Chapter 3

WHAT ECONOMIES DO
Macroeconomics In Context (Goodwin, et al.)

Chapter Overview
This chapter introduces the four essential economic activities: resource management, the production of goods and services, the distribution of goods and services, and the consumption of goods and services. The chapter highlights resource management, a crucial component in ensuring the environmental sustainability of economic activities. The chapter also examines the activity of distribution. In the chapter, you will learn about ways in which economists and others measure the extent of income and wealth inequality in an economy. The chapter concludes with a description of the market system, including a discussion of the institutional requirements of markets. It also introduces the concepts of externalities, public goods, market power, transaction costs, information and expectations, and concern for human needs and equity in order to demonstrate why markets, while useful, are not on their own sufficient for organizing economic life in the service of well-being.

Chapter Objectives

After reading and reviewing this chapter, you should be able to:
1. Define the four essential economic activities.
2. Define the five types of capital.
3. Explain the difference between stocks and flows.
4. Discuss the limitations of substitutability with respect to natural capital.
5. Understand the importance of maintaining capital stocks.
6. Describe the difference between exchange and transfer.
7. Define the difference between wealth and income.
8. Describe the distribution of income and wealth in the United States.
9. Describe how inequality is measured.
10. Distinguish the different meanings of the term "market".
11. Describe the institutional requirements of markets.
12. Identify the advantages and limitations of markets

Key Terms

resource management	stock
capital stock	flow
natural capital	stock-flow diagram
manufactured capital	production
human capital	inputs
social capital	outputs
financial capital	waste products

distribution
exchange
transfer
in-kind transfers
consumption
saving
investment
depreciation
gross investment
net investment
renewable resource
nonrenewable resource
substitutability
sustainable socioeconomic system
restorative socioeconomic system
labor income
capital income
rent
dependency needs
social insurance programs

means-tested programs
proportional income tax
regressive income tax
progressive income tax
Lorenz curve
Gini ratio
capital gain
market (three meanings)
institutions
private property
implicit contract
explicit contract
physical infrastructure
free riders
externalities
transaction costs
market power
static analysis
dynamic analysis
market failure

Active Review

Fill in the Blank

1. Protecting wildlife in a national park is an example of the economic activity of _____.

2. Gary's Gasoline Station is for sale. Gary hopes to get a good price for the station in part because he has built up a good reputation with customers. The good will of Gary's customers is a form of _____ capital.

3. The activity that turns inputs into new goods and services, or outputs, is called _____.

4. Your grandmother sends you a check for $100. This form of resource distribution is referred to as a _____.

5. A gardener hears that a pesticide he has been using may have toxic effects on birds. Rather than wait to find out what further studies show about its effects, he finds another way of controlling insects in his garden. By taking action to protect birds, despite uncertainty about the dangers of the pesticide, the gardener is exercising the _____ principle.

6. An oil executive states he is not concerned about the eventual depletion of fossil fuel resources. "When we run out of oil," he says, "we'll just switch to nuclear." The oil executive is basing his argument on the notion of _____.

7. The activity of consumption and the activity of investment are linked by the activity of _____, which is the refraining from consumption today in order to gain benefits in the future.

8. In one year a country adds to the capital stock with new investments, but during that year some of its capital stock is reduced through depreciation. The resulting amount of investment is called _____ investment.

9. The graph that is used to depict income inequality, showing the percent of households along one axis and the percent of income along the other, is known as the _____ curve.

10. If income were perfectly equally distributed within a country, the value of the Gini ratio for that country would be ____.

11. If someone enjoys the benefit of a well-paved highway but refuses to pay for it, they would be considered a _____.

12. You decide to buy a used car. You discover that it is hard to get information on the quality of the used cars that are available. You have trouble communicating with the car dealer. It takes a considerable amount of time to get the information you need to successfully get the car you had in mind. In other words, buying a used car turns out to be an activity with high _____ costs.

13. A new factory begins discharging pollutants into a previously pristine river. Fish in the river begin to die, and people who make their living through fishing have trouble maintaining their catch. This factory is generating negative _____.

14. A professional musician practices piano every afternoon. Her neighbor listens to the music and enjoys it. Through her activity, the musician is creating a positive

_____.

True or False

15. In a sustainable socioeconomic system, flows of goods and services come largely from judicious use of renewable capital stocks.

16. The number of fish sold per day at Big City Fish Shop is an example of a stock.

17. Planting new trees in a forest is an example of making an investment.

18. The distribution of wealth in the U.S. tends to be more equal than the distribution of income.

19. A public good is a good that is consumed by the public.

Short Answer

20. Identify the four essential economic activities.

21. Name the five types of capital.

22. Explain the difference between a stock and a flow.

23. What are the two main forms of economic distribution? What is the difference between them?

24. How does the approach of someone who has adopted the precautionary principle differ from someone with a blind faith in substitutability, when it comes to a non-renewable resource like fossil fuels?

25. What are the two types of government cash transfer programs in the U.S., used to help households achieve income security? Provide examples of each.

26. What is the distinguishes a progressive income tax, from a proportional income tax, or a regressive income tax?

27. What is a Lorenz curve? Explain how the Gini ratio uses the Lorenz curve to measure the level of inequality in a nation's income distribution.

28. The US Census Bureau has experimented with a variety of possible definitions of personal income. The Gini ratio in the US varies somewhat, depending which definition of personal income is used. If the Census Bureau starts with a measure of pre-tax money income and then adds the value of health insurance fringe benefits paid by businesses for their employees, as well as the value of net capital gains, how does the Gini ratio change?

29. Provide an example of a market that fits the first meaning of markets (as a physical place), and an example of a market that fits the second definition (as an institution).

30. List two advantages of markets identified by the authors of the text.

31. Identify the four institutional requirements of markets.

32. Identify six disadvantages of markets (i.e. cases of market failures).

Problems

1. Match the following items from column 1 with the appropriate examples from column 2:

Column 1:
a) natural capital
b) human capital
c) social capital
d) equity finance

Column 2:
1) clean water
2) a company's good reputation
3) a company uses its own funds to
    pay for new machinery
4) literate workers

2. Identify which of the following resources are renewable vs. non-renewable resources. Explain how their stock/flow diagrams would be different, assuming that when the renewable resources are being renewed at the same rate as they are used up.

a. A forest
b. Reserves of petroleum and natural gas
c. Reserves of uranium
d. Fish in the seas
e. Wind energy

Problem #3 refers to following graph.
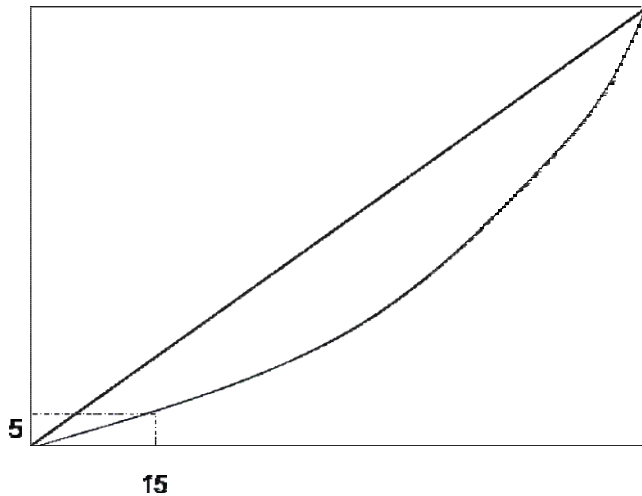
The graph above shows a Lorenz curve for income distribution in the country of Utopia.

a. Label the horizontal and vertical axes on this graph.

b. In words, explain what information is communicated by the numbers shown on this graph.

c. Suppose that the pattern of employment and wages in Utopia changes, so that now the distribution of income is less unequal. On the graph, draw an example of a Lorenz curve that could illustrate this result.

Self Test

1. Enjoying art at a museum is an example of

   a. production
   b. consumption
   c. exchange
   d. transfer
   e. resource management

2. Which of the following is an example of the economic activity of resource management?

   a. Cooking dinner
   b. Operating a factory
   c. Providing worker education
   d. Drilling for oil
   e. Buying a bicycle

3. Which of the following is an example of the economic activity of distribution?

   a. A baker makes 10 loaves of bread.
   b. A plumber fixes a leak.
   c. The legal speed limit is raised from 65 to 75 mph.
   d. A couple enjoys a walk in the forest.
   e. A retired worker receives Social Security benefits.

4. Which of the following is an example of the economic activity of consumption?

   a. A baker makes 10 loaves of bread.
   b. A plumber fixes a leak.
   c. The legal speed limit is raised from 65 to 75 mph.
   d. A couple enjoys a walk in the forest.
   e. A retired worker receives Social Security benefits.

5. Which of the following is an example of a stock?

   a. The number of haircuts you got last year
   b. The amount of water that passes over a waterfall per second
   c. The number of screwdrivers sold by a hardware store each week
   d. The number of fish produced at a hatchery each day
   e. The number of goldfish in the pet store's aquarium

6. Which of the following activities would be described as a resource management effort?

    a. Limiting the use of fossil fuels in an effort to limit global warming
    b. Harvesting fish at a high rate
    c. Extracting oil from known oil reserves
    d. Using a well-designed machine to process leather for shoes
    e. Selling seeds on the international market

7. Many public health and environmental policy experts believe that when an activity poses a threat to human health or the environment, action should be taken to address that threat even when there is some scientific uncertainty about the issue. This approach is known as

    a. substitutability
    b. the renewable resource rule
    c. the precautionary principle
    d. the sustainability principle
    e. the fixed capital principle

8. A city government builds a new road. After five years the road develops some potholes, making it less useful. This decline in the value of the road over time is an example of

    a. fixed inventory
    b. flows of capital services
    c. depreciation
    d. substitutability
    e. a renewable resource

9. Which of the following is an example of a stock of natural capital?

    a. The number of trucks owned by a company.
    b. The new growth in a forest over a year.
    c. The knowledge you have gained from your past education.
    d. The amount of oil in an underground reserve.
    e. Efforts to remove the effects of pollution from a river.

10. A diagram that shows how flows change the level of a stock over time is known as a(n)

    a. flow chart
    b. flow diagram
    c. stock-flow diagram
    d. input-output model
    e. capital stock diagram

11. Which of the following is an example of a transfer?

    a. You get a new job.
    b. You trade violin lessons for foot massages.
    c. You buy a bag of groceries.
    d. You make a donation to a local soccer team.
    e. You buy stock in a start-up firm.

12. Which of the following statements is false?

    a. Rules about what can be owned vary across time and across cultures.
    b. If you have a use right to a good, you cannot necessarily sell that good.
    c. Transfers are distinguished by being one-way.
    d. Transfers are distinguished by being voluntary.
    e. Controversy exists over what sorts of things may be privately owned.

Question #13 refers to the following graph:
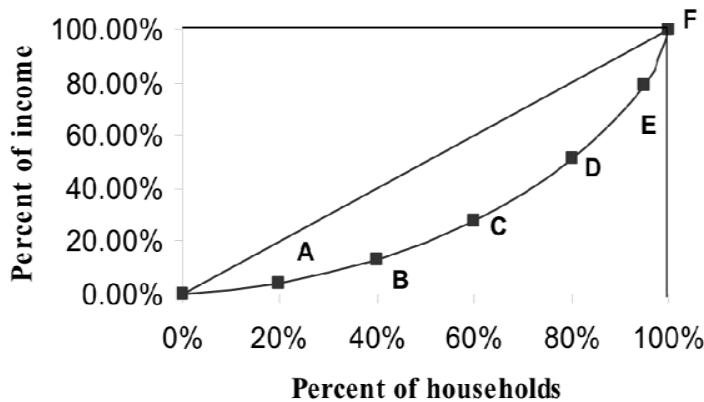
13. According to the Lorenz curve above, which of the following statements is true?

    a. The bottom 40% of households earn less than 20% of all income
    b. The bottom 20% of households earn 20% of all income
    c. The society shown here has complete income equality
    d. The more the curve sags downward, the greater income equality
    e. Both a and d are true

Question #14 refers to the following graph:

Percent of Income (y-axis)
Percent of Households (x-axis)
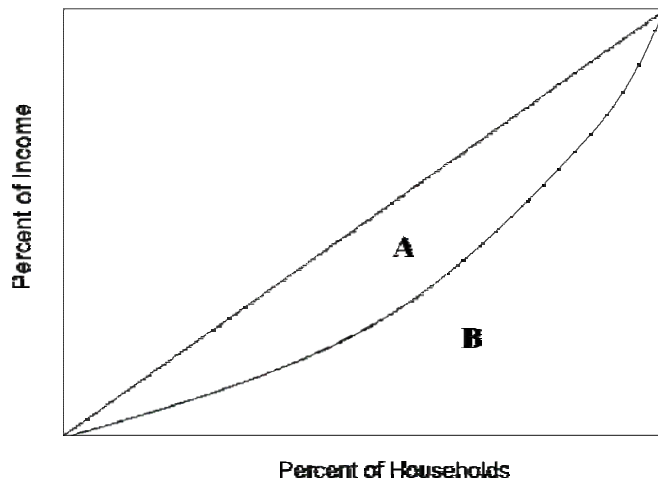
14. Referring to the graph shown above, the Gini ratio is equal to:

    a. A/(A+B)
    b. (A+B)/A
    c. B/(A+B)
    d. A/B
    e. B/A

15. In the year 2010, suppose the Gini ratio for Canada is 0.3 and the Gini ratio for the US is 0.5. In the year 2015, the Gini ratio for Canada rises to 0.35. Which of the following statements is true?

    a. Canada has greater inequality than the US.
    b. Canada has greater inequality in 2015 than it did in 2010.
    c. The US has greater equality than Canada.
    d. Between 2010 and 2015, Canada's Lorenz curve has become straighter (closer to the diagonal line).
    e. All of the above are false.

16. Which of the following statements is true?

    a. The US has the lowest Gini ratio of all major industrialized countries
    b. The US has the highest Gini ratio of all major industrialized countries
    c. The UK has a higher Gini ratio than the US.
    d. Countries with high levels of equality have high Gini ratios.
    e. The US has a straighter Lorenz curve than any other major industrialized country.

17. Which of the following statements about income inequality in the US is true?

    a. Income distribution was most equal in 1968.
    b. Income distribution was most equal in 1947.
    c. Income inequality has declined steadily from 1947 to the present.
    d. Income inequality has risen steadily from 1947 to the present.
    e. The US has greater income equality than most industrialized countries.

18. Which of the following would *not* be considered a market by any of the three meanings of markets?

    a. Seattle's Pikes Place Market, a tourist attraction known for its fish and flower stands.
    b. The mall of America in Minnesota, the U.S.'s largest retail and entertainment complex.
    c. The capitalist free market
    d. The stock market
    e. Marketplace, the radio program on national public radio.

19. Which of the following is *not* an example of an institutional requirement of markets?

    a. The deed of a house, identifying its owner.
    b. A police force devoted to combating theft.
    c. A firm's reputation for making quality products.
    d. Reliable roads and bridges that won't fall apart
    e. Central planners who are able to allocate and distribute resources

20. A city government maintains local roads. This service is an example of:

    a. A free rider
    b. A public good
    c. A positive externality
    d. An external cost
    e. A core sphere activity

21. Why are public goods often provided through government agencies and supported by taxes?

    a. Because they are goods that the public generally believes are valuable and important for the smooth functioning of the economy.
    b. Because the goods would not be well-provided by the private sector, since they are non-excludable.
    c. Because consumers of the goods have little incentive to pay for them, since they are non-excludable.
    d. Because of the problem of free riders, who would otherwise benefit from the public good without paying for it.
    e. All of the above.

22. Which of the following is an example of a positive externality?

    a. A musician performs in a concert. People pay to listen to the concert.
    b. An architect designs a house for herself to live in. She enjoys spending time in the house.
    c. A student volunteers in a shelter for the homeless.
    d. A homeowner plants a tree for shade around her house. The tree also provides shade for her next-door neighbor.
    e. A teacher drives his car to work and gets stuck in a traffic jam.

23. Which of the following is an example of a negative externality?

    a. A student receives a failing grade on a French exam.
    b. Your roommate throws a loud party that keeps you awake all night.
    c. You decide to take public transportation to work every day.
    d. A group of farmers pool their resources to purchase seeds for next year.
    e. You receive a letter saying your bank account is overdrawn.

24. A firm has an experienced worker who it has spent considerable time training. The economy goes into a recession, but the firm is reluctant to lay off the worker. Searching for another worker who is trained and trustworthy when the economy picks up again would entail which kind of costs?

    a. Opportunity costs
    b. Implicit costs
    c. Explicit costs
    d. Transactions costs
    e. External costs

25. Which of the following entities does *not* have substantial market power?

    a. An oil company like Exxon Mobil.
    b. A multinational soft drink corporation like Coca Cola.
    c. A government agency like the Department of Defense.
    d. A computer software company like Microsoft.
    e. A flower seller at a local farmers' market, where there are many flower sellers.

Answers to Active Review Questions
1. resource management
2. social (capital)
3. production
4. transfer
5. precautionary (principle)
6. substitutability
7. saving
8. net (investment)

9. Lorenz
10. zero
11. free rider
12. Transaction (cost)
13. externality
14. externality
15. True
16. False, it's a flow.
17. True
18. False, wealth is more unequally distributed than income is in the U.S.
19. False
20. The four essential economic activities are: resource management, production, distribution, and consumption.
21. The five types of capital are: natural capital, manufactured capital, human capital, social capital, and financial capital.
22. A stock is something whose quantity is measured at a point in time, whereas a flow measures the quantity of something over a period of time.
23. The two main forms of economic distribution are exchange and transfer. Exchange involves a two-way distribution, trading one thing for another, whereas a transfer involves a one-way distribution, giving something with nothing specific expected in return.
24. Someone with a blind faith in substitutability will think that the depletion of a non-renewable resource like fossil fuels is not such a serious problem, since they have faith that in the future other resources can cheaply be substituted for it. While someone who has adopted the precautionary principle will think that we should err on the cautions side and not simply assume that other resources can be cheaply substituted for the non- renewable resource.
25. The two types of government cash transfer programs in the U.S., used to help households achieve income security are social insurance programs (like Social Security and Medicare) and means-tested programs (like welfare, food stamps, housing subsidies).
26. A proportional income tax takes the same percentage of a person's income, whether they are rich or poor. A progressive income tax takes a larger percentage of income from the rich, while a regressive income tax takes a larger percentage from the poor.
27. A Lorenz curve is a line that portrays a nation's income distribution, by dividing up households by into quintiles from poor to rich, and then plotting the cumulative percent of income flowing each quintile of households. The Gini ratio measures the level of income inequality by taking the area between the Lorenz curve and line of perfect equality (A), divided by the total area under the line of perfect equality (A+B). The higher the Gini, the more inequality there is in the income distribution.
28. It rises, since these benefits are enjoyed primarily by the middle class and the relatively wealthy.
29. A local farmer's market would be an example of a market understood as a physical place with both buyers and sellers of a good. The market for goods sold on eBay, the stock market or the market for oil, are examples of markets understood as institutions.
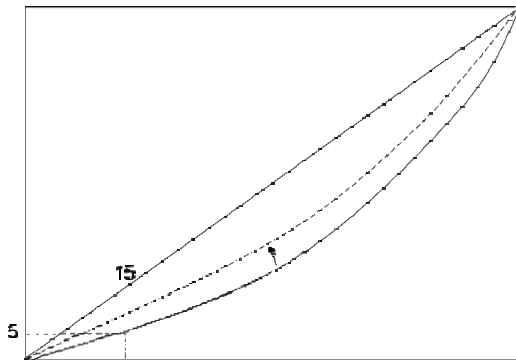
30. Markets can be an efficient way of allocating resources. Markets involve voluntary exchanges. Another advantage identified in the text is that markets encourage innovation and creativity.
31. The four institutional requirements of markets are: private property, social institutions of trust, good physical infrastructure, and money.
32. Six disadvantages or cases of market failure are: public goods, externalities, market power, inequality, transactions costs, and information/expectations problems.

Answers to Problems
1. a) 1; b) 4; c) 2; d) 3

2. a) renewable; b) non-renewable; c) non-renewable; d) renewable; e) renewable.
For the renewable resources, if the incoming flows equal the outgoing flows, the size of the stock will remain the same. For the non-renewable flows, there is no incoming flow, thus the size of the stock will continually diminish as it is used.

3.
a. The horizontal axis should be labeled as "Percent of Households," and the vertical axis should be labeled as "(Cumulative) Percent of Income."
 b. Based on this graph, we can see that the poorest 15% of households in Utopia receive 5% of total household income.
 c. The curve will shift upward, toward the diagonal:

Answers to Self Test Questions

	13. A
1. B	14. A
2. C	15. B
3. E	16. B
4. D	17. A
5. E	18. E
6. A	19. E
7. C	20. B
8. C	21. E
9. D	22. D
10. C	23. B
11. D	24. D
12. D	25. E