2-3 Outline how economies function as production systems

5. *(Shape of the PPF)* Suppose a production possibilities frontier includes the following combinations:

Cars	Washing Machines
0	1,000
100	600
200	0

a. Graph the PPF, assuming that it has no curved segments.
b. What is the cost of producing an additional car when 50 cars are being produced?
c. What is the cost of producing an additional car when 150 cars are being produced?
d. What is the cost of producing an additional washing machine when 50 cars are being produced? When 150 cars are being produced?
e. What do your answers tell you about opportunity costs?

6. *(Production Possibilities)* Suppose an economy uses two resources (labor and capital) to produce two goods (wheat and cloth). Capital is relatively more useful in producing cloth, and labor is relatively more useful in producing wheat. If the supply of capital falls by 10 percent and the supply of labor increases by 10 percent, how will the PPF for wheat and cloth change?

7. *(Production Possibilities)* There's no reason why a production possibilities frontier could not be used to represent the situation facing an individual. Imagine your own PPF. Right now—today—you have certain resources—your time, your skills, perhaps some capital. And you can produce various outputs. Suppose you can produce combinations of two outputs, call them studying and partying.
a. Draw your PPF for studying and partying. Be sure to label the axes of the diagram appropriately. Label the points where the PPF intersects the axes, as well as several other points along the frontier.
b. Explain what it would mean for you to move upward and to the left along your personal PPF. What kinds of adjustments would you have to make in your life to make such a movement along the frontier?
c. Under what circumstances would your personal PPF shift outward? Do you think the shift would be a "parallel" one? Why, or why not?

8. *(Shifting Production Possibilities)* Determine whether each of the following would cause the national economy's PPF to shift inward, outward, or not at all:
a. An increase in average length of annual vacations
b. An increase in immigration
c. A decrease in the average retirement age
d. The migration of skilled workers to other countries

2-4 Describe different economic systems and the decision-making rules that define them

9. *(Economic Systems)* The United States is best described as having a mixed economy. What are some elements of command in the U.S. economy? What are some market elements? What are some traditional elements?

CHAPTER 3

3-1 Describe the major sources of income and expenditures for households

1. *(Evolution of the Household)* Determine whether each of the following would increase or decrease the opportunity costs for mothers who choose not to work outside the home. Explain your answers.
a. Higher levels of education for women
b. Higher unemployment rates for women
c. Higher average pay levels for women
d. Lower demand for labor in industries that traditionally employ large numbers of women

2. *(Household Production)* Many households supplement their food budget by cultivating small vegetable gardens. Explain how each of the following might influence this kind of household production:
a. Both husband and wife are professionals who earn high salaries.
b. The household is located in a city rather than in a rural area.
c. The household is located in a region where there is a high sales tax on food purchases.
d. The household is located in a region that has a high property tax rate.

3. *(Household Production)* What factors does a householder consider when deciding whether to produce a good or service at home versus buy it in the marketplace?

4. *(Objectives of the Economic Decision Makers)* In economic analysis, what are the assumed objectives of households, firms, and the government?

3-2 Outline the evolution of production over the centuries from the household to the modern corporation

5. *(Corporations)* How did the institution of the firm get a boost from the advent of the Industrial Revolution? What type of business organization existed before this?

6. *(Sole Proprietorships)* What are the disadvantages of the sole proprietorship form of business?

7. *(Cooperatives)* How do cooperatives differ from typical businesses?

8. *(Evolution of the Firm)* Explain how production after the Industrial Revolution differed from production under the cottage industry system.

3-3 Summarize the seven roles of government in an economy

9. *(Government)* Complete each of the following sentences:
a. When the private operation of a market leads to overproduction or underproduction of some good, this is known as a(n) ________.
b. Goods that are nonrival and nonexcludable are known as ________.
c. ________ are cash or in-kind benefits given to individuals as outright grants from the government.
d. A(n) ________ confers an external benefit on third parties that are not directly involved in the market transaction.
e. ________ refers to the government's pursuit of full employment and price stability through variations in taxes and government spending.

10. *(Tax Rates)* Suppose taxes are related to income as follows:

Income	Taxes
$1,000	$200
$2,000	$350
$3,000	$450

a. What percentage of income is paid in taxes at each level?
b. Is the tax rate progressive, proportional, or regressive?
c. What is the marginal tax rate on the first $1,000 of income? The second $1,000? The third $1,000?

11. *(Government Revenue)* What are the sources of government revenue in the United States? Which types of taxes are most important at each level of government? Which two taxes provide the most revenue to the federal government?

12. *(Externalities)* Suppose there is an external cost, or negative externality, associated with production of a certain good. What's wrong with letting the market determine how much of this good will be produced?

3-4 Explain why countries trade with each other and why they sometimes act to restrict that trade

13. *(International Trade)* Why does international trade occur? What does it mean to run a deficit in the merchandise trade balance?

14. *(International Trade)* Distinguish between a tariff and a quota. Who benefits from and who is harmed by such restrictions on imports?

CHAPTER 4

4-1 Explain why a demand curve slopes downward

1. *(Shifting Demand)* Using demand and supply curves, show the effect of each of the following on the market for cigarettes:
a. A cure for lung cancer is found.
b. The price of cigars increases.
c. Wages increase substantially in states that grow tobacco.
d. A fertilizer that increases the yield per acre of tobacco is discovered.
e. There is a sharp increase in the price of matches, lighters, and lighter fluid.
f. More states pass laws restricting smoking in restaurants and public places.

2. *(Substitutes and Complements)* For each of the following pair of goods, determine whether the goods are substitutes, complements, or unrelated:
a. Peanut butter and jelly
b. Private and public transportation
c. Coke and Pepsi
d. Alarm clocks and automobiles
e. Golf clubs and golf balls

4-2 Identify five things which could shift a demand curve to the right or left

3. *(Demand Shifters)* List five things that are held constant along a market demand curve, and identify the change in each that would shift that demand curve to the right—that is, that would increase demand.

4-3 Explain why a supply curve usually slopes upward

4. *(Supply)* Why is a firm willing and able to increase the quantity supplied as the product price increases?

5. *(Supply)* What is the law of supply? Give an example of how you have observed the law of supply at work. What is the relationship between the law of supply and the supply curve?

4-4 Identify five things which could shift a supply curve to the right or left

6. *(Supply Shifters)* List the five things that are held constant along a market supply curve, and identify the change in each that would shift that supply curve to the right—that is, that would increase supply.

7. *(Demand and Supply)* How do you think each of the following affected the world price of oil? (Use demand and supply analysis.)
a. Tax credits were offered for expenditures on home insulation.
b. The Alaskan oil pipeline was completed.
c. The ceiling on the price of oil was removed.
d. Oil was discovered in the North Sea.
e. Sport utility vehicles and minivans became popular.
f. The use of nuclear power declined.

8. *(Demand and Supply)* What happens to the equilibrium price and quantity of ice cream in response to each of the following? Explain your answers.
a. The price of dairy cow fodder increases.
b. The price of beef decreases.
c. Concerns arise about the fat content of ice cream. Simultaneously, the price of sugar (used to produce ice cream) increases.

4-5 Explain why surpluses push prices down while shortages drive prices up

9. *(Market Surplus)* Why would firms accept a lower price if there is a market surplus?

10. *(Market Shortage)* Why would firms raise the price if there is a market shortage, and why would some consumers pay that higher price. At what point would firms stop raising the price?

4-6 Predict the impact of a change in demand or supply on the equilibrium price and quantity

11. *(Equilibrium)* "If a price is not an equilibrium price, there is a tendency for it to move to its equilibrium level. Regardless of whether the price is too high or too low to begin with, the adjustment process will increase the quantity of the good purchased." Explain, using a demand and supply diagram.

12. *(Equilibrium)* Assume the market for corn is depicted as in the table that appears below.
a. Complete the table below.
b. What market pressure occurs when quantity demanded exceeds quantity supplied? Explain.
c. What market pressure occurs when quantity supplied exceeds quantity demanded? Explain.
d. What is the equilibrium price?
e. What could change the equilibrium price?
f. At each price in the first column of the table below, how much is sold?

Price per Bushel	Quantity Demanded (millions of bushels)	Quantity Supplied (millions of bushels)	Surplus/ Shortage	Will Price Rise or Fall?
$1.80	320	200	______	______
2.00	300	230	______	______
2.20	270	270	______	______
2.40	230	300	______	______
2.60	200	330		
2.80	180	350		

13. *(Market Equilibrium)* Determine whether each of the following statements is true, false, or uncertain. Then briefly explain each answer.
    a. In equilibrium, all sellers can find buyers.
    b. In equilibrium, there is no pressure on the market to produce or consume more than is being sold.
    c. At prices above equilibrium, the quantity exchanged exceeds the quantity demanded.
    d. At prices below equilibrium, the quantity exchanged is equal to the quantity supplied
14. *(Changes in Equilibrium)* What are the effects on the equilibrium price and quantity of steel if the wages of steelworkers rise and, simultaneously, the price of aluminum rises?

4-7 Describe the result of a government-set price floor or price ceiling on a market

15. *(Price Floor)* There is considerable interest in whether the minimum wage rate contributes to teenage unemployment. Draw a demand and supply diagram for the unskilled labor market, and discuss the effects of a minimum wage. Who is helped and who is hurt by the minimum wage law?

CHAPTER 5

5-1 Explain what's special about a national economy compared to regional, state, or local economies

1. *(The National Economy)* Why do economists pay more attention to national economies (for example, the U.S. or Canadian economies) than to state or provincial economies (such as California or Ontario)?

5-2 Describe the phases of the business cycle

2. *(Economic Fluctuations)* Describe the various components of fluctuations in economic activity over time. Because economic activity fluctuates, how is long-term growth possible?

5-3 Explain the shapes of the aggregate demand curve and the aggregate supply curve, and how they interact to determine real GDP and the price level for a nation

3. *(Aggregate Demand and Supply)* Review the information on demand and supply curves in Chapter 4. How do the aggregate demand and aggregate supply curves presented in this chapter differ from the market curves of Chapter 4?
4. *(Aggregate Demand and Supply)* Determine whether each of the following would cause a shift of the aggregate demand curve, a shift of the aggregate supply curve, neither, or both. Which curve shifts, and in which direction? What happens to aggregate output and the price level in each case?
    a. The price level changes.
    b. Consumer confidence declines.
    c. The supply of resources increases.
    d. The wage rate increases.

5-4 Identify the five eras of the U.S. economy, and describe briefly what went on during each

5. *(Five Eras of U.S. Economy)* Identify the five eras of the U.S. economy beginning with the Great Depression and before.
6. *(Supply-Side Economics)* One supply-side measure introduced by the Reagan administration was a cut in income tax rates. Use an aggregate demand/aggregate supply diagram to show what effect was intended. What might happen if such a tax cut also shifted the aggregate demand curve?

CHAPTER 6

6-1 Describe the two ways of computing GDP and explain why they are equivalent

1. *(Income Approach to GDP)* How does the income approach to measuring GDP differ from the expenditure approach? Explain the meaning of *value added* and its importance in the income approach. Consider the following data for the selling price at each stage in the production of a 5-pound bag of flour sold by your local grocer. Calculate the final market value of the flour.

Stage of Production	Sale Price
Farmer	$0.30
Miller	0.50
Wholesaler	1.00
Grocer	1.50

2. *(Expenditure Approach to GDP)* Given the following annual information about a hypothetical country, answer questions a through d.

	Billions of Dollars
Personal consumption expenditures	$200
Personal taxes	50
Exports	30
Depreciation	10
Government purchases	50
Gross private domestic investment	40
Imports	40
Government transfer payments	20

a. What is the value of GDP?
b. What is the value of net domestic product?
c. What is the value of net investment?
d. What is the value of net exports?

3. *(Investment)* Given the following data, answer questions a through c.

	Billions of Dollars
New residential construction	$500
Purchases of existing homes	250
Sales value of newly issued stocks and bonds	600
New physical capital	800
Depreciation	200
Household purchases of new furniture	50
Net change in firms' inventories	100
Production of new intermediate goods	700

a. What is the value of gross private domestic investment?
b. What is the value of net investment?
c. Are any intermediate goods counted in gross investment?

6-2 Trace through the circular flow model, explaining each of the 10 steps along the way

4. *(Circular Flow Model)* First describe in general terms the point of the circular flow model. Next describe the 10 steps along the way.
5. *(Leakages and Injections)* What are the leakages from and injections into the circular flow? How are leakages and injections related in the circular flow?

6-3 Identify the limitations of the national income accounting system

6. *(National Income Accounts)* What relevant aspects of the economy are not reflected in the national income accounting system.
7. *(Limitations of National Income Accounting)* Explain why each of the following should be taken into account when GDP data are used to compare the "level of well-being" in different countries:

a. Population levels
b. The distribution of income
c. The amount of production that takes place outside of markets
d. The length of the average workweek
e. The level of environmental pollution

6-4 Define a price index and explain why is it useful

8. *(Consumer Price Index)* Calculate a new consumer price index for the data in the following exhibit. Assume that current-year prices of Twinkies, fuel oil, and cable TV are $0.95/package, $1.25/gallon, and $15.00/month, respectively. Calculate the current year's cost of the market basket and the value of the current year's price index. What is this year's percentage change in the price level compared to the base year?

Product	(1) Quantity in Market Basket	(2) Prices in Base Year	(3) Cost of Basket in Base Year (3) · (1) · (2)	(4) Prices in Current Year	(5) Cost of Basket in Current Year (5) · (1) · (4)
Twinkies	365 packages	$ 0.89/package	$ 324.85	$ 0.79	$ 288.35
Fuel oil	500 gallons	1.00/gallon	500.00	1.50	750.00
Cable TV	12 months	30.00/month	360.00	30.00	360.00
			$1,184.85		$1,398.35

9. *(Consumer Price Index)* Given the following data, what was the value of the consumer price index in the base year? Calculate the annual rate of consumer price inflation in 2013 in each of the following situations:

a. The CPI equals 200 in 2012 and 240 in 2013.
b. The CPI equals 150 in 2012 and 175 in 2013.
c. The CPI equals 325 in 2012 and 340 in 2013.
d. The CPI equals 325 in 2012 and 315 in 2013.

CHAPTER 7

7-1 Describe what the unemployment rate measures, and summarize four sources of unemployment

1. *(Measuring Unemployment)* Determine the impact on each of the following if 2 million formerly unemployed workers decide to return to school full time and stop looking for work:

a. The labor force participation rate
b. The size of the labor force
c. The unemployment rate

2. *(Measuring Unemployment)* Suppose that the U.S. noninstitutional adult population is 230 million and the labor force participation rate is 67 percent.

a. What would be the size of the U.S. labor force?
b. If 85 million adults are not working, what is the unemployment rate?

3. *(Types of Unemployment)* Determine whether each of the following would be considered frictional, structural, seasonal, or cyclical unemployment:

a. A UPS employee who was hired for the Christmas season is laid off after Christmas.
b. A worker is laid off due to reduced aggregate demand in the economy.
c. A worker in a DVD rental store becomes unemployed as video-on-demand cable service becomes more popular.
d. A new college graduate is looking for employment.

7-2 Outline the pros and cons of unemployment insurance

4. *(Unemployment Insurance)* What are the pros and cons of unemployment insurance?
5. *(The Meaning of Full Employment)* When the economy is at full employment, is the unemployment rate at zero percent? Why or why not? How would a more generous unemployment insurance system affect the full employment figure?

7-3 Define inflation and describe the two sources of inflation

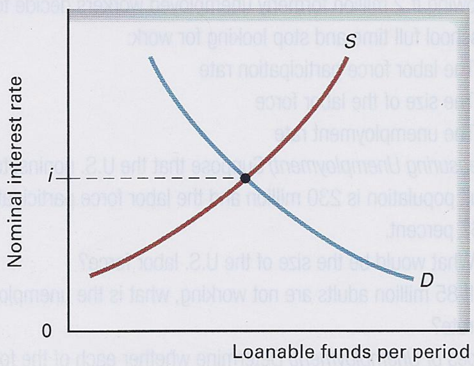
6. *(Two Sources of Inflation)* Using aggregate supply and aggregate demand, demonstrate two sources of inflation.
7. *(Inflation)* Here are some recent data on the U.S. consumer price index:

Year	CPI	Year	CPI	Year	CPI
1992	140.3	1999	166.6	2006	201.6
1993	144.5	2000	172.2	2007	207.3
1994	148.2	2001	177.1	2008	215.3
1995	152.4	2002	179.9	2009	214.5
1996	156.9	2003	184.0	2010	218.1
1997	160.5	2004	188.9	2011	224.9
1998	163.0	2005	195.3	2012	229.6

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?