chapter

12

International Resource Movements and Multinational Corporations

LEARNING GOALS:

After reading this chapter, you should be able to:

- Describe the motives for international portfolio and direct investments
- Describe the effects of portfolio and direct investments on investing and host countries
- Understand the reasons for the existence of multinational corporations and their effects on the home and host countries
- Understand the motives and effects of international labor migrations

12.1 Introduction

So far, we have dealt almost exclusively with commodity trade and have assumed no international resource movement. However, capital, labor, and technology do move across national boundaries. In some ways, international trade and movements of productive resources can be regarded as substitutes for one another. For example, a relatively capital-abundant and labor-scarce country, such as the United States, could either export capital-intensive commodities or export capital itself, and either import labor-intensive products or allow the immigration of workers from countries with plentiful labor supplies. As in the case of international trade, the movement of productive resources from nations with relative abundance and low remuneration to nations with relative scarcity and high remuneration has a tendency to equalize factor returns internationally and generally increases welfare.

International trade and movements of productive factors, however, have very different economic effects on the nations involved. In this chapter, we focus on the cost and benefits of international resource movements. Since multinational corporations are an important vehicle for the international flows of capital, labor, and technology, we also devote a great deal of attention to this relatively new and crucial type of economic enterprise.

There are two main types of foreign investments: portfolio investments and direct investments. Portfolio investments are purely financial assets, such as bonds, denominated in a national currency. With bonds, the investor simply lends capital to get fixed payouts or a return at regular intervals and then receives the face value of the bond at a prespecified date. Most foreign investments prior to World War I were of this type and flowed primarily from the United Kingdom to the "regions of recent settlement" for railroad construction and the opening up of new lands and sources of raw materials. The U.S. government defines as a portfolio investment stock purchases that involve less than 10 percent of the voting stock of a corporation. (A purchase of 10 percent or more of the voting stock of a corporation is regarded as a direct investment.) With stocks the investor purchases equity, or a claim on the net worth of the firm. Portfolio or financial investments take place primarily through financial institutions such as banks and investment funds. International portfolio investments collapsed after World War I and have only revived since the 1960s.

Direct investments, on the other hand, are real investments in factories, capital goods, land, and inventories where both capital and management are involved and the investor retains control over use of the invested capital. Direct investment usually takes the form of a firm starting a subsidiary or taking control of another firm (for example, by purchasing a majority of the stock). Any purchase of 10 percent or more of the stock of a firm, however, is defined as direct investment by the U.S. government. In the international context, direct investments are usually undertaken by multinational corporations engaged in manufacturing, resource extraction, or services. Direct investments are now as important as portfolio investments as forms or channels of international private capital flows.

In Section 12.2, we present some data on international capital flows. In Section 12.3, we examine the motives for portfolio and direct investments abroad. In Section 12.4, we analyze the welfare effects of international capital flows on investing and host countries. Section 12.5 deals with multinational corporations—the reasons for their existence and some of the problems they create. Finally, in Section 12.6, we discuss the reasons for and welfare effects of the international migration of labor in general and of skilled labor in particular. The appendix deals with the so-called transfer problem associated with international capital flows.

12.2 Some Data on International Capital Flows

We now present some data on the size and composition of U.S. capital investments in foreign nations and foreign capital investments in the United States from 1950 to 2010.

We can see from Table 12.1 that both U.S. private holdings of foreign long-term securities (stocks and bonds) and foreign private holdings of U.S. long-term securities increased very rapidly from 1950 to 2010, with the latter a little greater than the former at the end of 2010. Table 12.1 also shows the value of U.S. *direct* investments abroad and foreign *direct* investments in the United States at the end of various years. Foreign direct investments are valued at historical cost, at current or replacement cost, and at market value (i.e., using stock market prices). Figures for foreign direct investments at current cost are available only from 1976. The need to supplement the historical values of foreign direct investments with those at current cost and at market value arises because most U.S. foreign direct investments occurred in the 1960s and 1970s and require larger adjustments for the cumulative effects of inflation than foreign direct investments in the United States, which occurred mostly since the 1980s. Table 12.1 shows that both the stock of U.S. direct investments abroad

■ TABLE 12.1. U.S. Foreign Long-Term Private International Investment Position in Selected Years, 1950–2010 (billions of U.S. dollars, at historical-cost and current-cost basis, at year end)

Year	1950	1960	1970	1980	1985	1990	1995	2000	2005	2010
U.S. assets abroad										
Foreign securities	4.3	9.5	20.9	62.5	119.4	342.3	1,203.9	2,425.5	4,329.3	6,222.9
Direct investments at:										
Historical cost	11.8	31.9	75.5	214.5	230.3	421.5	711.6	1,316.2	2,241.7	3,908.2
Current cost	—	—	—	388.1	371.0	616.7	885.5	1,531.6	2,651.7	4,429.4
Market value	—	—	—	—	386.4	731.8	1,363.8	2,694.0	3,638.0	4,843.3
Foreign assets in the U.S.										
U.S. securities	2.9	9.3	34.8	74.1	207.9	460.6	969.8	2,623.0	4,353.0	5,860.1
Direct investments at:										
Historical cost	3.4	6.9	13.3	83.0	184.6	403.7	560.1	1,256.9	1,634.1	2,342.8
Current cost	—	—	—	127.1	247.2	505.3	680.1	1,421.0	1,906.0	2,658.9
Market value	—	—	—	—	220.0	539.6	1,005.7	2,783.2	2,810.0	3,451.4

Source: U.S. Department of Commerce, *Survey of Current Business* (Washington, D.C.: U.S. Government Printing Office, various issues).

and foreign direct investments in the United States also increased very rapidly from 1950 to 2010 and were higher at market values than at current cost.

Table 12.2 shows that from 1950 and 2010, the stock of U.S. direct investments in Europe grew much more rapidly than the stock of U.S. direct investments in Canada and Latin America. This was due to the rapid growth of the European Union and the desire on the part of the United States to avoid the common external tariff imposed by the EU on imports from outside the EU. Note that U.S. direct investments in Latin America were actually lower in 1985 than in 1980 as a result of the international debt problem of the Latin American countries (discussed in Section 11.6B). Also note that U.S. direct investments in Japan increased less than elsewhere in the 1990s because of stagnation in Japan during that decade.

■ TABLE 12.2. U.S. Direct Investments Abroad by Area in Selected Years, 1950–2010 (billions of U.S. dollars, at historical-cost basis, at year end)

Year	Total	Canada	Europe	Latin America	Asia and Pacific	of which Japan	Others
1950	$ 11.8	$ 3.6	$ 1.7	$ 4.6	$ 0.3	$ 0.0	$ 1.6
1960	31.9	11.2	7.0	8.4	1.2	0.3	4.1
1970	78.2	22.8	24.5	14.8	8.3	1.5	7.8
1980	215.6	45.0	96.5	38.9	25.3	6.2	9.9
1985	230.3	46.9	105.2	28.3	35.3	9.2	14.6
1990	421.5	68.4	204.2	72.5	63.6	21.0	12.8
1995	711.6	81.4	363.5	122.8	126.0	39.2	17.9
2000	1,316.2	132.5	687.3	266.6	207.1	57.1	22.7
2005	2,241.7	233.5	1,110.0	365.9	380.5	79.3	45.6
2010	3,908.2	296.7	2,185.9	724.4	611.1	113.3	23.2

Source: U.S. Department of Commerce, *Survey of Current Business* (Washington, D.C.: U.S. Government Printing Office, various issues).

■ TABLE 12.3. U.S. Foreign Long-Term Private International Investment Position in Selected Years, 1950–2010 (billions of U.S. dollars, at historical-cost basis, at year end)

Year	1950	1960	1970	1980	1985	1990	1995	2000	2005	2010
U.S. investments abroad										
Manufacturing	3.8	11.1	31.0	89.3	94.7	168.0	250.3	343.9	449.2	585.8
Finance	—	—	—	—	22.5	109.4	228.7	257.2	518.5	803.0
Other	8.0	20.8	44.5	126.1	113.1	149.6	238.5	715.1	1,167.8	2,519.4
Total	11.8	31.9	75.5	215.4	230.3	427.0	717.5	1,316.2	2,135.5	3,908.2
Foreign investments in the U.S.										
Manufacturing	1.1	2.6	6.1	33.0	59.6	152.8	214.5	480.6	513.6	748.3
Finance	—	—	—	—	35.5	70.4	115.6	217.0	346.5	356.8
Other	2.3	4.3	7.2	50.0	89.5	171.7	205.5	559.3	734.4	1,237.7
Total	3.4	6.9	13.3	83.0	184.6	394.9	535.6	1,256.9	1,594.5	2,342.8

Source: U.S. Department of Commerce, *Survey of Current Business* (Washington, D.C.: U.S. Government Printing Office, various issues).

Table 12.3 separates U.S. direct investments abroad and foreign direct investments in the United States into manufacturing, finance (including depository institutions and insurance), and others (mostly services other than financial services). Data on finance are available only since 1985. The table shows that direct investments in finance and other categories grew much more rapidly that direct investments in manufacturing since 1985. Case Study 12-1 shows the yearly inflows of foreign direct investments into the United States from 1980 to 2010.

■ CASE STUDY 12-1 Fluctuations in Foreign Direct Investment Flows to the United States

Table 12.4 shows that the level of foreign direct investments (FDI) in the United States was $16.9 billion in 1980. It declined to $10.4 billion in 1983 (a recession year) before rising to $68.3 billion in 1989. Afterward, it declined to $19.8 billion in 1992 (another recession year) and then rose to the all-time high of $321.3 billion in 2000. It then declined to $63.8 billion in 2003 (a year of slow growth following the recession of 2001). It then rose to $310.1 billion in 2008 but then declined to $158.6 billion in 2009 because of a recession, and it was $236.2 billion in 2010. Thus, flows of FDI to the United States seem to be cyclical, rising during periods of high growth and falling during periods of recession or slow growth.

During the second half of the 1980s, many Americans became concerned that foreigners, particularly the Japanese, were "buying up" America. These fears subsided during the early 1990s, as slow growth and recession made FDI in the United States less attractive to foreigners. With the resumption of rapid growth in 1993, FDI in the United States shot up again to much higher levels than during the late 1980s, but with the United States doing much better in international competitiveness than in the 1980s (see Case Study 6-6), the new upsurge in FDI did not cause much concern and was actually welcomed as contributing to rapid growth in the U.S. economy. Foreign acquisitions of high-tech American firms in recent years, however, are causing some anxiety that this could undermine U.S. international competitiveness and threaten national security.

(continued)

■ CASE STUDY 12-1 Continued

■ TABLE 12.4. Foreign Direct Investment Flows to the United States in Selected Years, 1980–2010 (billions of U.S. dollars)

Year	FDI	Year	FDI
1980	$16.9	1996	86.5
1981	25.2	1997	105.6
1982	12.6	1998	179.0
1983	10.4	1999	289.4
1984	24.5	2000	321.3
1985	19.7	2001	167.0
1986	35.4	2002	84.4
1987	58.5	2003	63.8
1988	57.7	2004	146.0
1989	68.3	2005	112.6
1990	48.5	2006	243.2
1991	23.2	2007	221.2
1992	19.8	2008	310.1
1993	51.4	2009	158.6
1994	46.1	2010	236.2
1995	57.8		

Source: U.S. Department of Commerce, *Survey of Current Business* (Washington, D.C.: U.S. Government Printing Office, various issues).

12.3 Motives for International Capital Flows

In this section, we examine the motives for portfolio and direct investments abroad. While the motives for both types of foreign investments are basically the same, direct foreign investments require additional explanations not provided by the basic model that explains international portfolio investments.

12.3A Motives for International Portfolio Investments

The basic motive for international portfolio investments is to earn higher returns abroad. Thus, residents of one country purchase bonds of another country if the returns on bonds are higher in the other country. This is the simple and straight forward outcome of yield maximization and tends to equalize returns internationally. According to the basic (two-nation) Heckscher–Ohlin model, returns on capital are originally higher in the nation having the lower overall capital–labor ratio. Residents of one country may also purchase stock in a corporation in another country if they expect the future profitability of the foreign corporation to be greater than that of domestic corporations. (For simplicity, here we ignore the greater transaction and other costs usually involved in holding foreign securities.)

The explanation that international portfolio investments occur to take advantage of higher yields abroad is certainly correct as far as it goes. The problem is that it leaves one important fact unexplained. It cannot account for *observed* two-way capital flows. That is, if returns

on securities are lower in one nation than in another nation, this could explain the flow of capital investments from the former nation to the latter but is inconsistent with the simultaneous flow of capital in the opposite direction, which is often observed in the real world (see Tables 12.1 and 12.3).

To explain two-way international capital flows, the element of risk must be introduced. That is, investors are interested not only in the rate of return but also in the risk associated with a particular investment. The risk with bonds consists of bankruptcy and the variability in their market value. With stocks, the risk consists of bankruptcy, even greater variability in market value, and the possibility of lower than anticipated returns. Thus, investors maximize returns for a given level of risk and generally accept a higher risk only if returns are higher.

For example, suppose that we deal with stocks and measure risk by the variability (variance) of returns about the average. Suppose also that both stocks A and B have a rate of return of 30 percent on average, but there is a fifty-fifty chance that the yield will be either 20 percent or 40 percent on stock A and 10 percent or 50 percent on stock B. Stock B is then clearly riskier than stock A. Since both stocks have the same yield on the average, investors should purchase stock A to minimize risks.

However, if the yield on stock A falls when the yield on stock B rises and vice versa (i.e., if changes in yields are inversely, or negatively, correlated over time), then by holding both stocks, the investor can still receive a yield of 30 percent on average but with a much lower risk. That is, the risk of a lower than average yield on stock A at any point is more or less matched by the tendency for the yield on stock B to be higher than average at the same time. As a result, the risk of a portfolio including *both* stock A and stock B is substantially reduced.

Portfolio theory thus tells us that by investing in securities with yields that are inversely related over time, a given yield can be obtained at a smaller risk or a higher yield can be obtained for the same level of risk for the portfolio as a whole. Since yields on foreign securities (depending primarily on the different economic conditions abroad) are more likely to be inversely related to yields on domestic securities, a portfolio including both domestic and foreign securities can have a higher average yield and/or lower risk than a portfolio containing only domestic securities.

To achieve such a balanced portfolio, a two-way capital flow may be required. For example, if stock A (with the same average yield but lower risk than stock B) is available in one country, while stock B (with yields inversely related to the yields on stock A) is available in another country, investors in the first nation must also purchase stock B (i.e., invest in the second nation), and investors in the second nation must also purchase stock A (i.e., invest in the first nation) to achieve a balanced portfolio. Risk diversification can thus explain two-way international portfolio investments.

Throughout the preceding discussion, it was implicitly assumed that investors know precisely the average return on stocks and their variability. In reality, this is seldom known in advance. Thus, investors must determine for themselves (from their market knowledge and intuition) what the average returns and variabilities are likely to be in deciding which stocks to purchase. Since different individuals can have different expectations for the same stocks, it is possible that some investors in each nation think that stocks in the other nation are a better buy. This provides an additional explanation for two-way international portfolio investments.

12.3B Motives for Direct Foreign Investments

The motives for direct investments abroad are generally the same as for portfolio investments, that is, to earn higher returns (possibly resulting from higher growth rates abroad, more favorable tax treatment, or greater availability of infrastructures) and to diversify risks. Indeed, it has been found that firms with a strong international orientation, either through exports or through foreign production and/or sales facilities, are more profitable and have a much smaller variability in profits than purely domestic firms.

Although these reasons are sufficient to explain international portfolio investments, they leave one basic question unanswered with regard to direct foreign investments. That is, they cannot explain why the residents of a nation do not borrow from other nations and themselves make real investments in their own nation rather than accept *direct* investments from abroad. After all, the residents of a nation can be expected to be more familiar with local conditions and thus to be at a competitive advantage with respect to foreign investors. There are several possible explanations for this. The most important is that many large corporations (usually in monopolistic and oligopolistic markets) often have some unique production knowledge or managerial skill that could easily and profitably be utilized abroad and over which the corporation wants to retain direct control. In such a situation, the firm will make direct investments abroad. This involves horizontal integration, or the production abroad of a differentiated product that is also produced at home.

For example, IBM has a particular computer technology over which it wants to retain direct control but which it can easily duplicate abroad so as to serve the foreign market better (by adapting to local conditions) than through exports. IBM does not want to license foreign producers because it wants to retain complete control over its trade secrets and patents and to ensure consistent quality and service. Even if IBM were willing to negotiate licensing agreements with foreign producers, this would not be feasible in view of the very rapid rate of technological innovations in the field. The situation is basically the same for General Electric, Nokia, Toyota, and many other multinational corporations, and it is the motive behind most direct foreign investments in manufacturing in developed nations.

Another important reason for direct foreign investments is to obtain control of a needed raw material and thus ensure an uninterrupted supply at the lowest possible cost. This is referred to as vertical integration and is the form of most direct foreign investments in developing countries and in some mineral-rich developed countries. Thus, American and foreign corporations own mines in Canada, Jamaica, Venezuela, Australia, and other nations, and foreigners own some coal mines in the United States. Vertical integration involving multinational corporations can also go *forward* into the ownership of sales or distribution networks abroad, as is the case with most of the world's major automobile producers.

Still other reasons for direct foreign investments are to avoid tariffs and other restrictions that nations impose on imports or to take advantage of various government subsidies to encourage direct foreign investments. Examples of the former are the large-scale direct investments made by U.S. firms in the EU countries and some direct foreign investments in manufacturing in developing nations. Examples of the latter are the direct foreign investments made in developing nations and in depressed regions of some developed nations. Other possible reasons for direct foreign investments are to enter a foreign oligopolistic market so as to share in the profits, to purchase a promising foreign firm to avoid its

future competition and the possible loss of export markets, or because only a large foreign multinational corporation can obtain the necessary financing to enter the market.

Two-way direct foreign investments can then be explained by some industries being more advanced in one nation (such as the computer industry in the United States), while other industries are more efficient in other nations (such as the automobile industry in Japan). Direct foreign investments have been greatly facilitated (in a sense made possible) by the very rapid advances in transportation (i.e., jet travel) and communications (i.e., international telephone lines and international data transmission and processing) that have occurred since the end of World War II. These advances permit the headquarters of multinational corporations to exert immediate and direct control over the operations of their subsidiaries around the world, thus facilitating and encouraging direct investments abroad.

The regional distribution of foreign direct investments around the world also seems to depend on geographical proximity or established trade relations. For example, the United States is the main supplier of foreign direct investments to Latin America, Bangladesh, Pakistan, the Philippines, and Saudi Arabia; foreign direct investments from the European Union flow mostly to Ghana and Morocco in Africa, Brazil in Latin America, India, Sri Lanka, and Vietnam in Asia, and to the former communist countries in Eastern Europe; and Japan is the main supplier of foreign direct investments to South Korea, Singapore, Taiwan, and Thailand. Case Study 12-2 shows the inward and outward stock of foreign direct investment in various regions and selected countries and years.

12.4 Welfare Effects of International Capital Flows

In this section, we examine the welfare effects of international capital flows on the investing and host countries. Some of these effects can be shown graphically. These are examined first. Subsequently, we examine the effects not revealed in the graphical analysis. In order to isolate the effect of capital flows, we assume here that there is no trade in goods.

CASE STUDY 12-2 The Stock of Foreign Direct Investments Around the World

Table 12.5 shows the inward and outward stock of foreign direct investment (i.e., the stock of foreign direct investment made and received) by region and selected country in 1990, 2000, and 2010. The table shows that in 2010 the United States had by far the largest inward and outward stock of foreign direct investment (FDI). For the inward stock of FDI, the United States was followed by the United Kingdom, France, Germany, Spain, the Netherlands, Canada, Switzerland, Italy, and Japan, in that order. For the outward stock of FDI, the United States was followed by the United Kingdom, France, Germany, Switzerland, the Netherlands, Japan, Spain, Canada, and Italy.

In 2010, the inward stock of FDI of developing countries was 48 percent that of developed countries, while their stock of outward FDI was about 17 percent that of developed countries. Of the total inward stock of FDI of all developing countries, 62 percent was in Asia (with Hong Kong having by far the largest share) and 25 percent was in Latin America. The inward stock of FDI of Africa and Southeast Europe and CIS (Commonwealth of Independent States) was relatively small (see the table).

(continued)

■ CASE STUDY 12-2 Continued

■ TABLE 12.5. Stock of Outward and Inward FDI by Region and Selected Country in 1990, 2000, and 2010 (billions of U.S. dollars, at current-cost basis, at year end)

	Inward			Outward		
	1990	2000	2010	1990	2000	2010
Developed countries	$1,564	$5,653	$12,502	$1,949	$7,083	$16,804
United States[a]	540	2,783	3,451	732	2,694	4,843
United Kingdom	204	439	1,125	229	898	1,689
France	98	391	1,086	112	926	1,523
Germany	111	272	674	152	542	1,421
Spain	66	156	614	16	129	660
Netherlands	69	244	590	107	305	890
Canada	113	213	561	85	238	616
Switzerland	34	87	539	66	232	909
Italy	60	121	337	60	180	476
Japan	10	50	215	201	278	831
Developing countries	517	1,732	5,951	146	857	3,132
Asia	343	1,073	3,663	67	608	2,276
Hong Kong (China)	202	455	1,098	12	388	948
China	21	193	579	4	28	298
Singapore	30	111	470	8	57	300
Latin America and Caribbean	111	502	1,473	58	205	733
Brazil	37	122	473	41	52	181
Mexico	22	97	327	3	8	66
Southeast Europe and CIS	0	61	688	0	21	473
Russia	0	32	423	0	20	434
Poland	0	34	193	0	1	37
Africa	61	154	554	20	44	122
South Africa	9	43	132	15	32	81
World	2,081	7,446	19,141	2,094	7,962	20,408

[a]U.S. values differ a little from those in Tables 12.1 to 12.3 because of different data collection methods.
Source: United Nations Conference on Trade and Development, *World Investment Report* (Geneva: United Nations, 2011).

12.4A Effects on the Investing and Host Countries

In Figure 12.1, we examine a world of only two nations (Nation 1 and Nation 2) with a total combined capital stock of OO'. Of this total capital stock, OA belongs to Nation 1 and $O'A$ belongs to Nation 2. The $VMPK_1$ and $VMPK_2$ curves give the value of the marginal product of capital in Nation 1 and Nation 2, respectively, for various levels of investments. Under competitive conditions, the value of the marginal product of capital represents the return, or yield, on capital.

In isolation, Nation 1 invests its entire capital stock OA domestically at a yield of OC. The total product (which can be measured by the area under the value of the marginal product curve) is thus $OFGA$, of which $OCGA$ goes to owners of capital in Nation 1 and the remainder of CFG goes to other cooperating factors, such as labor and land. Similarly,

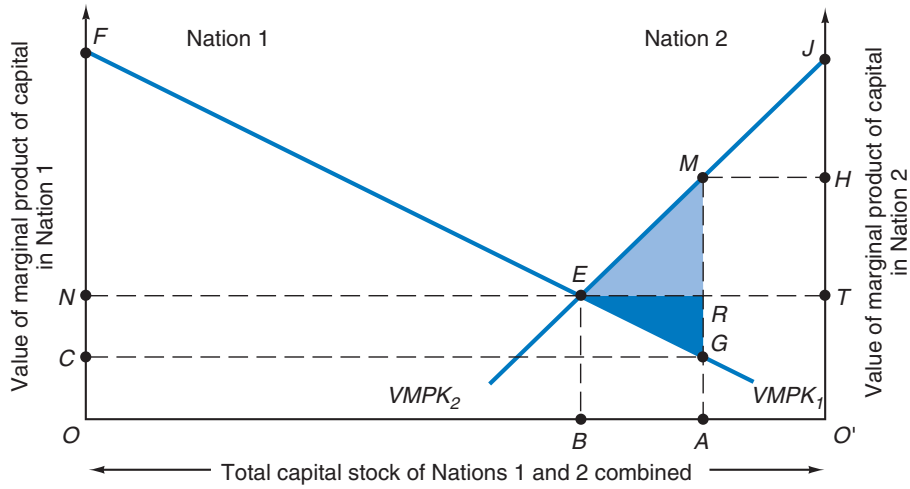

FIGURE 12.1. Output and Welfare Effects of International Capital Transfers.
Of the total capital stock of OO', Nation 1 holds OA and its total output is $OFGA$, while Nation 2 holds $O'A$ and its total output is $O'JMA$. The transfer of AB of capital from Nation 1 to Nation 2 equalizes the return on capital in the two nations at BE. This increases world output by EGM (the shaded area), of which EGR accrues to Nation 1 and ERM to Nation 2. Of the increase in total domestic product of $ABEM$ in Nation 2, $ABER$ goes to foreign investors, leaving ERM as the net gain in domestic income in Nation 2.

Nation 2 in isolation invests its entire stock $O'A$ domestically at a yield of $O'H$. Total product is $O'JMA$, of which $O'HMA$ goes to owners of capital in Nation 2 and the remainder of HJM goes to other cooperating factors.

Let us assume that free international capital movements are allowed. Since the return on capital is higher in Nation 2 $(O'H)$ than in Nation 1 (OC), AB of capital flows from Nation 1 to Nation 2 so as to equalize at BE $(= ON = O'T)$ the rate of return on capital in the two nations. Total *domestic product* in Nation 1 is now $OFEB$, to which must be added $ABER$ as the total return on foreign investments, giving a total *national income* of $OFERA$ (ERG greater than before foreign investments). With free international capital flows, the total return on capital in Nation 1 increases to $ONRA$, while the total return on other cooperating factors decreases to NFE.

The inflow of AB of foreign capital into Nation 2 lowers the rate of return on capital from $O'H$ to $O'T$. Total domestic product in Nation 2 grows from $O'JMA$ to $O'JEB$. Of the increase in total product of $ABEM$, $ABER$ goes to foreign investors, so that ERM remains as the *net gain* in total product accruing to Nation 2. The total return to domestic owners of capital falls from $O'HMA$ to $O'TRA$, while the total return to other cooperating factors rises from HJM to TJE.

From the point of view of the world as a whole (i.e., the two nations combined), total product increased from $OFGA + O'JMA$ to $OFEB + O'JEB$, or by $ERG + ERM = EGM$ (the shaded area of the figure). Thus, international capital flows increase the efficiency in the allocation of resources internationally and increase world output and welfare. Note that the steeper the $VMPK_1$ and $VMPK_2$ curves are, the greater is the total gain from international capital flows.

12.4B Other Effects on the Investing and Host Countries

Assuming two factors of production, capital and labor, both fully employed before and after the capital transfer, it can be seen from Figure 12.1 that the total and average return on capital increases, whereas the total and average return to labor decreases in the investing country. Thus, while the investing country as a whole gains from investing abroad, there is a redistribution of domestic income from labor to capital. It is for this reason that organized labor in the United States is opposed to U.S. investments abroad. On the other hand, while the host country also gains from receiving foreign investments, these investments lead to a redistribution of domestic income from capital to labor. If we allow for less than full employment, foreign investments tend to depress the level of employment in the investing country and increase it in the host country and, once again, can be expected to be opposed by labor in the former and to benefit labor in the latter.

International capital transfers also affect the balance of payments of the investing and host countries. A nation's balance of payments measures its total receipts from and total expenditures in the rest of the world. In the year in which the foreign investment takes place, the foreign expenditures of the investing country increase and cause a balance-of-payments deficit (an excess of expenditures abroad over foreign receipts). This was certainly a major contributor to the huge balance-of-payments deficits of the United States during the 1960s and led to restrictions on U.S. foreign investments from 1965 to 1974. Of course, the counterpart to the worsening in the investing nation's balance of payments is the improvement in the host nation's balance of payments in the year in which it receives the foreign investment.

The initial capital transfer and increased expenditures abroad of the investing country are likely to be mitigated by increased exports of capital goods, spare parts, and other products of the investing country, and by the subsequent flow of profits to the investing country. It has been estimated that the "payback" period for the initial capital transfer is between five and ten years on average. Another effect to consider in the long run is whether foreign investments will lead to the replacement of the investing country's exports and even to imports of commodities previously exported. Thus, while the immediate effect on the balance of payments is negative in the investing country and positive in the host country, the long-run effects are less certain.

Since foreign investments for most developed countries are two-way (see Section 12.2), these short-run and long-run balance-of-payments effects are mostly neutralized, except for the United Kingdom, the United States, Germany, and Japan, with investments abroad greatly exceeding foreign investments received, and for most developing countries that are primarily recipients of foreign investments and chronically face serious balance-of-payments difficulties (see Case Study 12-2).

Another important welfare effect of foreign investments on both the investing and host countries results from different rates of taxation and foreign earnings in various countries. Thus, if corporate taxes are 40 percent of earnings in the United States but only 30 percent in England, it is only natural for U.S. firms to invest in England or reroute foreign sales through subsidiaries there in order to pay the lower tax rate. Because most nations, including the United States, are signatories of double-taxation agreements (to avoid double taxation—on equity grounds), the United States would collect a tax of only 10 percent on foreign earnings (the difference between the domestic tax rate of 40 percent and the foreign tax rate of 30 percent) when foreign earnings are repatriated. As a result, the tax base and the amount of taxes collected decline in the investing country and rise in the host country.

Foreign investments, by affecting output and the volume of trade of both investing and host countries, are also likely to affect the terms of trade. However, the way the terms of trade will change depends on conditions in both nations, and not much can be said a priori. Foreign investments may also affect the investing nation's technological lead and the host country's control over its economy and ability to conduct its own independent economic policy. Since these and other effects of international capital transfers usually result from the operations of multinational corporations, they are examined in the next section.

12.5 Multinational Corporations

One of the most significant international economic developments of the postwar period is the proliferation of multinational corporations (MNCs). These are firms that own, control, or manage production facilities in several countries. Today MNCs account for about 25 percent of world output, and *intrafirm* trade (i.e., trade among the parent firm and its foreign affiliates) is estimated to be about one-third of total world trade in manufacturing. Some MNCs, such as General Motors and Exxon, are truly giants, with yearly sales in the tens of billions of dollars and exceeding the total national income of all but a handful of nations. Furthermore, most international direct investments today are undertaken by MNCs. In the process, the parent firm usually provides its foreign affiliates with managerial expertise, technology, parts, and a marketing organization in return for some of the affiliates' output and earnings. In this section, we examine the reasons for the existence of MNCs and some of the problems they create for the home and host countries.

12.5A Reasons for the Existence of Multinational Corporations

The basic reason for the existence of MNCs is the competitive advantage of a global network of production and distribution. This competitive advantage arises in part from vertical and horizontal integration with foreign affiliates. By vertical integration, most MNCs can ensure their supply of foreign raw materials and intermediate products and circumvent (with more efficient intrafirm trade) the imperfections often found in foreign markets. They can also provide better distribution and service networks. By horizontal integration through foreign affiliates, MNCs can better protect and exploit their monopoly power, adapt their products to local conditions and tastes, and ensure consistent product quality.

The competitive advantage of MNCs is also based on economies of scale in production, financing, research and development (R&D), and the gathering of market information. The large output of MNCs allows them to carry division of labor and specialization in production much further than smaller national firms. Product components requiring only unskilled labor can be produced in low-wage nations and shipped elsewhere for assembly. Furthermore, MNCs and their affiliates usually have greater access, at better terms, to international capital markets than do purely national firms, and this puts MNCs in a better position to finance large projects. They can also concentrate R&D in one or a few advanced nations best suited for these purposes because of the greater availability of technical personnel and facilities. Finally, foreign affiliates funnel information from around the world to the parent firm, placing it in a better position than national firms to evaluate, anticipate, and take advantage of changes in comparative costs, consumers' tastes, and market conditions generally.

The large corporation invests abroad when expected profits on additional investments in its industry are higher abroad. Since the corporation usually has a competitive advantage in and knows its industry best, it does not usually consider the possibility of higher returns in every other domestic industry before it decides to invest abroad. That is, differences in expected rates of profits domestically and abroad in the particular industry are of crucial importance in a large corporation's decision to invest abroad. This explains, for example, Toyota automotive investments in the United States and IBM computer investments in Japan. Indeed, it also explains investments of several Japanese electronics MNCs in the United States as an attempt to invade the latter's computer market. All of this information implies that MNCs are *oligopolists* selling for the most part *differentiated products*, often developed as described by the *technological gap* and *product cycle models*, and produced under strong *economies of scale* (see Section 6.5). Examples of the products sold by MNCs are motor vehicles, petroleum products, electronics, metals, office equipment, chemicals, and food.

Multinational corporations are also in a much better position to control or change to their advantage the environment in which they operate than are purely national firms. For example, in determining where to set up a plant to produce a component, an MNC can and usually does "shop around" for the low-wage nation that offers the most incentives in the form of tax holidays, subsidies, and other tax and trade benefits. The sheer size of most MNCs in relation to most host nations also means the MNCs are in a better position than purely national firms to influence the policies of local governments and extract benefits. Furthermore, MNCs can buy up promising local firms to avoid future competition and are in a much better position than purely domestic firms to engage in other practices that restrict local trade and increase their profits. MNCs, through greater diversification, also face lower risks and generally earn higher profits than purely national firms.

Finally, by artificially overpricing components shipped *to* an affiliate in a higher-tax nation and underpricing products shipped *from* the affiliate in the high-tax nation, an MNC can minimize its tax bill. This is called transfer pricing and can arise in intrafirm trade as opposed to trade among independent firms or conducted at "arm's length."

In the final analysis, it is a combination of all or most of these factors that gives MNCs their competitive advantage vis-à-vis purely national firms and explains the proliferation and great importance of MNCs today. That is, by vertical and horizontal integration with foreign affiliates, by taking advantage of economies of scale, and by being in a better position than purely national firms to control the environment in which they operate, MNCs have grown to become the most prominent form of private international economic organization in existence today. Case Study 12-3 examines the world's largest MNCs.

12.5B Problems Created by Multinational Corporations in the Home Country

While MNCs, by efficiently organizing production and distribution on a world wide basis, can increase world output and welfare, they can also create serious problems in both the home and host countries. The most controversial of the alleged harmful effects of MNCs on the home nation is the loss of domestic jobs resulting from foreign direct investments. These are likely to be unskilled and semiskilled production jobs in which the home nation has a comparative disadvantage. It is for this reason that organized labor in the United States and

CASE STUDY 12-3 The World's Largest Non-Petroleum, Industrial Corporations

Table 12.6 gives the home nation of the parent firm, the major industry, the level of yearly sales, and the percentage of those sales made outside the home country for the world's largest non-petroleum, industrial multinational corporations (MNCs) with 2012 sales in excess of $100 billion. From the table we see that six of these 14 MNCs have headquarters in the United States, four in Japan, three in Germany, and one in S. Korea. Seven are in motor vehicles, five in electronics and two in computers. Honda Motors had the highest percentage of foreign sales (81.3), and the simple average for all 14 firms was 65.0 percent.

TABLE 12.6. The World's Largest Industrial Multinational Corporations in 2007

Rank	Company	Home Nation	Industry	Yearly Sales (billion $)	Percentage of Foreign Sales*
1	Toyota	Japan	Motor vehicles	235.4	63.6
2	Volkswagen	Germany	Motor vehicles	221.6	75.7
3	General Motors	United States	Motor vehicles	150.3	49.4
4	Samsung	S.Korea	Electronics	148.9	80.6
5	Daimler	Germany	Motor vehicles	148.1	77.2
6	General Electric	United States	Electronics	147.6	53.3
7	Ford Motor	United States	Motor vehicles	136.3	58.7
8	Hewlett-Packard	United States	Electronics	127.2	68.8
9	Hitachi	Japan	Computers	122.4	33.2
10	Nissan Motor	Japan	Motor vehicles	119.2	72.4
11	Siemens	Germany	Electronics	113.3	72.6
12	Apple	United States	Electronics	108.2	58.0
13	IBM	United States	Computers	106.9	64.6
14	Honda Motor	Japan	Motor vehicles	100.7	81.3

* = *2008*

Sources: ''The Global 500,'' Fortune Magazine, July 9, 2012, pp. F1-1–F7 and UNCTAD, *World Investment Report 2012* (New York and Geneva: UNCTAD, 2012).

other major home nations is against direct foreign investments by MNCs. However, some clerical, managerial, and technical jobs are also likely to be created in the headquarters of the MNC in the home nation as a result of direct foreign investments. Even if the number of jobs lost exceeds the number created, it may be that the home nation would have lost these jobs anyway to foreign competitors and would have had no jobs created at home without the direct foreign investment. The extent to which this may be true depends, of course, on the type of direct foreign investment and the circumstances under which it takes place. See Case Study 12-4 for the employment of workers abroad by U.S. MNCs.

A related problem is the export of advanced technology to be combined with other cheaper foreign factors to maximize corporate profits. It is claimed that this may undermine the technological superiority and future of the home nation. However, against this possible harmful effect is the tendency of MNCs to concentrate their R&D in the home nation, thus allowing it to maintain its technological lead. Whether or not MNCs, on balance, undermine

CASE STUDY 12-4 Employment of U.S. MNCs Abroad

Table 12.7 shows the number and percentage of workers employed abroad by U.S. multinational corporations in various nations in 2009. The table shows that U.S. MNCs employed almost 12 million workers abroad in 2009, of which 36.8 percent were in Europe, 32.6 percent in Asia and the Pacific, and 19.4 percent in Latin America and other countries of the Western Hemisphere. China, the United Kingdom, Mexico, and Canada had the largest number among industrial countries (with 11.1 percent, 10.3 percent, 9.1 percent, and 8.4 percent of the total, respectively). Note that foreign-based MNCs employed 5.3 million workers in the United States in 2009 and, as pointed out in section 9.8, not all jobs created abroad by U.S. MNCs come at the expense of domestic jobs in the United States.

TABLE 12.7. Number of Workers Employed Abroad by U.S. MNCs in 2009 (in Thousands)

Region/Country	Employment	Percentage of Total
Canada	1,094	8.4
Europe, of which:	4,775	36.8
United Kingdom	1,337	10.3
Germany	678	5.2
France	567	4.4
Asia and Pacific, of which:	4,219	32.6
China	1,433	11.1
Japan	612	4.7
India	601	4.6
Latin America and Other Western Hemisphere, of which:	2,519	19.4
Mexico	1,186	9.1
Brazil	546	4.2
Africa	228	1.8
Middle East	127	1.0
All Countries	*12,962*	*100.0*

Source: U.S. Department of Commerce, *Survey of Current Business*, November 2011, p. 51.

the technological superiority of the home country is a hotly debated question to which no clear-cut answer is yet possible.

Another possible harmful effect of MNCs on the home country can result from transfer pricing and similar practices, and from shifting their operations to lower-tax nations, which reduces tax revenues and erodes the tax base of the home country. This results from common international taxing practice. Specifically, the host country taxes the subsidiary's profits first. To avoid double taxation of foreign subsidiaries, the home country then usually taxes only repatriated profits (if its tax rate is higher than in the host country), and only by the difference in the tax rates.

An example will clarify this point. Suppose that the corporate profit tax is 50 percent in the home country and 40 percent in the host country, and the before-tax risk-adjusted profit rate is 20 percent abroad but 16 percent at home. The MNC will then invest abroad. When 20 percent is earned abroad, the host country gets 8 percent in taxes and the MNC retains 12 percent. When the MNC repatriates this 12 percent profit, the home country will tax it at the rate of 10 percent (the difference between the domestic and the foreign corporate tax profit rate). Thus, the home country gets only 1.2 percent and only when the profits are repatriated. The reinvestment of profits abroad in the MNC's affiliate thus amounts to an interest-free loan from the home country. If the corporate profit tax rates of the home and host countries were equal, the home country would collect no tax at all even when the MNC repatriates its profits. Had the MNC invested in the home country to begin with and earned a profit of 16 percent, the home country would have collected a tax of 8 percent (at the 50 percent tax rate). Thus, MNCs reduce tax revenues and erode the tax base of the home country.

Finally, because of their access to international capital markets, MNCs can circumvent domestic monetary policies and make government control over the economy in the home nation more difficult. These alleged harmful effects of MNCs are of crucial importance to the United States, since it is home for about one-third of the largest MNCs. In general, home nations do impose some restrictions on the activities of MNCs, either for balance-of-payments reasons or, more recently, for employment reasons.

12.5c Problems Created by Multinational Corporations in the Host Country

Host countries have even more serious complaints against MNCs. First and foremost is the allegation that MNCs dominate their economies. This is certainly true for Canada, where almost 60 percent of the total capital in manufacturing is owned or controlled by foreigners (40 percent by Americans). It is also true for some of the smaller developing nations. Foreign domination is felt in many different ways in host countries, including (1) the unwillingness of a local affiliate of an MNC to export to a nation deemed unfriendly to the home nation or the requirement to comply with a *home-nation* law prohibiting such exports; (2) the borrowing of funds abroad to circumvent tight domestic credit conditions and the lending of funds abroad when interest rates are low at home; and (3) the effect on national tastes of large-scale advertising for such products as Coca-Cola, jeans, and so on.

Another alleged harmful effect of MNCs on the host country is the siphoning off of R&D funds to the home nation. While this may be more efficient for the MNC and the world as a whole, it also keeps the host country technologically dependent. This is especially true and serious for developing nations. Also, MNCs may absorb local savings and entrepreneurial talent, thus preventing them from being used to establish domestic enterprises that might be more important for national growth and development. The extent to which this occurs, however, is not clear. Multinational corporations may also extract from host nations most of the benefits resulting from their investments, either through tax and tariff benefits or through tax avoidance. In developing nations, foreign direct investments by MNCs in mineral and raw material production have often given rise to complaints of foreign exploitation in the form of low prices paid to host nations, the use of highly capital-intensive production techniques inappropriate for labor-abundant developing nations, lack of training of local labor, overexploitation of natural resources, and creating highly dualistic "enclave" economies.

Most of these complaints are to some extent true, particularly in the case of developing host countries, and they have led many host nations to regulate foreign investments in order to mitigate the harmful effects and increase the possible benefits. Thus, Canada imposed higher taxes on foreign affiliates with less than 25 percent Canadian interest. India specified the sectors in which direct foreign investments are allowed and set rules to regulate their operation. Some developing nations allow only *joint ventures* (i.e., local equity participation) and set rules for the transfer of technology and the training of domestic labor, impose limits on the use of imported inputs and the remission of profits, set environmental regulations, and so on. In the extreme, the host nation can nationalize foreign production facilities. However, this is likely to seriously reduce the future flow of direct foreign investments to the nation.

Even in the United States, the home of about a third of the largest MNCs, great concern was expressed over foreign control at the height of foreign direct investment flows during the late 1980s. This concern then vanished in the light of the sharp reduction in foreign direct investments in the early 1990s (see Case Study 12-1). Efforts are currently in progress within the EU, OECD, the UN, and UNCTAD to devise an international code of conduct for MNCs. However, since the interests of home and host countries are generally in conflict, it is virtually impossible for such an international code to be very specific. As a result, it is unlikely to succeed in severely restricting most of the abuses of and problems created by MNCs in home and host countries. The Uruguay Round eliminated only some of the domestic restrictions and regulations on FDI.

12.6 Motives for and Welfare Effects of International Labor Migration

Labor is generally less mobile internationally than capital. However, great waves of immigrants moved from Europe to the New World during the nineteenth century. This relieved population pressures in Europe and contributed significantly to the rapid growth and development of the New World, especially the United States. In this section, we examine the causes of international labor migration and analyze its welfare effects on the countries of emigration and immigration. Those effects that can be illustrated graphically are examined first. Subsequently, we examine the effects that are not apparent from the graphical analysis.

12.6A Motives for International Labor Migration

International labor migration can take place for economic as well as noneconomic reasons. Some of the international migrations that occurred in the nineteenth century and earlier were certainly motivated by the desire to escape political and religious oppression in Europe. However, most international labor migration, particularly since the end of World War II, has been motivated by the prospect of earning higher real wages and income abroad.

The decision to migrate for economic reasons can be analyzed in the same manner and with the same tools as any other investment decision. Specifically, migration, just like any other type of investment, involves both costs and benefits. The costs include the expenditures for transportation and the loss of wages during time spent relocating and searching for a job in the new nation. In addition, there are many other less quantifiable costs, such as the separation from relatives, friends, and familiar surroundings; the need to learn new customs and often a new language; and the risks involved in finding a job, housing, and so on in a new land. To be sure, many of these noneconomic costs are greatly reduced by the fact that

migrations usually occur in waves and in chains, with many migrants moving together and/or to areas with an already substantial number of earlier migrants from the same place of origin.

The economic benefits of international migration can be measured by the higher real wages and income that the migrant worker can earn abroad during his or her remaining working life, over and above what he or she could have earned at home. Other benefits may be greater educational and job opportunities for the migrants' children. From the excess of returns over costs, an internal rate of return for the migration decision can be estimated, just as for any other type of investment. If this rate of return is sufficiently high to also overcome the noneconomic costs associated with migration, then the worker will migrate. Of course, in the real world workers seldom, if ever, have the information to carry out this type of cost-benefit analysis explicitly. Nevertheless, they behave as if they did. This is confirmed by the fact that migrants invariably move from low-wage to high-wage nations. Furthermore, younger workers migrate more readily than older workers because, among other things, they have a longer remaining working life over which to benefit from the higher wages abroad.

12.6B Welfare Effects of International Labor Migration

The welfare effects of international labor migration on the nations of emigration and immigration can be analyzed with the same diagrammatic technique used to analyze the welfare effects of international capital movements. In Figure 12.2, the supply of labor is OA in Nation 1 and $O'A$ in Nation 2. The $VMPL_1$ and $VMPL_2$ curves give the value of the marginal revenue product of labor in Nation 1 and Nation 2, respectively. Under competitive conditions, $VMPL$ represents the real wages of labor.

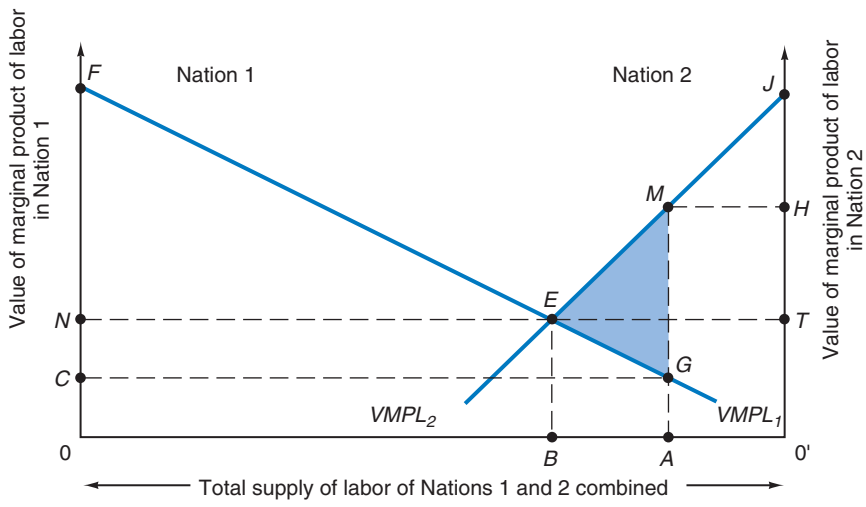

FIGURE 12.2. Output and Welfare Effects of International Labor Migration.
With a supply of labor of OA, Nation 1 has a real wage rate of OC and a total output of $OFGA$. With a supply of labor of $O'A$, Nation 2 has a real wage rate of $O'H$ and a total output of $O'JMA$. The migration of AB of labor from Nation 1 to Nation 2 equalizes real wages in the two nations at BE. This reduces total output to $OFEB$ in Nation 1 and increases it in Nation 2 to $O'JEB$, for a net increase in world output of EGM (the shaded area).

Before migration, the wage rate is OC and total product is $OFGA$ in Nation 1. In Nation 2, the wage rate is $O'H$ and total product is $O'JMA$. Now let us assume free international labor migration. Since wages are higher in Nation 2 ($O'H$) than in Nation 1 (OC), AB of labor migrates from Nation 1 to Nation 2 so as to equalize wages in the two nations at BE ($= ON = O'T$). Thus, wages rise in Nation 1 and fall in Nation 2 (and for that reason immigration is generally opposed by organized labor). On the other hand, total product falls from $OFGA$ to $OFEB$ in Nation 1 and rises from $O'JMA$ to $O'JEB$ in Nation 2, for a net gain in world output of EGM (the shaded area in the figure). Note that there is a redistribution of national income toward labor in Nation 1 (the nation of emigration) and toward nonlabor resources in Nation 2. Nation 1 may also receive some remittances from its migrant workers. Note also that if AB of labor had been unemployed in Nation 1 before migration, the wage rate would have been ON and the total product $OFEB$ in Nation 1 with and without migration, and the net increase in world output with migration would have been $ABEM$ (all accruing to Nation 2).

12.6c Other Welfare Effects of International Labor Migration

So far, we have implicitly assumed that all labor is unskilled. However, even casual observation of the real world reveals a great variety in the quality and amount of human capital (in the form of education, training, and health) embodied in different workers and labor groups. The question then arises as to the welfare effects of the migration of a highly skilled worker on the nations of emigration and immigration. These welfare effects are likely to be significantly different from those arising from the migration of unskilled labor. Concern with this question has greatly increased since the 1950s and 1960s as relatively large numbers of scientists and technicians, doctors and nurses, and other highly skilled personnel have moved from developing to developed nations and from Europe to the United States. For example, of the 8.7 million people that poured into the United States from the rest of the world during the 1980s, 1.5 million were college educated. More than 40 percent of the 200 researchers in the Communications Sciences Research wing at AT&T Bell Laboratories were foreign born, and more than 50 percent of science and engineering doctorates awarded by U.S. universities now go to foreign-born students—many of whom remain in the United States. Indeed, more and more U.S. high-tech industries, from semiconductors to biotechnology, are depending on immigrant scientists and engineers to remain competitive in the increasingly global marketplace. The problem of the migration of highly skilled workers is vividly conveyed by the term brain drain.

The nations of origin of skilled migrants charge that they incur a great cost in educating and training these workers, only to see them leave and benefit the receiving nations. To be sure, many of these highly skilled workers often cannot be used effectively at home—as, for example, when a doctor only performs nursing services and engineers are used as technicians, as frequently happens in some developing countries. Nevertheless, the fact remains that the nation of origin incurs the great expense of training these workers but receives only emigrant remittance (which, however, in 2010 was $325 billion as compared with $128 billion in foreign aid). It may also be that more dynamic, more alert, and younger workers emigrate, thus reducing the stock of those qualities in the remaining labor force.

The brain drain is often encouraged by national immigration laws (as in the United States, the United Kingdom, and other industrial nations) that facilitate the immigration of skilled

persons but generally impose serious obstacles to the immigration of unskilled workers. This has led to demands to tax skilled emigrants at the time of exit or tax their subsequent higher earnings in the nation of immigration, so that the nation of origin could recoup part of the cost incurred in training them. Although these proposals seem reasonable, it must be remembered that an important element of personal freedom is involved in the ability to migrate. Thus, it might be more acceptable from the individual's point of view and more efficient from an economic point of view for the government of the receiving nation to somehow compensate, through increased aid or other financial transfer to the nation of origin, for the training costs of skilled immigrants, particularly if the nation of origin is a developing nation.

In the preceding discussion of the migration of skilled and unskilled workers, we implicitly assumed that the migration decision is more or less permanent. However, a great deal of labor migration, particularly into the European Union, has been of a temporary type. That is, a nation such as Germany admitted foreign workers on a temporary basis when needed (the so-called guest workers), but refused to renew work permits during domestic economic downturns when the foreign workers were no longer needed. By doing so, Germany more or less insulated its economy and its labor force from economic downturns and imposed the adjustment problem on sending nations such as Turkey, Algeria, and Egypt, which are poorer and less capable of dealing effectively with the resulting unemployment.

In 2010, immigrants represented 26.5 percent of the *labor force* of Australia, 26.3 percent of that of Switzerland, 19.6 percent of Canada, 14.3 percent of Spain, 12.9 of Germany, 12.5 percent of the United States, 11.6 percent of France, and 11.3 percent of the United Kingdom. Case Study 9-5 provides historical data on U.S. immigration and summarizes the debate over immigration policy. In recent years and in the face of high rates of unemployment in many industrial nations, particularly in Europe, temporary migrants have been made to feel increasingly unwelcome and have encountered rising discrimination, even in nations such as France and England that usually welcomed them. Their work permits have not been renewed, and they have been encouraged to return home. Nevertheless, their numbers and proportion of the total labor force in most receiving nations continued to increase.

There is then the problem of illegal migration. This has been a burning issue in the United States, where millions of illegal migrants work in the so-called underground economy at below minimum wages and with few if any social benefits. Illegal migration significantly affects income distribution in the United States by depressing the income of low-skill American workers. This has given rise to vigorous debates in the United States on how to deal with the problem and how to stop or slow down the flood of illegal migrants. It was estimated that there were 10.8 million illegal migrants in the United States in 2010. Of these, about 7 million were workers, which represented about 5 percent of the U.S. labor force. Only with the economic crisis and high rate of unemployment in 2009–2011 did the flood of illegal immigration to the United States slowed down significantly.

In 1986, the United States passed the *Immigration Reform and Control Act of 1986,* which provided (1) amnesty and the possibility to acquire legal residence and eventual citizenship to illegal aliens who could demonstrate that they had resided in the United States continuously since before January 1, 1982, and (2) fines for employers ranging from $250 to $10,000 for each illegal alien that they hired. By 2010, less than a quarter of illegal aliens had applied for legal status. In 2004, President Bush proposed a plan that would allow millions of illegal workers to get temporary legal status along with many of the benefits of citizenship. Case Study 12-5 provides historical data on U.S. immigration and summarizes the debate over immigration policy.

CASE STUDY 12-5 U.S. Immigration and Debate over Immigration Policy

Table 12.8 shows the number of people immigrating to the United States and their percentage of the U.S. population for each decade from 1901 to 2010. The table shows that the number of immigrants into the United States reached almost 9 million, representing over 10 percent of the U.S. population in the 1901–1910 decade. It fell drastically during the 1931–1940 decade because of the Great Depression and the outbreak of World War II. Immigration rose again after World War II, surpassed after World War II, and was 10.5 million in the 2000–2010 decade (but which represented only 3.5 percent of the U.S. population because of the rapid growth during the past century).

In 2010, 38.5 million Americans, or 12.5 percent of the U.S. population, were born elsewhere. This was higher than in any other year since World War II (the all-time high was 14.7 percent in 1910). Illegal immigrants (10.8 million) were 28.1 percent of the total. The rapid increase in immigration (legal and illegal) in recent years led to an intense national debate on the nation's immigration policy.

The immigration of highly trained individuals and bright students coming to the United States to get higher degrees and then remaining is clearly of great benefit to the United States. Less clear is the case for immigration of uneducated and unskilled people. The U.S. Census data indicate that nearly 21 percent of recent immigrants over the age of 25 have bachelor's degrees (as compared with about 15 percent for native Americans), but 31 percent do not have a high school diploma (as compared with 8 percent of U.S.-born population). Thus, the majority of recent immigrants are either very educated or have little education.

In general, immigration is good for the country. But, at least in the short run, native workers receive lower wages than without immigration, whereas employers gain by being able to pay lower wages. This explains why labor is generally opposed to immigration while business favors it. *Borjas* estimated that for every 10 percent increase in the supply of foreign workers, the wage of competing U.S. workers is reduced by 3 or 4 percent.

In 1990, the H1-B visa program was established, which allowed each year up to 65,000 educated foreigners to fill specialized American jobs, largely in the high-tech industry, for a period of six years (but requiring renewal after the first three years) if an employer petitions the U.S. Immigration and Naturalization Service on their behalf. The number of H1-B visas was raised to 115,000 in 1998 and to 195,000 in 2001, but it was then scaled back to 65,000 in 2004. Since then, legislation has been under consideration in the U.S. Congress to sharply increase the number of such visas. An additional 20,000 are admitted under the advanced degree program for applicants who have obtained a U.S. master's degree or higher.

TABLE 12.8. U.S. Immigration, 1901–2012

	Total	
Years	Number	Rate*
1901–1910	8,795	10.4
1911–1920	5,736	5.7
1921–1930	4,107	3.5
1931–1940	528	0.4
1941–1950	1,035	0.7
1951–1960	2,515	1.5
1961–1970	3,322	1.7
1971–1980	4,499	2.0
1981–1990	7,256	3.0
1991–2000	9,081	3.4
2001–2010	10,501	3.5

*Per 1,000 of U.S. population

Source: U.S. Statistical Abstract, 2012, Table 43.

Sources: S. A. Camarota, *Immigrants in the United States, 2007* (Washington, D.C.: Center for Immigration Studies, November 2007); G. J. Borjas, "The Labor Market Impact of High Skill Immigration," *American Economic Review*, May 2005, pp. 56–60; J-C. Dumont and G. Lemaitre, "Counting Immigrants and Expatriates in OECD Countries," *OECD Social, Employment, and Migration, Working Paper No. 25*, 2004; "Talent Shortage Prompts US Calls for Visa Reforms," *Financial Times*, May 11, 2007, p. 5; and U.S. Citizenship and Immigration Services, U.S. Department of Homeland Security, *H-1B Fiscal Year 2012*.