

File: Ch02; Chapter 2: The Law of Comparative Advantage

### Multiple Choice

1. The Mercantilists did not advocate:
- a. free trade
  - b. stimulating the nation's exports
  - c. restricting the nations' imports
  - d. the accumulation of gold by the nation

Ans: a

Level: Easy

Heading: The Mercantilists Views on Trade

2. According to Adam Smith, international trade is based on:
- a. absolute advantage
  - b. comparative advantage
  - c. both absolute and comparative advantage
  - d. neither absolute nor comparative advantage

Ans: a

Level: Easy

Heading: Trade Based on Absolute Advantage: Adam Smith

3. What proportion of international trade is based on absolute advantage?
- a. All
  - b. most
  - c. some
  - d. none

Ans: c

Level: Easy

Heading: Trade Based on Absolute Advantage: Adam Smith

4. The commodity in which the nation has the smallest absolute disadvantage is the commodity of its:
- a. absolute disadvantage
  - b. absolute advantage
  - c. comparative disadvantage
  - d. comparative advantage

Ans: d

Level: Easy

Heading: Trade Based on Comparative Advantage: David Ricardo

5. If in a two-nation (A and B), two-commodity (X and Y) world, it is established that nation A has a comparative advantage in commodity X, then nation B must have:
- an absolute advantage in commodity Y
  - an absolute disadvantage in commodity Y
  - a comparative disadvantage in commodity Y
  - a comparative advantage in commodity Y

Ans: d

Level: Medium

Heading: Trade Based on Comparative Advantage: David Ricardo

6. If with one hour of labor time nation A can produce either 3X or 3Y while nation B can produce either 1X or 3Y (and labor is the only input):
- nation A has a comparative disadvantage in commodity X
  - nation B has a comparative disadvantage in commodity Y
  - nation A has a comparative advantage in commodity X
  - nation A has a comparative advantage in neither commodity

Ans: c

Level: Medium

Heading: Trade Based on Comparative Advantage: David Ricardo

7. If with one hour of labor time nation A can produce either 3X or 3Y while nation B can produce either 1X or 3Y (and labor is the only input):
- $P_x/P_y=1$  in nation A
  - $P_x/P_y=3$  in nation B
  - $P_y/P_x=1/3$  in nation B
  - $P_x/P_y=3$  in nation A

Ans: d

Level: Hard

Heading: Trade Based on Comparative Advantage: David Ricardo

8. With one hour of labor time nation A can produce either 3X or 3Y, while nation B can produce either 1X or 3Y (and labor is the only input). If 3X is exchanged for 3Y:
- nation A gains 2X
  - nation B gains 6Y
  - nation A gains 3Y
  - nation B gains 3Y

Ans: b

Level: Hard

Heading: Trade Based on Comparative Advantage: David Ricardo

9. With one hour of labor time nation A can produce either 3X or 3Y while nation B can produce either 1X or 3Y (and labor is the only input). The range of mutually beneficial trade between nation A and B is:

- a.  $3Y < 3X < 5Y$
- b.  $5Y < 3X < 9Y$
- c.  $3Y < 3X < 9Y$
- d.  $1Y < 3X < 3Y$

Ans: c

Level: Hard

Heading: Trade Based on Comparative Advantage: David Ricardo

10. If domestically  $3X=3Y$  in nation A, while  $1X=1Y$  domestically in nation B:

- a. there will be no trade between the two nations
- b. the relative price of X is the same in both nations
- c. the relative price of Y is the same in both nations
- d. all of the above

Ans: d

Level: Medium

Heading: Comparative Advantage and Opportunity Costs

11. Ricardo explained the law of comparative advantage on the basis of:

- a. the labor theory of value
- b. the opportunity cost theory
- c. the law of diminishing returns
- d. all of the above

Ans: a

Level: Easy

Heading: Comparative Advantage and Opportunity Costs

12. Which of the following statements is true?

- a. The combined demand for each commodity by the two nations is negatively sloped
- b. the combined supply for each commodity by the two nations is rising stepwise
- c. the equilibrium relative commodity price for each commodity with trade is given by the intersection of the demand and supply of each commodity by the two nations
- d. All of the above statements are true.

Ans: d

Level: Medium

Heading: The Basis for and the Gains from Trade under Constant Costs

13. A difference in relative commodity prices between two nations can be based upon a difference in:
- factor endowments
  - technology
  - tastes
  - all of the above

Ans: d

Level: Easy

Heading: The Basis for and the Gains from Trade under Constant Costs

14. In trade between a small and a large nation:
- the large nation is likely to receive all of the gains from trade
  - the small nation is likely to receive all of the gains from trade
  - the gains from trade are likely to be equally shared
  - we cannot say

Ans: b

Level: Medium

Heading: The Basis for and the Gains from Trade under Constant Costs

15. “The importance of being unimportant” refers to which of the following?
- Small countries are likely to gain a great deal from trade since they have little impact on world prices.
  - Small countries are likely to gain a great deal from trade because they will be able to sell large amounts on world markets.
  - Large countries are likely to gain a great deal from trade since they have a large impact on world prices.
  - All countries are will gain from trade because every country will have a comparative advantage in at least one good.

Ans: a

Level: Hard

Heading: The Basis for and the Gains from Trade under Constant Costs

16. The Ricardian trade model has been empirically
- verified
  - rejected
  - not tested
  - tested but the results were inconclusive

Ans: a

Level: Easy

Heading: Empirical Tests of the Ricardian Model

17. The first empirical test of the comparative advantage trade model was conducted by
- MacDougall
  - Marshall
  - Jevons
  - Friedman

Ans: a

Level: Easy

Heading: Empirical Tests of the Ricardian Model

18. If nation A can produce 5 units of good X or 10 units of good Y and nation B can produce 4 units of good X or 12 units of good Y we can conclude that nation A has a
- Comparative advantage in X and an absolute advantage in Y
  - Comparative advantage in X and an absolute advantage in X
  - Comparative advantage in Y and an absolute advantage in X
  - Comparative advantage in Y and an absolute advantage in Y

Ans: a

Level: Medium

Heading: Trade Based on Comparative Advantage: David Ricardo

19. If nation A can produce 5 units of good X or 10 units of good Y and nation B can produce 4 units of good X or 12 units of good Y we can conclude that both nations would gain from trade if nation A sold \_\_\_\_\_ units of good \_\_\_\_\_ for one unit of good \_\_\_\_\_
- 0.4; Y; X
  - 2.5; Y; X
  - 2.5; X; Y
  - 0.4; X; Y

Ans: c

Level: Hard

Heading: Comparative Advantage and Opportunity Cost

20. The Mercantilists believed in
- running trade surpluses
  - balanced trade
  - the logic of Adam Smith
  - no government intervention in markets.

Ans: a

Level: Easy

Heading: The Mercantilists Views on Trade

21. The theory of comparative advantage was first proposed by
- Adam Smith
  - David Ricardo
  - J.M. Keynes
  - Paul Krugman

Ans: b

Level: Easy

Heading: Trade Based on Comparative Advantage: David Ricardo

### Short Answer

22. Explain the mercantilist view on trade.

Ans: The mercantilists believed trade was a zero-sum game – that one nation's gain was another's loss. They advocated export promotion and import restriction.

Level: Easy

Heading: The Mercantilists Views on Trade

23. Explain why Ricardo's model of trade was superior to Adam Smith's.

Ans: Smith's model was based on absolute advantage, which required each nation to have an absolute productivity advantage in order for mutually beneficial trade to occur. Ricardo's model considered relative productivity, showing that even if a nation had an absolute advantage in everything it could still benefit from trade.

Level: Medium

Heading: Trade Based on Comparative Advantage: David Ricardo

24. Who was the first to test the theory of comparative advantage and what were the results?

Ans: MacDougall tested comparative advantage in the 1950's using data from the 1930's. He compared the productivities and export ratios of various industries in the United Kingdom against the United States. The results showed support for the theory of comparative advantage.

Level: Medium

Heading: Empirical Tests of the Ricardian Model

25. How can the production possibilities frontier be used to determine opportunity cost?

Ans: An production possibility frontier (PPF) shows the tradeoff between two goods. The slope of the PPF is the opportunity cost of the good on the x axis. The reciprocal of the slope is the opportunity cost of the good on the y axis.

Level: Medium

Heading: Comparative Advantage and Opportunity Cost

27. Explain the benefits and risks of being a small country relative to the size of international markets.

Ans: A small country is one that is a price taker in world markets. Since the country is a price taker, it will have no effect on world prices, and thus can potentially gain a great deal from trade because its export supply and import demand have no effect on world prices. However, it is also vulnerable to changes in world prices due to factors over which it can have no control.

Level: Hard

Heading: Comparative Advantage and Opportunity Cost

### Problems

28. Assume that both the United States and Germany produce beef and computer chips with the following costs:

	United States (dollars)	Germany (marks)
Unit cost of beef (B)	2	8
Unit cost of computer chips (C)	1	2

- What is the opportunity cost of beef (B) and computer chips (C) in each country?
- In which commodity does the United States have a comparative cost advantage? What about Germany?
- What is the range for mutually beneficial trade between the United States and Germany for each computer chip traded?
- How much would the United States and Germany gain if 1 unit of beef is exchanged for 3 chips?

Ans: a) In the United States: the opportunity cost of one unit of beef is 2 chips; the opportunity cost of one chip is 1/2 unit of beef. In Germany: the opportunity cost of one unit of beef is 4 chips; the opportunity cost of one chip is 1/4 unit of beef.

b) The United States has a comparative cost advantage in beef with respect to Germany, while Germany has a comparative cost advantage in computer chips.

c) The range for mutually beneficial trade between the United States and Germany for each unit of beef that the United States exports is:  $2C < 1B < 4C$

d) Both the United States and Germany would gain 1 chip for each unit of beef traded.

Level: Medium

Heading: Comparative Advantage and Opportunity Costs

29. Assume a Ricardian, constant-cost world. There are two countries, the United States and Canada. Each country can produce cameras and milk. The table below shows production per man-hour for each country.

	United States	Canada
Cameras	6	2
Milk	1	2

The United States has a labor force of 1,000 workers, and Canada has a labor force of 500 workers.

- Use this information to graph production possibilities frontiers for both countries. Put cameras on the horizontal axis.
- Assuming that a world price is established at which both countries can gain from trade, show possible consumption frontiers for each country.

Ans: a) The United States PPF should have horizontal intercept (6000, 0) and vertical intercept (0, 1000). The Canadian PPF should have horizontal intercept (1000, 0) and vertical intercept (0, 1000).

b) The slope of the U.S. PPF is  $-1/6$ , and the slope of the Canadian PPF is  $-1$ . The U.S. has a comparative advantage in cameras, and Canada has a comparative advantage in milk. For mutually beneficial trade, a unit of milk must trade for between 1 camera and  $1/6$  camera. The consumption frontier for the U.S. must begin at the horizontal intercept and have a slope greater than  $-1/6$ , and Canada's consumption frontier must begin at the vertical intercept and have a slope less than  $-1$ . The slopes of the two consumption frontiers must be identical.

Level: Hard

Heading: Comparative Advantage and Opportunity Costs



30. Assume a Ricardian, constant-cost world. There are two countries, the United States and Canada. Each country can produce cameras and milk. The table below shows production per man-hour for each country.

	United States	Canada
Cameras	6	2
Milk	1	2

The United States has a labor force of 1,000 workers, and Canada has a labor force of 500 workers.

- a) Graph the world supply curve for cameras.
- b) Show a possible world demand curve and price (assuming that both countries completely specialize).

Ans: a) The world supply of cameras begins at a relative price of  $1/6$  and is horizontal up to a quantity of 6,000. At that point, the supply curve becomes vertical until the relative price is 1. At a price of 1, the world supply is horizontal from 6,000 to 7,000. After this point, the world supply of cameras is vertical.

b) Students should draw world demand such that the relative price of cameras falls between  $1/6$  and 1.

Level: Hard

Heading: Comparative Advantage and Opportunity Costs