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Part

International Economics and the World Economy

CHAPTER 16: International Trade

CHAPTER 17: Exchange Rates and the Balance of Payments

INTERNET CHAPTER 2: The Developing Economies

INTERNET CHAPTER 3: Transitional Economies: Russia and China

16

Chapter

International Trade

IN THIS CHAPTER YOU WILL LEARN:

- 16.1** Some key facts about Canada's international trade.
- 16.2** About specialization and comparative advantage.
- 16.3** About supply and demand analysis of exports and imports.
- 16.4** About trade barriers and their negative effects on nations' economic well-being.
- 16.5** The usual arguments against trade.
- 16.6** The role played by the World Trade Organization (WTO) in promoting international trade.

The WTO, trade deficits, dumping. Exchange rates, the EU, the G7 nations. The IMF, official reserves, currency interventions. Capital flight, special economic zones, the ruble. This is the language of international economics, the subject of Part Five. To understand the increasingly integrated world economy, we need to learn more about this language and the ideas that it conveys.

International trade and the global economy affect all of us daily, whether we are hiking in the wilderness, driving our cars, listening to music, or working at our jobs. We cannot “leave the world behind.” We are enmeshed in a global web of economic relationships—trading of goods and services, multinational corporations, cooperative ventures among the world’s firms, and ties among the world’s financial markets. That web is so complex that it is difficult to determine just what is—or isn’t—a Canadian product. A Finnish company owns Wilson sporting goods; a Swiss company owns Gerber baby food; and a British corporation owns Burger King. The Toyota Corolla sedan is manufactured in Canada. Many “Canadian” products are made with components from abroad, and, conversely, many “foreign” products contain numerous Canadian-produced parts.

In this chapter we build on Chapter 4 by providing both a deeper analysis of the benefits of international trade and a fuller appraisal of the arguments for protectionism. Then in Chapter 17 we examine exchange rates and the balance of payments. An Internet-only chapter looks at the special problems of developing economies, and another Internet-only chapter focusses on the transition economies of Russia and China.

16.1 Canada and International Linkages



www.oecd.org/eco/out/ao.htm
OECD Economic Outlook

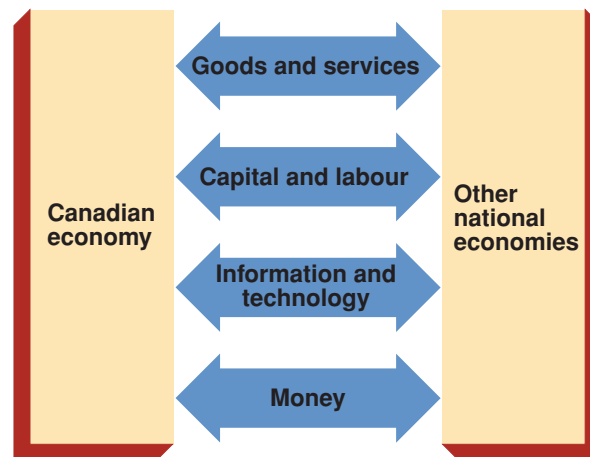
Several economic flows link the Canadian economy and the economies of other nations. As identified in Figure 16-1, these flows are:

- **Goods and services flows** or simply **trade flows** Canada exports goods and services to other nations and imports goods and services from them.
- **Capital and labour flows** or simply **resource flows** Canadian firms establish production facilities—new capital—in foreign countries and foreign firms establish production facilities in Canada. Labour also moves between nations. Each year many foreigners immigrate to Canada and some Canadians move to other nations.
- **Information and technology flows** Canada transmits information to other nations about Canadian products, price, interest rates, and investment opportunities and receives such information from abroad. Firms in other countries use technology created in Canada and Canadian businesses incorporate technology developed abroad.

FIGURE 16-1

International Linkages

The Canadian economy is intertwined with other national economies through goods and service flows (trade flows), capital and labour flows (resource flows), information and technology flows, and financial flows.



- **Financial flows** Money is transferred between Canada and other countries for several purposes; for example, paying for imports, buying foreign assets, paying interest on debt, and providing foreign aid. More will be said about financial flows in Chapter 17.

Canadian International Trade: Volume and Pattern

Global Perspective 16.1 suggests the importance of world trade for selected countries. Canada, with a limited domestic market, cannot efficiently produce the variety of goods its citizens want. So we must import goods from other nations. That, in turn, means that we must export, or sell abroad, some of our own products. For Canada, exports make up about 40 percent of our gross domestic output (GDP)—the market value of all goods and services produced in an economy. Other countries, the United States, for example, have a large internal market. Although the total volume of trade is huge in the United States, it constitutes a much smaller percentage of GDP than in a number of other nations.

VOLUME

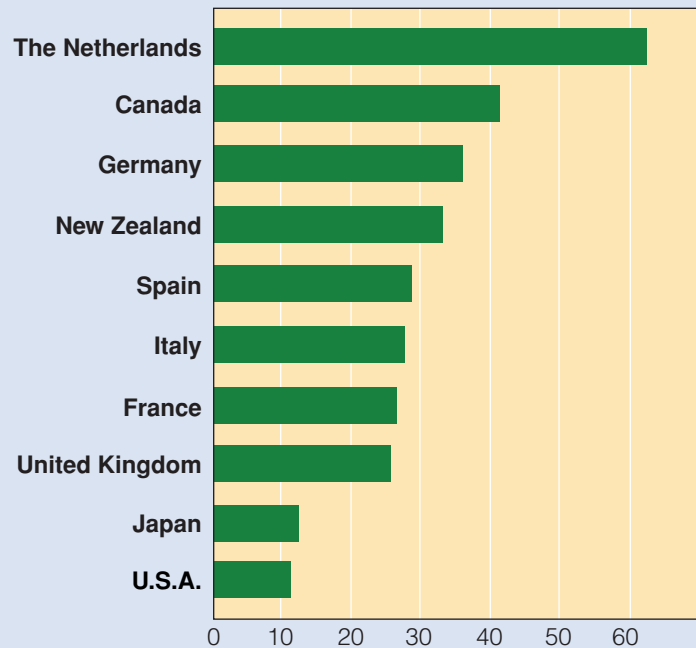
For Canada and for the world as a whole the volume of international trade has been increasing both absolutely and relative to their GDPs. A comparison of the boxed data in Figure 16-2 reveals substantial growth in the dollar amount of Canadian exports and imports over the past several decades. The graph shows the growth of Canadian exports and imports of goods and services as percentages of GDP. Canadian exports and imports currently are approximately 40 percent of GDP, about double their percentages in 1971.



Global Perspective 16.1

Exports of goods and services as a percentage of GDP, selected countries, 2002

Canada's exports make up about 40 percent of domestic output of goods and services.



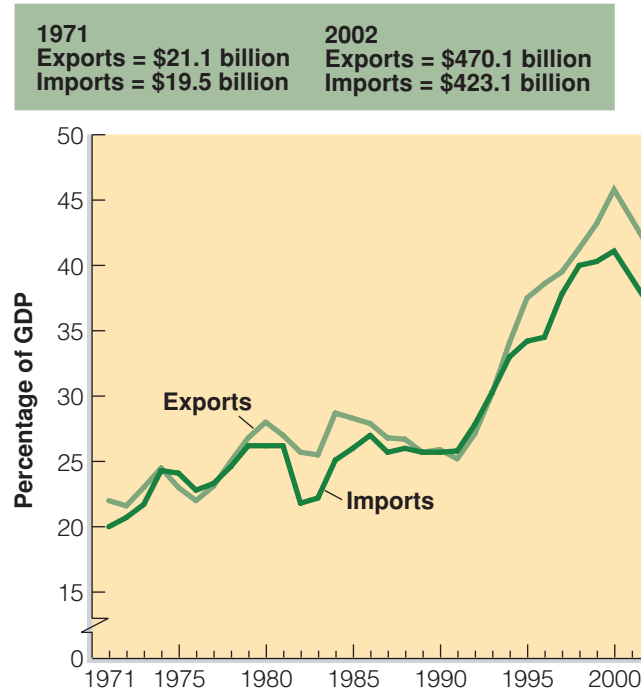
Source: IMF, International Financial Statistics, 2002

FIGURE 16-2**Canadian Trade As Percentage of GDP**

Canadian imports and exports of goods and services have increased in volume and have doubled as a percentage of GDP since 1971.

Source: Statistics Canada, CANSIM, series D15458 and D15471.

Visit www.mcgrawhill.ca/college/mcconnell for data update.

**DEPENDENCE**

Canada is almost entirely dependent on other countries for bananas, cocoa, coffee, spices, tea, raw silk, nickel, tin, natural rubber, and diamonds. Imported goods compete with Canadian goods in many of our domestic markets: Japanese cars, French and American wines, and Swiss and Austrian snow skis are a few examples.

Of course, world trade is a two-way street. Many Canadian industries rely on foreign markets. Almost all segments of Canadian agriculture rely on sales abroad; for example, exports of wheat, corn, and tobacco vary from one-fourth to more than one-half of the total output of those crops. The Canadian computer, chemical, aircraft, automobile, and machine tool industries, among many others, sell significant portions of their output in international markets. Table 16-1 shows some of the major Canadian exports and imports.

TRADE PATTERNS

The following facts will give you an overview of international trade:

- Canada had a *trade surplus* in goods in 2002. Canadian exports of goods exceeded Canadian imports of goods by \$47 billion.
- Canada had a *trade deficit* in services (such as accounting services and financial services) in 2002. Canadian imports of services exceeded export of services by \$7.2 billion.
- Canada imports some of the same categories of goods that it exports, specifically, automobiles products and machinery and equipment (see Table 16-2). This type of trade is called intra-industry trade.

TABLE

16-1

Principal Canadian Exports and Imports of Goods, 2002

Exports	% of Total	Imports	% of Total
Machinery and equipment	24	Machinery and equipment	29
Automotive products	23	Automotive products	23
Industrial goods and materials	17	Industrial goods and materials	21
Forestry products	9	Consumer goods	13
Energy products	12	Agricultural and fishing products	6
Agricultural and fishing products	7	Energy products	5

Source: Statistics Canada.

Visit www.mcgrawhill.ca/college/mcconnell for data update.

STAT

- As Table 16-2 implies, Canada's export and import trade is mainly with other industrially advanced nations, not with developing countries. (Although data in this table are for *goods* only, the same general pattern applies to *services*).
- The United States is Canada's most important trading partner quantitatively. In 2002, 84 percent of Canadian exported goods were sold to Americans, who in turn provided 72 percent of Canada's imports of goods (see Table 16-2).

Rapid Trade Growth

Several factors have propelled the rapid growth of international trade since World War II.

TRANSPORTATION TECHNOLOGY

High transportation costs are a barrier to any type of trade, particularly among traders who are distant from one another. But improvements in transportation have shrunk the globe and have fostered world trade. Airplanes now transport low-weight, high-value items such as diamonds and semiconductors swiftly from one nation to another. We now routinely transport oil in massive tankers, significantly lowering the cost of transportation per barrel. Grain is loaded onto ocean-going ships at modern, efficient grain silos at Great Lakes and coastal ports. Natural gas flows through large-diameter pipelines from exporting to importing countries—for instance, from Russia to Germany and from Canada to the United States.

TABLE

16-2

Canadian Exports and Imports of Goods by Area, 2002

Exports to	Percentage of total	Imports from	Percentage of total
United States	86	United States	74
European Union	5	European Union	9
Japan	3	Japan	3
Other countries	6	Other countries	14

Source: Statistics Canada.

Visit www.mcgrawhill.ca/college/mcconnell for data update.

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COMMUNICATIONS TECHNOLOGY

Dramatic improvements in communications technology have also advanced world trade. Computers, the Internet, telephones, and fax machines now directly link traders around the world, enabling exporters to assess overseas markets and to carry out trade deals. A distributor in Vancouver can get a price quote on 1000 woven baskets in Thailand as quickly as a quote on 1000 notebook computers in Ontario.

GENERAL DECLINE IN TARIFFS

Tariffs are excise taxes (duties) on imported products. They have had their ups and downs over the years, but

since 1940 they have generally fallen. A glance ahead to Figure 16-9 shows that Canadian tariffs as a percentage of imports are now about 5 percent, down from over 40 percent in 1940. Many nations still maintain barriers to free trade, but, on average, tariffs have fallen significantly, thus increasing international trade.

Participants in International Trade

All the nations of the world participate to some extent in international trade.

NORTH AMERICA, JAPAN, AND WESTERN EUROPE

As Global Perspective 16.2 indicates, the top participants in world trade by total volume are the United States, Germany, and Japan. In 2002 those three nations had combined exports of \$1.6 trillion. Along with Germany, other Western European nations such as France, Britain, and Italy are major exporters and importers. Canada is the world's sixth largest exporter. Canada, the United States, Japan, and the Western European nations also form the heart of the world's financial systems and provide headquarters for most of the world's largest **multinational corporations**—firms that have sizable production and distribution activities in other countries. Examples of such firms are Unilever (Netherlands), Nestlé (Switzerland), Coca-Cola (United States), Bayer Chemicals (Germany), Mitsubishi (Japan), and Nortel (Canada).

multinational corporation

A firm that owns production facilities in multiple countries and produces and sells its product abroad.

NEW PARTICIPANTS

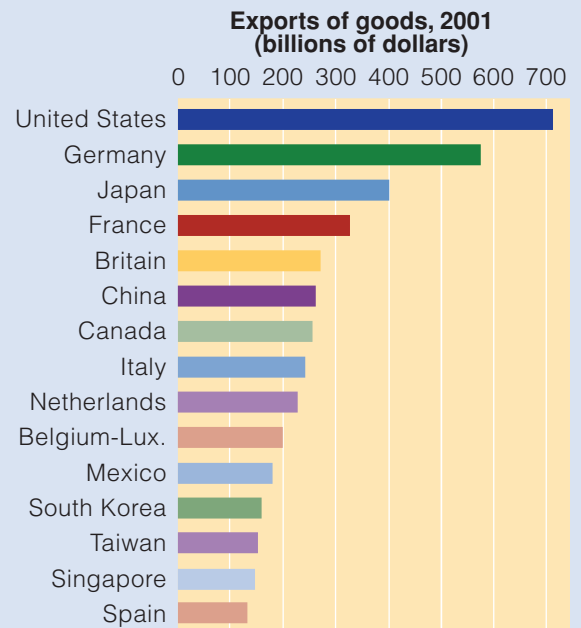
Important new participants have arrived on the world trade scene. One group is made up of the newly industrializing Asian economies of Hong Kong (now part of China), Singapore, South Korea, and Taiwan. Although these Asian economies experienced economic difficulties in the 1990s, they have expanded their share of world exports from about 3 percent in 1972 to more than 10 percent



Global Perspective 16.2

Comparative exports

The United States, Germany, and Japan are the world's largest exporters. Canada ranks seventh.



Source: World Trade Organization, <www.wto.org>.

today. Together, they export about as much as either Germany or Japan and much more than France, Britain, or Italy. Other economies in southeast Asia, particularly Malaysia and Indonesia, also have expanded their international trade.

China, with its increasing reliance on the market system, is an emerging major trader. Since initiating market reforms in 1978, its annual growth of output has averaged 9 percent (compared with 2 to 3 percent annually over that period in Canada). At this remarkable rate, China's total output nearly doubles every eight years! An upsurge of exports and imports has accompanied that expansion of output. In 1989, Chinese exports and imports were each about \$50 billion. In 2002, each topped \$230 billion, with about a third of China's exports going to Canada and the United States.

The collapse of communism in Eastern Europe and the former Soviet Union in the early 1990s altered world trade patterns. Before that collapse, the Eastern European nations of Poland, Hungary, Czechoslovakia, and East Germany traded mainly with the Soviet Union and such political allies as North Korea and Cuba. Today, East Germany is reunited with West Germany, and Poland, Hungary, and the Czech Republic have established new trade relationships with Western Europe, Canada, and the United States.

Russia itself has initiated far-reaching market reforms, including widespread privatization of industry, and has major trade deals with firms around the globe. Although its transition to capitalism has been far from smooth, Russia may one day be a major trading nation. Other former Soviet republics—now independent nations—such as Estonia and Azerbaijan also have opened their economies to international trade and finance.

QUICK REVIEW

- There are four main categories of economic flows linking nations: goods and services flows, capital and labour flows, information and technology flows, and financial flows.
- World trade has increased globally and nationally. In terms of volume, Canada is the world's seventh largest international trader. With exports and imports of about 40 percent of GDP, Canada is more dependent on international trade than most other nations.
- Advances in transportation and communications technology and declines in tariffs have all helped expand world trade.
- North America, Japan, and the Western European nations dominate world trade. Recent new traders are the Asian economies of Singapore, South Korea, Taiwan, and China (including Hong Kong), the Eastern European nations, and the former Soviet states.

16.2 The Economic Basis for Trade



Specialization and Trade

In Chapter 4 we found that international trade enables nations to specialize their production, improve their resource productivity, and acquire more goods and services. Nations, like individuals and the regions of a nation, can gain by specializing in those products they can produce with greatest relative efficiency and trading them for those goods they cannot produce as efficiently. A more complete answer to the question “Why do nations trade?” hinges on three facts:

- The distribution of natural, human, and capital resources among nations is uneven; nations differ in their endowments of economic resources.
- Efficient production of various goods requires different technologies or combinations of resources.
- Products are differentiated as to quality and other non-price attributes. Some people may prefer certain imported goods to similar goods made domestically.

To recognize the character and interaction of these three facts, think of Japan, for example, which has a large and well-educated labour force, and therefore relatively inexpensive skilled labour. As a

labour-intensive goods

Products that require a relatively large amount of labour to produce.

land-intensive goods

Products that require a relatively large amount of land to produce.

capital-intensive goods

Products that require a relatively large amount of capital to produce.



All nations, regardless of their labour, land, or capital intensity, can find special niches for products that are in demand worldwide.

result, Japan can produce efficiently (at low cost) a variety of **labour-intensive goods** such as cameras, portable CD players, video game players, and video recorders, the design and production of which require much skilled labour.

In contrast, Australia has vast amounts of land and can inexpensively produce such **land-intensive goods** as wheat, wool, and meat. Brazil has the soil, tropical climate, rainfall, and the ready supply of unskilled labour that are needed for the efficient, low-cost production of coffee.

Industrially advanced economies with relatively large amounts of capital can produce inexpensively those goods that require much capital to produce, including such **capital-intensive goods** as automobiles, agricultural equipment, machinery, and chemicals.

All nations, regardless of their labour, land, or capital intensity, can find special niches for individual products that are in demand worldwide because of their special qualities. Examples: fashions from Italy, luxury automobiles from Germany, software from the United States, watches from Switzerland, and ice wine from Canada.

As national economies evolve, the size and quality of their labour forces may change, the volume and composition of their capital stocks may shift, new technologies may develop, and even the quality of land and the quantity of natural resources may be altered. As such changes occur, the relative efficiency with which a nation can produce specific goods will also change. For example, in the past few decades South Korea has upgraded the quality of its labour force and has greatly expanded its stock of capital. Although South Korea was primarily an exporter of agricultural products and raw materials a half-century ago, it now exports large quantities of manufactured goods.

Specialization and Comparative Advantage

Let's now use the concept of comparative advantage to analyze the basis for international specialization and trade.

The Basic Principle

The central concept underlying comparative advantage can be illustrated by posing a problem. Consider the case of a chartered accountant (CA) who, we will assume, is also a skilled house painter. Suppose the CA can paint her house in less time than the professional painter she is thinking of hiring. Also suppose the CA can earn \$50 per hour doing her accounting and must pay the painter \$15 per hour. It will take the accountant 30 hours to paint her house; the painter, 40 hours. Finally, assume the CA receives no special pleasure from painting.

Should the CA take time off from her accounting to paint her own house or should she hire the painter? The CA should hire the painter. Her opportunity cost of painting her house is \$1500 (= 30 hours \times \$50 per hour of sacrificed income). The cost of hiring the painter is only \$600 (= 40 hours \times \$15 per hour paid to the painter). Although the CA is better at both accounting and painting, the CA's relative or comparative advantage lies in accounting. She will *lower her cost of getting her house painted* by specializing in accounting and using some of the proceeds to hire the house painter.

Note that the CA has an **absolute advantage** in both accounting and painting; she can do accounting and paint more efficiently than our hypothetical house painter. Despite this, the CA should hire the house painter to paint her house because of her "comparative advantage."

Similarly, the house painter can reduce his cost of obtaining accounting services by specializing in painting and using some of his income to hire the CA. Suppose it would take the painter 10 hours to prepare his income tax return, but the CA could handle this task in 2 hours. The house painter would sacrifice \$150 of income (= 10 hours \times \$15 per hour of sacrificed time) to get a task done that he could hire out for \$100 (= 2 hours \times \$50 per hour of the CA's time). By using the CA to prepare his tax return, the painter *lowers his cost of getting the tax return completed*.

What is true for our hypothetical CA and house painter is also true for two nations. Countries can reduce their cost of obtaining goods by specializing where they have comparative advantages.

With this simple example in mind, let's turn to an international trade model to acquire an understanding of the gains from international specialization and trade.

absolute advantage

When a region or nation can produce more of good Z and good Y with less resources compared to other regions or nations.

Two Isolated Nations

Suppose the world economy has just two nations, Canada and Brazil. Each can produce both steel and soybeans, but at differing levels of economic efficiency. Suppose Canadian and Brazilian domestic production possibilities curves for soybeans and steel are as shown in Figure 16-3a and b. Note especially two characteristics of these production possibilities curves:

- **Constant Costs** The “curves” are drawn as straight lines, in contrast to the concave-from-the-origin production possibilities frontiers introduced in Chapter 2. This means the law of increasing costs has been replaced with the assumption of constant costs. This substitution simplifies our discussion but does not change our analysis and conclusions. Later we will consider the effect of the more realistic increasing costs.
- **Different costs** The production possibilities curves of Canada and Brazil are different, reflecting different resource mixes and differing levels of technological progress. Specifically, they tell us that the opportunity costs of producing steel and soybeans differ between the two nations.

CANADA



In Figure 16-3a, with full employment, Canada will operate on its production possibilities curve. On that curve, it can increase its output of steel from 0 to 30 tonnes by forgoing an output of 30 tonnes of soybeans. This means the slope of the production possibilities curve is -1 ($= -30$ soybeans/ $+30$ steel), implying that 1 tonne of steel can be obtained for every tonne of soybeans sacrificed. In Canada the domestic exchange ratio or **cost ratio** for the two products is 1 tonne of steel for 1 tonne of soybeans, or

$$1S_t = 1S_{oy}$$

Canada can internally “exchange” a tonne of steel for a tonne of soybeans. Our constant-cost assumption means this exchange or opportunity cost equation prevails for all possible moves from one point to another along Canada’s production possibilities curve.

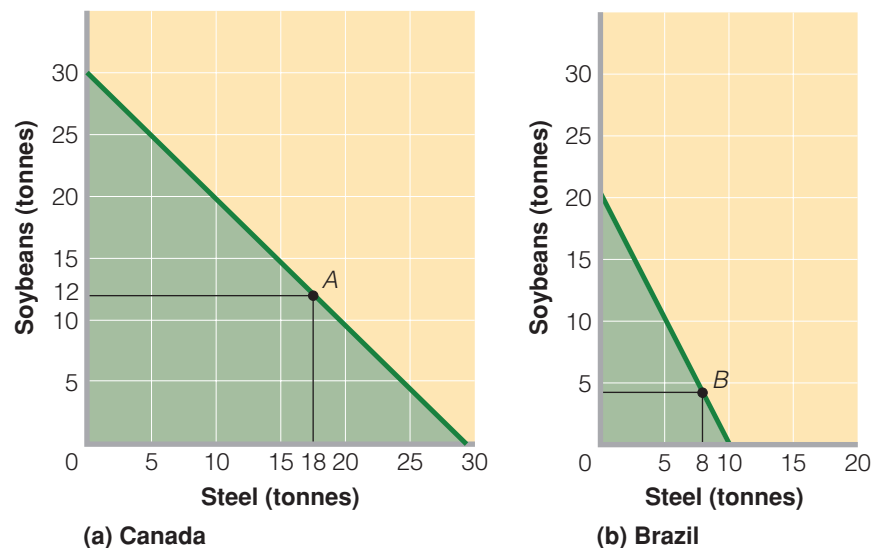
cost ratio

An equality showing the number of units of two products that can be produced with the same resources.

FIGURE 16-3

Production Possibilities Curve

The two production possibilities lines show the amounts of soybeans and steel (a) Canada and (b) Brazil can produce domestically. The curves for both countries are straight lines because we are assuming constant costs. The different cost ratios, 1 steel = 1 soybean for Canada, and 1 steel = 2 soybeans for Brazil are reflected in the different slopes of the two lines.



BRAZIL

Brazil's production possibilities curve in Figure 16-3b represents a different opportunity cost ratio. In Brazil 20 tonnes of soybeans must be given up to get 10 tonnes of steel. The slope of the production possibilities curve is -2 ($= -20$ soybeans/ $+10$ steel). This means that in Brazil the domestic cost ratio for the two goods is 1 tonne of steel for 2 tonnes of soybeans, or

$$1S_t = 2S_{oy}$$

SELF-SUFFICIENCY OUTPUT MIX

If Canada and Brazil were self-sufficient, each must choose some output mix on its production possibilities curve. Assume point *A* in Figure 16-3a is the optimal output mix in Canada. The choice of this combination of 18 tonnes of steel and 12 tonnes of soybeans equates the marginal benefit and marginal cost of both goods. Suppose Brazil's optimal product mix is 8 tonnes of steel and 4 tonnes of soybeans, indicated by point *B* in Figure 16-3b. These choices are reflected in column 1, Table 16-3.

Specialization Based on Comparative Advantage

We can determine the product in which Canada and Brazil should specialize as follows: The principle of **comparative advantage** says that total output will be greatest when each good is produced by that nation that has the lowest domestic opportunity cost for that good. In our two-nation illustration, Canada's domestic opportunity cost is lower for steel. Canada need only forgo 1 tonne of soybeans to produce 1 tonne of steel, whereas Brazil must forgo 2 tonnes of soybeans for 1 tonne of steel. Canada has a comparative (cost) advantage in steel and should specialize in steel production. The "world" (that is, Canada and Brazil) is not economizing in the use of its resources if a high-cost producer (Brazil) produced a specific product (steel) when a low-cost producer (Canada) could have produced it. To have Brazil produce steel would mean that the world economy would have to give up more soybeans than is necessary to obtain a tonne of steel.

Brazil has the lower domestic opportunity cost for soybeans; it must sacrifice only $\frac{1}{2}$ tonne of steel in producing 1 tonne of soybeans, whereas Canada must forgo 1 tonne of steel in producing a tonne of soybeans. Brazil has a comparative advantage in soybeans and should specialize in soybean production. Economizing requires that any particular good be produced by the nation with the lower domestic opportunity cost, or a comparative advantage. Canada should produce steel and Brazil soybeans. Note that this conclusion holds even though Canada has an absolute advantage in both steel and soybeans.

In column 2 of Table 16-3 we verify that specialization allows the world to get more output from fixed amounts of resources. By specializing completely in steel, Canada can produce 30 tonnes of steel and no soybeans; Brazil, by specializing completely in soybeans, produces 20 tonnes of soybeans and no steel. The world ends up with 4 more tonnes of steel (30 tonnes, compared with 26) and 4 more tonnes of soybeans (20 tonnes, compared with 16) than where there is self-sufficiency or unspecialized production.

comparative advantage
When a region or nation can produce a good at a lower domestic opportunity cost compared to a potential trading partner.

TABLE 16-3**International Specialization According to Comparative Advantage and the Gains from Trade (in Tonnes)**

Country	(1) Outputs before specialization	(2) Outputs after specialization	(3) Amounts exported (-) and imported (+)	(4) Outputs available after trade	(5) Gains from specialization and trade (4) - (1)
Canada	18 steel 12 soybeans	30 steel 0 soybeans	-10 steel +15 soybeans	20 steel 15 soybeans	2 steel 3 soybeans
Brazil	8 steel 4 soybeans	0 steel 20 soybeans	+10 steel -15 soybeans	10 steel 5 soybeans	2 steel 1 soybeans
Total output	42	50		50	8

Terms of Trade

But consumers of each nation want *both* steel and soybeans. They can have both if the two nations trade or exchange the two products. But what will be the *terms of trade*? At what exchange ratio will Canada and Brazil trade steel and soybeans?

Because $1S_t = 1S_{oy}$ in Canada, Canada must get *more than* 1 tonne of soybeans for each tonne of steel exported or it will not benefit Canada to export steel in exchange for Brazilian soybeans. Canada must get a better “price” (more soybeans) for its steel in the world market than it can get domestically, or there is no gain from trade and it will not occur.

Similarly, because $1S_t = 2S_{oy}$ in Brazil, Brazil must get 1 tonne of steel by exporting some amount *less than* 2 tonnes of soybeans. Brazil must pay a lower “price” for steel in the world market than it must pay domestically, or it will not want to trade. The international exchange ratio or *terms of trade* must lie somewhere between

$$1S_t = 1S_{oy} \text{ (Canada's cost conditions)}$$

and

$$1S_t = 2S_{oy} \text{ (Brazil's cost conditions)}$$

But where between these limits will the world exchange ratio fall? Canada will prefer a ratio close to $1S_t = 2S_{oy}$, say, $1S_t = 1\frac{3}{4} S_{oy}$. Canada wants to get as much soybeans as possible for each tonne of steel it exports. Similarly, Brazil wants a rate near $1S_t = 1S_{oy}$, say $1S_t = 1\frac{1}{4} S_{oy}$. Brazil wants to export as little soybeans as possible for each tonne of steel it receives in exchange. The exchange ratio or terms of trade determines how the gains from international specialization and trade are divided between the two nations.

The actual exchange ratio depends primarily on world supply and demand for the two products, but also the relative competitiveness of world markets for soybeans and steel. If overall world demand for soybeans is weak relative to its supply and the demand for steel is strong relative to its supply, the price of soybeans will be lower and the price of steel higher. The exchange ratio will settle nearer the $1S_t = 2S_{oy}$ figure Canada prefers. If overall world demand for soybeans is great relative to its supply and if the demand for steel is weak relative to its supply, the ratio will settle nearer the $1S_t = 1S_{oy}$ level favourable to Brazil. (We will take up the topic of equilibrium world prices later in this chapter.)

Gains from Trade

Suppose the international exchange ratio or terms of trade is $1S_t = 1\frac{1}{2} S_{oy}$. The possibility of trading on these terms permits each nation to supplement its domestic production possibilities line with a **trading possibilities line**. This can be seen in **Figure 16-4 (Key Graph)**. Just as a production possibilities line shows the amount of these products a full-employment economy can obtain by shifting resources from one to the other, a trading possibilities line shows the amounts of two products a nation can obtain by specializing in one product and trading for another. The trading possibilities lines in Figure 16-4 reflect the assumption that both nations specialize based on comparative advantage: Canada specializes completely in steel (point *W* in Figure 16-4a) and Brazil completely in soybeans (at point *c* in Figure 16-4b).

IMPROVED OPTIONS

Now Canada is not constrained by its domestic production possibilities line, which requires it to give up 1 tonne of steel for every tonne of soybeans it wants as it moves up its domestic production possibilities line, say, from point *W*. Instead, Canada, through trade with Brazil, can get $1\frac{1}{2}$ tonnes of soybeans for every tonne of steel it exports to Brazil, so long as Brazil has soybeans to export. Trading possibility line *WC'* thus represents the $1S_t = 1\frac{1}{2} S_{oy}$ trading ratio.

Similarly, Brazil, starting at, say, point *c*, no longer has to move down its domestic production possibilities curve, giving up 2 tonnes of soybeans for each tonne of steel it wants. It can now export

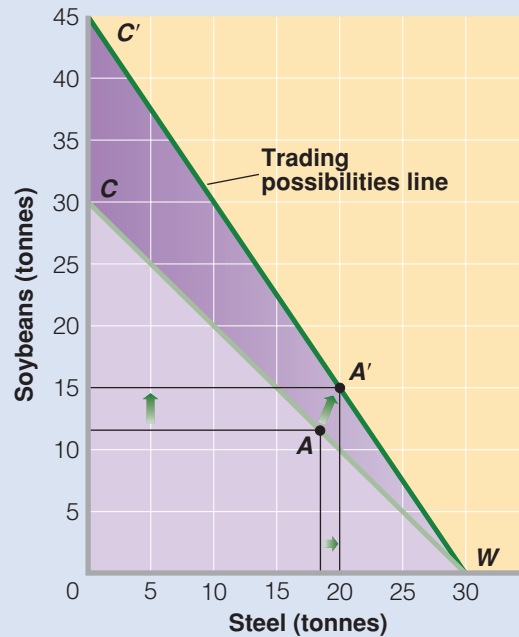
trading possibilities line
A line that shows the different combinations of two products that an economy is able to obtain when it specializes in the production of one product and exports it to obtain the other product.



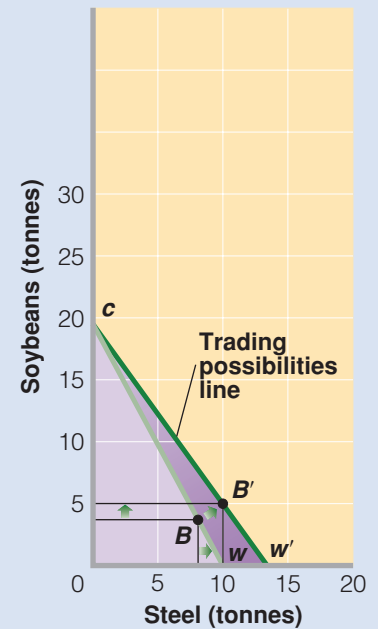
Key Graph

FIGURE 16-4 Trading Possibilities Lines and the Gains from Trade

As a result of international specialization and trade, Canada and Brazil both can have levels of output higher than those attainable on their domestic production possibilities curves. (a) Canada can move from point A on its domestic production possibilities curve to, say, A' on its trading possibilities line. (b) Brazil can move from B to B'.



(a) Canada



(b) Brazil

Quick Quiz

- The production possibilities curves in graphs (a) and (b) imply:
 - increasing domestic opportunity costs.
 - decreasing domestic opportunity costs.
 - constant domestic opportunity costs.
 - first decreasing, then increasing, domestic opportunity costs.
- Before specialization, the domestic opportunity cost of producing 1 unit of steel is:
 - 1 unit of soybeans in both Canada and Brazil.
 - 1 unit of soybeans in Canada and 2 units of soybeans in Brazil.
 - 2 units of soybeans in Canada and 1 unit of soybeans in Brazil.
 - 1 unit of soybeans in Canada and $\frac{1}{2}$ unit of soybeans in Brazil.
- After specialization and trade, the world output of steel and soybeans is:
 - 20 tonnes of steel and 20 tonnes of soybeans.
 - 45 tonnes of steel and 15 tonnes of soybeans.
 - 30 tonnes of steel and 20 tonnes of soybeans.
 - 10 tonnes of steel and 30 tonnes of soybeans.
- After specialization and international trade:
 - Canada can obtain units of soybeans at less cost than before trade.
 - Brazil can obtain more than 20 tonnes of soybeans, if it so chooses.
 - Canada no longer has a comparative advantage in producing steel.
 - Brazil can benefit by prohibiting soybean imports from Canada.

ANSWERS: 1. c 2. b 3. c 4. d

just $1\frac{1}{2}$ tonnes of soybeans for each tonne of steel it wants by moving down its trading possibilities line cw' .

Specialization and trade create a new exchange ratio between steel and soybeans, reflected in a nation's trading possibilities line. This exchange ratio is superior for both nations to the self-sufficiency exchange ratio embodied in the production possibilities line of each. By specializing in steel and trading for Brazil's soybeans, Canada can obtain more than 1 tonne of soybeans for 1 tonne of steel. By specializing in soybeans and trading for Canada's steel, Brazil can get 1 tonne of steel for less than 2 tonnes of soybeans. In both cases, self-sufficiency is undesirable.



Specialization according to comparative advantage results in more efficient allocation of world resources.

gains from trade

The extra output that trading partners obtain through specialization of production and exchange of goods and services.

ADDED OUTPUT

By specializing according to comparative advantage and trading for those goods produced in other nations with greater domestic efficiency, Canada and Brazil can realize combinations of steel and soybeans beyond their production possibilities boundaries. *Specialization according to comparative advantage results in a more efficient allocation of world resources, and larger outputs of both steel and soybeans are therefore available to both nations.*

Suppose that at the $1S_t = 1\frac{1}{2} S_{oy}$ terms of trade, Canada exports 10 tonnes of steel to Brazil and in return Brazil exports 15 tonnes of soybeans to Canada. How do the new quantities of steel and soybeans available to the two nations compare with the optimal product mixes that existed before specialization and trade? Point A in Figure 16-4a reminds us that Canada chose 18 tonnes of steel and 12 tonnes of soybeans originally. But, by producing 30 tonnes of steel and no soybeans, and by trading 10 tonnes of steel for 15 tonnes of soybeans, Canada can obtain 20 tonnes of steel and 15 tonnes of soybeans. This new, superior combination of steel and soybeans is shown by point A' in Figure 16-4a. Compared with the non-trading figures of 18 tonnes of steel and 12 tonnes of soybeans, Canada's **gains from trade** are 2 tonnes of steel and 3 tonnes of soybeans.

Similarly, recall that Brazil's optimal product mix was 4 tonnes of soybeans and 8 tonnes of steel (point B) before specialization and trade. Now, by specializing in soybeans and trading—producing 20 tonnes of soybeans and no steel and exporting 15 tonnes of its soybeans in exchange for 10 tonnes of Canadian steel—Brazil can have 5 tonnes of soybeans and 10 tonnes of steel. This new position is indicated by point B' in Figure 16-4b. Brazil's gains from trade are 1 tonne of soybeans and 2 tonnes of steel.

As a result of specialization and trade, both countries have more of both products. Table 16-3, which summarizes the transaction and outcomes, merits careful study.

The fact that points A' and B' are positions superior to A and B is enormously important. We know that a nation can expand its production possibilities boundary by (1) expanding the quantity and improving the quality of its resources or (2) realizing technological progress. We have now established that international trade can enable a nation to get around the output constraint imposed by its production possibilities curve. The effects of international specialization and trade are the equivalent of having more and better resources or discovering improved production techniques.

Trade with Increasing Costs

To explain the basic principles underlying international trade, we simplified our analysis in several ways. For example, we limited discussion to two products and two nations. But multiproduct/multinational analysis yields the same conclusions. We also assumed constant opportunity costs (linear production possibilities curves), which is a more substantive simplification. Let's consider the effect of allowing increasing opportunity costs (concave-from-the-origin production possibilities curves) to enter the picture.

Suppose that Canada and Brazil are initially at positions on their concave production possibilities curves where their domestic cost ratios are $1S_t = 1S_{oy}$ and $1S_t = 2S_{oy}$, as they were in our constant-cost analysis. As before, comparative advantage indicates that Canada should specialize in steel and Brazil in soybeans. But now, as Canada begins to expand steel production, its $1S_t = 1S_{oy}$

cost ratio will *fall*; it will have to sacrifice *more than* 1 tonne of soybeans to get 1 additional tonne of steel. Resources are no longer perfectly shiftable between alternative uses, as the constant-cost assumption implied. Resources less and less suited to steel production must be allocated to the Canadian steel industry in expanding steel output, and this means increasing costs—the sacrifice of larger and larger amounts of soybeans for each additional tonne of steel.

Similarly, Brazil, starting from its $1S_t = 2S_{oy}$ cost ratio position, expands soybean production. But as it does, it will find that its $1S_t = 2S_{oy}$ cost ratio begins to *rise*. Sacrificing a tonne of steel will free resources that can be used to produce something less than 2 tonnes of soybeans, because these transferred resources are less suitable to soybean production.

As the Canadian cost ratio falls from $1S_t = 1S_{oy}$ and Brazil's rises from $1S_t = 2S_{oy}$, a point will be reached at which the cost ratios are equal in the two nations, perhaps at $1S_t = 1\frac{3}{4}S_{oy}$. At this point, the underlying basis for further specialization and trade—differing cost ratios—has disappeared. Most importantly, this point of equal cost ratios may be reached where Canada is still producing *some* soybeans along with its steel and Brazil is producing some steel along with its soybeans. *The primary effect of increasing costs is to make specialization less than complete.* For this reason we often find domestically produced products competing directly against identical or similar imported products within a particular economy. (*Key Question 7*)

The Case for Free Trade Restated

The case for free trade reduces to one compelling argument. *Through free trade based on the principle of comparative advantage, the world economy can achieve a more efficient allocation of resources and a higher level of material well-being than without free trade.*

Since the resource mixes and technological knowledge of each country are somewhat different, each nation can produce particular commodities at different real costs. Each nation should produce goods for which its domestic opportunity costs are lower than the domestic opportunity costs of other nations, and exchange these specialties for products for which its domestic opportunity costs are high relative to those of other nations. If each nation does this, the world can realize the advantages of geographic and human specialization. The world and each free-trading nation can obtain a larger real income from the fixed supplies of resources available to it. Government trade barriers can reduce or eliminate gains from specialization. If nations cannot freely trade, they must shift resources from efficient (low-cost) to inefficient (high-cost) uses to satisfy their diverse wants.

One side benefit of free trade is that it promotes competition and deters monopoly. The increased competition from foreign firms forces domestic firms to adopt the lowest-cost production techniques. It also compels them to be innovative with respect to both product quality and production methods, thereby contributing to economic growth. And free trade provides consumers with a wider range of product choices. The reasons to favour free trade are the same reasons to endorse competition.

A second side-benefit of free trade is that it links national interest and breaks down national animosities. Confronted with political disagreements, trading partners tend to negotiate rather than make war.

QUICK REVIEW

- International trade has always been important to Canada, and it is becoming increasingly so.
- International trade enables nations to specialize, improve the productivity of their resources, and obtain a larger output.
- Comparative advantage means total world output will be greatest when each good is produced by that nation having the lowest domestic opportunity cost.
- Specialization is less than complete among nations because opportunity costs normally rise as any particular nation produces more of a particular good.

16.3 Supply and Demand Analysis of Exports and Imports

world price

The international market price of a good or service, determined by world demand and supply.

domestic price

The price of a good or service within a country, determined by domestic demand and supply.

Supply and demand analysis reveals how equilibrium prices and quantities of exports and imports are determined. The amount of a good or service that a nation will export or import depends on differences between equilibrium world and domestic prices. The interaction of *world* supply and demand determines **world price**, the price at which the quantities supplied and demanded are equal globally. *Domestic supply* and demand determine the equilibrium **domestic price**—the price that would prevail in a closed economy. It is a price at which domestic supply and demand are equal.

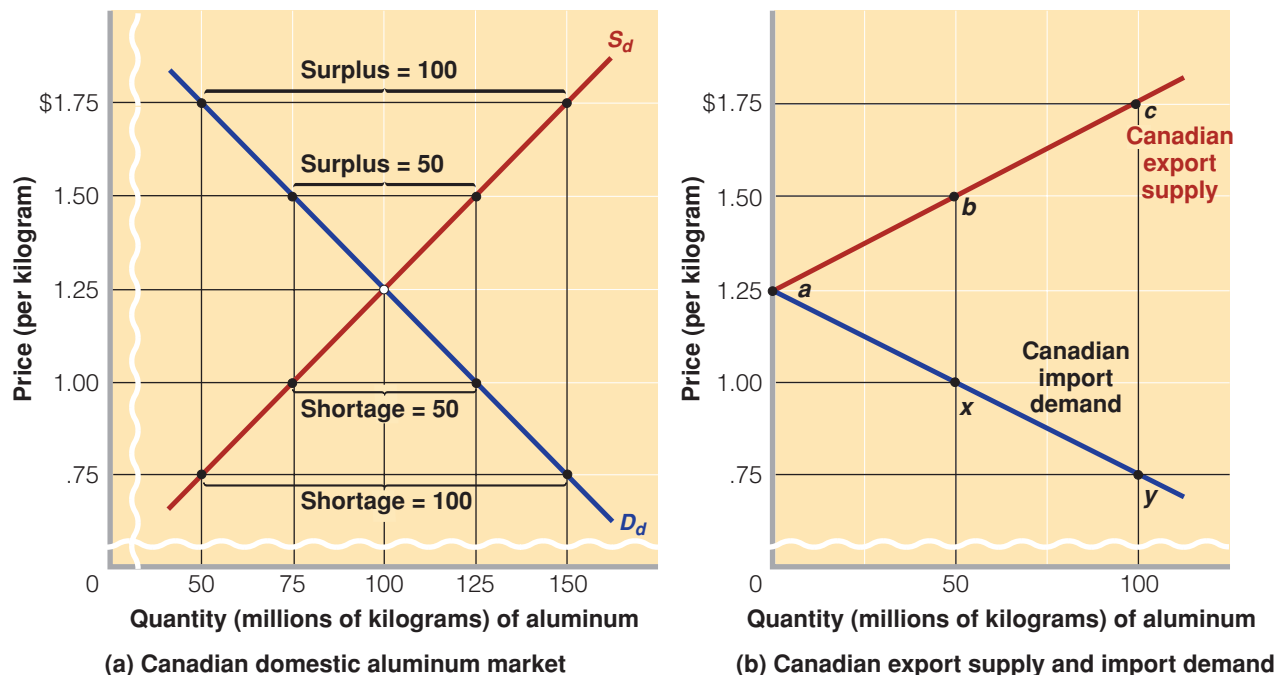
In the absence of trade, domestic prices in a closed economy may or may not equal world equilibrium prices. When economies are opened for international trade, differences between world and domestic prices motivate exports or imports. To see how, let's now look at the international effects of such price differences in a simple two-nation world consisting of Canada and the U.S., which are both producing aluminum. We assume there are no trade barriers, such as tariffs and quotas, and no international transportation costs.

Supply and Demand in Canada

Figure 16-5a shows the domestic supply curve S_d and domestic demand curve D_d for aluminum in Canada. The intersection of S_d and D_d determines the equilibrium domestic price of \$1.25 per kilogram and the equilibrium domestic quantity is 100 million kilograms. Domestic suppliers produce

FIGURE 16-5

Canadian Export Supply and Import Demand



In (a) world prices above the \$1.25 domestic price create domestic surpluses of aluminum. As shown by the export supply curve in (b), these surpluses are exported. Domestic shortages occur when the world price is below \$1.25 (a). These shortages are met by importing aluminum (b). The export supply curve shows the direct relationship between world prices and Canadian exports; the import supply curve portrays the inverse relationship between world prices and Canadian imports.

100 million kilograms and sell them at \$1.25. So there are no domestic surpluses or shortages of aluminum.

But what if the Canadian economy is opened to world trade and the *world price* of aluminum is above or below this \$1.25 domestic price?

CANADIAN EXPORT SUPPLY

If the world aluminum price exceeds \$1.25, Canadian firms will produce more than 100 million kilograms and export the excess domestic output to the rest of the world (United States). First, consider a world price of \$1.50. We see from the supply curve S_d that Canadian aluminum firms will produce 125 million kilograms of aluminum at that price. The demand curve D_d tells us that Canadians will purchase only 75 million kilograms at \$1.50. The outcome is a domestic surplus of 50 million kilograms of aluminum. Canadian producers will export these 50 million kilograms at the \$1.50 world price.

What if the world price is \$1.75? The supply curve shows that Canadian firms will produce 150 million kilograms of aluminum, while the demand curve tells us that Canadian consumers will buy only 50 million kilograms. So Canadian producers will export the domestic surplus of 100 million kilograms.

Towards the top of Figure 16-5b we plot on the horizontal scale the domestic surpluses—the Canadian exports—occurring at world prices above the \$1.25 domestic equilibrium price. When the world and domestic prices are equal ($= \$1.25$), the quantity of exports supplied is zero (point *a*). There is no surplus of domestic output to export. But when the world price is \$1.50, Canadian firms export 50 million kilograms of surplus aluminum (point *b*). At a \$1.75 world price, the domestic surplus of 100 million kilograms is exported (point *c*).

The Canadian **export supply curve**, found by connecting points such as *a*, *b*, and *c*, shows the amount of aluminum that Canadian producers will export at each world price above \$1.25. This curve *slopes upward*, revealing a direct or positive relationship between the world price and amount of Canadian exports. *As world prices increase relative to domestic prices, Canadian exports rise.*

CANADIAN IMPORT DEMAND

If the world price is below \$1.25, Canada will end up importing aluminum. Consider a \$1.00 world price. The supply curve in Figure 16-5a reveals that at that price Canadian firms will produce only 75 million kilograms of aluminum. But the demand curve shows that Canadians want to buy 125 million kilograms at that price. The result is a domestic shortage of 50 million kilograms. To satisfy that shortage, Canada will import 50 million kilograms of aluminum.

At an even lower \$.75 world price, Canadian producers will supply only 50 million kilograms. Because Canadian consumers want to buy 150 million kilograms, there is a domestic shortage of 100 million kilograms. Imports will flow to Canada to make up the difference. That is, at a \$.75 world price Canadian firms supply 50 million kilograms and 100 million kilograms will be imported.

In Figure 16-5b we plot the Canadian **import demand curve** from these data. This *downward-sloping curve* shows the amounts of aluminum that will be imported at world prices below the \$1.25 Canadian domestic price. The relationship between world prices and imports is inverse or negative. At a world price of \$1.25, domestic output will satisfy Canadian demand; imports will be zero (point *a*). But at \$1.00 Canadians will import 50 million kilograms of aluminum (point *x*); at \$.75, they will import 100 million kilograms (point *y*). Connecting points *a*, *x*, and *y* yields a *downward-sloping* Canadian import demand curve. *As world prices fall relative to domestic prices, Canadian imports increase.*

Supply and Demand in the United States

We repeat our analysis in Figure 16-6, this time for the United States. (We have converted U.S. dollar prices to Canadian dollar prices via an assumed exchange rate.) Note that the domestic supply curve S_d and demand curve D_d for aluminum in the United States yield a domestic price of \$1.00, which is \$.25 lower than the \$1.25 Canadian domestic price.

export supply curve

An upward-sloping curve that shows the amount of a product domestic firms will export at each world price that is above the domestic price.

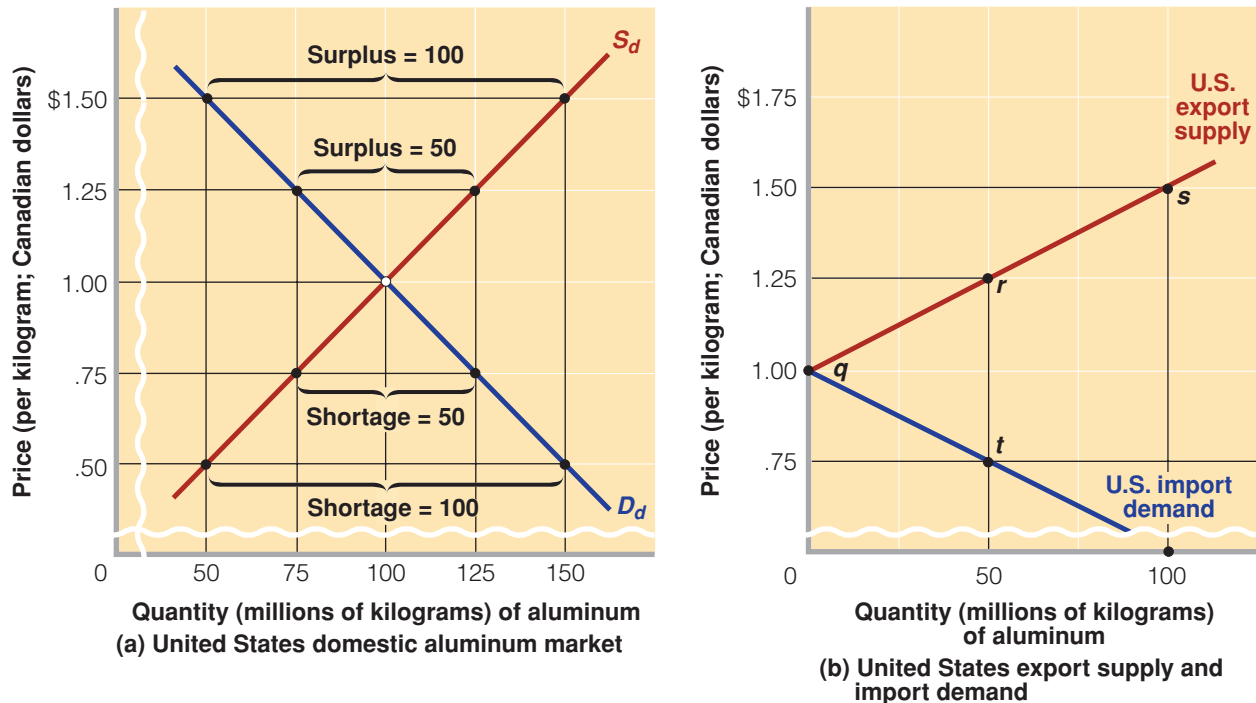
import demand curve

A downward-sloping curve that shows the amount of a product an economy will import at each world price below the domestic price.

FIGURE

16-6

U.S. Export Supply and Import Demand



In (a) domestic production of aluminum in the United States exceeds domestic consumption at all world prices above the \$1.00 domestic price. These domestic surpluses result in U.S. exports (b). When the domestic price falls below \$1.00, domestic shortages occur (a) and imports flow to the United States (b). The U.S. export supply curve and import demand curve depict these relationships.

The analysis proceeds exactly as for Canada. If the world price is \$1.00, Americans will neither export nor import aluminum (which gives us point *q* in Figure 16-6b). At world prices above \$1.00, U.S. firms will produce more aluminum than U.S. consumers will buy. The surplus will be exported. At a \$1.25 world price, Figure 16-6a tells us that the United States will export a domestic surplus of 50 million kilograms (yielding point *r*). At \$1.50 it will export a domestic surplus of 100 million kilograms (point *s*). Connecting these points yields the upward-sloping U.S. export supply curve that reflects the domestic surpluses (and thus exports) occurring when the world price exceeds the \$1.00 U.S. domestic price.

At world prices below \$1.00 domestic shortages occur in the United States. At a \$.75 world price, Figure 16-6a shows that U.S. consumers want to buy 125 million kilograms of aluminum but U.S. firms will produce only 75 million kilograms. The shortage will bring 50 million kilograms of imports to the U.S. (point *t* in Figure 16-6b). The U.S. import demand curve in that figure shows U.S. imports at world aluminum prices below the \$1.00 U.S. domestic price.

equilibrium world price

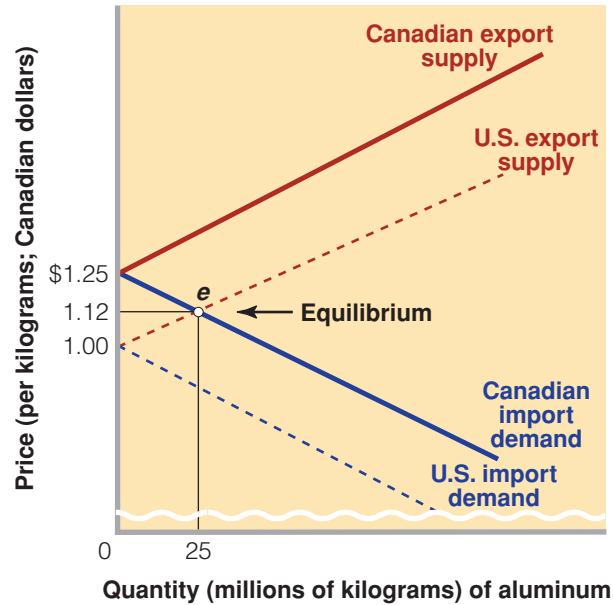
A price determined by the intersection of exporting nations' supply of a product and importing nations' demand for the same product.

Equilibrium World Price, Exports, and Imports

We now have the tools to determine the **equilibrium world price** of aluminum and the equilibrium world levels of exports and imports. Figure 16-7 combines the Canadian export supply curve

FIGURE 16-7**Equilibrium World Price and Quantity of Exports and Imports**

In a two-nation world, the equilibrium world price (= \$1.12) is determined at the intersection of one nation's export supply curve and another nation's import demand curve. This intersection also decides the equilibrium volume of exports and imports. Here, the United States exports 25 million kilograms of aluminum to Canada.



and import demand curve in Figure 16-5b and the U.S. export supply curve and import demand curve in Figure 16-6b. The two Canadian curves proceed rightward from the \$1.25 domestic price; the two U.S. curves proceed rightward from the \$1.00 U.S. domestic price.

International equilibrium occurs in this two-nation model where one nation's import demand curve intersects another nation's export supply curve. In this case Canada's import demand curve intersects America's export supply curve at *e*. There, the world price of aluminum is \$1.12. The U.S. export supply curve indicates that the United States will export 25 million kilograms of aluminum at this price. Also at this price Canada will import 25 million kilograms from the United States, indicated by the Canadian import demand curve. The \$1.12 world price equates the quantity of imports demanded and the quantity of exports supplied (= 25 million kilograms). Thus there will be world trade of 25 million kilograms of aluminum at \$1.12 per kilogram.

Note that after trade, the single \$1.12 world price will prevail in both Canada and the United States. Only one price for a standardized commodity can persist in a highly competitive market. With trade, all consumers can buy a kilogram of aluminum for \$1.12 and all producers can sell it for that price. This world price means that Americans will pay more for aluminum with trade (= \$1.12) than without it (= \$1.00). The increased American output caused by trade raises U.S. production costs and therefore the price of aluminum in the United States. Canadians, however, pay less for aluminum with trade (= \$1.12) than without it (= \$1.25). The Canadian gain comes from America's comparative cost advantage in producing aluminum.

Why would the United States willingly send 50 million kilograms of its aluminum output to Canada for consumption? After all, producing this output uses up scarce U.S. resources and drives up the price of aluminum for Americans. Americans are willing to export aluminum to Canada because Americans can gain the means—the earnings of Canadian dollars—to import other goods, say telecommunications equipment, from Canada. U.S. exports enable Americans to acquire imports that have greater value to Americans than the exported aluminum. U.S. exports to Canada finance U.S. imports from Canada. (*Key Question 9*)

16.4 Trade Barriers

tariff

A tax imposed by a nation on an imported good.

revenue tariff

A tariff designed to produce income for the federal government.

protective tariff

A tariff designed to shield domestic producers of a good or service from the competition of foreign producers.

non-tariff barrier

All restrictions other than tariffs that nations erect to impede international trade.

import quota

A limit imposed by a nation on the quantity (or total value) of a good that may be imported during some period of time.

voluntary export restraint

Voluntary limitations by countries or firms of their exports to a particular foreign nation.

No matter how compelling the case for free trade, barriers to free trade *do* exist. Let's expand our discussion of trade barriers.

Excise taxes on imported goods are called **tariffs**; they may be imposed to raise government revenue or to protect domestic firms. A **revenue tariff** is usually applied to a product that is not being produced domestically, for example, tin, coffee, or bananas in the case of Canada. Rates on revenue tariffs are modest; their purpose is to provide the federal government with revenues. A **protective tariff** is designed to shield domestic producers from foreign competition. Although protective tariffs are usually not high enough to stop the importation of foreign goods, they put foreign producers at a competitive disadvantage in selling in domestic markets.

A **non-tariff barrier** (NTB) is a licencing requirement that specifies unreasonable standards pertaining to product quality and safety, or unnecessary bureaucratic red tape that is used to restrict imports. Japan and the European countries frequently require their domestic importers of foreign goods to obtain licences. By restricting the issuance of licences, imports can be restricted. Great Britain used this barrier in the past to bar the importation of coal.

An **import quota** specifies the maximum amount of a commodity that may be imported in any period. Import quotas can more effectively retard international commerce than tariffs. A product might be imported in large quantities despite high tariffs; low import quotas completely prohibit imports once quotas have been filled.

A **voluntary export restraint** (VER) is a trade barrier by which foreign firms "voluntarily" limit the amount of their exports to a particular country. VERs, which have the effect of import quotas, are agreed to by exporters in the hope of avoiding more stringent trade barriers. Japanese auto manufacturers agreed to a VER on exports to Canada under the threat of higher Canadian tariffs or the imposition of low import quotas.

Later in this chapter we will consider the arguments and appeals that are made to justify protection.

Economic Impact of Tariffs

Once again we use supply and demand analysis to examine the economic effects of protective tariffs. Curves D_d and S_d in **Figure 16-8 (Key Graph)** show domestic demand and supply for a product in which Canada has a comparative *disadvantage*, for example, digital versatile disc (DVD) players. (Disregard $S_d + Q$ for now.) Without world trade, the domestic price and output would be P_d and q respectively.

Assume now that the domestic economy is opened to world trade and that the Japanese, who have a comparative advantage in DVD players, begin to sell them in Canada. We assume that with free trade the domestic price cannot differ from the world price, which here is P_w . At P_w domestic consumption is d and domestic production is a . The horizontal distance between the domestic supply and demand curves at P_w represents imports of ad . Thus far, our analysis is similar to the analysis of world prices in Figure 16-5.

DIRECT EFFECTS

Suppose now that Canada imposes a tariff on each imported DVD player. This will raise the domestic price from P_w to P_t and has four effects.

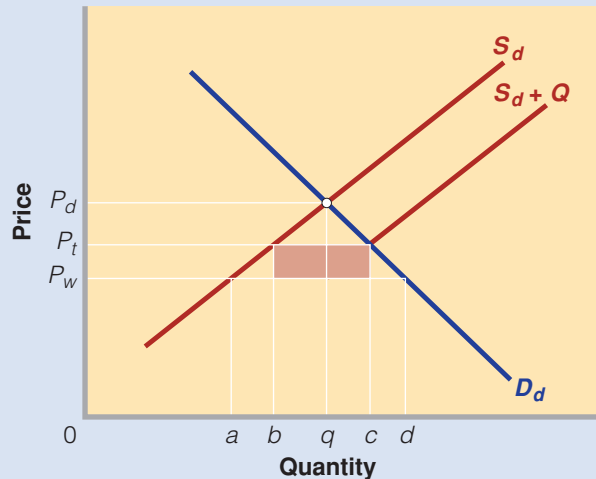
- **Decline in consumption** Consumption of DVD players in Canada will decline from d to c as the higher price moves buyers up and to the left along their demand curve. The tariff prompts consumers to buy fewer DVD players and to reallocate a portion of their expenditures to less-desired substitute products. Canadian consumers are injured by the tariff, since they pay $P_w P_t$ more for each of the c units they now buy at price P_t .
- **Increased domestic production** Canadian producers—who are *not* subject to the tariff—receive higher price P_t per unit. Because this new price is higher than the pre-tariff or world price



Key Graph

FIGURE 16-8 The Economic Effects of a Protective Tariff or an Import Quota

A tariff of $P_w P_t$ will reduce domestic consumption from d to c . Domestic producers will be able to sell more output (b rather than a) at a higher price (P_t rather than P_w). Foreign exporters are injured because they are able to sell less output (bc rather than ad) in Canada. The shaded area represents the amount of tariffs paid by Canadian consumers. An import quota of bc units will have the same effects as the tariff, with one exception: the shaded area will go to foreign producers rather than to the Canadian government.



Quick Quiz

- At world price P_w :**
 - domestic quantity demanded equals quantity supplied.
 - domestic quantity demanded is less than quantity supplied.
 - domestic quantity demanded is greater than quantity supplied.
 - domestic quantity supplied is greater than quantity demanded.
- At world prices above P_d Canada would:**
 - import.
 - export.
 - stop producing.
 - None of the above.
- A protective tariff:**
 - increases domestic production.
 - decreases domestic production.
 - does not affect domestic production.
 - decreases government revenue.
- A quota:**
 - decreases government revenue.
 - increases government revenue.
 - has no effect on government revenue.
 - lowers domestic price.

ANSWERS: 1. c 2. b 3. a 4. c

of P_w , the domestic DVD player industry moves up and to the right along its supply curve S_d , increasing domestic output from a to b . Domestic producers thus enjoy both a higher price and expanded sales, which explains why domestic producers lobby for protective tariffs. But from a social point of view, the expanded domestic production of b instead of a means that the tariff permits domestic producers of DVD players to bid resources away from other, more efficient, Canadian industries.

- **Decline in imports** Japanese producers are hurt. Although the sale price of DVD players is higher by $P_w P_t$, that amount accrues to the Canadian government, not to Japanese producers. The after-tariff world price, and thus the per-unit revenue to Japanese producers, remains at P_w , and the volume of Canadian imports (Japanese exports) falls from ad to bc .
- **Tariff revenue** The shaded rectangle indicates the amount of revenue that the tariff yields. Total revenue from the tariff is determined by multiplying the tariff, $P_w P_t$ per unit, by the number of imported DVD players, bc . This tariff revenue is a transfer of income from consumers to government and does *not* represent any net change in the nation's economic well-being. The result is that government gains a portion of what consumers lose by paying more for DVD players.

INDIRECT EFFECTS

Tariffs have a subtle effect beyond what our supply and demand diagram can show. Because Japan sells fewer DVD players in Canada, Japan will earn fewer dollars with which to buy Canadian exports. Canadian export industries must then cut production and release resources. These are highly efficient industries, as evidenced by their comparative advantage and ability to sell goods in world markets.

Tariffs directly promote the expansion of inefficient industries that do not have a comparative advantage; they also indirectly cause contraction of relatively efficient industries that do have a comparative advantage. This means tariffs cause resources to be shifted in the wrong direction. We know that specialization and world trade lead to more efficient use of world resources and greater world output. But protective tariffs reduce world trade. Therefore, tariffs also reduce efficiency and the world's real output.

Economic Impact of Quotas

We noted earlier that an import quota is a legal limit placed on the amount of some product that can be imported each year. The economic impact of quotas is similar to that of a tariff with one salient difference: Although tariffs generate revenue for the Canadian government, a quota transfers that revenue to foreign producers.

Suppose in Figure 16-8 that, instead of imposing a tariff of $P_w P_t$ per unit, Canada prohibits any Japanese imports of DVD players in excess of bc units. In other words, an import quota of bc DVD players is imposed on Japan. We have deliberately chosen the size of this quota to be the same amount as imports would be under a $P_w P_t$ tariff so we are comparing “equivalent” situations. As a consequence of the quota, the supply of DVD players is $S_d + Q$ in Canada. This consists of the domestic supply plus the constant amount $bc (= Q)$, that importers will provide at each domestic price. The $S_d + Q$ supply curve does not exist below price P_w because Japanese producers would not export DVD players to Canada at any price *below* P_w ; instead, they would sell them to other countries at the world market price of P_w .

Most of the economic results are the same as with a tariff. DVD player prices are higher (P_t instead of P_w) because imports have been reduced from ad to bc . Domestic consumption of DVD players is down from ad to bc . Canadian producers enjoy both a higher price (P_t rather than P_w) and increased sales (b rather than a).

The difference is that the price increase of $P_w P_t$ paid by Canadian consumers on imports of bc —the shaded area—no longer goes to Canada Custom and Revenue Agency as tariff (tax) revenue, but flows to those Japanese firms that have acquired the rights to sell DVD players in Canada. The

economic effects of a tariff are better for Canadian taxpayers than are those of a quota, other things being the same. A tariff generates government revenue, which can be used to cut other taxes or to finance public goods and services that benefit Canadian citizens. In contrast, the higher price created by quotas results in additional revenue for foreign producers. (*Key Question 10*)

Net Costs of Tariffs and Quotas

Figure 16-8 shows that tariffs and quotas impose costs on domestic consumers but provide gains to domestic producers, and, in the case of tariffs, revenue to the federal government. The consumer costs of trade restrictions are calculated by determining the effect they have on consumer prices. Protection raises the price of a product in three ways: (1) The price of the imported product goes up, (2) the higher price of imports causes some consumers to shift their purchases to higher-priced domestically produced goods, and (3) the prices of domestically produced goods rise because import competition has declined.

Study after study finds that the costs to consumers substantially exceed gains to producers, workers and other suppliers of resources in the protected industry, and government. A sizable net cost or efficiency loss to society arises from trade protection. Furthermore, industries employ large amounts of economic resources to influence politicians to pass and retain protectionist laws. Because these rent-seeking efforts divert resources away from more socially desirable purposes, trade restrictions impose that cost on society.

Conclusion: The gains that Canadian trade barriers create for protected industries and their workers come at the expense of much greater losses for the entire economy. The result is economic inefficiency.

16.5 The Case for Protection: A Critical Review

Despite the compelling logic of specialization and trade, there are still protectionists in some union halls, corporate boardrooms, and the halls of Parliament. What arguments do protectionists make to justify trade barriers? How valid are these arguments?

Self-Sufficiency Argument

The argument here is not economic but political-military: Protective tariffs are needed to preserve or strengthen industries that produce the materials essential for national defence. In an uncertain world, the political-military objectives (self-sufficiency) sometimes must take precedence over economic goals (efficiency in the use of world resources).

Unfortunately, it is difficult to measure and compare the benefit of increased national security against the cost of economic inefficiency when protective tariffs are imposed. The economist can only point out that there are economic costs when a nation levies tariffs to increase military self-sufficiency.

The self-sufficiency argument is open to serious abuse. Nearly every industry can claim that it makes direct or indirect contributions to national security and hence deserves protection from imports.

Are there not better ways than tariffs to provide needed strength in strategic industries? When it is achieved through tariffs, this self-sufficiency increases the domestic prices of the products of the protected industry. Thus only those consumers who buy the industry's products shoulder the cost of greater military security. A direct subsidy to strategic industries, financed out of general tax revenues, would distribute these costs more equitably.

Increased Domestic Employment Argument

Arguing for a tariff to “save Canadian jobs” becomes fashionable as an economy encounters a recession. In an economy that engages in international trade, exports involve spending on domestic out-

put and imports reflect spending to obtain part of another nation's output. So, in this argument, reducing imports will divert spending on another nation's output to spending on domestic output. Thus domestic output and employment will rise. But this argument has several shortcomings:

- **Job creation from imports** While imports may eliminate some Canadian jobs, they create others. Imports may have eliminated the jobs of some Canadian steel and textile workers in recent years, but other workers have gained jobs unloading ships and selling imported cars and imported electronic equipment. Import restrictions alter the composition of employment, but they may have little or no effect on the volume of employment.
- **Fallacy of composition** All nations cannot simultaneously succeed in restricting imports while maintaining their exports; what is true for one nation is not true for all nations. The exports of one nation must be the imports of another nation. To the extent that one country is able to expand its economy through an excess of exports over imports, the resulting excess of imports over exports worsens another economy's unemployment problem. It is no wonder that tariffs and import quotas meant to achieve domestic full employment are called "beggar my neighbour" policies: They achieve short-run domestic goals by making trading partners poorer.
- **Possibility of retaliation** Nations adversely affected by tariffs and quotas are likely to retaliate, causing a "trade-barrier war" that will choke off trade and make all nations worse off.
- **Long-run feedbacks** In the long run, forcing an excess of exports over imports cannot succeed in raising domestic employment. It is through Canadian imports that foreign nations earn dollars for buying Canadian exports. In the long run a nation must import to export. The long-run impact of tariffs is not to increase domestic employment but at best to reallocate workers away from export industries and to protected domestic industries. This shift implies a less efficient allocation of resources.

Consider This

Shooting Yourself in the Foot

In the lore of the Wild West, a gunslinger on occasion would accidentally pull the trigger on his pistol while retrieving it from its holster, shooting himself in the foot. Since then, the phrase "shooting yourself in the foot" implies doing damage to yourself rather than the intended party.

That is precisely how economist Paul Krugman sees a trade war:

A trade war in which countries restrict each other's exports in pursuit of some illusory advantage is not much like a real war. On the one hand, nobody gets killed. On the other, unlike real wars, it is almost impossible for anyone to win, since the main losers when a country imposes barriers to trade are not foreign exporters but domestic residents. If effect, a trade war is a conflict in which each country uses most of its ammunition to shoot itself in the foot.¹

The same analysis is applicable to trade boycotts between major trading partners. Such a boycott was encouraged by some American commentators against Canadian, French,

and German imports because of these countries' opposition to the U.S. and British-led war in Iraq. But the decline of exports to the United States would leave the Canadians, French, and Germans with fewer U.S. dollars to buy American exports. So the unintended effect would be a decline in U.S. exports to these countries and reduced employment in U.S. export industries. Moreover, such a trade boycott, if effective, might lead Canadians, French, and German consumers to retaliate against American imports. As with a "tariff war," a "boycott war" typically harms oneself as much as the other party.

¹Paul Krugman, *Peddling Prosperity* (New York: Norton, 1994), p. 287.

Question: During the Great Depression many nations increased tariffs in an attempt to export their unemployment problem. Why did it not work?

Diversification for Stability Argument

Highly specialized economies such as Saudi Arabia's (based on oil) and Cuba's (based on sugar) are very dependent on international markets for their incomes. In these economies, wars, international political developments, recessions abroad, and random fluctuations in world supply and demand for one or two particular goods can cause deep declines in export revenues and therefore in domestic income. Tariff and quota protection are allegedly needed in such nations to enable greater industrial diversification. That way, these economies will not be so dependent on exporting one or two products to obtain the other goods they need. Such goods will be available domestically, thereby providing greater domestic stability.

There is some truth in this diversification for stability argument. There are also two serious shortcomings:

- The argument has little or no relevance to Canada and other advanced economies.
- The economic costs of diversification may be great; for example, one-crop economies may be highly inefficient at manufacturing.

Infant-Industry Argument

The infant-industry argument says that protective tariffs are needed to allow new domestic industries to establish themselves. Temporarily shielding young domestic firms from the severe competition of more mature and more efficient foreign firms will give infant industries a chance to develop and become efficient producers.

This argument for protection rests on an alleged exception to the case for free trade. The exception is that young industries have not had, and if they face mature foreign competition will never have, the chance to make the long-run adjustments needed for larger scale and greater efficiency in production. In this view, tariff protection for such infant industries will correct a misallocation of world resources perpetuated by historically different levels of economic development between domestic and foreign industries.

COUNTER-ARGUMENTS

There are some logical problems with this infant industry argument:

- In the developing nations it is difficult to determine which industries are the infants that are capable of achieving economic maturity and therefore deserving protection.
- Protective tariffs may persist even after industrial maturity has been realized.
- Most economists believe that if infant industries are to be subsidized, there are better means than tariffs for doing it. Direct subsidies, for example, have the advantage of making explicit which industries are being aided and to what degree.

STRATEGIC TRADE POLICY

In recent years the infant-industry argument has taken a modified form in advanced economies. Now proponents contend that government should use trade barriers to reduce the risk of investing in product development by domestic firms, particularly where advanced technology is involved. Firms protected from foreign competition can grow more rapidly and achieve greater economies of scale than unprotected foreign competitors. The protected firms can eventually dominate world markets because of their lower costs. Supposedly, dominance of world markets will enable the domestic firms to return high profits to the home nation. These profits will exceed the domestic sacrifices caused by trade barriers. Also, advances in high-technology industries are considered to be beneficial because the advances achieved in one domestic industry often can be transferred to other domestic industries.

Japan and South Korea, in particular, have been accused of using this form of **strategic trade policy**. These two countries, according to critics, protect what they consider to be key sectors from

strategic trade policy

The use of trade barriers to reduce the risk inherent in product development by domestic firms, particularly that involving advanced technology.

foreign competition. The problem with this strategy, and therefore this argument for tariffs, is that the nations put at a disadvantage by strategic trade policies tend to retaliate with tariffs of their own. The outcome may be higher tariffs worldwide, reductions of world trade, and the loss of potential gains from technological advances.

Protection against Dumping Argument

This argument contends that tariffs are needed to protect domestic firms from “dumping” by foreign producers.

dumping

The sale in a foreign country of products below cost or below the prices charged at home.

Dumping is the selling of goods in a foreign market at a price below cost. Economists cite two possible reasons for this behaviour. First, firms may use dumping abroad to drive out domestic competitors there, thus obtaining monopoly power and monopoly prices and profits for the importing firm. The long-term economic profits resulting from this strategy may more than offset the earlier losses that accompany the below-cost sales. There is no evidence that such monopoly power has accrued in any Canadian industry through dumping.

Second, dumping may be a form of price discrimination, which is charging different prices to different customers even though costs are the same. The foreign seller may find it can maximize its profit by charging a high price in its monopolized domestic market while unloading its surplus output at a lower price in Canada. The surplus output may be needed so the firm can obtain the overall per-unit cost saving associated with large-scale production. The higher profit in the home market more than makes up for the losses incurred on sales abroad.

Canada prohibits dumping. Where dumping is shown to injure Canadian firms, the federal government imposes tariffs called “antidumping duties” on the specific goods. But there are relatively few documented cases of dumping each year, and those few cases do *not* justify widespread, permanent tariffs.

In fact, foreign producers argue that Canada uses dumping allegations and antidumping duties to restrict legitimate trade. Some foreign firms clearly can produce certain goods at substantially less per-unit cost than Canadian competitors. So, what may seem to be dumping actually is comparative advantage at work. If antidumping laws are abused, they can increase the price of imports and restrict competition in the Canadian market. This reduced competition can allow Canadian firms to raise prices at consumers’ expense. And even where true dumping does occur, Canadian consumers gain from the lower-priced product, at least in the short run, much as they gain from a price war among Canadian producers.

Cheap Foreign Labour Argument

The cheap foreign labour argument says that domestic firms and workers must be shielded from the ruinous competition of countries where wages are low. If protection is not provided, cheap imports will flood Canadian markets and the prices of Canadian goods—along with the wages of Canadian workers—will be pulled down. That is, the domestic living standards in Canada will be reduced.

This argument can be rebutted at several levels. The logic of the argument suggests that it is *not* mutually beneficial for rich and poor persons to trade with one another. However, that is not the case. A low-income farm worker may pick lettuce or tomatoes for a rich landowner, and both may benefit from the transaction. And Canadian consumers gain when they buy a package of Taiwanese-made floppy disks for \$6 as opposed to similar package of Canadian-made floppy disks selling for \$10.

Also, recall that gains from trade are based on comparative advantage, not on absolute advantage. Looking back at Figure 16-1, suppose Canada and Brazil have labour forces of exactly the same size. Noting the positions of the production possibilities curves, we observe that Canadian labour can produce more of *either* good. Thus, it is more productive; it has an absolute advantage in the production of both goods. Because of this greater productivity, we can expect wages and liv-

ing standards to be higher for Canadian labour. Brazil's less productive labour will receive lower wages.

The cheap foreign labour argument suggests that, to maintain our standard of living, Canada should not trade with low-wage Brazil. Suppose it does not. Will wages and living standards rise in Canada as a result? No. To obtain soybeans, Canada will have to reallocate a portion of its labour from its efficient steel industry to its less efficient soybean industry. As a result, the average productivity of Canadian labour will fall, as will real wages and living standards. The labour forces of *both* countries will have lower standards of living because without specialization and trade they will have less output available to them. Compare column 4 with column 1 in Table 16-2 or points A' and B' with A and B in Figure 16-4 to confirm this point.

A Summing Up

These many arguments for protection are not weighty. Under proper conditions, the infant-industry argument stands as a valid exception, justifiable on economic grounds. And on political-military grounds, the self-sufficiency argument can be used to validate some protection. But both arguments are open to severe overuse, and both neglect other ways of promoting industrial development and military self-sufficiency. Most other arguments are emotional appeals—half-truths and fallacies. These arguments see only the immediate and direct consequences of protective tariffs. They ignore the fact that in the long run a nation must import to export.

There is also compelling historical evidence suggesting that free trade has led to prosperity and growth and that protectionism has had the opposite effects. Here are several examples:

- The Canadian Constitution forbids individual provinces from levying tariffs, and that makes Canada a huge free-trade area. Economic historians cite this as a positive factor in the economic development of Canada.
- Great Britain's shift towards freer international trade in the mid-nineteenth century was instrumental in its industrialization and growth at that time.
- The creation of the Common Market in Europe after World War II eliminated tariffs among member nations. Economists agree that creation of this free-trade area, now the European Union, was a major ingredient in Western European prosperity.
- The trend towards tariff reduction since 1945 has stimulated expansion of the world economy.
- In general, developing countries that have relied on import restrictions to protect their domestic industries have had slow growth compared to those pursuing more open economic policies.

QUICK REVIEW

- A nation will export a particular product if the world price exceeds the domestic price; it will import the product if the world price is less than the domestic price.
- In a two-country model, equilibrium world prices and equilibrium quantities of exports and imports occur when one nation's export supply curve intersects the other nation's import demand curve.
- Trade barriers include tariffs, import quotas, non-tariff barriers, and voluntary export restrictions.
- A tariff on a product increases price, reduces consumption, increases domestic production, reduces imports, and generates tariff revenue for government; an import quota does the same, except a quota generates revenue for foreign producers rather than for the government imposing the quota.
- Most arguments for trade protection are special-interest pleas that, if followed, would create gains for protected industries and their workers at the expense of greater losses for the economy.

16.6 Multilateral Trade Agreements and Free-Trade Zones

When one nation enacts barriers against imports, the nations whose exports suffer may retaliate with trade barriers of their own. In such a *trade war*, escalating tariffs choke world trade and reduce everyone's economic well-being. Economic historians generally agree that high tariffs were a contributing cause of the Great Depression. Aware of that fact, nations have worked to lower tariffs worldwide. Their pursuit of free trade has been added by powerful domestic interest groups: Exporters of goods and services, importers of foreign components used in “domestic” products, and domestic sellers of imported products all strongly support lower tariffs.

Figure 16-9 makes clear that although Canada has been a high-tariff nation over much of its history, Canadian tariffs have declined substantially during the past half-century.

Reciprocal Trade Agreements

The specific tariff reductions negotiated between Canada and any particular nation were generalized through **most-favoured-nation clauses**, which often accompany reciprocal trade agreements. These clauses stipulate that any subsequently reduced Canadian tariffs, resulting from negotiation with any other nation, would apply equally to any nation that signed the original agreement. So if Canada negotiates a reduction in tariffs on wristwatches with, say, France, the lower Canadian tariff on imported French watches also applies to the imports of the other nations having most-favoured-nation status, say, Japan and Switzerland. This way, the reductions in Canadian tariffs automatically applies to many nations.

most-favoured-nation clause

An agreement by Canada to allow some other nation's exports into Canada at the lowest tariff levied by Canada.

General Agreement on Tariffs and Trade (GATT)

The international agreement reached in 1947 in which 23 nations agreed to give equal and non-discriminatory treatment to one another, to reduce tariff rates by multinational negotiations, and to eliminate export quotas.

General Agreement on Tariffs and Trade (GATT)

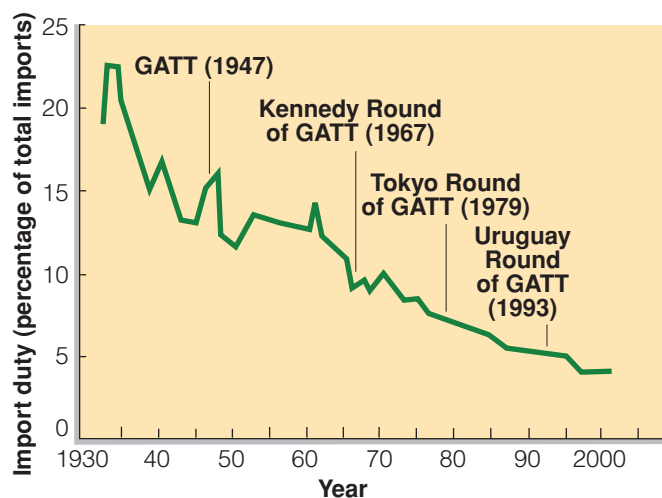
In 1947, 23 nations, including Canada, signed the **General Agreement on Tariffs and Trade (GATT)**. GATT was based on three principles: (1) equal, non-discriminatory trade treatment for all member nations; (2) the reduction of tariffs by multilateral negotiation; and (3) the elimination of import quotas. Basically, GATT provided a forum for the negotiation of reduced trade barriers on a multilateral basis among nations.

Since World War II, member nations have completed eight “rounds” of GATT negotiations to reduce trade barriers. The eighth and last “round” of negotiations began in Uruguay in 1986. After

FIGURE 16-9

Canadian Tariff Rates, 1930–2002

Historically, Canadian tariff rates have fluctuated. But beginning with the mid-1930s, the trend has been downward.



seven years of wrangling, in 1993 the 128 member nations reached a new agreement. The *Uruguay Round* agreement took effect on January 1, 1995, and its provisions are to be phased in through 2005.

Under this agreement, tariffs on thousands of products have been eliminated or reduced, with overall tariffs eventually dropping by 33 percent. The agreement also liberalized government rules that in the past impeded the global market for such services as advertising, legal services, tourist services, and financial services. Quotas on imported textiles and apparel were phased out and replaced with tariffs. Other provisions reduced agricultural subsidies paid to farmers and protected intellectual property (patents, trademarks, copyrights) against piracy.

When fully implemented, the Uruguay Round agreement will boost the world's GDP by an estimated \$6 trillion, or 8 percent. Consumers in Canada will save more than \$3 billion annually.

World Trade Organization (WTO)

The Uruguay Round agreement established the **World Trade Organization (WTO)** as GATT's successor. Some 145 nations belong to the WTO, with China being the latest entrant. The WTO oversees trade agreements reached by the member nations and rules on trade disputes among them. It also provides forums for further rounds of trade negotiations. The ninth and latest round of negotiations—the **Doha Round**—was launched in Doha, Qatar in late 2001. The Doha negotiations will take place in various locations around the world and are expected to last several years.

Members of the WTO agreed to several trade liberalizations to be fully implemented by 2005. The liberalizations include (1) reductions in tariffs worldwide; (2) new rules to promote trade in services; (3) reductions in agricultural subsidies that have distorted the global pattern of trade in agricultural goods; (4) new protections for intellectual property (copyrights, patents, trademarks); and (5) the phasing out of quotas on textiles and apparel, replacing them with gradually declining tariffs. The WTO estimates that the world's GDP for 2005 will be \$6 trillion greater (or 8 percent higher) because of the trade liberalizations.

GATT and the WTO have been positive forces in the trend toward liberalized world trade. The trade rules agreed upon by the member nations provide a strong and necessary bulwark against the protectionism called for by special-interest groups in various nations.

For that reason and others, the WTO is highly controversial. Critics are concerned that rules crafted to expand international trade and investment enable firms to circumvent national laws that protect workers and the environment. What good are minimum-wage laws, worker safety laws, collective bargaining rights, and environmental laws, if firms can easily shift their production to nations that have weaker laws or consumers can buy goods produced in those countries?

Proponents of the WTO respond that labour and environmental protections should be pursued directly in nations that have low standards and via international organizations other than the WTO. These issues should not be linked to the process of trade liberalization, which confers widespread economic benefits across nations. Moreover, say proponents of the WTO, many environmental and labour concerns are greatly overblown. Most world trade is among advanced industrial countries, not between them and countries that have lower environmental and labour standards. Moreover, the free flow of goods and resources raises output and income in the developing nations. Historically, such increases in living standards have engendered stronger, not weaker, protections for the environment and for workers.

The European Union (EU)

Countries have also sought to reduce tariffs by creating regional *free-trade zones*—also called *trade blocs*. The most dramatic example is the **European Union (EU)**, formerly called the European Economic Community. Initiated in 1958 as the Common Market, in 2003 the EU comprised 15 European nations—France, Germany, United Kingdom, Italy, Belgium, the Netherlands, Luxembourg, Denmark, Ireland, Greece, Spain, Portugal, Austria, Finland, and Sweden. In 2004, the EU expanded by 10 additional European countries—Poland, Hungary, Czech Republic, Slovakia, Lithuania, Latvia, Estonia, Slovenia, Malta, and Cyprus.

World Trade Organization (WTO)

An organization established of 145 nations (as of 2003) that oversees the provisions of the current world trade agreement, resolves trade disputes stemming from it, and holds forums for further rounds of trade negotiations.



www.wto.org
World Trade Organization

European Union (EU)

An association of European nations that has eliminated tariffs among them, established common tariffs for goods imported from outside the member nations, and allowed the free movement of labour and capital among them.

trade bloc

A group of nations that lower or abolish trade barriers among members. Examples include the European Union and the nations of the North American Free Trade Agreement.

euro

The common currency used by 12 European nations in the Euro zone, which includes all nations of the European Union except Great Britain, Denmark, and Sweden.

North American Free Trade Agreement (NAFTA)

A 1993 agreement establishing, over a 15-year period, a free trade zone composed of Canada, Mexico, and the United States.

THE EU TRADE BLOC

The EU has abolished tariffs and import quotas on nearly all products traded among the participating nations and established a common system of tariffs applicable to all goods received from nations outside the EU. It has also liberalized the movement of capital and labour within the EU and has created common policies in other economic matters of joint concern, such as agriculture, transportation, and business practices. The EU is now a strong **trade bloc**: a group of countries having common identity, economic interests, and trade rules.

EU integration has achieved for Europe increased regional specialization, greater productivity, greater output, and faster economic growth. The free flow of goods and services has created large markets for EU industries. The resulting economies of large-scale production have enabled them to achieve much lower costs than they could have achieved in their small, single-nation markets.

The effects of EU success on non-member nations, such as Canada, have been mixed. A peaceful and increasingly prosperous EU makes its members better customers for Canadian exports. But Canadian firms and other non-member nations' firms have been faced with tariffs and other barriers that make it difficult for them to compete against firms within the EU trade bloc. For example, autos produced in Germany and sold in Spain or France face no tariffs, whereas North American and Japanese autos sold in those EU countries do. This puts non-EU firms at a serious disadvantage. Similarly, EU trade restrictions hamper Eastern European exports of metals, textiles, and farm products, goods that the Eastern Europeans produce in abundance.

By giving preferences to countries within their free-trade zone, trade blocs such as the EU tend to reduce their members' trade with non-bloc members. Thus, the world loses some of the benefits of a completely open global trading system. Eliminating that disadvantage has been one of the motivations for liberalizing global trade through the World Trade Organization.

The Euro One of the most significant accomplishments of the EU was the establishment of the so-called Euro Zone in the early 2000s. Today, 12 of the 15 members of the EU use the **euro** as a common currency. Great Britain, Denmark, and Sweden have opted out of the common currency, at least for now. But gone are French francs, German marks, Italian liras, and other national currencies within the Euro Zone.

Economists expect the euro to raise the standard of living of the Euro Zone members over time. By ending the inconvenience and expense of exchanging currencies, the euro will enhance the free flow of goods, services, and resources among the Euro Zone members. It will also enable consumers and businesses to comparison shop for outputs and inputs, and this will increase competition, reduce prices, and lower costs.

North American Free Trade Agreement

In 1993, Canada, Mexico, and the United States formed a major trade bloc. **The North American Free Trade Agreement (NAFTA)** established a free-trade zone that has about the same combined output as the EU but encompasses a much larger geographical area. NAFTA has greatly reduced tariffs and other trade barriers between Canada, Mexico, and the United States and will eliminate them entirely by 2008.

Critics of NAFTA feared that it would cause a massive loss of Canadian jobs as firms moved to Mexico to take advantage of lower wages and weaker regulations on pollution and workplace safety. Also, there was concern that Japan and South Korea would build plants in Mexico and transport goods tariff-free to Canada, further hurting Canadian firms and workers.

In retrospect, the critics were much too pessimistic. In the seven year period 1993–2000, employment increased in Canada by almost 1.5 million workers and the unemployment rate fell from over 10 percent to under 7 percent. Increased trade between Canada, Mexico, and the United States has enhanced the standard of living in all three countries. (*Key Question 14*)

QUICK REVIEW

- Governments curtail imports and promote exports through protective tariffs, import quotas, non-tariff barriers, and export subsidies.
- The General Agreement on Tariffs and Trade (GATT) established multinational reductions in tariffs and import quotas. The Uruguay Round of GATT (1993) reduced tariffs worldwide, liberalized international trade in services, strengthened protections for intellectual property, and reduced agricultural subsidies.
- The World Trade Organization (WTO)—GATT's successor—rules on trade disputes and provides forums for negotiations on further rounds of trade liberalization. The current round is called the Doha round.
- The European Union (EU) and the North American Free Trade Agreement (NAFTA) have reduced internal trade barriers among their members by establishing large free-trade zones. Of the 25 EU members, 12 now have a common currency—the euro.

THE LAST word

Will the Softwood Lumber Dispute between Canada and the U.S. Ever End?

There has been an ongoing dispute between Canada and the U.S. over Canadian exports of softwood lumber to their market that goes back to the mid-1980s. In the latest turn of events, the U.S. Department of Commerce maintains that Canadian softwood lumber is subsidized, primarily through low provincial government levies for tree harvesting (stumpage fees). Thus in 2001 the U.S. imposed a combined tax and an antidumping duty averaging 27.2 percent on Canadian softwood lumber imports. An antidumping duty is imposed when it is believed an exporter is selling in export markets below its costs. The department of Commerce's claim of subsidy has been hotly disputed by the federal government, which initiated several challenges with the World Trade Organization (WTO) relating to the definition of "subsidy." The federal government also formally requested a panel review of the U.S. final subsidy and antidumping determination under Chapter 19 of the North America Free

Trade Agreement. As of early 2003, no resolution was in sight, and negotiation between the two sides broke off.

Canada supplies about a third of the lumber used in the U.S. About half of this comes from the province of British Columbia. Softwood lumber trade between Canada and the U.S. amounts to about \$10 billion a year. The B.C. government, which own 95 percent of the lands on which lumber harvesting takes place, has been heavily involved in the softwood lumber dispute because of the adverse economic impact of the duties on its lumber exporters. As of 2003 Canadian softwood lumbers producers had paid in excess of \$1 billion in duties. The Canadian lumber producers hope that if a resolution of the dispute is reached, producers will be able get back at least some of the duty they paid. Major Canadian lumber companies affected include Abitibi, Canfor, Slocan, Tembec, West Fraser, and Weyerhaeuser.

It appears that behind the U.S. duties is a vocal interest group called the

U.S. Coalition for Fair Lumber Imports, an alliance of sawmill and woodland owners and their employees, which claims that Canada is virtually giving away its forestlands to Canadian companies that export lumber to the U.S. Not everyone in the U.S. agrees with the U.S. Coalition for Fair Lumber Imports. Many commentators, including the influential *Washington Post*, have called the softwood lumber duty a tax on home ownership in the U.S. since such a large part of Canadian lumber goes to the home building industry. The conservative Cato Institute has also called the U.S. tariffs unjustified.

There is a strong case to be made that the benefits of the lower priced Canadian softwood lumber to U.S. consumers far outweigh the costs to American producers. It remains to be seen whether the U.S. Alliance for Fair Lumber Imports has enough political clout in Washington to continue to impose what amounts to a tax on American consumers of softwood lumber products.

CHAPTER SUMMARY

16.1 CANADA AND INTERNATIONAL LINKAGES

- Goods and services flows, capital and labour flows, information and technology flows, and financial flows link Canada and other countries.
- International trade is growing in importance globally and for Canada. World trade is significant to Canada in two respects: (a) Canadian imports and exports as a percentage of domestic output are significant; and (b) Canada is completely dependent on trade for certain commodities and materials that cannot be obtained domestically.
- Principal Canadian exports include automotive products, machinery and equipment, and grain; major Canadian imports are general machinery and equipment, automobiles, and industrial goods and machinery. Quantitatively, the United States is our most important trading partner.
- Global trade has been greatly facilitated by (a) improvements in transportation technology, (b) improvements in communications technology, and (c) general declines in tariffs. Although North America, Japan, and the Western European nations dominate the global economy, the total volume of trade has been lifted by the contributions of several new trade participants. They include the Asian economies of Singapore, South Korea, Taiwan, and China (including Hong Kong), the Eastern European countries (such as the Czech Republic, Hungary, and Poland), and the newly independent countries of the former Soviet Union (such as Estonia, Ukraine, and Azerbaijan).

16.2 THE ECONOMIC BASIS FOR TRADE

- World trade is based on two considerations: the uneven distribution of economic resources among nations, and the fact that efficient production of various goods requires particular techniques or combinations of resources.
- Mutually advantageous specialization and trade are possible between any two nations if they have different opportunity cost ratios for any two products. By specializing based on comparative advantage, nations can obtain larger real incomes with fixed amounts of resources. The terms of trade determine how this increase in world output is shared by the trading nations. Increasing (rather than constant) costs limits specialization and trade.

16.3 SUPPLY AND DEMAND ANALYSIS OF EXPORTS AND IMPORTS

- A nation's export supply curve shows the quantity of product it will export at world prices that exceed the domestic price—the price in a closed, no-international-trade economy. Its import demand curve reveals the quantity of a product it will import at world prices below the domestic price. In a two-nation model, the equilib-

rium world price and the equilibrium quantities of exports and imports occur where one nation's import supply curve intersects the other nation's export demand curve.

16.4 TRADE BARRIERS

- Trade barriers take the form of protective tariffs, quotas, non-tariff barriers, and "voluntary" export restraints. Supply and demand analysis reveals that protective tariffs and quotas increase the prices and reduce the quantities demanded of affected goods. Sales by foreign exporters diminish; domestic producers, however, enjoy higher prices and enlarged sales. Tariffs and quotas promote a less efficient allocation of domestic and world resources.

16.5 THE CASE FOR PROTECTION: A CRITICAL REVIEW

- The strongest arguments for protection are the infant-industry and military self-sufficiency arguments. Most of the other arguments for protection are half-truths, emotional appeals, or fallacies that emphasize the immediate effects of trade barriers while ignoring long-run consequences. Numerous historical examples suggest that free trade promotes economic growth; protectionism does not.

16.6 MULTILATERAL TRADE AGREEMENT AND FREE TRADE ZONES

- *Most-favoured-nation* status allows a nation to export goods into Canada at its lowest tariff level, then or at any later time.
- In 1947 the General Agreement on Tariffs and Trade (GATT) was formed to encourage non-discriminatory treatment for all member nations, to reduce tariffs, and to eliminate import quotas. The Uruguay Round of GATT negotiations (1993) reduced tariffs and quotas, liberalized trade in services, reduced agricultural subsidies, reduced pirating of intellectual property, and phased out quotas on textiles.
- GATT's successor, the World Trade Organization (WTO), had 145 member nations in 2003. The WTO oversees trade agreements among its members, resolves disputes over the rules, and periodically meets to discuss and negotiate further trade liberalization. In 2001 the WTO initiated a new round of trade negotiations in Doha, Qatar. The Doha Round (named after its place of initiation) will occur over the next several years.
- Free-trade zones (trade blocs) liberalize trade within regions but may at the same time impede trade with non-bloc members. Two examples of free-trade agreements are the fifteen-member European Union (EU) and the North American Free Trade Agreement (NAFTA), comprising Canada, Mexico, and the United States. Twelve of the EU nations have agreed to abandon their national currencies for a common currency called the euro.

TERMS AND CONCEPTS

- multinational corporation, p. 377
 labour-intensive goods, p. 379
 land-intensive goods, p. 379
 capital-intensive goods, p. 379
 absolute advantage, p. 379
 cost ratio, p. 380
 comparative advantage, p. 381
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- import demand curve, p. 387
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 voluntary export restraint (VER), p. 390
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 World Trade Organization (WTO), p. 399
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 trade bloc, p. 400
 euro, p. 400
 North America Free Trade Agreement (NAFTA), p. 400

STUDY QUESTIONS

- Describe the four major economic flows that link Canada with other nations. Provide a specific example to illustrate each flow. Explain the relationships between the top and bottom flows in Figure 16-1.
- How important is international trade to the Canadian economy? Who is Canada's most important trade partner? How can persistent trade deficits be financed? "Trade deficits mean we get more merchandise from the rest of the world than we provide them in return. Therefore, trade deficits are economically desirable." Do you agree? Why or why not?
- What factors account for the rapid growth of world trade since World War II? Who are the major players in international trade today? Who are the "Asian tigers" and how important are they in world trade?
- Quantitatively, how important is international trade to Canada relative to other nations?
- Distinguish among land-, labour- and capital-intensive commodities, citing an example of each. What role do these distinctions play in explaining international trade?
- Suppose nation A can produce 80 units of X by using all its resources to produce X and 60 units of Y by devoting all its resources to Y. Comparative figures for nation B are 60 of X and 60 of Y. Assuming constant costs, in which product should each nation specialize? Why? What are the limits of the terms of trade?
- KEY QUESTION** The following are hypothetical production possibilities tables for New Zealand and Spain.

**NEW ZEALAND'S PRODUCTION POSSIBILITIES TABLE
(MILLIONS OF BUSHELS)**

Product	Production alternatives			
	A	B	C	D
Apples	0	20	40	60
Plums	15	10	5	0

**SPAIN'S PRODUCTION POSSIBILITIES TABLE
(MILLIONS OF BUSHELS)**

Product	Production alternatives			
	R	S	T	U
Apples	0	20	40	60
Plums	60	40	20	0

Plot the production possibilities data for each of the two countries separately. Referring to your graphs, determine:

- Each country's cost ratio of producing plums and apples.
 - Which nation should specialize in which product.
 - The trading possibilities lines for each nation if the actual terms of trade are 1 plum for 2 apples. (Plot these lines on your graph.)
 - Suppose the optimum product mixes before specialization and trade were B in New Zealand and S in Spain. What are the gains from specialization and trade?
- "Canada can produce product X more efficiently than can Great Britain. Yet we import X from Great Britain." Explain.
 - KEY QUESTION** Refer to Figure 3-6. Assume the graph depicts Canada's domestic market for corn. How many bushels of corn, if any, will Canada export or import at a world price of \$1, \$2, \$3, \$4, and \$5? Use this information to construct Canada's export supply curve and import demand curve for corn. Suppose the only other corn-producing nation is France, where the domestic price is \$4. Why will the equilibrium world price be between \$3 and \$4? Who will export corn at this world price; who will import it?
 - KEY QUESTION** Draw a domestic supply and demand diagram for a product in which Canada does not have a comparative advantage. Indicate the impact of foreign imports on domestic price and quantity. Now

- show a protective tariff that eliminates approximately one-half the assumed imports. Indicate the price-quantity effects of this tariff to (a) domestic consumers, (b) domestic producers, and (c) foreign exporters. How would the effects of a quota that creates the same amount of imports differ?
11. "The most valid arguments for tariff protection are also the most easily abused." What are these particular arguments? Why are they susceptible to abuse? Evaluate the use of artificial trade barriers, such as tariffs and import quotas, as a means of achieving and maintaining full employment.
 12. Evaluate the following statements:
 - a. "Protective tariffs limit both the imports and the exports of the nation levying tariffs."
 - b. "The extensive application of protective tariffs destroys the ability of the international market system to allocate resources efficiently."
 - c. "Unemployment can often be reduced through tariff protection, but by the same token inefficiency typically increases."
 - d. "Foreign firms that 'dump' their products onto the Canadian market are in effect presenting the Canadian people with gifts."
 - e. "In view of the rapidity with which technological advance is dispersed around the world, free trade will inevitably yield structural maladjustments, unemployment, and balance of payments problems for industrially advanced nations."
 - f. "Free trade can improve the composition and efficiency of domestic output. Only the Volkswagen forced Detroit to make a compact car, and only foreign success with the oxygen process forced Canadian steel firms to modernize."
 - g. "In the long run foreign trade is neutral with respect to total employment."
 13. From 1981 to 1985 the Japanese agreed to a voluntary export restraint that reduced Canadian imports of Japanese automobiles by about 10 percent. What would you expect the short-run effects to have been on the Canadian and Japanese automobile industries? If this restriction were permanent, what would be its long-run effects in the two nations on (a) the allocation of resources, (b) the volume of employment, (c) the price level, and (d) the standard of living?
 14. What is the Doha Round and why is it so-named? How does it relate to the WTO? How does it relate to the Uruguay Round?
 15. **KEY QUESTION** Identify and state the significance of each of the following: (a) WTO; (b) EU; (c) euro; and (d) NAFTA. What commonality do they share?
 16. Explain: "Free-trade zones such as the EU and NAFTA lead a double life: they can promote free trade among members, but they pose serious trade obstacles for non-members." Do you think the net effects of trade blocs are good or bad for world trade? Why? How do the efforts of the WTO relate to these trade blocs?
 17. Speculate as to why some Canadian firms strongly support trade liberalization and other Canadian firms favour protectionism. Speculate as to why some Canadian labour unions strongly support trade liberalization and other Canadian labour unions strongly oppose it.
 18. **(The Last Word)** What is the purpose of an antidumping duty? Why do you think the U.S. Coalition for Fair Lumber Imports has lobbied the U.S. government to impose duties on Canadian softwood lumber?

INTERNET APPLICATION QUESTIONS



1. **Trade Liberalization—The WTO** Access the World Trade Organization (WTO) Web site from the McConnell-Brue-Barbiero homepage (Chapter 16) and retrieve the latest news from the WTO. List and summarize three recent news items relating to the WTO. Search the sections on *Trade Topics and Resources* to find information on both international trade and the environment and international trade and poverty. Summarize the WTO's major conclusions on these two topics.
2. **Canada's Main Trading Partners** Statistics Canada lists Canada's main trading partners. Go to the McConnell-Brue-Barbiero Web site (Chapter 16). Which country is our largest trading partner? Now visit www.statcan.ca/english/Pgdb/Economy/International/gblec04.htm to determine Canada's biggest export sector. What sector is a close second?

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3. **Web-Based Question: The Doha Round—what is the current status?** Determine and briefly summarize the current status of the Doha Round of trade negotiations by accessing the World Trade Organization site through the McConnell-Brue-Barbiero Web site. Is the round still in progress or has it been concluded with an agreement? If the former, when and where was the latest ministerial meeting? If the latter, what are the main features of the agreement?