

# International Trade

## Chapter 5

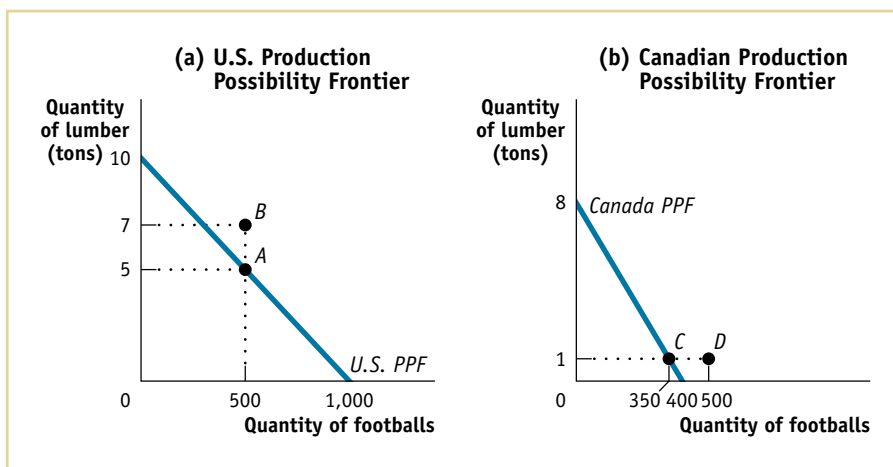
1. Both Canada and the United States produce lumber and footballs with constant opportunity costs. The United States can produce either 10 tons of lumber and no footballs, or 1,000 footballs and no lumber, or any combination in between. Canada can produce either 8 tons of lumber and no footballs, or 400 footballs and no lumber, or any combination in between.
  - a. Draw the U.S. and Canadian production possibility frontiers in two separate diagrams, with footballs on the horizontal axis and lumber on the vertical axis.
  - b. In autarky, if the United States wants to consume 500 footballs, how much lumber can it consume at most? Label this point *A* in your diagram. Similarly, if Canada wants to consume 1 ton of lumber, how many footballs can it consume in autarky? Label this point *C* in your diagram.
  - c. Which country has the absolute advantage in lumber production?
  - d. Which country has the comparative advantage in lumber production?

Suppose each country specializes in the good in which it has the comparative advantage, and there is trade.

  - e. How many footballs does the United States produce? How much lumber does Canada produce?
  - f. Is it possible for the United States to consume 500 footballs and 7 tons of lumber? Label this point *B* in your diagram. Is it possible for Canada at the same time to consume 500 footballs and 1 ton of lumber? Label this point *D* in your diagram.

### Solution

1. a. The two accompanying diagrams illustrate the U.S. and Canadian production possibility frontiers.



- b. If the United States wants to consume 500 footballs, in autarky it can at most consume 5 tons of lumber, as indicated by point *A* in panel (a) of the diagram. And if Canada wants to consume 1 ton of lumber, it can at most consume 350 footballs in autarky, as shown by point *C* in panel (b).
- c. The United States can produce at most 10 tons of lumber, and Canada can produce at most 8 tons. So the United States has the absolute advantage in lumber production.

- d. In the United States, producing 1 additional ton of lumber means forgoing production of 100 footballs: the opportunity cost of 1 ton of lumber is 100 footballs. In Canada, the opportunity cost of 1 ton of lumber is 50 footballs. Since the opportunity cost of lumber production in Canada is lower, Canada has the comparative advantage in lumber production.
  - e. If there is trade, the United States will specialize in the production of footballs and produce 1,000 footballs. Canada will specialize in lumber production and produce 8 tons of lumber.
  - f. With trade, it is possible for the United States to consume 500 footballs and 7 tons of lumber. This is shown by point *B* in the diagram. That leaves exactly 500 footballs and 1 ton of lumber to be consumed by Canada, shown by point *D*.
2. For each of the following trade relationships, explain the likely source of the comparative advantage of each of the exporting countries.
- a. The United States exports software to Venezuela, and Venezuela exports oil to the United States.
  - b. The United States exports airplanes to China, and China exports clothing to the United States.
  - c. The United States exports wheat to Colombia, and Colombia exports coffee to the United States.

### Solution

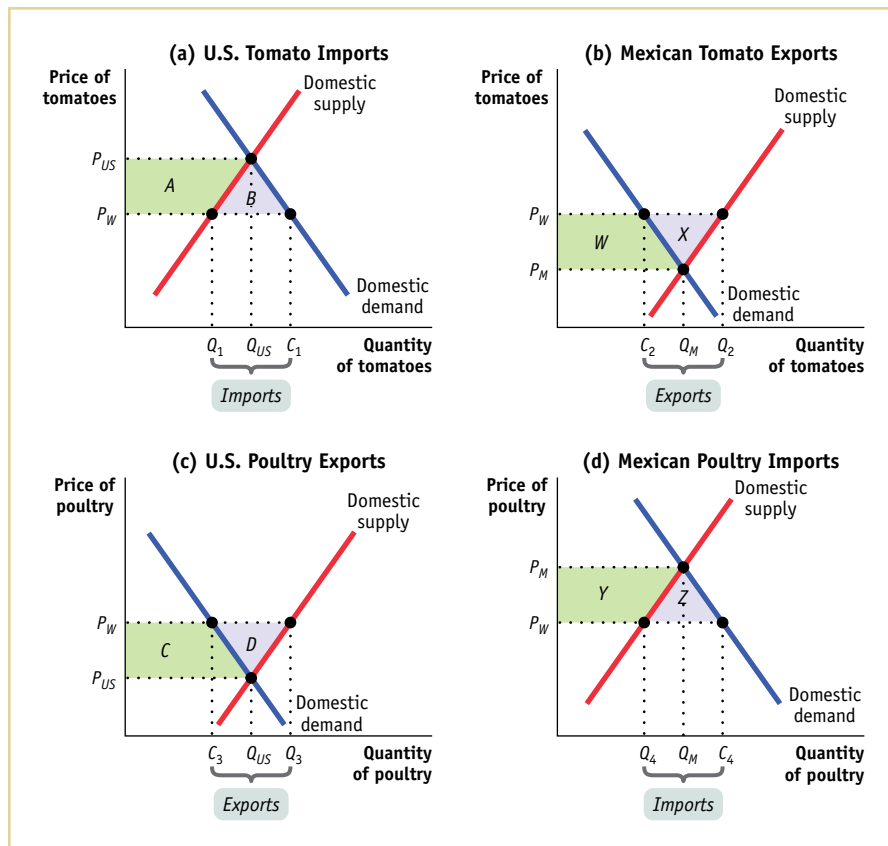
- 2. a. The United States has the comparative advantage in software production because of a factor endowment: a relatively large supply of human capital. Venezuela has the comparative advantage in oil production because of a factor endowment: large oil reserves.
  - b. The United States has the comparative advantage in airplane production because of a factor endowment: it has a relatively large supply of the human capital needed to produce airplanes. China has the comparative advantage in clothing production because of a factor endowment: it has a relatively large supply of unskilled labor.
  - c. The United States has the comparative advantage in wheat production because of an advantage in climate: it has a climate suitable for growing wheat. Colombia has the comparative advantage in coffee production because of an advantage in climate: it has a climate suitable for growing coffee.
3. According to data from the U.S. Census Bureau, since 2000, the value of U.S. imports of men's and boy's apparel from China has more than tripled from a relatively small \$244 million in 2000 to \$926 million in 2014. What prediction does the Heckscher–Ohlin model make about the wages received by labor in China?

### Solution

- 3. As trade increases, the Heckscher–Ohlin model predicts that prices of factors that are abundantly available in a country will rise. In other words, the model predicts that the wages received by labor in China would have risen between 2000 and 2014. (Is this really true? According to China's National Bureau of Statistics, the average Chinese worker's wage in the private sector rose from 9,371 yuan in 2000 to 36,390 yuan in 2014, the latest year for which data were available at the time of writing. Almost none of this increase in wages was due to inflation: between 2000 and 2014, China experienced very little inflation.)
- 4. Shoes are labor-intensive and satellites are capital-intensive to produce. The United States has abundant capital. China has abundant labor. According to the Heckscher–Ohlin model, which good will China export? Which good will the United States export? In the United States, what will happen to the price of labor (the wage) and to the price of capital?

4. The Heckscher–Ohlin model predicts that a country will have a comparative advantage in the good whose production is intensive in the factor the country has abundantly available: the United States has the comparative advantage in satellite production, and China has the comparative advantage in shoe production. So the United States will export satellites, and China will export shoes. In the United States, demand for capital increases, raising the price of capital, but the demand for labor decreases, lowering the wage.
5. Before the North American Free Trade Agreement (NAFTA) gradually eliminated import tariffs on goods, the autarky price of tomatoes in Mexico was below the world price and in the United States was above the world price. Similarly, the autarky price of poultry in Mexico was above the world price and in the United States was below the world price. Draw diagrams with domestic supply and demand curves for each country and each of the two goods. (You will need to draw four diagrams, total.) As a result of NAFTA, the United States now imports tomatoes from Mexico and the United States now exports poultry to Mexico. How would you expect the following groups to be affected?
- Mexican and U.S. consumers of tomatoes. Illustrate the effect on consumer surplus in your diagram.
  - Mexican and U.S. producers of tomatoes. Illustrate the effect on producer surplus in your diagram.
  - Mexican and U.S. tomato workers.
  - Mexican and U.S. consumers of poultry. Illustrate the effect on consumer surplus in your diagram.
  - Mexican and U.S. producers of poultry. Illustrate the effect on producer surplus in your diagram.
  - Mexican and U.S. poultry workers.

5. The four accompanying diagrams illustrate the U.S. and Mexican domestic demand and supply curves.



- a. As shown in panel (b), consumer surplus decreases in Mexico by the size of area  $W$  as the price rises from  $P_M$  to  $P_W$ . As shown in panel (a), consumer surplus increases in the United States by the size of the area  $A + B$  as the price falls from  $P_{US}$  to  $P_W$ .
  - b. As shown in panel (a), production of tomatoes decreases in the United States from  $Q_{US}$  to  $Q_1$ ; producer surplus decreases by area  $A$ . As shown in panel (b), production of tomatoes increases in Mexico from  $Q_M$  to  $Q_2$ , so producer surplus increases by areas  $W + X$ .
  - c. As production of tomatoes decreases in the United States, the demand for U.S. tomato workers falls and so the wages of U.S. tomato workers fall. In Mexico, as the production of tomatoes increases, the wages of Mexican tomato workers rise.
  - d. As shown in panel (d), consumer surplus increases in Mexico by the size of areas  $Y + Z$  as the price falls from  $P_M$  to  $P_W$ . As shown in panel (c), consumer surplus decreases in the United States by the size of area  $C$  as the price rises from  $P_{US}$  to  $P_W$ .
  - e. As shown in panel (d), production of poultry decreases in Mexico, from  $Q_M$  to  $Q_4$ ; so producer surplus in Mexico decreases by area  $Y$ . As shown in panel (c), U.S. production of poultry increases from  $Q_{US}$  to  $Q_3$ ; so producer surplus in the United States increases by areas  $C + D$ .
  - f. As production of poultry increases in the United States, the demand for poultry workers rises and so the wages of poultry workers rise. In Mexico, as the production of poultry decreases, the wages of poultry workers fall.
6. The accompanying table indicates the U.S. domestic demand schedule and domestic supply schedule for commercial jet airplanes. Suppose that the world price of a commercial jet airplane is \$100 million.

Price of jet (millions)	Quantity of jets demanded	Quantity of jets supplied
\$120	100	1,000
110	150	900
100	200	800
90	250	700
80	300	600
70	350	500
60	400	400
50	450	300
40	500	200

- a. In autarky, how many commercial jet airplanes does the United States produce, and at what price are they bought and sold?
  - b. With trade, what will the price for commercial jet airplanes be? Will the United States import or export airplanes? How many?
- Solution**
- a. In autarky, the equilibrium price will be \$60 million, and 400 airplanes will be bought and sold at that price.
  - b. When there is trade, the price rises to the world price of \$100 million. At that price, the domestic quantity supplied is 800, and the domestic quantity demanded is 200. So 600 airplanes are exported.

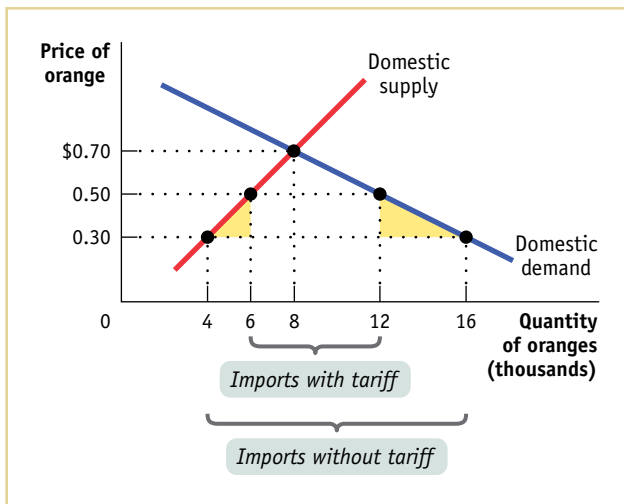
7. The accompanying table shows the U.S. domestic demand schedule and domestic supply schedule for oranges. Suppose that the world price of oranges is \$0.30 per orange.

Price of orange	Quantity of oranges demanded (thousands)	Quantity of oranges supplied (thousands)
\$1.00	2	11
0.90	4	10
0.80	6	9
0.70	8	8
0.60	10	7
0.50	12	6
0.40	14	5
0.30	16	4
0.20	18	3

- Draw the U.S. domestic supply curve and domestic demand curve.
- With free trade, how many oranges will the United States import or export? Suppose that the U.S. government imposes a tariff on oranges of \$0.20 per orange.
- How many oranges will the United States import or export after introduction of the tariff?
- In your diagram, shade the gain or loss to the economy as a whole from the introduction of this tariff.

## Solution

7. a. The U.S. domestic supply and demand curves are illustrated in the accompanying diagram.

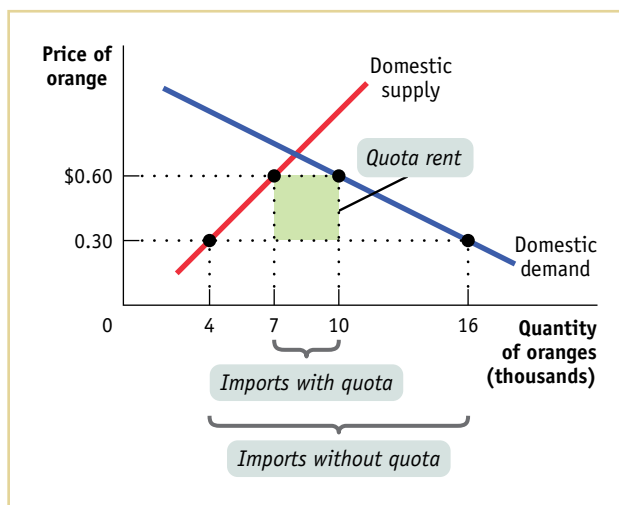


- With free trade, the price will be the world price, \$0.30, the domestic quantity demanded will be 16,000 oranges, and the domestic quantity supplied will be 4,000 oranges. So the United States will import 12,000 oranges.
- With the tariff, the domestic price will rise to \$0.50. At that price, the domestic quantity demanded will exceed the domestic quantity supplied by 6,000. So the United States will import 6,000 oranges.
- The shaded areas indicate the deadweight loss to the economy as a whole due to the tariff.

8. The U.S. domestic demand schedule and domestic supply schedule for oranges was given in Problem 7. Suppose that the world price of oranges is \$0.30. The United States introduces an import quota of 3,000 oranges and assigns the quota rents to foreign orange exporters.
- Draw the domestic demand and supply curves.
  - What will the domestic price of oranges be after introduction of the quota?
  - Illustrate the area representing the quota rent on your graph. What is the value of the quota rents that foreign exporters of oranges receive?

### Solution

8. a. The domestic demand and domestic supply curves are shown in the accompanying diagram.



- After introduction of the quota, instead of importing  $16,000 - 4,000 = 12,000$  oranges, the United States will import only 3,000 oranges. The price will rise to \$0.60, the price at which the domestic quantity demanded exceeds the domestic quantity supplied by exactly 3,000 oranges.
  - The foreign exporters of oranges receive quota rent of  $\$0.30 \times 3,000 = \$900$ . The area of the shaded square represents the quota rent.
9. The Observatory of Economic Complexity (OEC) is a data visualization that models international trade data among countries. Go to the website at [atlas.media.mit.edu](http://atlas.media.mit.edu) to answer the following questions.
- Start by selecting “Countries” and enter “United States” in the search bar. In 2014, what was the largest exported good (in dollars) for the United States? What was the value of exports for “Planes, Helicopters, and/or Spacecraft”? What was the largest imported good for the United States?
  - Repeat the steps above for Brazil. In 2014, what was the largest exported good for Brazil? What was the value of exports for “Planes, Helicopters, and/or Spacecraft”? What was the largest imported good for Brazil?
  - On the left sidebar click on the link “Explore on Visualization Page.” On the new page, in the left sidebar select “Exports,” under “Country” select “Brazil,” under “Partner” select “United States,” and then “Build Visualization.” What is the total value of Brazilian exports to the United States? What is Brazil’s largest exported good (in dollars) compared to the United States? What type of goods does Brazil generally export to the United States? What is the value of exports related to “Planes, Helicopters, and/or Spacecraft”?
  - Now repeat the steps from part c for exports from the United States to Brazil. Change “Country” to “United States,” change “Partner” to “Brazil,” and select “Build Visualization.” What is the total value of exports from the United States to Brazil? What is the United States’ largest export (in dollars) to Brazil? What types of goods does the United States export to Brazil? What was the value of exports related to “Planes, Helicopters, and/or Spacecraft”?

## Solution

9.
  - a. In 2014, “Refined Petroleum” accounted for approximately 7.1% (or \$103 billion) of all U.S. exports, the largest exported good for the United States. The United States exported \$53.2 billion in “Planes, Helicopters, and/or Spacecraft,” which was approximately 3.7% of all U.S. exports. The largest imported good for the United States was “Crude Petroleum.”
  - b. In 2014, “Iron Ore” was approximately 12% (or \$26.9 billion) of all Brazilian exports, and its largest exported good. Brazil exported \$3.9 billion in “Planes, Helicopters, and/or Spacecraft,” which was approximately 1.7% of all Brazilian exports. The largest imported good for Brazil was “Refined Petroleum.”
  - c. Brazil exported \$27.3 billion of goods to the United States in 2014. “Crude Petroleum” was the largest exported item at 14% (or \$3.85 billion) of all Brazilian exports to the United States. In general, Brazil exported “Mineral products” and “Metals” to the United States. Not surprisingly, “Planes, Helicopters, and/or Spacecraft” was the second largest exported item from Brazil to the United States, making up 7.2% (or \$1.98 billion) of all Brazilian exports to the United States. Embraer, located in Brazil, manufactures a popular small regional jet used by commercial airlines and private plane owners throughout the world.
  - d. The United States exported \$35.1 billion of goods to Brazil in 2014 and “Refined Petroleum” was the largest exported item at 14% (or \$5.05 billion) of all U.S. exports to Brazil. In general, the United States exported “Machines” and “Chemical Products” to Brazil. “Planes, Helicopters, and/or Spacecraft” made up 1.7% (or \$589 million) of exports from the United States to Brazil.
10. Comparative advantage creates an opportunity for less productive economies like Bangladesh to trade with more productive economies like the United States. Using the OEC website from Problem 9, how much did Bangladesh export to the United States? What was its largest export to the United States? In general, what type of goods did Bangladesh export to the United States?

## Solution

10. In 2014, Bangladesh exported \$5.23 billion to the United States, and 28% of those exports were in “Non-Knit Men’s Suits.” Nearly all of the exports, \$4.9 billion, to the United States were textiles. This confirms that relative to the United States, Bangladesh had a comparative advantage in clothing.
11. Once again, using the OEC website from Problems 9 and 10, identify which country has a comparative advantage for each of the following goods. For each good, include the country’s share of global exports and the total dollar value of that share.
  - a. Computers
  - b. Maple syrup
  - c. Soybeans
  - d. Cocoa beans
  - e. Beer

## Solution

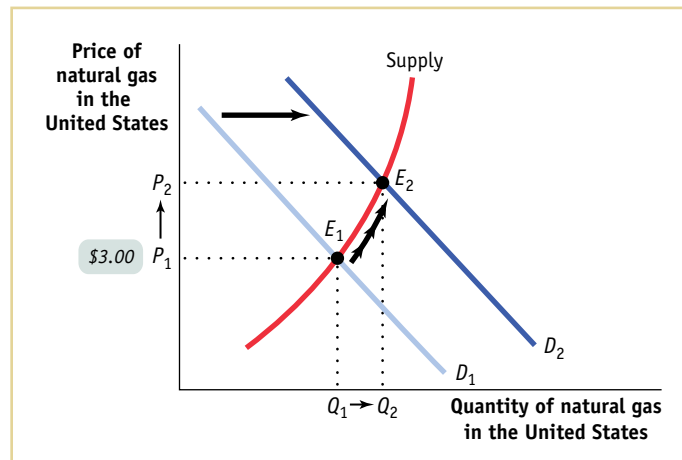
11.
  - a. China was the largest exporter of computers. Therefore China has a comparative advantage in computers. China exported 53% (or \$209 billion) of all global computer exports.
  - b. Canada was the largest exporter of maple syrup. Therefore Canada has a comparative advantage in maple syrup. Canada exported 84% (\$308 million) of all global maple syrup exports.
  - c. The United States and Brazil were the two largest exporters of soybeans. Therefore the United States and Brazil have a comparative advantage in soybeans. The United States exported 41% (or \$24.4 billion) and Brazil exported 40% (or \$23.6 billion) of all global soybean exports.



- d. Côte d'Ivoire (The Ivory Coast) was the largest exporter of cocoa beans. Therefore, the Ivory Coast has a comparative advantage in cocoa beans. It exported 37% (or \$3.58 billion) of all global cocoa bean exports.
  - e. Mexico was the world's largest beer exporter, accounting for 22% (or \$2.91 billion) of all global beer exports. Therefore Mexico has a comparative advantage in beer production.
12. Over the past five years the United States has become the world's largest producer of natural gas. But gas producers have struggled to find methods to liquefy natural gas so that it can be exported across the Atlantic. Enter Cheniere Energy, a Houston-based natural gas company that has developed a natural gas export terminal located on the Sabine Pass leading into the Gulf of Mexico. The terminal will give U.S. companies access to markets all over the world.
- a. Explain how the development of a natural gas export terminal will affect the market for natural gas in the United States.
  - b. Assuming natural gas prices are \$3.00 per BTU, draw a graph to illustrate the effect of an export terminal on the demand for natural gas in the United States. Explain your findings.
  - c. Assuming natural gas prices in Europe are \$6.00 per BTU, draw a diagram to illustrate how the development of a natural gas terminal in the United States will affect supply and demand in the natural gas market for Europe. Explain your findings.
  - d. How will the exporting of natural gas from the United States to Europe affect consumers and producers in both places?

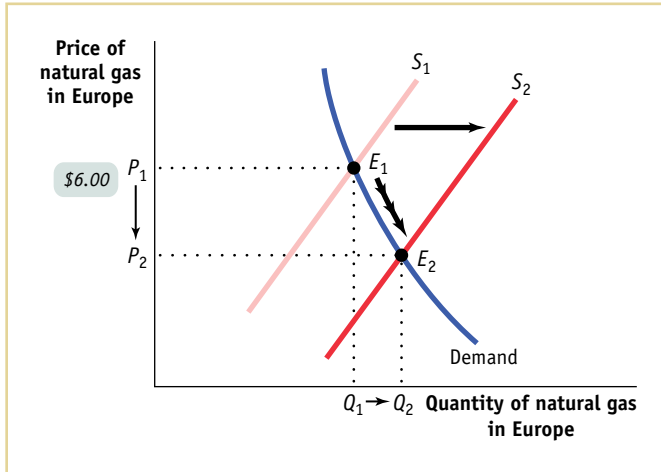
### Solution

- 12.a. As the United States is able to liquefy and export natural gas, demand for natural gas produced in the United States will increase. This will increase both the price and quantity of natural gas.
- b. The following figure shows the market for natural gas in the United States. Being able to export natural gas will increase the number of buyers. This is shown by shifting the demand line right from  $D_1$  to  $D_2$ . Price will increase from  $P_1$  or \$3.00 to  $P_2$  and quantity will increase from  $Q_1$  to  $Q_2$ .






- c. The following figure shows that the demand for natural gas will remain unchanged. But as the United States is able to export natural gas into European markets, the supply of natural gas will increase. This will cause price to decrease from  $P_1$  or \$6.00 to  $P_2$  and quantity to increase from  $Q_1$  to  $Q_2$ .

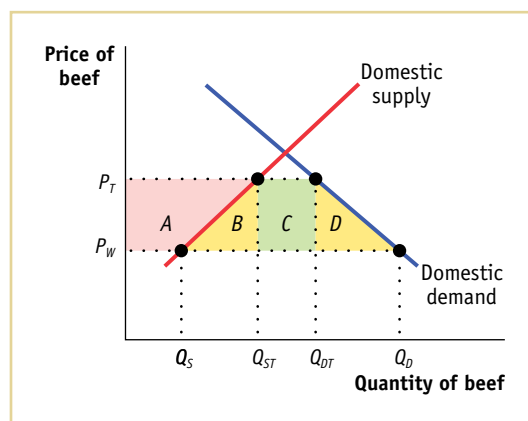


- d. Exporting natural gas from the United States to Europe will cause the price to increase for U.S. consumers, who will be made worse off. But U.S. producers of natural gas will sell a greater quantity of gas at a higher price, making them better off. European consumers will buy more natural gas at a lower price. They will be better off. But European producers will receive a lower price, so European producers will be worse off.

13.  Access the Discovering Data exercise for Chapter 5 online to answer the following questions.
- Rank the states in order of exports to China. Rank in order of most to fewest exports.
  - Calculate the growth in exports from 2002 to 2012 for each state.
  - As a percent of total exports, rank the states in order of most to least exports to China.
  - Explain the pattern of trade with China.

13.  Answers to this Discovering Data exercise can be found online.

14. The accompanying diagram illustrates the U.S. domestic demand curve and domestic supply curve for beef.



The world price of beef is  $P_W$ . The United States currently imposes an import tariff on beef, so the price of beef is  $P_T$ . Congress decides to eliminate the tariff. In terms of the areas marked in the diagram, answer the following questions.

- With the elimination of the tariff what is the gain/loss in consumer surplus?
- With the elimination of the tariff what is the gain/loss in producer surplus?
- With the elimination of the tariff what is the gain/loss to the government?
- With the elimination of the tariff what is the gain/loss to the economy as a whole?

### Solution

14. **a.** As the price falls from  $P_T$  to  $P_W$ , consumer surplus increases by areas  $A + B + C + D$ .
- b.** As the price falls, producer surplus decreases by area  $A$ .
- c.** As the tariff is eliminated, the government loses revenue of area  $C$ , which is the amount of imports under the tariff ( $Q_{DT} - Q_{ST}$ ) times the tariff.
- d.** The gain to the economy as a whole is the gain to consumers minus the loss to producers minus the loss to the government:  $A + B + C + D - A - C = B + D$ .
15. As the United States has opened up to trade, it has lost many of its low-skill manufacturing jobs, but it has gained jobs in high-skill industries, such as the software industry. Explain whether the United States as a whole has been made better off by trade.

### Solution

15. As the United States has opened up to trade, it has specialized in producing goods that use high-skill labor (such as software design) in which it has a comparative advantage, and it has allowed other countries to specialize in producing low-skill manufactured goods in which they have the comparative advantage. As a result, the country has lost low-skill manufacturing jobs (and the wage to low-skill workers has fallen), and it has gained jobs in high-skill industries (and the wage to high-skill workers has risen). That is, demand for labor in exporting industries has risen, and demand for labor in import-competing industries has fallen, as the Heckscher–Ohlin model predicts. But as a result of trade, the United States can now consume more of all goods than before. That is, overall the economy is better off, so the gains to high-skill workers outweigh the losses to low-skill workers.

16. The United States is highly protective of its agricultural (food) industry, imposing import tariffs, and sometimes quotas, on imports of agricultural goods. This chapter presented three arguments for trade protection. For each argument, discuss whether it is a valid justification for trade protection of U.S. agricultural products.

### Solution

16. The three arguments for trade protection are the national security, job creation, and infant industry arguments. Agriculture is not an infant industry, so this argument does not apply. Some argument can be made that agricultural products are necessary for national security: if we depended completely on imports for our agricultural goods, we would be vulnerable if our trading partners cut off our imports. And protecting agriculture does not create jobs. It does protect farming jobs; but it is likely that if agriculture lost its protection from imports, those workers could find other jobs in industries that expand due to lower food costs (such as the restaurant industry). The rationale for protecting agricultural markets from imports must lie elsewhere—in the political power of the farm lobby.
17. In World Trade Organization (WTO) negotiations, if a country agrees to reduce trade barriers (tariffs or quotas), it usually refers to this as a *concession* to other countries. Do you think that this terminology is appropriate?

### Solution

17. The word *concession* implies that when a country lowers its trade barriers, it is giving up something to other countries. As discussed in this chapter, free trade is beneficial to all countries, including the country that lowers its trade barriers. In fact, even if no other country does so, the country that does lower its trade barriers still benefits from trade. By allowing more international trade, each country's economy simply gains overall. So the terminology *concession* is not appropriate.
18. Producers in import-competing industries often make the following argument: "Other countries have an advantage in production of certain goods purely because workers abroad are paid lower wages. In fact, American workers are much more productive than foreign workers. So import-competing industries need to be protected." Is this a valid argument? Explain your answer.

### Solution

18. Even if American workers were better at producing everything than are foreign workers (that is, even if America had the absolute advantage in everything), this does not mean that the United States should restrict trade. What matters for trade is who has the comparative advantage. In fact, other countries will have a comparative advantage in some good or service, and specialization and trade will mean improvements in the welfare of both countries. Claiming that other countries have an advantage only because labor is so cheap relies on the pauper labor fallacy.

**WORK IT OUT** Interactive step-by-step help with solving this problem can be found online.

19. Assume Saudi Arabia and the United States face the production possibilities for oil and cars shown in the accompanying table.

Saudi Arabia		United States	
Quantity of oil (millions of barrels)	Quantity of cars (millions)	Quantity of oil (millions of barrels)	Quantity of cars (millions)
0	4	0	10.0
200	3	100	7.5
400	2	200	5.0
600	1	300	2.5
800	0	400	0

- What is the opportunity cost of producing a car in Saudi Arabia? In the United States? What is the opportunity cost of producing a barrel of oil in Saudi Arabia? In the United States?
- Which country has the comparative advantage in producing oil? In producing cars?
- Suppose that in autarky, Saudi Arabia produces 200 million barrels of oil and 3 million cars; and suppose that the United States produces 300 million barrels of oil and 2.5 million cars. Without trade, can Saudi Arabia produce more oil *and* more cars? Without trade, can the United States produce more oil *and* more cars?

Suppose now that each country specializes in the good in which it has the comparative advantage, and the two countries trade. Also assume that for each country the value of imports must equal the value of exports.

- What is the total quantity of oil produced? What is the total quantity of cars produced?
- Is it possible for Saudi Arabia to consume 400 million barrels of oil and 5 million cars and for the United States to consume 400 million barrels of oil and 5 million cars?
- Suppose that, in fact, Saudi Arabia consumes 300 million barrels of oil and 4 million cars and the United States consumes 500 million barrels of oil and 6 million cars. How many barrels of oil does the United States import? How many cars does the United States export? Suppose a car costs \$10,000 on the world market. How much, then, does a barrel of oil cost on the world market?

## Solution

- 19. a.** In Saudi Arabia, 1 million cars can be produced by giving up production of 200 million barrels of oil. So the opportunity cost of 1 car in Saudi Arabia is 200 barrels of oil. The opportunity cost of 2.5 million cars in the United States is 100 million barrels of oil, making the opportunity cost of 1 car equal to  $100 \text{ million} / 2.5 \text{ million} = 40$  barrels of oil. The opportunity cost of 1 barrel of oil in Saudi Arabia is 0.005 of a car (equal to 1 car divided by 200 barrels of oil). The opportunity cost of 1 barrel of oil in the United States is 0.025 of a car (equal to 1 car divided by 40 barrels of oil).
- b.** Since the opportunity cost of producing oil is lower in Saudi Arabia, it has the comparative advantage in oil production. And since the opportunity cost of producing cars is lower in the United States, it has the comparative advantage in car production.
- c.** In autarky, Saudi Arabia cannot produce both more oil *and* more cars. If Saudi Arabia produces 200 million barrels of oil and 3 million cars, it is on its production possibility frontier. This means that it can produce more oil only if it produces fewer cars. The same is true for the United States.
- d.** If each country specializes, Saudi Arabia will produce 800 million barrels of oil and the United States will produce 10 million cars.
- e.** It is possible for Saudi Arabia to consume 400 million barrels of oil and for the United States to consume 400 million barrels of oil (for a total of 800 million barrels). And it is possible for Saudi Arabia to consume 5 million cars and for the United States to consume 5 million cars (for a total of 10 million cars).
- f.** The United States imports 500 million barrels of oil and exports 4 million cars. That is, each car trades for 125 barrels of oil. If a car costs \$10,000 on the world market, then a barrel of oil costs  $\$10,000 / 125 = \$80$ .

