people in LDCs, whereas the two are nearly the same in MDCs (see Figure 2-15).

**Infant Mortality Rate**
Better health and welfare also permit more babies to survive infancy in MDCs. About 94 percent of infants survive and 6 percent die in LDCs, whereas in MDCs more than 99.5 percent survive and fewer than one-half of 1 percent perish (see Figure 2-12). The infant mortality rate is greater in LDCs for several reasons. Babies may die from malnutrition or lack of medicine needed to survive illness, such as dehydration from diarrhea. They may also die from poor medical practices that arise from lack of education.

**Natural Increase Rate**
The natural increase rate averages 1.5 percent annually in LDCs compared to only 0.2 percent in MDCs. Greater natural increase strains a country’s ability to provide hospitals, schools, jobs, and other services that can make its people healthier and more productive. Many LDCs must allocate increasing percentages of their GDPs just to care for the rapidly expanding population rather than to improve care for the current population (see Figure 2-9).

**Crude Birth Rate**
LDCs have higher natural increase rates because they have higher crude birth rates. The annual crude birth rate is 23 per 1,000 in LDCs, compared to 12 per 1,000 in MDCs. Women in MDCs choose to have fewer babies for various economic and social reasons, and they have access to various birth-control devices to achieve this goal (see Figure 2-10).

The crude death rate (CDR) does not indicate a society's level of development. The CDR is lower in LDCs than in MDCs, 8 per 1,000 compared to 10 per 1,000. Two reasons account for the lower rate in LDCs. First, diffusion of medical technology from MDCs has eliminated or sharply reduced the incidence of several diseases in LDCs. Second, MDCs have higher percentages of older people, who have high mortality rates, as well as lower percentages of children, who have low mortality rates once they survive infancy.

### KEY ISSUE 2
**Where Are MDCs and LDCs Distributed?**

- **More Developed Regions**
- **Less Developed Regions**

The countries of the world can be categorized into nine major regions according to their level of development—North America, Europe, Latin America, East Asia, Southwest Asia (with North Africa), Southeast Asia, Central Asia, South Asia, and sub-Saharan Africa (Figure 9-11). In addition to these nine major regions, three other distinctive areas can be identified—Japan, Oceania, and Russia. These
regions have distinctive demographic and cultural characteristics that have been discussed in earlier chapters. Subsequent chapters will show that the nine major regions also differ in how people earn their living, how the societies use their wealth, and other economic characteristics. In a global economy, geographers are increasingly concerned with both the similarities and the differences in the economic patterns of the various regions.

More Developed Regions

Two of the nine major cultural regions—North America and Europe—are considered more developed. The other seven regions are considered less developed. This section examines the more developed regions.

The distribution of more and less developed countries reflects a clear global pattern. If we draw a circle around the world at about 30° north latitude, we find that nearly all of the MDCs are situated to the north, whereas nearly all of the LDCs lie south of the circle. This division of the world between more and less developed and developing countries is known as the north–south split. The north–south split between MDCs and LDCs shows up clearly in world maps of measures of development, such as the HDI created by the United Nations (Figure 9-1). MDCs in the north have relatively high HDIs, whereas southern countries have lower indexes.

North America: HDI 0.95

The United States ranked only thirteenth in HDI in 2009. The United States was near the top in two of the four indicators—GDP per capita and literacy rate—but lower than a number of other countries in education and life expectancy. The education indicator suffered because of a relatively high school dropout rate, and life expectancy was lower because many households have inadequate health-care coverage.

North America was once the world’s major manufacturer of steel, automobiles, and other goods, but in the past three decades, Japan and Europe as well as LDCs led by China have eroded the region’s dominance. Americans remain the leading consumers and world’s largest market for many of these products. The region adapted to the loss of manufacturing in the global economy by holding the world’s highest percentage of tertiary-sector employment, especially health care, leisure, and financial services.

North America is also the world’s leading food exporter. Few Americans are farmers, but a large percentage of the region’s workforce is engaged in some aspect of producing or serving food.

Europe: HDI 0.93

During the Cold War era between the 1940s and 1990s, Europe was regarded as two regions—a democratic West closely linked economically and militarily with the United States and a
Communist East closely linked to the Soviet Union. With the fall of communism and the breakup of many of the states in Eastern Europe, the two parts of Europe have become much closer, and are now treated as a single world region.

The elimination of most economic barriers within the European Union makes Europe the world's largest and richest market. European countries hold 15 of the 19 highest HDI rankings. Within Europe the level of development is the world's highest in a core area that includes western Germany, northeastern France, northern Italy, Switzerland, southern Scandinavia, southeastern United Kingdom, Belgium, the Netherlands, and Luxembourg. Southern and Eastern European countries lag in level of development, resulting in an overall HDI for Europe lower than that for North America.

Europe is especially dependent on international trade, both among countries within Europe and increasingly with other regions of the world. To pay for their imports, Western Europeans have provided high-value goods and services, such as insurance, banking, and luxury motor vehicles, including BMW and Mercedes-Benz. The recent severe recession has exacerbated regional and national differences within Europe. Countries most dependent on international trade have been especially hard hit.

Government officials representing the region’s wealthiest core area have been accused of protecting jobs in their individual countries rather than in the European Union as a whole. For example, cutbacks at major European carmakers, such as Opel and Renault, have been viewed as less severe in their home countries (Germany and France, respectively) than elsewhere in Europe. In Southern and Eastern Europe, unemployment rates have been double the regional average. European governments have also disagreed on optimal strategies for fighting the recession. In the United Kingdom, as in North America, hundreds of billions of dollars have been spent on government projects, loans, and grants to stimulate the economy. Most European governments have limited government spending because they fear high inflation once the economy recovers.

Russia: HDI 0.73

Under communism, the Soviet Union had a centrally planned economy. Five-year plans prescribed production goals for the entire country by economic sector and region. They specified the type and quantity of minerals, manufactured goods, and agricultural commodities to be produced and the factories, railways, roads, canals, and houses to be built in each part of the country. They specified the entire country by economic sector and region. They specified the type and quantity of minerals, manufactured goods, and agricultural commodities to be produced and the factories, railways, roads, canals, and houses to be built in each part of the country.

After the dissolution of the Soviet Union in 1991, Russia rapidly converted to a market economy. The transition proved painful. Unemployment soared as inefficient Communist-era businesses were either streamlined or closed. A handful of Russians—some of them gangsters—became very rich, but most Russians saw their standard of living decline sharply. Reflecting the deteriorating standard of living in Russia, the HDI declined from more than 0.9 in the 1980s under communism to below 0.9 in the 1990s and below 0.8 after 2000. In the first years of the twenty-first century, Russia experienced economic growth, fueled in large measure by escalating production of oil. The severe worldwide recession caused a sharp drop in demand, however, and with it the possibility of a renewed decline in the HDI.

Japan: HDI 0.96

North America and Europe share many cultural characteristics. North America was colonized by European immigrants, so the regions share language, religion, and other political, economic, and cultural traditions. From the perspective of LDCs, the economic influence wielded by these two regions is closely intertwined with the global influence of European and American culture. Japan, the third area of high HDI, has a different cultural tradition.

Japan's development is especially remarkable because it has an extremely unfavorable ratio of population to resources. Japan became an industrial power by taking advantage of the country's one asset, an abundant supply of people willing to work hard for low wages. The Japanese government encouraged manufacturers to sell their products in other countries at prices lower than domestic competitors. Having gained a foothold in the global economy by selling low-cost products, Japan then specialized in high-quality, high-value products, such as electronics, motor vehicles, and cameras.

Japan's eminence was achieved in part by concentrating resources in rigorous educational systems and training programs to create a skilled labor force. Japanese companies spend twice as much as U.S. firms on research and development, and the government provides further assistance in developing new products and manufacturing processes.

Oceania: HDI 0.90

Oceania is relatively marginal in the global economy because of its small number of inhabitants and peripheral location. Although the HDIs of Australia and New Zealand are comparable to those of other MDCs, the area's remaining people are scattered among sparsely inhabited islands that are generally less developed.

As former British colonies, Australia and New Zealand share many cultural characteristics with the United Kingdom. Over 90 percent of the residents are descendants of nineteenth-century British settlers, although indigenous populations remain. Australia plays an increasingly important role in the global economy because it is a leader in mining numerous important minerals, including iron ore, lead, manganese, nickel, titanium, and zinc. Australia and New Zealand are also net exporters of food and other resources, especially to the United Kingdom. Increasingly, their economies are tied to Japan and other Asian countries.

Less Developed Regions

Seven regions are classified as less developed. The level of development varies widely among them. Latin America has the highest HDI among the seven regions. Behind Latin America, four of the five Asian regions—East Asia, Southwest Asia (with North Africa), Southeast Asia, and Central Asia—have similar HDIs. South Asia and sub-Saharan Africa lag behind the others.
Brazil, China, and Mexico are among the world's largest and most populous countries. At the national scale, the three countries fall somewhere in the middle of the pack in GDP per capita and most other HDI indicators—well above sub-Saharan Africa and South Asia but well behind Europe and North America.

Hidden in nationwide statistics are substantial variations at the regional scale within all three countries (Figure 9-12). All three countries have GDP per capita greater than 150 percent of the national average in some provinces or states and less than 75 percent of the national average in other regions. MDCs also have regional variations in GDP per capita, but they are less extreme. In the United States, for example, the GDP per capita is 122 percent of the national average in the wealthiest region (New England) and 90 percent of the national average in the poorest region (Southeast).

Regional variations can be traced to distinctive features of each country:

- Brazil: Wealth is highest along the Atlantic coast and lowest in the interior Amazon tropical rain forest.
- China: As in Brazil, wealth is highest along the east coast and lowest in the remote and inhospitable mountain and desert environments of the interior.
- Mexico: Wealth is relatively high in the region bordering its even wealthier neighbor to the north and in the principal tourist region on the Yucatan Peninsula.

At a local scale, wealth in these intermediate-development countries is concentrated in large urban areas, such as Rio de Janeiro and São Paulo in Brazil, Beijing and Shanghai in China, and Mexico City. These cities contain a large share of the national services and manufacturing sectors and are where many leaders of the public and private sectors live. They also contain extensive areas of poverty and slum conditions, as discussed in Chapter 13.
Latin America: HDI 0.82
Latin America’s population is highly concentrated along the South Atlantic Coast between Curitiba, Brazil, and Buenos Aires, Argentina, especially in large urban areas, including Rio de Janeiro and São Paulo, Brazil, as well as Buenos Aires (Figure 9-13, left). Mexico City also ranks among the world’s largest cities. Overall, Latin Americans are more likely to live in urban areas than people in other LDCs.

The level of development varies sharply within Latin America. Neighborhoods within the large cities enjoy a level of development comparable to that of MDCs. The coastal area as a whole has a relatively high GDP per capita (see Global Forces, Local Impacts box). Outside the coastal area, development is lower in Central America, several Caribbean islands, and the interior of South America. Large areas of interior tropical rain forest are being destroyed to sell the timber or to clear the land for settled agriculture.

Overall development in Latin America is hindered by inequitable income distribution. In many countries, a handful of wealthy families control much of the land and rent parcels to individual farmers. Many tenant farmers grow coffee, tea, and fruits for export to relatively developed countries rather than food for domestic consumption. Latin American governments encourage redistribution of land to peasants but do not wish to alienate the large property owners, who generate much of the national wealth.

Latin America’s economy is closely linked to that of the United States. Mexico is especially dependent on trade with the United States. As a result, the severe global recession has hit Latin America especially hard.

East Asia: HDI 0.77
The economy of East Asia—and the entire world, for that matter—is in the twenty-first century being driven increasingly by China. Now the world’s second-largest economy, behind only the United States, China has become the world’s largest market and manufacturer (see Contemporary Geographic Tools box on 289).

China has been the world’s most populous country throughout recorded history. It was the world’s wealthiest country from ancient times until it was passed by Europe in the sixteenth century. As recently as the early nineteenth century, China still accounted for one-third of world GDP. But after a century of civil wars and foreign invasions, China had fallen far behind the level of development achieved in Europe and North America in the twentieth century.

China’s watershed year was 1949, when the Communist party won a civil war and created the People’s Republic of China. The old Nationalist government fled to the island of Taiwan, setting up a government in exile. Since then, dramatic changes have occurred in China’s economy. At first, priority was given to rural areas, where two-thirds of the Chinese people

FIGURE 9-13 Developing regions with higher HDI: Latin America and East Asia. Brazil (left) and China (right) are leading producers of motor vehicles.
Before communism, most Chinese farmers had been tenants, forced to pay high rents and turn over a percentage of their crops to property owners. Most years, farmers produced just enough food to survive, but they frequently suffered from famines, epidemics, floods, and wars.

Under communism, the government took control of most agricultural land. In some villages, officials assigned specific tasks to each farmer, distributed food to each family according to individual needs, and sold any remaining food to urban residents. In other cases, farmers rented land from the local government, received orders to grow specific amounts of particular crops, and sold for their own profit any crops above the minimum production targets. The system assured the production and distribution of enough food to support China's one-billion-plus population. In recent years, farmers have been permitted to hold long-term leases on land and control their own production.

In the twenty-first century, manufacturing has been increasing dramatically in China (Figure 9-13, right). With rising wealth, the world's largest population has been transformed into the world's largest market for consumer products like detergent, shampoo, and toothpaste. And with its factories paying much lower wages than those in MDCs, China is producing two-thirds of the world's DVD players, microwaves, photocopiers, and shoes for export to other countries as well as for domestic consumption.

In partnership with the world's largest retailer Wal-Mart, China's manufacturing might is pushing down prices for consumer goods throughout the world. At the same time, the low wages being paid to China's factory workers are driving down factory pay around the world. The severe recession has slowed China's economic growth because of declining global demand for manufactured goods.

Weaknesses remain in China's economic performance. Middle management is weak, quality control is minimal, banking is primitive, and legal protection is inadequate. Rapid development is straining resources, as China has become the world's largest consumer of steel, copper, coal, and cement and the second-largest consumer of petroleum behind the United States. China is also responsible for an increasing share of the world's pollution.

**Southwest Asia and North Africa:**

**HDI 0.74**

Much of Southwest Asia and North Africa is desert that can sustain only sparse concentrations of plant and animal life. This region—once more commonly called the Middle East—must import most products; however, it possesses one major economic asset: a large percentage of the world's petroleum reserves.

Saudi Arabia, the United Arab Emirates, and other oil-rich states in the region, most of them concentrated in states that border the Persian (Arabian) Gulf, have used the billions of dollars generated from petroleum sales to finance development (Figure 9-14, center). But not every country in the region has abundant petroleum reserves. Development possibilities are limited in countries that lack significant reserves—Egypt, Jordan, Syria, and others. The large gap in per capita income between the petroleum-rich countries and those that lack resources causes tension in the region.

Islam, the religion of more than 95 percent of the region's population, dominates the culture of the region. It professes some religious principles that conflict with business practices in MDCs. In some countries, all business halts several times a day when Muslims are called to prayers. Shops close their checkout lines and permit people to unwrap their prayer rugs and prostrate themselves on the floor. Women are excluded from holding most jobs and from visiting public places, such as restaurants and swimming pools. In some places, they are expected to wear traditional black clothes, a shroud, and a veil. The low level of literacy among women is the main reason the United Nations considers development among these petroleum-rich states to be lower than the region's wealth would support. The challenge for many Middle Eastern states is to promote development without abandoning the traditional cultural values of Islam.

**FIGURE 9.14** Developing regions with middle HDI. (left) Central Asia: A bed of cotton is being weeded by hand in Uzbekistan. (center) Southwest Asia: An oil valve is reopened at a refinery in Baiji, Iraq, in 2009. (right) Southeast Asia: Packets are being checked at a herbal medicine factory in Ungaran, Semarang, Indonesia.
The region also suffers from serious internal cultural disputes, as discussed in Chapters 6 through 8. Iraq's long war with Iran and attempted annexation of Kuwait split the Arab world. Lack of resolution of the long-standing conflict between Israel and its neighbors has diverted resources from development to military conflict. Southwest Asia has also struggled with terrorism. The attitude of most people in the region toward terrorism is ambivalent. On the one hand, very few endorse acts of violence against Americans, Israelis, and other civilians not directly involved in combat or the interpretation of Islam used to justify the attacks. On the other hand, few supported the U.S.-led invasion of Iraq, and alternatives are sought to U.S.-influenced culture and development.

Southeast Asia: HDI 0.73
Southeast Asia's most populous country, Indonesia, includes 13,667 islands. Southeast Asia's other most populous countries are Vietnam and Thailand (situated on the Asian mainland) and the Philippines (situated like Indonesia on a series of islands).

The region's tropical climate limits intensive cultivation of most grains (Figure 9-14, right). The heat is nearly continuous, the rainfall abundant, and the vegetation dense. Soils are generally poor because the heat and humidity rapidly destroy nutrients when land is cleared for cultivation. Development is also limited in Southeast Asia by several mountain ranges, active volcanoes, frequent typhoons, and occasional tsunamis. This inhospitable environment traditionally kept population growth low in much of the region. Nearly two-thirds of the population live on the island of Java, which has one of the world's highest arithmetic densities. People have concentrated on Java partly because the island's soil, derived from volcanic ash, is more fertile than elsewhere in the region and partly because the Dutch established their colonial headquarters there.

Because of distinctive vegetation and climate, farmers in Southeast Asia concentrate on harvesting products that are used in manufacturing. The region produces a large percentage of the world's supply of palm oil and copra (coconut oil), natural rubber, kapok (fibers from the ceiba tree used for insulation and filling), and abaca (fibers from banana leafstalks used in fabrics and ropes). Southeast Asia also contains a large percentage of the world's tin as well as some petroleum reserves. Rice, the region's most important food, is now exported in large quantities from India, Malaysia, and Thailand.

The region has suffered from a half-century of nearly continuous warfare. Japan, the Netherlands, France, and the United Kingdom were all forced to withdraw from colonies they had established in the region. In addition, France and the United States both fought unsuccessfully to prevent Communists from controlling Vietnam during the Vietnam War, which ran from the 1950s to 1975. Wars have also devastated neighboring Laos and Cambodia. In some Southeast Asian countries, however, notably Thailand, Singapore, Malaysia, and the Philippines, development has been rapid. The region has become a major manufacturer of textiles and clothing, taking advantage of cheap labor. Thailand has become the region's center for the manufacturing of motor vehicles and other consumer goods.

But economic growth in the region has slowed since the last years of the twentieth century. Earlier economic growth had been achieved through very close cooperation among manufacturers, financial institutions, and government agencies. In the absence of independent watchdogs and regulators, funds for development were sometimes invested unwisely or stolen by corrupt officials. To restore economic confidence among international investors, Southeast Asian countries have been forced to undertake painful reforms that reduce the people's standard of living.

Central Asia: HDI 0.70
Most of the countries in Central Asia were once part of the Soviet Union. With the breakup of the Soviet Union in the 1990s, regional geographers now prefer to identify a distinct region in Central Asia that encompasses eight of the fifteen former Soviet republics. Iran and Afghanistan are also included in the Central Asia region, although these two countries are closely tied to those of Southwest Asia, discussed in the next section.

Within Central Asia, the level of development is relatively high in Kazakhstan and Iran (Figure 9-14, left). Not by coincidence, these two countries are the region's leading producers of petroleum. In Kazakhstan, rising oil revenues are being used to promote carefully managed improvements in overall development. In Iran, a large share of the rising oil revenues has been used to maintain low consumer prices rather than to promote development. Since coming to power in a 1979 revolution, the fundamentalist Shiite leaders in control of Iran have also used oil revenues to promote revolutions elsewhere in the region and to sweep away elements of development and social customs they perceive to be influenced by Europe or North America.

The level of development is lower in this region's other “stan” republics. Minerals and agricultural products are their principal economic resources. Afghanistan probably has one of the world's lowest HDIs, but the United Nations hasn't calculated it for many years because of the extended war.

South Asia: HDI 0.61
South Asia includes India, Pakistan, Bangladesh, Sri Lanka, and the small Himalayan states of Nepal and Bhutan. The region has the world's second-highest population and second-lowest per capita income. Population density is very high, and the natural increase rate is among the world's highest. The overall ratio of population to resources in the region is unfavorable because of the huge population.

South Asia was a principal beneficiary of the Green Revolution, a series of developments beginning in the 1960s that dramatically increased agricultural productivity. As a result of the Green Revolution, “miracle” rice and wheat seeds were widely diffused throughout South Asia. But agricultural productivity in South Asia also depends on climate. The region receives nearly all its precipitation from rain that falls during the monsoon season between May and August. Agricultural output declines sharply if the monsoon rains fail to arrive. In a typical year, farmers in South Asia produce a grain surplus that is stored for distribution during dry years. However, several consecutive years without monsoon rains produce widespread hardship.
India, South Asia’s largest country, has become the world’s fourth-largest economy, behind the United States, China, and Japan, and the rate of growth of its economy is second only to China’s. India is the world’s leading producer of jute (used to make burlap and twine), peanuts, sugarcane, and tea and has mineral reserves, including uranium, bauxite (aluminum ore), coal, manganese, iron ore, and chromite (chromium ore). It is also one of the world’s leading rice and wheat producers (Figure 9-15, left). The country has become a major manufacturer, though not as rapidly as China. In addition, India has become a major service provider. When you phone an airline, a help desk, or a credit card company, chances are your call will be answered by someone actually located in India.

Sub-Saharan Africa: HDI 0.51

Africa has been divided into two regions: Countries north of the Sahara share economic and cultural characteristics with Southwest Asia; south of the desert is sub-Saharan Africa.

Among the countries of this region, South Africa is a major source of minerals, including chromium, diamonds, manganese, and platinum. Other countries in the region also contain resources important for development, including bauxite in Guinea, cobalt in the Democratic Republic of Congo and Zambia, diamonds in Botswana and Congo, manganese in Gabon, petroleum in Nigeria, and uranium in Niger. Regional wealth is comparable to levels found in other LDCs.

Despite these assets, sub-Saharan Africa offers the least favorable prospect for development (Figure 9-15, right). The region has the world’s highest percentage of people living in poverty and suffering from poor health and low education levels. And economic conditions in sub-Saharan Africa have deteriorated in recent years: The average African consumes less today than three decades ago. Some of the region’s economic problems are a legacy of the colonial era. Mining companies and other businesses were established to supply European industries with needed raw materials rather than to promote overall economic development in sub-Saharan Africa. Africa’s many landlocked states have difficulties shipping out raw materials through neighboring countries. And in recent years, African countries have suffered because world prices for their resources have fallen.

Political problems have also plagued sub-Saharan Africa. European colonies were converted to states without regard for the distribution of ethnicities (see Figure 7-34). After independence, leaders of many countries in the region pursued personal economic gain and local wars rather than policies to promote development of their national economies. These frequent internal wars, as well as those between countries in sub-Saharan Africa, have retarded development.

But the fundamental problem in many countries of sub-Saharan Africa is a dramatic imbalance between the number of inhabitants and the capacity of the land to feed the population. Nearly the entire region has either a tropical or a dry climate. Both climate regions can support some people, but not large concentrations. Yet, because sub-Saharan Africa has by far the world’s highest rate of natural increase, its land is more and more overworked, and agricultural output has declined.

KEY ISSUE 3
Where Does Level of Development Vary by Gender?

- Gender-Related Development Index
- Gender Empowerment

A country’s overall level of development masks inequalities in the status of men and women. Gender inequality...