The business cycle is the irregular and nonrepeating up-and-down movement of business activity. The average recession lasts a bit more than one year, and GDP falls 6 percent from peak to trough. The average expansion lasts almost four years, and GDP rises 22 percent from trough to peak.

Some cycles (e.g., tennis matches) require impulses to start each cycle.
Some cycles (e.g., sunrise and sunset) reflect the design of the system.
Some cycles (e.g., rocking horses) combine impulses and design.

Investment and capital accumulation play key roles in the business cycle. Recessions occur when investment decreases; expansions occur when investment increases. Business cycles can be classified as aggregate demand theories and real business cycle theory.

Aggregate Demand Theories of the Business Cycle

The Keynesian theory of the business cycle regards volatile expectations as the main source of economic fluctuations.

The Keynesian impulse is changes in firms’ expectations about future sales and profits. This change affects investment.

The Keynesian mechanism has two aspects. First, a change in investment has a multiplier effect on aggregate demand. Second, the short-run aggregate supply curve is horizontal, so, as illustrated in Figure 15.1, shifts in the \( AD \) curve have a large effect on GDP.

The response of money wages is asymmetric; wages do not fall in response to decreases in aggregate demand but they do rise in response to increases in aggregate demand. Hence the economy can remain stuck in a recession.

*This is Chapter 30 in Economics.*
The monetarist theory of the business cycle regards fluctuations in the money stock as the main source of economic fluctuation.

- The impulse in the monetarist theory is changes in the growth rate of the quantity of money.
- The monetarist mechanism is changes in the growth rate of the quantity of money that shift the $AD$ curve. The economy moves along an upward-sloping $SAS$ curve, as is illustrated in Figure 15.2, for a decline in the monetary growth rate. Aggregate demand decreases from $AD_0$ to $AD_1$.
- Eventually, money wages respond to the change in the price level so that the $SAS$ curve shifts and the economy returns to potential GDP.

A rational expectation is a forecast based on all available information. Rational expectations theories of business cycles focus on the rationally expected money wage rate. The two rational expectations theories are the new classical theory and new Keynesian theory.

- The impulse in the new classical theory is unanticipated changes in aggregate demand.
- The major impulse in the new Keynesian theory is unanticipated changes in aggregate demand, but anticipated changes also play a role.
- The rational expectations mechanism is an unexpected shift in the $AD$ curve that moves the economy along its $SAS$ curve as real wage rates change. Figure 15.2 illustrates the effect of an unexpected decrease in aggregate demand to $AD_1$. $AD_0$ is the expected aggregate demand. The recession ends when aggregate demand increases back to expected aggregate demand.

- The new classical theory asserts that only unexpected changes in aggregate demand affect real wage rates and GDP.
- The new Keynesian theory asserts that labor contracts allow money wages to change only slowly. A change in aggregate demand that was unanticipated when the labor contract was signed will affect real wages and GDP even if, when the event actually occurs, it has come to be anticipated.

### Real Business Cycle Theory

The real business cycle theory (RBC) regards random fluctuations in productivity as the main source of economic fluctuations.

- The impulse in RBC theory is technological changes that affect the growth rate of productivity.
- The RBC mechanism is a change in productivity that affects investment demand and labor demand. During a recession, both decrease. The decrease in investment demand lowers the real interest rate, so the intertemporal substitution effect decreases the supply of labor. As illustrated in Figure 15.3, the $LAS$ curve shifts leftward and employment decreases. The $AD$ curve shifts leftward because of the decrease in investment. GDP decreases and the price level falls.
Criticisms of the RBC theory are that:
♦ Money wages are sticky.
♦ The intertemporal substitution effect is too weak to account for large fluctuations in employment.
♦ Technology shocks are implausible as an impulse that causes a business cycle.
♦ Productivity shocks, as measured, are correlated with factors that change aggregate demand.

Defenses of the RBC theory are that:
♦ It explains both business cycles and economic growth.
♦ It seems to be consistent with microeconomic data concerning labor supply, labor demand, and investment demand.
♦ Money is correlated with productivity shocks because changes in real GDP change the quantity of money.
♦ It suggests that efforts to smooth the business cycle might harm the economy.

Expansion and Recession
During the 1990s and 2000s
The longest expansion in U.S. history was from March 1991 through March 2001. During this expansion, technological change, such as personal computers, created profit opportunities that required large amounts of investment.
♦ Increased investment and exports shifted the AD curve rightward. Capital accumulation increased potential GDP and labor productivity so the LAS curve shifted rightward. Real GDP increased significantly and the price level rose only modestly.
♦ The U.S. expansion is similar to what the real business cycle model predicts, with technological change increasing investment, the demand for labor, and the supply of labor.

In March 2001 the United States entered a recession. At least through 2001, the recession was extremely mild.
♦ There were no obvious external shocks, fiscal policy changes, or monetary policy changes that would have brought about the recession. The growth rate of productivity slowed and growth in the high-tech sector slowed. So, the recession appears similar to what the real business cycle model predicts.
♦ Investment fell, which was the (only) source of the decrease in aggregate demand. Both aggregate demand and aggregate supply decreased so that the price level and real GDP decreased.
♦ Even though employment and aggregate hours fell, labor productivity and the real wage rate both increased during 2001. The increase in labor productivity and the real wage rate were greater than is typical during a recession.

The Great Depression
The Great Depression of the 1930s led to a decline in real GDP of 29 percent and an increase in the unemployment rate from 3.2 percent to 25 percent.
♦ The initial source of the Great Depression was uncertainty and pessimism, which reduced investment and consumption expenditure on durable goods.

Economists disagree about why the initial recession turned into the Great Depression. Two hypotheses have been advanced:
♦ Aggregate demand continued to decrease because of uncertainty and pessimism.
♦ Bank failures and the collapse of the quantity of money caused aggregate demand to decrease.

The Great Depression is unlikely to occur again because of:
♦ Bank deposit insurance provided by the Federal Deposit Insurance Corporation (FDIC).
♦ The Federal Reserve’s determination to act as the lender of last resort.
♦ The larger fraction of GDP that is accounted for by taxes and government spending.
♦ The increased number of families that have two (or more) wage earners.

Helpful Hints
1. The Challenge of the Real Business Cycle Theory: RBC theory is based on the assumption that the economy is always producing on its long-run aggregate supply curve; that is, the economy is always at potential GDP. Because potential GDP is also the full-employment level of GDP, the real business cycle theory asserts that, in the labor market, wages (or other mechanisms) are sufficiently
flexible so that the economy is always at full employment. So the real business cycle theory view is that fluctuations in employment represent fluctuations in the level of full employment. The level of full employment changes when labor demand and/or labor supply changes. For instance, a decrease in labor demand decreases the level of full-employment equilibrium and actual employment in the economy decreases.

As the text indicates, the real business cycle theory of the economy is controversial. The assumptions underlying this approach seem extreme to many economists. Nonetheless, real business cycle theory has had a surprising amount of success in explaining various facts about business cycles, and a sizable minority of economists believe that the real business cycle theory is a good way to analyze the business cycle.

Which group of economists is correct? At this time, it is impossible to tell because the evidence on the real business cycle theory is still accumulating. But if this approach ultimately is accepted, it will represent a major change from the more conventional aggregate demand theories.

Questions

True/False and Explain

Cycle Patterns, Impulses, and Mechanisms
1. Recessions start when investment slows or decreases.

Aggregate Demand Theories of the Business Cycle
2. Keynesian, monetarist, and rational expectations theories of business cycles assert that fluctuations in aggregate demand are the source of business cycles.
3. The impulse in the Keynesian theory of business cycles is a change in business’ expectations of future sales and profits.
4. In the Keynesian theory, money wages do not fall in response to a decrease in aggregate demand.
5. According to the new classical rational expectations theory, an expected decrease in aggregate demand leads to a recession.

Real Business Cycle Theory
7. According to the real business cycle theory, the source of a recession is a slowdown in the growth rate of the quantity of money.
8. The real business cycle theory assumes that money wages are flexible and adjust quickly.
9. According to the real business cycle theory, actual GDP always equals potential GDP.

Expansion and Recession During the 1990s and 2000s
10. Between 1991 and 2001, the United States had a sustained expansion that was the result of significant productivity growth.
11. In the United States, between 1991 and 2001 both potential GDP and aggregate demand increased and the increase in aggregate demand exceeded that of potential GDP.
12. The recession that started in 2001 was the result of a decrease in government purchases and an increase in taxes.

The Great Depression
13. The stock market crash of 1929 was the cause of the Great Depression.
14. The existence of the Federal Deposit Insurance Corporation reduces the likelihood that a recession like the Great Depression could happen again.
15. One reason that a recession is unlikely to grow into another Great Depression is that the government sector today is much larger than it was during the 1930s.

Multiple Choice

Cycle Patterns, Impulses, and Mechanisms
1. An average recession lasts for about ____; an average expansion lasts for about ____.
   a. 1 year; 1 year
   b. 4 years; 1 year
   c. 1 year; 4 years
   d. 4 years; 4 years
2. In an average recession, real GDP falls by about ____; in an average expansion real GDP climbs by about ____.
   a. 6 percent; 6 percent
   b. 22 percent; 6 percent
   c. 6 percent; 22 percent
   d. 22 percent; 22 percent

3. Recessions begin when ____ decreases.
   a. consumption expenditure
   b. investment
   c. government purchases
   d. net exports

Aggregate Demand Theories of the Business Cycle
4. Which of the following is the impulse in the Keynesian business cycle theory?
   a. An unexpected change in aggregate demand.
   b. A change by the Fed in the growth rate of the quantity of money.
   c. A change in expectations about future sales and profits.
   d. A change in the growth rate of productivity.

5. Which theory of the business cycle has a mechanism that allows the economy to remain in a recession indefinitely?
   a. Keynesian
   b. Monetarist
   c. New classical
   d. New Keynesian

6. Which of the following is the impulse in the monetarist business cycle theory?
   a. An unexpected change in aggregate demand.
   b. A change by the Fed in the growth rate of the quantity of money.
   c. A change in expectations about future sales and profits.
   d. A change in the growth rate of productivity.

7. In the monetarist theory, a decrease in the growth rate of the quantity of money ____ decreases GDP and ____ decreases employment.
   a. temporarily; temporarily
   b. temporarily; permanently
   c. permanently; temporarily
   d. permanently; permanently

8. Which of the following is the impulse in the new classical business cycle theory?
   a. An unexpected change in aggregate demand.
   b. A change by the Fed in the growth rate of the quantity of money.
   c. A change in expectations about future sales and profits.
   d. A change in the growth rate of productivity.

9. According to the rational expectations theories, if the Federal Reserve unexpectedly reduces the quantity of money during a recession,
   a. nothing will happen because the recession is already occurring.
   b. the recession will tend to deepen, as aggregate demand unexpectedly decreases.
   c. the recession will tend to end because aggregate supply unexpectedly increases.
   d. the recession will tend to end because aggregate demand unexpectedly increases.

Real Business Cycle Theory
10. Which of the following is the impulse in the real business cycle theory?
    a. An unexpected change in aggregate demand.
    b. A change by the Fed in the growth rate of the quantity of money.
    c. A change in expectations about future sales and profits.
    d. A change in the growth rate of productivity.

11. The intertemporal substitution effect refers to the idea that
    a. a higher real wage rate increases the quantity of labor supplied.
    b. a higher real wage rate decreases the quantity of labor supplied.
    c. a higher real interest rate increases the supply of labor.
    d. the demand for labor depends on the money wage rate, not the real wage rate although the supply of labor depends on the real wage rate.

12. By itself, an increase in aggregate demand increases GDP by the least amount in the ____.
    a. Keynesian theory
    b. monetarist theory
    c. new Keynesian theory
    d. real business cycle theory
13. According to the ____ theory of business cycles, a change in the monetary growth rate has no effect on real GDP.
   a. Keynesian
   b. monetarist
   c. new Keynesian
   d. real business cycle

14. Which of the following is NOT a criticism of the real business cycle theory?
   a. The impulse assumed for the real business cycle theory is implausible.
   b. The long-run aggregate supply curve is vertical.
   c. Money wages are sticky.
   d. The changes in productivity ascribed to technology actually are caused by aggregate demand.

**Expansion and Recession During the 1990s and 2000s**

15. The length of the 1991–2001 expansion in the United States was
   a. somewhat shorter than the average expansion.
   b. somewhat longer than the average expansion.
   c. equal to the length of the average expansion.
   d. longer than any other expansion in U.S. economic history.

16. The expansion in the United States during the 1990s most closely resembles the type of expansion predicted by the ____ theory.
   a. Keynesian
   b. monetarist
   c. new Keynesian
   d. real business cycle

17. The U.S. recession that started in 2001 was the result of
   a. fiscal policy.
   b. monetary policy.
   c. an adverse external shock.
   d. a slowdown in productivity growth that lead to a decrease in investment.

18. During the U.S. recession that started in 2001, the aggregate demand curve shifted ____ and the aggregate supply curve shifted ____.
   a. rightward; rightward
   b. rightward; leftward
   c. leftward; rightward
   d. leftward; leftward

**The Great Depression**

19. The Great Depression was the result of a ____ shift of the aggregate ____ curve.
   a. leftward; supply
   b. rightward; supply
   c. rightward; demand
   d. leftward; demand

20. According to monetarists such as Milton Friedman, the Great Depression was the result of
   a. the stock market crash of 1929.
   b. a massive contraction of the quantity of money, leading to large decreases in aggregate demand.
   c. an expansion of the quantity of money, leading to higher inflation.
   d. loss of business and consumer confidence.

21. In which episode was there a wave of bank failures?
   a. The Great Depression of the 1930s.
   b. The Minor Recession of the 1970s.
   d. Both the Great Depression of the 1930s and the recession of 2001.

22. The Federal Deposit Insurance Corporation (FDIC)
   a. keeps reserve requirements high so that banks can meet large withdrawals.
   b. loans reserves to banks.
   c. insures deposits, thereby reducing the incentive for depositors to make large withdrawals from banks expected to fail.
   d. insures banks against bad loans.

23. During the Great Depression, the Federal Reserve ____ the discount rate and allowed the quantity of money to ____.
   a. lowered; expand
   b. lowered; contract
   c. raised; expand
   d. raised; contract

24. Multi-income families reduce the probability of another Great Depression by
   a. reducing the probability of everyone in the family being simultaneously unemployed.
   b. investing more in the economy.
   c. paying more taxes.
   d. increasing fluctuations in consumption expenditure.


1. Figure 15.4 shows the initial aggregate demand curve, $AD_0$, and three aggregate supply curves.
   a. Which aggregate supply curve is consistent with Keynesian theory?
   b. Which aggregate supply curve is consistent with monetarist theory?
   c. Which aggregate supply curve is consistent with real business cycle theory?

2. Suppose that the aggregate demand curve in Figure 15.4 shifts leftward by $2$ trillion.
   a. Draw this shift in Figure 15.4.
   b. Along which aggregate supply curve is the decrease in GDP the largest? The least?
   c. Relate your answers to part (b) to your answers to problem 1. For a decrease in aggregate demand, which theory predicts the largest decrease in GDP? The smallest decrease in GDP? The largest change in the price level? The smallest?

3. Suppose that the economy is in a recession. Further suppose that people now come to expect the Fed to respond by increasing the quantity of money.
   a. According to the new classical theory, what is the effect on real GDP and employment of the increase in the quantity of money?
   b. According to the new Keynesian theory, what is the effect on real GDP and employment of the increase in the quantity of money?

4. Complete Table 15.1 by listing the impulse that each theory stresses as the primary cause of economic fluctuations.

5. What is the basic controversy among economists about the behavior of the labor market during a recession? What is each theory’s position in this controversy? Why is the controversy important in terms of designing an appropriate antirecessionary economic policy?

6. What caused the recession that became the Great Depression? What changed the recession into the Great Depression?

7. List four important features of the U.S. economy that make severe depression less likely today. Explain how each factor helps stabilize the economy.

8. How do government transfer payments help reduce the severity of a recession that are the result of an unexpected decrease in aggregate demand?

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**You’re the Teacher**

1. “Even before I read this chapter, I thought that business cycles were important. But one thing that I just can’t understand is why economists can’t figure out which theory of business cycles is correct. That’s so important, I’d have thought they would know which theory is right! Are economists stupid or what?” Your friend has a rather jaundiced view of economists’ intelligence. You would certainly like to set your friend straight about how bright economists are by explaining why the cause(s) of business cycles aren’t totally known.
Answers

True/False Answers

Cycle Patterns, Impulses, and Mechanisms
1. T The data show that recessions start when investment slows and expansions begin when investment accelerates.

Aggregate Demand Theories of the Business Cycle
2. T The sole exception to the focus on aggregate demand is the real business cycle theory, which stresses fluctuations in aggregate supply as the source of business cycles.
3. T Because businesses’ expectations about future profits can change so rapidly, Keynes called them “animal spirits.”
4. T Because money wages do not fall, the economy remains stuck in a recession until aggregate demand increases.
5. F A decrease in aggregate demand leads to a recession only if it is unexpected.
6. F The real business cycle theory stresses intertemporal substitution.

Real Business Cycle Theory
7. F Monetarists assign importance to a slowdown in the growth rate of the quantity of money. Real business cycle economists assert that changes in the quantity of money do not create business cycle fluctuations.
8. T With rapidly and efficiently adjusting money wages, the real business cycle theory asserts that the economy is always at full employment.
9. T According to real business cycle theory, technological change affects potential GDP, and it is fluctuations in potential GDP that result in business cycles.

Expansion and Recession During the 1990s and 2000s
10. T The expansion between 1991 and 2001 was the longest expansion in U.S. history.
11. T Both aggregate demand and potential GDP increased. The increase in aggregate demand exceeded that in potential GDP, so the price level rose.
12. F The recession was the result of a slowdown in the growth rate of productivity.

The Great Depression
13. F The stock market crash might have increased uncertainty and helped spur the initial recession in 1929. However, it was not the sole cause of the Great Depression.
14. T By insuring deposits in banks, the FDIC relieves people of the worry that if their banks fail they might lose their funds.
15. T The government sector tends to stabilize the economy because government purchases do not decline in a recession.

Multiple Choice Answers

Cycle Patterns, Impulses, and Mechanisms
1. c Recessions are shorter than expansions.
2. c Generally, after each recession GDP climbs during the next expansion to new heights.
3. b A slowing of investment “kicks off” almost all recessions.

Aggregate Demand Theories of the Business Cycle
4. c The Keynesian theory emphasizes expectations of future sales and profits.
5. a Because money wages are assumed not to respond to decreases in aggregate demand, after a decrease in aggregate demand the economy remains mired in a recession until some other factor causes an increase in aggregate demand.
6. b Monetarists assert that the major impulse in creating business cycles is changes in the growth rate of the quantity of money.
7. a The decline in the growth rate of the quantity of money causes a recession, but then, as money wages adjust to the lower price level, the recession ends and the economy returns to full employment.
8. a The new classical theory point to unexpected changes in aggregate demand as the impulse that causes business cycles.
9. b According to the rational expectations theories, unexpected decreases in aggregate demand decrease GDP.

Real Business Cycle Theory
10. d The real business cycle theory asserts that the impulse leading to business cycles is changes in the growth rate of productivity.
11. **c** Basically, the higher real interest rate boosts the return from savings, so, in order to earn more and thus save more, people increase their supply of labor when the real interest rate rises.

12. **d** In the real business cycle theory, a change in aggregate demand by itself has no effect on real GDP; instead, it affects only the price level.

13. **d** Real business cycle theory asserts that only real factors can affect real GDP.

14. **b** The long-run aggregate supply is vertical in all theories because it reflects potential real GDP.

**Expansion and Recession During the 1990s and 2000s**

15. **d** The expansion between 1991 and 2001 was the longest in U.S. economic history, exceeding the second longest expansion, during the 1960s, by more than a year.

16. **d** The expansion was created by increased productivity that has been the result of technological change, factors emphasized by the real business cycle theory.

17. **d** Neither fiscal policy nor monetary policy was the source of the 2001 recession; the most likely source was the slowdown in U.S. productivity growth that lead to a decrease in investment.

18. **d** Both aggregate demand and aggregate supply decreased.

**The Great Depression**

19. **d** Though which factors shifted the aggregate demand curve is controversial, the Great Depression reflected massive leftward shifts in the aggregate demand curve.

20. **b** Monetarists point to the Great Depression as evidence that changes in monetary growth are a major cause of business cycles.

21. **a** During the Great Depression the wave of bank failures dwarfed previous experience. Since the Great Depression, federal deposit insurance has eliminated bank failures as a major feature of recessions.

22. **c** By insuring deposits, the FDIC helps reduce the extent of bank failures.

23. **d** Economists generally agree that the Fed’s policy during the Great Depression was the opposite of what it should have been.

24. **a** Because not everyone in the family is likely to be unemployed simultaneously, the family’s income is significantly more stable than otherwise. As a result, the family’s consumption expenditures are more stable.

**Answers to Short Answer Problems**

1. a. Aggregate supply curve $SAS_3$ is consistent with the Keynesian view of a horizontal aggregate supply curve.

   b. Aggregate supply curve $SAS_2$ is a monetarist, upward-sloping aggregate supply curve.

   c. Real business cycle theory asserts that the economy is always on its vertical long-run aggregate supply, so the real business cycle aggregate supply curve is $SAS_1$.

   

   **FIGURE 15.5**

   **Short Answer Problem 2**

   2. a. Figure 15.5 shows the $2 trillion decrease in aggregate demand.

   b. Along aggregate supply curve $SAS_3$ the new equilibrium is at point $a$. The price level has stayed constant (at 120), but GDP has declined by $2 trillion. The smallest change in GDP occurs with aggregate supply curve $SAS_1$. Along this aggregate supply curve, the new equilibrium is at point $c$, so the price level falls the most (from 120 to 100), but GDP does not change. It remains at $10 trillion.

   c. Figure 15.5 shows that for a decrease in aggregate demand, the Keynesian theory (with its new equilibrium at point $a$) predicts the largest
change in GDP and the smallest change in the price level. The real business cycle theory (with its new equilibrium at point \( c \)) predicts the largest change in the price level and the smallest change in GDP. Finally, the monetarist theory (with its new equilibrium at point \( b \)) is midway between the two extremes.

3. a. In the new classical theory only unexpected changes in aggregate demand affect real GDP and employment. If people expect the Federal Reserve to increase the quantity of money, they will expect the resulting increase in aggregate demand. Therefore the expected change in aggregate demand has no effect on GDP nor on employment.

b. According to the new Keynesian theory, even though the increase in quantity of money is expected, it becomes expected only after some wage contracts have been signed. The increase in the quantity of money was unexpected when the contracts were signed. Hence the expected policy will still increase real GDP and employment.

<table>
<thead>
<tr>
<th>Theory</th>
<th>Impulse</th>
</tr>
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<tbody>
<tr>
<td>Keynesian</td>
<td>Changes in expectations about future sales and profits</td>
</tr>
<tr>
<td>Monetarist</td>
<td>Changes in the monetary growth rate</td>
</tr>
<tr>
<td>New classical</td>
<td>Unexpected changes in aggregate demand</td>
</tr>
<tr>
<td>New Keynesian</td>
<td>Changes in aggregate demand that were unexpected when labor contracts were signed</td>
</tr>
<tr>
<td>Real business cycle</td>
<td>Changes in productivity growth</td>
</tr>
</tbody>
</table>

4. Table 15.2 shows the impulse that each theory stresses as the primary source of economic fluctuations.

5. Economists disagree about the speed with which the money (and hence also the real) wage rate adjusts in the labor market.

Some economists (Keynesians and new Keynesians) believe that the money wage rate is sticky and adjusts only slowly to price level changes; indeed, Keynesian economists think that the money wage rate does not adjust to decreases in aggregate demand. Monetarists also believe that the money wage rate is sticky, but not as sticky as Keynesian and new Keynesian economists think. In particular, the money wage rate will adjust to changes in the price level, but not immediately, in the monetarist view. New classical economists also acknowledge some stickiness in the money wage rate but less than monetarists. However, real business cycle economists think that the money wage rate is flexible and quickly adjusts to changes in the price level. As a result, the labor market always is in equilibrium and changes in employment reflect changes in full employment.

This issue has a significant implication for the design of an appropriate policy to respond to recession. If the Keynesians and new Keynesians are correct, expansionary monetary or fiscal policies might be useful in counteracting recessions because the decrease in employment is a sign that the money wage rate is failing to adjust. However, if the real business cycle position is correct (so that the decline in employment during the recession is a sign that the level of full employment has fallen), expansionary monetary or fiscal policy will simply increase the rate of inflation and have no effect on real GDP or unemployment.

6. The major cause of the Great Depression was a decrease in aggregate demand, which was the consequence of reduced investment and consumer expenditure (especially on durable goods), owing to uncertainty and pessimism. However, these changes created only a “typical” recession, not the Great Depression. The reason(s) for the recession’s worsening are controversial. Some economists contend that further decreases in aggregate demand caused by uncertainty led to the Great Depression. Other economists assert that the Federal Reserve failed to act in a timely and proper manner. In particular, these economists point to the massive contraction in the quantity of money and the waves of bank failures as the factors that converted a recession into the Great Depression.

7. Four important features of the U.S. economy that make severe depression less likely today are that:

1. bank deposits are insured;
2. the Federal Reserve is better prepared to be the “lender of last resort”;
3. taxes and government spending are a larger fraction of GDP; and
4. multi-income families are more economically secure.

The first two reasons make a collapse of the quantity of money and the banking system much less likely today. With deposit insurance, bank failures do not feed on each other; that is, if a bank fails today, its depositors are not afraid that they will lose all the deposits that have entrusted to the bank. Hence bank failures do not feed on each other. The fact that the Federal Reserve is more determined to play an active “lender of last resort” role means that, when banks need emergency funds, the Fed will loan them the funds rather than allow the bank to fail. Consequently, for both reasons, a massive wave of bank failures and contraction of the quantity of money, as occurred during the Great Depression, is unlikely.

The larger size of the government sector helps stabilize aggregate demand. Government purchases do not (automatically) decline during recessions, so aggregate demand might decrease less. As income falls during a recession, so too do income taxes, which helps moderate the drop in disposable income and thus stabilizes consumption expenditure.

Finally, the increased number of multi-income families also helps stabilize the economy. In a multi-income family, when one worker becomes unemployed during a recession, the family still has income from its other wage earner(s). So this family’s consumption expenditures do not decrease as much during a recession and overall consumption expenditure — and hence aggregate demand — becomes more stable.

8. When a recession arises, unemployment increases and disposable income declines. Less disposable income leads to a reduction in consumption expenditure, which has a further multiplier effect (negatively) on aggregate demand. Transfer payments reduce the secondary effects of a recession by reducing the amount by which disposable income falls. As incomes fall and unemployment increases, government transfer payments increase in the form of higher unemployment benefits or other welfare payments. As a result, the decline in both disposable income and consumption are reduced.

**You’re the Teacher**

1. “Look, economists really are smart. They’re working on something that is incredibly complex. Let me give you an example: Economists would like to know how much a change in the quantity of money affects real GDP. Think of all the different possibilities. Man! Keynesians and monetarists say that changes in the quantity of money can have large effects. Rational expectations economists think that only unexpected changes can affect real GDP. And the real business cycle theory says that changes in the quantity of money have no effect. Just like you said, this range of answers sure covers all the bases!“

“But, think about what we’d have to do to determine which answer is correct: Basically, we’d have to change the quantity of money and nothing else. That is, government spending couldn’t change, the price of oil couldn’t change, technology couldn’t change — nothing could change. If any of these other things varied, real GDP might change because of that factor, not because of the change in the quantity of money. If we could conduct this type of ‘controlled’ experiment, we could figure out exactly how changes in the quantity of money affected real GDP. Do you think anyone will get to conduct this experiment? Of course not! So economists have to try to disentangle all the different things that affect real GDP and unemployment. All these things — taxes, government spending, technology, oil prices, interest rates, and the quantity of money — change every day, and each might have an impact on GDP. Isolating the effect of any one of them is nearly impossible.

“Economists do the best they can because they know the importance of figuring out which theory is right. And, you know, I think that working on this issue might actually be a real kick: I’m thinking about switching majors to economics! Becoming an economist can give me the chance to really help make a bunch of people’s lives a lot better off. So, if I switch majors, you know that economists have to be really smart!”
Chapter Quiz

1. At the onset of a recession, ____ typically decreases.
   a. consumption expenditure
   b. investment
   c. government purchases
   d. net exports

2. Which theory assumes that money wages rates will not fall in a recession?
   a. The Keynesian theory.
   b. The monetarist theory.
   c. The new classical theory.
   d. The real business cycle theory.

3. Which theory assumes that the major cause of a business cycle expansion is an increase in the monetary growth rate?
   a. The Keynesian theory.
   b. The monetarist theory.
   c. The real business cycle theory.
   d. None of the above.

4. Which theory focuses on shifts in aggregate supply as the source of economic fluctuations?
   a. The Keynesian theory.
   b. The monetarist theory.
   c. The new classical theory.
   d. The real business cycle theory.

5. In which theory can a factor that was expected when a labor contract was signed have no effect on GDP?
   a. The Keynesian theory.
   b. The monetarist theory.
   c. The new Keynesian theory.
   d. None of the above.

6. In real business cycle models, business cycles exist because of
   a. repeated shocks to technology.
   b. policy errors by the Federal Reserve.
   c. repeated changes by Congress in tax rates.
   d. frequent changes in labor supply.

7. In the 1990s, the U.S. economy experienced
   a. the longest expansion in U.S. history.
   b. one of the most severe recessions in U.S. history.
   c. several complete business cycles.
   d. None of the above answers is correct.

8. The Great Depression occurred in
   a. the 1930s.
   b. the 1940s.
   c. the 1970s.
   d. the 1980s.

9. During the Great Depression, GDP fell by approximately
   a. 2 percent.
   b. 11 percent.
   c. 19 percent.
   d. 29 percent.

10. Which of the following makes another Great Depression less likely?
    a. The fact that the $MPC$ is lower in recent years.
    b. The fact that the $MPC$ is higher in recent years.
    c. The existence of FDIC insurance for bank deposits.
    d. The fact that disposable income is higher in recent years.

The answers for this Chapter Quiz are on page 310