26 INTRODUCTION TO ECONOMIC DEVELOPMENT

26.1 Economic growth and economic development

Learning outcomes

- Distinguish between economic growth and economic development.
- Explain the multidimensional nature of economic development in terms of reducing widespread poverty, raising living standards, reducing income inequalities and increasing employment opportunities.
- Explain that the most important sources of economic growth in economically less developed countries include increases in quantities of physical capital and human capital, the development and use of new technologies that are appropriate to the conditions of the economically less developed countries, and institutional changes.
- Explain the relationship between economic growth and economic development, noting that some limited economic development is possible in the absence of economic growth, but that over the long term, economic growth is usually necessary for economic development (however, it should be understood that under certain circumstances economic growth may not lead to economic development).

Four-fifths of the world's population live in poverty. Is this good news or bad news?

Consider the following assertion: our modern era of globalization has made it possible for more people to live lives of greater wealth, health and comfort than at any time in history. Globally speaking, people have longer life spans and enjoy comforts and conveniences only imagined by people living as recently as 100 years ago. However, this obvious fact runs alongside another, very unpleasant one. Approximately four-fifths of the world's people live in developing countries, many of them in abject poverty. That's nearly 4.8 billion people. Furthermore, developing countries account for less than one-fifth of total world income. Development economics, as a field of inquiry, attempts to understand and address that disparity. It is enormously encouraging to see the progress made by so many so quickly. Surely something can be learned of this success, and surely these lessons can be applied in service to the unlucky billions who are just getting by?

Figure 26.1 (overleaf) shows relative development levels geographically. Its findings are based on scores for countries on the Human Development Index, a composite indicator of development (page 561).

Economic development is the sustainable increase in living standards for a country, typically characterized by increases in life span, education levels, and income.
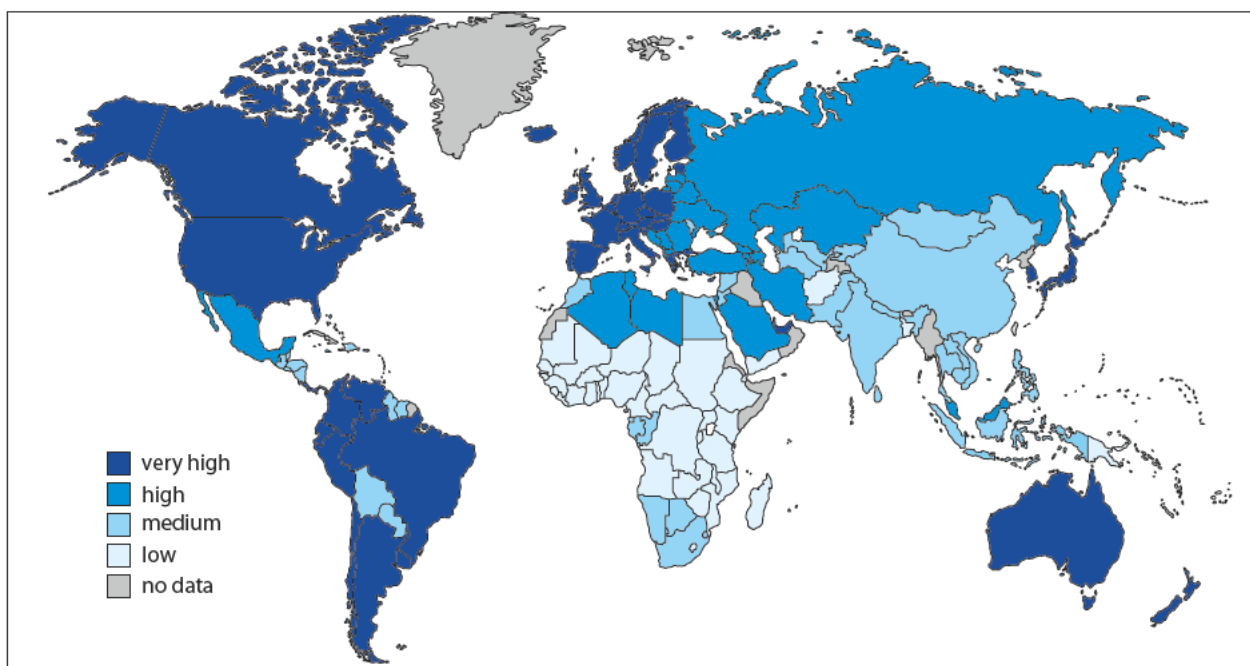
Figure 26.1
Development by country.

EXERCISES
1   Using Figure 2.61, rank the geographical regions in order of level of development.
2   Based purely on the geographic depiction of developed countries in Figure 26.1, list three generalizations you might make with regard to development.
3   To what extent do you believe these generalizations to be true?
4   What information or data would help you assess whether those generalizations were true?

Development over the years

For the decades that followed the Great Depression of the 1930s, most macroeconomists focused on economic growth. Growing economies, it was logically reasoned, would improve the lives of most citizens. The emphasis was on investment in infrastructure, creating productive capacity, stimulating spending, and generally improving income level. In Chapter 11, the many measures economists have devised to assess those levels are discussed, from GDP to *per capita* GDP, to adjusting for purchasing power and the creation of purchasing-power-parity-adjusted *per capita* GDP. The limits of GDP or GNI to assess the activity it claims to record have been acknowledged. Economists, it could be said, grew better and better at keeping score, but only in a particular way.

Beginning in the late 1940s and early 1950s (the end of the colonial era in many poor countries) there emerged a concern that growth alone did not always provide a better quality of life. Sheer economic growth had a mixed record in terms of improving health, education and other basic living standards. Economists began seeking out new ways to look at economic well-being, especially for poor countries, which had either missed out on growth or found its promises unfulfilled.

Development can be defined as a broad measure of economic well-being, one that takes into account factors beyond monetary income to include health, education and other social

indicators. Development economics is a branch of economic theory that has grown up around the idea that it is possible to understand what makes poor countries poor (and rich countries rich) and to make policy changes that can turn poor countries into richer ones.

A sign of the growing interest in a wider focus came in 1966, when the United Nations created the UN Development Programme, and by 1971 had consolidated most of its development-related agencies together. Funded by voluntary contributions of UN members, the UNDP has contributed technical assistance, consultants' services, equipment, and fellowships for advanced study abroad. It has funded projects in resource planning, training institutes, the application of modern technology to development, and the building of the economic and social infrastructure.

In 1990, influenced by the work of Amartya Sen, the UNDP began to compile and publish the Human Development Index, a broader evaluation of economic well-being that has become the standard international benchmark measure for quality of life. This drive towards a development focus, rather than pure growth, has gathered momentum through the work of the UN as well as from a wide variety of academics in the last few decades. It culminated in the UNDP's Millennium Development Goals Project, an ambitious effort to draw attention and resources to the struggles of poor countries (page 558). This chapter elaborates on the relationship between growth and development, defines characteristics that less developed countries (LDCs) share and considers the ways in which they are different. It also describes and explains the common methods of measuring economic development.

Growth and development

Economic growth is rather strictly defined as an increase in real GDP over the previous year. Economists strive to refine and clarify the idea by measuring it against population size and relative spending power. But it remains the defining characteristic of a country's economic success. Growth, because it usually means more money and activity and employment, generally suggests that something is going right with the economy. A recession, a lack of growth or a decrease in the economy's size, triggers attention and policy changes.

Development, in contrast, emphasizes specific changes in aspects of people's lives in many different dimensions. A primary focus of development economics is the reduction of poverty, the raising of incomes among the world's poorest. Furthermore, development economics seeks the improvement of general living standards. Typically, living standards are measured by long life, general health, education achievement and opportunities, as well as measures of income. Development economics, like mainstream views of growth, also focuses on employment, in particular on the types of employment offered in poor countries, and how countries can adapt and respond to the challenges of their workforces.

Economic growth

While economic growth occurs with any increase in GDP over the previous year, it is relevant to make a distinction between the growth of actual production and growth of potential production. Potential output is an increase or shift to the right of long-run aggregate supply (LRAS) or a country's production possibilities frontier (PPF) (Figure 26.2, overleaf).

Figure 26.2
Economic growth: **a** PPF;
b LRAS.
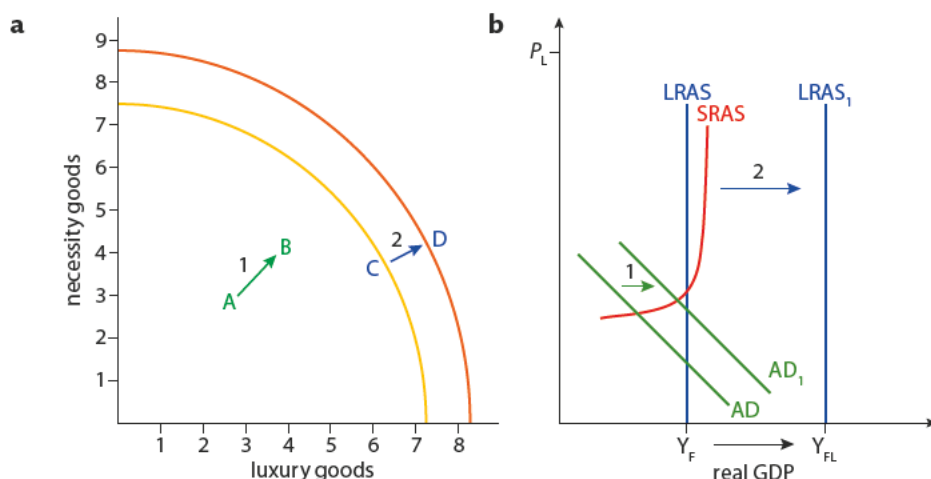
Growth in production is shown on a PPF (Figure 26.2a) as a movement (1) from A, where resources are not being used efficiently, to B where there is more activity (and GDP) and more efficiency. On Figure 26.2b, the AD/AS diagram, it can be shown as a deflationary gap that is partially reduced by an increase in aggregate demand (1) from AD to AD_1. In contrast, growth in the long-term potential of the economy is shown as a shift of the PPF outwards from point C to D (2), or a shift to the right of the LRAS curve (2). In either long-run case, an increase in the quantity or quality of the factors of production, perhaps encouraged by growth in productivity, has improved the overall productive capacity of the economy. It is long-run growth that we are concerned with here.

Sources of economic growth

The natural resource base

When it comes to natural resources, each country must do its best with what it has. Some countries are blessed with an abundance of water, arable land, timber, and other natural resources. The US attributes some part of its enormous wealth to a breadth and depth of natural bounty. Other countries, like Singapore and the Netherlands, resort to increasing resources like land by means of impressive technological achievement. Still other countries toil away in hopes of discovering a precious new resource, as happened in Afghanistan in 2009 when vast mineral deposits, some including lithium (which is used to power all kinds of modern batteries) were discovered. The estimated worth of Afghan deposits is nearly 3 trillion dollars. Such a windfall is extremely rare; the only practical alternative is to seek out ways to improve resources already known about.

Physical capital

Growth can be achieved by increasing or improving the amount of physical capital. This includes buildings, machinery, vehicles, offices, and equipment. The resources to purchase these goods come from savings (and the income earned from savings); the intellectual power to improve them comes from a more highly educated workforce. Some technology can be imported from overseas capital products and by hiring foreign expertise. Capital widening refers to the extension of capital goods to a larger segment of workers (e.g. more farmers using simple tools). Capital deepening refers to increases in the ratio of capital per worker, so that workers have more capital to work with (all farmers using better farm tools). Some combination of capital widening and capital deepening is necessary for growth to occur.

Appropriate technologies

It is often assumed that poor countries benefit from the technological improvements being

made by rich ones. This is certainly true, and advancements in information technology hold promise for poor countries to improve market access and price information. However, other examples point to technology that can be detrimental to growth. Multinational agricultural companies, for example, have created highly productive seeds. These seeds should improve farm yields in the short term, but the plants they produce do not set seed themselves. Seeds for the next planting must be purchased from the corporation. In other cases, foreign aid agencies may be forced by their countries to provide certain types of technology, regardless of the recipient country's needs. As a result, expensive new tractors lie rusting, unused after breaking down and requiring expensive repairs, when more appropriate intermediate technology would have moved the country forwards. Rather than assert that more is always better, the emphasis is now on appropriate technology.

Human capital

The quantity of human capital can be increased by encouraging childbirth with better prenatal and maternal healthcare. It can also be accomplished by encouraging immigration to the country, adding to the labour force. However, many countries have too large a population and are seeking ways of reducing it. China's one-child policy and Singapore's incentive system for families are two prominent examples.

The quality of human capital can be improved through a variety of approaches to make the average person more productive. Improved healthcare keeps children healthy, and parents able to care for them. It also lowers the amount of time workers are absent or ill during working hours. Furthermore, education and worker training are all investments in human capital, and thus should contribute the productive capacity (LRAS) of the country.

Institutional factors

Enduring economic growth can only occur when minimum levels of legal and institutional factors are in place. Political stability is a prerequisite. A stable banking system ensures the flow of capital. A minimum level of infrastructure is necessary, so that goods can be transported, and a minimum level of public health is required. An orderly legal system that affirms property rights encourages investment. A reasonably good education system, one that successfully trains students in numeracy and literacy, is also important.

CASE STUDY

People in economics: Amartya Sen

What does it mean to be free? For Amartya Sen, the question has been personal, political and professional. Sen was born in West Bengal, then a colony of Great Britain. As a child, he witnessed the devastating Bengal famine of 1943, an event that lingered with him and shaped his research as an economist. Sen achieved top marks at prestigious prep schools in Bengal and India, and eventually studied at Cambridge. His early years of graduate work were marked by intense debates between the advocates of Keynesian and neo-classical economics. Eventually, though, Sen made his mark by pursuing a different perspective on national economic well-being. His study of famines and deprivation led him to conclude that most famine was unnecessary, a consequence of factors that had little to do with a lack of resources. More important, he argued, were the capabilities of the people to fend for themselves. Freedom, he argued, was more than the lack of government interference in one's life, but rather the ability to positively do something to help oneself. To Sen, it is on this basis that all governments should be evaluated. Famine, he later noted, was far less likely in functioning democracies because the government is compelled to respond to its people in times of critical shortage. Sen also promoted a focus on gender inequality, writing famously that 'more than

Amartya Sen (b. 1933): the 'conscience of his profession'.

100 million women are missing,' in China and India because of preferential healthcare for men and sex-selective abortion of girls. Among the most influential economists, if not intellectuals, of the 20th century, Sen questioned the view of *homo economicus*, of humans as purely self-motivated actors. He was awarded the 1998 Nobel Prize for his work on social choice theory and his interest in poverty and development. His work in the causes of famine and on social welfare, drove much of the thinking behind changes in United Nations development policy in recent decades, including the formulation of the Human Development Index.

A country seeking progress can follow many paths. A brief review of macroeconomic trends in different countries yields many combinations of growth, inequality, health, and other standard-of-living results. Indeed, all the sources of economic growth are useful components of economic development. However, the outcomes of economic growth can be very different.

Growth without development

Economic growth means more production and income for a country. This, in principle, should yield an increase in the standard of living. However, sometimes growth is achieved along with very disagreeable outcomes related to the basic economic questions of what to produce, how to produce it, and to whom the results of production are actually distributed.

Many poor countries have limited choice about the types of good to produce. They are generally limited to resource extraction and production of agricultural commodities, often with problematic results. How production occurs (i.e. choice of production methods) can cause serious environmental harm that deepens poverty. Meanwhile, the benefits of production frequently go to a tiny elite, rather than being more generally spread across income levels.

What to produce: limited benefits to LDC production

Too much of some resources might even be considered a bad thing. Some economists say there is a resource curse when countries have an abundance of a non-renewable mineral or fuel resource. Why a curse? Because exchange rates are driven up by demand for the resource, crowding out other exports, and also because governments that rely on the easy money from these found resources tend to be inefficient and corrupt.

The theory of comparative advantage directs countries to produce the goods and services for which they have the lowest opportunity costs. In other words, countries should do what is most valuable to them, based on the market value of that activity. This, the theory states, is the surest path to economic growth. However, this type of production may not yield enduring or extensive economic benefits, nor is it certain that this type of growth can keep countries competitive in terms of income relative to rich countries. Most LDCs gain the majority of income and export revenue from resource extraction and the production of agricultural commodities. Each has limitations.

- **Resource extraction**. Precious timber is sold from Burma to China, copper extracted from mines in Zambia, diamonds from South Africa, oil from Indonesia. Ideally, resource wealth should translate into income and a higher standard of living. However, because most poor countries lack the capital resources and infrastructure to extract resources, they auction extraction rights to multinational corporations (MNCs). Because mineral extraction is more capital intensive than labour intensive, the increased employment benefit is not very great. At the same time, capital flight occurs when the profits earned are repatriated to the home country headquarters of the MNC. Furthermore, while it is hoped that these activities will require and result in infrastructure improvements, many of the gains in infrastructure are industry specific, or limited to the area where the resource extraction occurs.
- **Agricultural commodities**. It is estimated that 40% of the world's population work in agriculture. Most live in poor countries. This ties most of the world's poor citizens directly to the fortunes of agricultural production and these markets are notoriously

volatile. Weather changes, blights, and surges in productivity are all responsible for wild swings in commodity prices, and thus affect the incomes of many poor countries. As discussed in Chapter 25, this can be a losing game for two main reasons: increased productivity has generally suppressed prices in the last several decades and, as global income continues to grow, demand for these commodities is relatively income inelastic. Therefore, the demand for these goods grows much more slowly than demand for manufactured goods and services. As a result, the relative incomes of poor, agriculture-based countries continue to fall behind. Also dampening prices are the massive protectionist subsidies lavished on farmers in the EU and the US. Yet poor countries are driven to commodity production because this is where their comparative advantage exists. Even if they wanted to, however, they have few options to diversify. The structural change from primary to secondary production requires capital goods. Buying capital goods requires foreign exchange, and these countries need the revenue earned from extraction and agriculture to buy the capital goods. With the export prices falling and demand growing slowly, their terms of trade is in decline. Thus, many LDCs find themselves trying to earn more and more from agricultural production that has less and less market demand from the rest of the world.

How to produce: production and environmental destruction

The diminished terms of trade contributes to environmental degradation in many LDCs. Because the resources or crops LDCs are producing have a declining terms of trade value, such countries must produce more of their decreasing-price exports to buy the relatively more expensive import goods from around the world. This problem can easily degenerate into a vicious cycle: the pressure to produce more crops contributes to deforestation, soil depletion, and even water contamination. In broader terms, the pressure on resources in LDCs leads producers to seek ever-lower costs with regards to many types of production. The result is the daunting array of environmental damage discussed below.

- **Deforestation**. The dramatic rise in forest cutting coincided with the industrial revolution, beginning in the second half of the 19th century. It has continued, at varying rates, ever since. While the rates of forest destruction are sometimes disputed, it is generally agreed that deforestation is a serious environmental problem. The World Bank, whose estimates are viewed as conservative, says that forest area has decreased by 1% since 1989. Rainforests in Brazil, Central America, Madagascar, West Africa and South Asia have been particularly ravaged in recent decades. Because more developed countries (MDCs) have already cut their forests, the world has turned to LDCs as a source of timber products. At the same time, population growth and the pressure to clear land for agricultural use have apparently accelerated deforestation in LDCs. The effects are serious, including the disruption of the water cycle, increased soil erosion, and decreased biodiversity. In addition, it is likely that LDCs are trading short-term gains from deforestation for the long-term preservation and maintenance of natural resources.
- **Land degradation**. LDC land resources are declining in natural value as a result of land clearance, livestock production and overgrazing, commercial development and urbanization, clear cutting and deforestation, as well as agricultural overuse. This results in a depletion of minerals and nutrients from the soil, making farming more difficult and expensive. Soil erosion, as a result of deforestation and urbanization, contributes to a loss of organic matter, compounding the depletion of soil quality. The destruction of soil resources obviously hinders poor countries, which rely heavily on agricultural production for income.
- **Water pollution**. Population growth, combined with the pollution of fresh-water sources, has caused some to view water as the speculative good of the future, akin to oil and gold. Lack of fresh water is a major cause of disease and premature death, very

seriously affecting those in LDCs. In China, several hundred million people lack an uncontaminated water source. In India 1100 children die every day from diarrhoea from contaminated water. Globally, it is estimated that 14 000 people die every day from lack of access to clean water. Economic growth contributes to the problem with agricultural production causing increased fertilizer runoff, increased use of insecticides, and increased animal waste. Industrial waste in the form of heavy metals, detergents, chemical wastes, and petroleum fluids also contribute to water contamination.

- **Over-fishing**. As global income rises, the demand for fish has grown. To meet that demand, industrial fishing has significantly increased its capacity to catch fish. Repeated crashes of fish populations in recent decades have caused many to worry that global fish stocks are on the verge of collapse. Because open-sea fishing is considered a common good, fish can be taken from the oceans without concern for the replenishment of stocks. LDCs that earn significant foreign exchange from fish exports are susceptible to over-fishing. They are thus more vulnerable to fish depletion and a long-term threat to this food and income source.

- **Air pollution**. Most air pollution is associated with human economic growth. Among the major causes of air pollution are methane (produced by livestock), car exhaust, and manufacturing and power plant exhaust. Air pollution affects the health of many people, causing the death of up to 2 million each year. Air pollution also exacerbates many illnesses, including lung disease, pneumonia, asthma, emphysema and bronchitis. At minimum, this puts a strain on healthcare services in LDCs, and most certainly lowers productivity rates among workers in those countries.

- **Climate change**. Perhaps the most daunting environmental challenge is posed by the rising temperature of the planet's surface and air. The scientific consensus is that the average temperature of the planet increased significantly in the 20th century. Some estimates of 21st-century warming suggest the increase will be greater, from 1.1–6.4 °C (2.0–11.5 °F). The effects are expected to be catastrophic; here are a few examples:
  - increased frequency and severity of extreme weather events such as drought and heavy precipitation
  - rising sea levels destroy coastal cities and increase the spread of airborne disease
  - disrupted weather patterns devastate crop yields and threaten global food security.

Such changes will cause rapid changes to whole ecosystems, with unpredictable but dire results for all species, especially humans.

Economic growth, as currently practised, is widely accepted to be a major contributor to climate change. Carbon dioxide and other greenhouse gases are produced by many different types of economic activity, including burning fossil fuels for energy, deforestation, and animal farming.

CASE STUDY

The top 10 of the world's most polluted places

- Sumgayit, Azerbaijan: organic chemicals and mercury, from petrochemical and industrial complexes
- Linfen, China: particulates and gases from industry and traffic
- Tianying, China: heavy metals and particulates, industry
- Sukinda, India: chromium, chromite mines
- Vapi, India: industrial effluents
- La Oroya, Peru: lead and heavy metals; metal mining and processing
- Dzerzhinsk, Russia: chemicals, toxic by-products; lead; chemical weapons manufacturing
- Norilsk, Russia: heavy metals, particulates; mining and smelting

- Chernobyl, Ukraine: radioactive materials
- Kabwe, Zambia: lead; mining and smelting

Blacksmith Institute, 2007

The Blacksmith Institute is an environmental non-governmental organization that tracks pollution problems. This alphabetical (by country), unranked list of 30 sites (the 'dirty thirty') was published in 2007. Countries with the most entries were China, India and Russia. The Middle East and Oceana had no sites on the list.

EXERCISES
5   To what extent does the Blacksmith Institute's list prove the contention that growth can cause environmental damage?
6   Assess the validity of the following statement.   *Poor countries are merely going through the states that rich countries went through. Once they are rich, they will fix these problems just as the rich countries have.*

For whom: who benefits from production?

- **Income inequality.** Growth in overall GDP and even growth in *per capita* measures of income may obscure who really receives the higher income. Economists use measures such as the Gini coefficient and Lorenz curve to assess and illustrate the distribution of income (Chapter 16). Recent trends show that inequality in many countries is growing. In other words, those earning the most money are seeing their incomes rise the fastest, while those earning lesser incomes are seeing their share of national income decrease.

The effect of income inequality on growth and development has been the subject of philosophical debate as well as academic study. Some view efforts to redistribute income through tax policies that take higher proportions from the top earners as anti-capitalistic and contrary to free market principles. Some research augments this view, arguing that the relatively rich tend to save more of their income and thus provide more capital from which more growth can occur. This perspective has not held up well and more recent research suggests that extreme levels of inequality tend to retard growth because of the disruption of social cohesion and the encouragement of social unrest. Other research suggests that both very high and very low inequality tends to slow growth, and therefore recommends a moderate approach to income redistribution. Growth tends to be more self-sustaining when the Gini coefficient is between 25 and 40 (the former typical of Northern Europe, the latter of France, Germany, the UK, and the US).

These results suggest that countries with very high (and also very low) inequality have a harder time sustaining the growth that will fund greater development. Also, because lack of redistributive tax policies is most often the cause of income inequality, the base of tax revenue is smaller than it could be. Development, for a country at a given income level, may be harder to achieve because it is less well funded than in a country that actively redistributes income through tax policies.
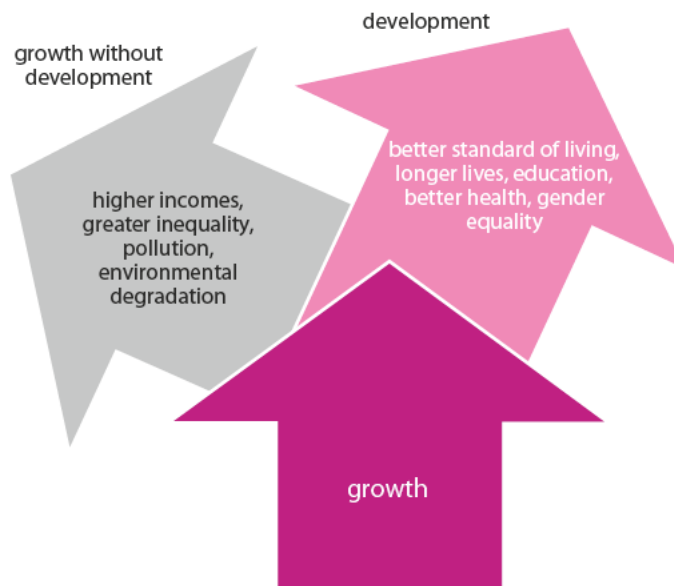
Growth with development

There is an overwhelmingly high correlation between high income and high levels of development. This is to be expected, as income is typically a core measure of development. But the variety of results, and especially high-income development failures, leads to the conclusion that may have seemed obvious from the start: growth is a necessary, but

The top five countries with the most equal distributions (averaged between 1997 and 2008) are: Norway, Australia, Iceland, Canada and Ireland. These are all countries high on the Human Development Index (HDI). The bottom five countries, those with most unequal distributions of income, are all low-ranking HDI countries: Mali, the Central African Republic, Sierra Leone, Afghanistan and Niger.

not sufficient, condition for true development. Growth should be expected to enhance many aspects of the standard of living in a country, provided the money is well spent. For example, high growth provides increased tax revenues, which can be used to improve schools and basic healthcare services.

Figure 26.3 illustrates the relationship of growth and development. Growth, if managed effectively, can yield the expected positive outcomes of longer lives, more education, and an overall better standard of living. However, if managed poorly, environmental damage, high inequality of income, inattention to the basic necessities and corruption can ensure that growth runs afoul of its supposed logical ends.

development

growth without development

better standard of living, longer lives, education, better health, gender equality

higher incomes, greater inequality, pollution, environmental degradation

growth

Development without growth

As growth can lead in so many bad directions, is it possible to achieve development without it? The evidence suggests that it is. Some countries with low GDP *per capita* can score very well on composite development indicators, rather better than their high-growth and richer counterparts. So perhaps growth is not a prerequisite for development (Table 26.5, page 562).

One way to interpret such a result is to allow that some countries may overachieve, relative to their *per capita* GDP, because of attention to institutional factors such as their court system or banking system. Perhaps, despite a lack of MDC levels of income, their educational attainment is quite high. Perhaps these countries make wise investments in prenatal care of mothers and children, lowering infant mortality levels and extending life spans. Perhaps development is possible without growth.

Another look at the list of overachievers and underachievers in Table 26.5 suggests that the underachievers derive significant levels of income from resource extraction, typically oil revenues. The Emirates, Kuwait and Venezuela, most conspicuously, have underachieved in development terms despite large inflows of foreign exchange. So perhaps the more relevant lesson is to understand why so many countries like these misspend their incomes and achieve only 'uneconomic growth.' This term is attributed to American economist Herman Daly; it describes economic growth that actually reduces the standard of living rather than enriching it. The list of development overachievers is rather small, compared to that of the underachieving, high-income, growth-development failures.

26.2 | Common characteristics of economically less developed countries

Learning outcomes

- Explain, using examples, that economically less developed countries share certain common characteristics (noting that it is dangerous to generalize as there are many exceptions in each case), including low levels of GDP *per capita*, high levels of poverty, relatively large agricultural sectors, large urban informal sectors and high birth rates.
- Explain that in some countries there may be communities caught in a poverty trap (poverty cycle) where poor communities are unable to invest in physical, human and natural capital due to low or no savings; poverty is therefore transmitted from generation to generation, and there is a need for intervention to break out of the cycle.

Levels of development

Setting foot in a less developed country might provide some instant clues about the level of development: poor housing, bad sanitation, children running in the streets during school hours. But poor areas exist in every country, so it is important to use aggregate statistics to comprehend the magnitude of the problem in any given country. The degree to which LDCs share common characteristics allows economists to devise and test common policies to address their concerns. With this in mind, economists have identified several traits that are likely to be evident in a typical LDC. At the same time, it is important to note that there is quite a variety between these countries. In other words, all LDCs do not look alike: differences are discussed in section 26.3. Here, we are going to look at some similarities.

Some traits associated with poverty

High birth rates/large dependency ratios

Measured as the crude birth rate (CBR), global birth rates have dropped steadily over the last 100 years, but the rates for developing countries have dropped much more slowly. The global average CBR for 2010 is approximately 20 births per 1000 women of child-bearing age per year. In LDCs, this figure is far exceeded, with CBRs as high as 40–55 births per 1000 women of child-bearing age per year. In other words, birth rates in many LDCs can be 2–3 times higher than the global average.

The dependency ratio is the combined number of people not in the labour force compared to those who are in the productive population (labour force). High birth rates tend to lead to high dependency ratios, another common characteristic of LDCs. Countries with high birth rates and large populations of younger people fall easily into this category. At the same time, richer countries with ageing populations are also seeing their dependency ratios climb. Countries with high dependency ratios are likely to struggle to meet the needs of their relatively large dependent population. The highest ratios, typically at or above 80%, imply that for every productive, working person there is another person to support.

Dependency ratio is the percentage of old-age adults and below-working-age children relative to the number of working-age adults.

Low *per capita* GDP

There is a high positive correlation between levels of development and attainment of GDP *per capita*. Thus, the countries which rank at the bottom of the Human Development Index tend to have low average levels of income. Perhaps not surprisingly, these same countries tend to have high rates of extreme and moderate poverty.

Table 26.1 shows the percentage of the population living in extreme and moderate poverty in selected middle- and low-income countries (defined by their GDP *per capita*). Note the correlation of low average income and extreme poverty.

TABLE 26.1 EXTREME AND MODERATE POVERTY LEVELS, 2007		
Country	**% population living in extreme poverty**	**% population living in moderate poverty (includes those in extreme poverty)**
Middle-income countries		
Romania	0.5*	4.1
Costa Rica	0.7*	4.3
Brazil	4.3*	12.7
Low- and very low-income countries		
Cambodia	25.8	57.8
Indonesia	27.4	56.6
Timor Leste	37.2	72.8
Liberia	83.7	94.8

* Figure for 2008 as no data available for 2007.

High agricultural dependence

Developing countries rely heavily on agricultural production which can be the main source of labour income as well as export earnings. More specifically, a larger percentage of labour is employed in agriculture in LDCs. Generally speaking, developed countries tend to employ less than 10% of the population in agriculture, while the proportion in LDCs may be 50–80%. These countries, along with a large portion of their employed population, remain vulnerable to weather changes and the typically volatile market for agricultural commodities.

Large urban informal sector

The informal sector is defined as being unorganized, unregistered, and unsupported by the state and its institutions. It may include subsistence production, cottage industry, unreported merchant activity, and black market trade. Most LDCs have relatively high proportions of their economy operating informally.

Poverty cycle

Because poor countries lack income, they can become trapped in a cycle of poverty from which it is difficult to escape (Figure 26.4).

Without surplus income, it is difficult to accumulate any savings. Without a base of savings on which to draw, there are no resources to invest in the physical, human, and natural capital needed for increased productivity. When productivity is stagnant, wages and income stay low. Thus the cycle repeats itself from one generation to the next. It is for this reason that many LDCs seek foreign investment and foreign aid to inject flows of money and capital into the cycle.
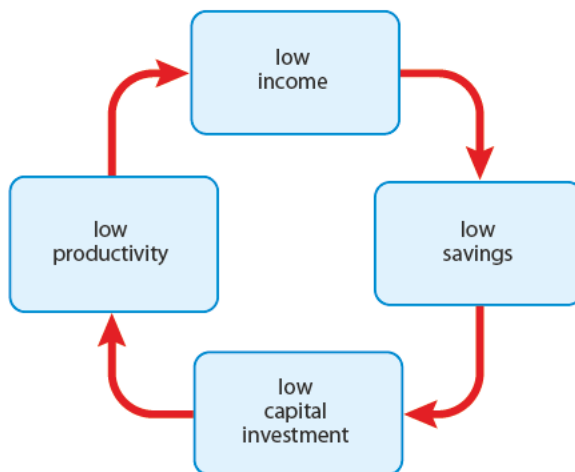
Figure 26.4
The poverty cycle.

EXERCISES
7   Select one country each from the categories of middle income and low/very low income. Make a short table that lists the relevant statistics for each of the following: crude birth rate, dependency ratio, percentage of employment by industry (sometimes broken down into statistics for men and women.)

26.3   Diversity among economically less developed countries

Learning outcomes
- Explain, using examples, that economically less developed countries differ enormously from each other in terms of a variety of factors, including resource endowments, climate, history (colonial or otherwise), political systems and degree of political stability.

LDCs are not all the same

While many LDCs share the imposing challenges discussed above, they can differ quite profoundly in other ways. These differences are important to bear in mind as the policies recommended to LDCs cannot be applied without consideration for the differences.

Differences between LDCs

Resource endowments

While it is understandable to think that a country is poor because it has little in the way of natural resources, this is not necessarily true. Angola, a country disrupted by decades of civil war, was once considered the breadbasket of its region and holds major oil reserves. Burma is known to possess large quantities of oil, natural gas, teak wood, and gems, yet it still languishes in poverty. Brazil, considered to be as resource-rich as nearly any country in the world, has considerably underperformed in development terms given its resource endowment. At the same time, some countries have done rather well despite limited natural resources. Japan, with little arable land and no in-ground resources to speak of, has consistently been ranked among the top few developed countries in the world. Famously,

Singapore has almost no resources to speak of but has expanded its land base by increasing its shoreline. Lichtenstein and Andorra, two tiny European principalities, enjoy very high development levels with perhaps their only natural resource being their geographical location in Europe.

Climate

Countries blessed with an advantageous balance of sunshine, rainfall and moderate temperature appear to have a natural advantage in their ability to exploit agricultural resources. Many of the very least developed countries are in the region of the Sahara desert, where temperature extremes and little water make life hard. Generally, LDCs can have warm summers or moderate ones, be arid, humid or monsoonal, have cold winters or moderate ones. There is not a shared climate.

History

Many developing countries were once colonies of developed countries. However, the effects of colonization are varied, as well as being disputed. It has been argued that countries with lingering occupation, like India and Hong Kong, benefited by the establishment of legal order and effective institutions. In contrast, countries that were used primarily for resource extraction, such as Burma and Vietnam, have fared less well. Other studies suggest that the duration of colonization played a significant role, and that the terms of independence also made a difference.

Political systems

LDCs have a wide range of political systems. There are large democracies such as Brazil, India and Indonesia. Some have monarchical absolutist leaderships, as in Brunei, Bhutan and North Korea. Others have single party rule, as in China and Cuba. Many have disputed governments, where conflict has rendered government almost completely ineffective, as in Somalia, Haiti, Afghanistan, Sudan and Chad. Iran is a military theocracy. With such variety it is necessary to create policies with consideration of the distinctive political structure in any given developing country.

Degree of political stability

Civil war or inter-state conflict certainly interferes with plans for prosperity and development. Many of the countries at the bottom of the Human Development Index have suffered from one or the other of these dangers. Zimbabwe, Congo, Burundi, Mozambique, Chad, Somalia, Ethiopia, Afghanistan and Sudan, all in the final 30 countries in development terms, have all been at war internally or externally in the last decade or so. However, many other countries have had relatively stable governments, with little conflict over changes in power. This, of course, does not confirm the relative efficacy of these governments – some of the most stable can be among the most corrupt.

- Does the term 'economic development' mean different things in different cultures?
- Are there two ways of thinking about economics: from the point of view of an economically more developed country and from that of an economically less developed country? If so, what is the difference?
- Are there two different sets of values in which such a distinction is grounded?
- How can we decide if the distinction between economically more developed countries and economically less developed countries is a meaningful one given that economic development itself might not be so clearly defined?

Single indicators of economic development

Learning outcomes
- Distinguish between GDP *per capita* figures and GNI *per capita* figures.
- Compare and contrast the GDP *per capita* figures and the GNI *per capita* figures for economically more developed countries and economically less developed countries.
- Distinguish between GDP *per capita* figures and GDP *per capita* figures at purchasing power parity (PPP) exchange rates.
- Compare and contrast GDP *per capita* figures and GDP *per capita* figures at purchasing power parity (PPP) exchange rates for economically more developed countries and economically less developed countries.
- Compare and contrast two health indicators for economically more developed countries and economically less developed countries.
- Compare and contrast two education indicators for economically more developed countries and economically less developed countries.

How do economists objectively classify countries at various stages of development? Countries are usually first ranked by their *per capita* income levels (Chapter 11). However, one measure alone fails to render an accurate portrait of any country's overall development. Because development involves so many facets of economic life, most summary evaluations of a country must involve many indicators taken together. Economic indicators are specific points of data gathered systematically and continuously to better inform economists and policymakers. For a single area (e.g. health) there may be dozens of different ways of assessing the level of development.

Much like the gathering of national income data, the compilation and study of measurement data is useful because:

- baseline indicator data can help set an agenda for progress, with specific goals
- indicator data measured from one year to the next can indicate the level of progress on that goal
- continued data gathering enables policymakers to reformulate and adjust policies to improve performance
- indicators across countries allow for cross-country comparisons of relative development.

Single indicators cover a specific area. For example, 'doctors per 100 000 people' is an indicator of the level of healthcare. Composite indicators gather a group of indicators and put them together in an attempt to get a broad picture of a country's level of development. Typically, composite indicators draw on income, health and education data to rank countries on levels of development. An example of a composite indicator is the United Nations Human Development Index (page 561).

It is important to bear in mind that conclusions based on statistics gathered from LDCs must be read with caution. Many countries cannot afford the resources needed for consistent and rigorous gathering of information. For this reason, many countries provide only limited data. Still more challenging is the extraordinary variety of development indicators. The language and purposes of these can vary significantly. As a result, some scepticism with regard to the reliability of the data is warranted. However, where a long-term trend is evident, it is likely that the data have a certain level of reliability and validity.

Income indicators

National income data are usually the starting point for understanding development levels. You will recall from Chapter 11 that real gross domestic product (real GDP) is the inflation-adjusted value of all the goods and services produced in the country in the past year. As such, it provides an indicator of the level of activity within a country's borders. Real gross national income (real GNI) takes the ownership of resources into account. Rather than tracking production geographically, it considers the flow of incomes across borders. Real GNI is the inflation-adjusted value of all production from factors of production owned by a country. In short, GNI = GDP – net income flows. Furthermore, to get a better understanding of the average level of production or income, *per capita* measures are used. These divide national totals by the population to get average income levels.

Per capita GDP *vs per capita* GNI

Compared to national income totals, *per capita* income data provides a better sense of the average standard of living. Large economies can overstate the relative affluence of a country when their income is 'divided' by a much larger population. Much smaller countries, in contrast, may do quite well considering their smaller overall economy is 'spread' over a very small population base.

When viewed comparatively, a number of high-income countries have rather different *per capita* GDP and GNI results. Figure 26.5 shows such a selection, where Luxembourg, the highest *per capita* income in terms of GDP, has over $20 000 less income *per capita* in GNI terms. What does this mean? It suggests that there is far more economic activity happening within Luxembourg than is actually being paid to Luxembourger-owned factors of production. This also appears to be true, to a lesser extent, for Ireland and Japan. Meanwhile, for Norway and Sweden the opposite appears to be true. Norwegian and Swedish-owned factors of production (including repatriated corporate profits and salaries), earn significantly more than the income generated solely within the boundaries of each country.

Figure 26.5
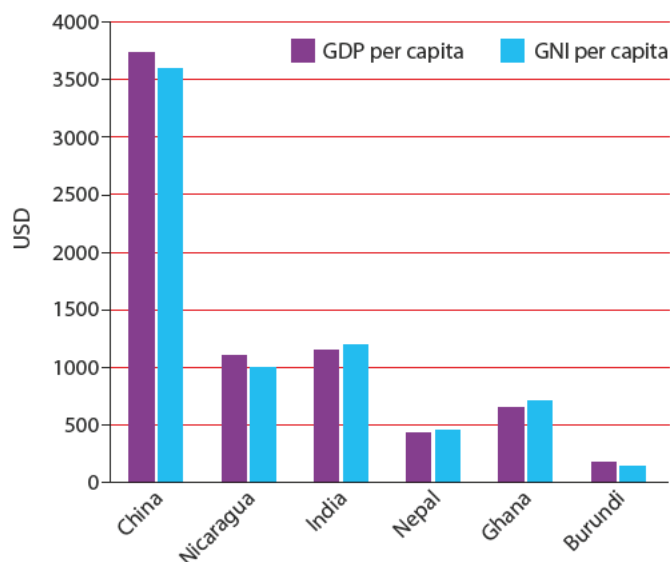*Per capita* GDP and *per capita* GNI, selected developed countries, 2009.
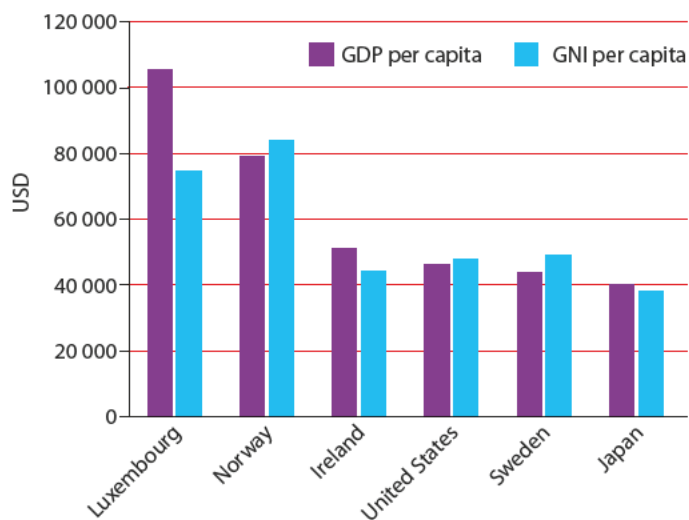
based on World Bank development indicators database

In the case of richer countries, GNI may be higher than GDP because firms in those countries have spread overseas and now generate significant profits that are sent back to their corporate homes. In Luxembourg, famous as a banking centre, it appears that the economic activity in the country exceeds the income accrued to its firms and citizens.

Developing countries may also have a discrepancy between GDP and GNI numbers. The income generated by production within China slightly outpaces the income generated by Chinese-owned factors. The same is true for Nicaragua and Burundi as well. At the same time, for India, Nepal and Ghana, net factor income pushes GNI above the output income generated by GDP (Figure 26.6).

based on World Bank development indicators database

For relatively less developed countries, the differences between GDP and GNI may be for different reasons. China, with increasing amounts of foreign direct investment (FDI), may see a significant amount of corporate profits sent out of country. In the case of poor countries with higher GNI numbers, it is possible that many have citizens living abroad as guest workers who repatriate salaries home. These migrant salaries can be a significant source of income for developing countries.

Purchasing power parity (PPP) comparisons

Of course, when doing any national income accounting, statisticians first calculate output and incomes in the local currency. But comparisons between Norwegian kroner and Thai baht, for example, would seem meaningless without being translated into a single currency, usually the US dollar.

While this translation makes comparisons more useful, the spending power of money in Norway may be very different from that in Thailand. Resources, goods and services may be more expensive in Norway than in Thailand, which means that more income is needed in Norway to enjoy the same standard of living as in Thailand.

To more accurately reflect the buying power of any amount of income, and so to better assess the standard of living in a country, economists use a comparison called purchasing power parity (PPP). Purchasing power parity is based on the law of one price, which states that an identical good in one country should cost the same in another country, and that the exchange rate should reflect that price. This has implications for the way we look at exchange rates (Chapter 22). For our purposes here, PPP is a tool to assess more accurately the standard of living available for a given amount of income in a country.

For example, the Norwegian equivalent of $100 (Nk588) may buy a certain amount of food, perhaps three pizzas. The Thai baht equivalent of $100 (THB2994) may buy six pizzas,

because staple goods are cheaper in Thailand. This means that every $100 of income earned in Norway will buy less in goods and services than the same amount in Thailand. Therefore, Norway's high GDP *per capita* may overrate the standard of living there.

When the purchasing power is factored into national income measures, it produces a refined view of the GDP data. Table 26.2 shows *per capita* GDP adjusted for purchasing power in five European countries. In each case, PPP adjustments reduce the *per capita* GDP. All are countries where the cost of living tends to be high.

TABLE 26.2 MDCS *PER CAPITA* GDP ADJUSTED DOWNWARDS WITH PPP ACCOUNTING			
Country ranked by *per capita* GDP	*Per capita* GDP / thousands USD	PPP-adjusted *per capita* GDP/ thousands USD	PPP-adjusted *per capita* GDP/ rank
1 Luxembourg	105 350	84 003	1
2 Norway	79 089	55 672	3
3 Denmark	55 992	36 762	13
4 Ireland	51 049	41 278	6
5 Netherlands	47 917	40 715	7

Table 26.3 shows *per capita* GDP adjusted for purchasing power in five countries whose *per capita* GDP is revised upwards when purchasing power is taken into account.

TABLE 26.3 LDCS *PER CAPITA* GDP ADJUSTED UPWARDS WITH PPP ACCOUNTING		
Country	*Per capita* GDP / thousands USD	*Per capita* GDP PPP adjusted/ thousands USD
China	3 744	6 838
Romania	7 500	14 198
India	1 134	3 275
Ethiopia	345	936
Russia	8 800	18 945

When PPP-adjusted *per capita* GDP is greater than nominal GDP, it suggests that the potential standard of living is underestimated. What these countries also share is some underdevelopment. In countries such as Ethiopia and perhaps India, the vast majority of the population live in conditions of absolute poverty. In others, like Romania and Russia, portions of the country are underdeveloped, although the country itself is considered a low-middle-income country.

It is with this in mind that economists pay attention to PPP-adjusted GDP levels to better understand the attainable quality of life, and to compare one country with another in this regard.

Health indicators

A critical skill for development workers is to understand the benefits and limitations of any single piece of data. Data can be useful for what it does not reveal as well as for what it does tell us. The reporting of a single indicator may provide answers but it also raises more questions.

Using health indicators

Let's consider a single indicator of health. The World Bank tracks the adolescent fertility rate (number of births per 1000 women aged 15–19 per year). There is an extremely high negative

correlation between the number of births in this age group and the level of development. Figure 26.7 shows three countries at the top of this measure and three countries at the bottom.
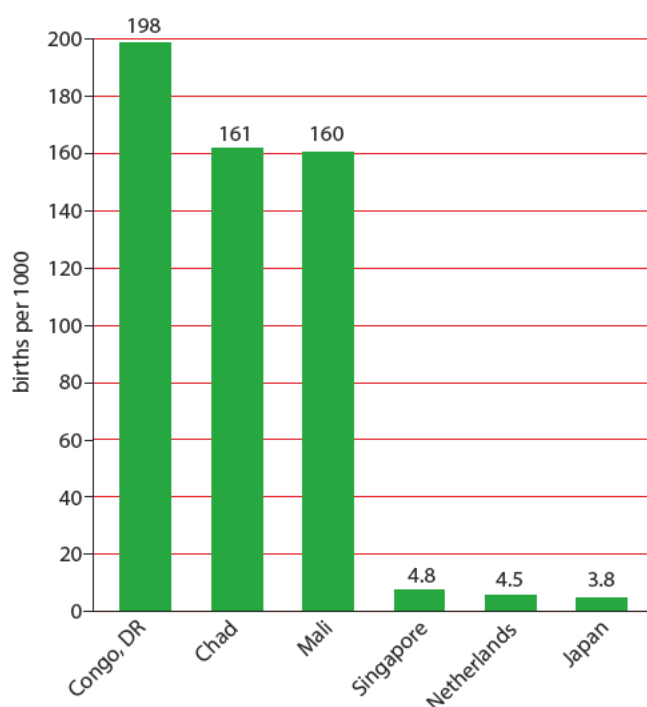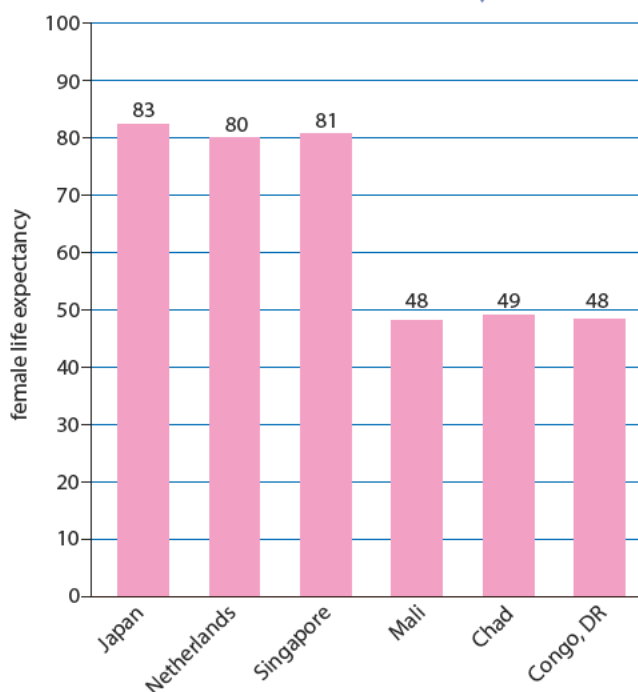
based on World Bank development indicators database

The high correlation between births and level of development could suggest that lowering adolescent fertility would improve standards of living, and that policymakers should take steps to make that happen. But it also raises questions. First, are high fertility rates a symptom or a cause of lack of development? Do extra children strain family resources and prevent progress? This would indicate that people in those countries would like to have fewer children.

Or are children considered assets in farming communities, workers who can help plant and harvest? Should development work focus on supporting these children with healthcare and education, or at redirecting the economy away from these types of production methods and cultural beliefs? Clearly, a deeper understanding of the country itself is required to make use of such a piece of data as this. Other data that support or inform the policy action would be welcome.

Let's compare the figures for adolescent fertility rate to another health indicator as a validity check. How do the same countries perform on female life expectancy? If the data on adolescent fertility actually indicated a lack of development, we would expect to see women living shorter lives in countries with higher fertility rates, and longer lives where fertility is lower. Figure 26.8 shows female life expectancy in the same countries.

based on World Bank development indicators database

The results are striking. It appears that in countries where adolescent fertility is very low, women live, on average, nearly 64% longer than women in countries where high adolescent fertility is the norm. Taken together, this might lead one to conclude that adolescent fertility is a cause of a short life span for women. However, it is also possible that this is a coincidence, that there are other, more direct causes of the disparity. High infant mortality, for example, would bring down the average age considerably. Perhaps a high incidence of malaria or other serious disease also reduces life spans. Adolescent fertility might be less of a risk than the initial comparison might suggest.

As you can see, there are risks to making inferences, judgements and policy based on single indicators. Generally speaking, wise policy is made only when many points of data are cross-referenced with other data to derive a thorough understanding of the causes of development problems.
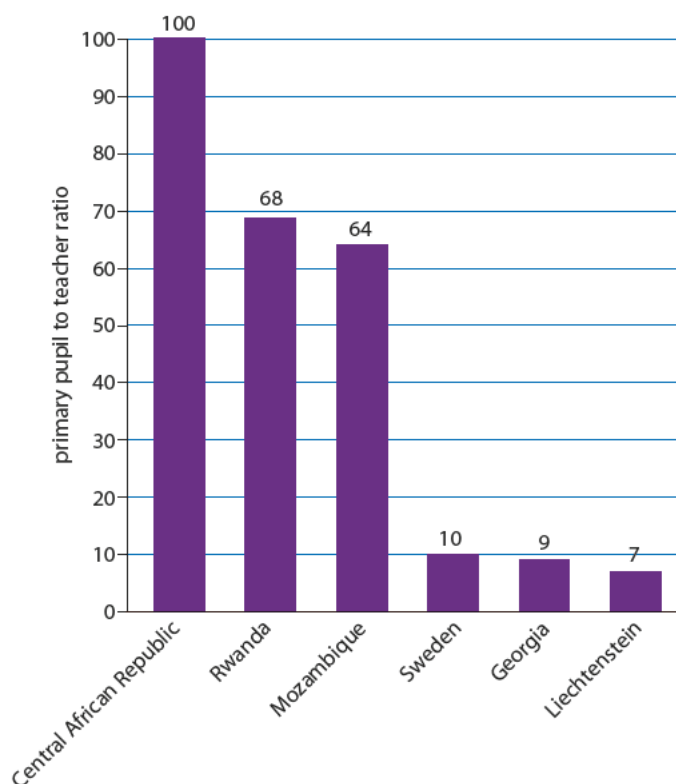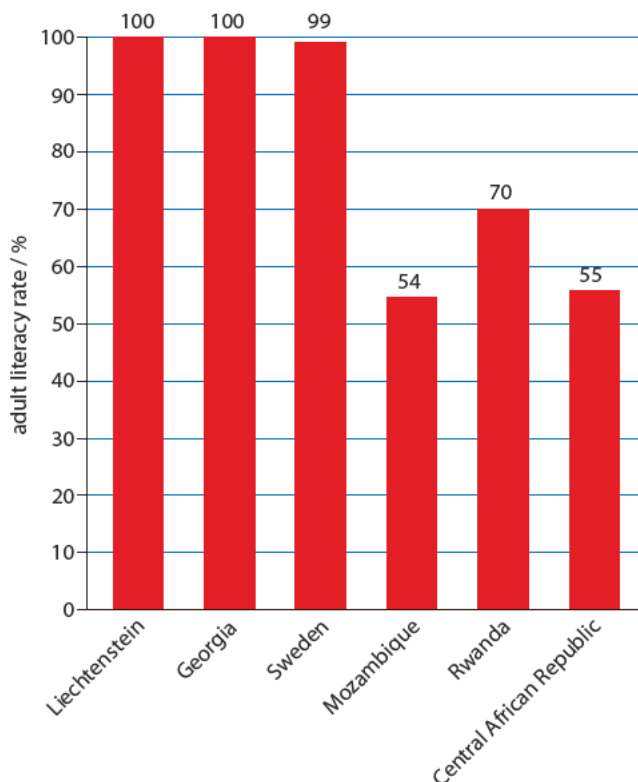
Education indicators

Income and health data are two of the three most important areas to be focused on when looking at development indicators. The third is education data. Educational attainment levels tend to correlate highly with development. It is widely believed that education builds up the level of human capital. Productivity rises because the labour force is more skilled and capable. Furthermore, education is widely accepted to be a merit good with positive externalities. A more informed public is thought to vote and participate politically, yielding better policy outcomes.

Using education indicators

It is again instructive to compare education data from developed and developing countries. Figure 26.9 shows one such indicator, primary pupil to teacher ratio. This, at the very least, is an indicator of the resources a society devotes to education. The countries with the highest ratios have many more students per teacher, so that less attention and instruction can be given to each child.

Figure 26.9
Primary pupil to teacher ratio, selected countries.

Do other education indicators produce similar results for the same countries? Figure 26.10 (above) shows the adult literacy rate for the same countries.

How might these two measures be related? Primary education years are when basic literacy and numeracy are learned. Therefore, we would expect countries that devote more resources (teachers) to primary education to have better literacy results. And, as expected, countries with six and seven times more students per teacher do fare comparatively poorly. However, it might be surprising to see that the Central African Republic did as well as Mozambique, despite having so many more students per teacher. Furthermore, a look at the full adult literacy data shows that 10 other countries performed worse than the Central African Republic, with Chad having only a 33% literacy rate. Indicators do not prove a cause and effect relationship. It may be that other factors influence educational achievement, besides pupil/teacher ratios. The quality of instruction, the duration of a typical student's education every year, or over their lifetime, may also strongly influence the result.

To learn more about the World Bank's development indicators, visit www. pearsonhotlinks.com, enter the title or ISBN of this book and select weblink 26.2.

EXERCISES

8   Using the World Bank site (see hotlinks box above), select one education indicator.
    a   List three countries and their indicator data from the top and bottom of the group.
    b   Compare and contrast the results.
    c   Speculate what other information would be useful to inform any policy action on this indicator.

9   Select another education indicator. Using the same six countries, compare and contrast their performances on both indicators.

Learning outcomes
- Outline the current status of international development goals, including the Millennium Development Goals.

World Bank: a source of development indicators

Improving help in LDCs is one of the goals of the World Bank.

There are many agencies and non-governmental organizations that try to assess levels of development in different ways, but few measure development in as many ways as the World Bank. The Bank was founded at the Bretton Woods conference in 1944 as part of the Allies' attempt to create a new financial order. Its stated goal is the reduction of poverty, and it regularly makes loans to LDCs in an attempt to fill gaps in capital financing and to promote development. The World Bank's database of development indicators has continuously expanded and now includes:

- % of rural citizens with access to water source
- % of mobile and fixed line telephones
- ratio of girls to boys in education
- contraceptive prevalence
- expenditure per student on education
- pump price for diesel fuel
- carbon dioxide emissions
- plant and animal species threatened
- immunization rates
- % of births attended by skilled health staff
- internet users and use
- poverty rates
- dependency ratios
- patent applications.

To access Worksheet 26.3 on visualizing economic growth, please visit www.pearsonbacconline.com and follow the onscreen instructions.

Taken together, the breadth of data creates a bigger, more detailed picture than any single indicator alone. It serves the bank and other development agencies when setting goals and assessing the success of their goals.

United Nations: Millennium Development Goals

To that same end, in 2000, the United Nations embarked on the most ambitious development programme in history, the UN Millennium Development Goals (MDG) Project. The eight goals below were agreed by all 192 member states as well as 23 international organizations. They are to be accomplished by 2015:

- eradicate extreme poverty and hunger
- achieve universal primary education
- promote gender equality and empower women
- reduce child mortality rate
- improve maternal health
- combat HIV/AIDS, malaria, and other diseases
- ensure environmental sustainability
- develop a global partnership for development.

In the process, the MDG project also sets out to measure its success with a similarly large collection of single indicators. To accomplish these goals, a series of targets is established, each with appropriate indicators, against which the success of the programme can be measured. Here are two examples.

- *Goal* Eradicate extreme poverty and hunger
    Target Halve the proportion of people living on less than $1 a day
    Indicators:
    - Proportion of population below $1 per day (PPP values)
    - Poverty gap ratio [incidence × depth of poverty]
    - Share of poorest quintile in national consumption
- *Goal* Promote gender equality and empower women
    Target Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015
    Indicators:
    - Ratios of girls to boys in primary, secondary and tertiary education
    - Share of women in wage employment in the non-agricultural sector
    - Proportion of seats held by women in national parliament

The target generally defines the way in which success will be measured. Thus, eradicating poverty will be measured against the number of people living on less than $1 per day, reduction of the poverty ratio and improving the consumption levels of the poor. Promotion of gender equality and the empowerment of women will be measured by equalizing the number of girls to boys attending school, the share of women working, and the proportion of women holding office.

EXERCISES

10 For the MDG 'improve maternal health,' speculate on the kind of indicators that could be used to measure success. List three indicators you created.

11 Pick any other MDG and imagine the kind of data you would want to gather if you were trying to achieve this goal. List three indicators that you created.

12 Using the United Nations website (below) check your answers for exercises 10 and 11 against the UN's list of development goals indicators.

13 Compare and contrast your indicators to the actual MDG indicators. What do you like about yours? What do you like about the MDG indicators?

Amid the many very ambitious goals, a lesser but valuable end is the pursuit of better and more valid forms of measuring development. Better data should, in turn, lead to better evaluation of policies, and more real success in meeting development goals. With this in mind, the UN publishes a report card to assess its progress. Reproduced overleaf is a small section, reporting progress on goals 1–4. Green areas indicate targets already met (light green indicates the target will be met by the 2015 deadline). Yellow areas show insufficient

progress and the target may not be met by 2015. Red areas show no progress has been made towards the target (or there has been a regression).

Progress to date in pursuit of MDGs 1–4; 2010.

Goals and Targets	Africa		Asia			
	Northern	**Sub-Saharan**	**Eastern**	**South-Eastern**	**Southern**	**Western**
GOAL 1 | Eradicate extreme poverty and hunger						
Reduce extreme poverty by half	low poverty	very high poverty	high poverty	high poverty	very high poverty	low poverty
Productive and decent employment	very large deficit in decent work	very large deficit in decent work	large deficit	very large deficit in decent work	very large deficit in decent work	very large deficit in decent work
Reduce hunger by half	low hunger	very high hunger	moderate hunger	moderate hunger	high hunger	moderate hunger
GOAL 2 | Achieve universal primary education						
Universal primary schooling	high enrolment	moderate enrolment	high enrolment	high enrolment	moderate enrolment	moderate enrolment
GOAL 3 | Promote gender equality and empower women						
Equal girls' enrolment in primary school	close to parity	close to parity	parity	parity	parity	close to parity
Women's share of paid employment	low share	medium share	high share	medium share	low share	low share
Women's equal representation in national parliaments	very low representation	low representation	moderate representation	moderate representation	low representation	very low representation
GOAL 4 | Reduce child mortality						
Reduce mortality of under-five-year-olds by two thirds	low mortality	very high mortality	low mortality	moderate mortality	high mortality	low mortality

part of UN MDG Report 2010

EXERCISES
14   Explain why you think the United Nations publishes this report card.
15   What questions would you ask, after viewing this information?
16   What is the next step for policymakers, after reading and interpreting the report?

26.6 Composite indicators of economic development

Learning outcomes
- Explain that composite indicators include more than one measure and so are considered to be better indicators of economic development.
- Explain the measures that make up the Human Development Index (HDI).
- Compare and contrast the HDI figures for economically more developed countries and economically less developed countries.
- Explain why a country's GDP/GNI *per capita* global ranking may be lower, or higher, than its HDI global ranking.

Composite indicators attempt to aggregate groups of different indicators into a single ranking. They are usually expressed as an 'index.' The index value indicates the relative distance between countries on the list. Because they measure several values at once, these indicators are generally regarded as a superior wide-view picture of a country's development level.

The Human Development Index

The most influential and important composite indicator is the Human Development Index (HDI). It was created by the UN Development Programme (UNDP) in the late 1980s and put into use in 1990. It was created as a response to dissatisfaction with the emphasis on economic growth as the sole means to measure development. According to the UNDP:

- *[there was] growing evidence that did not support the then prevailing belief in the 'trickle down' power of market forces to spread economic benefits and end poverty*
- *the human costs of Structural Adjustment Programmes became more apparent*
- *social ills (crime, weakening of social fabric, HIV/AIDS, pollution, etc.) were still spreading even in cases of strong and consistent economic growth*
- *a wave of democratization in the early 90s raised hopes for people-centred models.*

UNDP, Human Development Reports website, Home page, accessed May 2011

The UNDP was thus attempting to shift the paradigm for development away from a purely growth-based model to a broader view, one that encompasses health and education levels. Amartya Sen, whose work is recognized as providing the intellectual framework of the HDI, put it this way:

Human development, as an approach, is concerned with what I take to be the basic development idea: namely, advancing the richness of human life, rather than the richness of the economy in which human beings live, which is only a part of it.

Amartya Sen, UNDP, Human Development Reports website, Home page, accessed May 2011

> The Human Development Index is a composite indicator of development, created by the United Nations, which ranks country development on the basis of average income, education levels, and life span.

> To learn more about the standard of living, visit www.pearsonhotlinks.com, enter the title or ISBN of this book and select weblink 26.4.

With this ideal in mind, the HDI evaluates the performance of a country in three areas:

- long life – measured by life expectancy
- education – measure by adult literacy and combined primary, secondary and tertiary enrolment ratio
- standard of living – measured by GDP *per capita* (PPP-adjusted).

Each country's performance in an area earns a score between 0 and 1; 0 is lowest, 1 the highest. These areas are then compiled for the composite HDI ranking. Table 26.4 shows the top five and bottom five countries, according to their score on the HDI.

A casual look at Table 26.4 confirms the connection between economic prosperity and development. The top five countries are all economically wealthy, while the bottom five are all desperately poor. This may merely state the obvious – that improvements in the quality of life require societies to make something of their productive resources. For income, long life and a chance at an education, the land, labour and capital of a country need to be employed in building homes, hospitals and schools. Still, while acknowledging the obvious we can also observe that some

TABLE 26.4 TOP AND BOTTOM FIVE HDI, 2010	
Country	**HDI score, 2010**
Norway	0.938
Australia	0.977
New Zealand	0.907
United States	0.902
Ireland	0.895
Guinea-Bissau	0.284
Burundi	0.282
Niger	0.269
Congo	0.239
Zimbabwe	0.140

countries seem to do quite well with relatively little income, and others rather poorly considering their relative income levels.

To underscore the distinction between purely economic activity and human development activity, Table 26.5 shows selected pairs of countries in order of descending HDI level. If growth alone were the determinant of economic development, we would expect to see the countries at the top of the HDI to also be at the top of the GDP *per capita* list and income level to descend with lower development levels.

The country pairs show how well some countries have done with less income resources. Notice that Australia is only slightly behind Norway for the top spot on the HDI, but has 45% less income *per capita*. Slovakia, at number 31 on the HDI, outscores the United Arab Emirates, while earning nearly 43% less. Perhaps most startling is Argentina at number 46 on the HDI outscoring Kuwait while generating 70% less GDP *per capita*.

TABLE 26.5 HDI INDEX RANKING COMPARISON WITH *PER CAPITA* GDP				
Country	HDI rank	HDI value	*Per capita* GDP	GDP rank
Norway	1	0.938	58 227	3
Australia	2	0.937	40 286	13
New Zealand	3	0.907	27 520	34
United States	4	0.902	46 852	9
Korea	12	0.877	29 325	28
Switzerland	13	0.874	43 109	12
Slovakia	31	0.818	22 340	44
United Arab Emirates	32	0.815	56 485	4
Argentina	46	0.775	14 930	55
Kuwait	47	0.771	50 283	5
Bulgaria	58	0.743	11 547	73
Trinidad and Tobago	59	0.736	25 161	37
Georgia	74	0.698	4 946	110
Venezuela	75	0.696	11 819	71
Paraguay	96	0.640	4 629	115
Botswana	98	0.633	13 462	65
Kyrgyzstan	109	0.598	2 332	139
South Africa	110	0.597	10 139	78
Madagascar	135	0.435	958	170
Papa New Guinea	137	0.431	2 395	140

Table 26.5 yields several possible conclusions.

- GDP *per capita* alone is an unreliable predictor of the level of human development one should expect from a country.
- Some countries clearly under-perform in development terms compared to their relatively high income levels. These countries have the resources to improve on health and education standards, and should revisit their policies in this regard.
- Some countries clearly over-perform in development terms compared to their relatively low income levels. Policymakers may benefit from a closer study of what explains their achievements.

While the HDI is the most widely accepted measure of overall development, it also has limitations. Its emphasis on income, life span, and education enrolment is still overly simple. Broader measures of development may yield data that give more insight into a particular country's challenges. Although not factored into the HDI, the UNDP often gathers additional data about gender equity, income equality, sustainability and governance.

Gender Inequality Index

In 2010, the UNDP created the first Gender Inequality Index, a composite indicator of the disparity in well-being between women and men in three areas: reproductive health, empowerment and the labour market. The health dimension is measured by two indicators: maternal mortality ratio and the adolescent fertility rate. The empowerment dimension is also measured by two indicators: the share of parliamentary seats held by each gender and their secondary and higher education attainment levels. The labour dimension is measured by women's participation in the workforce. According to the UNDP, the Gender Inequality Index 'is designed to reveal the extent to which national human development achievements are eroded by gender inequality, and to provide empirical foundations for policy analysis and advocacy efforts.'

Comparison of overall HDI rank to Gender Equity rank reveals that in some countries, gender equity performance is holding back total development; other results indicate that gender equity is bringing overall development forwards (Table 26.6).

TABLE 26.6 COUNTRIES WITH LARGE DISPARITIES BETWEEN HDI RANK AND GENDER EQUITY RANK			
Country	**HDI rank**	**Gender equity rank**	**HDI–GER disparity**
Large negative disparity			
Saudi Arabia	55	143	−88
Slovenia	29	104	−75
Korea	12	76	−64
Japan	11	74	−63
Iran	70	133	−63
Ireland	5	59	−54
US	4	57	−53
Large positive disparity			
Rwanda	152	10	+142
South Africa	110	16	+94
Tajikistan	141	47	+94
Namibia	105	20	+85
Kyrgyzstan	109	24	+85

The top seven countries in Table 26.6 have a gender equity rank well below their HDI rank. This suggests that the HDI scores for these countries would be even higher if there were to be some improvement in women's healthcare, women's comparative education levels, female employment or political representation.

The bottom five countries in Table 26.6 have scored extremely highly on gender equity compared to their overall HDI rank. As the HDI rankings attest, none of these are especially wealthy or highly developed. But gender equity scores are 'better than expected' when compared to their HDI rankings.

What criteria could we use to determine whether a particular method for measuring development is effective?

What knowledge issues might be encountered in constructing a composite indicator to measure development?

To access Quiz 26, an interactive, multiple-choice quiz on this chapter, please visit www.pearsonbacconline.com and follow the onscreen instructions.

EXERCISES
17   **a**   Is there any one common theme that might explain the negative disparities for countries shown in Table 26.6?
b   List some specific reasons that might explain some of these specific results.
c   What kind of data might support or undermine your hypothesis?
18   **a**   Is there any one common theme that might explain the positive disparities for countries shown in Table 26.6?
b   List some specific reasons that might explain some of the specific results.
c   What kind of data might support or undermine your hypothesis?

PRACTICE QUESTIONS
1   Distinguish between economic growth and economic development.   (10 marks) [AO2]
2   Describe how less developed countries can have similar and different characteristics.   (10 marks) [AO2]
3   Explain the distinction between GDP *per capita*, GDP *per capita* with purchasing power parity.   (10 marks) [AO2]
4   List and explain three single indicators of development.   (10 marks) [AO2]
5   Explain how the Human Development Index is derived, and how it functions as a measurement of development.   (10 marks) [AO2]