

Chapter 2

The Economic Problem: Scarcity and Choice

Scarcity, Choice and Opportunity Cost

1. What are resources? Describe two different types of resources.

Resources are anything provided by nature or previous generations that can be used directly, or indirectly, to satisfy human wants. Capital resources include machinery, equipment, and structures used to produce other goods and services. Human resources include labor, skills, and knowledge. Products of nature can also be used as resources.

Diff: 1 Skill: Definitional Topic: Resources
AACSB:

2. List the three basic *economic* questions that all societies must answer.

- (1.) **What will be produced?**
- (2.) **How will it be produced?**
- (3.) **Who will get what is produced?**

Diff: 1 Skill: Factual Topic: Choice
AACSB:

3. Explain the economic concept of *opportunity cost*.

The opportunity cost of something is the best alternative that we give up when we make a choice or a decision.

Diff: 1 Skill: Definitional Topic: Opportunity Cost
AACSB:

4. Explain how it might be possible to discuss costs of production of a good or service without using monetary values.

All costs are essentially opportunity costs. That is to say that it is simply the value of the next best available alternative. Therefore, it is possible to discuss costs

without mentioning monetary costs by analyzing what was given up to produce a good or a service.

Diff: 1 Skill: Definitional Topic: Opportunity Cost
AACSB:

5. What critical resource is likely to be the culprit for the impending doom of Social Security regarding tax collection? Explain.

Because the baby-boom generation gave birth to fewer children these people will be part of the labor force that will be supporting the baby-boomers when they retire. Because their numbers are so much smaller the amount of taxes collected will be smaller as well.

Diff: 1 Skill: Definitional Topic: Resources
AACSB:

6. Suppose you have saved \$300. You can spend it on a new stereo or on a weekend skiing trip. What is the opportunity cost of going on the skiing trip?

The opportunity cost of the skiing trip is the value of the next best alternative for using the \$300 you have saved. If the next best alternative is purchasing the stereo, then the opportunity cost of going skiing is the enjoyment foregone by not purchasing the stereo.

Diff: 1 Skill: Conceptual Topic: Opportunity Cost
AACSB: Reflective Thinking

7. Suppose there is a new technological invention that will allow you to put any resource into a special black box and in an instant anything that you program it to produce will be produced? Does this invention end scarcity? Why or why not?

It does not end scarcity for the simple reason that you still need to use human labor to place the resources in the black box and the natural resources themselves of course are still scarce. In addition, this device will not limit our wants.

Diff: 1 Skill: Conceptual Topic: Scarcity
AACSB: Analytic Skills

8. What is the opportunity cost of attending class today?

The opportunity cost of attending class today is the next best alternative for your time including sleeping, studying for another class, or earning income at a job. But it can't be all of these things since you can only do one of these things at a time.

Diff: 1 Skill: Conceptual Topic: Opportunity Cost
AACSB:

9. Suppose you could measure the value in monetary terms for the following three things that you could do with your time this Friday evening: a) doing your homework - \$50, 2) spending time with your friends - \$40 or c) taking a nap - \$30. Armed with only this information which activity has the lowest opportunity cost? Which two activities have

the same opportunity cost? Based on what you have discovered what is the best use of your time and why?

The opportunity cost of doing your homework is only \$40 which is the next best available alternative. Spending time with your friends has an opportunity cost of \$50 since this is the next best available alternative. And it turns out this is also the opportunity cost of taking a nap as well. Therefore, the best use of your time is to spend it doing your homework since the opportunity cost of doing so is lower than the other two alternatives.

Diff: 2 Skill: Conceptual Topic: Opportunity Cost
AACSB:

10. Critically evaluate the following statement. "Only poor nations face scarcity. Rich nations have everything they need and have therefore conquered scarcity."

Rich nations simply face different choices than do poor nations. The existence of choices naturally presumes that there is scarcity. Since all resources are limited there is only so many goods and services that can be produced by any nation whether it is poor or rich.

Diff: 2 Skill: Conceptual Topic: Scarcity
AACSB: Reflective Thinking

11. Comment on the following statement: "I decided to buy a car from a dealer in a town 100 miles away because he was offering a price that was \$100 lower than the dealer in my hometown. Therefore, I saved \$100."

Assuming that the individual had no other reason to travel the 100 miles, the savings from the purchase of the car is less than \$100. Travel costs should be taken into account, including the opportunity cost of time.

Diff: 1 Skill: Conceptual Topic: Opportunity Cost
AACSB: Analytic Skills

12. Explain why some researchers conclude that Americans are becoming more obese because of the existence of fast-food restaurants. If fast-food restaurants have been around for over 50 years why is the trend toward obesity only a recent one? Explain.

Essentially fast-food restaurants have become more prolific. The costs has fallen dramatically and coupled with their convenience and proximity to neighborhoods in both urban and suburban areas this has lowered the opportunity cost of eating out.

Diff: 2 Skill: Conceptual Topic: Opportunity Cost
AACSB: Analytical Skills

13. Suppose that a local government decides to provide more funds to the local police department in order for the department to hire additional police officers. Is there an opportunity cost of this action? If so, how would you measure it?

Yes, there is an opportunity cost. The opportunity cost should be measured by the next best alternative use of the funds provided to the police department.

Diff: 1 Skill: Conceptual Topic: Opportunity Cost
AACSB:

14. At which time is the opportunity cost likely to be higher to go to war, during a recession or during an economic boom? Explain your answer fully.

It is likely that going to war during an economic boom is more costly because many men and women who join the military or are drafted will more than likely be leaving behind a productive job. The rest of the country will experience a permanent sacrifice in terms of all the goods and services that will not be produced by them. During a recession many men and women are without jobs so the opportunity cost of deploying them in war is lower.

Diff: 2 Skill: Conceptual Topic: Opportunity Cost
AACSB: Reflective Thinking

15. Michael Jordan has more athletic ability than most individuals. Thus, he is more productive at most tasks involving physical skill. Explain why then, it is more efficient for Michael Jordan to pay someone else to mow his lawn.

While Michael Jordan probably has an absolute advantage in mowing his lawn, the opportunity cost of his time is very high. He could spend the time it takes to mow his lawn in a variety of ways including earning a large amount of money making a commercial endorsement. Thus, it is likely that he does not have a comparative advantage in mowing his lawn.

Diff: 1 Skill: Conceptual Topic: Opportunity Cost
AACSB:

16. Because of the quantity and quality of its resources, the U.S. has an absolute advantage in the production of many goods and services. Does this imply that the U.S. cannot benefit from trading with a developing country that has less productive ability? Why or why not?

The U.S. can benefit from trading with less productive countries as long as it produces the goods for which it has a comparative advantage and trades to receive the goods for which it does not.

Diff: 2 Skill: Conceptual Topic: Absolute and comparative advantage
AACSB:

17. Assume that two countries are considering trading with each other for the first time. Also assume that one of the countries has an absolute disadvantage in producing everything compared to the other country. How would it still be possible for these two nations to benefit from trade with each other?

The reason that it would still be beneficial for each nation to trade with each other is because trade is not dependent on absolute advantage but rather comparative advantage. That means that one nation may be operating at an absolute disadvantage vis-à-vis another nation but still have a comparative advantage in at least one good or service.

Diff: 3 Skill: Conceptual Topic: Absolute and comparative advantage
AACSB:

18. Evaluate the following statement. “The nation of Berundi has an absolute disadvantage in the production of everything compared to the United States. Therefore, the United States will have no reason to trade with Berundi”.

This statement is false. The reason is that nations don’t trade according to their absolute advantage but rather their comparative advantage. Even though the nation of Berdundi has an absolute disadvantage in the production of everything it is very unlikely that it won’t have a comparative advantage in the production of at least one good or service vis-à-vis the United States.

Diff: 2 Skill: Conceptual Topic: Comparative advantage
AACSB: Reflective Thinking

19. Explain Ricardo's theory of comparative advantage.

Specialization and free trade will benefit all trading partners, including those that may be absolutely more efficient producers.

Diff: 1 Skill: Definitional Topic: Comparative Advantage
AACSB:

20. Mexico has lower wages than the United States. Does this necessarily mean that it will have a comparative advantage in the production of everything compared to the United States?

Wages are only one factor in the input mix. What matters is the overall opportunity cost of production. If wages are 1/5 the in Mexico compared to what they are in the United States and workers in Mexico are 1/5 as productive as American workers this doesn’t translate necessarily into a comparative advantage for Mexico. Also, goods that are produced with a lot of capital which turns out to be more expensive in Mexico and less expensive in the U.S. will tip the comparative advantage to the United States.

Diff: 2 Skill: Conceptual Topic: Comparative Advantage
AACSB: Analytic Skills

21. The following table shows output per hour for Martha and Stewart who make gift baskets and potholders:

	Output per Hour	
	Martha	Stewart
Giftbaskets	10	8
Potholders	20	12

What is the opportunity cost of a gift basket for Martha? What is the opportunity cost of a gift basket for Stewart? Who has a comparative advantage in producing gift baskets? How can you tell?

The opportunity cost of a gift basket for Martha is 2 potholders. The opportunity cost of a gift basket for Stewart is 1.5 potholders. Stewart has a comparative advantage in the production of gift baskets. His opportunity cost of producing a gift basket is lower.

Diff: 2 Skill: Analytical Topic: Opportunity cost and comparative advantage
AACSB:

22. Explain the difference between absolute advantage and comparative advantage.

A person has an absolute advantage in the production of a good if he or she is more productive at producing the good. A person has a comparative advantage in the production of a good if he or she can produce it at the lowest opportunity cost.

Diff: 1 Skill: Definitional Topic: Comparative and absolute advantage
AACSB:

23. Critically evaluate the following statement. "If a country has an absolute advantage in the production of everything it necessarily follows that it will have a comparative advantage in the production of everything."

This is patently false. Absolute advantage only implies that a good can be produced with fewer inputs versus a rival. Comparative advantage means that a good can be produced at lower opportunity cost than a rival. That means that a rival could have an absolute disadvantage in the production of a good or a service and still have a comparative advantage because of its lower opportunity costs.

Diff: 3 Skill: Analytical Topic: Comparative and absolute advantage
AACSB: Reflective Thinking

24. Critically evaluate the following statement. “If a country can produce a good using fewer inputs than other country then that means that country enjoys a comparative advantage.”

This is not true. What is being described here is an absolute advantage. In order to have a comparative advantage all that is needed is that a country produce the good with a lower opportunity cost but not necessarily with fewer inputs.

Diff: 3 Skill: Analytical Topic: Comparative and absolute advantage
AACSB: Reflective Thinking

25. If a comparative advantage implies that a country can produce a product at a lower opportunity cost than another country then why do we see two countries often trading the same goods? For instance, for most agricultural products the U.S. has a comparative advantage. Japan, one of America’s largest trading partners has a comparative advantage in the production of most economy cars. Explain what is going on here when we still see the U.S. exporting cars to Japan and the U.S. importing some foods from Japan.

First of all not all goods are homogeneous. The U.S. may import some food from Japan that either is not available here or is produced at lower cost or has a higher perceived or actual quality differential. On the other hand while Japan has a comparative advantage in the production of many economy cars there is a cost difference and a quality difference across makes a models that doesn’t allow for an apples-to-apples comparison.

Diff: 3 Skill: Definitional Topic: Comparative advantage and trade
AACSB: Reflective Thinking

26. Assume that a lawyer and a secretary have been working together for two years. The lawyer suddenly realizes that he prepares legal briefs and types faster than the secretary. Upon learning this he decides to let his secretary go. Why might this be a mistake?

It might be a mistake if it turns out that the secretary had a comparative advantage in typing over the lawyer. In other words it is very likely and possible that the secretary typed at a lower opportunity cost than the lawyer. By firing the secretary he has confused absolute advantage with comparative advantage.

Diff: 3 Skill: Definitional Topic: Comparative advantage and trade
AACSB: Reflective Thinking

27. The following table shows output per hour for Martha and Stewart who make gift baskets and potholders:

	Output per Hour	
	Martha	Stewart

Gift Baskets	10	8
Potholders	20	12

What is the opportunity cost of a potholder for Martha? What is the opportunity cost of a potholder for Stewart? Who has an absolute advantage in producing potholders? Who has a comparative advantage in producing potholders?

The opportunity cost of a potholder for Martha is 1/2 of a gift basket. The opportunity cost of a potholder for Stewart is 2/3 of a gift basket. Martha has an absolute advantage and a comparative advantage in the production of potholders.

Diff: 2 Skill: Analytical Topic: Opportunity cost
AACSB:

28. The following table shows output per hour for Fred and Barney who mow lawns and trim hedges:

What is the
lawn for
cost of
Who has a
mowing
The
a

	Output per Hour	
	Fred	Barney
Lawns Cut	2	1
Hedges Trimmed	8	6

opportunity cost of mowing a
Fred? What is the opportunity
trimming a hedge for Fred?
comparative advantage in
lawns? How can you tell?

cost of a trimming a hedge for Fred is 1/4 of a lawn mowed. Fred has a comparative advantage in mowing lawns. His opportunity cost of mowing a lawn is 4 hedges trimmed and Barney's opportunity cost of mowing a lawn is 6 hedges trimmed.

Diff: 2 Skill: Analytical Topic: Comparative advantage
AACSB:

29. The following table shows output per hour for Mexico and Canada, two countries that produce beer and T-shirts:

	Output per Hour	
	Mexico	Canada
Beer (thousands of bottles)	5	10
T-shirts (thousands)	10	12

What is the opportunity cost of a bottle of beer for Mexico? What is the opportunity cost of a T-shirt for Mexico? Who has a comparative advantage in producing beer? How can you tell?

The opportunity cost of a bottle of beer for Mexico is 2 T-shirts. The opportunity cost of a T-shirt for Mexico is 1/2 bottle of beer. Canada has a comparative advantage in the production of beer. Canada's opportunity cost of producing a bottle of beer is 1.2 T-shirts and Mexico's opportunity cost of producing a bottle of beer is 2 T-shirts.

Diff: 2 Skill: Analytical Topic: Opportunity cost and comparative advantage
AACSB:

30. Suppose that Rosie and Betty spend their free time making cakes and cookies. Is it possible for Betty to have an absolute advantage in the production of both cakes and cookies? Is it possible for Betty to have a comparative advantage in the production of both cakes and cookies? Explain.

Yes, it is possible for Betty to have an absolute advantage in the production of cakes and cookies. This simply means that she is able to produce more per hour. However, Betty cannot have a comparative advantage in producing both cakes and cookies. Because the opportunity cost of producing a cookie is the reciprocal of the opportunity cost of making a cake, it is impossible to have the lower opportunity cost of each.

Diff: 1 Skill: Conceptual Topic: Absolute and comparative advantage
AACSB: Analytic Skills

31. Papa Ray owns a pizzeria. He is more efficient at making pizza than anyone he could hire. Does this mean that he should make all of the pizzas himself?

No. This simply means that Papa Ray has an absolute advantage in making pizza. This does not mean that he has a comparative advantage in making pizza. It is possible that the opportunity cost of his time is high (he could be out selling franchises, for example).

Diff: 1 Skill: Conceptual Topic: Comparative advantage
AACSB:

32. Suppose the CEO of a major corporation has five subsidiary companies. Only one of these companies is making better than the return on similar investments that the company could be making if it invested its financial capital outside the company. The CEO tells each of these subsidiary companies that the rate of return that they are earning is not acceptable and must rise to the level of these identified companies. He tells them if they can't come up with a plan in twelve months that their companies will be sold. If each of these companies was actually making money can you come up with an economic argument for why it is still rational for this CEO to sell them if they don't abide by his directive.

The question really boils down to opportunity cost. If stock holders realize that their investments could do better elsewhere then they will be upset with the CEO even if the company is making money. The opportunity cost of hanging on to these companies is the difference between what they are making and what they could make. By selling of the ones that can't comply with the directive the company can

take the proceeds and investment them in a way that will raise their return and profitability.

Diff: 3 Skill: Conceptual Topic: Opportunity cost
AACSB: Analytic Skills

33. Suppose that the opportunity cost of a student's time is greater when he studies than when he works. What mistake is he making and why?

By arguing that his opportunity cost is higher for studying than when he works the student is saying that work has a more highly valued use for his time than studying. Working has a lower opportunity cost because the value of studying is less than the value of working. He should be working, not studying.

Diff: 2 Skill: Conceptual Topic: Opportunity cost
AACSB:

34. Suppose that you have saved \$100. You can spend it today or you can put it in your savings account for a year and earn 5% interest. What is the opportunity cost of spending the money today?

If you put the money in your savings account, you will have \$105 to spend next year on the item (or items) of your choice. Thus, the opportunity cost of spending the money today is the enjoyment you give up by not having the \$105 to buy something next year.

Diff: 1 Skill: Conceptual Topic: Opportunity cost
AACSB:

35. Assume that yields on bonds (rate of return) begin to fall while the stock market is booming, what should we see happen to the demand and price of stocks and why? What can we say about the opportunity cost of holding on to bonds in this situation?

Lower bond yields will push many investors into stocks where they are seeking a higher rate of return. This should increase the demand for stocks and push up asset prices as well. The opportunity cost of holding on to bonds is high compared to owning stocks.

Diff: 2 Skill: Conceptual Topic: Opportunity cost
AACSB:

36. What is the difference between *capital goods* and *consumer goods*?

Capital goods are goods that will be used to produce other goods in the future. Consumer goods are goods that are used for current consumption.

Diff: 1 Skill: Definitional Topic: Capital goods and consumer goods
AACSB:

37. What is the opportunity cost of producing capital goods such as a new road?

The opportunity cost of producing a new road can be measured by the next best alternative that could have been produced with the same resources.

Diff: 1 Skill: Conceptual Topic: Capital goods
AACSB:

38. In economic terminology, what is the meaning of *investment*?

Investment is the process of using resources to produce new capital. The new capital produced can be physical (new machinery) or human (education) in nature.

Diff: 1 Skill: Definitional Topic: Investment
AACSB:

39. How does an individual know whether or not an investment in education is worthwhile?

A worthwhile investment is one for which the expected present value of future benefits exceeds the present value of costs.

Diff: 1 Skill: Conceptual Topic: Investment
AACSB:

40. Define opportunity cost. Given the definition of opportunity cost, explain what is meant by the statement “There is no such thing as a free lunch.”

Opportunity cost is what we give up, or forgo, when we make a choice. There is no such thing as a free lunch because everything involves a cost, even if it is just a time cost.

Diff: 2 Skill: Definitional Topic: Free lunch
AACSB:

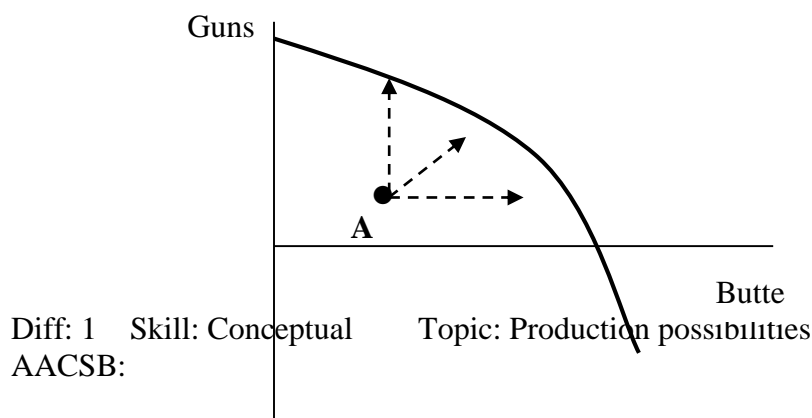
41. Kathy and Amy paint pictures and do caricatures to sell to tourists. In one day, Kathy can either paint two pictures or do four caricatures. In one day, Amy can either paint three pictures or do three caricatures. For both Kathy and Amy, what is the opportunity cost of painting one picture? Who has the comparative advantage in painting pictures and who has the comparative advantage in doing caricatures? How might they be able to increase their total output?

Kathy’s opportunity cost of painting a picture is two caricatures. Amy’s opportunity cost of painting a picture is one caricature. Amy has a comparative advantage in painting and Kathy has a comparative advantage in doing caricatures. They could increase output by specializing in producing the goods for which they have a comparative advantage.

Diff: 2 Skill: Conceptual Topic: Opportunity cost
AACSB: Analytic Skills

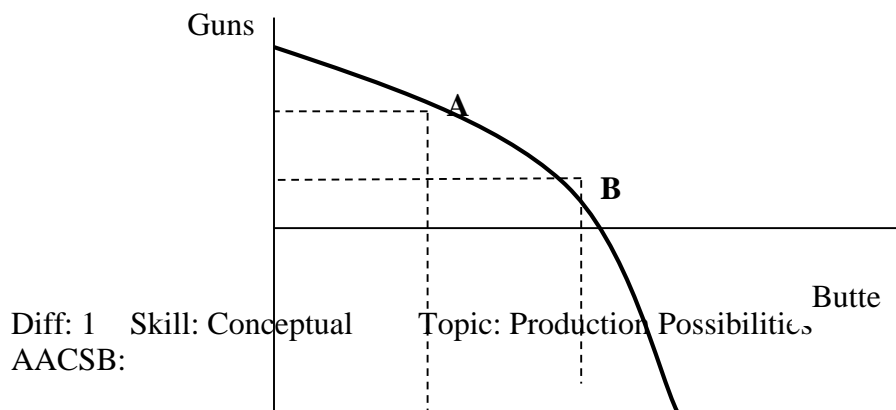
42. Use a graph and comment on the following statement: "If an economy is producing inside its production possibilities frontier, it could possibly produce more of one good without giving up any of the other."

In the graph below, we can see that, at point A, the economy has three options if it begins to produce more efficiently. First, it could continue producing the same level of guns and produce more butter. Second, it could continue producing the same level of butter and produce more guns. Last, the economy could increase production of both guns and butter.



43. Use a graph and comment on the following statement: "If an economy is producing at a point on its production possibilities frontier, it could possibly produce more of one good without giving up any of the other."

This statement is false. In the graph above, we can see that if the economy moves from point A to point B (to increase the production of butter), some guns must be sacrificed.



44. What does a *production possibility frontier* represent?

A production possibility frontier is a graph that shows all of the combinations of goods and services that can be produced if all of society's resources are used efficiently.

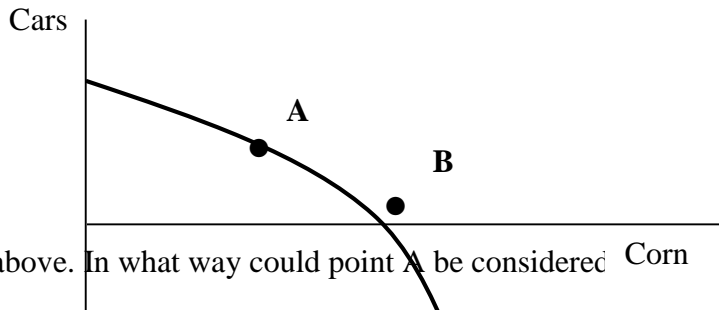
Diff: 1 Skill: Definitional Topic: Production Possibilities
AACSB:

45. What can we say about the employment of resources if the economy is at a point on its production possibility frontier?

If the economy is at a point on its production possibility frontier, this implies that there is full resource employment and productive efficiency.

Diff: 1 Skill: Conceptual Topic: Production possibilities

AACSB:

46.  Refer to the graph above. In what way could point A be considered efficient than point B?

Both points represent productive efficiency since they are on the production possibility frontier. However, point A could be considered more efficient than point B if it represents the combination of cars and corn that members of society most want.

Diff: 1 Skill: Conceptual Topic: Productive efficiency

AACSB:

47. What can we say about the employment of resources if the economy is at a point inside its production possibility frontier?

If the economy is at a point inside its production possibility frontier, this implies that there is either unemployment of resources or productive inefficiency.

Diff: 1 Skill: Conceptual Topic: Inefficiency

AACSB:

48. Is it possible in the present to produce at a point that is outside the production possibilities frontier? Why or why not? With the passage of time how might a point outside the present production possibilities frontier be possible?

In the present, points outside the production possibilities frontier are not possible because the frontier represents the current inputs and technology that are available to the economy. With the passage of time this points will become attainable when and if there is a positive change in technology and/or a discovery of new resources.

Diff: 1 Skill: Conceptual Topic: Production possibilities

AACSB:

49. What are the implications for economic growth for countries specializing in consumer goods rather than capital goods? Assume that they cannot trade what they produce.

All else equal, countries that specialize in consumer goods will likely grow less than those that specialize in capital goods, because specializing in capital goods will allow for more goods to be produced in the future.

Difficult: M Skill: Conceptual Topic: Economic growth
AACSB: Reflective Thinking

50. Why might an economist argue that it could be damaging to the economic growth of a nation if it focused mostly on the production of consumer goods?

The reason for concern is that focusing too much on the production of consumer goods necessarily implies cutting back on the production of capital goods. The problem is that economic growth is dependent on the production of capital goods.

Difficult: M Skill: Conceptual Topic: Economic growth
AACSB: Reflective Thinking

51. Without drawing a graph explain what probably happened to the production possibility frontier during the Black Plague.

The Black Plague killed off about one-third of the world's population during its rampage. This no doubt resulted in a decline in the labor force which pushed the production possibilities frontier inward.

Difficult: E Skill: Conceptual Topic: Production possibilities
AACSB:

52. Assume that there were decreasing opportunity costs of production in an island economy that only produced two goods. What would the shape of the production possibilities frontier look like and why?

The production possibilities frontier would be downward-sloping and bowed into the origin. It would have this shape because as you move down the production possibilities frontier the amount of one good that you must give up will get smaller and smaller as you produce the second good.

Difficult: E Skill: Conceptual Topic: Production possibilities
AACSB:

53. Why does the production possibility frontier have a negative slope?

Because of scarce resources, increasing the production of one good or service implies that the production of the other good or service must be reduced. Thus, there is a negative relationship between the two goods and the production possibility frontier is downward sloping.

Diff: 1 Skill: Conceptual Topic: Production possibilities
AACSB:

54. What is meant by the *marginal rate of transformation*?

The marginal rate of transformation is the slope of the production possibility frontier. It is the ratio of the change in the good (or service) on the y-axis to the change in the good (or service) on the x-axis.

Diff: 1 Skill: Definitional Topic: Marginal rate of transformation
AACSB:

55. If the *marginal rate of transformation* is constant what can be said of the shape of the production possibilities frontier and why?

The marginal rate of transformation is the slope of the production possibility frontier. It is the ratio of the change in the good (or service) on the y-axis to the change in the good (or service) on the x-axis. If it is constant that means that the production possibilities frontier is a straight line. This is true because it would mean that the slope of the production possibilities frontier is the same throughout which of course is precisely one of the properties of a straight line.

Diff: 1 Skill: Conceptual Topic: Marginal rate of transformation
AACSB:

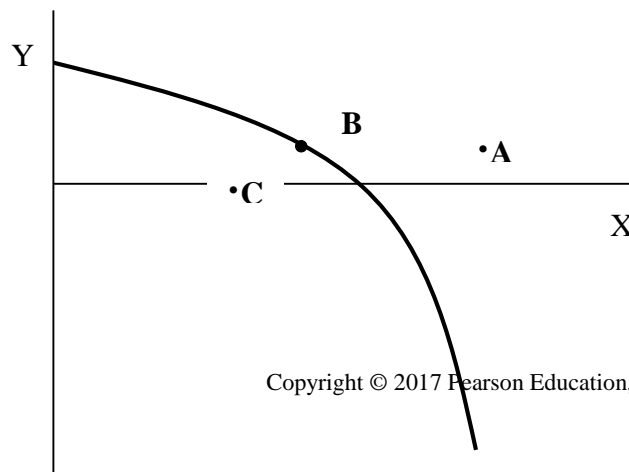
56. Suppose that there are two goods that a small island nation can produce – coconuts and breadfruit. If the inputs for both goods are perfectly interchangeable and there is never a rise or fall in opportunity cost explain what the production possibilities frontier should look like and why.

Production possibilities frontier are typically concave to the origin which reflects the law of increasing opportunity cost. In the present example this is not the case. The opportunity cost is constant which would lead to a downward-sloping but linear production possibilities frontier.

Diff: 1 Skill: Conceptual Topic: Law of increasing opportunity costs
AACSB:

57. Draw a production possibility frontier. Find a point that represents a combination of outputs that is not currently feasible. Label it point A. Find a point that represents efficient production. Label it point B. Find a point that represents inefficient production. Label it point C.

There are many possible answers here, but point A should be drawn outside of the production possibility frontier, point B should be on the production possibility frontier, and point C should be inside the production possibility frontier.



Diff: 1 Skill: Conceptual Topic: Production possibilities

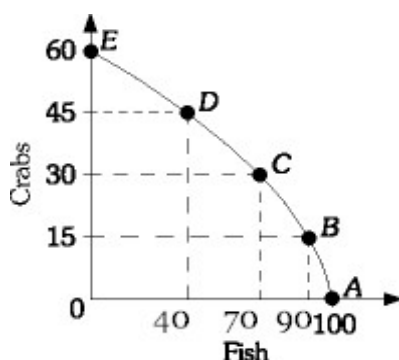
AACSB:

Refer to the information provided in Scenario 1 below to answer the following questions.

SCENARIO 1: Consider the following data for the harvest of crabs versus the harvest of fish off the coast of Virginia in answering the following questions.

Combination	Fish	Crabs
A	100	0
B	90	15
C	70	30
D	40	45
E	0	60

58. Refer to Scenario 1. Graph the production possibilities frontier and calculate the average opportunity cost of any of the first fifteen crabs produced.



The opportunity cost of the first fifteen crabs is of course the 10 fish given up (15C = 10F). Therefore, the opportunity cost of any one crab is 10/15 F or 2/3 of a fish.

Diff: 2 Skill: Analytical Topic: Opportunity cost

AACSB:

59. Refer to Scenario 1. What is the economic significance of 25 fish captured and 25 crabs captured?

The economic significance of capturing 25 fish and 50 crabs is that the harvest would be inside the production possibilities frontier, which suggests some resource unemployment. That resource unemployment could be land, labor or capital. It could also be the result of an inefficient use of resources.

Diff: 2 Skill: Conceptual Topic: Inefficiencies

AACSB:

60. Refer to Scenario 1. Explain how this economy might be able to produce 45 fish and 45 crabs?

The economy could do this with the benefits of an increase in resources or a technological advance in fishing.

Diff: 2 Skill: Conceptual Topic: Technology

61. Refer to Scenario 1. If this economy is currently producing 30 crabs and 40 fish how is it possible for it to produce more of both?

The reason that the economy can produce more crabs and more fish is because it is currently operating inside the production possibilities frontier. As it stands now there are idle or inefficiently used resources that can be put to work to produce more of both goods.

Diff: 2 Skill: Conceptual Topic: Inefficiencies
AACSB:

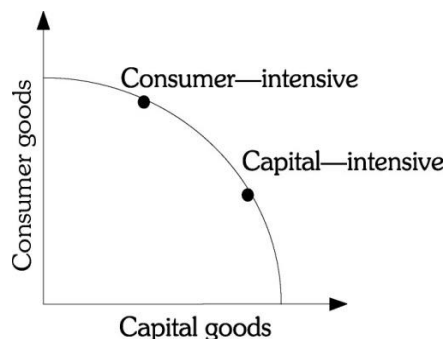
62. Refer to Scenario 1. Assume this economy could either be at Point B or Point C. From which of these points is it more costly to produce more crabs? Explain your answer.

It's more costly to produce more crabs from Point C than it is to produce more crabs from Point B. The reason is that as you move up the production possibilities frontier the more crabs you produce the greater the amount of fish the economy will have to give up to produce them. For example from Point B the opportunity cost of producing 15 more crabs is twenty fish. However, if we start from Point C and wish to produce 15 more crabs we have to give up 30 fish.

Diff: 3 Skill: Conceptual Topic: Inefficiencies
AACSB:

Refer to the information provided in Scenario 2 below to answer the questions that follow.
SCENARIO 2: Assume that two countries are the same in every way except that one allocated more of its resources to the production of capital goods as opposed to consumer goods.

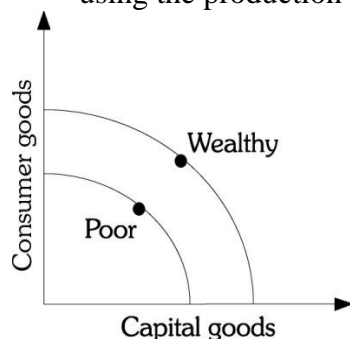
63. Refer to Scenario 2. Graphically illustrate the production choices on a production possibilities frontier. Which country's PPF will likely move out farther in the future and why?



The country with the capital intensive allocation will have its PPF move out farther since the economy will have greater productive capacity.

Diff: 1 Skill: Conceptual Topic: Production possibilities
AACSB:

64. Refer to Scenario 2. Now assume that the countries are not alike, but that one is wealthier than the other in that it has more resources. Graphically illustrate this scenario using the production possibilities frontiers.



Diff: 2 Skill: Conceptual Topic: Production possibilities
AACSB:

65. Refer to Scenario 2. What would be the impact of improvements in technology assuming that each country spends one-half of its resources on capital goods?

There should be a greater improvement in wealth for the wealthier country if each country continues to spend the same percentages.

Diff: 1 Skill: Conceptual Topic: production possibilities
AACSB:

66. Refer to Scenario 2. What happens to the relative income distribution between the two countries under the conditions in the previous question? Explain.

The relative income distributions, with income of the capital-good intensive country greater than the consumer-good intensive country, would be expected to widen as the growth is greater in the capital-good intensive country.

Diff: 3 Skill: Conceptual Topic: Income distribution

AACSB:

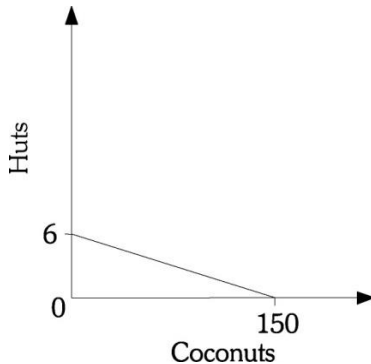
Refer to the information provided in Scenario 3 below to answer the questions that follow.

SCENARIO 3: Assume a desert island economy in which labor is the only scarce resource and labor can be used to gather food (coconuts) or to build huts. There are six equally productive individuals on the island. Each inhabitant can gather 25 coconuts in one day or build one hut in one day.

67. Refer to Scenario 3. Draw the production possibilities frontier of the trade-off between coconuts and huts.

Diff: 2 Skill: Analytical Topic: Production Possibilities

AACSB:



68. Refer to Scenario 3. Compute the opportunity cost of building two more huts in one day.

First we start off by calculating what the opportunity cost is of building all 6 huts. We can set this up as an algebraic expression $6H = 150C$. Therefore $1H = 25C$ and $2H = 50C$ or 50 coconuts.

Diff: 2 Skill: Analytical Topic: Opportunity Cost

AACSB:

69. Refer to Scenario 3. If half the workers build huts and half of the workers gather coconuts, what would be the production on the island?

In one day, the inhabitants would produce three huts and 75 coconuts.

Diff: 2 Skill: Analytical Topic: Production possibilities

AACSB:

70. Refer to Scenario 3. Assume that in one day, two huts were built and 75 coconuts were gathered. What does this situation depict?

The situation depicts the inefficient use of resources as the production point represents one that is inside the production possibilities frontier.

Diff: 2 Skill: Analytical Topic: Inefficiencies
AACSB:

71. Refer to Scenario 3. What is the maximum potential increase in coconut production and maximum potential increase in hut production described in the previous question?

The maximum potential increase in production is either one more hut or 25 more coconuts.

Diff: 2 Skill: Analytical Topic: Production possibilities
AACSB:

72. Refer to Scenario 3. What would have to occur for three huts to be produced along with 100 coconuts?

Some form of economic growth or technological improvement would have to occur.

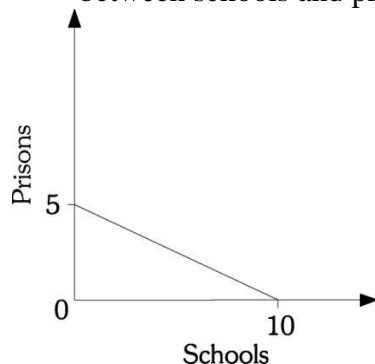
Diff: 2 Skill: Analytical Topic: Economic growth
AACSB:

Refer to the information provided in Scenario 4 below to answer the questions that follow.
SCENARIO 4: Suppose that a state needs to build both prisons and schools with a budget limited to 10 million dollars. Schools cost \$1 million each to build and prisons cost \$2 million each to build.

73. Refer to Scenario 4. What is the maximum number of schools that can be built? The maximum number of prisons?
Ten is the maximum number of schools and five is the maximum number of prisons.

Diff: 2 Skill: Analytical Topic: Production possibilities
AACSB:

74. Refer to Scenario 4. Draw the state's production possibilities frontier for the trade-off between schools and prisons.



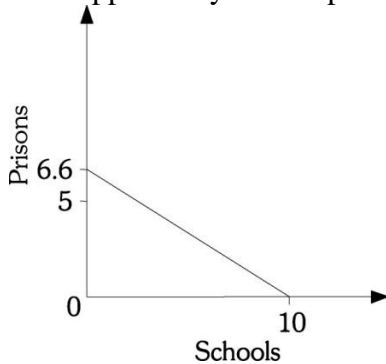
Diff: 2 Skill: Analytical Topic: Production possibilities
AACSB:

75. Refer to Scenario 4. What is the opportunity cost of building one more prison?

The opportunity cost of building one more prison is two schools. This is gleaned from the fact that the opportunity cost of 5 prisons is 10 schools or $5P = 10S$. Solving for P leaves you with 2S or two schools

Diff: 2 Skill: Analytical Topic: Opportunity cost
AACSB:

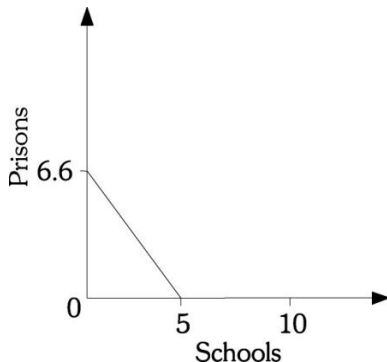
76. Refer to Scenario 4. Assume that the price of prison production falls to \$1.5 million each. Draw the new production possibilities frontier. In addition, what is the new opportunity cost of producing one more prison?



One more prison now costs one and one-half schools ($10/6.66$).

Diff: 2 Skill: Analytical Topic: Opportunity cost
AACSB:

77. Refer to Scenario 4. Assume that the price of a prison falls to \$1.5 million and that the price of school production rises to \$2 million each. Draw the new production possibilities frontier. What is the new opportunity cost of producing one more prison?



In the new situation, the opportunity cost of producing one more prison is three quarters of a school.

Diff: 2 Skill: Analytical Topic: Opportunity cost
AACSB:

78. Refer to Scenario 4. Assume that the state originally spent one-half of its budget on schools and one-half on prisons. What was the production of schools and prisons? Could the same number be achieved after the price of producing prisons falls to \$1.5 million and the price of producing schools rises to \$2 million? Explain.

Production is five schools and two and one-half prisons. No, the same number of schools and prisons could not be built after the price of production changes. If the state continues to divide its budget equally, production would be two and one-half schools and three and one-third prisons. If the budget were juggled, the maximum number of schools that could be built is five, but no prisons could be built. And, if two and one-half prisons were built, there would be enough left in the budget to build just over three schools.

Diff: 2 Skill: Analytical Topic: Production Possibilities
AACSB:

79. Why does the opportunity cost of producing a good rise as more resources are devoted to producing that good?

The opportunity cost of a good rises as we devote more resources to producing it because some resources are better suited to the production of one good than another. This is known as the law of increasing opportunity cost.

Diff: 1 Skill: Conceptual Topic: Law of increasing opportunity cost
AACSB:

	A	B	C	D	E
Rugs	50	45	35	20	0
Wheat	0	10	20	30	40

80. The table above represents five points on the production possibility frontier for the small country of Baca, which produces only rugs (measured in thousands) and wheat (measured in thousands of bushels):

If the economy is currently at point A, what is the opportunity cost of producing an additional 10,000 bushels of wheat? If the economy is currently at point B, what is the opportunity cost of producing an additional 10,000 bushels of wheat? What if the economy is currently at point D?

If the economy is currently at point A, the opportunity cost of producing an additional 10,000 bushels of wheat is 5,000 rugs. If the economy is currently at point B, the opportunity cost of producing an additional 10,000 bushels of wheat is 10,000 rugs. If the economy is currently at point D, the opportunity cost of producing an additional 10,000 bushels of wheat is 20,000 rugs.

Diff: 1 Skill: Analytical Topic: Opportunity cost
AACSB:

81. The table above represents five points on the production possibility frontier for the small country of Baca, which produces only rugs (measured in thousands) and wheat (measured in thousands of bushels):

Does the production possibility frontier demonstrate the law of increasing opportunity cost? How can you tell?

Yes. The opportunity cost of increasing the production of wheat rises as more wheat is produced. The opportunity cost of the first 10,000 bushels of wheat is only 5,000 rugs, but the opportunity cost of the fourth 10,000 bushels of wheat is 20,000 rugs.

Diff: 2 Skill: Analytical Topic: Opportunity cost
AACSB:

82. If the law of increasing opportunity cost holds, can the production possibility frontier be a straight line?

No. If the production possibility curve is a straight line, this would imply that the marginal rate of transformation is constant. This cannot be the case if the law of increasing opportunity costs holds.

Diff: 2 Skill: Conceptual Topic: Law of increasing opportunity cost
AACSB:

83. Explain why the costs of most services like haircuts and college education have risen at a faster rate relative to the costs of manufactured goods?

Manufactured goods enjoy more productivity gains most of the time over services. The reason is that machines can do more and more of the work with technological breakthroughs. However, gains in productivity in cutting hair and college education are harder to come by as the primary input in both is human and requires a relatively fixed mix of human and capital inputs in the production process.

Diff: 2 Skill: Conceptual Topic: Law of increasing opportunity cost
AACSB:

84. The table below represents five points on the production possibility frontier for the small country of Ponderosa, which produces only cowboy boots (measured in thousands of pairs) and saddles (measured in thousands):

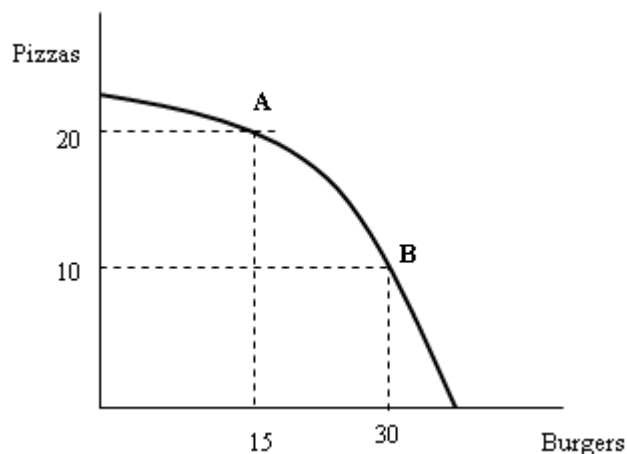
	A	B	C	D	E
Cowboy Boots	180	150	110	60	0
Saddles	0	20	40	60	80

What is the opportunity cost of moving from point A to point B? What is the opportunity cost of moving from point D to point C?

The opportunity cost of moving from point A to point B is 30,000 pairs of cowboy boots. The opportunity cost of moving from point D to point C is 20,000 saddles.

Diff: 1 Skill: Analytical Topic: Opportunity cost
AACSB:

85.



Refer to the graph above. What is the opportunity cost of going from point A to point B?
What is the opportunity cost of going from point B to point A?

The opportunity cost of going from point A to point B is 10 pizzas. The opportunity cost of going from point B to point A is 15 burgers.

Diff: 1 Skill: Analytical Topic: Opportunity cost
AACSB:

86. What is meant by the term *economic growth*?

Economic growth occurs when the total output in an economy increases.

Diff: 1 Skill: Definitional Topic: Economic growth
AACSB:

87. What are the implications for economic growth for countries specializing in consumer goods rather than capital goods? Assume the countries consume what they produce.

All else equal, countries that specialize in consumer goods will likely grow less than those that specialize in capital goods, because specializing in capital goods will allow for more goods to be produced in the future.

Diff: 2 Skill: Conceptual Topic: Economic growth
AACSB: Reflective Thinking

88. What are the implications for economic growth for countries specializing in capital goods rather than consumer goods? What is the opportunity cost of this decision?

All else equal, countries that specialize in capital goods will likely grow more than those that specialize in consumer goods, because specializing in capital goods will allow for more goods to be produced in the future. The opportunity cost of this

decision is that the economy will experience a lower standard of living in the present than they would otherwise.

Diff: 2 Skill: Conceptual Topic: Economic growth

AACSB: Reflective Thinking

89. The table below represents five points on the production possibility frontier for the small country of Bistro, which produces only crackers (measured in thousands of boxes) and cheese (measured in thousands of pounds):

	A	B	C	D	E
Crackers	40	30	20	10	0
Cheese	0	5	10	15	20

Does the production possibility frontier demonstrate the law of increasing opportunity cost? How can you tell?

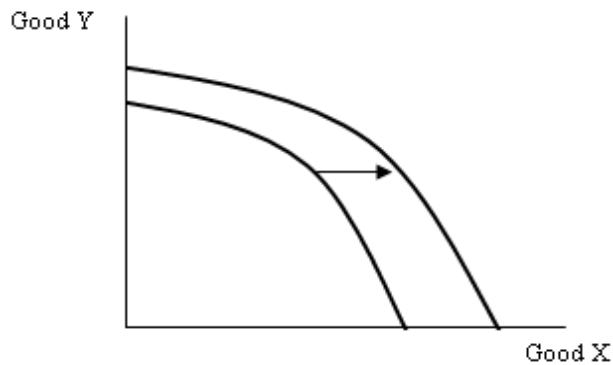
No. The opportunity cost of increasing the production of cheese remains the same as more cheese is produced. The opportunity cost of the first 5,000 pounds of cheese is 10,000 boxes of crackers, and the opportunity cost of the fourth 5,000 pounds of cheese is also 10,000 boxes of crackers.

Diff: 2 Skill: Analytical Topic: Law of increasing opportunity cost

AACSB:

90. Using a graph, show how economic growth affects the production possibility frontier.

When economic growth occurs, the economy can produce more goods and services. Therefore, the production possibility curve shifts outward.



Diff: 1 Skill: Conceptual Topic: Economic growth

91. List two things that can cause economic growth to occur.

- (1.) **New resources are acquired.**
- (2.) **Society learns to produce more with existing resources.**

Diff: 1 Skill: Conceptual Topic: Economic growth
AACSB:

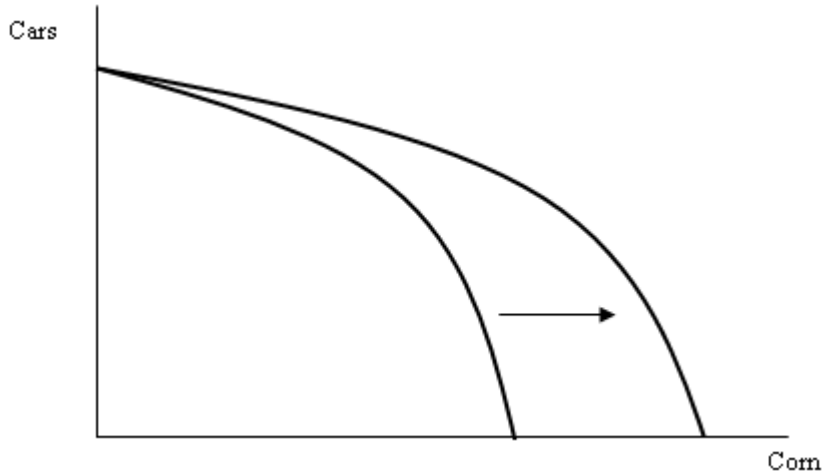
92. In what ways are technological advancements like capital?

Both require an investment in terms of current consumption foregone. Both can lead to increases in the amount an economy can produce.

Diff: 2 Skill: Conceptual Topic: Technological advancement
AACSB:

93. Suppose a country produces two goods: corn and cars. New technology is developed that increases the amount of corn that can be produced. Use a graph to show the effect of this graph on the country's production possibility frontier. Explain what occurs in the graph.

The production possibility frontier shifts outward. The y-intercept is unaffected, however. At the y-intercept, the country would be producing all cars and no corn and the new technology would have no effect.



Diff: 1 Skill: Conceptual Topic: Technological advancement
AACSB:

94. Why do poor countries often have lower rates of economic growth than richer countries?

If a large part of a country's population is poor, it is very difficult to forgo current consumption to invest in research and development of new technologies or new capital equipment. With less investment, the rate of economic growth in the country will be lower.

Diff: 2 Skill: Conceptual Topic: Economic growth
AACSB:

95. What happens to a country's production possibility frontier if it experiences a natural disaster such as a hurricane or an earthquake? Explain.

The production possibility frontier will shift in. This occurs because the destruction from the hurricane or earthquake likely destroys resources such as capital and natural resources that are used to produce goods and services. Since the quantity of resources in the country is now lower, the country will not be able to produce as much output.

Diff: 2 Skill: Conceptual Topic: Production possibilities
AACSB:

ECONOMIC SYSTEMS AND THE ROLE OF GOVERNMENT

96. What is the *economic problem*?

The economic problem is finding a way for a society to answer the three basic economic questions (what will be produced?, how will it be produced?, and who will get what is produced?) given that resources are scarce.

Diff: 1 Skill: Definitional Topic: The economic problem

97. What are the two basic types of economic systems?

(1.) **Command economies.**

(2.) **Laissez-faire economies.**

Diff: 1 Skill: Factual Topic: Economic systems

AACSB:

98. What is a *command economy*?

A command economy is one in which a central government either directly, or indirectly, sets output targets, incomes, and prices. It may even involve direct government ownership of the means of production and central planning of the economy.

Diff: 1 Skill: Definitional Topic: Economic systems

AACSB:

99. What is a *laissez-faire economy*?

A laissez-faire economy is one in which individuals and firms pursue their own self-interests without any central direction or regulation.

Diff: 1 Skill: Definitional Topic: Economic systems

AACSB:

100. Is the United States a command economy, a laissez-faire economy, or neither? Explain.

The United States is neither a command economy nor a laissez-faire economy. It is more accurate to describe it as a mixed economy. The U.S. basically has a free market economy, but the government is a large purchaser of goods and services and also produces some goods and services as well. In addition, the U.S. economy has significant amounts of government regulation of business.

Diff: 1 Skill: Conceptual Topic: Economic systems

AACSB:

101. What is meant by *consumer sovereignty*?

Consumer sovereignty is the idea that consumers ultimately dictate what will be produced (or not produced) by choosing what to purchase (or not to purchase).

Diff: 1 Skill: Definitional Topic: Consumer sovereignty

AACSB:

102. According to the idea of consumer sovereignty, what will happen in the market for widgets if consumers decide they no longer desire widgets?

If consumers no longer desire widgets, they will send a message to producers by not purchasing widgets. Since firms will be unable to make a profit selling widgets, widget-producing firms will go out of business (or switch to producing something else) and widgets will no longer be produced. Thus, the consumers' preferences dictate what is produced.

Diff: 2 Skill: Analytical Topic: Consumer sovereignty
AACSB:

103. What are some of the problems that exist with a laissez-faire economy?

Free markets may not always produce the goods and services that people want at the lowest cost. They are not always efficient. Also, income may be distributed unequally.

Diff: 1 Skill: Factual Topic: Economic systems
AACSB:

104. Why is microeconomic theory often referred to as *price theory*?

The reason is that much of microeconomic theory focuses on the factors which influence and determine prices.

Diff: 1 Skill: Definitional Topic: Microeconomic theory
AACSB:

105. What is the difference between a command economy and a laissez-faire economy?

The major difference lies in how the two types of economies answer the three basic questions. In a command economy, a central government either directly or indirectly sets output targets, incomes, and prices. In a laissez-faire economy, individual people and firms pursue their own self-interests without any central direction or regulation.

Diff: 1 Skill: Conceptual Topic: Economic systems
AACSB:

106. What is the economic problem? How does a command economy solve the economic problem?

The economic problem is that given scarce resources, how exactly do large, complex societies go about answering the basic economic questions? A command economy answers the questions through some centralized authority making decisions about what to produce, how to produce it, and how to distribute it.

Diff: 2 Skill: Conceptual Topic: Economic systems
AACSB:

107. What problems does a command economy face when it tries to determine what to produce for the economy?

The biggest difficulty that a command economy faces in determining which goods to produce is the fact that there are no prices in the economy which signal which goods and services are more highly valued than others. As a consequence since the decision to produce is often centralized either too little of some products are produced or too much is produced.

Diff: 2 Skill: Conceptual Topic: Economic systems
AACSB:

108. In a laissez-faire economy, what determines the distribution of output?

It is determined by income and wealth. These in part depend on the skills an individual can offer in the labor market.

Diff: 1 Skill: Factual Topic: Economic systems
AACSB:

109. What is the difference between *income* and *wealth*?

Income is a flow variable. It is the amount a household earns over a period of time such as a year. Wealth is a stock variable. It is the amount of assets a household has accumulated at a point in time from past income or through saving or inheritance.

Diff: 1 Skill: Definitional Topic: Income and wealth
AACSB:

110. Explain how it is possible for a recently retired postal worker to be more wealthy than a rookie professional football player even though it is widely recognized that football players earn more than postal workers.

The reason is that the postal worker in all likelihood has been spending years or decades building up wealth from his income. A rookie professional football player however, may earn a higher wage but has not had the opportunity to build up much if any wealth at all since his career has just begun.

Diff: 1 Skill: Conceptual Topic: Income and wealth
AACSB:

111. Evaluate the following two statements:
“He is income rich but he is not very wealthy”
“He is income poor but he is wealthy”

The first person might be making a lot of income but hasn’t acquired much wealth in the form of savings account balances or real estate. The second person might not have an income or have a really low income but accumulated a lot of wealth from the past.

Diff: 1 Skill: Conceptual Topic: Income and wealth
AACSB:

112. Explain three of the shortcomings of the free-enterprise system.

The shortcomings of the free-enterprise system are: products may not always be produced at lowest cost, income may be unevenly distributed, and periods of inflation and unemployment may recur.

Diff: 1 Skill: Conceptual Topic: Economic systems
AACSB: