking at the graph you drew, the investment demand curve is downward sloping in both Country A and Country B. Why does the investment demand curve have a downward slope?

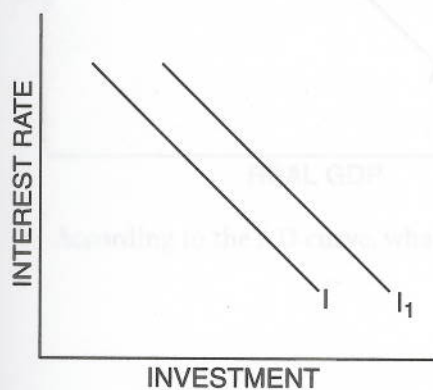
### Part C

Use Figure 22.5 to help answer questions 10, 11 and 12.



Figure 22.5

### Shift in Investment Demand Curve



10. If interest rates rise, will the investment demand curve shift to a new location? If so, in what direction?
11. The shift in the investment demand curve shown in Figure 22.5 ( $I$  to  $I_1$ ) represents a new location for the entire curve. How would you interpret the difference between movement along an existing investment demand curve and a shift in the location of the curve?
12. List two factors that could cause a shift in the investment demand curve as shown in Figure 22.5.



## An Introduction to Aggregate Demand

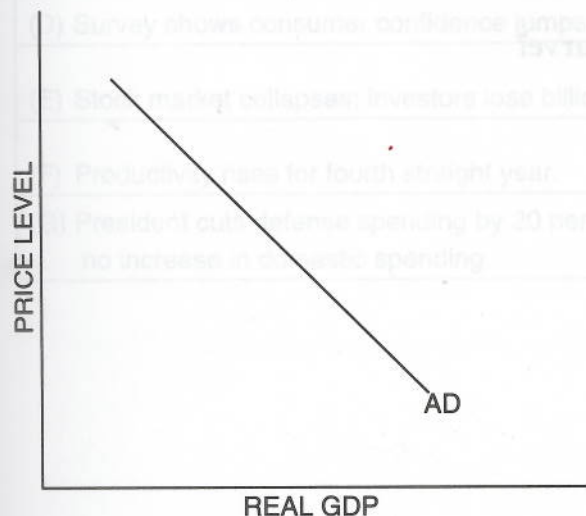
### Part A

#### Why Is the Aggregate Demand Curve Downward Sloping?



Figure 23.1

#### Aggregate Demand Curve



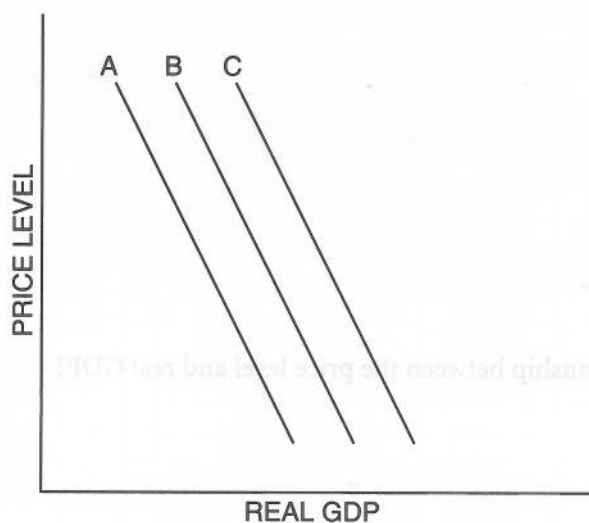
1. According to the AD curve, what is the relationship between the price level and real GDP?
2. Explain how each of the following effects helps explain why the AD curve is downward sloping.
  - (A) Interest rate effect
  - (B) Wealth effect or real-balance effect
  - (C) Net export effect

Activity written by John Morton, National Council on Economic Education, New York, N.Y.

3. In what ways do the reasons that explain the downward slope of the AD curve differ from the reasons that explain the downward slope of the demand curve for a single product?

**Part B****What Shifts the Aggregate Demand Curve?**

Figure 23.2

**Shifts in Aggregate Demand**

4. Using Figure 23.2, determine whether each situation below will cause an increase, decrease or no change in AD. Always start at curve B. If the situation would cause an increase in AD, draw an up arrow in column 1. If it causes a decrease, draw a down arrow. If there is no change, write NC. For each situation that causes a change in aggregate demand, write the letter of the new demand curve in column 2. Move only one curve.

Situation	1. Change in AD	2. New AD Curve
(A) Congress cuts taxes.		
(B) Autonomous investment spending decreased.		
(C) Government spending to increase next fiscal year; president promises no increase in taxes.		
(D) Survey shows consumer confidence jumps.		
(E) Stock market collapses; investors lose billions.		
(F) Productivity rises for fourth straight year.		
(G) President cuts defense spending by 20 percent; no increase in domestic spending.		

## An Introduction to Short-Run Aggregate Supply

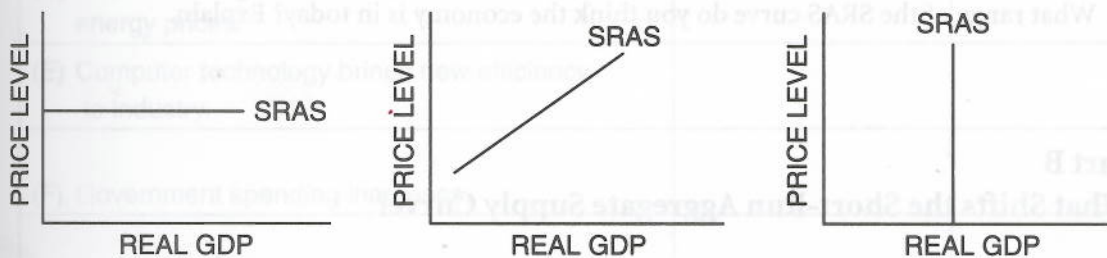
### Part A

#### Why Can the Aggregate Supply Curve Have Three Different Shapes?



Figure 24.1

#### Possible Shapes of Aggregate Supply Curve



1. Under what conditions would an economy have a horizontal SRAS curve?
2. Under what conditions would an economy have a vertical SRAS curve?
3. Under what conditions would an economy have a positively sloped SRAS curve?



4. Assume AD increased. What would be the effect on real GDP and the price level if the economy had a horizontal SRAS curve? A positively sloped SRAS curve? A vertical SRAS curve?

5. What range of the SRAS curve do you think the economy is in today? Explain.

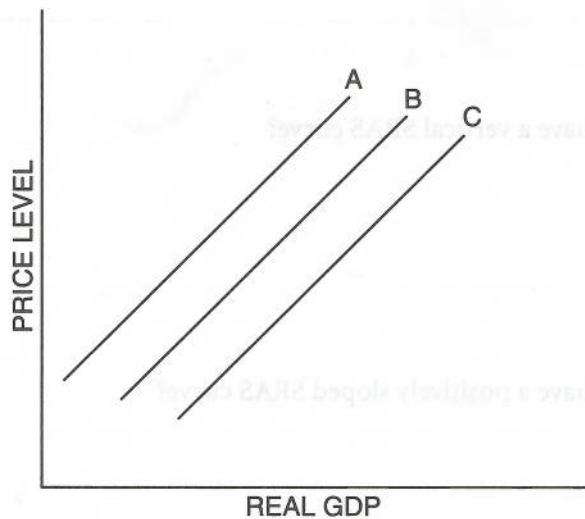
### Part B

#### What Shifts the Short-Run Aggregate Supply Curve?



Figure 24.2

Shifts in Short-Run Aggregate Supply



6. Using Figure 24.2, determine whether each situation below will cause an increase, decrease or no change in short-run aggregate supply (SRAS). Always start at curve B. If the situation would cause an increase in SRAS, draw an up arrow in column 1. If it causes a decrease, draw a down arrow. If there is no change, write NC. For each situation that causes a change in SRAS, write the letter of the new curve in column 2. Move only one curve.



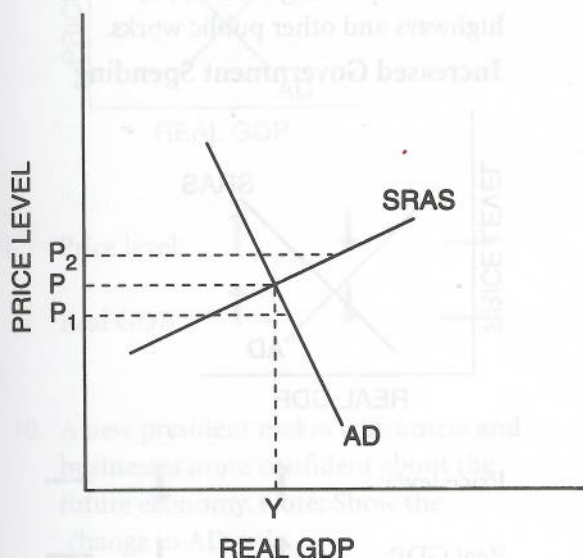
Situation	1. Change in SRAS	2. New SRAS Curve
(A) Unions grow more aggressive; wage rates increase.		
(B) OPEC successfully increases oil prices.		
(C) Labor productivity increases dramatically.		
(D) Giant natural gas discovery decreases energy prices.		
(E) Computer technology brings new efficiency to industry.		
(F) Government spending increases.		
(G) Cuts in tax rates increase incentives to save.		
(H) Low birth rate will decrease the labor force in future.		
(I) Research shows that improved schools have increased the skills of American workers and managers.		

## Short-Run Equilibrium Price Level and Output

### Part A Equilibrium



Figure 25.1  
Equilibrium Price and Output Levels



1. What are the equilibrium price level and output? \_\_\_\_\_
2. What would eventually happen to the price level and output if the initial price level were  $P_2$  rather than  $P$ ? Why would this happen?
3. What would eventually happen to the price level and output if the initial price level were  $P_1$  rather than  $P$ ? Why would this happen?

Activity written by John Morton, National Council on Economic Education, New York, N.Y., and James Stanley, Choate Rosemary Hall, Wallingford, Conn.

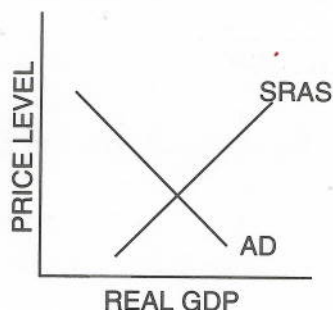
### Part B

#### Changes in the Equilibrium Price Level and Output

For each situation described below, illustrate the change on the AD and AS graph and describe the effect on the equilibrium price level and real GDP by circling the correct symbol: ↑ for increase, ↓ for decrease, or — for unchanged.

4. Congress passes a tax cut for the middle class, and the president signs it.

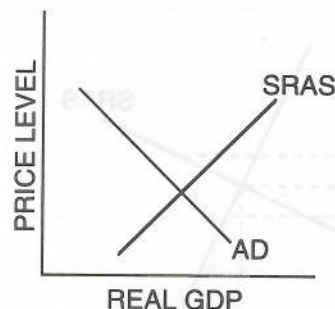
##### Middle Class Tax Cut



Price level:    ↑       ↓       —  
Real GDP:     ↑       ↓       —

5. During a recession, the government increases spending on schools, highways and other public works.

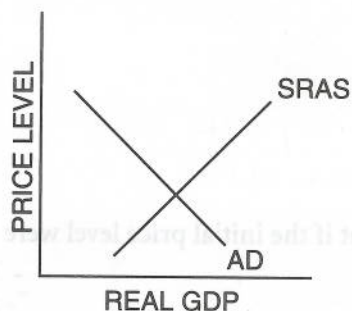
##### Increased Government Spending



Price level:    ↑       ↓       —  
Real GDP:     ↑       ↓       —

6. New oil discoveries cause large decreases in energy prices.

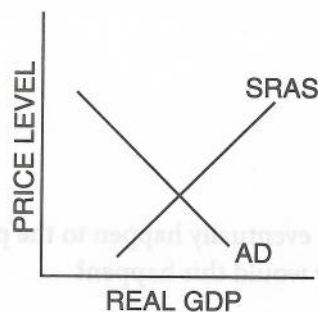
##### New Oil Discoveries



Price level    ↑       ↓       —  
Real GDP     ↑       ↓       —

7. Illustrate the effects of an increase in aggregate demand.

##### Effects of an Increase in AD

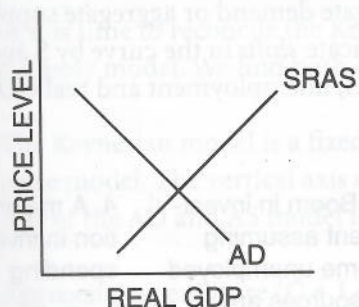


Price level    ↑       ↓       —  
Real GDP     ↑       ↓       —



8. Illustrate the effects of increases in production costs.

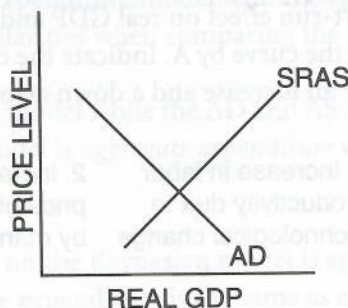
**Effects of Increases in Production Costs**



Price level	↑	↓	—
Real GDP	↑	↓	—

9. New technology and better education increase productivity.

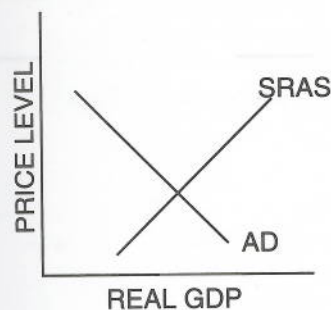
**Effects of New Technology and Better Education**



Price level	↑	↓	—
Real GDP	↑	↓	—

10. A new president makes consumers and businesses more confident about the future economy. **Note:** Show the change in AD only.

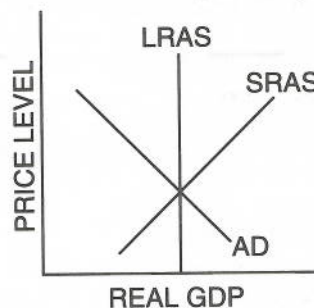
**Increased Confidence for Future Economy**



Price level	↑	↓	—
Real GDP	↑	↓	—

11. With the unemployment rate at five percent, the federal government reduces personal taxes and increases spending. **Note:** Show the change in AD only.

**Reduced Taxes and Increased Government Spending**



Price level	↑	↓	—
Real GDP	↑	↓	—

### Part C

#### Summarizing Aggregate Demand and Aggregate Supply Shifts

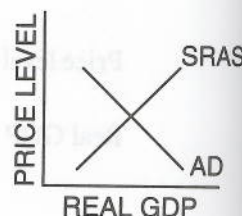
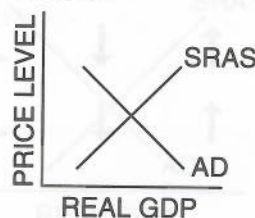
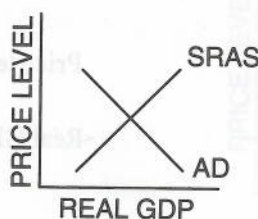
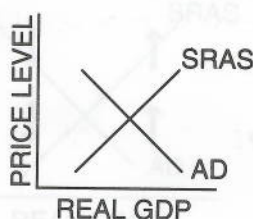
For each of the events below, make additions to the graph to illustrate the change. Then indicate the response in terms of shifts in or movements along the aggregate demand or aggregate supply curve and the short-run effect on real GDP and the price level. Indicate *shifts* in the curve by S and move-  
ments *along* the curve by A. Indicate the changes in price level, unemployment and real GDP with an up arrow for an increase and a down arrow for a decrease.

1. Increase in labor productivity due to technological change

2. Increase in the price of inputs used by many firms

3. Boom in investment assuming some unemployed resources are available

4. A major reduction in investment spending



AD Curve

AS Curve

Real GDP

Price Level

Unemployment

## Reconciling the Keynesian Aggregate Expenditure Model With the Aggregate Demand and Aggregate Supply Model

Now it is time to reconcile the Keynesian aggregate expenditure model with the aggregate demand and supply model. We find both differences and similarities when comparing the two models:

- The Keynesian model is a fixed, or constant, price model while the AD and AS model is a variable-price model. The vertical axis of the Keynesian model is *aggregate expenditure* while the vertical axis of the AD and AS model is *price level*.
- Aggregate expenditure ( $C + I + G + \text{Net Exports}$ ) on the Keynesian model is aggregate demand on the AD and AS model. A shift upward in aggregate expenditure is the same as a shift outward in aggregate demand. A shift downward of aggregate expenditure is the same as a shift inward of aggregate demand.
- The AD and AS model can account for shifts in aggregate supply. The Keynesian model cannot do so.
- In the Keynesian model, a shift in aggregate expenditures results in the full multiplier effect, and the multiplier can easily be calculated from the graphs. In the AD and AS model, the multiplier is not at full strength on the positively sloped and vertical AS curves.
- In the AD and AS model, the increase in the price level diminishes the impact of the multiplier.



Activity written by John Morton, National Council on Economic Education, New York, N.Y.



For each of the following situations, illustrate the indicated change on both the AD and AS model and the Keynesian model.

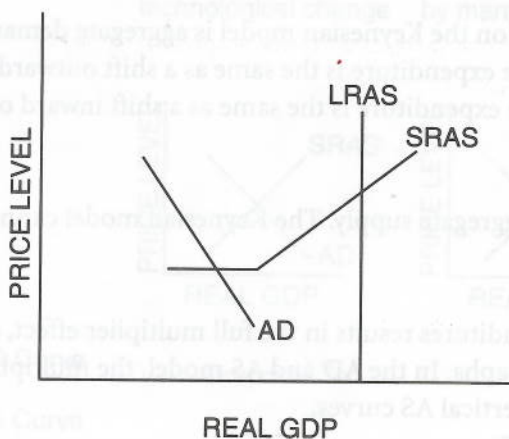
1. The economy is at less than *full* employment. An increase in consumer confidence moves the economy to *full* employment.



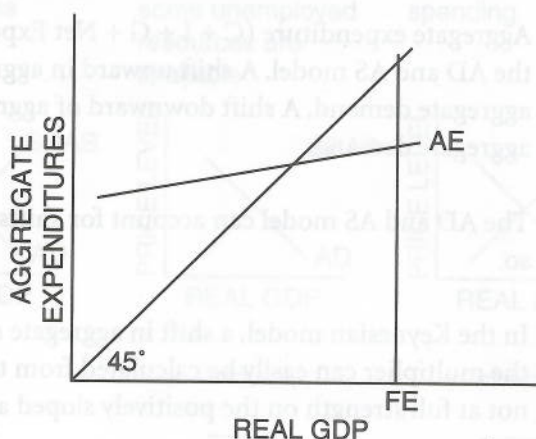
Figure 26.1

### An Increase in Consumer Confidence

Less Than Full Employment  
Using the AD and AS Model



Less Than Full Employment  
Using the Keynesian Model



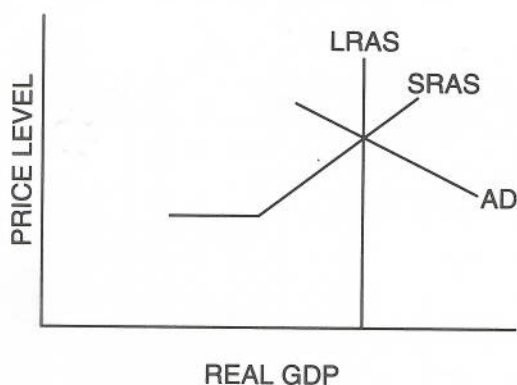
2. The economy is at full employment but businesses begin to believe that a recession is ahead.



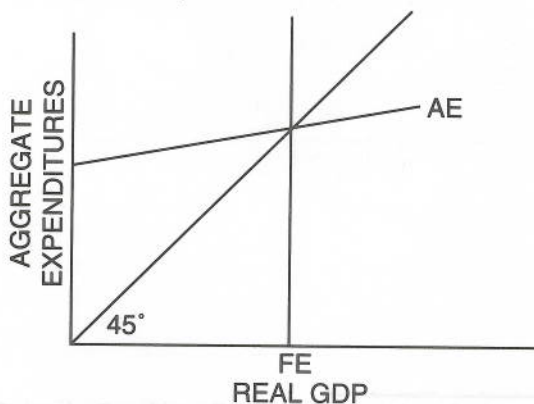
Figure 26.2

### Businesses Believe a Recession Is Coming

Full Employment  
Using the AD and AS Model



Full Employment  
Using the Keynesian Model



## Manipulating the AD and AS Model: Exogenous Demand and Supply Shocks

### Part A

#### Exogenous Demand Shocks

An *exogenous demand shock* is a change in an exogenous variable — a variable determined outside the model — that affects aggregate demand. Read the description of each exogenous demand shock, and then draw a new AD curve that will represent the change the demand shock caused. Label the new curve  $AD_1$ . Then briefly explain the reason for the change in the graph.

1. **Exogenous Demand Shock:** Economic booms in both Japan and Europe result in massive increases in orders for exported goods from the United States.



EXPLANATION:

2. **Exogenous Demand Shock:** As part of its countercyclical policy, the government both reduces taxes and increases transfer payments.

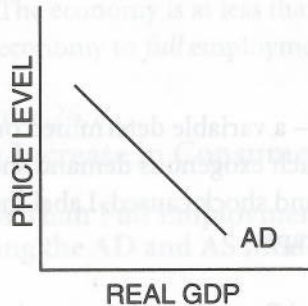


EXPLANATION:

Activity written by Robert Nuxoll, Oceanside High School, Oceanside, N.Y.

3. **Exogenous Demand Shock:** While the United States was in the midst of the Great Depression, a foreign power attacked, Congress declared war and more than 1,000,000 soldiers were drafted in the first year while defense spending was increased several times over.

EXPLANATION:



4. **Exogenous Demand Shock:** To balance the budget, the federal government cuts Social Security payments by 10 percent and federal aid to education by 20 percent.

EXPLANATION:



## Part B

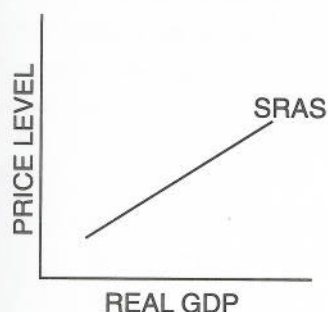
### Exogenous Supply Shocks

The cause of an *exogenous supply shock* is the change in an exogenous variable — a variable determined outside the model — that affects aggregate supply. Read the description of each exogenous shock to short-run aggregate supply, and then draw a new SRAS curve that will represent the change caused by the shock. Label the new curve  $SRAS_1$ . Then briefly explain the reason for the change in the graph.



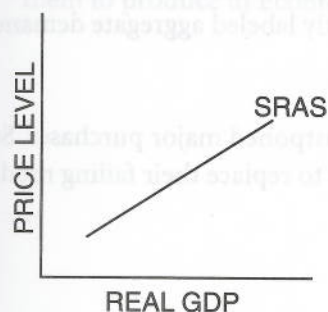
5. **Exogenous Supply Shock:** New environmental standards raise the average cost of autos and trucks 5 percent.

EXPLANATION:



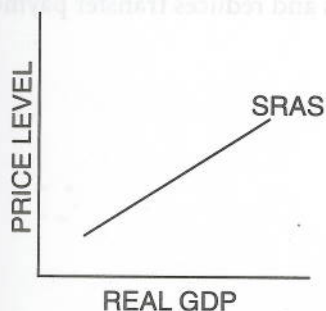
6. **Exogenous Supply Shock:** Fine weather results in the highest corn and wheat yields in 40 years.

EXPLANATION:



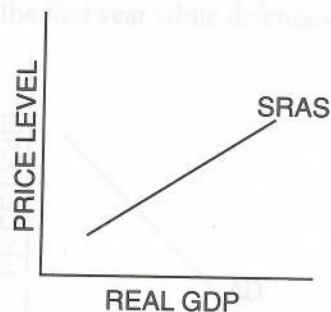
7. **Exogenous Supply Shock:** Because of decreased international tension, the government sells off thousands of army-surplus Jeeps and trucks at prices that are far less than the market price for their commercial counterparts.

EXPLANATION:



8. **Exogenous Supply Shock:** An enemy power sets up a blockade of the sea lanes leading to a country, and most ships refuse to deliver cargo through the blockade.

EXPLANATION:



### Part C

#### Manipulating the Aggregate Supply and Demand Model

Read each of the scenarios below, and explain the impact the exogenous shocks will have on short-run aggregate supply and aggregate demand. Then draw a correctly labeled aggregate demand and aggregate supply graph to illustrate each short-run impact.

9. During a long, slow recovery from a recession, consumers postponed major purchases. Suddenly they begin to buy cars, refrigerators, televisions and furnaces to replace their failing models.

10. With no other dramatic changes, the government raises taxes and reduces transfer payments in the hope of balancing the federal budget.

### Part B

#### Exogenous Supply Shocks

The cause of an exogenous supply shock is the change in an exogenous variable — a variable determined outside the model — that affects aggregate supply. Read the description of each exogenous shock to short-run aggregate supply, and then draw a new SRAS curve that will represent the change caused by the shock. Label the new curve  $SRAS_1$ . Then briefly explain the reason for the change in the graph.

11. News of possible future layoffs frightens the public into reducing spending and increasing saving for the feared "rainy day."

In this activity we are working from the short run to the long run. The aggregate demand curve is downward sloping and the aggregate supply curve is upward sloping. The aggregate supply curve is upward sloping in the short run because of short-run price adjustments within the economy.

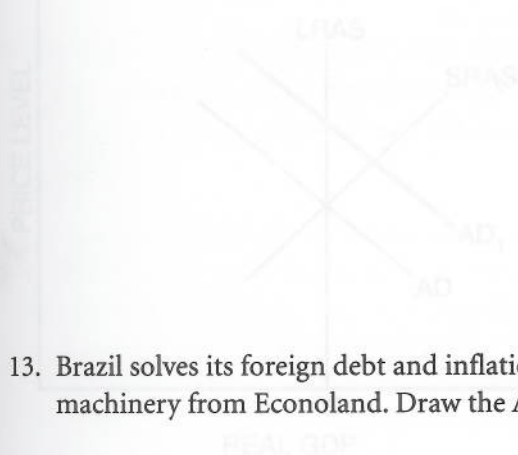
### Part A

1. In the following graph, suppose the aggregate demand shifts from  $AD$  to  $AD_1$ . How will the economy react over time? Assume that no monetary or fiscal policy is undertaken.

Figure 28.1

Increase in Aggregate Demand  
Shifting to Full Employment

12. Because of rising tensions in many developing countries, firms begin to build new factories in Econoland and to purchase sophisticated machinery from Econoland businesses that will enable them to produce in Econoland at prices that are competitive.



13. Brazil solves its foreign debt and inflation problems. It then orders \$10 billion worth of capital machinery from Econoland. Draw the AD and short-run AS graph for Econoland.

(A) What will happen to output in the short run? Explain.

(B) What will happen to output as the economy moves to the long-run equilibrium? Explain.

(C) What will happen to the price level? Explain.

Activity written by Eric John B. Goodson, U.S. Naval Academy, Annapolis, Md. Part B was written by Robert Winzell, Oronoke High School, Oronoke, N.Y.



## The Macroeconomic Model: Short Run to Long Run

In this activity we are working from the short run to the long run. The aggregate demand curve is downward sloping and the aggregate supply curve is upward sloping. The aggregate supply curve is upward sloping in the short run because of slow wage and price adjustments within the economy.

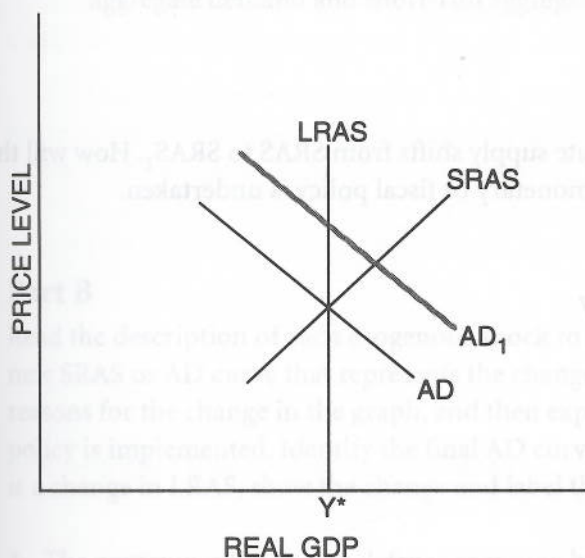
### Part A

1. In the following graph, suppose the aggregate demand shifts from  $AD$  to  $AD_1$ . How will the economy react over time? Assume that no monetary or fiscal policy is undertaken.



Figure 28.1

### Increase in Aggregate Demand Starting at Full Employment



- (A) What will happen to output in the short run? Explain.
- (B) What will happen to output as the economy moves to the long-run equilibrium? Explain.
- (C) What will happen to the price level? Explain.

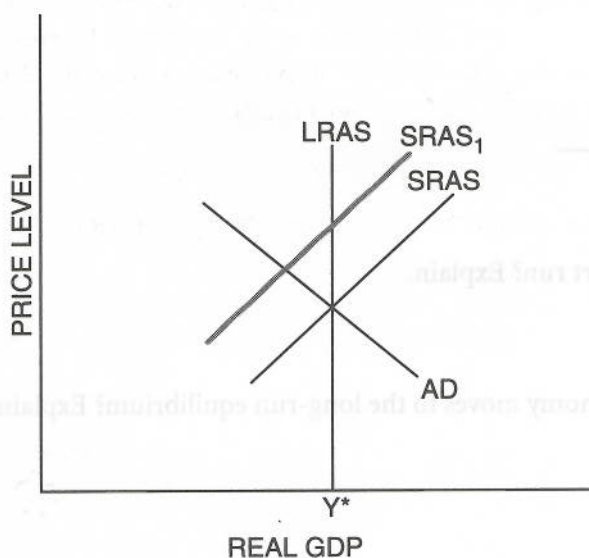
Activity written by Rae Jean B. Goodman, U.S. Naval Academy, Annapolis, Md. Part B was written by Robert Nuxoll, Oceanside High School, Oceanside, N.Y.

(D) What will happen to wages? Explain.

(E) In the graph, draw the shifts in AD and SRAS that you think will occur. Indicate the final aggregate demand and short-run aggregate supply curves by labeling them as  $AD_f$  and  $SRAS_f$ .

2. In the following graph, suppose the aggregate supply shifts from  $SRAS$  to  $SRAS_1$ . How will the economy react over time? Assume that no monetary or fiscal policy is undertaken.

\* Figure 28.2  
Change in Short-Run Aggregate Supply



(A) What will happen to output in the short run? Explain.

(B) What will happen to output as the economy moves to the long-run equilibrium? Explain.

(C) What will happen to the price level? Explain.

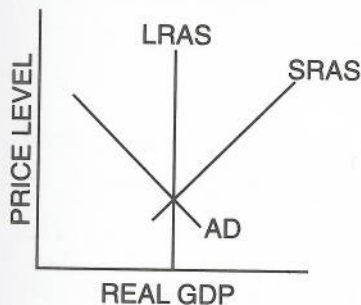
(D) What will happen to wages? Explain.

(E) In the graph, draw the shifts in AD and SRAS that you think will occur. Indicate the final aggregate demand and short-run aggregate supply curves by labeling them as  $AD_f$  and  $SRAS_f$ .

### Part B

Read the description of each exogenous shock to aggregate supply and aggregate demand. Draw a new SRAS or AD curve that represents the change caused by the shock in the short run. Explain the reasons for the change in the graph, and then explain what happens in the long run if no stabilization policy is implemented. Identify the final AD curve as  $AD_f$  and the final SRAS curve as  $SRAS_f$ . If there is a change in LRAS, show the change and label the new curve  $LRAS_f$ .

3. The government increases defense spending by 10 percent a year over a five-year period.

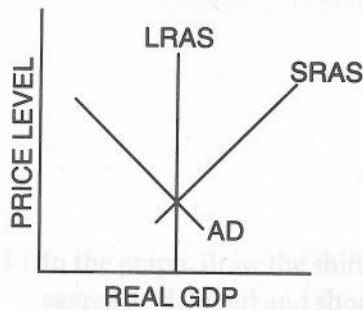


EXPLANATION:



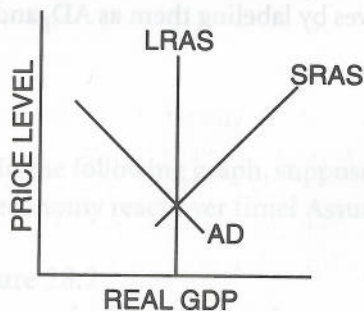


4. OPEC cuts oil production by 30 percent, and the world price of oil rises by 40 percent.



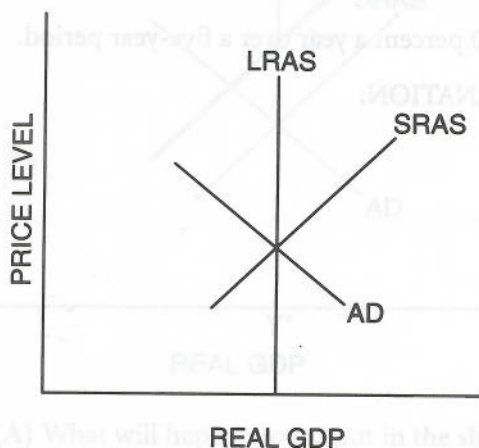
EXPLANATION:

5. The government increases spending on education, health care, housing and basic services for low-income people. No increase in taxes accompanies the program.



EXPLANATION:

6. Can the government maintain output above the natural level of output with aggregate demand policy? If the government attempts to, what will be the result?



## *Long-Run Aggregate Supply (LRAS) and the Production Possibilities Curve (PPC)*

The long-run aggregate supply (LRAS) curve differs from the short-run aggregate supply (SRAS) curve. The LRAS curve is a vertical line at an output level that represents the quantity of goods and services a nation can produce over a sustained period using all of its productive resources as efficiently as possible with all of the current technology available to it. Long-run aggregate supply is at full employment. LRAS doesn't change as the price level changes. Developing more and better resources or improving technology will shift the LRAS curve outward, but it will still be vertical.

The LRAS curve represents a point on an economy's production possibilities curve. Remember that the production possibilities curve (PPC) represents the maximum output of two goods that can be produced given scarce resources. The economy could grow if the PPC shifts outward because of more resources or technological advances. For the same reason, the LRAS curve shifts outward if more resources are developed or if there are technological advances.

SRAS can actually be greater than LRAS. Resources can be used more intensively in the short run. For example, workers can work more hours and machines can operate for more hours. However, this output level cannot be sustained in the long run. Eventually, the equilibrium level of output will fall unless LRAS is increased. As an analogy on a personal level, you may pull an all-nighter to prepare for several exams on the same day. You cannot, however, work 24 hours a day all the time.

Activity written by James Stanley, Choate Rosemary Hall, Wallingford, Conn.

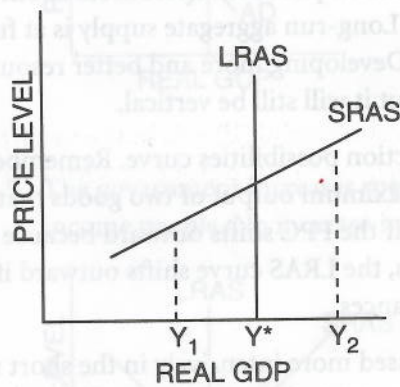
Now answer the questions that follow to be sure you understand these concepts. Use the graphs in Figure 29.1 in your answers.



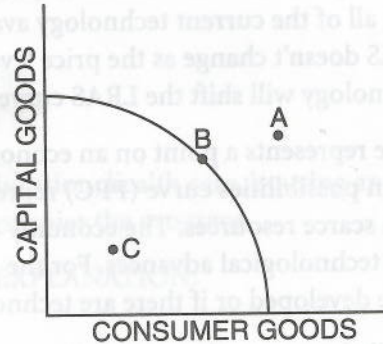
Figure 29.1

### Aggregate Supply and Production Possibilities Curves

#### LRAS and SRAS Curves



#### PPC Graph



1. What information does a PPC provide for us about a nation's economy?
2. What assumptions do you make about the use of available resources when drawing a PPC?
3. What would cause a nation's PPC to shift?
4. What do you know about a nation's economy that is operating on the LRAS curve?
5. Under what conditions would an economy be on the LRAS curve?



6. If the price level rises, will LRAS shift? \_\_\_\_\_ Will the LRAS curve shift if AD changes? \_\_\_\_\_
7. If an economy finds that it faces a short-run equilibrium where real GDP is  $Y_1$ , how would you describe the condition of the economy? Given this equilibrium level of output, at what point would the economy lie on the PPC? Explain your answer.
8. If an economy finds that it faces a short-run equilibrium where real GDP is  $Y$ , how would you describe the condition of the economy? Given this equilibrium level of output, at what point would the economy lie on the PPC? Explain your answer.
9. If an economy finds that it faces a short-run equilibrium where real GDP is  $Y_2$ , how would you describe the condition of the economy? Given this equilibrium level of output, at what point would the economy lie on the PPC? Explain your answer.
10. If the economy were producing at  $Y_2$ , what would happen in the long run? Why?
11. What could cause a nation's LRAS to shift?
12. How would a rightward shift in LRAS be shown on the PPC?

## The Tools of Fiscal Policy

Changes in federal taxes and federal government spending designed to affect the level of aggregate demand in the economy are called *fiscal policy*.

*Aggregate demand* is the total amount of spending on goods and services in the economy during a stated period of time. Aggregate demand consists of consumer spending, government spending, investment spending and net exports.

*Aggregate supply* consists of the total amount of goods and services available in the economy during a stated period of time.

During a recession, aggregate demand is usually too low to bring about full employment of resources. Government can increase aggregate demand by spending more, cutting taxes or doing both. These actions often result in budget deficits because the government spends more than it collects in taxes. Increasing government spending without increasing taxes or decreasing taxes without decreasing government expenditures should increase aggregate demand. Such an *expansionary fiscal policy* should increase employment, the price level or both.

If the level of aggregate demand is too high, creating inflationary pressure, government can reduce its spending, increase taxes or do both. These actions should result in a larger budget surplus or a smaller budget deficit than existed before. Such a *contractionary fiscal policy* should lower the level of aggregate demand, and the economy will experience less employment, a lower price level or both.

Figure 30.1  
Effects of Fiscal Policy

	(A) Objective for Aggregate Demand	(B) Action on Taxes	(C) Action on Government Spending	(D) Effect on Federal Budget	(E) Effect on the National Debt
1. National unemployment rate rises					
2. Inflation is strong at a rate of 14 percent per year					
3. Surveys show consumers are losing confidence in the economy, retail sales are weak and business inventories are increasing rapidly.					
4. Business sales and investment are expanding rapidly, and economic growth is strong.					

From *Master Curriculum Guide in Economics: Teaching Strategies for High School Economics Courses* (New York: National Council on Economic Education, 1985), pp. 151-152

**Part A**

Decide whether each of the following fiscal policies of the federal government is expansionary or contractionary. Write *expansionary* or *contractionary*, and explain the reasons for your choice.

1. The government cuts business and personal income taxes and increases its own spending.
2. The government increases the personal income tax, Social Security tax and corporate income tax. Government spending stays the same.
3. Government spending goes up while taxes remain the same.
4. The government reduces the wages of its employees while raising taxes on consumers and businesses. Other government spending remains the same.



## Part B

### Effects of Fiscal Policy

Test your understanding of fiscal policy by completing the table in Figure 30.1. Your choices for each situation must be consistent — that is, you should choose either an expansionary or contractionary fiscal policy. (Fiscal policy cannot provide a solution to one of the situations.) Fill in the spaces as follows:

#### Column A: Objective for Aggregate Demand

Draw an up arrow if you wish to increase aggregate demand.

Draw a down arrow if you wish to decrease aggregate demand.

#### Column B: Action on Taxes

Draw an up arrow if you wish to increase taxes.

Draw a down arrow if you wish to decrease taxes.

#### Column C: Action on Government Spending

Draw an up arrow if you wish to increase government spending.

Draw a down arrow if you wish to decrease government spending.

#### Column D: Effect on Federal Budget

Write *toward deficit* if your action will increase the deficit (or reduce the surplus).

Write *toward surplus* if your action will reduce the deficit (or increase the surplus).

#### Column E: Effect on the National Debt

Draw an up arrow if you think the national debt will increase.

Draw a down arrow if you think the national debt will decrease.



Figure 30.1

### Effects of Fiscal Policy

	(A) Objective for Aggregate Demand	(B) Action on Taxes	(C) Action on Government Spending	(D) Effect on Federal Budget	(E) Effect on the National Debt
1. National unemployment rate rises to 12 percent.					
2. Inflation is strong at a rate of 14 percent per year.					
3. Surveys show consumers are losing confidence in the economy, retail sales are weak and business inventories are increasing rapidly.					
4. Business sales and investment are expanding rapidly, and economists think strong inflation lies ahead.					
5. Inflation persists while unemployment stays high.					

## Discretionary and Automatic Fiscal Policy

One of the goals of economic policy is to stabilize the economy. This means trying to keep employment high and the price level stable. To accomplish this, the amount of aggregate demand in the economy must be near the full-employment level of output. If aggregate demand is too low, there will be unemployment. If aggregate demand is too high, there will be inflation.

If aggregate demand is too low, government may be able to stimulate spending in the economy by increasing its spending or by cutting taxes. These policies are examples of *expansionary fiscal policy*. If government wants to slow down aggregate demand, it would pursue a *contractionary fiscal policy*. To do this, it could cut government spending or raise taxes.

If government has to pass a law, or take some other specific action to change its tax and/or spending policies, then government is stabilizing the economy through *discretionary policy*. If the effect happens by itself as the economic situation changes, then it is known as an *automatic stabilizer*. An example of an automatic stabilizer is unemployment compensation: If the economy goes into a recession and people are laid off, they may be eligible to receive unemployment compensation. This payment helps them buy necessities and helps keep aggregate demand from falling as much as it might otherwise. The payments help stabilize the economy but occur without any additional legislation.

Activity written by David Nelson, Western Washington University, Bellingham, Wash.



Listed below are several economic scenarios. For each scenario, indicate whether it represents an automatic (A) or discretionary (D) stabilizer and whether it is an example of expansionary (E) or contractionary (C) fiscal policy. A sample has been completed for you.

Economic Scenarios	Automatic (A) or Discretionary (D)	Expansionary (E) or Contractionary (C)
<i>Sample:</i> Recession raises amount of unemployment compensation.	A	E
1. The government cuts personal income-tax rates.	_____	_____
2. The government eliminates favorable tax treatment on long-term capital gains.	_____	_____
3. Incomes rise; as a result, people pay a larger fraction of their income in taxes.	_____	_____
4. As a result of a recession, more families qualify for food stamps and welfare benefits.	_____	_____
5. The government eliminates the deductibility of interest expense for tax purposes.	_____	_____
6. The government launches a major new space program to explore Mars.	_____	_____
7. The government raises Social Security taxes.	_____	_____
8. Corporate profits increase; as a result, government collects more corporate income taxes.	_____	_____
9. The government raises corporate income tax rates.	_____	_____
10. The government gives all its employees a large pay raise.	_____	_____



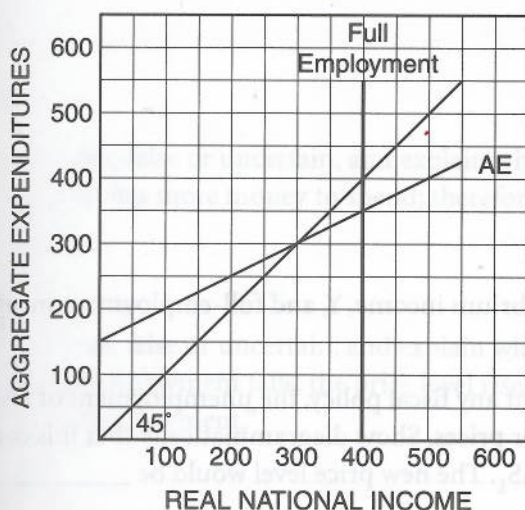
## Two Ways to Analyze Fiscal Policy

In Figure 32.1, assume an estimated full-employment national income of \$400 billion for the economy and a horizontal SRAS.



Figure 32.1

### Aggregate Expenditure Function for a Hypothetical Economy

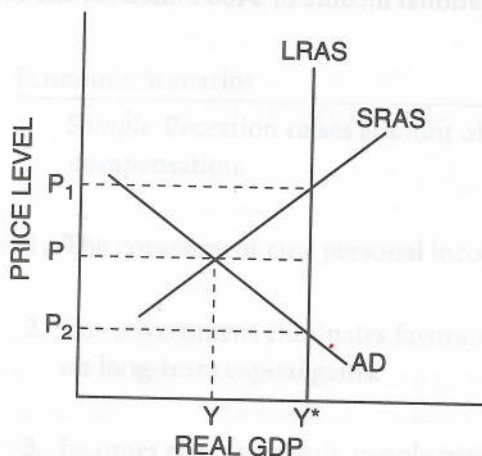


1. What will be the actual national income level in equilibrium? \_\_\_\_\_
2. Given a marginal propensity to consume of 0.50, how much of an increase in aggregate expenditure would be needed to move the economy to full employment? (Hint: Calculate the MPC from the diagram using the rise divided by the run. Then calculate the multiplier that will operate on any change in AE.) \_\_\_\_\_
3. How much will GDP increase if aggregate expenditure increases by \$50 billion? Why?
4. What fiscal policy measures are available to deal with this situation?
5. Draw in a new AE curve showing the elimination of the gap between the current equilibrium income and the full-employment level of income through the use of fiscal policy. Explain completely the policy you employed.

Adapted from Dascomb R. Forbush and Fredric G. Menz, *Study Guide and Problems to Accompany Lipsey, Steiner and Purvis, Economics*, 8th ed. (New York: HarperCollins Publishing Co., 1987), p. 369.



Figure 32.2  
Diagram of a Persistent Gap



6. Assume a persistent gap between current equilibrium income,  $Y$ , and full-employment income,  $Y^*$ , as shown in Figure 32.2.
  - (A) If the government decided not to implement any fiscal policy, the unemployment of resources would eventually lead to a decrease in factor prices. Show diagrammatically that this could eliminate the gap. Label the new curve  $SRAS_1$ . The new price level would be \_\_\_\_\_.
  - (B) A second possibility would be to depend on a smaller shift of aggregate supply and have a modest shift in aggregate demand by a discretionary fiscal stimulus so that the price level was maintained at  $P$ . Show these two changes in the graph. Label the curves  $SRAS_2$  and  $AD_1$ .
  - (C) A third possibility is that government would seek changes in taxes and/or expenditures that would rapidly bring the economy to full employment. Show this diagrammatically. Label the curve  $AD_2$ .
7. Assume that a hypothetical economy is currently at an equilibrium national income level of \$1 trillion, but the full-employment national income is \$1.2 trillion. Assume the government's budget is currently in balance at \$200 billion and the marginal propensity to consume is 0.75. Fill in the answer blanks or underline the correct words in parentheses.
  - (A) The gap between the equilibrium income and full employment is \_\_\_\_\_.
  - (B) The value of the multiplier is \_\_\_\_\_.
  - (C) Aggregate expenditures would have to be (*increased / decreased*) by \_\_\_\_\_ billion to eliminate the gap.
  - (D) The government could attempt to eliminate the gap by holding taxes constant and (*increasing / decreasing*) expenditures by \_\_\_\_\_ billion.
  - (E) Alternatively, the government could attempt to eliminate the gap by holding expenditures constant and (*increasing / decreasing*) its tax receipts by \_\_\_\_\_ billion.



## Analyzing the Macroeconomy

Answer the following questions. In some cases, you may also want to include a graph to show your analysis.

1. True, false or uncertain, and explain why? "Regardless of our current economic situation, an increase in aggregate demand will always create new jobs."
2. True, false or uncertain, and explain why? "In the long run, when nominal wages increase, everyone has more money to spend; therefore, the economy as a whole benefits."
3. True, false or uncertain, and explain why? "When unemployment rises, the price level falls. When unemployment falls, the price level rises. It is impossible to have a rising price level with rising unemployment."
4. True, false or uncertain, and explain why? "Our economy is able to adjust to a long-run equilibrium after a decrease in aggregate demand because prices and wages are sticky."
5. True, false or uncertain, and explain why? "If we are in a recession, as long as we continue to increase aggregate demand, we can achieve full employment without driving up the inflation rate."

Activity written by James Stanley, Choate Rosemary Hall, Wallingford, Conn., and John Morton, National Council on Economic Education, New York, N.Y.



6. True, false or uncertain, and explain why? "When the economy experiences an increase in aggregate demand, it will discover that its production possibilities curve has shifted outward."

7. Use short-run AD and AS analysis to illustrate the results of the following events. Then explain why these changes have taken place. Each answer should be accompanied by a clearly labeled diagram.

(A) There is a 25 percent decrease in the price of crude oil.

(B) Price levels in Germany, Japan and Great Britain rise considerably, while price levels in the United States remain unchanged.

(C) The federal government launches a major new highway-construction program.

(D) An insidious computer virus causes all IBM computers in the United States to crash.

Write the letter of each correct answer.

Which of the following best describes aggregate supply?

(A) The amount buyers plan to spend on output.

(B) A schedule showing the relationship between inputs and outputs.

(C) A schedule showing the trade-off between output and the price level.

(E) There is an increase in worker productivity.

(D) A schedule indicating the level of real output that will be purchased at each possible price level.

(E) A schedule indicating the level of real output that will be produced at each possible price level.

Which change in which of the following will cause the aggregate demand curve to shift?

(A) Energy prices

(B) Productivity rates

(C) Consumer wealth

8. Illustrate the following fiscal policy using both the AD and AS model and the Keynesian aggregate expenditure model. In other words, draw two graphs for the fiscal policy change and give a brief explanation of each graph. In your explanation, be sure to emphasize the line of reasoning that generated your results; it is not enough to list the results of your analysis.

**Fiscal Policy:** At less than full employment, the federal government decreases taxes while holding government spending constant.

(A) government regulation increases.

(B) prices of inputs decrease.

(C) investment spending decreases.

(D) productivity rates decrease.

9. A rightward shift in the aggregate demand curve with a horizontal aggregate supply curve will cause employment and the price level to change in which of the following ways?

Employment	Price Level
(A) Increase	Increase
(B) Increase	Decrease
(C) Increase	No change
(D) Decrease	No change
(E) No change	No change

10. An increase in the capital stock will cause the

(A) aggregate demand curve to shift leftward.

(B) production possibilities curve to shift in.

(C) Phillips curve to shift out.

(D) long-run aggregate supply curve to shift rightward.

(E) consumption function to shift down.

11. Which of the following is a fiscal policy that would increase aggregate demand in the Keynesian model?

(A) A decrease in government spending.

(B) A decrease in government bonds by the Federal Reserve.

(C) A decrease in government bonds by the Federal Reserve.

(D) A decrease in government bonds by the Federal Reserve.

(E) A decrease in government bonds by the Federal Reserve.