

Chapter 23 / 5

Foundations of Macroeconomics

CHAPTER OBJECTIVES

After you have read and studied this chapter you should be able to describe different phases of business cycles and explain early business cycle theories; identify the major shifters of Aggregate Supply and Aggregate Demand; use Aggregate Demand and Aggregate Supply curves to (crudely) illustrate movements of economy wide levels of prices, output, and employment; and describe the historical record of American business fluctuations.

KEY POINTS

1. *Business cycles* are alternating periods of expansion and contraction, which break down into four phases: (a) *peak* (boom), (b) *contraction* (recession or downturn), (c) *trough* (depression), and (d) *expansion* (recovery or upturn). As measured from peak to peak by the National Bureau of Economic Research, cycles average about 4 years, with some as short as 18 months, while others have lasted a decade. Reference dates are established after detailed scrutiny of data from past cycles.
2. Marriages and divorces alike tend to be positively related to the business cycle. Mental disorders, some physical diseases, suicides, crimes, and illegitimate births are inversely related to business conditions. That is, they all rise when the economy turns down. Declines in income and the negative social effects of slumps have prompted policy-makers to look for ways to keep the economy on a steady path.
3. Many early business cycle theories were *external shock* theories, focusing on sources of instability outside the economic system such as war or weather conditions.
4. *Joseph Schumpeter* developed a business cycle theory around major innovations that may partially explain major long-term business fluctuations. He cited the developments of railroads, automobiles, and similar innovations as generating significant investment leading to tremendous spurts of economic growth.
5. *Psychological theories* of business cycles use people's herd instincts to explain extended optimism or pessimism. These theories may partially account for the cumulative nature of business cycle downturns or recoveries, but provide little insight into the reasons for turning points.

6. *Classical macroeconomics* focuses on the supply side. It relies on market forces to automatically ensure full employment, and views recessions as self-extinguishing without a role for government.
7. The prolonged Great Depression seemed to refute classical theory. The demand-oriented theories of John Maynard Keynes dominated economic thought from 1936 through the 1960s. *Keynesian macroeconomics* concludes that government can adjust Aggregate Demand through its tax and spending policies.
8. *Aggregate Demand* is based on spending by (a) consumers, (b) investors, (c) government, and (d) foreigners (i.e., net exports). The *Aggregate Demand curve* is negatively sloped because a higher price level causes reduced spending on our domestic output because of (a) the *wealth effect*, (b) the *foreign sector substitution effect*, and (c) the *interest rate effect*.
9. The single most important determinant of *consumer spending* is disposable income. Other major determinants of consumption and saving include: (a) wealth and expectations of future income, (b) the average size and age composition of typical households, (c) household balance sheets and stocks of consumer goods, and (d) consumer expectations regarding prices and availability of products.
10. *Investment* in capital refers to purchases of new output that can be used in the future to produce other goods and services. There are three major components of investment: (a) new business and residential structures, (b) machinery and equipment, and (c) inventory accumulation.
11. The quantity of investment is determined primarily by expected returns from investment which, in turn, depend on (a) expectations about the business environment, (b) rates of technological change and innovation, (c) existing stocks of capital relative to total production, and (d) investment costs, which depend most on the interest rate.
12. *Exports (X)* add to Aggregate Demand, but reduce Aggregate Supply. (Goods sold to foreigners are not available to Americans.) *Imports (M)* boost Aggregate Supply but may reduce Aggregate Demand. (Buyers of imports spend less on American goods.) Exports and imports are reasonably balanced, so *net exports (X - M)* affect Aggregate Demand relatively little. The foreign sector is, however, vital, because it provides (a) markets for our production and (b) imported goods that would be more costly if produced only domestically.
13. The *Aggregate Supply curve* is positively sloped because, when business conditions change, the prices firms charge adjust more rapidly than production costs. Prosperity increases profit per unit, so firms hire more resources and produce more output.
14. Aggregate Supply curves shift in response to changes in (a) supplies of resources, (b) technology, (c) government policies that affect costs, or (d) net imports.
15. Increases in Aggregate Demand raise national income and output, the price level, and employment. Expansion of Aggregate Supply pushes prices down-wards and facilitates growth of employment and national income and output.

MATCHING KEY TERMS AND CONCEPTS

Set I

- | | |
|--------------------------------------|---|
| ___ 1. Aggregate Demand curve | a. Cycles are caused by outside disturbances. |
| ___ 2. business cycles | b. Can be caused by technological advances. |
| ___ 3. rate of return | c. Believes government can counter business cycles by adjusting Aggregate Demand. |
| ___ 4. Joseph Schumpeter | d. The annual percentage earned from an investment . |
| ___ 5. external shock theories | e. Declines in output precipitate rising prices. |
| ___ 6. classical economics | f. Major innovations partly explain long cycles. |
| ___ 7. Aggregate Supply curve | g. A positive relationship between goods available economy-wide and the price level. |
| ___ 8. Keynesian economics | h. Alternating expansion and contraction. |
| ___ 9. stagflation | i. A negative relationship between economy-wide domestic production and the price level. |
| ___ 10. increase in Aggregate Supply | j. Market forces ensure long-run full employment. |

Set II

- | | |
|--|--|
| ___ 1. Aggregate Supply shifts leftward | a. May be caused by interest rate hikes. |
| ___ 2. Aggregate Supply shifts rightward | b. Increased preference for leisure by labor. |
| ___ 3. Aggregate Demand shifts leftward | c. Deregulation might cause this. |
| ___ 4. Aggregate Demand shifts rightward | d. May be caused by an increase in planned government purchases. |
| ___ 5. contraction | e. Marxian view that business cycles would become more severe. |
| ___ 6. real business cycles | f. The low point of a cyclical downturn. |
| ___ 7. recovery | g. Typically follows a peak. |
| ___ 8. trough | h. Typically follows a trough. |
| ___ 9. "capitalistic crisis" | i. Lasted from 1929 until World War II. |
| ___ 10. the Great Depression | j. Shocks to Aggregate Supply are the principal cause of business cycles. |

TRUE/FALSE QUESTIONS

- | | |
|---|---|
| ___ 1. During the Great Depression, the U.S. unemployment rate approached 25 percent. | ___ 2. In the U.S. the unemployment rate plummeted from 25 percent in 1929 to only 3.2 percent in 1933. |
|---|---|

- ___ 3. The long wave theory of business cycles gained wide acceptance after several studies proved their existence.
- ___ 4. Between 1830 and 1894, Karl Marx expounded a long-wave theory of business cycles by suggesting that economic growth and development in capitalistic systems are fueled by innovations.
- ___ 5. During the Great Depression, the burden of economic assistance fell largely on private charities.
- ___ 6. The decade of the 1950s in the US was a period of rapidly accelerating economic growth, with double-digit inflation becoming slightly more serious as the years progressed.
- ___ 7. In the U.S., the middle 1970s witnessed our first serious brush with supply induced double-digit inflation.
- ___ 8. Classical economics relies heavily on the self-correcting power of automatic market adjustments to cure macroeconomic instability.
- ___ 9. The Great Depression was responsible for many of the governmental institutions that exist today.
- ___ 10. Other things constant, if the labor force became better trained and educated, the Aggregate Supply curve would shift to the left.
- ___ 11. All else equal, if the government were to increase its spending on national defense, the Aggregate Demand curve would shift to the right.
- ___ 12. Major discoveries of new deposits of raw materials would immediately expand the Aggregate Demand curve.
- ___ 13. Aggregate Demand curves shift when planned spending changes for consumption, investment, government, or net exports to foreigners.
- ___ 14. The Aggregate Supply curve reflects a positive relationship between the price level and real national output.
- ___ 15. Growth of Aggregate Supply is the major cause of unemployment.

STANDARD MULTIPLE CHOICE

There is one **best** answer for each question.

- ___ 1. Which of the following is **not** one of the four phases of a business cycle?
 - a. peak
 - b. inflation
 - c. recession
 - d. trough
 - e. recovery
- ___ 2. “Sunspot” theories of business cycles:
 - a. say that booms commence when business becomes optimistic.
 - b. correlate sunspot activity with innovations that spark growth.
 - c. are intrinsically psychological.
 - d. may be resurrected if solar energy becomes relatively inexpensive.
 - e. conform to modern astrology.

- ___ 3. Joseph Schumpeter's theory of business cycles was:
- sunspot theory: that sunspots affect agricultural production.
 - psychological: herd instincts propel waves of optimism and pessimism.
 - long-wave innovation theory: the economy expands with significant innovation, reaches saturation, and then moves into a recession until another great innovation.
 - "long-waves" theory: economic sine waves last 50 to 60 years.
 - that population adjusts to the resources available, creating swings in supplies and demands.
- ___ 4. Psychological theories of business cycles can be used to help explain:
- the timing of cyclic turning points.
 - the cumulative nature of economic recoveries or downturns.
 - why people do not behave as if they possess a "herd instinct."
 - why pessimism or optimism won't affect economic cycles in any way.
 - psychoeconomic problems.
- ___ 5. Prosperous periods tend to engender:
- fewer suicides.
 - more marriages and divorces.
 - less crime.
 - fewer illegitimate births.
 - All of the above.
- ___ 6. Keynesian theory developed as a response to:
- the stagflation of the 1970s.
 - external business cycle theories.
 - Say's Law.
 - extensive and prolonged unemployment in the 1930s.
 - inflation after World War I.
- ___ 7. Humans are destined to live at a subsistence level according to:
- new classical macroeconomics.
 - Thomas Malthus.
 - Keynesian theory.
 - Marxism.
 - innovation theory.
- ___ 8. Which of the following could shift the Aggregate Demand curve rightward?
- New resources are discovered.
 - The supply of labor increases.
 - Tax rates are reduced.
 - Household wealth is reduced.
 - Investors become more pessimistic.
- ___ 9. Stagflation occurs when Aggregate:
- Technology shifts vertically.
 - Demand shifts right.
 - Demand shifts left.
 - Supply shifts right.
 - Supply shifts left.
- ___ 10. The Aggregate Demand curve is negatively sloped because of the:
- wealth effect.
 - interest rate effect.
 - foreign sector substitution effect.
 - all of the above.
 - none of the above.
- ___ 11. According to proponents of real business cycle theory, most fluctuations in real GDP are:
- permanent.
 - caused by changes in Aggregate Demand.
 - due to international trade.
 - easily countered by government actions.
 - temporary.

- ___12. Increased Aggregate Demand tends to increase all of the following EXCEPT:
- national income.
 - the price level.
 - unemployment.
 - national output.
 - employment.
- ___13. Which of the following statements about the Great Depression is FALSE:
- The unemployment rate rose to a high of about 25 percent.
 - Real disposable income fell sharply.
 - Average prices fell--the economy actually experienced deflation.
 - Most economic relief came from public welfare programs.
 - The depression was global.
- ___14. Which of the following could increase both real output and the price level?
- An external shock that drives up resource costs.
 - An increase in government purchases of goods and services.
 - An increase in taxes.
 - An external shock that reduces resource costs.
 - Consumer expectations of price deflation.
- ___15. Pressure for stagflation would be most likely to emerge from increases in:
- average income tax refunds.
 - the money supply.
 - labor force education and training.
 - the length of annual vacation leave.
 - consumer indebtedness.

CHAPTER REVIEW (FILL-IN QUESTIONS)

- Most early theories of business cycles focused on forces that were _____ to the economic system. Sunspot theories and other early theory stressed wars and shocks to _____. Psychological theories of the cycle concentrate on the herd instinct coupled with prolonged periods (or waves) of _____ and _____.
- According to _____, variations in the magnitudes and timing of _____ and then the process of adjusting to them were the driving forces behind long cycles.
- _____ predicted the decline and eventual overthrow of capitalism as it moved through extended business expansions and contractions because of ever greater _____ of wealth in the hands of capitalists.
- The business cycle exhibits a strong relationship with many _____ institutions and maladies. Suicides, crime, and illegitimate births tend to be _____ related to economic activity.
- Classical economics relies heavily on market forces to _____ move the economy to _____.

6. Persistent high rates of unemployment during the _____ of the 1930's led many to reject classical theory and, instead, accept the macroeconomic theories of _____.
7. Keynesian macroeconomics concludes that government can counter business cycles by adjusting _____ through changes in _____.
8. The idea that a lower price level encourages greater purchasing is shown in a(n) _____ curve, with a(n) _____ curve reflecting the idea that a higher average price level prompts greater production.
9. Depressions and declining prices may emerge if the _____ curve shifts leftward, while a rightward shift of this curve will result in a(n) _____ in both the price level and aggregate output. A leftward shift of the _____ curve causes _____, a recently developed term that refers to periods when the price level climbs but output falls.

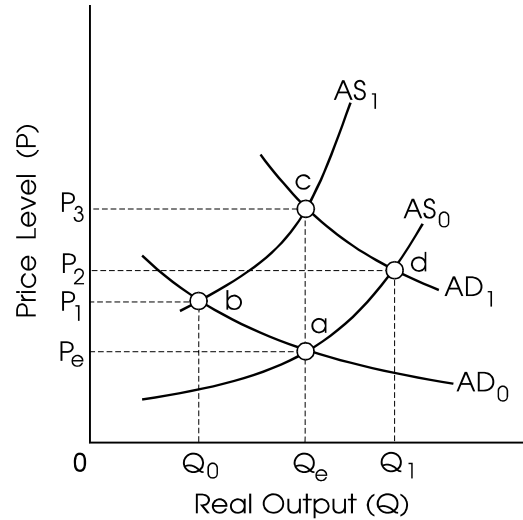
Unlimited Multiple Choice

The following questions have from zero to four correct answers.

- | | |
|--|--|
| <p>___ 1. According to Joseph Schumpeter, innovation included the:</p> <ol style="list-style-type: none"> a. introduction of a new good. b. introduction of a new technology. c. opening of a new market. d. reorganization of a major industry. | <p>c. consider bad weather and war as major sources of instability.</p> <p>d. view humans as herd animals.</p> |
| <p>___ 2. Classical economic theory:</p> <ol style="list-style-type: none"> a. easily explained the persistence of the Great Depression. b. viewed full employment in the economy as unattainable. c. was not a business cycle theory per se; it was a systematic study of the functioning of a market economy. d. relies heavily on unhindered supply and demand to work. | <p>___ 4. Aggregate Supply will increase if:</p> <ol style="list-style-type: none"> a. technological advances increase productivity. b. strong union pressures increase average wage rates. c. the labor force increases in size. d. consumer spending increases. |
| <p>___ 3. External force theories of business cycles:</p> <ol style="list-style-type: none"> a. were psychological in nature. b. include the "sunspot" theory. | <p>___ 5. During the prosperous 1960s:</p> <ol style="list-style-type: none"> a. tax cuts were effective in stimulating the U.S. economy. b. a trade-off between unemployment and inflation seemed to exist. c. the country suffered double-digit inflation rates. d. the expansionary effects of the Vietnam War helped push the U.S. economy to full employment. |

Problem 1

This figure depicts the original Aggregate Supply (AS_0) and Demand (AD_0) curves, with output Q_e representing full employment. Answer the following True/False questions.



- a. The original equilibrium would be at a real output level equal to Q_e with a price level of P_e (point *a*).
- b. All else equal, if federal spending increased, Aggregate Demand could increase from AD_0 to AD_1 .
- c. All else equal, if business mergers reduced competition then Aggregate Supply could shift from AS_0 to AS_1 .
- d. Stagflation occurs when the economy moves from point *a* to point *b*.
- e. The shift of Aggregate Demand from AD_0 to AD_1 could be caused by an increase in planned investment.
- f. If Aggregate Demand were to decrease from AD_1 to AD_0 while Aggregate Supply remained constant at AS_0 , a recession would occur bringing deflation and less real output.
- g. A shift in Aggregate Supply from AS_1 to AS_0 could be caused by an increase in the capital gains tax.
- h. Policies to reduce monopolistic practices could shift Aggregate Demand from AD_0 to AD_1 .
- i. A movement from *a* to *b* could represent a situation where external supply shocks induce an inflationary recession.

Problem 2

In the following scenarios use up arrows (\uparrow), down arrows (\downarrow), zeros (0), or question marks (?) to indicate how Aggregate Demand (AD), Aggregate Supply (AS), national income and output (NI), total employment (TE), employment rates (ER), and the price level (PL) will be affected. (Note: Both Aggregate Demand and Aggregate Supply may be affected in some instances, and long run consequences may differ from short run effects.)

- a. Twenty years after a new baby boom, millions of young workers begin to establish families and enter the work force.
 AD _____ AS _____ NI _____ TE _____ ER _____ PL _____

- b. A nuclear power meltdown kills hundreds of thousands, and all nuclear plants are shut down while the accident is investigated.
AD _____ AS _____ NI _____ TE _____ ER _____ PL _____
- c. Investors pessimistically begin to expect lower rates of return because their consultants predict a recession.
AD _____ AS _____ NI _____ TE _____ ER _____ PL _____
- d. People become increasingly conscientious about recycling glass, paper, plastic, aluminum, and other scrap metals.
AD _____ AS _____ NI _____ TE _____ ER _____ PL _____
- e. Italian investors establish American plants to build Fiats, jewelry, and fine furniture.
AD _____ AS _____ NI _____ TE _____ ER _____ PL _____
- f. Record harvests worldwide reduce international demands for U.S. agricultural products.
AD _____ AS _____ NI _____ TE _____ ER _____ PL _____
- g. Widespread deregulation eliminates 7,000 pages of inefficient federal regulations.
AD _____ AS _____ NI _____ TE _____ ER _____ PL _____
- h. A constitutional amendment is adopted requiring the federal budget to balance; income tax rates are increased, and government spending falls by \$200 billion.
AD _____ AS _____ NI _____ TE _____ ER _____ PL _____

Problem 3

In the following scenarios use up arrows (\uparrow) or down arrows (\downarrow) to determine what will happen to the rates of return (RR) expected by investors, levels of investment (I), and Aggregate Demand (AD).

- a. Interest rates for loanable funds fall to their lowest level in 30 years.
RR _____ I _____ AD _____
- b. A proposal to slash tax rates on "capital gains" from investments is finally enacted.
RR _____ I _____ AD _____
- c. Stock markets crash in Tokyo, Hong Kong, London, Australia, and New York when a Martian fleet of starships signals its intention to invade Earth.
RR _____ I _____ AD _____

ANSWERS

Matching		True/False		Multiple Choice		Unlimited Multiple Choice
Set I	Set II					
1. i	1. b	1. T	9. T	1. b	9. e	1. abcd
2. h	2. c	2. F	10. F	2. d	10. d	2. cd
3. d	3. a	3. F	11. T	3. c	11. a	3. bc
4. f	4. d	4. F	12. F	4. b	12. c	4. ac
5. a	5. g	5. T	13. T	5. e	13. d	5. abd
6. j	6. j	6. F	14. T	6. d	14. b	
7. g	7. h	7. T	15. F	7. b	15. d	
8. c	8. f	8. T		8. c		
9. e	9. e					
10. b	10. i					

Chapter Review (Fill-In Questions)

1. external; agriculture; optimism; pessimism
2. Schumpeter; innovations
3. Karl Marx; concentration
4. social; inversely or negatively
5. automatically; full employment
6. Great Depression; John Maynard Keynes
7. Aggregate Demand; government purchases
8. Aggregate Demand; Aggregate Supply
9. Aggregate Demand, rise; Aggregate Supply; stagflation

Problem 1

- a. T
- b. T
- c. T
- d. T
- e. T
- f. T
- g. F
- h. F
- i. T

Problem 2

- a. AD ↑, AS ↑, NI ↑, TE ↑, ER ?, PL ?
- b. AD ↓, AS ↓, NI ↓, TE ↓, ER ?, PL ?
- c. AD ↓, AS ↓, NI ↓, TE ↓, ER ↓, PL ?
- d. AD 0, AS ↑, NI ↑, TE ↑, ER ↑, PL ↓
- e. AD ↑, AS ↑, NI ↑, TE ↑, ER ↑, PL ?
- f. AD ↓, AS 0, NI ↓, TE ↓, ER ↓, PL ↓
- g. AD 0, AS ↑, NI ↑, TE ↑, ER ↑, PL ↓
- h. AD ↓, AS ↓, NI ↓, TE ↓, ER ↓, PL ?

Problem 3

- a. RR ↑, I ↑, AD ↑
- b. RR ↑, I ↑, AD ↑
- c. RR ↓, I ↓, AD ↓