

Chapter 12: Aggregate Demand and Aggregate Supply Analysis

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Learning Objectives

1. Identify the determinants of aggregate demand and distinguish between a movement along the aggregate demand curve and a shift of the curve.
2. Identify the determinants of aggregate supply and distinguish between a movement along the short-run aggregate supply curve and a shift of the curve.
3. Use the aggregate demand and aggregate supply model to illustrate the difference between short-run and long-run macroeconomic equilibrium.
4. Use the dynamic aggregate demand and aggregate supply model to analyze macroeconomic conditions.

Aggregate Demand

- ▶ In the short-run, *real GDP* fluctuates around the long-run upward trend because of business cycles (BC). *Real GDP and employment* co-move during BC.
- ▶ The BC also causes *changes in prices and wages*. Some firms react to a decline in sales by cutting back on *production*, but they may also cut the *prices* they charge and the *wages* they pay.
- ▶ *Aggregate demand and aggregate supply model*: A model that explains short-run fluctuations in *real GDP* and *the price level*. This model will help us analyze the effects of recessions and expansions on *production, employment, and prices*.

- ▶ (Cont.) *Aggregate demand curve (AD)*: A curve showing the relationship between *the price level (PL)* and the quantity of *real GDP demanded* by households, firms, and the government.
- ▶ *Short-run aggregate supply curve (SRAS)*: A curve showing the relationship in the short run between the PL and the quantity of real GDP supplied by firms.
- ▶ *Fluctuations in real GDP and the PL* are caused by shifts in the AD curve or the AS curve.

Identify the determinants of aggregate demand and distinguish between a movement along the aggregate demand curve and a shift of the curve.

Aggregate Demand

Aggregate demand and aggregate supply model

A model that explains short-run fluctuations in real GDP and the price level.

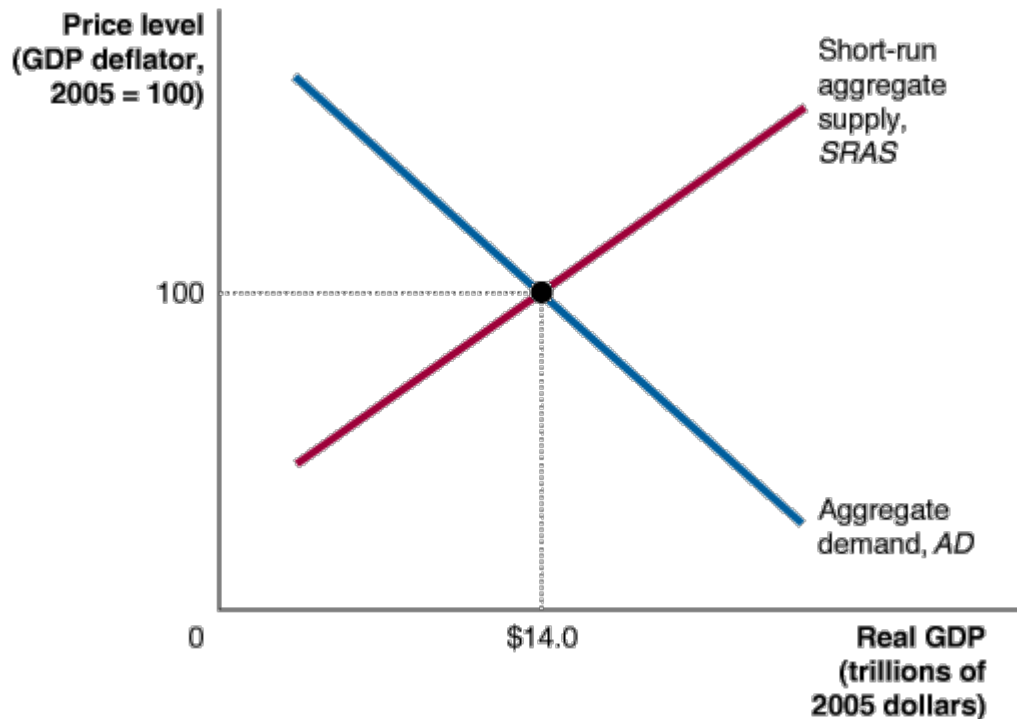
FIGURE 12-1

Aggregate Demand and Aggregate Supply

In the short run, real GDP and the price level are determined by the intersection of the aggregate demand curve and the short-run aggregate supply curve.

In the figure, real GDP is measured on the horizontal axis, and the price level is measured on the vertical axis by the GDP deflator.

In this example, the equilibrium real GDP is \$14.0 trillion, and the equilibrium price level is 100.



Why Is the Aggregate Demand Curve Downward Sloping?

- ▶ Because a fall in the PL increases the quantity of real GDP *demanded*.

$$Y = C + I + G + NX \quad (1)$$

- ▶ *The wealth effect*: How a change in the PL affects consumption?
 - ▶ As the PL falls, the real value of HH wealth rises, and so will consumption because consumption is positively correlated with real wealth.
 - ▶ This effect of the PL on consumption is called the wealth effect.

- ▶ (Cont.) *The interest rate effect*: How a change in the PL affects investment?
 - ▶ When prices rise, HHs and firms need more money to finance buying and selling; consequently, they try to increase the amount of money they hold by withdrawing funds from banks, borrowing from banks, or selling bonds. These actions will increase the interest rate (IR) charged on loans and bonds.
 - ▶ A higher IR raises the cost of borrowing for firms and HHs (e.g., borrow less to build new buildings, new houses, or autos). Investment and consumption will therefore be reduced.

- ▶ (Cont.) *The international-trade effect*: How a change in the PL affects net exports?
 - ▶ If the PL in the US rises relative to the PLs in other countries, US exports will become relatively more expensive and foreign imports will become relatively less expensive.
 - ▶ Consequently, some consumers in foreign countries will shift from buying US products to buying domestic products, and some US consumers will also shift from buying US products to buying imported products, US exports will fall and US imports will rise, causing NXs to fall.

Shifts of the AD Curve versus Movements Along It

- ▶ Note that the AD curve tells the relationship bw the PL and the quantity of real GDP *demanded*, *holding everything else constant*.
- ▶ If the PL changes, but *other variables* that affect the willingness of HHs, firms, and gov. to spend are *unchanged*, the economy will move *up or down a stationary AD curve*.
- ▶ If any variable changes other than the PL, the AD curve will *shift*. E.g., if gov spending increases and the PL remains unchanged, the AD curve will shift to the right at every PL.

Three Variables That Shift the AD Curve

- ▶ Changes in *government policies (Monetary and fiscal policies)*
 - ▶ *Monetary policy (MP)*: The actions the Federal Reserve takes to manage the money supply and interest rates to pursue macroeconomic policy objectives. *Fiscal policy (FP)*: Changes in federal taxes and purchases that are intended to achieve macroeconomic policy objectives.
 - ▶ Gov uses *monetary and fiscal policies* to shift the AD curve.
 - ▶ Lower IRs lower the cost to firms and HHs of borrowing. Lower borrowing costs increase consumption and investment, which shifts the AD to the right. An increase in gov. purchases also shifts the AD to the right because they are one component of AD.
 - ▶ An increase in personal income taxes reduce consumption spending and shift the AD curve to the left. Increases in business taxes reduce the profitability and shift the AD to the left.

- ▶ (Cont.) Changes in *the expectations of households and firms*
 - ▶ If HHs and firms become more optimistic (pessimistic) about their future incomes, they are likely to increase (reduce) their current consumption spending, which will increase (reduce) AD.
 - ▶ Similarly, if firms become more optimistic (pessimistic) about their future profitability of investment spending, the AD curve will shift to the right.
- ▶ Changes in *foreign variables*: If firms and HHs in other countries buy fewer U.S. goods or if firms and households in the U.S. buy more foreign goods, net exports will fall, and the AD curve will shift to the left.
 - ▶ If real GDP in the US increases faster than the real GDP in other countries, US imports will increase faster than US exports, and NXs will decline.
 - ▶ If the exchange rate bw. the dollar and foreign currencies rises, NXs will also fall.
 - ▶ Both changes will shift the AD curve to the left.

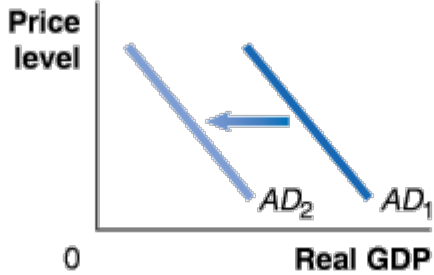
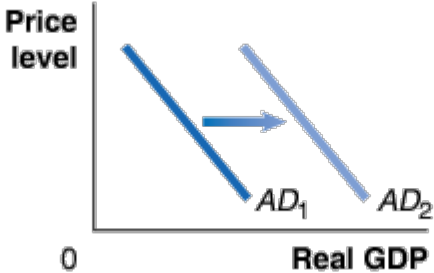
Identify the determinants of aggregate demand and distinguish between a movement along the aggregate demand curve and a shift of the curve.

Aggregate Demand

The Variables That Shift the Aggregate Demand Curve

Table 12-1

Variables That Shift the Aggregate Demand Curve

AN INCREASE IN ...	SHIFTS THE AGGREGATE DEMAND CURVE ...	BECAUSE ...
interest rates	 <p>The graph shows a downward-sloping aggregate demand curve shifting to the left. The vertical axis is labeled 'Price level' and the horizontal axis is labeled 'Real GDP'. The original curve is labeled AD_1 and the new curve is labeled AD_2. A blue arrow points from AD_1 to AD_2.</p>	higher interest rates raise the cost to firms and households of borrowing, reducing consumption and investment spending.
government purchases	 <p>The graph shows a downward-sloping aggregate demand curve shifting to the right. The vertical axis is labeled 'Price level' and the horizontal axis is labeled 'Real GDP'. The original curve is labeled AD_1 and the new curve is labeled AD_2. A blue arrow points from AD_1 to AD_2.</p>	government purchases are a component of aggregate demand.

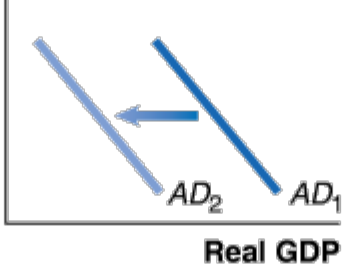
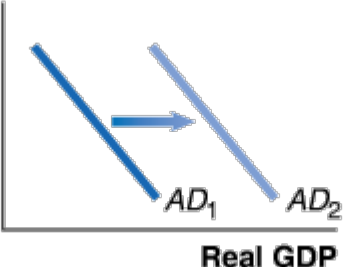
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Aggregate Demand

The Variables That Shift the Aggregate Demand Curve

Table 12-1

Variables That Shift the Aggregate Demand Curve (continued)

AN INCREASE IN ...	SHIFTS THE AGGREGATE DEMAND CURVE ...	BECAUSE ...
personal income taxes or business taxes	 <p>The graph shows a downward-sloping aggregate demand curve shifting to the left. The vertical axis is labeled 'Price level' and the horizontal axis is labeled 'Real GDP'. The original curve is labeled AD₁ and the new curve is labeled AD₂. A blue arrow points from AD₁ to AD₂.</p>	consumption spending falls when personal taxes rise, and investment falls when business taxes rise.
households' expectations of their future incomes	 <p>The graph shows a downward-sloping aggregate demand curve shifting to the right. The vertical axis is labeled 'Price level' and the horizontal axis is labeled 'Real GDP'. The original curve is labeled AD₁ and the new curve is labeled AD₂. A blue arrow points from AD₁ to AD₂.</p>	consumption spending increases.

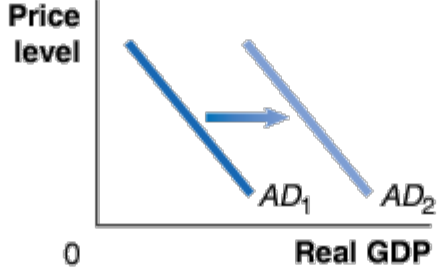
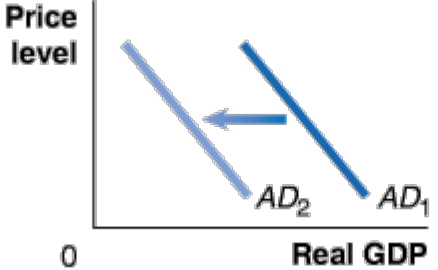
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Aggregate Demand

The Variables That Shift the Aggregate Demand Curve

Table 12-1

Variables That Shift the Aggregate Demand Curve (continued)

AN INCREASE IN ...	SHIFTS THE AGGREGATE DEMAND CURVE ...	BECAUSE ...
firms' expectations of the future profitability of investment spending		investment spending increases.
the growth rate of domestic GDP relative to the growth rate of foreign GDP		imports will increase faster than exports, reducing net exports.

Identify the determinants of aggregate demand and distinguish between a movement along the aggregate demand curve and a shift of the curve.

Aggregate Demand

The Variables That Shift the Aggregate Demand Curve

Table 12-1

Variables That Shift the Aggregate Demand Curve (continued)

AN INCREASE IN ...	SHIFTS THE AGGREGATE DEMAND CURVE ...	BECAUSE ...
the exchange rate (the value of the dollar) relative to foreign currencies		imports will rise and exports will fall, reducing net exports.

The Long-Run Aggregate Supply Curve

- ▶ The effect of change in the PL on aggregate supply (i.e., the quantity of GS that firms are willing and able to supply) is very different in the short run (SR) than in the long run (LR), so we need *two AS curves: one for SR and one for LR*.
- ▶ *Long-run aggregate supply (LRAS)* A curve showing the relationship in the long run between the PL and the quantity of real GDP supplied.
- ▶ In the LR the level of real GDP is determined by *the number of workers, the capital stock, and the technology*.
- ▶ In the LR changes in the PL doesn't affect real GDP because it *doesn't* affect the number of workers, the capital stock, and technology.
- ▶ Note that the level of real GDP in the LR is called *potential GDP or full employment GDP*. There is no reason for this normal level of capacity to change just because the PL has changed.

Identify the determinants of aggregate supply and distinguish between a movement along the short-run aggregate supply curve and a shift of the curve.

Aggregate Supply

The Long-Run Aggregate Supply Curve

FIGURE 12-2

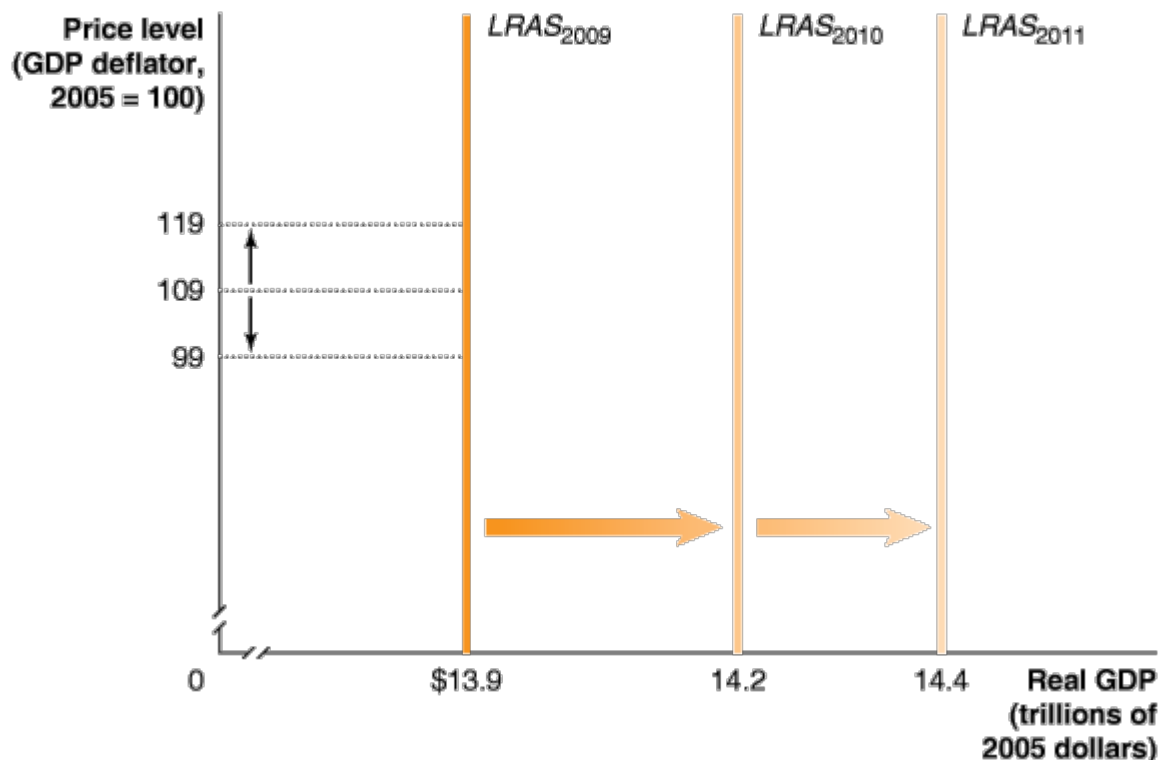
The Long-Run Aggregate Supply Curve

Changes in the price level do not affect the level of aggregate supply in the long run. Therefore, the long-run aggregate supply curve, labeled *LRAS*, is a vertical line at the potential level of real GDP.

For instance, the price level was 109 in 2009, and potential real GDP was \$13.9 trillion.

If the price level had been 119, or if it had been 99, long-run aggregate supply would still have been a constant \$13.9 trillion.

Each year, the long-run aggregate supply curve shifts to the right, as the number of workers in the economy increases, more machinery and equipment are accumulated, and technological change occurs.



The Short-Run Aggregate Supply Curve

- ▶ The SRAS is *upward sloping* because over the SR, as the PL increases, the quantity of G&S firms are willing to supply will increase.
- ▶ The main reason: *As prices of final G&S rise, prices of inputs* (such as the wages or the prices of natural resources) rise more slowly. Profits rise when the prices of the G&S firms sell rise more rapidly than the prices they pay for inputs. *Therefore, a higher PL leads to higher profits and increases the willingness of firms to supply more G&S.*
- ▶ Secondary reason: As the PL rises or falls, *some firms* are slow to adjust their prices. A firm that is slow to raise (reduce) its prices when the PL is increasing (decreasing) may find its sales increasing (falling) and therefore will increase (decrease) production.

- ▶ (Cont.) Next questions are:
 - ▶ Why some firms adjust *prices* more slowly than others?
 - ▶ Why might *the wages and the prices of other inputs* change more slowly than the prices of final G&S?

- ▶ Most economists believe the explanation is that *some firms and workers fail to predict accurately changes in the PL*. The three most common reasons:
 1. *Contracts make some wages and prices “sticky”*: Prices and wages are said to be “sticky” when they don’t respond quickly to changes in demand or supply. Consider the Ford Motor company case. Suppose their managers negotiate a 3-year contract with the Labor union. Suppose that after the contract is signed, the demand starts to increase rapidly and prices rise. Producing more is profitable because they can increase prices and wages are fixed by contract.

- ▶ (Cont.) The three most common reasons:
 2. *Firms are often slow to adjust wages.* Many nonunion workers also have their wages adjusted only once a year. If firms adjust wages only slowly, a rise in the PL will increase the profitability of hiring more workers and producing more output.
 3. *Menu costs (The costs to firms of changing prices) make some prices sticky.* Firms base their prices today partly on what they expect future prices to be. Consider the effect of an *unexpected* increase in the PL. Firms will want to increase the prices they charge. However, some firms may not be willing to increase prices because of MCs. Because of their relatively low prices, these firms will find their sales increasing, which cause them to increase output.

Shifts of the SR-AS Curve vs. Movements Along It

- ▶ The SR-AS curve is the SR relationship bw the PL and the quantity *supplied*, holding constant all other variables that affect the willingness of firms to supply G&S.
- ▶ If the PL changes but other variables are unchanged, the economy will move up or down a stationary AS curve.
- ▶ If any variable other than the PL changes, the AS curve will shift.

Variables That Shift the SR-AS Curve

- ▶ *Increases in the labor force and in the capital stock.* As the LF and the capital stock grow, firms will supply more output *at every PL*, and the SR-AS curve will shift to the right.
- ▶ *Technological change.* As TC takes place, the productivity of capital and labor increases, which means that firms can produce more G&S with the same amount of labor and capital. Firms are then willing to produce more *at every PL* and AS shifts to the right.
- ▶ *Expected changes in the future price level.* If workers and firms expect the PL to increase by a certain percentage, the SR-AS curve will shift by an equivalent amount, holding constant all other variables that affect the SR-AS curve.

Identify the determinants of aggregate supply and distinguish between a movement along the short-run aggregate supply curve and a shift of the curve.

Aggregate Supply

Variables That Shift the Short-Run Aggregate Supply Curve

Expected Changes in the Future Price Level

FIGURE 12-3

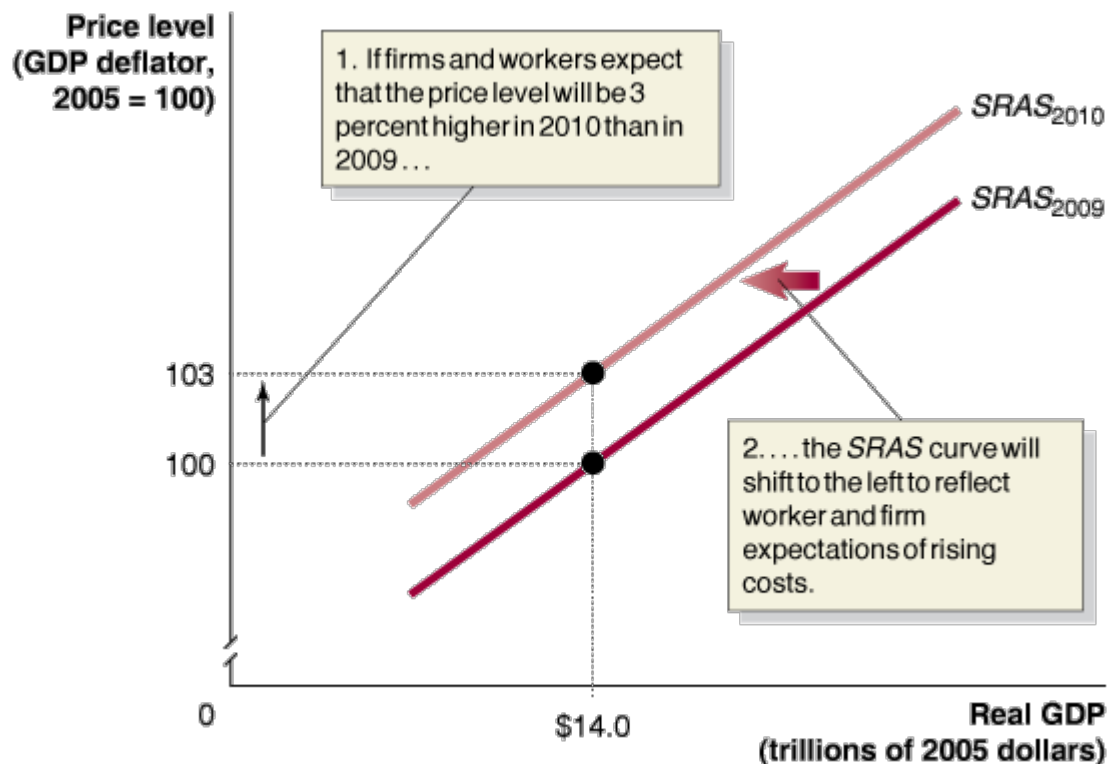
How Expectations of the Future Price Level Affect the Short-Run Aggregate Supply

The *SRAS* curve shifts to reflect worker and firm expectations of future prices.

1. If workers and firms expect that the price level will rise by 3 percent, from 100 to 103, they will adjust their wages and prices by that amount.

2. Holding constant all other variables that affect aggregate supply, the short-run aggregate supply curve will shift to the left to reflect worker and firm expectations of rising costs.

If workers and firms expect that the price level will be lower in the future, the short-run aggregate supply curve will shift to the right.



- ▶ (Cont.) *Adjustments of workers and firms to errors in past expectations about PL.*
 - ▶ They sometimes make wrong predictions about the PL, so they will attempt to compensate for these errors.
 - ▶ If increases in the PL turn out to be unexpected high, the union will take this into account when negotiating the next contract. The higher wages under the new contract will increase the company's costs and result in the company's needing to receive higher prices to produce the same quantity.
- ▶ *Unexpected changes in the price of an important natural resource.*
 - ▶ They can cause firms' costs to be different from what they had expected.
 - ▶ E.g., *Oil prices.* If oil prices rise unexpectedly, firms will face rising costs and thus only supply the same level of product at higher prices, and the SR-AS curve will shift to the left.
- ▶ *Supply shock* An unexpected event that causes the SR-AS curve to shift.

Identify the determinants of aggregate supply and distinguish between a movement along the short-run aggregate supply curve and a shift of the curve.

Aggregate Supply

Variables That Shift the Short-Run Aggregate Supply Curve

Table 12-2

Variables That Shift the Short-Run Aggregate Supply Curve

AN INCREASE IN ...	SHIFTS THE SHORT-RUN AGGREGATE SUPPLY CURVE ...	BECAUSE
the labor force or the capital stock		more output can be produced at every price level.
productivity		costs of producing output fall.
the expected future price level		workers and firms increase wages and prices.

Chapter 12: Aggregate Demand and Aggregate Supply Analysis

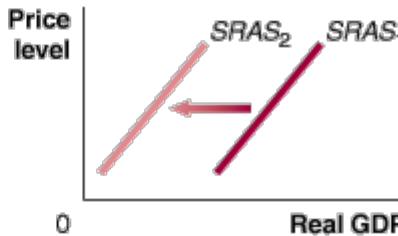
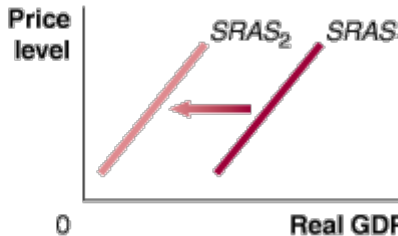
Identify the determinants of aggregate supply and distinguish between a movement along the short-run aggregate supply curve and a shift of the curve.

Aggregate Supply

Variables That Shift the Short-Run Aggregate Supply Curve

Table 12-2

Variables That Shift the Short-Run Aggregate Supply Curve (continued)

AN INCREASE IN ...	SHIFTS THE SHORT-RUN AGGREGATE SUPPLY CURVE ...	BECAUSE
workers and firms adjusting to having previously underestimated the price level		workers and firms increase wages and prices.
the expected price of an important natural resource		costs of producing output rise.

Use the aggregate demand and aggregate supply model to illustrate the difference between short-run and long-run macroeconomic equilibrium.

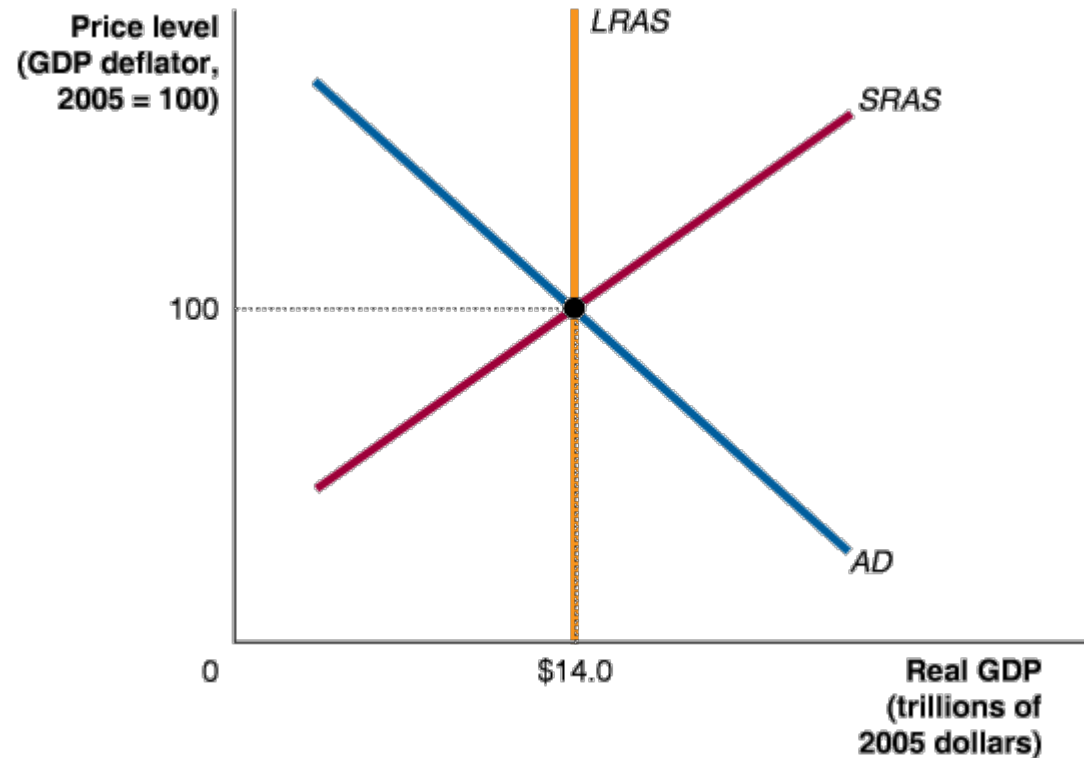
Macroeconomic Equilibrium in the Long Run and the Short Run

FIGURE 12-4

Long-Run Macroeconomic Equilibrium

In long-run macroeconomic equilibrium, the *AD* and *SRAS* curves intersect at a point on the *LRAS* curve.

In this case, equilibrium occurs at real GDP of \$14.0 trillion and a price level of 100.



Recessions, Expansions, and Supply Shocks

- ▶ Because the full analysis of the AD-AS model can be complicated, we begin with a simplified case, using two assumptions:
 1. The economy has not been experiencing any inflation. The PL is currently 100, and workers and firms expect it to remain at 100 in the future.
 2. The economy is not experiencing any long-run growth. Potential real GDP is \$14.0 trillion and will remain at that level in the future.
- ▶ *Stagflation* A combination of inflation and recession, usually resulting from a supply shock.

Use the aggregate demand and aggregate supply model to illustrate the difference between short-run and long-run macroeconomic equilibrium.

Macroeconomic Equilibrium in the Long Run and the Short Run

Recessions, Expansions, and Supply Shocks

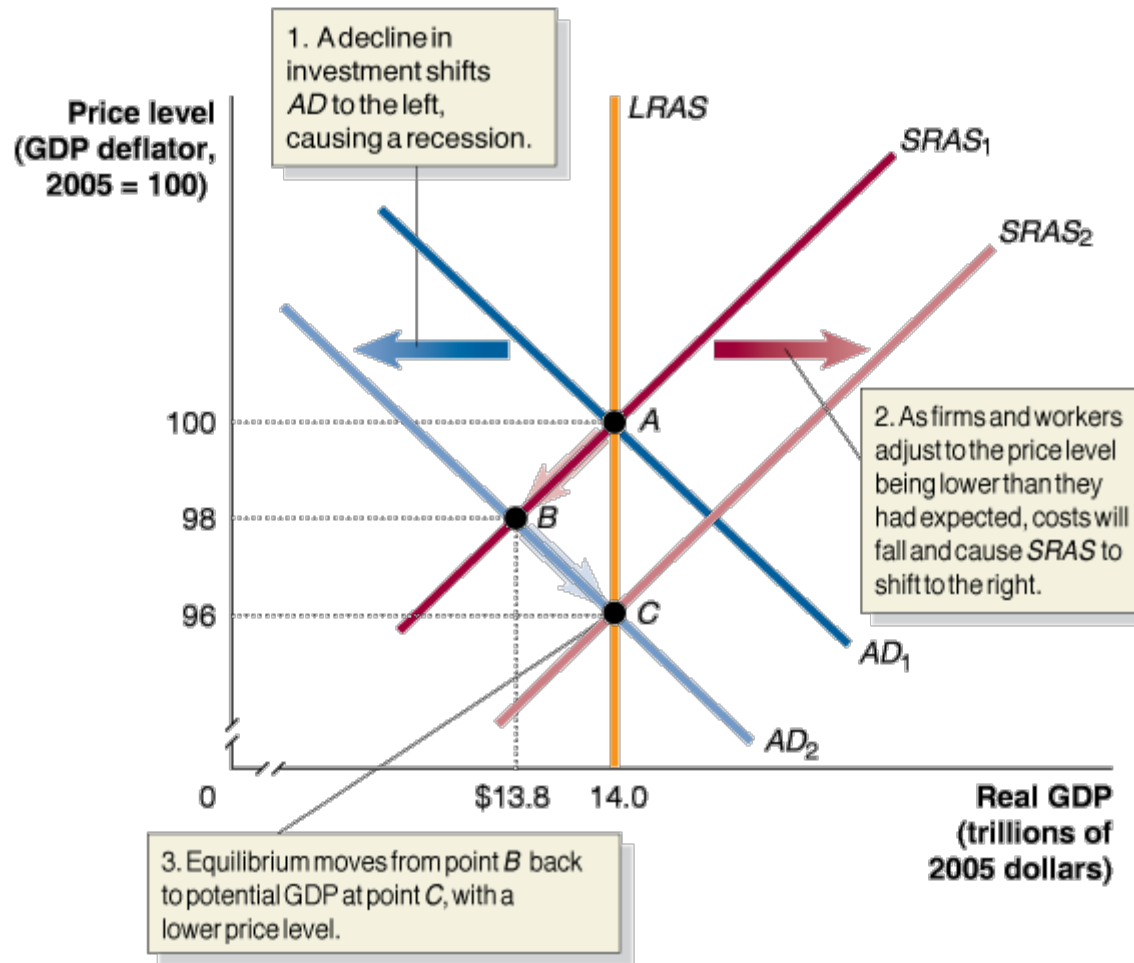
Recession

FIGURE 12-5

The Short-Run and Long-Run Effects of a Decrease in Aggregate Demand

In the short run, a decrease in aggregate demand causes a recession.

In the long run, it causes only a decrease in the price level.



Making the Connection

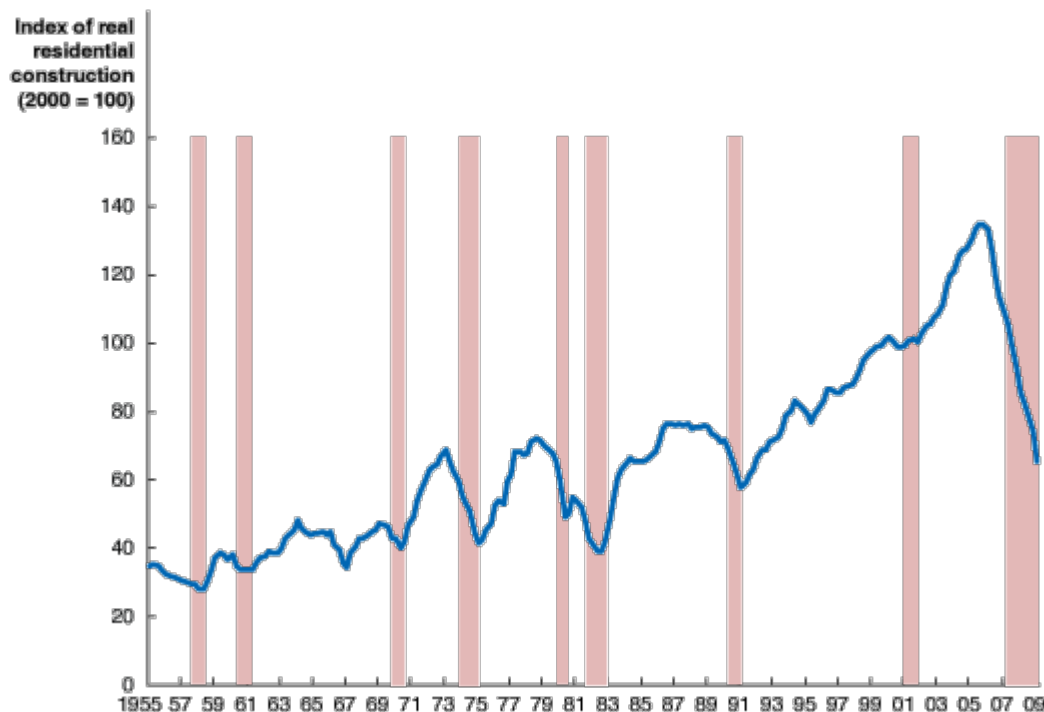
Does It Matter What Causes a Decline in Aggregate Demand?

12.4 LEARNING OBJECTIVE

Use the dynamic aggregate demand and aggregate supply model to analyze macroeconomic conditions.



The collapse in spending on housing added to the severity of the 2007–2009 recession.



Spending on residential construction has declined prior to every recession since 1955.



YOUR TURN: Test your understanding by doing related problem 3.5 at the end of this chapter.

Use the aggregate demand and aggregate supply model to illustrate the difference between short-run and long-run macroeconomic equilibrium.

Macroeconomic Equilibrium in the Long Run and the Short Run

Recessions, Expansions, and Supply Shocks

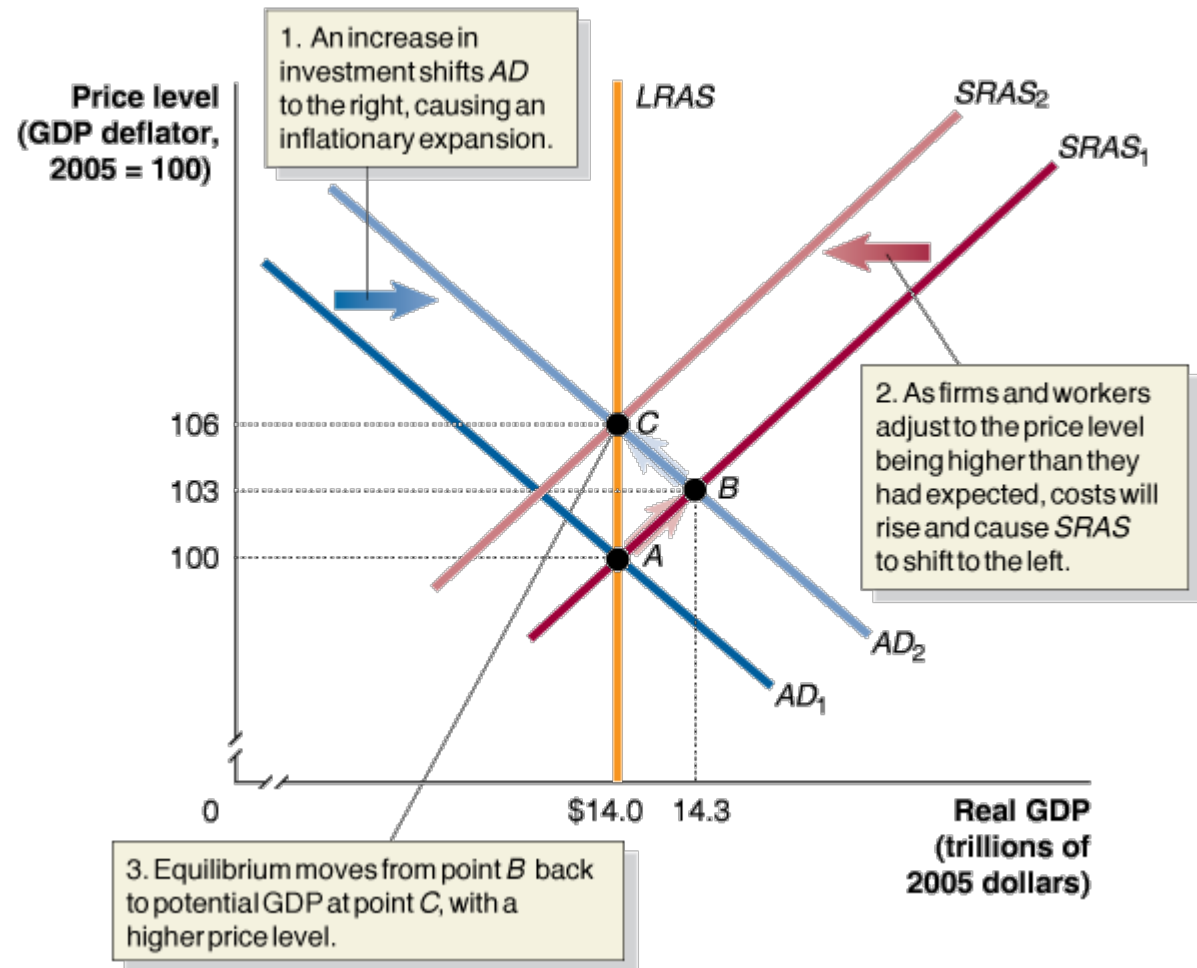
Expansion

FIGURE 12-6

The Short-Run and Long-Run Effects of an Increase in Aggregate Demand

In the short run, an increase in aggregate demand causes an increase in real GDP.

In the long run, it causes only an increase in the price level.



Use the aggregate demand and aggregate supply model to illustrate the difference between short-run and long-run macroeconomic equilibrium.

Macroeconomic Equilibrium in the Long Run and the Short Run

Recessions, Expansions, and Supply Shocks

Supply Shock

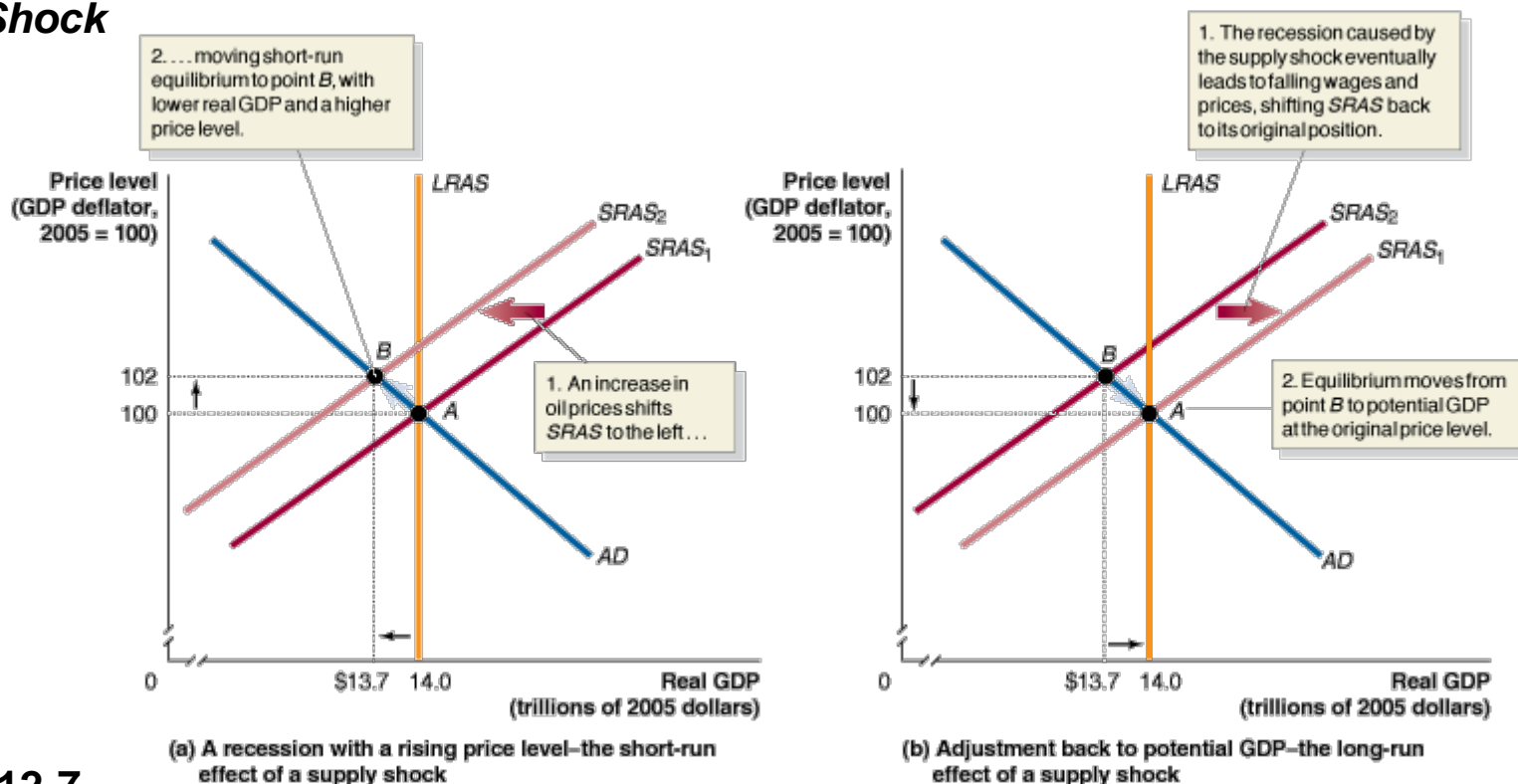


FIGURE 12-7

The Short-Run and Long-Run Effects of a Supply Shock

Panel (a) shows that a supply shock, such as a large increase in oil prices, will cause a recession and a higher price level in the short run. The recession caused by the supply shock increases unemployment and reduces output.

In panel (b), rising unemployment and falling output result in workers being willing to accept lower wages and firms being willing to accept lower prices. The short-run aggregate supply curve shifts from SRAS₂ to SRAS₁. Equilibrium moves from point B back to potential GDP and the original price level at point A.

Use the aggregate demand and aggregate supply model to illustrate the difference between short-run and long-run macroeconomic equilibrium.

Making the Connection

How Long Does It Take to Return to Potential GDP? A View from the Obama Administration



Christina Romer, the chair of the Council of Economic Advisers in the Obama Administration, provided an estimate of how long the economy would take to return to potential GDP..

The difficulty in predicting how much aggregate demand and aggregate supply will shift means that economists often have difficulty correctly predicting the beginning and end of recessions.



YOUR TURN: Test your understanding by doing related problem 3.8 at the end of this chapter.

A Dynamic AD-AS Model

- ▶ The basic AD-AS model just discussed gives some misleading results:
 - ▶ It incorrectly predicts that a recession caused by the AD curve shifting to the left will *cause the PL to fall*, which has not happened for an entire year since the 1930s.
- ▶ The problem arises from the two assumptions:
 1. no continuing inflation
 2. no long-run growth.
- ▶ In the *dynamic* setting, we assume *potential real GDP* grows over time and *inflation* continues every year.

- ▶ (Cont.) We can then create a *dynamic* AD-AS model by making three changes to the basic model.
 1. Potential real GDP increases continually, shifting the long-run AS curve to the right.
 - ▶ If assuming that no other variables that affect the SR-AS curve have changed, the LR-AS and SR-AS curves will shift to the right *by the same amount*. Note that SR-AS is also affected by other factors.
 2. During most years, the AD curve will be shifting to the right.
 - ▶ As population grows and income grows, consumption, investment, and gov spending will increase over time. The AD curve will shift to the right. The AD curve shifting to the left will push the economy into recession.

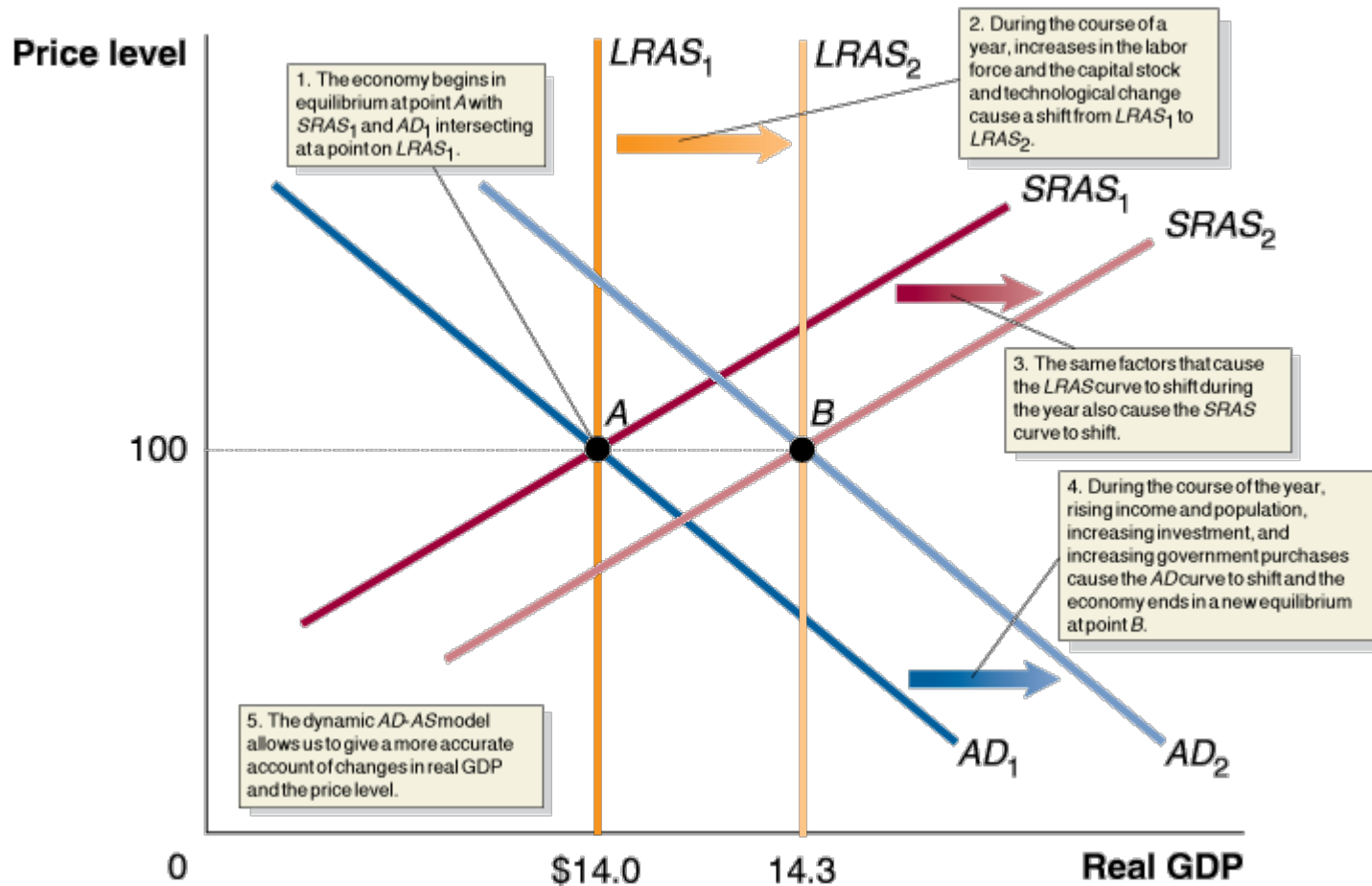
- ▶ 3 (Cont.) Except during periods when workers and firms expect high rates of inflation, the short-run AS curve will be shifting to the right.
 - ▶ The dynamic model provides a more accurate explanation of the source of most inflation. In Figure 12.9, the SR-AS curve shifts to the right by *less than* the LR-AS because the anticipated increase in prices offsets some of the TC and increases in the LF and capital stock.
 - ▶ Although inflation is generally a result of total spending growing faster than total production, a shift to the left of SR-AS can also cause an increase in the PL, just like the supply shock.

Use the dynamic aggregate demand and aggregate supply model to analyze macroeconomic conditions.

A Dynamic Aggregate Demand and Aggregate Supply Model

FIGURE 12-8

A Dynamic Aggregate Demand and Aggregate Supply Model



Use the dynamic aggregate demand and aggregate supply model to analyze macroeconomic conditions.

A Dynamic Aggregate Demand and Aggregate Supply Model

What Is the Usual Cause of Inflation?

FIGURE 12-9

Using Dynamic Aggregate Demand and Aggregate Supply to Understand Inflation

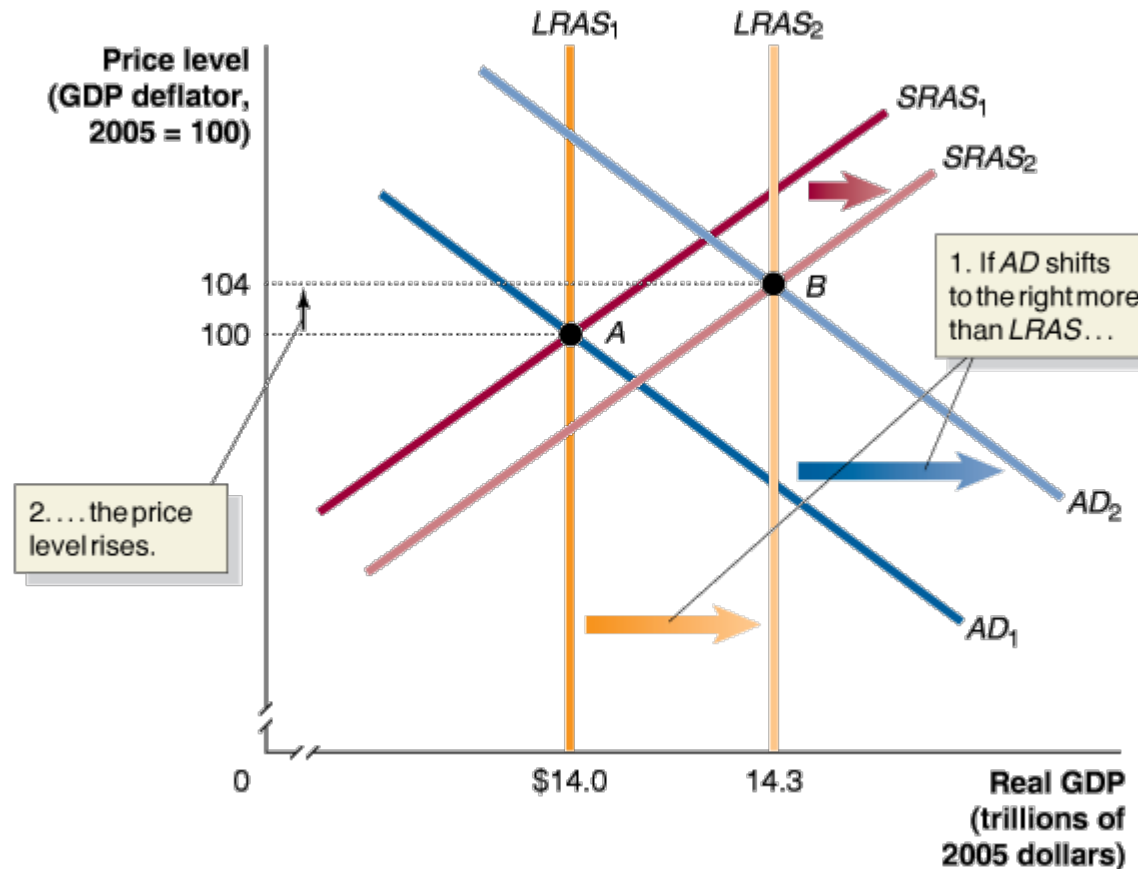
The most common cause of inflation is total spending increasing faster than total production.

1. The economy begins at point A, with real GDP of \$14.0 trillion and a price level of 100.

An increase in full-employment real GDP from \$14.0 trillion to \$14.3 trillion causes long-run aggregate supply to shift from $LRAS_1$ to $LRAS_2$.

Aggregate demand shifts from AD_1 to AD_2 .

2. Because AD shifts to the right by more than the $LRAS$ curve, the price level in the new equilibrium rises from 100 to 104.



The Recession of 2007-2009

- ▶ The recession began in December 2007, with the end of the economic expansion that had begun in November 2001.

Several factors contributed to bring on the recession:

1. *The end of the housing "bubble."* Spending on residential construction increased rapidly from 2002 to 2005, before declining more than 50% between the end of 2005 and 2009. The increase was partly due to the lower IRs during and after the 2001 recession. But by 2005 it was clear that some new construction and some part of the rapidly rising prices was due to a speculative bubble. The bubbles eventually come to an end, and the housing bubble started to deflate in 2006.
2. *The financial crisis.* Falling housing prices led to an increased number of borrowers defaulting on their mortgage loans. These defaults caused banks and other financial institutions to suffer heavy losses. The financial crisis led to a credit crunch that made it difficult for many HHs and firms to obtain the loans for financing their spending.
3. *The rapid increase in oil prices during 2008.* Increased from \$34 per barrel in 2004 to \$140 in 2008. It was caused by increased demand in rapidly growing economies.

Use the dynamic aggregate demand and aggregate supply model to analyze macroeconomic conditions.

A Dynamic Aggregate Demand and Aggregate Supply Model

The Recession of 2007-2009

FIGURE 12-10

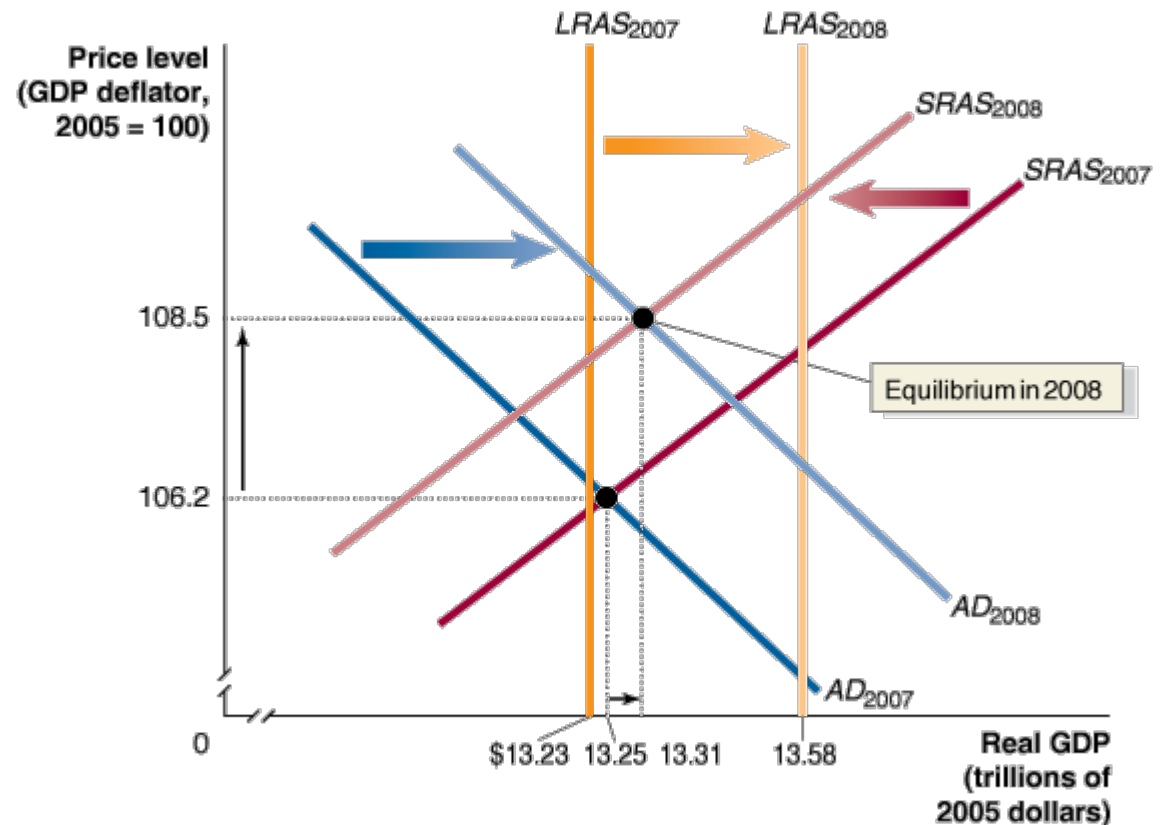
The Beginning of the Recession of 2007–2009

Between 2007 and 2008, AD shifted to the right, but not by nearly enough to offset the shift to the right of $LRAS$, which represented the increase in potential real GDP from \$13.23 trillion to \$13.58 trillion.

Because of a sharp increase in oil prices, short-run aggregate supply shifted to the left, from $SRAS_{2007}$ to $SRAS_{2008}$.

Although real GDP increased from \$13.25 trillion in 2007 to \$13.31 trillion in 2008, this was still well below the potential real GDP, shown by $LRAS_{2008}$. As a result, the unemployment rate rose from 4.6 percent in 2007 to 5.8 percent in 2008.

Because the increase in aggregate demand was small, the price level increased only from 106.2 in 2007 to 108.5 in 2008, so the inflation rate for 2008 was only 2.2 percent.



Appendix

Macroeconomic Schools of Thought

Keynesian revolution The name given to the widespread acceptance during the 1930s and 1940s of John Maynard Keynes's macroeconomic model.

These alternative *schools of thought* use models that differ significantly from the standard aggregate demand and aggregate supply model. We can briefly consider each of the three major alternative models:

1. The monetarist model
2. The new classical model
3. The real business cycle model

Appendix

Macroeconomic Schools of Thought

The Monetarist Model

The monetarist model—also known as the neo-Quantity Theory of Money model—was developed beginning in the 1940s by Milton Friedman, an economist at the University of Chicago who was awarded the Nobel Prize in Economics in 1976.

Monetary growth rule A plan for increasing the quantity of money at a fixed rate that does not respond to changes in economic conditions.

Monetarism The macroeconomic theories of Milton Friedman and his followers; particularly the idea that the quantity of money should be increased at a constant rate.

Appendix

Macroeconomic Schools of Thought

The New Classical Model

The new classical model was developed in the mid-1970s by a group of economists including Nobel Laureates Robert Lucas of the University of Chicago, Thomas Sargent of New York University, and Robert Barro of Harvard University.

New classical macroeconomics The macroeconomic theories of Robert Lucas and others, particularly the idea that workers and firms have rational expectations.

Appendix

Macroeconomic Schools of Thought

The Real Business Cycle Model

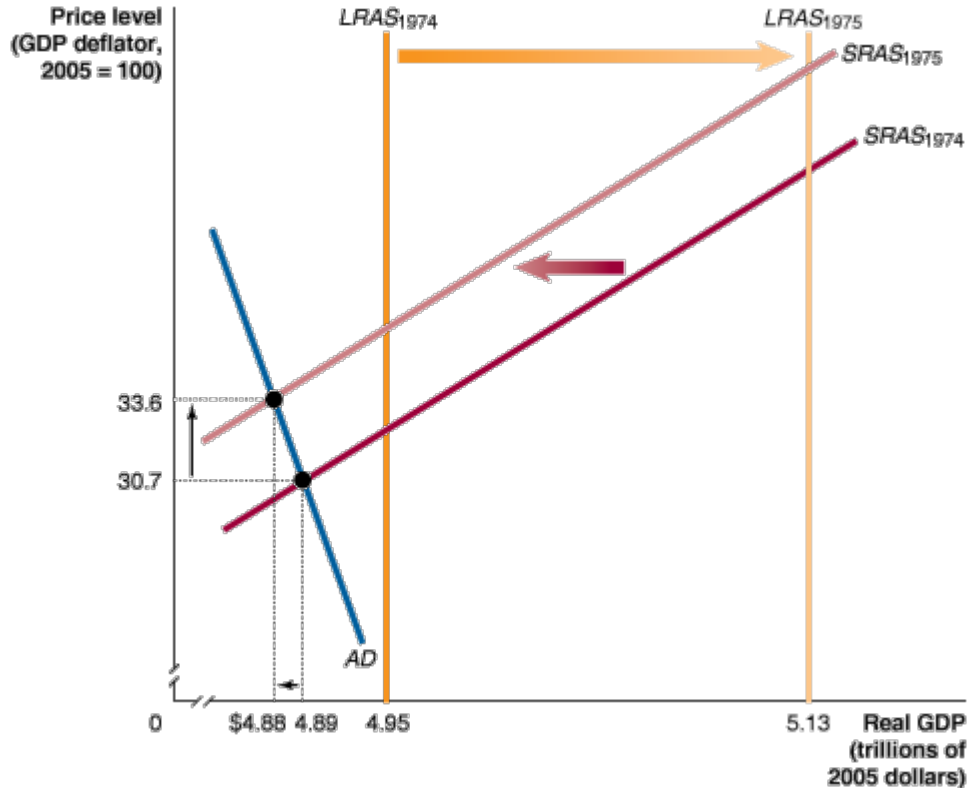
Beginning in the 1980s, some economists, including Nobel laureates Finn Kydland of Carnegie Mellon University and Edward Prescott of Arizona State University, began to argue that Lucas was correct in assuming that workers and firms formed their expectations rationally and that wages and prices adjust quickly to supply and demand, but wrong about the source of fluctuations in real GDP.

Real business cycle model A macroeconomic model that focuses on real, rather than monetary, causes of the business cycle.

Use the dynamic aggregate demand and aggregate supply model to analyze macroeconomic conditions.

Solved Problem | 12-4

Showing the Oil Shock of 1974–1975 on a Dynamic Aggregate Demand and Aggregate Supply Graph



	ACTUAL REAL GDP	POTENTIAL REAL GDP	PRICE LEVEL
1974	\$4.89 trillion	\$4.95 trillion	30.7
1975	\$4.88 trillion	\$5.13 trillion	33.6

As a result of the supply shock, the economy moved from an equilibrium output just below potential GDP in 1974 to an equilibrium well below potential GDP in 1975.



YOUR TURN: For more practice, do related problems 4.4 and 4.5 at the end of this chapter.

Key Terms in Chapter 11

- ▶ Aggregate demand and aggregate supply model
- ▶ Aggregate demand curve
- ▶ Fiscal policy, Monetary policy
- ▶ Long-run aggregate supply curve
- ▶ Short-run aggregate supply curve
- ▶ Menu costs, Stagflation, Supply shock