Introduction

LEARNING GOALS

After reading this chapter, you should be able to:

- Understand the meaning and importance of globalization
- Understand the relationship between international trade and the nation's standard of living
- Describe the subject matter (trade and monetary aspects) of international economics
- Identify the major international economic problems and challenges facing the United States and the world today

1.1 The Globalization of the World Economy

The world is rapidly globalizing and this is providing many opportunities and major challenges to the nations and people of the world. We begin our study of international economics with a brief overview of the globalization revolution taking place in the world today.

1.1A We Live in a Global Economy

We live in a globalized world. We can connect instantly with any corner of the world by cellular phone, i-Pad, e-mail, instant messaging, and teleconferencing, and we can travel anywhere incredibly fast. Tastes are converging (i.e., more and more people all over the world generally like the same things), and many goods we consume are either made abroad or have many imported parts and components. Many of the services we use are increasingly provided by foreigners as, for example, when a radiography taken in a New York hospital is evaluated across the world in Bangalore (India) and when H&R Block sends our tax returns abroad for processing. Even small companies that until a few decades ago faced only local or regional competition now must compete with firms from across the globe.

Although not as free as the flow of international trade in goods and services, millions of workers at all skill levels have migrated around the world, and thousands of jobs have moved from advanced countries to such emerging markets as India and China.

Finance has also globalized: We can invest in companies anywhere in the world and purchase financial instruments (stocks and bonds) from any company from almost anywhere in the world. Many pension funds are in fact invested abroad, and a financial crisis in one financial center quickly spreads across the world at the click of a mouse. We can exchange dollars for euros and most other currencies easily and quickly, but the rates at which we exchange our currency often change frequently and drastically. In short, tastes, production, competition, labor markets, and financial markets have become highly globalized, and this affects all of us deeply as consumers, workers, investors, and voters—yes, we live in a global economy (see Case Studies 1-1 and 1-2).

CASE STUDY 1-1 The Dell PCs, iPhones, and iPads Sold in the United States are Anything but American!

Headquartered in Round Rock, Texas, Dell coordinates a global production network in 34 countries in the Americas, Europe, and Asia. For most of the PCs sold in the United States, Dell performs only the final assembly domestically and relies on outside suppliers and contract manufacturers for components, peripherals, printed circuit board (PCB) assemblies, and subassemblies (box builds). The reason is that most parts and components are cheaper to produce in other parts of the world and are thus imported (see Table 1.1). Neither high-value components nor very low-value components (such as power supplies or keyboards) have to be made close to Dell's assembly plants. Only some midlevel components (such as motherboards and other PCB assemblies), which are too expensive to ship by air to meet volatility in demand, as well as to risk holding in inventory, are produced locally, but even that is not always the case.

More than 90 percent of all the parts and components going into HP's PCs are made outside the United States. The components of an Apple iPhone are almost entirely Asian: the screen is from Japan, the flash memory is from Korea—and it is assembled in China! Apple contributed the design and software, and it integrated the innovations of others. The iPad introduced by Apple is made from parts and components by Samsung and LG Display (Korean); Toshiba (Japanese); Broadcom (United States); Catcher Technologies, Wintek, Simplo Technology, and Novatek Microelectronics (Taiwan); and STMicroelectronics (Italy and France) and assembled in China. Less than 30 percent of the parts and components of the new Boeing 787 Dreamliner jet that went into service in 2011 are made in the United States. Airbus planes are built mostly in Europe, but also rely on parts from other parts of the world. The outsourcing of various parts and components in the supply chain of modern production is called *fragmentation*. The outsourcing of various parts and components in the supply chain of modern production is referred to as *fragmentation*.

TABLE 1.1. Locations and Companies that Supply Specific Parts and Components for Dell's PCs

Part/Component	Location	Company
Monitors	Europe and Asia	Phillips, Nokia, Samsung, Sony, Acer
PCBs	Asia, Scotland, and Eastern Europe	SCI, Celestica
Drives	Asia, mainly Singapore	Seagate, Maxtor, Western Digital
Printers	Europe (Barcelona)	Acer
Box builds	Asia and Eastern Europe	Hon Hai/Foxteq
Chassis	Asia and Ireland	Hon Hai/Foxteq

J. Dedrick and K. L. Kraemer, "Dell Computer: Organization of a Global Production Network" and "Globalization of the Personal Computer Industry: Trends and Implications," *Working Paper*, Irvine, CA: Center for Research on Information Technology and Organizations (CRITO), University of California, Irvine, 2002; "The Laptop Trail," *The Wall Street Journal*, June 9, 2005, p. 31; "Rising in the East," *The Economist*, January 3, 2009, p. 47; "Dreamliner Production Gets Closer Monitoring." *The Wall Street Journal*, October 7, 2009, p. B1; M. P. Timmer *et al*., "Fragmentation, Incomes and Jobs: An Analysis of European Competitiveness," *Economic Policy*, October 2013, pp. 613–661; "Not Really Made in China," *The Wall Street Journal*, December 16, 2016, p. B1; and "Globally Sourced," *The Wall Street Journal*, February 2017, p. A1.

1.1B The Globalization Challenge

Globalization is a revolution which in terms of scope and significance is comparable to the Industrial Revolution, but whereas the Industrial Revolution took place over a century, today's global revolution is taking place under our very eyes in a decade or two. Globalization, of course, is not new. Roman coins circulated throughout the empire 2,000 years ago; Chinese currency was used in China even earlier. More recently, the world has experienced three periods of rapid globalization, 1870–1914, 1945–1980, and 1980 to the present.

CASE STUDY 1-2 What Is an "American" Car?

Strange as it may seem, the question of what is an American car may be difficult to answer. Should a Honda Accord produced in Ohio be considered American? What about a Chrysler minivan produced in Canada (especially now that Chrysler is owned by Fiat)? Is a Kentucky Toyota or Mazda that uses nearly 40 percent of imported Japanese parts American? Clearly, it is becoming more and more difficult to define what is American, and opinions differ widely.

For some, any vehicle assembled in North America (the United States, Canada, and Mexico) should be considered American because these vehicles use U.S.-made parts. But the United Auto Workers union views cars built in Canada and Mexico as taking away U.S. jobs. Some regard automobiles produced by Japanese-owned plants in the United States as American because they provide jobs for Americans. Others regard production by these Japanese "transplants" as foreign, because (1) the jobs they create were taken from the U.S. automakers, (2) they use nearly 40 percent imported Japanese parts, and (3) they remit profits to Japan. What if Japanese transplants increased their use of American parts to 75 percent or 90 percent? Was the Ford Probe, built for Ford by Mazda in Mazda's Michigan plant, American?

It is difficult to decide exactly what is an American car—even after the American Automobile Labeling Act of 1992, which requires all automobiles sold in the United States to indicate what percentage of the car's parts are domestic or foreign. One could even ask if this question is relevant at all in a world growing more and more interdependent and globalized. In order to be competitive, automakers must purchase parts and components wherever they are made cheaper and better, and they must sell automobiles throughout the world to achieve economies of mass production. Some parts crisscross the U.S.–Mexican border several times before being assembled into automobiles in the United States and Mexico. Ford designs its automobiles in six nations (the United States, the United Kingdom, Germany, Italy, Japan, and Australia), has production facilities in 30 locations (3 in North America, 3 in South America, 7 in Asia, and 17 in Europe), and employs more workers outside the United States than in the United States. In fact, the automotive and many other industries are rapidly moving toward a handful of truly global, independent companies.

Sources: "Honda's Nationality Proves Troublesome for Free Trade Pact," *The New York Times*, October 9, 1992, p. 1; "What Is a U.S. Car? Read the Label," *The New York Times*, September 18, 1994, Section 3, p. 6; "Made in America? Not Exactly: Transplants Use Japanese Car Parts," *The Wall Street Journal*, September 1, 1995, p. A3; "What Is an American Car?" *The Wall Street Journal*, January 26, 2009, p. A5; "One Ford for the Whole World," *Business Week*, May 15, 2009, pp. 58–59; and "Global Car Industry Runs on NAFTA," *The Wall Street Journal*, November 11, 2016, p. A1.

Globalization in 1870–1914 resulted from the Industrial Revolution in Europe and the opening up of new, resource-rich, but sparsely populated lands in North America (the United States and Canada), South America (Argentina, Chile, and Uruguay), Australia and New Zealand, and South Africa. These lands received millions of immigrants and vast amounts of foreign investments, principally from England, to open up new lands to food and raw material production. These so-called regions of recent settlement grew rapidly during this period by exporting increasing amounts of food and raw materials to Europe in exchange for manufactured goods. This period of modern globalization came to an end with the breakout of World War I in 1914.

The second period of rapid globalization started with the end of World War II in 1945 and extended to about 1980. It was characterized by the rapid increase of international trade as a result of the dismantling of the heavy trade protection that had been put in place during the Great Depression that started in the United States in 1929 and during World War II. What is different about the present globalization revolution (since 1980) is its speed, depth, and immediacy resulting from the tremendous improvements in telecommunications and transportation, massive international capital flows resulting from elimination of most restrictions on their flow across national boundaries, as well as by the participation of most

countries of the world. This is what makes today's globalization that much more pervasive and dramatic than earlier periods of globalization. The recent (2008–2009) global financial and economic crisis, the deepest of the postwar period, however, has slowed down the march of globalization.

As all revolutions, however, today's globalization brings many benefits and advantages but also has some disadvantages or harmful side effects. In fact, there is a great deal of disagreement as to the extent and type of advantages and disadvantages. Does getting cheaper and/or better products and service from abroad justify sacrificing domestic jobs? Why are some people in some countries very rich and obese while others dismally poor and starving?

Although labor migration generally leads to the more efficient utilization of labor, it also leads to job losses and lower wages for less-skilled labor in advanced nations and harms (i.e., it is a "brain drain" for) the nations of emigration. Similarly, financial globalization and unrestricted capital flows lead to the more efficient use of capital throughout the world, as well as provide opportunities for higher returns and risk diversification for individuals and corporations. But they also seem to lead to periodic international financial crises, such as the ones that started in Asia in 1997 and affected most other developing countries and the subprime housing mortgage crisis that started in the United States in 2007 and affected the entire world in 2008 and 2009. Finally, are we running out of resources such as petroleum, other minerals, and water? Is the world headed for a climate disaster?

These disadvantages and negative aspects of globalization have given rise to a rethinking of the age-old belief in free trade and to a strong **antiglobalization movement**, which blames globalization for many human and environmental problems throughout the world, and for sacrificing human and environmental well-being to the corporate profits of multinationals. Globalization is being blamed for world poverty and child labor in poor countries, job losses and lower wages in rich countries, as well as environmental pollution and climate change throughout the world. Although there is some truth in these accusations, an in-depth economic analysis will show that often the primary cause of many of the serious problems facing the world today lies elsewhere (see Case Study 1-3).

Globalization has many social, political, legal, and ethical aspects, and so economists need to work closely with other social and physical scientists, as well as with the entire civil society to give globalization a more human face (i.e., have all nations and people share its benefits). Globalization is important because it increases efficiency in the production of material things; it is inevitable because we cannot hide or run away from it. But we would like globalization also to be sustainable and humanizing and, ultimately, "fair." This requires a profound change in world governance. Such is the challenge facing humanity today.

All these topics and many more are either directly or indirectly the subject matter of international economics that are covered in this text.

1.2 International Trade and the Nation's Standard of Living

The United States, stretching across a continent and rich in a variety of human and natural resources, can produce, relatively efficiently, most of the products it needs. Contrast this with the situation of small industrial countries, such as Switzerland or Austria, that have a few very specialized resources and produce and export a much smaller range of products and import all the rest. Even large industrial countries such as Japan, Germany, France, England, Italy, and Canada rely crucially on international trade. For developing nations, exports provide employment opportunities and earnings to pay for the many products that many of them cannot now produce at home and for the advanced technology that they need.

CASE STUDY 1-3 Is India's Globalization Harming the United States?

The outsourcing of low-skilled service industry jobs (such as answering customer inquiries) from advanced countries to low-wage countries, such as India, reduces costs and prices in advanced countries, and it does not create much concern. In recent years, however, many high-skill and high-pay jobs in such diverse fields as computing and aircraft engineering, investment banking, and pharmaceutical research have been transferred to India and other emerging markets, creating great concern in advanced nations, especially the United States. Table 1.2 shows the outsourcing of high-tech services and jobs to India by some U.S. multinationals in 2008.

Companies such as IBM, Citigroup, and Morgan Stanley point out that outsourcing high-skill and high-wage jobs to India (and other emerging markets, especially China) where they can be done more cheaply keeps them internationally competitive, leads to lower prices for their products and services to American consumers, and is necessary for them to take advantage of fast-growing emerging markets. Transferring abroad many high-skill and high-paying jobs, as well as the crucial technologies on which they are based, however, inevitably causes great concern in the United States, not only for the loss of good U.S. jobs but also for the ability of the United States to remain the world's technological leader.

Because of this and the rising labor and other costs in some emerging markets, especially China, as well as technological changes that reduce the labor content in the production of many products, some manufacturing is heading back to the United States and other advanced nations (a process called *insourcing or reshoring*).

TABLE 1.2. Globalizing India

U.S. Company	Global Work Force	Work Force in India	Percentage in India	Outsourced Services
Accenture	146,000	27,000	18.5	By the end of 2008, the company has had more workers in India than in the United States
IBM	356,000	52,000	14.6	Independent development of software solutions for Indian and global clients
Citigroup	327,000	22,000	6.7	Analysis of U.S. stocks and evaluation of credit-worthiness of U.S. companies

Sources: "India's Edge Goes Beyond Outsourcing," *The New York Times*, April 4, 2008, p. C1; "IBM to Cut U.S. Jobs, Expand in India," *The Wall Street Journal*, March 26, 2009, p. B1; "Outsourced Forever," *Forbes*, September 26, 2011, pp. 38–39; "Benefits of Outsourcing Comes Under Scrutiny," *The Financial Times*, October 16, 2013, p. 1; "Manufacturers Capitalize on Goods Made in the U.S.," *The Financial Times*, October 16, 2013, p. 1; "Why They're Wrong," *The Economist*, October 1, 2016, p. 11; "The Jobs Sent to India May Now Go to Indiana," *The Wall Street Journal*, July 31, 2017, p. A1; and "IBM Makes a Big Bet on India," *The New York Times*, October 1, 2017, Business, p. 1.

A rough measure of the economic relationship among nations, or their **interdependence**, is given by the ratio of their imports and exports of goods and services to their gross domestic product (GDP). The GDP refers to the total value of all goods and services produced in the nation in a year. Figure 1.1 shows that imports and exports as a percentage of GDP are much larger for smaller industrial and developing countries than they are for the United States. Thus, international trade is even more important to most other nations than it is to the United States.

Even though the United States relies to a relatively small extent on international trade, a great deal of its high standard of living depends on it. First of all, there are many commodities—coffee, bananas, cocoa, tea, scotch, cognac—that the country does not produce at all. In addition, the United States has no deposits of such minerals as tin, tungsten, and chromium, which are important to certain industrial processes, and it has only dwindling reserves of copper and many other minerals. Much more important *quantitatively* for the

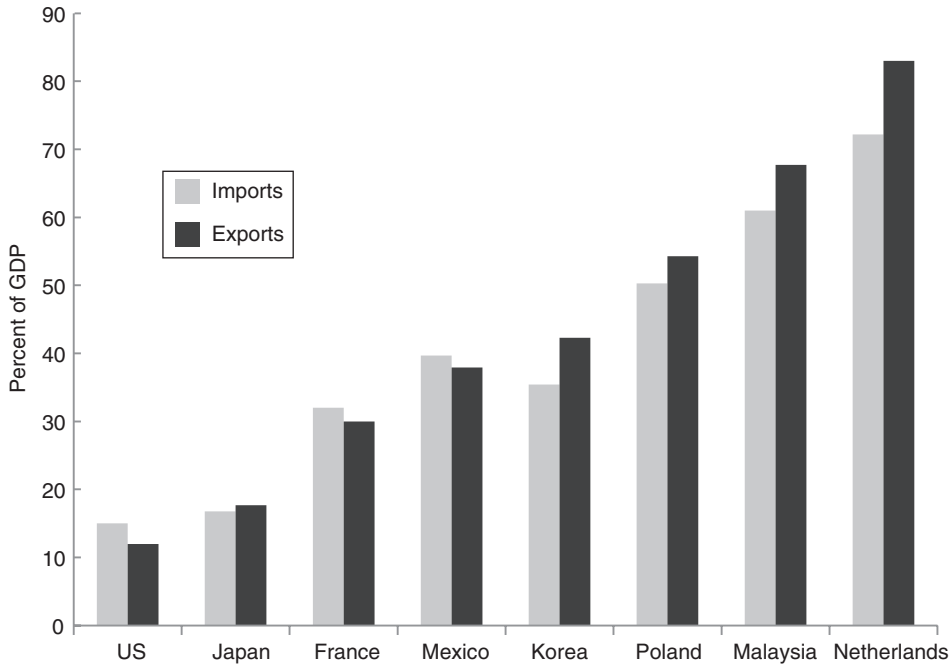

FIG. 1.1. Imports and Exports as a Percentage of GDP in Various Countries in 2017.
International trade (imports and exports) is even more important to most other smaller industrial and developing countries than it is to the United States.
Source: International Monetary Fund, *International Financial Statistics* (Washington, D.C.: IMF, 2018).

nation's standard of living are the many products that could be produced domestically but only at a higher cost than abroad. We will see later that these account for most of the *benefits or gains from trade*. It has been estimated that the expansion of international trade from 1950 to 2016 has increased U.S. per capita income by over $7,000 in 2016 dollars (*Hufbauer and Lu, 2017*).

Nevertheless, the United States could probably withdraw from world trade and still survive without a too drastic decline in its standard of living (a 2018 study estimated that the gains from trade range from 2 to 8 percent of GDP for the United States). The same cannot be said of nations such as Japan, Germany, England, or Italy—not to speak of Switzerland or Austria. Even Russia and China, which for political and military reasons valued self-sufficiency very highly in the past, have now come to acknowledge their need to import high-technology products, foreign capital, and even grains, soybeans, and other agricultural commodities and at the same time to be able to export large quantities of their goods and services in order to pay for all the imports they need.

In general, the economic interdependence among nations has been increasing over the years, as measured by the more rapid growth of world trade than world production (see Figure 1.2). This has certainly been the case for the United States during most of the past five decades (see Case Study 1-4). The only exception to world trade rising, and rising faster than world GDP, was in 1981–1982, 2001, and 2009 because of world recession and in 2012–2016. The recent slower growth of world trade (see Figure 1.2) is believed to have resulted mostly from some reversal in fragmentation in world production. For example, the share of Chinese imports of parts and components in its merchandise exports decreased from a peak of 60 percent in the mid-1990s to about 30 percent since the beginning of this decade.

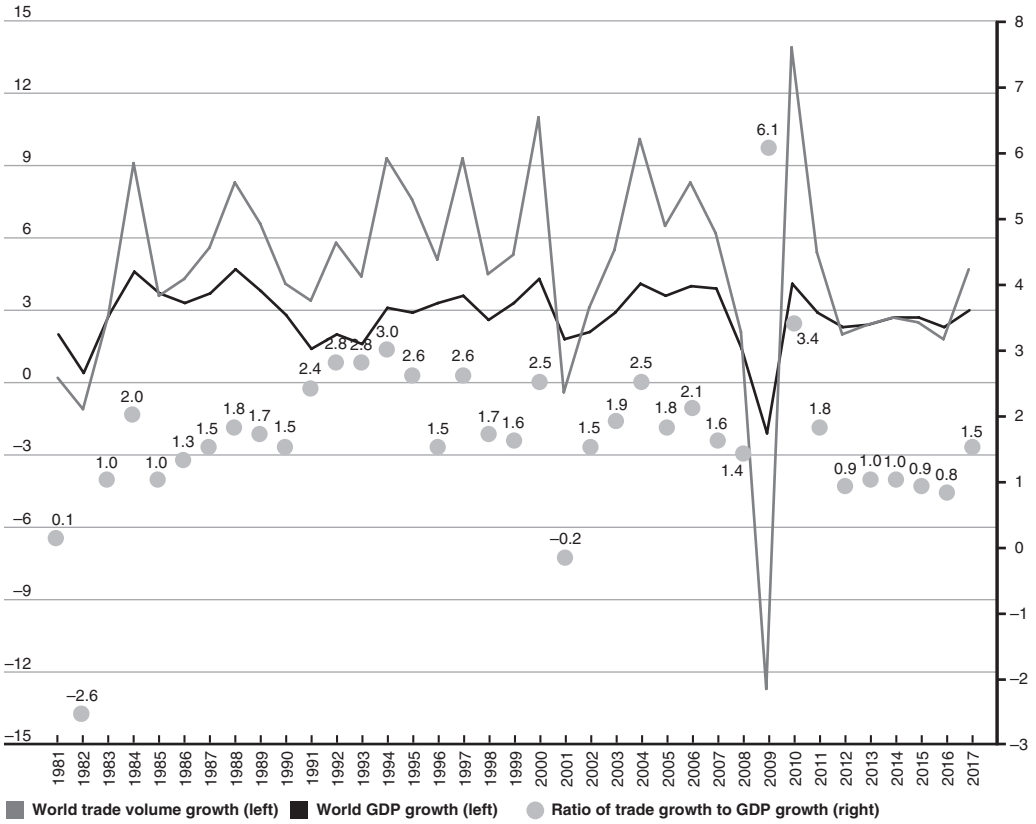

FIG. 1.2. Ratio of World Merchandise Volume Growth to World GDP Growth, 1981–2017.
Source: WTO, *World Trade Statistical Review* (Geneva: WTO, 2018), p. 31. See also C. Constantiescu, A. Mattoo, and M. Ruta, "The Global Trade Slowdown: Cyclical or Structural?" *IMF Working Paper WP/15/6*, January 2015.

CASE STUDY 1-4 Rising Importance of International Trade to the United States

After remaining at between 4 and 5 percent during most of the 1960s, imports and exports of goods and services as percentages of gross domestic product (GDP) rose sharply in the United States during the 1970s. Figure 1.3 shows that imports as a percentage of U.S. GDP increased from about 5 percent during the late 1960s to more than 10 percent of GDP in 1980 and to a high of nearly 18 percent in 2008 before falling below 14 percent in 2009 as a result of the U.S. recession. Exports increased from about 5 percent in the late 1960s to about 10 percent in 1980 and to a high of nearly 13 percent of GDP in 2008, but it fell to 11.0 percent of GDP in 2009 because of recession or slow growth abroad. Afterward, both U.S. imports and exports rose and fell as a percentage to GDP and were, respectively, 15.0 percent and 12.0 percent in 2017. The figure shows that international trade has become more important to the United States (i.e., the United States has become more interdependent with the world economy) during the past five decades. Figure 1.3 also shows that the share of imports in GDP exceeded the share of exports since 1976, and the excess widened sharply during the first half of the 1980s and then again from 1996 to 2006. This led to huge U.S. trade deficits and persistent demands for protection of domestic markets and jobs against foreign competition by American industry and labor.

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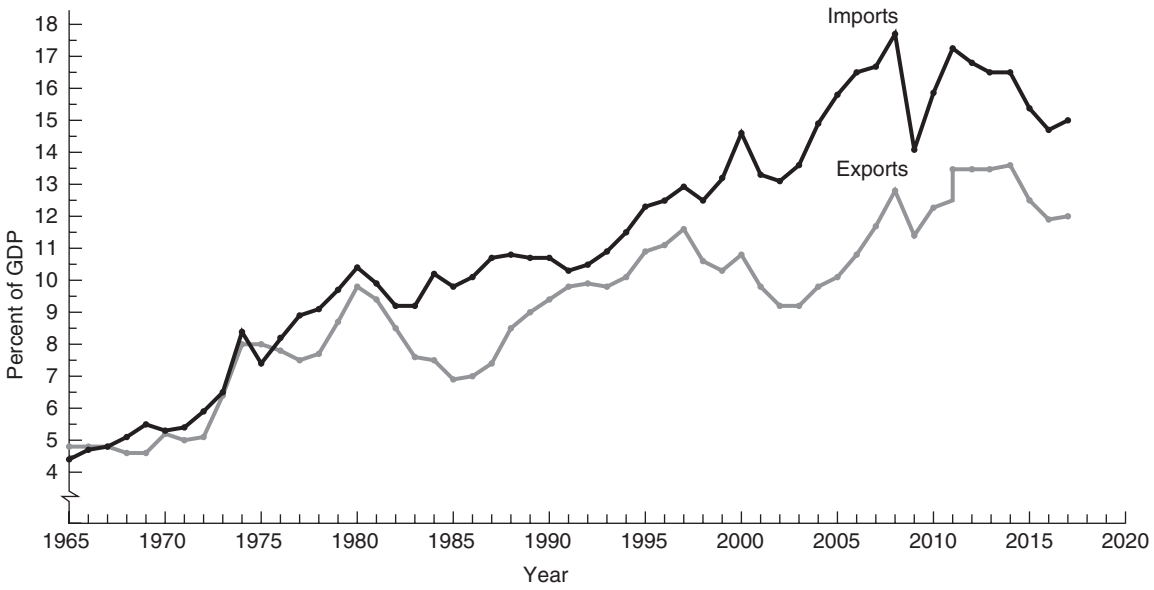

FIG. 1.3. Imports and Exports As a Percentage of U.S. GDP, 1965–2017.
The share of imports and exports in U.S. GDP increased sharply since the early 1970s. Thus, international trade has become increasingly important to the United States. During the first half of the 1980s, and again from 1996 to 2006, U.S. imports greatly exceeded U.S. exports, resulting in huge trade deficits for the United States.
Source: International Monetary Fund, *International Financial Statistics Yearbook* (Washington, D.C: IMF, Various Issues).

But there are many other crucial ways in which nations are interdependent, so that economic events and policies in one nation significantly affect other nations (and vice versa). For example, if the United States stimulates its economy, part of the increased demand for goods and services by its citizens spills into imports, which stimulate the economies of other nations that export those commodities. On the other hand, an increase in interest rates in the United States is likely to attract funds (capital) from abroad and increase the international value of the dollar. This stimulates U.S. imports and discourages U.S. exports, thus dampening economic activity in the United States and stimulating it abroad.

Finally, trade negotiations that reduce trade barriers across nations may lead to an increase in the exports of high-technology goods (such as computers) and thus to an increase in employment and wages in those industries in the United States but also to an increase in imports of shoes and textiles, thereby reducing employment and wages in those sectors. Thus, we see how closely linked, or interdependent, nations are in today's world and how government policies aimed at solving purely domestic problems can have significant international repercussions.

1.3 The International Flow of Goods, Services, Labor, and Capital

Interdependence in the world economy is reflected in the flow of goods, services, labor, and capital across national boundaries.

1.3A The International Flow of Goods and Services: The Gravity Model

We have seen that international trade is of growing importance to the nation's well-being. But which are the major U.S. trade partners and why? In general, we would expect nations to trade more with larger nations (i.e., with nations with larger GDPs) than with smaller ones, with nations that are geographically closer than with nations that are more distant (for which transportation costs would be greater), with nations with more open economic systems than with nations with less open systems, and with nations with similar language and cultural background than with nations that are more different.

In its simplest form, the **gravity model** postulates that (other things equal) the bilateral trade between two countries is proportional, or at least positively related, to the product of the two countries' GDPs, and to be smaller, the greater the distance between the two countries (just like in Newton's law of gravity in physics). That is, the larger (and the more equal in size) and the closer the two countries are, the larger the volume of trade between them is expected to be.

The gravity model can be expressed as follows:

$$T = C \cdot \frac{Y_1 \cdot Y_2}{D} \tag{1-1}$$

where

T = the value of the international trade between two countries (1 and 2)

C = a constant

Y = GDP

D = the distance between countries 1 and 2

Gravity equation (1-1) reads as follows: T (the value of international trade between countries 1 and 2) is equal to C (a constant) times Y_1 (the GDP of country 1) times Y_2 (the GDP country 2), divided by D (the distance between countries 1 and 2). The constant, C, gives (scales) the magnitude of the relationship among the gravity terms (i.e., Y_1 and Y_2, and D). We expect the relationship to hold only approximately because there are other factors that affect trade between two countries besides the major ones specified by the model.

The value of trade between two countries tends to be greater than otherwise if the two countries have the same language, share a similar cultural background, and have unrestricted trade between them (as is the case between the United States and Canada that not only share the same language and a similar cultural background but also have, together with Mexico, a free trade agreement—NAFTA—discussed in Chapter 10). Indeed, deviations from the value of trade between two countries predicted by the gravity model are an indication and a measure of the extent to which the trade context between the two nations differs from the one most conducive to trade.

At the same time, the value of trade between the United States and Canada predicted by the model is not as large as that predicted by the model between any two adjacent states of the United States or provinces of Canada. Obviously, there are still other forces (i.e., remaining differences in culture and the existence of "buy national" preferences) at work that make trade between adjacent states and provinces of the same country greater than the international trade between even very similar countries (see Case Study 1-5).

CASE STUDY 1-5 The Gravity Model at Work

According to the gravity model, we expect the United States to trade more with its neighbors, Canada and Mexico, than with similar but more distant nations, and more with large economies, such as China, Japan, and Germany, than with smaller ones. This is exactly what Table 1.3 shows. That is, the largest trade partners of the United States are generally larger and closer. (The appendix to this chapter provides detailed data on the commodity and geographic concentration of international trade, as well as on the world's leading exporters and importers of goods and services; Case Study 13-1 then gives the major commodity exports and imports of the United States in 2017.)

TABLE 1.3. The Major Trade Partners of the United States in 2017 (billions of dollars)

Country	Exports	Imports	Exports Plus Imports
China	$188.0	$523.7	$711.7
Canada	341.3	338.5	679.8
Mexico	276.7	345.4	622.1
Japan	114.7	171.3	286.0
Germany	86.6	153.3	239.9
United Kingdom	126.2	110.6	236.8
South Korea	73.4	82.7	156.1
India	49.5	76.8	126.3
France	53.0	66.8	119.8
Brazil	63.5	35.0	98.5

Source: U.S. Department of Commerce, "U.S. International Trade by Selected Countries and Areas," December 2018.

1.3B The International Flow of Labor and Capital

Besides trade in goods and services, the international flow of people (migration) and capital across national boundaries is another measure or indicator of economic integration and globalization in the world economy.

Today, there are about 190 million people in the world who live in a country other than the one in which they were born—nearly 60 percent of them are in rich countries (about 36 million in Europe and 38 million in the United States). People migrate primarily for economic reasons (i.e., to improve their standard of living and provide more opportunities for their children), but some do so to escape political and religious oppression. The 38 million foreign-born people who live in the United States represent 12.5 percent of the U.S. population and 16.2 percent of the American labor force. Of these, over 11 million, or nearly 30 percent, entered the nation illegally. Most nations impose restrictions on immigration to reduce the inflow of low-skilled people (while often encouraging the immigration of highly skilled and technical people). Migration is generally more restricted and regulated than the international flow of goods, services, and capital. (International labor migration is examined in detail in Section 12.6.)

In general, capital flows more freely across national boundaries than people. Financial or portfolio capital (bank loans and bonds) generally moves to nations and markets where interest rates are higher, and foreign direct investments in plants and firms flow to nations where expected profits are higher. This leads to the more efficient use of capital and generally benefits both lenders and borrowers. During the 1970s, Middle Eastern nations deposited a great deal of their huge earnings from petroleum exports in New York and London

CASE STUDY 1-6 Major Net Exporters and Importers of Capital

Table 1.4 shows importers of capital in 2017. Practically all nations export and import capital as their investors take advantage of foreign lending and investment opportunities, cover risk, and diversify their portfolios. Nations that export more capital than they import are the net capital exporters on the world scene, while those that import more capital than they export are the net capital importers. The table shows that Germany, China, and Japan are the largest net capital exporters. The United States, on the other hand, is by far the largest net capital importer. The United States is simply spending too much and living beyond its means—a situation that the United States needs to correct.

TABLE 1.4. Major Net Exporters and Importers of Capital in 2017

Net Exporters of Capital	Percent of World Capital Exports	Net Importers of Capital	Percent of World Capital Imports
Germany	21.2%	United States	43.5%
China	14.1	United Kingdom	10.0
Japan	14.0	India	4.8
Netherlands	5.8	Canada	4.6
Taiwan (Prov. China)	5.7	Turkey	4.4
Korea	5.6	France	3.4
Switzerland	4.5	Australia	3.0
Singapore	4.4	Argentina	2.9
Other	24.7	Other	23.4

Source: IMF Data Bank, July 2018.

banks, which then lent (recycled) them to Latin American and Asian governments and corporations. During the 1980s, Japan invested a large chunk of its huge export earnings in financial assets and real estate and to set up corporate subsidiaries in the United States.

Since the mid-1980s, the United States has become an increasingly large net borrower from the rest of the world to cover its excess of spending over production (see Case Study 1-6). Global banks established branches in major international monetary centers around the world (New York, London, Frankfurt, Tokyo, Shanghai, and Singapore). More than $5 trillion (about 30 percent of the size of the U.S. GDP or economy) of foreign currencies are exchanged each day by around-the-clock trading in world financial centers, and newly established sovereign funds (financial institutions owned by Middle Eastern petroleum exporting nations, Norway, Singapore, China, Russia, and Brazil) are making huge investments of all kinds all over the world. Financial markets are globalized as never before. The downside is that when a financial crisis starts in one country, it quickly spreads to others. (International capital flows are examined in detail in Chapter 12 and financial crises in Chapter 21.)

1.3C Globalization Before and After the Global Financial Crisis

From Figure 1.4, we see that the most recent process of globalization of the world economy (i.e., the international flow of trade, services, and finance) that started in the early 1980s rapidly accelerated in the 1990s, reaching the peak in 2007, but then it declined sharply

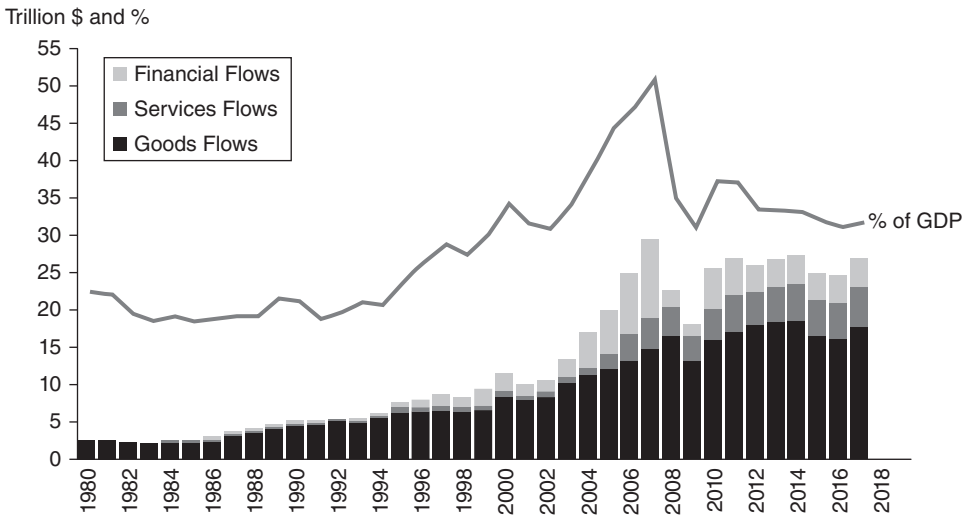

FIG. 1.4. Goods, Services and Financial Flows, 1980–2017.
Globalization (cross-border flows of goods, services, and finance) rose from $5.0 trillion or 23 percent of world GDP in 1990 to the high of $29 trillion or 52% of world GDP in 2007. It then declined as a result of the 2008–2009 global financial crisis and recession and they were $27 trillion or 33% of world GDP in 2017.

Source: Adapted and updated from McKinsey, *Global Flows in a Digital Age* (New York, April 2014); "Globalization Is Changing, Not Going into Reverse," *The Financial Times*, April 15, 2016, p. 9; Hu and M. Spence, "Why Globalization Stalled," *Foreign Affairs*, July/August, 2017, pp. 54–63; WTO, *World Trade Statistical Review* (Geneva: WTO, 2018); and IMF, *International Financial Statistics Yearbook* (Washington, D.C.: IMF, 2018).

during the 2008–2009 global financial crisis and recession. It rose with the recovery of the world economy in 2010, but it remained lower (both in absolute amount and a percentage of world GDP) from 2011 to 2017 than at its peak in 2007. The question now is whether cross-border flows or globalization will resume its rapid growth or will stabilize at the 2010–2017 level in the future. Note that although services account for about two-thirds of world GDP, international trade in goods is by far the largest type of flow (from three to four times larger than either the international flow of services and finance).

The share of people living outside their home country (the other component of the globalization process), on the other hand, has remained remarkably stable at about 2.7 percent since 1980. What has increased sharply is short-term travel and students enrolling in foreign universities. Even greater has been the increase in the cross-border flow of data and communications.

1.4 International Economic Theories and Policies

Let us now examine the purpose of international economic theories and policies and the subject matter of international economics.

1.4A Purpose of International Economic Theories and Policies

The purpose of economic theory in general is to explain and predict. That is, economic theory abstracts from the details surrounding an economic event in order to isolate the few variables and relationships deemed most important in explaining and predicting the event. Along these lines, international economic theory usually assumes a two-nation, two-commodity, and two-factor world. It further assumes no trade restrictions to begin with,

perfect mobility of factors within the nations but no international mobility, perfect competition in all commodity and factor markets, and no transportation costs.

These assumptions may seem unduly restrictive. However, most of the conclusions reached on the basis of these simplifying assumptions hold even when they are relaxed to deal with a world of more than two nations, two commodities, and two factors and with a world where there is international mobility of factors, imperfect competition, transportation costs, and trade restrictions.

Starting with the simplifying assumptions just mentioned, international economic theory examines the basis for and the gains from trade, the reasons for and the effects of trade restrictions, policies directed at regulating the flows of international payments and receipts, and the effects of these policies on a nation's welfare and on the welfare of other nations. International economic theory also examines the effectiveness of macroeconomic policies under different types of international monetary arrangements or monetary systems.

Although most of international economics represents the application of general microeconomic and macroeconomic principles to the international context, many theoretical advances were made in the field of international economics itself and only subsequently did they find their way into the body of general economic theory. One example is the theory of the second best (discussed in Section 10.4A). Production and general equilibrium theory, growth theory, welfare economics, as well as many other economic theories, have also benefited from work in the international sphere. These contributions attest to the vitality and importance of international economics as a special branch of economics.

1.4B The Subject Matter of International Economics

International economics deals with the economic and financial interdependence among nations. It analyzes the flow of goods, services, payments, and monies between a nation and the rest of the world, the policies directed at regulating these flows, and their effect on the nation's welfare. This economic and financial interdependence is affected by, and in turn influences, the political, social, cultural, and military relations among nations.

Specifically, international economics deals with international trade theory, international trade policy, the balance of payments and foreign exchange markets, and open-economy macroeconomics. **International trade theory** analyzes the basis and the gains from trade. **International trade policy** examines the reasons for and the effects of trade restrictions. The **balance of payments** measures a nation's total receipts from and the total payments to the rest of the world, while **foreign exchange markets** are the institutional framework for the exchange of one national currency for others. Finally, open-economy macroeconomics deals with the mechanisms of **adjustment in balance-of-payments** disequilibria (deficits and surpluses). More importantly, it analyzes the relationship between the internal and the external sectors of the economy of a nation and how they are interrelated or interdependent with the rest of the world economy under different international monetary systems.

International trade theory and policies are the **microeconomic** aspects of international economics because they deal with *individual* nations treated as single units and with the (relative) price of *individual* commodities. On the other hand, since the balance of payments deals with *total* receipts and payments, as well as with adjustment and other economic policies that affect the level of *national* income and the *general* price level of the nation as a whole, they represent the **macroeconomic** aspects of international economics. These are often referred to as **open-economy macroeconomics** or **international finance**. International economic relations differ from interregional economic relations (i.e., the economic relations among different parts of the same nation), thus requiring somewhat

different tools of analysis and justifying international economics as a distinct branch of economics. That is, nations usually impose some restrictions on the flow of goods, services, and factors across their borders, but not internally. In addition, international flows are to some extent hampered by differences in language, customs, and laws. Furthermore, international flows of goods, services, and resources give rise to payments and receipts in foreign currencies, which change in value over time.

International economics has enjoyed a long, continuous, and rich development over the past two centuries, with contributions from some of the world's most distinguished economists, from *Adam Smith* to *David Ricardo, John Stuart Mill, Alfred Marshall, John Maynard Keynes*, and *Paul Samuelson*. We will be examining the contribution made by each of these and other great economists in the following chapters. Other special branches of economics are of more recent vintage, and none can claim such a distinguished list of contributors and background.

1.5 Current International Economic Problems and Challenges

In this section, we briefly identify the most important international economic problems and challenges facing the world today. These are the problems that the study of international economic theories can help us to understand and to evaluate policies for their resolution. The greatest economic challenge in the world today is the slow growth and high unemployment facing most advanced countries. On the trade side, the most serious problem is rising protectionism (and even the danger of a trade war) in the context of a globalized world and the rise of China as a new world economic power. On the monetary side is the excessive volatility of exchange rates (i.e., the very large fluctuations in the international value of national currencies) and their large and persistent misalignments (i.e., the fact that exchange rates can be far out of equilibrium for long periods of time). Other serious international economic problems are the deep structural imbalances in the United States and the slow growth in Europe and Japan; the deep poverty in many developing countries; resource scarcity, environmental degradation, and climate change; and the danger they pose for continued growth and sustainable world development. A brief description of these problems and challenges is discussed in the following:

1. ***Slow Growth and High Unemployment in Advanced Economies After "the Great Recession"*** Since the beginning of this decade, advanced economies experienced slow growth and high unemployment as they came out of the most serious financial and economic crisis (often referred to as "the great recession") since the Great Depression of 1929. The 2008–2009 crisis started in the U.S. subprime (high-risk) housing mortgage market in August 2007 and then spread to the entire financial and real sectors of the U.S. economy in 2008 and from there to the rest of the world. The United States and other advanced nations responded by rescuing banks and other financial institutions from bankruptcy, slashing interest rates, and introducing huge economic stimulus packages. These efforts, however, only succeeded in preventing the economic recession from being deeper than otherwise. Even though the recession was officially over in 2010, slow growth and high unemployment remain the most serious economic problems facing most advanced nations today.
2. ***The Challenges Arising from the Emergence of China as a Leading World Economic Power*** The emergence of China as a leading world economic and political power poses major adjustment challenges to the United States and other countries.

China is now the largest trader in the world, but its state capitalism is allegedly providing it with major and unfair trade and competitive advantages with respect to advanced countries and other emerging market economies alike. China also owns more than 2 trillion dollars of the U.S. national debt, and it is pushing to make its currency (the renminbi or yuan) a leading international currency in competition with the dollar. At the same time, China's spectacular economic growth during the past three decades has provided a powerful stimulus to economic growth for the entire world. The challenge for the United States and the world is how to adjust and make room for China to reflect its rising economic and political importance in the world economy in a peaceful manner for the benefit of all.

3. ***Trade Protectionism in Advanced Countries in a Globalized World*** In the study of the pure theory of international trade in Part 1 (Chapters 2–7), we see that the best policy for the world as a whole is free trade. With free trade, each nation will specialize in the production of the commodities that it can produce most efficiently and, by exporting some of them, obtain more of other commodities than it could produce at home. In the real world, however, most nations impose some restrictions on the free flow of trade. Although invariably justified on national welfare grounds, trade restrictions are usually advocated by and greatly benefit a small minority of producers in the nation at the expense of the mostly silent majority of consumers. The problem is now exacerbated by the increasing competitive challenge that advanced countries face from the leading emerging market economies, particularly China. Widespread fears of large job losses have led to calls for protection from foreign competition in advanced countries, especially in the United States. The challenge for advanced countries is how to remain competitive, avoid major job losses, share in the benefits of globalization, and avoid increased protectionism and a trade war. How advanced countries can meet this challenge is examined in Part 2 (Chapters 8–12) of the text.
4. ***Excessive Fluctuations and Misalignment in Exchange Rates and Financial Crises*** In the study of international finance in Part 3 (Chapters 13–15), we see that exchange rates have exhibited excessive fluctuations and volatility, as well as persistent misalignments or disequilibria. Periodic financial crises have also led to financial and economic instability and dampened growth in advanced and emerging markets alike—witness the financial crisis that started in Southeast Asia in 1997 and in the United States in 2007. These can disrupt the pattern of international trade and specialization and can lead to unstable international financial conditions throughout the world. They have also led to renewed calls for reforms of the present international monetary system and for more international coordination of economic policies among the leading economies (these are examined in Chapters 20 and 21).
5. ***Structural Imbalances in Advanced Economies and Insufficient Restructuring in Transition Economies*** The United States faces deep structural imbalances in the form of excessive spending and inadequate national saving. This means that the United States is simply living beyond its means by borrowing excessively abroad. The result is huge capital inflows, an overvalued dollar, huge and unsustainable trade deficits, and unstable financial conditions. Europe faces inflexible labor markets and Japan serious inefficiencies in its distribution system—which slows their growth. Transition economies (the former communist countries of Central and Eastern Europe) require additional economic restructuring in order to establish full-fledged market economies and reduce the huge emigration of young and skilled workers. Inadequate growth in these areas dampens the growth of the entire world economy and reinforces calls for protectionism. Thus, we see how national and regional challenges quickly become

global economic problems in our interdependent world. Part 4 of the text (Chapters 16–19 dealing with open-economy macroeconomics) examines the policies available to address these challenges.

6. ***Deep Poverty in Many Developing Countries*** Even though many developing countries, especially China and India, have been growing very rapidly, some of the poorest developing nations, particularly those of sub-Saharan Africa, face deep poverty, unmanageable international debts, economic stagnation, and widening international inequalities in living standards. There are today nearly 700 million people (about one-tenth the world population) who live on less than $2.00 day! A world where thousands of people starve each year is not only unacceptable from an ethical point of view, but it also can hardly be expected to be peaceful and tranquil. Chapters 11 and 21 examine why international inequalities in standards of living between the rich and many of the poorest developing countries of the world are so large and widening and what can be done to stimulate growth in the world's poorest countries.
7. ***Resource Scarcity, Environmental Degradation, Climate Change, and Unsustainable Development*** Growth in rich countries and development in poor countries are now threatened by resource scarcity, environmental degradation, and climate change. Over the years, rapidly growing demand for goods and services, particularly by China and India, and supply rigidities in many producing nations led to sharp increases in the price of petroleum and other raw materials, as well as food. With recession and slow growth as a result of the recent global financial crisis, the demand and prices of raw materials and food have moderated or declined, but resource scarcity persists and will surely be back in the future. Also, in many leading emerging market economies, protection of the environment takes a backseat to the growth imperative. Environmental pollution is dramatic in some parts of China and India, and the Amazon forest is rapidly being destroyed. And we are witnessing very dangerous climate changes that may have increasingly dramatic effects on life on the earth. These problems can be only adequately analyzed and addressed by a joint effort of all the sciences together, major worldwide cooperation, and a change in world governance.

1.6 Organization and Methodology of the Text

In this section, we briefly describe the organization, content, and methodology of this text.

1.6A Organization of the Text

This text is organized into four parts. Part 1 (Chapters 2–7) deals with international trade theory. It starts with the explanation of the important theory of comparative advantage in Chapter 2, examines the basis and the gains from trade in Chapter 3, and shows how equilibrium-relative prices are determined for internationally traded goods and services in Chapter 4. The Heckscher–Ohlin theory of international trade and its empirical relevance are examined in Chapter 5. Chapter 6 then discusses new trade theories that base trade on economies of scale and imperfect competition. Chapter 7 deals with growth and trade.

Part 2 (Chapters 8–12) focuses on international trade policies. Chapter 8 examines tariffs, the most important of the trade restrictions, while Chapter 9 extends the discussion to nontariff trade barriers, evaluates the justifications usually given for trade protectionism, and summarizes its history. Chapter 10 deals with economic integration among a group of countries, Chapter 11 examines the effect of international trade on economic development, and Chapter 12 discusses international resource movements and multinational corporations.

Part 3 (Chapters 13–15) deals with the balance of payments, foreign exchange markets, and exchange rate determination. A clear grasp of these three chapters is crucial for understanding Part 4, which focuses on the adjustment to balance-of-payments disequilibria and open-economy macroeconomics. Chapter 13 discusses the measurement of a nation's balance of payments. Besides presenting the theory, Chapter 14 also examines the actual operation of foreign exchange markets and therefore is of great practical relevance to students of international economics, particularly business majors. Chapter 15 deals more closely with some of the monetary and financial determinants of exchange rates and the reason for exchange rate volatility.

Part 4 (Chapters 16–21) examines the various mechanisms for adjusting balance-of-payments disequilibria, which are often referred to as open-economy macroeconomics. Chapter 16 covers the adjustment mechanism that operates by changing the relationship between domestic and foreign prices, while Chapter 17 examines the income adjustment mechanism and presents a synthesis of the automatic adjustment mechanisms. Chapters 18 and 19 focus on adjustment policies and open-economy macroeconomics proper. Chapter 20 compares fixed versus flexible exchange rates, examines the European Monetary System, and discusses international macroeconomic policy coordination. Finally, Chapter 21 examines the operation of the international monetary system over time, especially its present functioning, and it offers possible solutions for the major international economic challenges facing the world today.

The book starts at an abstract and theoretical level and then becomes more applied in nature and policy oriented. The reason is that one must understand the nature of the problem before seeking appropriate policies for its solution. Each part of the text starts with simple concepts and gradually and systematically proceeds to the more complex and difficult.

1.6B Methodology of the Text

This text presents all of the principles and theories for a thorough understanding of international economics. But it does so on an intuitive level in the text itself while presenting more rigorous proofs requiring intermediate microeconomics and macroeconomics in the optional appendices at the end of most chapters. Thus, the book is designed to be useful to students of different academic backgrounds and provide a great deal of flexibility in the study of international economics. To make the concepts and theories presented more accessible and concrete, the same example is followed through in all chapters dealing with the same basic concept or theory, and actual numbers are used in examples.

A shorter and simpler version of the text can be costumed for students with only one course in principles of economics as background.

Besides the numerous examples and current events woven throughout the text to illustrate a theory or a point, from 4 to 10 specific case studies are presented in each chapter of the text. These real-world case studies are generally short and to the point and serve to reinforce an understanding of and highlight the most important topics presented in the chapter.

Each chapter contains six or seven sections plus learning objectives, a summary, a list of important terms, questions for review, problems, one or more appendices, a selected bibliography (provided at www.wiley.com/college/salvatore), and NetLinks with Internet site addresses. Sections of each chapter are numbered for easy reference (as in this chapter). Long sections are broken down into two or more numbered subsections.

Each section of the chapter is summarized in one paragraph in the summary. The purpose of this feature is to integrate the material more closely and show the relationship between the various chapters. Important terms are printed in **boldface** when they are first introduced and explained (as in this chapter); they are listed under Key Terms at the end

of each chapter and are then collected with their definitions in the general Glossary at the end of the text.

There are from 12 to 14 questions for review and an equal number of problems for each chapter. The questions for review refer to the most important concepts covered in each chapter. The problems differ from the questions for review in that either they ask the student to analyze a current real-world international economic problem or they ask the student to get a pencil and paper and draw a graph illustrating a particular theory or actually calculate a specific measure. These graphs and calculations are challenging but not tricky or time consuming. They are intended to show whether or not the student understands the material covered in the chapter to the point where he or she can use it to analyze similar problems. The student is urged to work through these problems because only with his or her active participation will international economics truly come alive.

The selected bibliography gives the most important references, clearly indicating the particular concept of the theory or application to which they refer, as well as the level of difficulty of each selection or groups of selections. INTERNet provides International Economics Internet site addresses or links with information on where to access additional information on the topics presented in each chapter. Answers to asterisked (*) problems are provided at www.wiley.com/college/salvatore.

SUMMARY

1. The world today is in the midst of a revolution based on the globalization of tastes, production, labor markets, and financial markets. Globalization is important because it increases efficiency; it is inevitable because international competition requires it. Globalization is being blamed for increased world income inequalities, child labor, environmental pollution, and other problems, and it has given rise to a strong antiglobalization movement.

2. The United States relies on international trade to obtain many products that it does not produce and some minerals of which it has no deposits or dwindling domestic reserves. More important *quantitatively* for the nation's standard of living are the many products that could be produced domestically but only at a higher cost than abroad. International trade is even more crucial to the well-being of other nations.

3. Interdependence in the world economy is reflected in the flow of goods, services, labor, and capital across national boundaries. The gravity model postulates that (other things equal) the bilateral trade between two countries is proportional or at least positively related to the product of the countries' GDPs, and it is smaller the greater the distance between the two countries. There are today about 190 million people in the world who live in a country other than the one in which they were born, about 38 million of which are in the United States. Huge amounts of capital (in the form of bank loans, bonds, and foreign direct investments in plants and firms) also move across national boundaries each year.

4. Starting with many simplifying assumptions, international economic theories examine the basis for and the gains from trade, the reasons for and the effects of trade restrictions, the policies directed at regulating the flow of international payments and receipts, and the effects of these policies on a nation's welfare. Thus, international economics deals with the pure theory of trade, the theory of commercial policy, the balance of payments and foreign exchange markets, and adjustment in the balance of payments or open-economy macroeconomics. The first two topics are the microeconomic aspects of international economics; the latter two are the macroeconomic aspects, also known as international finance.

5. The major international economic problems facing the world today are (1) slow growth and high unemployment in advanced nations after "the great recession," (2) the challenges arising from the emergence of China as a leading economic and political power, (3) the rise of trade protectionism in advanced countries in a globalized world, (4) excessive volatility and large disequilibria in exchange rates, (5) structural imbalances in advanced economies and insufficient restructuring in transition economies, (6) deep poverty in many developing countries, and (7) resource scarcity, environmental degradation, and climate change.

6. The book is organized into four parts. Part 1 (Chapters 2–7) deals with international trade theory. Part 2 (Chapters 8–12) examines international trade policies. Part 3 (Chapters 13–15) covers the balance of payments and foreign exchange markets. Part 4 (Chapters 16–21) examines the various mechanisms to adjust balance-of-payments disequilibria and open-economy macroeconomics.

KEY TERMS

Adjustment in balance-of-payments, 13
Antiglobalization movement, 4
Balance of payments, 13
Foreign exchange market, 13
Globalization, 2
Gravity model, 9
Interdependence, 5
International finance, 13
International trade policy, 13
International trade theory, 13
Macroeconomics, 13
Microeconomics, 13
Open-economy macroeconomics, 13

QUESTIONS FOR REVIEW

1. What is the meaning of globalization? What is its advantage and disadvantage? Why is there an antiglobalization movement?

2. What are some of the most important current events that are part of the general subject matter of international economics? Why are they important? How do they affect the economic and political relations between the United States and other nations?

3. How is international trade related to the standard of living of the United States? of other large industrial nations? of small industrial nations? of developing nations? For which of these groups of nations is international trade most crucial?

4. How can we get a rough measure of the interdependence of each nation with the rest of the world? What does the gravity model postulate?

5. What does international trade theory study? international trade policy? Why are they known as the microeconomic aspects of international economics?

6. What is the balance of payments, and what are foreign exchange markets? What is meant by adjustment in the balance of payments? Why are these topics known as the macroeconomic aspects of international economics? What is meant by open-economy macroeconomics and international finance?

7. What is the purpose of economic theory in general? of international economic theories and policies in particular?

8. What simplifying assumptions do we make in studying international economics? Why are these assumptions usually justified?

9. Why does the study of international economics usually begin with the presentation of international trade theory? Why must we discuss theories before examining policies? Which aspects of international economics are more abstract? Which are more applied in nature?

10. Which are the most important international economic challenges facing the world today? What are the benefits and criticisms of globalization?

11. From your previous course(s) in economics, do you recall the concepts of demand, supply, and equilibrium? Do you recall the meaning of the elasticity of demand? perfect competition? factor markets? the production frontier? the law of diminishing returns? the marginal productivity theory? (If you do not remember some of these concepts, quickly review them from your principles of economics text or class notes.)

12. From your previous course(s) in economics, do you recall the concepts of inflation, recession, growth? marginal propensity to consume, multiplier, accelerator? monetary policy, budget deficit, fiscal policy? (If you do not remember some of these concepts, quickly review them from your principles of economics text or class notes.)

PROBLEMS

1. Go through your daily newspaper and identify:

(a) Seven or eight news items of an international economic character.

(b) The importance or effect of each of these problems on the U.S. economy.

(c) The importance of each of these news items to you personally.

2. This question will involve you in measuring the economic interdependence of some nations:

(a) Identify any five *industrial* nations not shown in Figure 1.1.

(b) Go to your school library and find the latest edition of *International Financial Statistics* and construct a table showing the degree of economic interdependence for the nations you have chosen. Is the economic interdependence of the smaller nations greater than that of the larger nations?

3. Do the same as for Problem 2 for any five *developing* countries not shown in Figure 1.1.

4. Does the trade between the United States and Brazil and Argentina follow the prediction of the gravity model?

5. Take your principles of economics text (even if you have already had intermediate theory) and from the table of contents:

(a) Identify the topics presented in the microeconomics parts of the text.

(b) Compare the contents of the microeconomic parts of your principles text with the contents of Parts 1 and 2 of this text.

(c) Identify the topics presented in the macroeconomics parts of the text.

(d) Compare the contents of the macroeconomics parts of your principles text with the contents of Parts 3 and 4 of this text.

***6.** (a) What does consumer demand theory predict will happen to the quantity demanded of a commodity if its price rises (e.g., as a result of a tax) while everything else is held constant?

(b) What do you predict would happen to the quantity of imports of a commodity if its price to domestic consumers rose (e.g., as a result of a tax on imports)?

***7.** (a) How can a government eliminate or reduce a budget deficit?

(b) How can a nation eliminate or reduce a balance-of-payments deficit?

8. (a) How do international economic relations differ from interregional economic relations?

(b) In what way are they similar?

9. How can we deduce that nations benefit from voluntarily engaging in international trade?

***10.** If nations gain from international trade, why do you think most of them impose some restrictions on the free flow of international trade?

11. Can you think of some ways by which a nation can gain at the expense of other nations from trade restrictions?

12. When the value of the U.S. dollar falls in relation to the currencies of other nations, what do you think will happen to the quantity of U.S.:

(a) Imports?

(b) Exports?

*= Answer provided at www.wiley.com/college/salvatore.

APPENDIX

In this appendix, we present basic data on the commodity and geographic concentration of international trade, as well as on the world's leading exporters and importers of goods and services. We also provide sources of additional international data and information on current events.

A1.1 Basic International Trade Data

Table 1.5 shows the commodity composition of world merchandise (goods) trade in 2017. It shows that of the total of world merchandise exports of $17,730 billion, $1,732 billion or 9.8 percent were in agricultural products, $2,629 billion or 14.8 percent were in fuels and mining products, and $12,058 billion or 68.0 percent were in manufactures (of which $411 or 2.3 percent were in iron and steel, $1,984 billion or 11.2 percent were in chemicals, $1,841 billion or 10.4 percent were in office and telecom equipment, $1,458 billion or 8.2 percent were in automotive products, and $5,620 or 31.7 percent were in other manufactures). Thus, 68.0 percent of total world merchandise exports were manufactures, 14.8 percent in fuels and mining products, 9.8 percent in agricultural products, and 7.4 percent in products not classified elsewhere.

Table 1.6 shows the geographic composition of world merchandise trade in 2017. It shows that of the total of $17,730 billion world merchandise exports, $2,447 billion or 13.8 percent originated in North America (of which $1,547 billion or 8.7 percent in the

TABLE 1.5. Commodity Composition of World Merchandise Trade, 2017 (billion dollars and percentage share of world total)

Category	Value of Exports	Percent of World Exports
Agricultural products	1,732	9.8
Fuels and mining products	2,629	14.8
Manufactures	12,058	68.0
Iron and steel	411	2.3
Chemicals	1,984	11.2
Office and telecom equipment	1,841	10.4
Automotive products	1,458	8.2
Textiles and clothing	750	4.2
Other manufactures	5,620	31.7
Products not classified elsewhere	1,311	7.4
Total merchandise exports	17,730	100.0

Source: WTO, *World Trade Statistical Review* (Geneva, 2018).

United States, $421 billion or 2.4 percent in Canada and $409 billion or 2.3 percent in Mexico), $603 billion or 3.4 percent originated in South and Central America (of which $218 billion or 1.2 percent in Brazil), $6,702 billion or 37.8 percent originated in Europe (of which 1,448 or 8.2 percent in Germany), $532 billion or 3.0 percent came from the Commonwealth of Independent States or CIS (of which $353 billion or 2.0 percent from the Russian Federation), $425 billion or 2.4 percent originated in Africa (of which $89 billion or 0.5 percent from South Africa), $993 billion or 5.6 percent (mostly petroleum) originated in the Middle East (of which $218 billion or 1.2 percent from Saudi Arabia), and $6,028 billion or 34.0 percent came from Asia (of which $2,263 billion or 12.8 percent from China). Thus, Europe and Asia were by far the world's largest exporters, followed by North America. The last two columns of Table 1.6 show the geographic distribution of world merchandise imports in 2017.

Table 1.7 shows the geographic destination of the merchandise exports of various regions in 2017. The first column of the table shows that 38.1 percent of the merchandise exports of North America went to North America (these are U.S. exports to Canada and Mexico, and Canadian and Mexican exports to the United States and to each other), 4.2 percent went to South and Central America, 18.0 percent went to Europe, 0.7 percent went to the Commonwealth of Independent States (CIS), 1.1 percent went to Africa, 2.1 percent to the Middle East, and 35.7 percent went to Asia. The second column of Table 1.7 shows that 22.4 percent of the merchandise exports of South and Central America went to other countries of South and Central America. The other main trade partners of South and Central America were North America, Asia, and Europe. The third column shows that 70.0 percent of European trade is within or intraregional trade. As expected, Europe represents by far the largest trade partner of the Commonwealth of Independent States (CIS), as well as of Africa, while the Middle East exports (mostly petroleum) went primarily to Asia and Europe. Inter-Asia trade represents 59.9 percent of the Asian merchandise exports, with most of the rest destined to Europe, North America, and the Middle East.

TABLE 1.6. Geographical Composition of World Merchandise Trade, 2017 (billion dollars and percentage share of world total)

Region or Country	Value of Exports	Share (%)	Value of Imports	Share (%)
North America	$2,447	13.8	$3,370	18.7
United States	1,547	8.7	2,410	13.4
Canada	421	2.4	442	2.5
Mexico	409	2.3	432	2.4
South and Central America & Caribbean	603	3.4	595	3.3
Brazil	218	1.2	157	0.9
Chile	68	0.4	65	0.4
Argentina	58	0.3	67	0.4
Europe	6,702	37.8	6,687	37.1
Germany	1,448	8.2	1,167	6.5
Netherlands	652	3.7	574	3.2
France	535	3.0	625	3.5
Italy	506	2.9	453	2.5
United Kingdom	445	2.5	644	3.6
Spain	321	1.8	351	1.9
Commonwealth Indep. States (CIS)[a]	532	3.0	414	2.3
Russian Federation	353	2.0	238	1.3
Africa	425	2.4	541	3.0
South Africa	89	0.5	101	0.6
Middle East	993	5.6	739	4.1
Saudi Arabia	218	1.2	131	0.7
Asia	6,028	34.0	5,678	31.5
China	2,263	12.8	1,842	10.2
Japan	698	3.9	672	3.7
Korea	574	3.2	478	2.7
India	298	1.7	447	2.5
Australia	231	1.3	229	1.3
World	17,730	100.0	18,024	100.0

[a] Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.
Source: WTO, *World Trade Statistical Review* (Geneva, 2018), Tables A4, A5, and A6.

Table 1.8 ranks the leading merchandise exporting and importing countries in 2017. The table shows that the world's top exporters and importers are the largest industrial countries and China, with China leading the list of the world exporters and the United States leading the list of the world importers. China moved very rapidly in the ranks of the largest world merchandise exporters and importers in recent years and now occupies first place in exports and second place after the United States in imports. Table 1.8 also shows that the leading exporters were also, for the most part, the leading importers.

Table 1.9 shows the world's leading exporting and importing countries of world trade in commercial services in 2017. The ranking is similar to that for merchandise trade, except

TABLE 1.7. Geographical Destination of Merchandise Exports, 2017 (percentages)

	North America	South Central & America	Europe	Commonwealth Independent States (CIS)[a]	Africa	Middle East	Asia	World
North America	38.1%	29.8%	6.0%	3.1%	5.0%	9.9%	10.1%	13.8%
South & Central America	4.2	22.4	1.5	1.8	3.0	2.5	3.5	3.4
Europe	18.0	17.1	70.0	41.7	35.2	30.0	14.1	37.8
Commonwealth Independent States (CIS) [a]	0.7	1.4	3.7	24.4	3.8	2.2	2.1	3.0
Africa	1.1	1.3	2.3	0.6	13.9	3.0	2.2	2.4
Middle East	2.1	1.0	2.0	1.7	6.8	18.4	8.1	5.4
Asia	35.7	27.0	14.5	26.8	32.3	34.0	59.9	34.0
World	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a] Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.
Note: The values may not add up to 100.0 percent because of incomplete coverage and rounding.
Source: WTO, *World Trade Statistical Review* (Geneva, 2018).

TABLE 1.8. Leading Exporters and Importers of Merchandise, 2017 (billion dollars and percentage share of world total)

Exporters				Importers			
Rank	**Country**	**Value**	**Share (%)**	**Rank**	**Country**	**Value**	**Share (%)**
1	China	$2,263	12.8	1	United States	$2,410	13.4
2	United States	1,547	8.7	2	China	1,842	10.2
3	Germany	1,448	8.2	3	Germany	1,167	6.5
4	Japan	698	3.9	4	Japan	672	3.7
5	Netherlands	652	3.7	5	United Kingdom	644	3.6
6	Korea, Rep of	574	3.2	6	France	625	3.5
7	France	535	3.0	7	Netherlands	574	3.2
8	Italy	506	2.9	8	Korea, Rep of	478	2.7
9	United Kingdom	445	2.5	9	Italy	453	2.5
10	Belgium	430	2.4	10	India	447	2.5
Total of above		9,098	51.3	Total of above		9,312	51.8
World		17,730	100.0	World		18,024	100.0

Source: WTO, *World Trade Statistical Review* (Geneva, 2018), Table A6.

that the United States ranks first as the leading exporter and importer of services, and China, which ranks fifth on the lists of exporters of services and second of importers of services. Note that trade in world trade in commercial services is now about 30% of merchandise trade and has been growing more rapidly than the latter as a reflection of the shift toward a service economy in most countries, especially the advanced countries and emerging markets.

TABLE 1.9. Leading Exporters and Importers in World Trade in Commercial Services, 2017 (billion dollars and percentage share of world total)

Exporters				Importers			
Rank	**Country**	**Value**	**Share (%)**	**Rank**	**Country**	**Value**	**Share (%)**
1	United States	$762	14.4	1	United States	$516	10.2
2	United Kingdom	347	6.6	2	China	464	9.1
3	Germany	300	5.7	3	Germany	322	6.3
4	France	248	4.7	4	France	240	4.7
5	China	226	4.3	5	Netherlands	211	4.2
6	Netherlands	216	4.1	6	United Kingdom	210	4.1
7	Ireland	186	3.5	7	Ireland	199	3.9
8	India	183	3.5	8	Japan	189	3.7
9	Japan	180	3.4	9	Singapore	171	3.4
10	Singapore	164	3.1	10	India	153	3.0
Total of above		2,812	53.3	Total of above		2,675	52.6
World		5,279	100.0	World		5,074	100.0

Source: WTO, *World Trade Statistical Review* (Geneva, 2018), Table A8.

A1.2 Sources of Additional International Data and Information

The most important sources for national and international trade and financial data, as well as for current events, are the following.

PUBLISHED BY THE UNITED STATES GOVERNMENT

Economic Report of the President (Washington, D.C.: U.S. Government Printing Office, annual) contains chapters on recent economic events, as well as time series data on the U.S. economy (including international trade and finance).

Federal Reserve Bulletin (Washington, D.C.: Board of Governors of the Federal Reserve System, monthly) includes a great deal of trade and financial information and data for the United States and other nations.

Statistical Abstract of the United States (Washington, D.C.: U.S. Department of Commerce, annual) includes a large amount of data on the United States, as well as comparative international statistics.

International Trade by Selected Countries and Areas (U.S. Department of Commerce: www.bea.gov/international/index/htm) contains monthly, quarterly, and annual data on international trade by commodity groups and geographical area, as well as other domestic and international data.

PUBLISHED BY INTERNATIONAL ORGANIZATIONS

Balance of Payments Statistics Yearbook (Washington, D.C.: International Monetary Fund, annual) includes detailed balance of payments statistics on 165 countries.

Direction of Trade Statistics (Washington, D.C.: International Monetary Fund, quarterly and annual) includes detailed data on the exports and imports of each of 187 countries to and from every other country of the world.

International Financial Statistics (Washington, D.C.: International Monetary Fund, monthly and annual) includes a great variety of economic data on 188 countries.

International Trade Statistics (Geneva: World Trade Organization, annual) gives trade data on each of 160 member countries and various groupings of nations.

Main Economic Indicators (Paris: Organization for Economic Cooperation and Development, monthly and annual) includes a wide variety of economic data on the 34 member countries of OECD.

OECD Economic Outlook (Paris: Organization for Economic Cooperation and Development, June and December of each year) contains analyses of recent events and OECD projections about future economic activity, as well as summary data tables on the 34 member countries and groups of countries.

World Economic Outlook (Washington, D.C.: International Monetary Fund, April and October of each year) contains analyses of recent events and IMF projections about future economic activity, as well as summary data tables on the leading industrial countries and groups of countries.

World Development Report (Oxford University Press, for the World Bank, annual) contains economic and social data for developing countries, as well as analysis of recent events and projections for the future.

CURRENT EVENTS SOURCES

Chicago Tribune (daily)

Financial Times (daily)

Los Angeles Times (daily)

New York Times (daily)

Wall Street Journal (daily)

Washington Post (daily)

Business Week (weekly)

The Economist (weekly)

Forbes (biweekly)

Fortune (biweekly)

Federal Reserve Bulletin (monthly)

IMF Survey Magazine (biweekly)

Monthly Bulletin of Statistics (published by the United Nations, monthly)