Chapter 9

ECONOMIC FLUCTUATIONS AND MACROECONOMIC THEORY

Essentials of Economics in Context (Goodwin, et al.), 1st Edition

Chapter Overview

This chapter first introduces the analysis of business cycles, and introduces you to the two stylized facts of the business cycle. The chapter then presents the Classical theory of savings-investment balance through the market for loanable funds. Next, the Keynesian aggregate demand analysis is developed. You will learn what happens when there's an unexpected fall in spending, and the role of the multiplier in moving to a new equilibrium.

Chapter Objectives

After reading and reviewing this chapter, you should be able to:

1. Describe how unemployment and inflation are thought to normally behave over the business cycle.
2. Understand economists' notions of frictional, structural, and cyclical unemployment.
3. Describe the consequences of inflation and deflation.
4. Identify and distinguish the major historical traditions of economic thought.
5. Describe the key assumptions of classical theory and explain the classical theory of equilibrium in the goods and labor market.
6. Describe the problem that "leakages" present for maintaining aggregate demand, and the classical and Keynesian approaches to leakages.
7. Understand how the equilibrium levels of income, consumption, investment, and savings are determined in the Keynesian model.
8. Explain how, in the Keynesian model, the macroeconomy can equilibrate at a less-than-full-employment output level.
9. Describe the workings of "the multiplier," in words and equations.

Key Terms

aggregate demand
recession
Okun's "law"
cyclical unemployment
frictional unemployment
structural unemployment
technological unemployment
full-employment
deflation
full-employment output

classical economics
division of labor
specialization
labor productivity
laissez-faire economy
Say's law

marginal propensity to consume
marginal propensity to save
Keynesian economics
paradox of thrift
monetarism

Active Review

Fill in the Blank

1. The macroeconomic goal that involves keeping the rate of unemployment and inflation at acceptable levels over the business cycle is the goal of __________________.

2. The __________ economists believe that aggregate expenditure needs active guidance, whereas the ____________ economists believe that aggregate expenditure can take care of itself.

3. The recurrent fluctuations in the level of national production is called the ____________.

4. When economic activity declines, usually measured by a fall of real GDP for two consecutive quarters, the economy is said to be in a ______________.

5. The equation that expresses the inverse relationship between the unemployment rate and the rapid growth of real GDP is known as ________________.

6. The level of output that occurs when the economy is not suffering from an unemployment problem (that is, when any unemployment that exists is just transitory), is called __________ output.

7. The unemployment that arises due to transitions between jobs is called ___________________ unemployment, whereas the unemployment that arises due to skills mismatches or geographic mismatches is called _________________unemployment.

8. People working at jobs that underutilize their abilities, as well as those who work fewer hours than they wish to, are said to be __________________.

9. When the aggregate price level falls economists use the term _____________ to describe the situation.

10. The _________is the portion of every dollar of aggregate income that is saved.

11. The formula *1/(1-mpc)* is the formula for the "income/spending ___________" in a simple closed economy with no government.

True or False

12. The two “stylized facts” of the business cycle are always corroborated by the historical evidence.

13. According to Okun’s Law, as originally formulated in the early 1960s, a 1% drop in the unemployment rate is associated with an approximately 3% increase in real GDP.

14. A macroeconomy “in equilibrium” means that output, income, and spending are in balance.

15. The most important factor in explaining aggregate investment spending, Keynes thought, is the interest rates.

16. According to the classical economists, a sudden fall in investment spending would cause a fall in the interest rate, and the lower interest rate would then stimulate investment spending again and return it to its original level.

17. Monetarists believe the government should change money supply to boost aggregate demand during a recession.

18. According to the Keynesians, the government can reduce unemployment through changes in its spending and taxation policies.

Short Answer

19. Explain the two “stylized facts” of the business cycle.

20. What are the three major types of unemployment? Which of these three types of unemployment tends to be spread broadly throughout the entire economy, as occurs as a result of a drop-off in aggregate demand?

21. Why is inflation harmful to an economy?

22. Why is deflation harmful to an economy?

23. What was the response to the Great Depression of economists trained in the classical school?

24. Explain what the classical school predicts will happen to the level of aggregate demand in the economy when there is a sudden drop in investment spending.

25. What are the determinants of investment spending in the Keynesian model, and which factor plays the most important role (especially in a recession)?

26. Explain what is meant by "the multiplier," and describe it in words.

27. Explain how the classical school views the role of markets and government intervention in fighting business cycles.

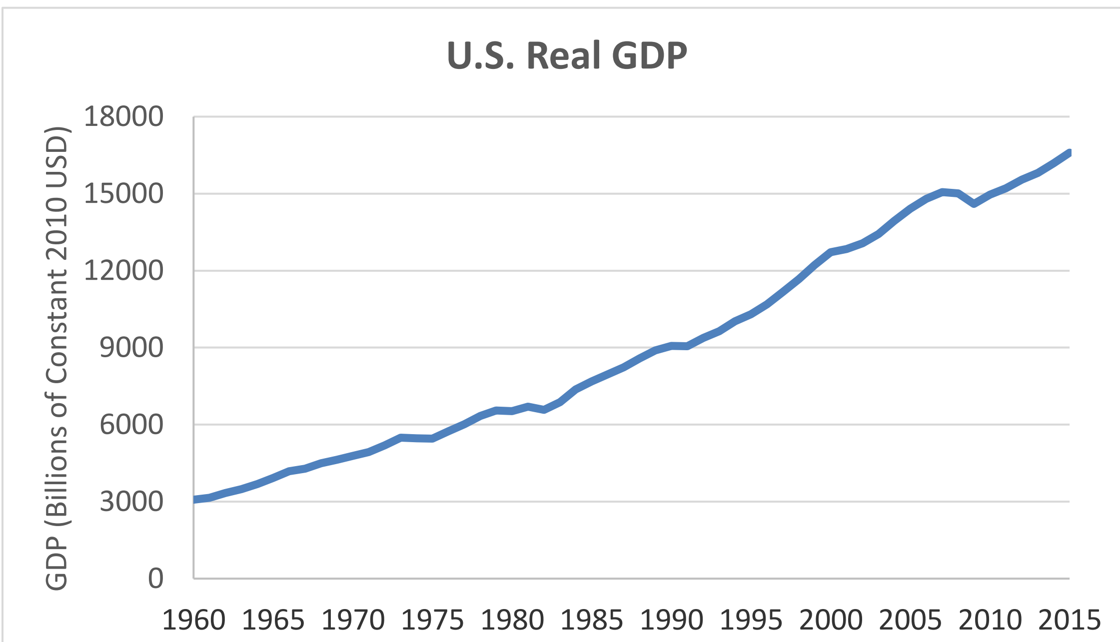
28. Explain how Keynesian economics views the role of markets and government intervention in fighting business cycles.

29.   Explain how Monetarist economics views the role of markets and government intervention in fighting business cycles.

25. Describe some of the key changes that the U.S. economy has undergone since the 1980s.

Problems

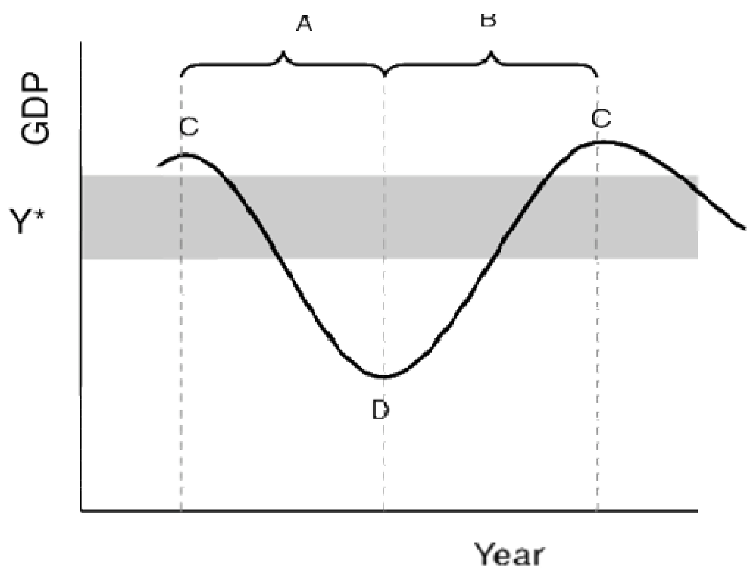
1. Given this graph of real GDP for the U.S. in the years 1960 – 2015:



Source: www.bea.gov

Identify approximately what years the economy went into a recession.

2. Use the graph below to answer the following questions:



a. Label the phases of the "stylized" business cycle graph.
A: ___________
B: ___________
C: ___________
D: ___________

b. What does Y* refer to?

3. Use the table below (for a simple economy with no foreign sector or government) to answer the questions that follow.

(1) Income (*Y*)	(2) Consumption (*C*)	(3) Investment (*I*)	(4) Aggregate Demand *AE = C + I* *= column (2) + column (3)*
0	30	**(a)**	50
300	300	20	**(b)**
400	**(c)**	20	410
500	480	20	500
600	**(d)**	20	**(e)**

Fill in the missing numbers in the spaces marked (a)-(c).

Determine the consumption function, and use the result to fill in the remaining missing numbers (d)-(e).

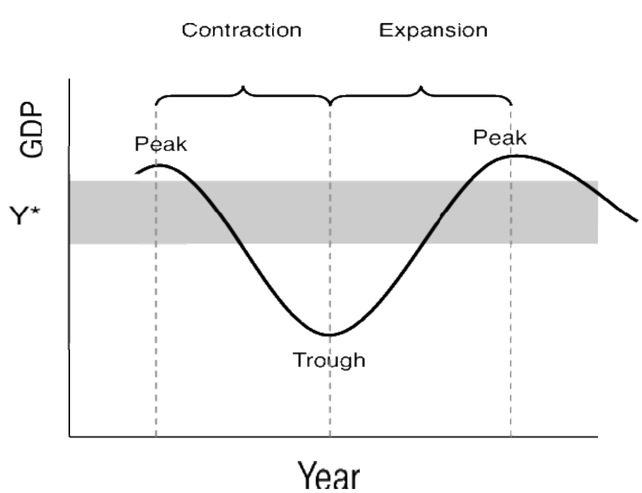
(f) Determine the equilibrium output level.

Self Test

1. Two stylized facts of the business cycle are that:

    a. during an economic contraction, unemployment falls and inflation rises, while during an expansion, unemployment rises and inflation falls.
    b. during an economic contraction, unemployment rises and inflation falls, while during an expansion, unemployment falls and inflation rises.
    c. during an economic contraction, both unemployment and inflation fall, while during an expansion, both unemployment and inflation rise.
    d. during an economic contraction, both unemployment and inflation rise, while during an expansion, both unemployment and inflation fall.
    e. none of the above

Refer to the Figure below for the next two questions.



2. When is inflation and unemployment most likely to be a problem?

    a. Inflation and unemployment will be a problem in the grey area representing the range of full employment output.
    b. Inflation will be a problem during the peak of an expansion, and unemployment will be a problem during the trough of the contraction.
    c. Inflation will be a problem during the trough of the contraction, and unemployment will be a problem during the peak of the expansion.
    d. Inflation will be a problem during both the peak and the trough of the business cycle.
    e. Unemployment will be a problem during both the peak and trough of the business cycle.

3. What is the goal of stabilization policy?

    a. To keep the economy as close to the peak as possible, where unemployment remains very low.
    b. To keep the economy as close to the trough as possible, where inflation remains low.
    c. To keep the economy in the grey area, to avoid the threats of both excessive unemployment and inflation.
    d. To enable the economy to move freely from peak to trough.
    e. None of the above.

4. Khaled used to work as an autoworker, and due to the decline of the U.S. auto industry, is now unemployed and thinking about retraining as a bicycle assembler. What type of unemployment is he experiencing?

    a. frictional unemployment
    b. structural unemployment
    c. cyclical unemployment
    d. natural unemployment
    e. seasonal unemployment

5. Prasad lost his job during the last recession. What type of unemployment is he experiencing?

    a. frictional unemployment
    b. structural unemployment
    c. cyclical unemployment
    d. natural unemployment
    e. seasonal unemployment

6. After raising two children, Mona has started looking for a job and sent out a few job applications. What type of unemployment is she experiencing?

   a. frictional unemployment
   b. structural unemployment
   c. cyclical unemployment
   d. natural unemployment
   e. Mona would not be counted as unemployed as she is not in the labor force.

7. Which of the following best describes the meaning of aggregate demand in the traditional macro model (with no government and a closed economy)?

   a. The amount firms and households intend to spend on consumption and investment.
   b. The actual level of spending done in the economy by firms and households on consumption and investment.
   c. The summing up of all the spending on goods and services in the economy by firms and households.
   d. The average level of demand for all goods and services in the economy by firms and households.
   e. The average level of spending on all goods and services in the economy by firms and households.

8. Which of the following is *not* a reason why an unexpected episode of inflation is harmful to an economy?

   a. It wipes out the value of people's savings.
   b. It hurts people on fixed incomes, such as retired people who receive non-indexed pensions.
   c. It redistributes wealth from debtors to creditors.
   d. It creates menu costs.
   e. It creates uncertainty, which makes financial planning for the future more difficult.

9. According to the textbook, why is deflation harmful to an economy?

   a. It redistributes wealth from debtors to creditors.
   b. It creates menu costs.
   c. It creates uncertainty, which makes financial planning for the future more difficult.
   d. It can lead to cutbacks in borrowing and spending, which can slow down the economy.
   e. All of the above.

10. In the classical model:

a. flexible markets will keep the economy at a full-employment level of spending and output.
b. both households' saving activity and firms' investment activity are quite sensitive to changes in the interest rate.
c. adjustments in the interest rates quickly correct any imbalances between saving and investment.
d. a sudden fall in investment spending would cause a fall in the interest rate, which would dampen saving and stimulate consumption, quickly returning the economy to full employment.
e. all of the above.

11. Which of the following can describe the meaning of autonomous consumption?

a. The part of consumption that is not related to income.
b. That which, when it changes, shifts the consumption schedule up or down.
c. A minimum level of income that people feel required to spend for survival.
d. The amount of consumption spending people will undertake no matter what their current incomes are, reflecting their long-term plans, their commitments and habits, and their place in the community.
e. All of the above.

12. The marginal propensity to consume (*mpc*):

a. stands for the portion of every additional dollar of aggregate income that goes to consumption spending.
b. is equal to the change in consumption (*C*) divided by the change in aggregate income (*Y*).
c. is equal to $1 - mps$.
d. theoretically should be less than 1
e. all of the above.

13. In the Keynesian model:

a. Households only save and lend, and do not borrow.
b. Consumption spending is more sensitive to the interest rate than to income.
c. Investment spending, especially in a recession, is highly sensitive to the interest rate.
d. Investment spending is highly sensitive to investors' confidence and expectations of future sales and profits (or "animal spirits").
e. All of the above

14. Unlike the Classical economists, Keynes thought that after a sudden fall in investment spending:

a. the economy would quickly return to full-employment equilibrium.
b. the economy could contract by even more than the initial fall in spending, and get stuck there.
c. the market mechanism would automatically pull an economy out of a recession.
d. a rise in consumption spending would counteract the fall in investment spending, keeping the economy at full employment.
e. None of the above.

15. Which of the following expresses the value of the income/spending multiplier (in a simple closed economy with no government)?c

a. *1/mpc*
b. *1/(1+mpc)*
c. *1/(1-mpc)*
d. *1+mpc*
e. *1-mpc*

16. Assume a simple, closed economy with no government. The marginal propensity to consume (*mpc*) = 0.75. Then the value of the multiplier is:

a. 1.34
b. 0.57
c. 4
d. 1.75
e. 0.25

17. Which of the following best describes the relationship between the *mpc* and the multiplier?

a. The higher the *mpc*, the higher the multiplier.
b. The higher the *mpc*, the lower the multiplier.
c. The lower the *mpc*, the higher the multiplier.
d. There is no relationship between the *mpc* and the multiplier.
e. There is a one to one relationship between the *mpc* and the multiplier – the multiplier will increase by the same amount as the increase in the *mpc*.

18. Assume a simple, closed economy with no government. The marginal propensity to consume (*mpc*) = 0.8. Assume there's a sudden drop in investment spending by 100 million. By how much will output eventually fall?

a. 20 million
b. 100 million
c. 125 million
d. 500 million
e. None of the above.

19. Which of the following was one of Keynes's suggested solutions, *and* was *not* generally adopted in the U.S. in the post-war era?

a. Changes in government spending to stabilize the business cycle.
b. The role of government in keeping interest rates low to stimulate investment.
c. The involvement of government in controlling of the level and direction of national investment.
d. The role of government in purchasing goods and services to stimulate aggregate demand.
e. The role of government in manipulating taxation to stimulate aggregate demand.

20. Which of the following is *not* one of the ideas associated with monetarist economics?

a. Free-market economy drives out inefficiencies in the economic system.
b. A smaller government is good for the economy as it encourages private initiatives.
c. Efforts by the government to push unemployment too low could lead to inflation.
d. Governments should keep the money supply stable.
e. There are times when the government should take an active role by changing its spending policies.

Answers to Active Review Questions

1. stabilization
2. Keynesian, classical
3. business cycle
4. recession
5. Okun's "Law"
6. full employment output
7. frictional, structural
8. underemployed
9. deflation
10. the marginal propensity to save
11. multiplier
12. False. The two stylized facts are not always true. There are periods when the economy has gone into recession and the inflation rate has increased. And there are periods when the economy has gone into an expansion, and the inflation rate has not increased.
13. True.
14. True.
15. False
16. False. The lower interest rate would primarily dampen saving and stimulate consumption spending, and the economy would return to equilibrium with a higher composition of consumption spending and less investment spending than before.
17. False. Monetarists argued that governments should focus on keeping the money supply steady, even in a recession when unemployment was high.
18. True.
19. As GDP falls during a contraction, unemployment rises because producers are producing less goods and services and need fewer workers. And during an expansion, producers need more workers as they increase production, so the unemployment rate falls (stylized fact #1). As producers increase their production, however, there's more competition for the limited supply of workers and other inputs, which bids up wages and prices and results in an increase in the rate of inflation. Whereas during an economic contraction, there's less pressure on wages and prices and the rate of inflation slows down or becomes negative (stylized fact #2).
20. Frictional, structural, and cyclical unemployment. Cyclical unemployment is broadly spread through an economy during a downturn.
21. Inflation is harmful because: it wipes out the value of people's savings; it hurts people on fixed incomes; it redistributes wealth from creditors to debtors; it creates menu costs; and it creates uncertainty, making financial planning for the future more difficult.
22. Deflation is a problem because: it redistributes wealth from debtors to creditors, it creates menu costs; it creates uncertainty, making financial planning for the future more difficult; and it can lead to cutbacks in borrowing and spending, which can slow down the economy.
23. Classical economists thought that the economy would recover by itself, so there was no need for the government to intervene.

24. A sudden fall in investment spending would cause a fall in the interest rate, which would dampen saving and stimulate consumption, quickly returning the economy to full employment. The full employment level will now have somewhat more consumption spending and less investment spending.
25. The determinants of investment spending are: the interest rate, prices of investment goods, accumulated assets and debt, the willingness of lenders to lend, but most important for Keynes was the level of confidence and expectations about the future.
26. When spending drops by a certain amount, output drops by *more* than that amount, i.e. by a multiplied amount. This is because the drop in spending has a feedback or echo effect on the economy. As firms cut back production and lay off workers, those workers now have a lower income, and cut back their own consumption. This affects additional firms, who see their inventories pile up and cut back production. Thus more workers are laid off and incomes fall further, leading to a vicious circle of higher unemployment, lower income, and lower investment.
27. The classical school believes in the smooth functioning of market mechanisms, and that they work best when left alone. They generally do not think governments should intervene, and think that often government intervention makes things worse.
28. Keynesian economics believes markets often fail and governments have a role to intervene, especially in boosting aggregate demand during downturns.
29. Monetarist economists believes that the government should pursue a steady money supply and not intervene in the market actively over the course of the business cycle.
30. Since the 1980s, there have been periods of long economic expansions, through the rate of growth during these expansions have been lower than that in previous decades. Also, the occurrence of large asset bubbles, driven by speculation, has become more common, real wages have remained stagnant, inequality has increased, and big corporations have grown and more powerful.

Answers to Problems

1. It appears the U.S. economy went into recession in the years 1973-75, 1979-80, 1981-82, 1990-91, and 2007-9, because these are the periods when it the level of real GDP actually goes down. (There was also a relatively mild recession during 2001, which is not apparent except as a slight flattening on the GDP per capita graph, since it occurred entirely within 2001; by 2002 GDP was growing once again).

2.
A: contraction
B: expansion
C: peak
D: trough
Y*: full employment output

3.

(1) Income (Y)	(2) Consumption (C)	(3) Investment (I)	(4) Aggregate Demand $AD = C + I$ = *column (2) + column (3)*
0	30	**20**	50
300	300	20	**320**
400	**390**	20	410
500	480	20	500
600	**570**	20	**590**

Using $AD = C + I_I$,
(a) 50 = 30 + **20**
(b) **320** = 300 + 20
(c) 410 = **390** + 20

Deriving the consumption function:
Autonomous consumption = 30 (from the first row where $Y = 0$).
To find the mpc, calculate a change in C (e.g. 390 – 300 = 90), and divide by the corresponding change in Y (400 – 300 = 100). So the $mpc = \Delta C/\Delta Y = 90/100 = 0.9$
Hence, the consumption function is $\boldsymbol{C = 30 + 0.9Y}$
To fill in (d), C = 30 + .9(600) = 30 + 540 = **570**.
(e) follows from **590** = 570 + 20. f. Equilibrium is where Y = AD, which is at **500** (see shaded row).

Answers to Self Test Questions

1. B
2. B
3. C
4. B
5. C
6. A
7. A
8. C
9. E
10. E
11. E
12. E
13. D
14. B
15. C
16. C
17. A
18. D
19. E
20. E