Chapter 8

Comparative Advantage and the Gains from International Trade

Chapter Summary

Over the past 50 years, international trade has grown significantly as many governments reached agreements to reduce tariffs and other trade barriers**.** In Chapter 2, you learned about comparative advantage. **Comparative advantage** shows that individuals, firms, and countries will be made better off by producing goods and services for which they have a lower opportunity cost than competitors and trading for those goods and services for which they have a higher opportunity cost. Absolute advantage is the ability of an individual, firm, or country to produce more of a good or service than competitors when using the same amount of resources. Nations develop comparative advantages for different reasons including a favorable climate, the availability of natural resources, an abundance of labor or capital, and access to superior production technologies.

On average, countries benefit from trade, but while some firms and workers benefit from international trade, others do not. When a country becomes more open to trade, the profits of firms that produce the same goods that are imported will fall and some of the firms' workers may lose their jobs. Those harmed by trade often lobby their governments to impose import restrictions. Despite the gains that exist from **free trade**, nations still sometimes impose trade restrictions that result in higher prices for traded goods. Trade restrictions usually are in the form of **tariffs, quotas, voluntary export restraints,** and other non-tariff barriers. Although tariffs and quotas save jobs in the countries that impose them, the employment gains often are achieved at a high cost.

After World War II, the United States and Europe negotiated treaties to reduce the high tariff rates imposed during the Great Depression. Recent discussions have focused on expanding trade in services and products that incorporate intellectual property, rather than trade in goods. The **World Trade Organization** (WTO) was established in 1995 to facilitate these negotiations. Opposition to liberalization of international trade and investment, also known as **globalization**, grew in the 1990s. Supporters of the anti-globalization movement want to protect domestic industries from competition and believe globalization unfairly favors the interests of high-income countries.

The United States government has extended protection to some domestic industries due to allegations of dumping by foreign companies. **Dumping** refers to selling a product for a price below its cost of production.

Multinational enterprises conduct operations in more than one nation. They may open offices in a foreign country to avoid tariffs on exports; to gain access to raw materials available in other nations; to gain access to low-cost labor; to minimize foreign exchange risk; and/or to respond to competition from other firms in their industry.

Learning Objectives

When you finish this chapter, you should be able to:

1. **Discuss the role of international trade in the U.S. economy.** From 1950 to 2007, both exports and imports have steadily increased as a fraction of U.S. gross domestic product. Each year, the United States exports about 50 percent of its wheat crop, 40 percent of its rice crop and 20 percent of its corn crop. About 20 percent of U.S. manufacturing jobs depend directly or indirectly on exports.

2. **Understand the difference between comparative advantage and absolute advantage in international trade**. Absolute advantage is the ability of a country to produce more of a good than other countries using the same amount of resources. However, comparative advantage is the key to determining specialization and trade. Countries have a comparative advantage in production when they can produce a good or service at a lower opportunity cost than other producers. Countries are better off if they specialize in producing the goods for which they have a comparative advantage. They can then trade for the goods for which other countries have a comparative advantage.

3. **Explain how countries gain from international trade**. By trading, nations are able to consume more than they could without trade. This is possible because total world production of traded goods increases after trade. Shifting production to the more efficient country – the one with the comparative advantage – increases total production. (Remember, every country has a comparative advantage in producing at least one good or service.) The sources of comparative advantage include a favorable climate or supplies of natural resources; relatively abundant supplies of labor and capital; access to technology; and external economies.

4. **Analyze the economic effects of government policies that restrict international trade**. Government restrictions on international trade, such as tariffs and quotas, reduce the foreign competition faced by domestic firms. By limiting competition, trade restrictions raise the domestic price of a good above the world price. Trade restrictions help domestic producers but harm domestic consumers and reduce economic efficiency. Costs imposed by the high prices paid by consumers almost always exceed the value of the jobs saved by trade barriers.

5. **Evaluate the arguments over trade policy and globalization.** Advocates for policies that restrict trade (protectionism) argue that free trade reduces employment by driving domestic firms out of business and forces firms to pay lower wages to compete with firms in other industries. However, no economic study has found a connection in the long run between the total number of available jobs and the level of protection for domestic industries. Rather than lowering wages, free trade raises living standards by increasing economic efficiency.

Appendix: Understand why firms operate in more than one country. Your instructor may assign this appendix.

Chapter Review

Chapter Opener: Is Using Trade Policy to Help U.S. Industries a Good Idea? (pages 242-243)

Although trading between states in the United States is not controversial, trading between countries meets with a significant amount of opposition. The United States Congress enacted a tariff on Brazilian ethanol, so that this cheaper alternative fuel becomes unaffordable in the United States. There is also a quota on the importation of sugar into the United States in order to preserve jobs in the domestic sugar industry. The quota resulted in higher sugar prices for consumers, including firms, such as candy manufacturers, that use sugar as an input to produce other products. As a result, Life Savers and other candy products are no longer produced in the United States but in other countries where the costs of production are lower.

Helpful Study Hint

Advocates for quotas stress how quotas will increase employment in the protected industry, but minimize their impact on prices and on employment in other industries. Tables 8-5 and 8-6 compare the number of jobs saved and the cost to consumers per year for each of these jobs in different markets as a result of tariffs and quotas. At the end of this chapter, ***An Inside Look*** examines the impact of reducing trade restrictions between the United States and South Korea. If the bilateral agreement is ratified by the governments of both countries, U.S. car consumers and Korean car producers will gain. Likewise, U.S. producers of food and Korean consumers of food will gain. The domestic producers of the goods that will be imported will lose.

Economics in YOUR Life! asks how sugar companies have convinced Congress to enact the sugar quota and why very few people who buy and use sugar have ever heard of the quota. Keep this question in mind as you read the chapter. The authors will answer this question at the end of the chapter.

8.1 LEARNING OBJECTIVE

8.1 The United States in the International Economy (pages 244-247)

Learning Objective 1 Discuss the role of international trade in the U. S. economy.

Imports are goods and services bought domestically but produced in other countries. A **tariff** is a tax imposed by a government on imports. **Exports** are goods and services produced domestically but sold to other countries. Tariff rates in the United States have fallen, and international trade has increased significantly since 1930. The United States is the world's largest exporter, although exports and imports are a smaller fraction of GDP in the United States than in most other countries.

Helpful Study Hint

International trade is a controversial topic among politicians and the general public. You may have formed opinions about trade based on comments made through newspaper and magazine articles and conversations with family and friends. In every country there are winners and losers from international trade. Read ***Making the Connection*** "How Expanding International Trade Has Helped Boeing" for a discussion of how one U.S. firm has benefited from trade. The increase in trade around the world has helped Boeing because the Boeing 747 can be used for long-range freight transportation.

Extra Solved Problem 8-1

Chapter 8 in the textbook includes two Solved Problems. Here is an extra Solved Problem to help you build your skills solving economic problems.

Supports Learning Objective 1: Discuss the role of international trade in the U. S. economy.

Paper Tariffs Canceled

U.S. manufacturers of glossy paper requested tariffs on glossy paper imported from Chinese firms. This request was made because U.S. firms feel that the subsidies paid by the Chinese government to Chinese paper manufacturers has given them an unfair advantage over U.S. firms. The Bush Administration responded to the concerns of the U.S. producers by imposing tariffs on the imported glossy paper. The U.S. International Trade Commission canceled the tariffs, saying that there was not significant evidence that the U.S. manufacturers had been harmed by the Chinese subsidies.

Source: Steven R. Weisman, "U.S. Trade Panel Rejects Tariff on Chinese Paper," *The International Herald Tribune*, November 22, 2007.

Explain the impact that the tariff on glossy paper would have had on U.S. imports and exports.

Step 1: Review the chapter material.
This problem asks you to interpret the effect of trade on the United States., so you may want to review section "The United States in the International Economy," which begins on 244 of the textbook.

Step 2: Explain the impact on imports and exports if the tariff were to remain in place.
A tariff will cause Chinese glossy paper to become more expensive in the United States. This makes it more difficult for Chinese firms to compete with U.S. firms. The tariff would cause imports to fall and U.S. firms would be able to sell more paper at a higher price. However, U.S. firms that use glossy paper in producing catalogs, calendars, and other products would find their costs rising, which might lead them to raise prices and reduce production and employment.

8.2 LEARNING OBJECTIVE

8.2 Comparative Advantage in International Trade (pages 247-248)

Learning Objective 2 Understand the difference between comparative advantage and absolute advantage in international trade.

Comparative advantage is the ability of an individual, firm or country to produce a good or service at a lower opportunity cost than another individual, firm, or country. Mutually beneficial trade between two parties is possible when they specialize in the production of the goods and services for which they have a comparative advantage and trade for the goods and services for which they have comparative disadvantage in production. Comparative advantage is the basic argument in favor of free domestic as well as free international trade.

Helpful Study Hint

Absolute advantage and comparative advantage were explained in chapter 2 on pages 46-47. Review ***Solved Problem 2-2*** on page 48 from that chapter as well as the example of comparative advantage illustrated in Tables 8-1 and 8-2 on page 248 to ensure you understand these two concepts.

Extra Solved Problem **8-2**

Chapter 8 in the textbook includes two Solved Problems. Here is an extra Solved Problem to help you build your skills solving economic problems.

Supports Learning Objective 2: Understand the difference between comparative advantage and absolute advantage in international trade.

Suppose that the United States and China each produce only two goods, wheat and shirts. Further assume that these two countries use only labor to produce the two goods. Use the productivity information in this table to answer the questions below.

	Output per hour of work	
	Wheat	**Shirts**
United States	2 bushels	10 shirts
China	1 bushel	8 shirts

a. Who has the absolute advantage in the production of wheat? Shirts?

b. Who has the comparative advantage in the production of wheat? Shirts? What good should the United States specialize in? What good should China specialize in?

Step 1: Review the chapter material.
This problem is about comparative advantage, so you may want to review the section "Comparative Advantage in International Trade," which begins on page 247 in the textbook.

Step 2: Determine who has the absolute advantage in the production of each good.
To determine absolute advantage, you should begin by looking at each good individually and ask yourself the question "Who can produce more of the good?" The United States can produce more wheat than China, so the United States has the absolute advantage in the production of wheat. The United States can also produce more shirts, so the United States also has the absolute advantage in the production of shirts.

Step 3: Determine who has the comparative advantage in the production of each good by calculating opportunity costs.
In order for the United States to produce 1 bushel of wheat, it must give up 5 shirts, while China has to give up 8 shirts for the same bushel of wheat. The United States gives up less to produce wheat, so it has the comparative advantage in the production of wheat. To produce 1 shirt, the United States must give up 1/5 of a bushel of wheat, while China only gives up 1/8 bushel of wheat. Therefore, China has the comparative advantage in the production of shirts.

Step 4: Determine specialization by looking at the comparative advantage.
To receive gains from trade, countries should specialize in the good in which they have a comparative advantage and then trade that good for goods from other countries. In this case, the United States should specialize in the production of wheat and China should specialize in the production of shirts.

8.3 LEARNING OBJECTIVE

8.3 How Countries Gain From International Trade (pages 249-255)

Learning Objective 3 Explain how countries gain from international trade.

The gains from trade can be illustrated with an example of two countries that produce the same two goods under conditions of autarky. **Autarky** is a situation where a country does not trade with other countries. When each country specializes in the production of the good for which it has a comparative advantage and trades some of this good for some of the good produced by the other country, (a) total production of both goods can be greater than it would be under conditions of autarky and (b) total consumption of both goods in both countries can be greater with trade than under conditions of autarky.

The **terms of trade** is the ratio at which a country can trade its exports for imports from other countries. Although countries as a whole are made better off from trade, trade can harm firms and workers in industries that produce goods at a higher cost than foreign competitors.

Helpful Study Hint

Read ***Solved Problem 8-3*** **"**The Gains From Trade," which describes the gains from trade in David Ricardo's famous cloth and wine example. In this example, Portugal and England each gain from trade. Portugal can specialize in wine, while England specializes in the production of cloth. The two countries can make themselves better off through trade Be sure you understand the example in the textbook where Japan and the United States are both able to consume more cell phones and MP3 players after trade than under autarky.

In reality, countries do not specialize completely in the goods in which they have the comparative advantage. This lack of complete specialization is because some goods are not traded internationally, opportunity costs increase as production increases, and consumers in different countries have different preferences for products. There are several reasons why a country may have a comparative advantage in producing a particular good. A firm in one country may have a relatively low opportunity cost in the production of a good because of favorable climate, abundant supplies of certain natural resources, or relatively abundant supplies of labor or capital. Another source of comparative advantage is superior technology in one country. Comparative advantage may also result from external economies. **External economies** are reductions in a firm's costs that result from an expansion in the size of an industry.

Helpful Study Hint

Raymond Vernon provided a classic example of the importance of external economies. Anyone who lives in or has visited New York City, Manhattan in particular, knows that prices for most goods and services are higher there than in most other cities. Real estate and transportation are expensive, streets are crowded, and firms must pay employees a premium to compensate for the high cost of living. Yet, the garment and financial industries located in Manhattan continue to thrive despite these disadvantages. For both of these industries, ready access to suppliers, customers, and competitors are important assets. Personal contacts and face-to-face meetings are critical to the success of doing business. The large market size and concentration of related businesses offered by New York City are more important assets than the lower cost of real estate and transportation offered by locations outside of Manhattan. See ***Making the Connection*** "Why is Dalton, Georgia, the Carpet-Making Capital of the World?" for another example of external economies.

The carpet industry has clustered in Dalton, Georgia, to take advantage of skilled workers and suppliers who specialize in servicing the carpet industry.

Don't Let This Happen to YOU! "Remember That Trade Creates Both Winners and Losers" explains that international trade may be a win-win situation for countries, but that not all individual consumers and producers are winners. Because there is a net gain to society from international trade, some of the gains to the winners could be used to compensate the losers.

8.4 LEARNING OBJECTIVE

8.4 Government Policies that Restrict International Trade (pages 255-262)

Learning Objective 4 Analyze the economic effects of government policies that restrict international trade.

Free trade refers to trade between countries that is free from government restrictions. Free trade policies offer benefits to consumers of imported goods and allow for a more efficient allocation of resources than is possible when international trade is restricted by tariffs or other trade barriers. But free trade also harms domestic firms that are less efficient than their foreign competitors.

A **tariff** is a tax on imports imposed by the government. A **quota** is a numerical limit imposed by the government on the quantity of a good that can be imported into a country. A **voluntary export restraint** is an agreement negotiated between two countries that places a numerical limit on the quantity of a good that can be imported by one country from the other country. A *non-tariff barrier* is a government restriction on international trade other than a quota, voluntary export restraint, or tariff. The imposition of these barriers to free trade create a deadweight loss for the domestic economy.

Helpful Study Hint

Figures 8-6 and 8-7 illustrate the deadweight losses that result from the imposition of a tariff or quota. Tables 8-5 and 8-6 describe the costs of trade restrictions in a different but compelling manner. The tables list estimates of the per-job cost to consumers of saving jobs in industries protected by trade restrictions. Those who favor restrictions on international trade must be willing to argue that these high costs of preserving jobs in domestic industries are justified. See ***Solved Problem 8-4***, "Measuring the Economic Effect of a Quota," for additional practice with analyzing the deadweight losses associated with a quota. If the United States imposes a quota on the number of apples that can be imported into the country, the price of apples will increase and the quantity of apples that can be purchased will decrease. This causes a decrease in consumer surplus and a deadweight loss to the economy.

8.5 LEARNING OBJECTIVE

8.5 The Argument over Trade Policies and Globalization (pages 262-267)

Learning Objective 5 Evaluate the arguments over trade policy and globalization.

Debates over the merits of free trade and policies to restrict trade date back to the beginning of the United States. After World War II, government officials from the United States and Europe negotiated an international agreement to reduce trade barriers and promote free trade. Some interest groups began to oppose free trade policies in the 1990s. You have probably heard the term globalization. **Globalization** refers to the process of countries becoming more open to foreign trade and investment. Opposition to globalization is based on the fear that low-income countries are at risk of losing their cultural identity as multinational countries sell Western goods in their markets and relocate factories in their countries to take advantage of low-cost labor.

Protectionism is demanded by those who wish to preserve domestic jobs in certain industries or who believe that certain domestic industries should be protected from foreign competition for reasons of national security. **Dumping** refers to selling a product for a price below the cost of production. If a country is able to establish that foreign firms have dumped products on the domestic market, then they are allowed under international agreements to impose tariffs on these products. The **World Trade Organization (WTO)** is an international organization that oversees international trade agreements.

Helpful Study Hint

Arguments for and against free trade and globalization offer you an opportunity to analyze important policy issues in an objective manner.

You may have formed opinions about these issues after reading or seeing reports of low wages and poor working conditions offered by multinational corporations in developing countries. ***Making the Connection*** "The Unintended Consequences of Banning Goods Made with Child Labor" explains how in some developing countries the alternative to working in a multinational firm is begging or illegal activity. As incomes rise in countries, families rely less on child labor…

Making the Connection "Has NAFTA Helped or Hurt the U.S. Economy?" discusses the effects of NAFTA on the U.S. economy. Even though in the United States there were both winners and losers from NAFTA, there was an overall gain to the economy. U.S. firms have become more efficient and consumers have been able to buy greater quantities of goods at lower prices.

Extra Solved Problem **8-5**

Chapter 8 in the textbook includes two Solved Problems. Here is an extra Solved Problem to help you build your skills solving economic problems.

Supports Learning Objective 5: Evaluate the arguments over trade policy and globalization.

Sunlight! Bah, Humbug!

Arguments over international trade are nothing new. Alexander Hamilton called for the protection of so-called "infant industries" in the United States, and farming interests have long lobbied for trade restrictions to prevent consumers from buying cheaper food products from abroad. Although the countries and industries change over time, the arguments over trade restrictions have not. The 19th century French economist, Frédèric Bastiat, satirized French opponents of free trade in writing a petition to the French government supposedly from the manufacturers of "candles, waxlights, lamps, candlesticks, street lamps…generally of everything connected with lighting": Bastiat's "petition of the candlemakers" has been reprinted many times and often appears in textbooks because of its clever theme as well as its applicability to the arguments of 21st century "petitioners."

> We are suffering from the intolerable competition of a foreign rival, placed, it would seem, in a condition so superior to ours for the production of light that he absolutely inundates our national market with it at a price fabulously reduced. The moment he shows himself, our trade leaves us – all consumers apply to him; and a branch of native industry, having countless ramifications, is all at once rendered completely stagnant. This rival…is no other than the sun…
>
> What we pray for is, that it may please you to pass a law ordering the shutting up of all windows, skylights, dormer-windows, outside and inside shutters, curtains, blinds…all openings, holes, chinks, clefts, and fissures by or through which the light of the sun has been in use to enter houses, to the prejudice of the meritorious manufacturers with which we flatter ourselves we have accommodated our country – a country which, in gratitude, ought not to abandon us now to strife so unequal.

Source: Frédèric Bastiat, *Social Fallacies*, translated by Patrick James Stirling, Santa Anna, CA: Register Publishing, 1944, pp. 60-61.

Cite arguments from chapter 8 that are similar to those raised in Bastiat's petition.

Step 1: Review the chapter material.

This problem is about arguments over trade policies, so you may want to review the section "The Argument over Trade Policies and Globalization," which begins on page 262 of the textbook.

Step 2: Cite arguments from chapter 8 that are similar to those raised in Bastiat's petition.

In describing protectionism the textbook notes that:

> For as long as international trade has existed, governments have attempted to restrict it to protect domestic firms…protectionism causes losses to consumers and eliminates jobs in domestic industries that use the protected product…Supporters of protectionism argue that free trade reduces employment by driving domestic firms out of business…jobs are lost, but jobs are also lost when more-efficient domestic firms drive less-efficient domestic firms out of business…No economic study has ever found a connection in the long run between the total number of jobs available and the level of tariff protection for domestic industries.

Source: page 264.

As Bastiat might have said: "plus ça change, plus c'est la même chose." ("The more things change, the more they stay the same.")

Helpful Study Hint

Economics in YOUR Life! "Why Haven't You Heard of the Sugar Quota?" explains why individual citizens and politicians don't care much about the sugar quota. The sugar quota costs U.S. consumers about $2 billion per year, which works out to be about $7.50 per person. The individual citizen is not likely to be informed about the quota and its effects; and, even if he was informed, it is unlikely that he would take much action for $7.50 per year. Politicians have no incentive to alter the policy as voters are unlikely to protest and the sugar industry continues to press for the quota to stay in place.

Key Terms

Absolute advantage. The ability to produce more of a good or service than competitors when using the same amount of resources.

Autarky. A situation in which a country does not trade with other countries.

Comparative advantage. The ability of an individual, a firm, or a country to produce a good or service at a lower opportunity cost than competitors.

Dumping. Selling a product for a price below its cost of production.

Exports. Goods and services produced domestically but sold to other countries.

External economies. Reductions in a firm's costs that result from an increase in the size of an industry.

Foreign direct investment. The purchase or building by a domestic firm of a facility in a foreign country.

Foregin portfolio investment. The purchase by an individual or firm of stocks or bonds issued in another country.

Free trade. Trade between countries that is without government restrictions.

Globalization. The process of countries becoming more open to foreign trade and investment.

Imports. Goods and services bought domestically but produced in other countries.

Multinational enterprise. A firm that conducts operations in more than one country**.**

Opportunity cost. The highest-valued alternative that must be given up to engage in an activity.

Protectionism. The use of trade barriers to shield domestic firms from foreign competition.

Quota. A numerical limit imposed by a government on the quantity of a good that can be imported into the country.

Tariff. A tax imposed by a government on imports.

Terms of trade. The ratio at which a country can trade its exports for its imports from other countries.

Voluntary export restraint (VER). An agreement negotiated between two countries that places a numerical limit on the quantity of a good that can be imported by one country from the other country.

World Trade Organization (WTO). An international organization that enforces international trade agreements.

Appendix

Multinational Firms (pages 277-282)

LEARNING OBJECTIVE: Understand why firms operate in more than one country.

Multinational Firms

Multinational enterprises are firms that conduct operations in more than one country. Two innovations made it possible for firms to coordinate operations on several continents. The first was the completion of the transatlantic cable in 1866, which made possible instant communication by telegraph between the United States and Europe. The second was the development of more efficient steam engines, which reduced the cost and increased the speed of long ocean voyages.

Foreign direct investment is the purchase or building by a domestic firm of a facility in a foreign country. **Foreign portfolio investment** is the purchase by an individual or firm of stocks or bonds issued in another country. In the early 20th century, most U.S. firms expanded abroad through foreign direct investment because the stock and bond markets in other countries were often too poorly developed to make foreign portfolio investment practical.

Today, most large U.S. corporations have established facilities overseas because they expect to increase their profitability by doing so. Firms might expect to increase their profits though overseas operations for five reasons:

1. To avoid tariffs or the threat of tariffs.
2. To gain access to raw materials.
3. To gain access to low-cost labor.
4. To minimize exchange-rate risk.
5. To respond to industry competition.

Most newly established U.S. firms begin by selling only in the United States. If successful, they will begin to export, using foreign firms to market and distribute their products. If firms' exporting efforts are successful, they may establish their own overseas marketing and distribution networks. Finally, the firms will establish their own production facilities in foreign countries.

Firms face costs from expanding into foreign markets that differ from the costs of operating in domestic markets. One problem is that tastes differ between consumers in foreign and domestic markets. Products that are popular in one country may not be as popular in another country because of cultural differences or foreign government restrictions.

U.S. firms possess certain competitive advantages when operating in foreign countries. Some firms, such as Coca-Cola and McDonald's, have strong name recognition. Some firms possess a significant technological edge over foreign rivals and other firms have developed efficient, low-cost production methods. Some firms have proven to be better at designing and rapidly bringing to market new products than their foreign competitors.

Helpful Study Hint

Many people believe that when U.S. firms locate production facilities in other countries the level of employment and wages in the U.S. decline. ***Making the Connection*** "Have Multinational Corporations Reduced Employment and Lowered Wages in the United States?" explains that wages of U.S. workers are determined by their productivity. Competition from low-wage workers in other countries has little impact on the wages of U.S. workers. Because in the U.S. economy about 31 million jobs are created and 29 million jobs disappear every year, workers who lose jobs at one firm, whether due to foreign competition or some other factor, can eventually find jobs at other firms with, on average, little effect on the workers' wages.

Key Terms – Appendix

Foreign direct investment. The purchase or building by a domestic firm of a facility in a foreign country.

Foreign portfolio investment. The purchase by an individual or firm of stocks or bonds issued in another country.

Multinational enterprises. Firms that conduct operations in more than one country.

Self-Test

(Answers are provided at the end of the Self-Test.)

Multiple-Choice Questions

1. The sugar quota in the United States creates winners and losers. Which of these groups end up being a winner?
   a. U.S. producers of sugar
   b. U.S. companies that use sugar
   c. U.S. consumers
   d. All of the above

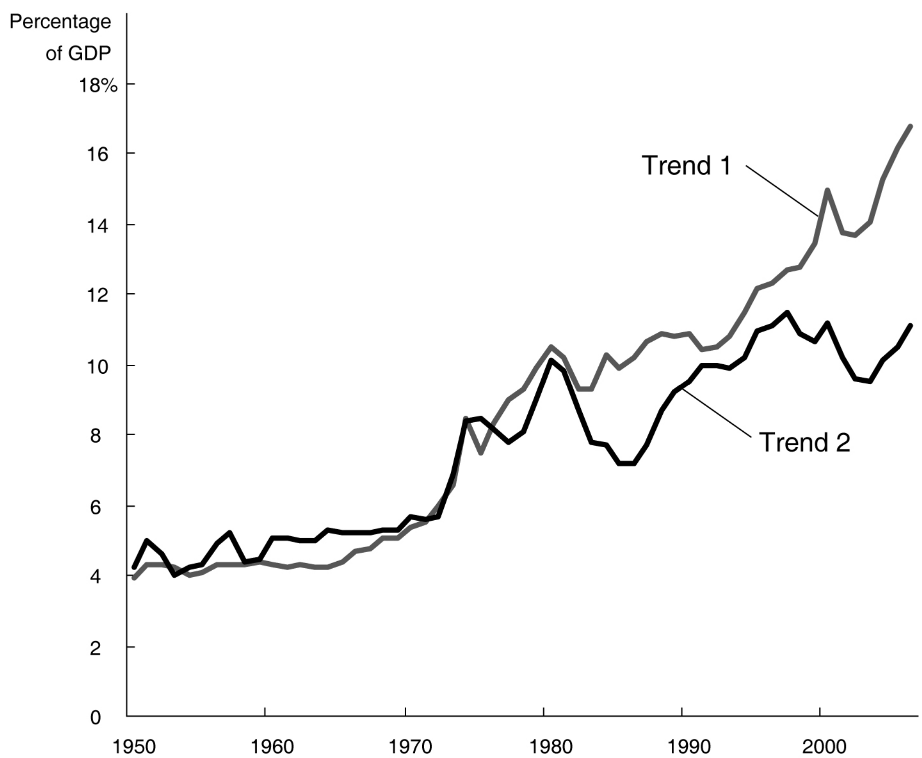
2. Which of the following has contributed to forming a global marketplace?
   a. The falling costs of shipping
   b. Cheaper and more reliable communications and the Internet
   c. Fast, cheap, and reliable air transportation
   d. All of the above

3. Over the past 50 years, what has happened to tariff rates?
   a. Tariff rates have risen
   b. Tariff rates have fallen
   c. Tariff rates have remained the same
   d. Tariffs rates have fluctuated up and down

4. Goods and services produced domestically, but sold to other countries are called
   a. imports.
   b. exports.
   c. tariffs.
   d. net exports.

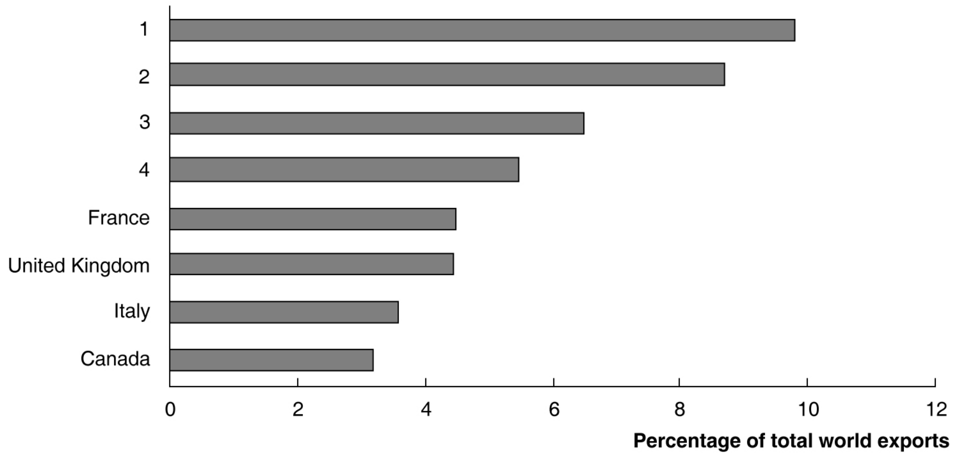
5. Which of the following is true about the importance of trade in the U.S. economy?
   a. Exports and imports have steadily declined as a fraction of U.S. GDP.
   b. While exports and imports have been steadily rising as a fraction of GDP, not all sectors of the U.S. economy have been affected equally by international trade.
   c. Only a few U.S. manufacturing industries depend on trade.
   d. All of the above

6. Refer to the graph below. The figure is a representation of the pattern of U.S. international trade. Which trend line shows exports?



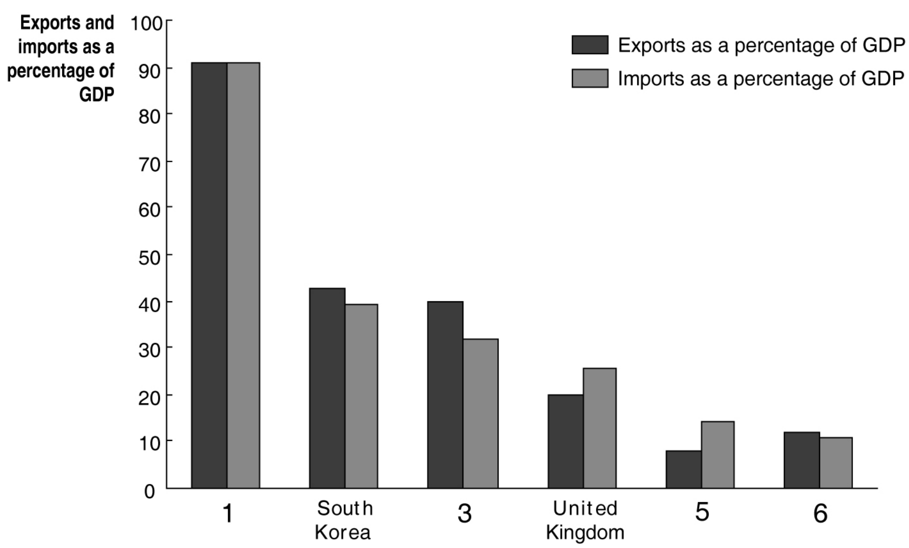
   a. Trend 1
   b. Trend 2
   c. Both lines show exports.
   d. Both lines show imports.

7. Refer to the bar graph below. The graph shows the eight leading exporting countries. The values are the shares of total world exports of merchandise and commercial services. In which of the four positions does the United States come in?



a. 1
b. 2
c. 3
d. 4

8. Refer to the bar graph below. The graph shows the importance of international trade to several countries. In which position does the United States come in?



a. Position 1
b. Position 3
c. Position 5
d. Position 6

9. Select the answer that best fits the story in "Making the Connection: How Expanding International Trade Has Helped Boeing."
   a. Outsourcing has played a significant role in the slow employment growth in the United States.
   b. The production and use of the Boeing 747 has increased due to international trade.
   c. Boeing has moved production of the 747 to Korea to reduce costs.
   d. The increase in international trade has reduced the number of jobs in Boeing factories.

10. If a country has a *comparative advantage* in the production of a good, then that country
    a. also has an absolute advantage in producing that good.
    b. should allow another country to specialize in the production of that good.
    c. has a lower opportunity cost in the production of that good.
    d. All of the above

11. You and your neighbor pick apples and cherries. If you can pick apples at a lower opportunity cost than your neighbor can, which of the following is true?
    a. You have a comparative advantage in picking apples.
    b. Your neighbor is better off specializing in picking cherries.
    c. You can then trade some of your apples for some of your neighbor's cherries and both of you will end up with more of both fruit.
    d. All of the above

12. What is *absolute advantage*?
    a. The ability of an individual, firm, or country to produce more of a good or service than competitors using the same amount of resources.
    b. The ability of an individual, firm, or country to produce a good or service at a lower opportunity cost than other producers.
    c. The ability of an individual, firm, or country to consume more goods or services than others at lower costs.
    d. The ability of an individual, firm, or country to reach a higher production possibilities frontier by lowering opportunity costs.

13. Fill in the blanks. Countries gain from specializing in producing goods in which they have a(n) ___________ advantage and trading for goods in which other countries have a(n) _____________ advantage.
    a. absolute; absolute
    b. absolute; comparative
    c. comparative; absolute
    d. comparative; comparative

14. This case is similar to the one in Solved Problem 8-3. Consider the table below. The table shows the quantity of two goods that a worker can produce per day in a given country. Which country has an *absolute advantage*?

Output per day of work		
	Food	Clothing
Country A	6	3
Country B	1	2

a. Country A has an absolute advantage in the production of both goods.
b. Country B has an absolute advantage in the production of both goods.
c. Both countries have an absolute advantage in the production of both goods.
d. Neither country has an absolute advantage in the production of either good.

15. This case is similar to the one in Solved Problem 8-3. Consider the table below. Which country has a *comparative advantage*?

Output per day of work		
	Food	Clothing
Country A	6	3
Country B	1	2

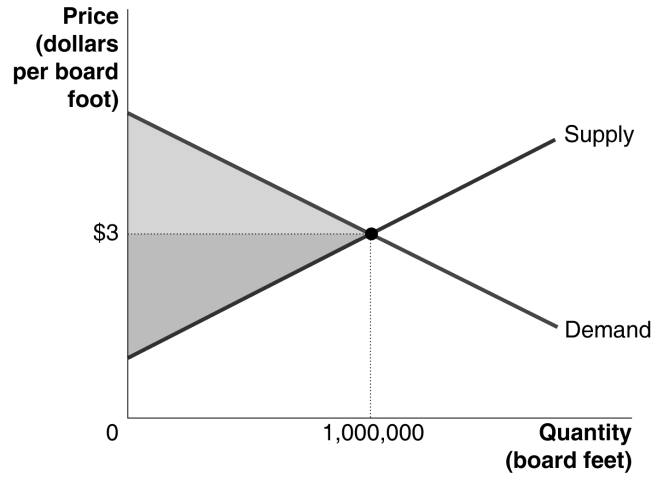
a. Country A has a comparative advantage in the production of both goods.
b. Country B has a comparative advantage in the production of both goods.
c. Country A has a comparative advantage in the production of food.
d. Country B has a comparative advantage in the production of food.

16. In the real world, specialization is not complete. Why do countries not completely specialize?
a. Because not all goods are traded internationally
b. Because production of most goods involves increasing opportunity costs
c. Because tastes for products differ
d. All of the above

17. Which of the following is a source of comparative advantage?
a. Autarky
b. Absolute advantage
c. The relative abundance of capital and labor
d. All of the above

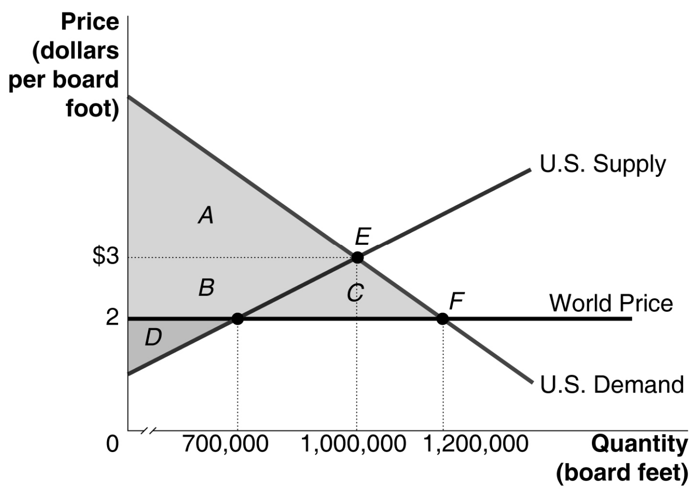
18. The term *external economies* refers to
a. the process of turning inputs into goods and services.
b. the reduction of production costs due to increased capacity utilization.
c. the reduction of costs resulting from increases in the size of an industry in a given area.
d. the benefits an industry derives from other industries located nearby.

19. Refer to the graph below. What does the light grey area represent?



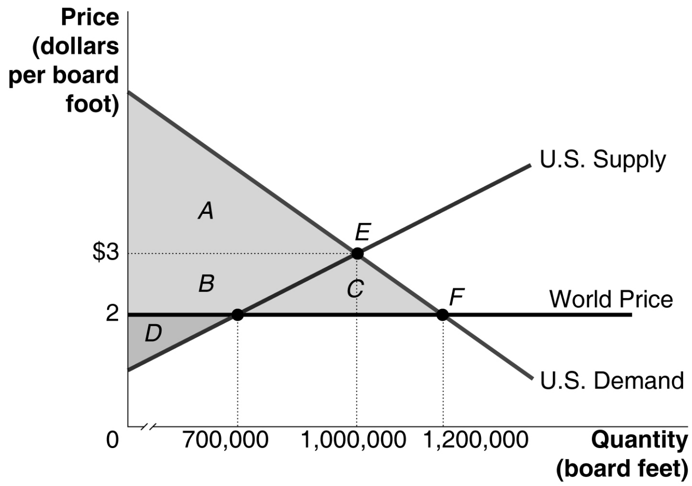
a. Autarky
b. Consumer surplus
c. Producer surplus
d. Economic surplus

20. Refer to the graph below. Under autarky, which area represents consumer surplus?



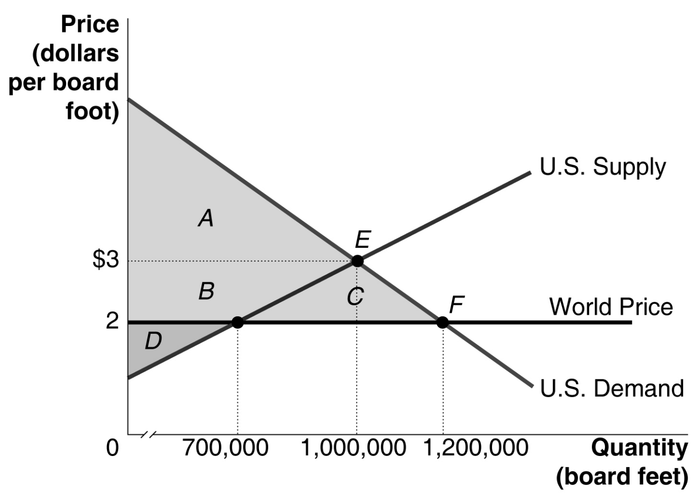
a. *A*
b. *A* + *B*
c. *A* + *B* + *C*
d. *C* only

21. Refer to the graph below. Under autarky, which area represents the total economic surplus?



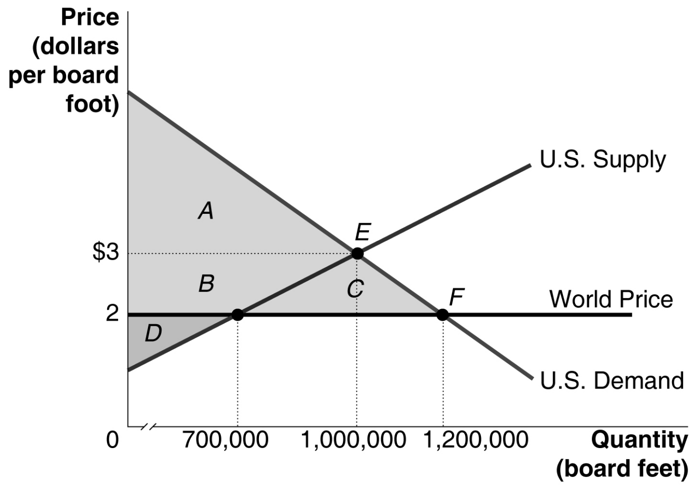
a. *A*
b. *A* + *B*
c. *A* + *B* + *C*
d. *A* + *B* + *D*

22. Refer to the graph below. How many board feet of lumber are imported when imports are allowed into the United States?



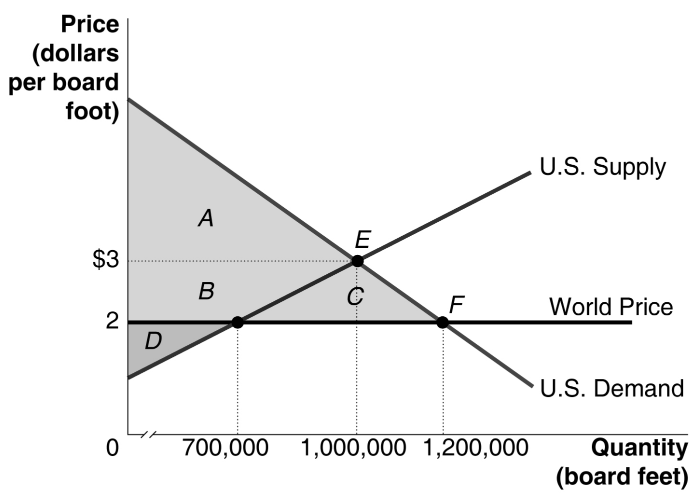
a. 1,000,000
b. 500,000
c. 700,000
d. 1,200,000

23. Refer to the graph below. Which situation results in higher domestic producer surplus?



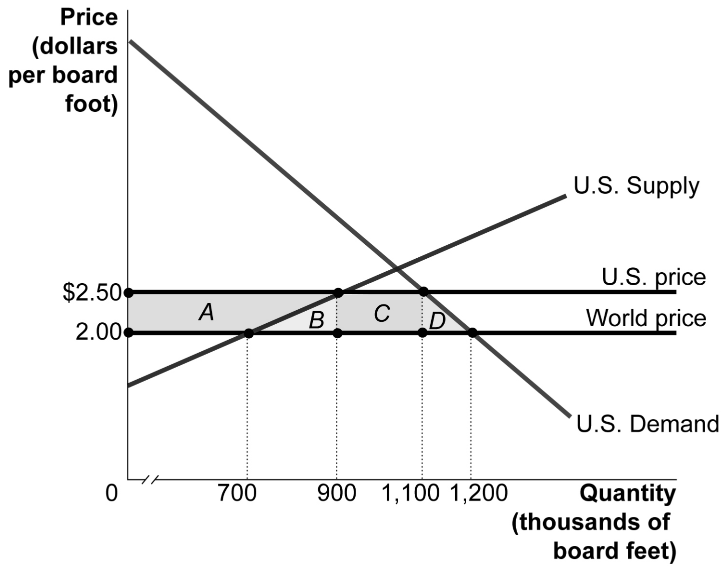
a. Autarky
b. The economy with imports
c. Both autarky and the economy with imports result in the same amount of producer surplus.
d. Any situation other than autarky or imports

24. Refer to the graph below. Which area represents the net benefit from opening the economy to imports?



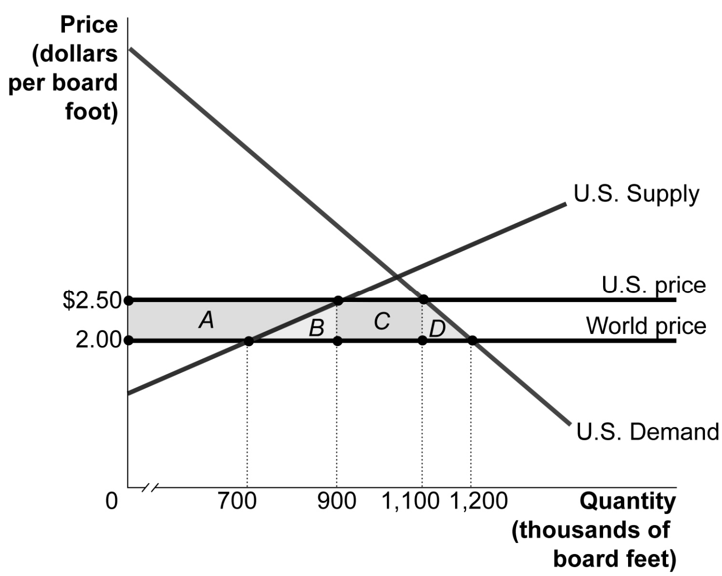
a. Area *A*
b. Area *B* + *C*
c. Area *C*
d. Area *D*

25. Refer to the graph below. The figure shows the effect of a $0.50 per board foot tariff on lumber. Which area represents the deadweight loss from this tariff?



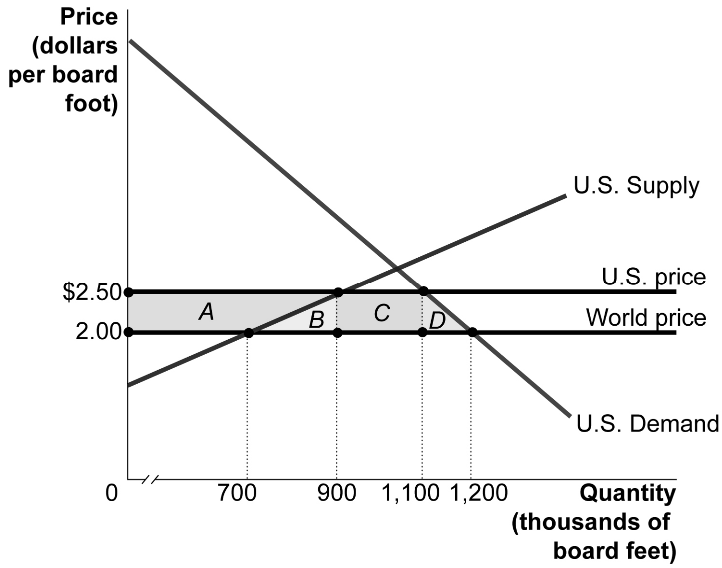
a. *A*
b. *C*
c. *B* + *D*
d. *B* + *C* + *D*

26. Refer to the graph below. The graph shows the effect of a $0.50 per board foot tariff on lumber. What is the quantity of lumber supplied (in thousands of board feet) by domestic producers after the tariff?



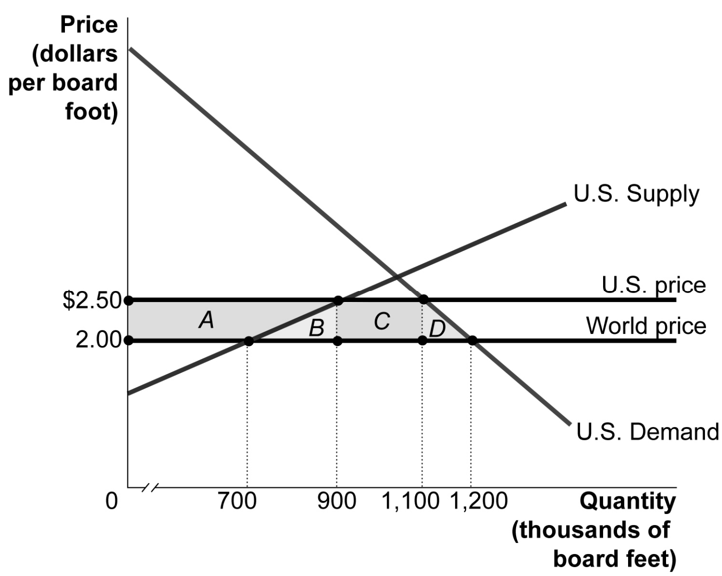
a. 700
b. 900
c. 1,100
d. 1,200

27. Refer to the graph below. The graph shows the effect of a \$0.50 per board foot tariff on lumber. What is the reduction in U.S. lumber consumption (in thousands of board feet) as a result of the tariff?



a. 100
b. 200
c. 300
d. 500

28. Refer to the graph below. The graph shows the effect of a \$0.50 per board foot tariff on lumber. Which area represents the revenue collected by government from the tariff?



a. *A* + *B* + *C* + *D*
b. *B* + *D*
c. *C*
d. *A*

29. What is a *quota*?
    a. A quota is a numerical limit on the quantity of a good that can be imported.
    b. A quota is an agreement negotiated between two countries that places a numerical limit on the quantity of a good that can be imported by one country from the other country.
    c. A quota is the same thing as a voluntary export restraint.
    d. All of the above

30. What is a *voluntary export restraint*?
    a. A numerical limit on the quantity of a good that can be imported
    b. An agreement negotiated between two countries that places a numerical limit on the quantity of a good that can be imported by one country from the other country
    c. A quota imposed by the WTO
    d. The same as a tariff

31. In countries like the United States and Japan, the cost of saving jobs through trade barriers such as tariffs and quotas is
    a. very low in both countries.
    b. very high in both countries.
    c. high for the United States but small for Japan.
    d. low for the United States but high for Japan.

32. Which of the following acronyms applies to the international trade agreement that covers services and intellectual property as well as goods?
    a. GATT
    b. WTO
    c. NTB
    d. NAFTA

33. Which of the following are characteristics of the process of globalization that began in the 1980s?
    a. An increase in tariffs and restrictions on foreign trade and investment
    b. An increase in tariffs and elimination of restrictions on foreign trade and investment
    c. A decrease in tariffs and opening to foreign trade and investment
    d. A decrease in tariffs and restrictions on foreign trade and investment

34. Which of the following groups of people are significant sources of opposition to the WTO?
    a. People who want to protect domestic firms
    b. People who believe that low-income countries gain at the expense of high-income countries
    c. People who favor globalization
    d. All of the above

35. The opponents of globalization contend that
    a. globalization destroys cultures.
    b. globalization causes factories to relocate from low-income to high-income countries.
    c. globalization means that workers in poor countries lose jobs.
    d. All of the above

36. The use of trade barriers to shield domestic companies from foreign competition is called
    a. protectionism.
    b. dumping.
    c. dlobalization.
    d. patriotism.

37. Which of the following arguments is used to justify protectionism?
    a. Tariffs and quotas save jobs.
    b. Tariffs and quotas protect national security.
    c. Tariffs and quotas protect infant industries.
    d. All of the above

38. Which of the following statements about NAFTA is correct?
    a. NAFTA resulted in reduced consumption for the countries involved.
    b. NAFTA led to an overall loss of jobs.
    c. NAFTA reduced wages for both U.S. and Mexican workers.
    d. None of the above

39. What is the name given to the sale of a product for a price below its cost of production?
    a. Bargain pricing
    b. Cut-throat pricing
    c. Grim-trigger pricing
    d. Dumping

40. Which of the following is an example of positive economic analysis?
    a. Measuring the impact of the sugar quota on the U.S. economy.
    b. Asserting that the sugar quota is bad public policy and should be eliminated.
    c. Justifying the profits of U.S. sugar companies based on the number of workers they employ.
    d. All of the above

Short Answer Questions

1. The textbook notes that: "The effect of a quota is very similar to the effect of a tariff." If the effects are similar, why would a nation impose a quota rather than a tariff on an imported good?

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2. Tables 8-5 and 8-6 list the high cost of trade restrictions to consumers in the United States and Japan for each job saved in several product markets. Because the number of jobs saved is much smaller than the number of consumers who must pay high prices to save these jobs, why do the governments of the United States and Japan maintain these trade restrictions?

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3. Comparative advantage is used to explain why nations export products that they can produce at a lower opportunity cost than other nations. How, then, can one explain why the United States both exports and imports automobiles?

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4. David Ricardo's explanation of comparative advantage is considered to be one of the most important contributions to the history of economic thought. Why is comparative advantage so important?

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5. The World Trade Organization (WTO) allows member nations to impose tariffs on imported products if dumping can be demonstrated. Why is it difficult to prove accusations of dumping?

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True/False Questions

T F 1. As a percentage of GDP, U.S. imports and exports have both decreased during the past 20 years.
T F 2. Demand for the Boeing 747 has increased due to international trade.
T F 3. Although imports and exports are a small fraction of GDP in the United States, they are a much larger fraction of the GDP for smaller nations such as Japan.
T F 4. One reason why countries do not specialize completely in production is that not all goods and services are traded internationally.

T F 5. Although United States firms were able to produce consumer electronics goods more cheaply and with higher quality than Japanese firms in the 1970s and 1980s, Japanese firms used superior process technology to move ahead of U.S. firms by 2005.

T F 6. Firms in Dalton, Georgia developed a comparative advantage in carpet-making because of external economies.

T F 7. Between 1994, when the North American Free Trade Agreement (NAFTA) went into effect, and 2007, the number of jobs in the U.S. declined by 21 million. Some of this decrease was due to NAFTA.

T F 8. Barriers to international trade include health and safety requirements that are more strictly imposed on imported goods than goods produced by domestic firms.

T F 9. The Smoot-Hawley Tariff of 1930 lowered average tariff rates in the U.S. by about 50 percent.

T F 10. One reason why countries do not specialize completely in production is that complete specialization requires countries to have an absolute advantage in the products they produce.

T F 11. Although countries gain from international trade, some individuals are harmed, including some workers who lose their jobs.

T F 12. The terms of trade refers to the length of trade agreements (for example, NAFTA) signed by officials from countries that are parties to these agreements.

T F 13. Each year the United States exports about 50 percent of its wheat crop.

T F 14. Germany is the leading exporting country, accounting for about 10 percent of total world exports.

T F 15. A tariff imposed on imports of textiles will raise the price of textiles in the importing country and create a deadweight loss in the domestic textile market.

Answers to the Self-Test

Multiple-Choice Questions

Question	Answer	Explanation
1	a	The sugar quota creates winners—U.S. sugar companies and their employees—and losers—U.S. companies that use sugar, their employees, and U.S. consumers who must pay higher prices for goods that contain sugar.
2	d	Improvements in transportation and communications have created a global marketplace.
3	b	Tariff rates have fallen. In the 1930s, the United States charged an average tariff rate above 50 percent. Today, the rate is less than 2 percent.
4	b	Imports are goods and services bought domestically but produced in other countries. Exports are goods and services produced domestically, but sold to other countries.
5	b	Not all sectors of the U.S. economy have been affected equally by international trade.
6	b	Exports have been less than imports since 1982.
7	a	The United States is the leading exporting country, accounting for about 10 percent of total world exports.
8	c	International trade is less important to the United States than to most other countries, with the significant exception of Japan.
9	b	Boeing received a significant increase in demand for the 747 to transport air freight.
10	c	The country with a lower opportunity cost of production has a comparative advantage in the production of that good.
11	d	If you can pick apples at a lower opportunity cost than your neighbor can, you have a comparative advantage in picking apples. Your neighbor is better off specializing

		in picking cherries, and you are better off specializing in picking apples. You can then trade some of your apples for some of your neighbor's cherries and both of you will end up with more of both fruit.
12	a	Absolute advantage is the ability of an individual, firm, or country to produce more of a good or service than competitors using the same amount of resources.
13	d	Countries gain from specializing in producing goods in which they have a comparative advantage and trading for goods in which other countries have a comparative advantage.
14	a	Country A can produce more food and more clothing in one day than Country B.
15	c	A worker in Country A can produce 6 times as many units of food as a worker in Country B, but only 1.5 as many units of clothing. Country A is more efficient in producing food than clothing relative to Country B.
16	d	The three reasons above are the explanations given in the textbook.
17	c	The main sources are: climate and natural resources, the relative abundance of labor and capital, technology, and external economies.
18	c	The advantages include the availability of skilled workers, the opportunity to interact with other companies in the same industry, and being close to suppliers. These advantages result in lower costs to firms located in the area. Because these lower costs result from increases in the size of the industry in an area, economists refer to them as external economies.
19	b	The light grey area represents consumer surplus and the dark grey area represents producer surplus.
20	a	Autarky refers to equilibrium without trade. Area A is consumer surplus when price equals domestic price, or $3 per board foot.
21	d	The total economic surplus is the area between the demand and supply curves out to the domestic equilibrium.
22	b	Imports will equal 500,000 board feet, which is the difference between U.S. consumption and U.S. production at the world price.
23	a	The area of surplus under autarky is B + D.
24	c	Area C is additional consumer surplus that did not exist under autarky.
25	c	The areas B and D represent deadweight loss.
26	b	After the tariff is imposed, the quantity supplied domestically is 900 board feet, at a price of $2.50.
27	a	At a price (before tariff) of $2.00, U.S. consumption is 1,200. After the tariff is imposed, U.S. consumption falls to 1,100, so the decrease is 100.
28	c	Government revenue equals the tariff multiplied by the number of board feet imported, or $0.50 x (1,100,000 – 900,000) = $0.50 x 200,000 = $100,000.
29	a	A quota is a numerical limit on the quantity of a good that can be imported, and it has an effect similar to a tariff. Government revenue equals the tariff multiplied by the number of board feet imported, or $0.50 x (1,100,000 – 900,000 = $0.50 x 200,000 = $100,000).
30	b	That is a voluntary export restraint.
31	b	Tables 8-5 and 8-6 show how expensive it is to save jobs in each country.
32	b	In the 1940s, most international trade was in goods, and the GATT agreement covered only goods. In the following decades, trade in services and in products incorporating intellectual property, such as software programs and movies grew in importance. Many GATT members pressed for a new agreement that would cover services and intellectual property, as well as goods. A new agreement was negotiated, and in January 1995, the World Trade Organization (WTO), headquartered in Geneva, Switzerland, replaced the GATT.

33	c	During the years immediately after World War II, many developing countries erected high tariffs and restricted investment by foreign companies. When these policies failed to produce much economic growth, many of these countries decided during the 1980s to become more open to foreign trade and investment. This process became known as globalization.
34	a	The WTO favors the opening of trade and opposes most trade restrictions.
35	a	Some believe that free trade and foreign investment destroy the distinctive cultures of many countries.
36	a	Protectionism is the use of trade barriers to shield domestic companies from foreign competition.
37	d	According to the textbook, all of the reasons above, in addition to protecting high wages, are in support of protectionism.
38	d	The results of NAFTA were the precise opposite of those listed.
39	d	Dumping is selling a product for a price below its cost of production. The results of NAFTA were the precise opposite of those listed.
40	a	Positive economics concerns "what is." Measuring the impact of the sugar quota on the U.S. economy is an example of positive analysis.

Short Answer Responses

1. Quotas may be used to restrict trade when there are legal and political obstacles to raising tariffs. Quotas may also be used when there is a desire to limit imports by a specified amount. It is difficult to know the impact of a tariff rate on the amount of imports before the tariff is imposed.

2. Because the benefits are concentrated among relatively few workers, these workers and their employers have strong incentives to lobby for trade restrictions. Although many consumers are negatively affected, the impact is widely spread so that no individual has a strong incentive to lobby for the removal of the trade restrictions.

3. Real markets are more complex than the simple models used to explain comparative advantage. Automobiles are not standardized products that all look and perform in exactly the same way. One reason why the United States imports automobiles from some nations (for example, Japan) is that these nations specialize in producing the types of automobiles that appeal to certain consumers (consumers who desired relatively small fuel-efficient cars). The United States exports different types of automobiles that may appeal to consumers with different tastes in automobiles (for example, SUVs).

4. Comparative advantage explains why domestic and international trade is mutually beneficial under very general conditions, even when one of the parties to a trade has an absolute advantage in both traded goods. Nobel Laureate Paul Samuelson commented on a conversation he had with a mathematician who asked him to "name me one proposition in all of the social sciences which is both true and non-trivial." After much thought, Samuelson provided this response: comparative advantage. "That it is logically true need not be argued before a mathematician; that it is not trivial is attested by the thousands of important intelligent men who have never been able to grasp the doctrine for themselves or to believe it after it was explained to them."

Source: P.A. Samuelson, "The Way of an Economist," in *International Economic Relations: Proceedings of the Third Congress of the International Economic Association*. Macmillan: London, pp. 1-11.

5. Dumping (selling a good below its cost of production) is difficult to prove for two main reasons. First, it can be difficult to measure the true cost of production for firms from countries different from the country where the dumping allegedly occurred. Second, what is dumping to a firm harmed by the practice may be normal business practice to the firm that does the selling.

True/False Answers

1. F U.S. imports and exports have both increases as a fraction of GDP.
2. T See Making the Connection "How Expanding International Trade Has Helped Boeing."
3. F Although the ratio of exports and imports to GDP is greater in some nations that are smaller than the U.S., the ratio for Japan is smaller.
4. T Since not all goods are traded internationally, countries will have to produce some goods domestically to satisfy the demands of the domestic consumers.
5. F Japanese firms were producing consumer electronics goods more cheaply and with higher quality than U.S. firms in the 1970s and 1980s. U.S. firms used superior process technology to move ahead of Japanese firms by 2005.
6. T See Making the Connection "Why is Dalton, Georgia, the Carpet-Making Capital of the World?"
7. F The number of jobs *increased* by about 21 million during this time period.
8. T
9. F The Smoot-Hawley Tariff raised average tariffs rates to more than 50 percent.
10. F You need not have an absolute advantage in any good in order to specialize and gain from trade.
11. T There are winners and losers in international trade and the workers who work in the industry that competes with the imported goods often lose their jobs.
12. F Terms of trade refers to the ratio at which goods trade between two countries.
13. T See page 244.
14. F The United States is the leading export country.
15. T