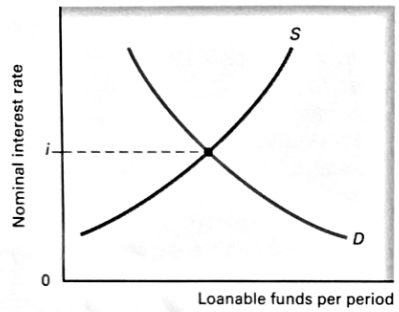
Compute the inflation rate for each year 1993–2012 and determine which were years of inflation. In which years did deflation occur? In which years did disinflation occur? Was there hyperinflation in any year?

8. *(Sources of Inflation)* Using the concepts of aggregate supply and aggregate demand, explain why inflation usually increases during wartime.
9. *(Inflation and Interest Rates)* Using a demand-supply diagram for loanable funds (like the exhibit below), show what happens to the nominal interest rate and the equilibrium quantity of loans when both borrowers and lenders increase their estimates of the expected inflation rate from 5 percent to 10 percent.

The Market for Loanable Funds



7-4 Explain how unanticipated inflation harms some individuals and harms the economy as a whole

10. *(Anticipated Versus Unanticipated Inflation)* If actual inflation exceeds anticipated inflation, who will lose purchasing power and who will gain? How does unanticipated inflation harm the economy?

CHAPTER 8

8-1 Describe how we measure labor productivity, and explain why is it important for a nation's standard of living

1. *(Measuring Labor Productivity)* How do we measure labor productivity? How do changes in labor productivity affect the U.S. standard of living?
2. *(Growth and the PPF)* Use the production possibilities frontier (PPF) to demonstrate economic growth.
   a. With consumption goods on one axis and capital goods on the other, show how the combination of goods selected this period affects the PPF in the next period.
   b. Extend this comparison by choosing a different point on this period's PPF and determining whether that combination leads to more or less growth over the next period.
3. *(Shifts in the PPF)* Terrorist attacks foster instability and may affect productivity over the short and long term. Do you think the September 11, 2001, terrorist attacks on the World Trade Center and the Pentagon affected short- and/or long-term productivity in the United States? Explain your response and show any movements in the PPF.

8-2 Summarize the history of U.S. labor productivity changes since World War II and explain why these changes matter

4. *(Labor Productivity)* Identify at least four definable periods of labor productivity growth beginning right after World War II. During which periods was productivity growth lowest and why? (Refer to Exhibit 6 in the chapter.)
5. *(Long-Term Productivity Growth)* Suppose that two nations start out in 2013 with identical levels of output per work hour—say, $100 per hour. In the first nation, labor productivity grows by 1 percent per year. In the second, it grows by 2 percent per year. Use a calculator or a spreadsheet to determine how much output per hour each nation will be producing 20 years later, assuming that labor productivity growth rates do not change. Then, determine how much each will be producing per hour 100 years later. What do your results tell you about the effects of small differences in productivity growth rates?

8-3 Evaluate the evidence that technological change increases the unemployment rate

6. *(Technological Change)* Does technological change create unemployment? What's the evidence?
7. *(Technological Change and Unemployment)* What are some examples, other than those given in the chapter, of technological change that has caused unemployment? And what are some examples of new technologies that have created jobs? How do you think you might measure the net impact of technological change on overall employment and GDP in the United States?

CHAPTER 9

9-1 Explain what a consumption function illustrates and interpret its slope

1. *(Consumption)* Use the following data to answer the questions below:

Real Disposable Income (billions)	Consumption Expenditures (billions)	Saving (billions)
$100	$150	$_____
$200	$200	_____
$300	$250	_____
$400	$300	_____

   a. Graph the consumption function, with consumption spending on the vertical axis and disposable income on the horizontal axis.
   b. If the consumption function is a straight line, what is its slope?
   c. Fill in the saving column at each level of income. If the saving function is a straight line, what is its slope?
2. *(MPC and MPS)* If consumption increases by $12 billion when disposable income increases by $15 billion, what is the value of the MPC? What is the relationship between the MPC and the MPS? If the MPC increases, what must happen to the MPS? How is the MPC related to the consumption function? How is the MPS related to the saving function?

3. *(Consumption and Saving)* Suppose that consumption equals $500 billion when disposable income is $0 and that each increase of $100 billion in disposable income causes consumption to increase by $70 billion. Draw a graph of the consumption function using this information. What is the slope of the consumption function?

9-2 Describe what can shift the consumption function up or down

4. Consumption Function How would an increase in each of the following affect the consumption function?
   a. Net taxes
   b. The interest rate
   c. Consumer optimism, or confidence
   d. The price level
   e. Consumers' net wealth
   f. Disposable income

9-3 Explain why investment varies more than consumption from year to year

5. *(Investment)* Why does investment vary more than consumption from year to year?
6. *(Investment)* Why would the following investment expenditures increase as the interest rate declines?
   a. Purchases of a new plant and equipment
   b. Construction of new housing
   c. Increase of inventories

9-4 Describe how the aggregate expenditure line determines the quantity of aggregate output demanded

7. *(Aggregate Expenditure)* What are the components of aggregate expenditure? In the model developed in this chapter, which components vary with changes in the level of real GDP? What determines the slope of the aggregate expenditure line?
8. *(GDP Demanded)* How is the aggregate expenditure line used to identify real GDP demanded assuming a given price level?

9-5 Determine the simple spending multiplier and explain its relevance

9. *(Simple Spending Multiplier)* For each of the following values for the MPC, determine the size of the simple spending multiplier and the total change in real GDP demanded following a $10 billion decrease in spending:
   a. $MPC = 0.9$
   b. $MPC = 0.75$
   c. $MPC = 0.6$
10. *(Simple Spending Multiplier)* Suppose that the MPC is 0.8 and that $14 trillion of real GDP is currently being demanded. The government wants to increase real GDP demanded to $15 trillion at the given price level. By how much would it have to increase government purchases to achieve this goal?
11. *(Investment and the Multiplier)* This chapter assumes that investment is autonomous. What would happen to the size of the multiplier if investment increases as real GDP increases? Explain.

9-6 Summarize the relationship between the aggregate expenditure line and the aggregate demand curve

12. *(Shifts of Aggregate Demand)* Assume the simple spending multiplier equals 3. Determine the size and direction of any changes of the aggregate expenditure line, real GDP demanded, and the aggregate demand curve for each of the following changes in spending:
    a. Spending rises by $8 billion at each income level.
    b. Spending falls by $5 billion at each income level.
    c. Spending rises by $20 billion at each income level.

CHAPTER 10

10-1 Explain what determines the shape and position of the short-run aggregate supply curve

1. *(Natural Rate of Unemployment)* What is the relationship between potential output and the natural rate of unemployment?
   a. If the economy currently has a frictional unemployment rate of 2 percent, structural unemployment of 2 percent, seasonal unemployment of 0.5 percent, and cyclical unemployment of 2 percent, what is the natural rate of unemployment? Where is the economy operating relative to its potential GDP?
   b. What happens to the natural rate of unemployment and potential GDP if cyclical unemployment rises to 3 percent with other types of unemployment unchanged from part (a)?
   c. What happens to the natural rate of unemployment and potential GDP if structural unemployment falls to 1.5 percent with other types of unemployment unchanged from part (a)?
2. *(Real Wages)* In the accompanying exhibit, how does the real wage rate at point *c* compare with the real wage rate at point *a*? How do nominal wage rates compare at those two points? Explain your answers.

Long-Run Adjustment When the Price Level Exceeds Expectations