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Introducing Economic Development: A Global Perspective

Development can be seen . . . as a process of expanding the real freedoms that people enjoy.
—*Amartya Sen, Nobel laureate in economics*

Our vision and our responsibility are to end extreme poverty in all its forms in the context of sustainable development and to have in place the building blocks of sustained prosperity for all.
—*Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda, 2013*

Under necessaries, therefore, I comprehend, not only those things which nature, but those things which the established rules of decency, have rendered necessary to the lowest rank of people.
—*Adam Smith,* The Wealth of Nations

We are at an auspicious moment in history when successes of past decades and an increasingly favorable economic outlook combine to give developing countries a chance—for the first time ever—to end extreme poverty within a generation.…to create a world for our children which is defined not by stark inequities but by soaring opportunities. A sustainable world where all households have access to clean energy. A world where everyone has enough to eat. A world where no one dies from preventable diseases. A world free of poverty.
—*Jim Yong Kim, World Bank President, 2013*

Prologue: An Extraordinary Moment

Two pictures of the developing world compete in the media for the public's attention. The first is misery in places like rural Africa or unsanitary and overcrowded urban slums in South Asia. The second is extraordinary dynamism in places like coastal China. Both pictures convey important parts of the great development drama. Living conditions are improving significantly in most, though not all, parts of the globe—if sometimes slowly and unevenly. The cumulative effect is that economic development has been giving rise to unprecedented global transformations.

Consider the world of 1992, a time when the divide between the rich developed nations and the low-income developing nations was apparently widening. Rich countries were growing faster than poor countries; and the dominance of high-income industrialized nations in the global order was clear-cut. The United States had just won the Cold War, with the Soviet Union disintegrating in the last days of 1991. The end of the Cold War also saw the European Union in the ascendency, full of confidence with its high-profile Europe '92 Single Market project. The real estate and stock market bubble in Japan was just beginning to deflate, with almost no one predicting

the protracted stagnation that would follow Japan's long period of high economic growth.

Yet in 1992, many developing nations, including Brazil, Russia, India, China, and South Africa (now sometimes grouped by the media as the "BRICS"), found themselves in precarious conditions if not full-scale crisis. Brazil—like most of Latin America—was still struggling to emerge from the 1980s' debt crisis. Russia was descending into depression after the collapse of its Soviet economy. India was trying to rebound from its worst economic crisis since independence. China had launched its period of very rapid growth, but the 1989 massacre in Tiananmen Square was a fresh memory and future prospects for reform and growth in China were uncertain. Meanwhile, the end of apartheid was still being negotiated in South Africa, while the continent as a whole was entering its second consecutive lost decade of slow economic growth, and pessimism prevailed. Despite pressing development needs, there were widespread concerns that with the end of the Cold War, the rich world would lose interest in development assistance. And at the 1992 Earth Summit, while the world was taking its first tentative steps to acknowledge and try to restrain climate change due to global warming, almost no one imagined that 20 years later China and India would be among the top three greenhouse gas emitters.

But since 1992, we have moved from a sharp dualism between a rich Center and a backward Global South periphery to more dynamic and complex relationships. Asia has been growing at an average rate almost triple that of high-income Western countries, and growth has returned to Africa, heralding the promise of an era of global convergence.[1] The scale of transformation is immense.

Health has improved strongly, with dramatic declines in child mortality; and the goal of universal primary education is coming into sight. Poverty has fallen. While about two-fifths of the global population lived in extreme poverty in 1990, the fraction has fallen to about one-fifth today. The number of people living in extreme poverty in China (on less than $1.25 per day) fell from about 743 million in 1992 to 157 million in 2009. India has seen substantial, if less dramatic, reductions in poverty; social programs in Brazil such as Bolsa Familia have helped substantially reduce the country's once intractible poverty problems. The enormous growth of innovations such as mobile phones and of availability of credit for small enterprises have led to benefits and fueled a new optimism.

At the same time, the future of economic development and poverty reduction is far from assured—many people who have come out of poverty remain vulnerable, the natural environment is deteriorating, and national economic growth remains uncertain. Economic development is a process, not of years, but of many decades. After the 2011 media celebration of the "BRICS" economic growth, there were reminders that the process remains uneven and uncertain. In Brazil economic growth fell from a spike of close to 7.5% in 2010 to under 1% in 2012. Growth in India, topping 10% for the first time in 2010, fell to barely a third that level in 2012. Growth in China fell from over 10% in 2010 to below 8% in 2012 with projections of a permanently slower pace of perhaps 7%. In 2012 growth in South Africa was little more than 3%. Growth per person was slower as populations continued to grow. When financial markets were

unsettled during the summer of 2013, many investors started withdrawing money from these and other developing countries.

Meanwhile, many in the development community were dismayed by a 2013 report showing the number of people living in poverty in Africa had yet to decline, and the average income of those remaining poor had still not risen above its long-term level of just 70 cents per day. And climate change talks, also launched in 1992, proceeded at a snail's pace, even as greenhouse gas emissions reached record levels and the impacts of climate change had become all too visible in low-income countries, threatening to reverse progress in South Asia as well as Africa.

But while optimism that other countries could soon match China's historically high growth rates dimmed, nonetheless the potential for dramatic catch-up remained as bright as ever. The media pessimism that prevailed in the summer of 2013 was no more warranted than the blind optimism of just two years earlier. Realism is needed—both about the daunting challenges and the exciting opportunities. Gains for the developing world in recent years have been genuine and substantial—in some cases transformative—with many developing countries steadily closing the gap with the developed world, particularly in health and education, and very often in income. Prospects remain strong in coming years, particularly for middle-income countries; yet the high volatility of growth is just one hint at the remaining broader development challenges, as we will examine throughout this text.

This book will explain what lies behind the headline numbers and the sweep of development patterns, presenting the necessary analytic tools and the most recent and reliable data—on challenges ranging from poverty to international finance. To begin, even today many of the world's poorest people have benefited little, if at all, from the new global prosperity.

1.1 How the Other Half Live

As people throughout the world awake each morning to face a new day, they do so under very different circumstances. Some live in comfortable homes with many rooms. They have more than enough to eat, are well clothed and healthy, and have a reasonable degree of financial security. Others—and these constitute a majority of the earth's more than 7 billion people—are much less fortunate. They may have inadequate food and shelter, especially if they are among the poorest third. Their health is often poor, they may not know how to read or write, they may be unemployed, and their prospects for a better life are uncertain at best. About two-fifths of the world's population lives on less than $2 per day, part of a condition of **absolute poverty**. An examination of these global differences in living standards is revealing.

Absolute poverty A situation of being unable to meet the minimum levels of income, food, clothing, health care, shelter, and other essentials.

If, for example, we looked first at a family of four in North America, we would probably find an annual income of over $50,000. They would live in a comfortable suburban house with a small yard or garden, and two cars. The dwelling would have many comfortable features, including a separate bedroom for each of the two children. It would be filled with numerous consumer goods, electronics, and electrical appliances, many of which were manufactured outside North America in countries as far away as South Korea and China. Examples might

include computer hard disks made in Malaysia, DVD players manufactured in Thailand, garments assembled in Bangladesh, and mountain bikes made in China. There would always be three meals a day and plenty of processed snack foods, and many of the food products would also be imported from overseas: coffee from Brazil, Kenya, or Colombia; canned fish and fruit from Peru and Australia; and bananas and other tropical fruits from Central America. Both children would be healthy and attending school. They could expect to complete their secondary education and probably go to a university, choose from a variety of careers to which they might be attracted, and live to an average age of 78 years.

This family, which is typical of families in many rich nations, appears to have a reasonably good life. The parents have the opportunity and the necessary education or training to find regular employment; to shelter, clothe, feed, and educate their children; and to save some money for later life. Against these "economic" benefits, there are always "noneconomic" costs. The competitive pressures to "succeed" financially are very strong, and during inflationary or recessionary times, the mental strain and physical pressure of trying to provide for a family at levels that the community regards as desirable can take its toll on the health of both parents. Their ability to relax, to enjoy the simple pleasures of a country stroll, to breathe clean air and drink pure water, and to see a crimson sunset is constantly at risk with the onslaught of economic progress and environmental decay. But on the whole, theirs is an economic status and lifestyle toward which many millions of less fortunate people throughout the world seem to be aspiring.

Now let us examine a typical "extended" family in a poor rural area of South Asia. The household is likely to consist of eight or more people, including parents, several children, two grandparents, and some aunts and uncles. They have a combined real per capita annual income, in money and in "kind" (meaning that they consume a share of the food they grow), of $300. Together they live in a poorly constructed one- or two-room house as tenant farmers on a large agricultural estate owned by an absentee landlord who lives in the nearby city. The father, mother, uncle, and older children must work all day on the land. The adults cannot read or write; the younger children attend school irregularly and cannot expect to proceed beyond a basic primary education. All too often, when they do get to school, the teacher is absent. They often eat only two (and sometimes just one) meals per day; the food rarely changes, and the meals are rarely sufficient to alleviate the children's persistent hunger pains. The house has no electricity, sanitation, or fresh water supply. Sickness occurs often, but qualified doctors and medical practitioners are far away in the cities, attending to the needs of wealthier families. The work is hard, the sun is hot, and aspirations for a better life are continually being snuffed out. For families such as theirs, the only relief from the daily struggle for physical survival lies in the spiritual traditions of the people.

Shifting to another part of the world, suppose we were to visit a large city situated along the coast of South America. We would immediately be struck by the sharp contrasts in living conditions from one section of this sprawling metropolis to another. There would be a modern stretch of tall buildings and wide, tree-lined boulevards along the edge of a gleaming white beach; just a few hundred meters back and up the side of a steep hill, squalid shanties would be pressed together in precarious balance.

If we were to examine two representative families—one a wealthy and well-connected family and the other of peasant background or born in the slums—we would no doubt also be struck by the wide disparities in their individual living conditions. The wealthy family lives in a multiroom complex on the top floor of a modern building overlooking the sea, while the peasant family is cramped tightly into a small makeshift dwelling in a shantytown, or *favela* (squatters' slum), on the hill behind that seafront building.

For illustrative purposes, let us assume that it is a typical Saturday evening at an hour when the families should be preparing for dinner. In the penthouse apartment of the wealthy family, a servant is setting the table with expensive imported china, high-quality silverware, and fine linen. Russian caviar, French hors d'œuvres, and Italian wine will constitute the first of several courses. The family's eldest son is home from his university in North America, and the other two children are on vacation from their boarding schools in France and Switzerland. The father is a prominent surgeon trained in the United States. His clientele consists of wealthy local and foreign dignitaries and businesspeople. In addition to his practice, he owns a considerable amount of land in the countryside. Annual vacations abroad, imported luxury automobiles, and the finest food and clothing are commonplace amenities for this fortunate family in the penthouse apartment.

And what about the poor family living in the dirt-floored shack on the side of the hill? They too can view the sea, but somehow it seems neither scenic nor relaxing. The stench of open sewers makes such enjoyment rather remote. There is no dinner table being set; in fact, there is usually too little to eat. Most of the four children spend their time out on the streets begging for money, shining shoes, or occasionally even trying to steal purses from unsuspecting people who stroll along the boulevard. The father migrated to the city from the rural hinterland, and the rest of the family recently followed. He has had part-time jobs over the years, but nothing permanent. Government assistance has recently helped this family keep the children in school longer. But lessons learned on the streets, where violent drug gangs hold sway, seem to be making a deeper impression.

One could easily be disturbed by the sharp contrast between these two ways of life. However, had we looked at almost any other major city in Latin America, Asia, and Africa, we would have seen much the same contrast (although the extent of inequality might have been less pronounced).

Now imagine that you are in a remote rural area in the eastern part of Africa, where many small clusters of tiny huts dot a dry and barren land. Each cluster contains a group of extended families, all participating in and sharing the work. There is little money income here because most food, clothing, shelter, and worldly goods are made and consumed by the people themselves—theirs is a **subsistence economy**. There are few passable roads, few schools, and no hospitals, electric wires, or water supplies. In many respects, it is as stark and difficult an existence as that of the people in that Latin American *favela* across the ocean. Yet perhaps it is not as psychologically troubling because there is no luxurious penthouse by the sea to emphasize the relative deprivation of the very poor. With the exception of population growth and problems of the increasingly fragile environment, life here seems to be almost eternal and unchanging—but not for much longer.

Subsistence economy An economy in which production is mainly for personal consumption and the standard of living yields little more than basic necessities of life—food, shelter, and clothing.

A new road is being built that will pass near this village. No doubt it will bring with it the means for prolonging life through improved medical care. But it will also bring more information about the world outside, along with the gadgets of modern civilization. The possibilities of a "better" life will be promoted, and the opportunities for such a life will become feasible. Aspirations will be raised, but so will frustrations as people understand the depth of some of their deprivations more clearly. In short, the **development** process has been set in motion.

Development The process of improving the quality of all human lives and capabilities by raising people's levels of living, self-esteem, and freedom.

Before long, exportable fruits and vegetables will probably be grown in this region. They may even end up on the dinner table of the rich South American family in the seaside penthouse. Meanwhile, radios made in Southeast Asia and playing music recorded in northern Europe have become prized possessions in this African village. In villages not far away, mobile phone use has been introduced and is growing rapidly. Throughout the world, remote subsistence villages such as this one are being linked up with modern civilization in an increasing number of ways. The process, well under way, will become even more intensified in the coming years.

Finally, imagine you are in booming East Asia; to illustrate, a couple born in obscure zhuangs (rural areas) in populous central Sichuan Province grew up in the 1960s, going to school for six years and becoming rice farmers like their parents. The rice grew well, but memories of famine were still sharp in their commune, where life was also hard during the Cultural Revolution. Their one daughter, let's call her Xiaoling, went to school for ten years. Much of the rice they and their commune grew went to the state at a price that never seemed high enough. After 1980, farmers were given rights to keep and sell more of their rice. Seeing the opportunity, they grew enough to meet government quotas and sold more of it. Many also raised vegetables to sell in a booming city 100 kilometers up the river and other towns. Living standards improved, though then their incomes stagnated for many years. But they heard about peasants moving first to cities in the south and recently to closer cities—making more money becoming factory workers. When their daughter was 17, farmers from the village where the mother grew up were evicted from their land because it was close to lakes created by an immense dam project. Some were resettled, but others went to Shenzhen, Guangzhou, or Chongqing. Xiaoling talked with her family, saying she too wanted to move there for a while to earn more money. She found a city that had already grown to several million people, quickly finding a factory job. She lived in a dormitory, and conditions were often harsh, but she could send some money home and save toward a better life. She watched the city grow at double digits, becoming one of the developing world's new megacities, adding territories and people to reach over 15 million people. After a few years, she opened a humble business, selling cosmetics and costume jewelry to the thousands of women from the countryside arriving every day. She had five proposals of marriage, with parents of single men near where she grew up offering gifts, even an enormous house. She knows many people still live in deep poverty and finds inequality in the city startling. For now she plans to stay, where she sees opportunities for her growing business and a life she never imagined having in her village.

Listening to the poor explain what poverty is like in their own words is more vivid than reading descriptions of it. Listen to some of the voices of the

BOX 1.1 The Experience of Poverty: Voices of the Poor

When one is poor, she has no say in public, she feels inferior. She has no food, so there is famine in her house; no clothing, and no progress in her family.

—A poor woman from Uganda

For a poor person, everything is terrible—illness, humiliation, shame. We are cripples; we are afraid of everything; we depend on everyone. No one needs us. We are like garbage that everyone wants to get rid of.

—A blind woman from Tiraspol, Moldova

Life in the area is so precarious that the youth and every able person have to migrate to the towns or join the army at the war front in order to escape the hazards of hunger escalating over here.

—Participant in a discussion group in rural Ethiopia

When food was in abundance, relatives used to share it. These days of hunger, however, not even relatives would help you by giving you some food.

—Young man in Nichimishi, Zambia

We have to line up for hours before it is our turn to draw water.

—Participant in a discussion group from Mbwadzulu Village (Mangochi), Malawi

[Poverty is] . . . low salaries and lack of jobs. And it's also not having medicine, food, and clothes.

—Participant in a discussion group in Brazil

Don't ask me what poverty is because you have met it outside my house. Look at the house and count the number of holes. Look at the utensils and the clothes I am wearing. Look at everything and write what you see. What you see is poverty.

—Poor man in Kenya

poor about the experience of poverty in Box 1.1.[2] From these, together with the voices of the poor recorded in Box 5.1 and Box 8.1, it is clear that what people living in poverty need and want extend beyond increased income to health, education, and—especially for women—empowerment. These correspond to enhanced capabilities and to the achievement of the Millennium Development Goals (and its emerging successor, the Sustainable Development Goals), introduced later in this chapter.

This first fleeting glimpse at life in different parts of our planet is sufficient to raise various questions. Why does affluence coexist with dire poverty, not only on different continents, but also within the same country or even the same city? Can traditional, low-productivity, subsistence societies be transformed into modern, high-productivity, high-income nations? To what extent are the development aspirations of poor nations helped or hindered by the economic activities of rich nations? By what process and under what conditions do rural subsistence farmers in the remote regions of Nigeria, Brazil, or the Philippines evolve into successful commercial farmers? What are the implications of the surprisingly long stagnation in rich countries following the financial crisis for further progress on development and poverty reduction? These and many other questions concerning international and national differences in standards of living, in areas including health and nutrition, education, employment, environmental sustainability, population growth, and life expectancies, might be posed on the basis of even this very superficial look at life around the world.

This book is designed to help students obtain a better understanding of the major problems and prospects for broad-based economic development, paying special attention to the plight of the half or more of the world's population for whom low levels of living are a fact of life. However, as we shall soon discover, the process in **developing countries** cannot be analyzed realistically without also considering the role of economically developed nations in directly or indirectly promoting or retarding that development. Perhaps even more important to students in the developed nations is that as our earth shrinks with the spread of modern transport and communications, the futures of *all* peoples on this small planet are becoming increasingly interdependent. What happens to the health and economic welfare of poor rural families and many others in the developing regions of Asia, Africa, the Middle East, or Latin America will in one way or another, directly or indirectly, affect the health and economic welfare of families in Europe and North America, and vice versa. The steady loss of tropical forests contributes to global warming; new diseases spread much more rapidly thanks to increased human mobility; economic interdependence steadily grows. It is within this context of a common future for all humankind in the rapidly shrinking world of the twenty-first century that we now commence our study of economic development.

Developing countries Countries of Asia, Africa, the Middle East, Latin America, eastern Europe, and the former Soviet Union that are presently characterized by low levels of living and other development deficits. Used in the development literature as a synonym for *less developed countries*.

1.2 Economics and Development Studies

The study of economic development is one of the newest, most exciting, and most challenging branches of the broader disciplines of economics and political economy. Although one could claim that Adam Smith was the first "development economist" and that his *Wealth of Nations,* published in 1776, was the first treatise on economic development, the systematic study of the problems and processes of economic development in Africa, Asia, and Latin America has emerged only over the past five decades or so. Although development economics often draws on relevant principles and concepts from other branches of economics in either a standard or modified form, for the most part it is a field of study that is rapidly evolving its own distinctive analytical and methodological identity.[3]

The Nature of Development Economics

Traditional economics is concerned primarily with the efficient, least-cost allocation of scarce productive resources and with the optimal growth of these resources over time so as to produce an ever-expanding range of goods and services. Traditional neoclassical economics deals with an advanced capitalist world of perfect markets; consumer sovereignty; automatic price adjustments; decisions made on the basis of marginal, private-profit, and utility calculations; and equilibrium outcomes in all product and resource markets. It assumes economic "rationality" and a purely materialistic, individualistic, self-interested orientation toward economic decision making.

Traditional economics An approach to economics that emphasizes utility, profit maximization, market efficiency, and determination of equilibrium.

Political economy goes beyond traditional economics to study, among other things, the social and institutional processes through which certain groups of economic and political elites influence the allocation of scarce productive

Political economy The attempt to merge economic analysis with practical politics—to view economic activity in its political context.

resources now and in the future, either for their own benefit exclusively or for that of the larger population as well. Political economy is therefore concerned with the relationship between politics and economics, with a special emphasis on the role of power in economic decision making.

Development economics The study of how economies are transformed from stagnation to growth and from low-income to high-income status, and overcome problems of absolute poverty.

Development economics has an even greater scope. In addition to being concerned with the efficient allocation of existing scarce (or idle) productive resources and with their sustained growth over time, it must also deal with the *economic*, *social*, *political*, and *institutional* mechanisms, both public and private, necessary to bring about *rapid* (at least by historical standards) and *large-scale improvements* in levels of living for the peoples of Africa, Asia, Latin America, and the formerly socialist transition economies. In comparison with the **more developed countries (MDCs)**, in most **less developed countries**, commodity and resource markets are typically highly imperfect, consumers and producers have limited information, major structural changes are taking place in both the society and the economy, the potential for multiple equilibria rather than a single equilibrium is more common, and disequilibrium situations often prevail (prices do not equate supply and demand). In many cases, economic calculations are heavily influenced by political and social priorities such as unifying the nation, replacing foreign advisers with local decision makers, resolving tribal or ethnic conflicts, or preserving religious and cultural traditions. At the individual level, family, clan, religious, or tribal considerations may take precedence over private, self-interested utility or profit-maximizing calculations.

More developed countries (MDCs) The now economically advanced capitalist countries of western Europe, North America, Australia, New Zealand, and Japan.

Less developed countries A synonym for *developing countries*.

Thus, development economics, to a greater extent than traditional neoclassical economics or even political economy, must be concerned with the economic, cultural, and political requirements for effecting rapid structural and institutional transformations of entire societies in a manner that will most efficiently bring the fruits of economic progress to the broadest segments of their populations. It must focus on the mechanisms that keep families, regions, and even entire nations in poverty traps, in which past poverty causes future poverty, and on the most effective strategies for breaking out of these traps. Consequently, a larger government role and some degree of coordinated economic decision making directed toward transforming the economy are usually viewed as essential components of development economics. Yet this must somehow be achieved despite the fact that both governments and markets typically function less well in the developing world. In recent years, activities of nongovernmental organizations, both national and international, have grown rapidly and are also receiving increasing attention (see Chapter 11)

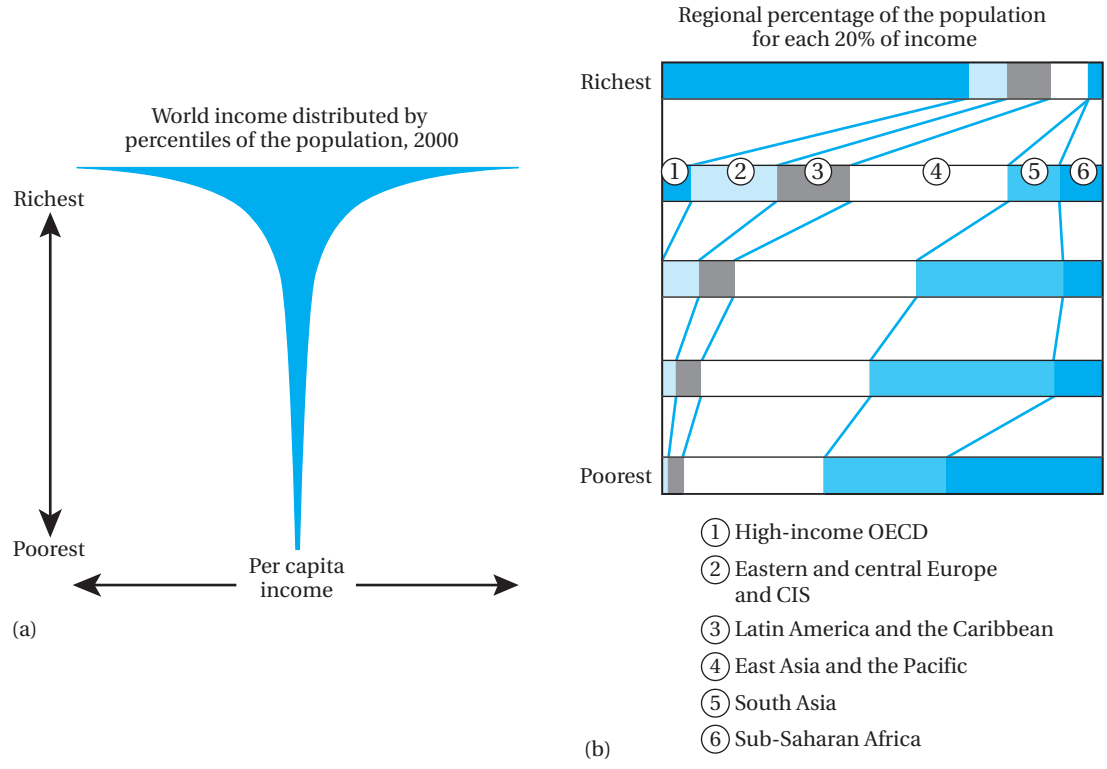
Because of the heterogeneity of the developing world and the complexity of the development process, development economics must be eclectic, attempting to combine relevant concepts and theories from traditional economic analysis with new models and broader multidisciplinary approaches derived from studying the historical and contemporary development experience of Africa, Asia, and Latin America. Development economics is a field on the crest of a breaking wave, with new theories and new data constantly emerging. These theories and statistics sometimes confirm and sometimes challenge traditional ways of viewing the world. The ultimate purpose of development economics, however, remains unchanged: to help us understand developing economies in order to help improve the material lives of the majority of the global population.

Why Study Development Economics? Some Critical Questions

An introductory course in development economics should help students gain a better understanding of a number of critical questions about the economies of developing nations. The following is a sample list of 30 such questions, followed by the chapters (in parentheses) in which they are discussed. They illustrate the kinds of issues faced by almost every developing nation and, indeed, every development economist.

1. What is the real meaning of *development*? Do the Millennium Development Goals fit with these meanings? (Chapter 1)
2. What can be learned from the historical record of economic progress in the now developed world? Are the initial conditions similar or different for contemporary developing countries from what the developed countries faced on the eve of their industrialization or in their earlier phases? (Chapter 2)
3. What are economic institutions, and how do they shape problems of underdevelopment and prospects for successful development? (Chapter 2)
4. How can the extremes between rich and poor be so very great? Figure 1.1 illustrates this disparity. (Chapters 2, 3, 4, and 5)
5. What are the sources of national and international economic growth? Who benefits from such growth and why? (Chapters 3 and 5)
6. Why do some countries make rapid progress toward development while many others remain poor? (Chapters 2, 3, and 4)
7. Which are the most influential theories of development, and are they compatible? Is underdevelopment an internally (domestically) or externally (internationally) induced phenomenon? (Chapters 2, 3, and 4)
8. What constraints most hold back accelerated growth, depending on local conditions? (Chapter 4)
9. How can improvements in the role and status of women have an especially beneficial impact on development prospects? (Chapters 5, 6, 7, 8, 9, and 10)
10. What are the causes of extreme poverty, and what policies have been most effective for improving the lives of the poorest of the poor? (Chapters 5, 6, 7, 8, 9, 10, and 11)
11. With world population superseding 7 billion people, on its way to a projected 9 billion before mid-century, is rapid population growth threatening the economic progress of developing nations? Does having large families make economic sense in an environment of widespread poverty and financial insecurity? (Chapter 6)
12. Why is there so much unemployment and underemployment in the developing world, especially in the cities, and why do people continue to migrate to the cities from rural areas even when their chances of finding a conventional job are slim? (Chapter 7)

FIGURE 1.1 World Income Distribution



Part (a) shows world income distribution by percentile. The huge share controlled by the top percentiles gives the graph its "champagne glass shape." Part (b) shows the regional shares of global income. For example, a large majority of people in the top 20% of the global income distribution live in the rich countries. Most of those in the bottom 60% live in sub-Saharan Africa and Asia. OECD is the Organization for Economic Cooperation and Development. CIS is the Commonwealth of Independent States.

Source: From *Human Development Report, 2005,* p. 37. Reprinted with permission from the United Nations Development Programme.

13. Under what conditions can cities act as engines of economic transformation? (Chapter 7)
14. Wealthier societies are also healthier ones because they have more resources for improving nutrition and health care. But does better health also help spur successful development? (Chapter 8)
15. What is the impact of poor public health on the prospects for development, and what is needed to address these problems? (Chapter 8)
16. Do educational systems in developing countries really promote economic development, or are they simply a mechanism to enable certain select groups or classes of people to maintain positions of wealth, power, and influence? (Chapter 8)

17. As more than half the people in developing countries still reside in rural areas, how can agricultural and rural development best be promoted? Are higher agricultural prices sufficient to stimulate food production, or are rural institutional changes and infrastructure (land redistribution, local government reform, roads, transport, education, credit, etc.) also needed? (Chapter 9)
18. What do we mean by "environmentally sustainable development"? Are there serious economic costs for pursuing sustainable development as opposed to simple output growth, and who bears the major responsibility for global environmental damage—the developed North or the developing South? (Chapter 10)
19. Are free markets and economic privatization the answer to development problems, or do governments in developing countries still have major roles to play in their economies? (Chapter 11)
20. Why do so many developing countries select such poor development policies, and what can be done to improve these choices? (Chapter 11)
21. Is expanded international trade always desirable from the point of view of the development of poor nations? Who gains from trade, and how are the advantages distributed among nations? (Chapter 12)
22. When and under what conditions, if any, should governments in developing countries adopt a policy of foreign-exchange control, raise tariffs, or set quotas on the importation of certain "nonessential" goods in order to promote their own industrialization or to ameliorate chronic balance of payments problems? (Chapter 12)
23. What has been the impact of International Monetary Fund "stabilization programs" and World Bank "structural adjustment" lending on the balance of payments and growth prospects of heavily indebted less developed countries? (Chapters 12 and 13)
24. What is meant by **globalization**, and how is it affecting the developing countries? (Chapters 12, 13, and 14)

Globalization The increasing integration of national economies into expanding international markets.

25. Should exports of primary products such as agricultural commodities and iron ore be promoted, or should all developing countries attempt to industrialize by developing their own manufacturing industries as rapidly as possible? (Chapter 13)
26. How did so many developing nations get into such serious foreign-debt problems, and what are the implications of debt problems for economic development? How do financial crises affect development? (Chapter 13)
27. What is the impact of foreign economic aid from rich countries? Should developing countries continue to seek such aid, and if so, under what conditions and for what purposes? Should developed countries continue to offer such aid, and if so, under what conditions and for what purposes? (Chapter 14)
28. Should multinational corporations be encouraged to invest in the economies of poor nations, and if so, under what conditions? How have the emergence

of the "global factory" and the globalization of trade and finance influenced international economic relations? (Chapter 14)

29. What is the role of financial and fiscal policy in promoting development? (Chapter 15)
30. What is microfinance, and what are its potential and limitations for reducing poverty and spurring grassroots development? (Chapter 15)

The following chapters analyze and explore these and many related questions. The answers are often more complex than one might think. Remember that the ultimate purpose of any course in economics, including development economics, is to help students think *systematically* about economic problems and issues, and formulate judgments and conclusions on the basis of relevant analytical principles and reliable statistical information. Because the problems of development are in many cases unique in the modern world and not often easily understood through the use of traditional economic theories, we may often need unconventional approaches to what may appear to be conventional economic problems. Traditional economic principles play a useful role in enabling us to improve our understanding of development problems, but they should not blind us to the realities of local conditions in less developed countries.

The Important Role of Values in Development Economics

Economics is a social science. It is concerned with human beings and the social systems by which they organize their activities to satisfy basic material needs (e.g., food, shelter, clothing) and nonmaterial wants (e.g., education, knowledge, spiritual fulfillment). It is necessary to recognize from the outset that ethical or normative *value premises* about what is or is not desirable are central features of the economic discipline in general and of development economics in particular. The very concepts of economic development and modernization represent implicit as well as explicit value premises about desirable goals for achieving what Mahatma Gandhi once called the "realization of the human potential." Concepts or goals such as economic and social equality, the elimination of poverty, universal education, rising levels of living, national independence, modernization of institutions, rule of law and due process, access to opportunity, political and economic participation, grassroots democracy, self-reliance, and personal fulfillment all derive from subjective value judgments about what is good and desirable and what is not. So too, for that matter, do other values—for example, the sanctity of private property, however acquired, and the right of individuals to accumulate unlimited personal wealth; the preservation of traditional hierarchical social institutions and rigid, inegalitarian class structures; the male head of household as the final authority; and the supposed "natural right" of some to lead while others follow.

When we deal in Part Two with such major issues of development as poverty, inequality, population growth, rural stagnation, and environmental decay, the mere identification of these topics as problems conveys the value

judgment that their improvement or elimination is desirable and therefore good. That there is widespread agreement among many different groups of people—politicians, academics, and ordinary citizens—that these are desirable goals does not alter the fact that they arise not only out of a reaction to an objective empirical or positive analysis of what is but also ultimately from a subjective or normative value judgment about what should be.

It follows that value premises, however carefully disguised, are an inherent component of both economic analysis and economic policy. Economics cannot be value-free in the same sense as, say, physics or chemistry. Thus, the validity of economic analysis and the correctness of economic prescriptions should always be evaluated in light of the underlying assumptions or value premises. Once these subjective values have been agreed on by a nation or, more specifically, by those who are responsible for national decision making, specific development goals (e.g., greater income equality) and corresponding public policies (e.g., taxing higher incomes at higher rates) based on "objective" theoretical and quantitative analyses can be pursued. However, where serious value conflicts and disagreements exist among decision makers, the possibility of a consensus about desirable goals or appropriate policies is considerably diminished. In either case, it is essential, especially in the field of development economics, that one's value premises always be made clear.[4]

Economies as Social Systems: The Need to Go Beyond Simple Economics

Economics and economic systems, especially in the developing world, must be viewed in a broader perspective than that postulated by traditional economics. They must be analyzed within the context of the overall **social system** of a country and, indeed, within an international, global context as well. By "social system," we mean the interdependent relationships between economic and noneconomic factors. The latter include attitudes toward life, work, and authority; public and private bureaucratic, legal, and administrative structures; patterns of kinship and religion; cultural traditions; systems of land tenure; the authority and integrity of government agencies; the degree of popular participation in development decisions and activities; and the flexibility or rigidity of economic and social classes. Clearly, these factors vary widely from one region of the world to another and from one culture and social setting to another. At the international level, we must also consider the organization and rules of conduct of the global economy—how they were formulated, who controls them, and who benefits most from them. This is especially true today with the spread of market economies and the rapid globalization of trade, finance, corporate boundaries, technology, intellectual property, and labor migration.

Social system The organizational and institutional structure of a society, including its values, attitudes, power structure, and traditions.

Resolving problems to achieve development is a complicated task. Increasing national production, raising levels of living, and promoting widespread employment opportunities are all as much a function of the local history, expectations, values, incentives, attitudes and beliefs, and institutional and power structures of both the domestic and the global society as they are the direct outcomes of the manipulation of strategic economic variables such as

savings, investment, product and factor prices, and foreign-exchange rates. As the Indonesian intellectual Soedjatmoko, former rector of the United Nations University in Tokyo, so aptly put it:

> Looking back over these years, it is now clear that, in their preoccupation with growth and its stages and with the provision of capital and skills, development theorists have paid insufficient attention to institutional and structural problems and to the power of historical, cultural, and religious forces in the development process.[5]

Just as some social scientists occasionally make the mistake of confusing their theories with universal truths, they also sometimes mistakenly dismiss these noneconomic variables as "nonquantifiable" and therefore of dubious importance. Yet these variables often play a critical role in the success or failure of the development effort.

As you will see in Parts Two and Three, many of the failures of development policies have occurred precisely because these noneconomic variables (e.g., the role of traditional property rights in allocating resources and distributing income or the influence of religion on attitudes toward modernization and family planning) were excluded from the analysis. Although the main focus of this text is on development economics and its usefulness in understanding problems of economic and social progress in poor nations, we will try always to be mindful of the crucial roles that **values**, **attitudes**, and **institutions**, both domestic and international, play in the overall development process.

Values Principles, standards, or qualities that a society or groups within it considers worthwhile or desirable.

Attitudes The states of mind or feelings of an individual, group, or society regarding issues such as material gain, hard work, saving for the future, and sharing wealth.

Institutions Norms, rules of conduct, and generally accepted ways of doing things. Economic institutions are humanly devised constraints that shape human interactions, including both informal and formal "rules of the game" of economic life in the widely used framework of Douglass North.

1.3 What Do We Mean by Development?

Because the term *development* may mean different things to different people, it is important that we have some working definition or core perspective on its meaning. Without such a perspective and some agreed measurement criteria, we would be unable to determine which country was actually developing and which was not. This will be our task for the remainder of the chapter and for our first country case study, Brazil, at the end of the chapter.

Traditional Economic Measures

In strictly economic terms, *development* has traditionally meant achieving sustained rates of growth of **income per capita** to enable a nation to expand its output at a rate faster than the growth rate of its population. Levels and rates of growth of "real" per capita **gross national income (GNI)** (monetary growth of GNI per capita minus the rate of inflation) are then used to measure the overall economic well-being of a population—how much of real goods and services is available to the average citizen for consumption and investment.

Income per capita Total gross national income of a country divided by its total population.

Gross national income (GNI) The total domestic and foreign output claimed by residents of a country. It comprises gross domestic product (GDP) plus factor incomes accruing to residents from abroad, less the income earned in the domestic economy accruing to persons abroad.

Economic development in the past has also been typically seen in terms of the planned alteration of the structure of production and employment so that agriculture's share of both declines and that of the manufacturing and service industries increases. Development strategies have therefore usually focused on rapid industrialization, often at the expense of agriculture and rural development.

With few exceptions, such as in development policy circles in the 1970s, development was until recently nearly always seen as an economic phenomenon in

which rapid gains in overall and per capita GNI growth would either "trickle down" to the masses in the form of jobs and other economic opportunities or create the necessary conditions for the wider distribution of the economic and social benefits of growth. Problems of poverty, discrimination, unemployment, and income distribution were of secondary importance to "getting the growth job done." Indeed, the emphasis is often on increased output, measured by **gross domestic product (GDP)**.

Gross domestic product (GDP) The total final output of *goods* and *services* produced by the country's economy, within the country's territory, by residents and nonresidents, regardless of its allocation between domestic and foreign claims.

The New Economic View of Development

The experience of the first decades of post–World War II and postcolonial development in the 1950s, 1960s, and early 1970s, when many developing nations did reach their economic growth targets but the levels of living of the masses of people remained for the most part unchanged, signaled that something was very wrong with this narrow definition of development. An increasing number of economists and policymakers clamored for more direct attacks on widespread absolute poverty, increasingly inequitable income distributions, and rising unemployment. In short, during the 1970s, economic development came to be redefined in terms of the reduction or elimination of poverty, inequality, and unemployment within the context of a growing economy. "Redistribution from growth" became a common slogan. Dudley Seers posed the basic question about the meaning of development succinctly when he asserted:

> The questions to ask about a country's development are therefore: What has been happening to poverty? What has been happening to unemployment? What has been happening to inequality? If all three of these have declined from high levels, then beyond doubt this has been a period of development for the country concerned. If one or two of these central problems have been growing worse, especially if all three have, it would be strange to call the result "development" even if per capita income doubled.[6]

This assertion was neither idle speculation nor the description of a hypothetical situation. A number of developing countries experienced relatively high rates of growth of per capita income during the 1960s and 1970s but showed little or no improvement or even an actual decline in employment, equality, and the real incomes of the bottom 40% of their populations. By the earlier growth definition, these countries were developing; by the newer poverty, equality, and employment criteria, they were not. The situation in the 1980s and 1990s worsened further as GNI growth rates turned negative for many developing countries, and governments, facing mounting foreign-debt problems, were forced to cut back on their already limited social and economic programs.

But the phenomenon of development or the existence of a chronic state of underdevelopment is not merely a question of economics or even one of quantitative measurement of incomes, employment, and inequality. As Denis Goulet forcefully portrayed it:

> Underdevelopment is shocking: the squalor, disease, unnecessary deaths, and hopelessness of it all!…The most empathetic observer can speak objectively about underdevelopment only after undergoing, personally or vicariously, the "shock of

> underdevelopment." This unique culture shock comes to one as he is initiated to the emotions which prevail in the "culture of poverty." The reverse shock is felt by those living in destitution when a new self-understanding reveals to them that their life is neither human nor inevitable.…The prevalent emotion of underdevelopment is a sense of personal and societal impotence in the face of disease and death, of confusion and ignorance as one gropes to understand change, of servility toward men whose decisions govern the course of events, of hopelessness before hunger and natural catastrophe. Chronic poverty is a cruel kind of hell, and one cannot understand how cruel that hell is merely by gazing upon poverty as an object.[7]

Development must therefore be conceived of as a multidimensional process involving major changes in social structures, popular attitudes, and national institutions, as well as the acceleration of economic growth, the reduction of inequality, and the eradication of poverty. Development, in its essence, must represent the whole gamut of change by which an entire social system, tuned to the diverse basic needs and evolving aspirations of individuals and social groups within that system, moves away from a condition of life widely perceived as unsatisfactory toward a situation or condition of life regarded as materially and spiritually better. No one has identified the human goals of economic development as well as Amartya Sen, perhaps the leading thinker on the meaning of development.

Amartya Sen's "Capability" Approach

The view that income and wealth are not ends in themselves but instruments for other purposes goes back at least as far as Aristotle. Amartya Sen, the 1998 Nobel laureate in economics, argues that the "capability to function" is what really matters for status as a poor or nonpoor person. As Sen puts it, "the expansion of commodity productions...are valued, ultimately, not for their own sake, but as means to human welfare and freedom."[8]

In effect, Sen argues that poverty cannot be properly measured by income or even by utility as conventionally understood; what matters fundamentally is not the things a person has—or the feelings these provide—but what a person *is,* or can be, and does, or *can do.* What matters for well-being is not just the characteristics of commodities consumed, as in the utility approach, but what use the consumer can and does make of commodities. For example, a book is of little value to an illiterate person (except perhaps as cooking fuel or as a status symbol). Or as Sen noted, a person with a parasitic disease will be less able to extract nourishment from a given quantity of food than someone without parasites.

Functionings What people do or can do with the commodities of given characteristics that they come to possess or control.

To make any sense of the concept of human well-being in general, and poverty in particular, we need to think beyond the availability of commodities and consider their use: to address what Sen calls **functionings**, that is, what a person does (or can do) with the commodities of given characteristics that they come to possess or control. Freedom of choice, or control of one's own life, is itself a central aspect of most understandings of well-being. A functioning is a valued "being or doing," and in Sen's view, functionings that people have reason to value can range from being healthy, being well-nourished, and well-clothed, to being mobile, having self-esteem, and "taking part in the life of the community."[9]

Sen identifies five sources of disparity between (measured) real incomes and actual advantages:[10] first, personal heterogeneities, such as those connected with disability, illness, age, or gender; second, environmental diversities, such as heating and clothing requirements in the cold or infectious diseases in the tropics, or the impact of pollution; third, variations in social climate, such as the prevalence of crime and violence, and "social capital"; fourth, distribution within the family—economic statistics measure incomes received in a family because it is the basic unit of shared consumption, but family resources may be distributed unevenly, as when girls get less medical attention or education than boys do; fifth, differences in relational perspectives, meaning that some goods are essential because of local customs and conventions. For example, necessaries for being able, in Adam Smith's phrase, "to appear in public without shame," include higher quality clothing (such as leather shoes) in high-income countries than in low-income countries.

In a richer society, the ability to partake in community life would be extremely difficult without certain commodities, such as a telephone, a television, or an automobile; it is difficult to function socially in Singapore or South Korea without an e-mail address. And minimal housing standards to avoid social disgrace also rise strongly with the average wealth of the society.

Thus, looking at real income levels or even the levels of consumption of specific commodities cannot suffice as a measure of well-being. One may have a lot of commodities, but these are of little value if they are not what consumers desire (as in the former Soviet Union). One may have income, but certain commodities essential for well-being, such as nutritious foods, may be unavailable. Even when providing an equal number of calories, the available staple foods in one country (cassava, bread, rice, cornmeal, potatoes, etc.) will differ in nutritional content from staple foods in other countries. Moreover, even some subvarieties of, for example, rice, are much more nutritious than others. Finally, even when comparing absolutely identical commodities, one has to frame their consumption in a personal and social context. Sen provides an excellent example of bread, the most basic of commodities. It has product "characteristics" such as taste and nutrition such as protein; and it helps to meet conventions of social exchange in the sense of breaking bread together. But many of these benefits depend on the person and her circumstances, such as her activity level, metabolism, weight, whether she is pregnant or lactating, nutrition knowledge, whether she is infected with parasites, and her access to medical services. Sen goes on to note that functioning depends also on (1) "social conventions in force in the society in which the person lives, (2) the position of the person in the family and in the society, (3) the presence or absence of festivities such as marriages, seasonal festivals and other occasions such as funerals, (4) the physical distance from the homes of friends and relatives..."[11]

In part because such factors, even on so basic a matter as nutrition, can vary so widely among individuals, measuring individual well-being by levels of consumption of goods and services obtained confuses the role of commodities by regarding them as ends in themselves rather than as means to an end. In the case of nutrition, the end is health and what one can do with good health, as well as personal enjoyment and social functioning. Indeed, the capacity to maintain valued social relationships and to network leads to what James Foster and Christopher Handy have termed *external capabilities*,

which are "abilities to function that are conferred by direct connection or relationship with another person." But measuring well-being using the concept of utility, in any of its standard definitions, does not offer enough of an improvement over measuring consumption to capture the meaning of development.[12]

As Sen stresses, a person's own valuation of what kind of life would be worthwhile is not necessarily the same as what gives pleasure to that person. If we identify utility with happiness in a particular way, then very poor people can have very high utility. Sometimes even malnourished people either have a disposition that keeps them feeling rather blissful or have learned to appreciate greatly any small comforts they can find in life, such as a breeze on a very hot day, and to avoid disappointment by striving only for what seems attainable. (Indeed, it is only too human to tell yourself that you do not want the things you cannot have.) If there is really nothing to be done about a person's deprivation, this attitude of subjective bliss would have undoubted advantages in a spiritual sense, but it does not change the objective reality of deprivation. In particular, such an attitude would not prevent the contented but homeless poor person from greatly valuing an opportunity to become freed of parasites or provided with basic shelter. The functioning of a person is an *achievement*. Sen provides the example of bicycling "[B]icycling has to be distinguished from possessing a bike. It has to be distinguished also from the happiness generated by [bicycling]... A functioning is thus different both from (1) having goods (and the corresponding characteristics), to which it is posterior, and (2) having utility (in the form of happiness resulting from that functioning), to which it is, in an important way, prior."[13]

To clarify this point, in his acclaimed 2009 book, *The Idea of Justice*, Sen suggests that subjective well-being is a kind of psychological state of being—a functioning—that could be pursued alongside other functionings such as health and dignity. In the next section, we return to the meaning of happiness as a development outcome, in a sense that can be distinguished from conventional utility.

Capabilities The freedoms that people have, given their personal features and their command over commodities.

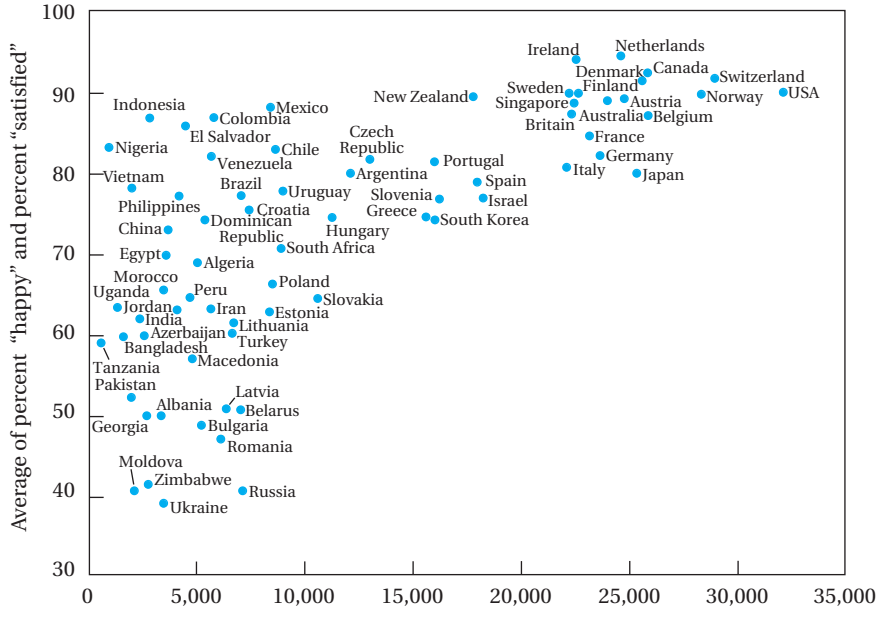
Sen then defines **capabilities** as "the freedom that a person has in terms of the choice of functionings, given his personal features (conversion of characteristics into functionings) and his command over commodities."[14] Sen's perspective helps explain why development economists have placed so much emphasis on health and education, and more recently on social inclusion and empowerment, and have referred to countries with high levels of income but poor health and education standards as cases of "growth without development."[14a] Real income is essential, but to convert the characteristics of commodities into functionings, in most important cases, surely requires health and education as well as income. The role of health and education ranges from something so basic as the nutritional advantages and greater personal energy that are possible when one lives free of parasites to the expanded ability to appreciate the richness of human life that comes with a broad and deep education. People living in poverty are often deprived—at times deliberately—of capabilities to make substantive choices and to take valuable actions, and often the behavior of the poor can be understood in that light.

For Sen, human "well-being" means *being well,* in the basic sense of being healthy, well nourished, well clothed, literate, and long-lived, and more broadly, being able to take part in the life of the community, being mobile, and having freedom of choice in what one can become and can do.

Development and Happiness

Clearly, happiness is part of human well-being, and greater happiness may in itself expand an individual's capability to function. As Amartya Sen has argued, a person may well regard happiness as an important functioning for her well-being.[15] In recent years, economists have explored the empirical relationship across countries and over time between subjectively reported satisfaction and happiness and factors such as income. One of the findings is that the average level of happiness or satisfaction increases with a country's average income. For example, roughly four times the percentage of people report that they are not happy or satisfied in Tanzania, Bangladesh, India, and Azerbaijan as in the United States and Sweden. But the relationship is seen only up to an average income of roughly $10,000 to $20,000 per capita, as shown in Figure 1.2.[16] Once incomes grow to this point, most citizens have usually escaped extreme poverty. At these levels, despite substantial variations across countries, if inequality is not extreme, a majority of citizens are usually relatively well nourished, healthy, and educated. The "happiness science" findings call into question the centrality of economic growth as an objective for high-income countries. But they also reaffirm the importance of economic development in the developing world, whether the objective is solely happiness or, more inclusively and persuasively, expanded human capabilities.

FIGURE 1.2 Income and Happiness: Comparing Countries



Source: From *Happiness: Lessons from a New Science* by Richard Layard, copyright © 2005 by Richard Layard. Used by permission of The Penguin Press, a division of Penguin Group (USA) Inc. and United Agents Ltd. (www.unitedagents.co.uk) on behalf of the author.

Not surprisingly, studies show that financial security is only one factor affecting happiness. Richard Layard identifies seven factors that surveys show affect average national happiness: family relationships, financial situation, work, community and friends, health, personal freedom, and personal values. In particular, aside from not being poor, the evidence says people are happier when they are not unemployed, not divorced or separated, and have high trust of others in society, as well as enjoy high government quality with democratic freedoms and have religious faith. The importance of these factors may shed light on why the percentage of people reporting that they are not happy or satisfied varies so widely among developing countries with similar incomes. For example, the fraction of people who are *not* happy and satisfied on average is 4½ times as great in Zimbabwe as in Indonesia, despite somewhat higher incomes in Zimbabwe, and over 3 times as great in Turkey as in Colombia, despite somewhat higher incomes in Turkey at the time of the study. Many opinion leaders in developing nations hope that their societies can gain the benefits of development without losing traditional strengths such as moral values and trust in others—sometimes called *social capital*.

The government of Bhutan's attempt to make "gross national happiness" rather than gross national income its measure of development progress has attracted considerable attention.[17] Informed by Sen's work, its indicators extend beyond traditional notions of happiness to include capabilities such as health, education, and freedom. Happiness is not the only dimension of subjective well-being of importance. As the 2010 Stiglitz-Sen-Fitoussi ("Sarkozy") Commission on the Measurement of Economic Performance and Social Progress put it:

> Subjective well-being encompasses different aspects (cognitive evaluations of one's life, happiness, satisfaction, positive emotions such as joy and pride, and negative emotions such as pain and worry): each of them should be measured separately to derive a more comprehensive appreciation of people's lives.[18]

Although, following Sen, what people say makes them happy and satisfied as just one among valued functionings is at best only a rough guide to what people value in life, this work adds new perspectives to the multidimensional meaning of development.

Sustenance The basic goods and services, such as food, clothing, and shelter, that are necessary to sustain an average human being at the bare minimum level of living.

Self-esteem The feeling of worthiness that a society enjoys when its social, political, and economic systems and institutions promote human values such as respect, dignity, integrity, and self-determination.

Freedom A situation in which a society has at its disposal a variety of alternatives from which to satisfy its wants and individuals enjoy real choices according to their preferences.

Three Core Values of Development

Is it possible, then, to define or broadly conceptualize what we mean when we talk about development as the sustained elevation of an entire society and social system toward a "better" or "more humane" life? What constitutes the good life is a question as old as philosophy, one that must be periodically reevaluated and answered afresh in the changing environment of world society. The appropriate answer for developing nations today is not necessarily the same as it would have been in previous decades. But at least three basic components or core values serve as a conceptual basis and practical guideline for understanding the inner meaning of development. These core values—**sustenance**, **self-esteem**, and **freedom**—represent common goals sought by all individuals and societies.[19] They relate to fundamental human needs that find their expression in almost all societies and cultures at all times. Let us therefore examine each in turn.

Sustenance: The Ability to Meet Basic Needs All people have certain basic needs without which life would be impossible. These life-sustaining basic

human needs include food, shelter, health, and protection.[20] When any of these is absent or in critically short supply, a condition of "absolute underdevelopment" exists. A basic function of all economic activity, therefore, is to provide as many people as possible with the means of overcoming the helplessness and misery arising from a lack of food, shelter, health, and protection. To this extent, we may claim that economic development is a necessary condition for the improvement in the quality of life that is development. Without sustained and continuous economic progress at the individual as well as the societal level, the realization of the human potential would not be possible. One clearly has to "have enough in order to be more."[21] Rising per capita incomes, the elimination of absolute poverty, greater employment opportunities, and lessening income inequalities therefore constitute the *necessary* but not the *sufficient* conditions for development.[22]

Self-Esteem: To Be a Person A second universal component of the good life is self-esteem—a sense of worth and self-respect, of not being used as a tool by others for their own ends. All peoples and societies seek some basic form of self-esteem, although they may call it authenticity, identity, dignity, respect, honor, or recognition. The nature and form of this self-esteem may vary from society to society and from culture to culture. However, with the proliferation of the "modernizing values" of developed nations, many societies in developing countries that have had a profound sense of their own worth suffer from serious cultural confusion when they come in contact with economically and technologically advanced societies. This is because national prosperity has become an almost universal measure of worth. Due to the significance attached to material values in developed nations, worthiness and esteem are nowadays increasingly conferred only on countries that possess economic wealth and technological power—those that have "developed."

As Denis Goulet put it, "Development is legitimized as a goal because it is an important, perhaps even an indispensable, way of gaining esteem."[23]

Freedom from Servitude: To Be Able to Choose A third and final universal value that we suggest should constitute the meaning of development is the concept of human freedom. Freedom here is to be understood in the sense of emancipation from alienating material conditions of life and from social servitude to nature, other people, misery, oppressive institutions, and dogmatic beliefs, especially that poverty is predestination. Freedom involves an expanded range of choices for societies and their members together with a minimization of external constraints in the pursuit of some social goal we call development. Amartya Sen writes of "development as freedom." W. Arthur Lewis stressed the relationship between economic growth and freedom from servitude when he concluded that "the advantage of economic growth is not that wealth increases happiness, but that it increases the range of human choice."[24] Wealth can enable people to gain greater control over nature and the physical environment (e.g., through the production of food, clothing, and shelter) than they would have if they remained poor. It also gives them the freedom to choose greater leisure, to have more goods and services, or to deny the importance of these material wants and choose to live a life of spiritual contemplation. The concept of human freedom also encompasses various components of political freedom, including personal security, the rule of law, freedom of expression, political participation, and equality of opportunity.[25]

Although attempts to rank countries with freedom indexes have proved highly controversial,[26] studies do reveal that some countries that have achieved high economic growth rates or high incomes, such as China, Malaysia, Saudi Arabia, and Singapore, have not achieved as much on human freedom criteria.

The Central Role of Women

In light of the information presented so far, it should come as no surprise that development scholars generally view women as playing the central role in the development drama. Globally, women tend to be poorer than men. They are also more deprived in health and education and in freedoms in all its forms. Moreover, women have primary responsibility for child rearing, and the resources that they are able to bring to this task will determine whether the cycle of transmission of poverty from generation to generation will be broken. Children need better health and education, and studies from around the developing world confirm that mothers tend to spend a significantly higher fraction of income under their control for the benefit of their children than fathers do. Women also transmit values to the next generation. To make the biggest impact on development, then, a society must empower and invest in its women. We will return to this topic in more depth in Chapters 5 through 9 and 15.

The Three Objectives of Development

We may conclude that development is both a physical reality and a state of mind in which society has, through some combination of social, economic, and institutional processes, secured the means for obtaining a better life. Whatever the specific components of this better life, development in all societies must have at least the following three objectives:

1. *To increase the availability and widen the distribution of basic life-sustaining goods* such as food, shelter, health, and protection
2. *To raise levels of living*, including, in addition to higher incomes, the provision of more jobs, better education, and greater attention to cultural and human values, all of which will serve not only to enhance material well-being but also to generate greater individual and national self-esteem
3. *To expand the range of economic and social choices* available to individuals and nations by freeing them from servitude and dependence, not only in relation to other people and nation-states, but also to the forces of ignorance and human misery

Millennium Development Goals (MDGs) A set of eight goals adopted by the United Nations in 2000: to eradicate extreme poverty and hunger; achieve universal primary education; promote gender equality and empower women; reduce child mortality; improve maternal health; combat HIV/AIDS, malaria, and other diseases; ensure environmental sustainability; and develop a global partnership for development. The goals are assigned specific targets to be achieved by 2015.

1.4 The Future of the Millennium Development Goals

In September 2000, the 189 member countries of the United Nations at that time adopted eight **Millennium Development Goals (MDGs)**, committing themselves to making substantial progress toward the eradication of poverty

and achieving other human development goals by 2015. The MDGs are the strongest statement yet of the international commitment to ending global poverty. They acknowledge the multidimensional nature of development and poverty alleviation; an end to poverty requires more than just increasing incomes of the poor. The MDGs have provided a unified focus in the development community unlike anything that preceded them.[27]

The eight goals are ambitious: to eradicate extreme poverty and hunger; achieve universal primary education; promote gender equality and empower women; reduce child mortality; improve maternal health; combat HIV/AIDS, malaria, and other diseases; ensure environmental sustainability; and develop a global partnership for development. The goals are then assigned specific targets deemed achievable by 2015 based on the pace of past international development achievements. The goals and targets are found in Table 1.1.

Appropriately, the first MDG addresses the problem of extreme poverty and hunger. The two targets for this goal are more modest: to reduce by half

TABLE 1.1 Millennium Development Goals and Targets for 2015

Goals	Targets
1. Eradicate extreme poverty and hunger	• Reduce by half the proportion of people living on less than $1 a day • Reduce by half the proportion of people who suffer from hunger
2. Achieve universal primary education	• Ensure that all boys and girls complete a full course of primary schooling
3. Promote gender equality and empower women	• Eliminate gender disparity in primary and secondary education, preferably by 2005, and at all levels by 2015
4. Reduce child mortality	• Reduce by two-thirds the mortality rate among children under 5
5. Improve maternal health	• Reduce by three-quarters the maternal mortality ratio
6. Combat HIV/AIDS, malaria, and other diseases	• Halt and begin to reverse the spread of HIV/AIDS • Halt and begin to reverse the incidence of malaria and other major diseases
7. Ensure environmental sustainability	• Integrate the principles of sustainable development into country policies and programs; reverse the loss of environmental resources • Reduce by half the proportion of people without sustainable access to safe drinking water • Achieve significant improvement in the lives of at least 100 million slum dwellers by 2020
8. Develop a global partnership for development	• Develop further an open, rule-based, predictable, nondiscriminatory trading and financial system; includes a commitment to good governance, development, and poverty reduction—both nationally and internationally • Address the special needs of the least developed countries; includes tariff and quota free access for least developed countries' exports; enhanced program of debt relief for heavily indebted poor countries (HIPCs) and cancellation of official bilateral debt; and more generous official development assistance (ODA) for countries committed to poverty reduction • Address the special needs of landlocked countries and small-island developing states • Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term • In cooperation with developing countries, develop and implement strategies for decent and productive work for youth • In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries • In cooperation with the private sector, make available the benefits of new technologies, especially information and communications

Source: From "Millennium Development Goals" (accessed via www.undp.org). Reprinted with permission from the United Nations Development Programme.

the proportion of people living on less than $1 a day and to reduce by half the proportion of people who suffer from hunger. "Halving poverty" has come to serve as a touchstone for the MDGs as a whole. To achieve this target requires that progress be made on the other goals as well.

As reported by the United Nations Development Programme (UNDP), the halving of global poverty was achieved by 2012, but if current trends continue, not all of the other targets will be achieved; and great regional disparity is obscured when global averages are reported, as East Asia has done far better than sub-Saharan Africa.[28] Shockingly, in a world of plenty, the target of cutting the proportion of people who are chronically hungry in half by 2015 is very unlikely to be achieved. Some conditions even worsened after a food price spike in 2008 and thereafter as a result of the global economic crisis. And the UNDP highlights that if global trends continue through 2015, the reduction in under-5 mortality will reach roughly one-quarter, far below the target reduction of two-thirds. This means that the target will be missed by 4.4 million avoidable deaths in 2015. Universal primary enrollment will not be achieved unless faster progress can be made in sub-Saharan Africa. Projecting current trends, there will still be 47 million children out of school in 2015. And the UNDP reports that the gap between the current trends and the target of halving poverty represents an additional 380 million people still living on less than $1 a day in 2015.

The goal of ensuring environmental sustainability is essential for securing an escape from poverty. This is immediately seen by looking at two of the targets: reduce by half the proportion of people without access to safe drinking water and achieve significant improvement in the lives of at least 100 million slum dwellers. But more generally, without protecting the environment of the poor, there is little chance that their escape from poverty can be permanent. Finally, the governments and citizens of the rich countries need to play their part in pursuit of the goal of "global partnership for development."

The MDGs were developed in consultation with the developing countries, to ensure that they addressed their most pressing problems. In addition, key international agencies, including the United Nations, the World Bank, the International Monetary Fund (IMF), the Organization for Economic Cooperation and Development (OECD), and the World Trade Organization (WTO), all helped develop the Millennium Declaration and so have a collective policy commitment to attacking poverty directly. The MDGs assign specific responsibilities to rich countries, including increased aid, removal of trade and investment barriers, and eliminating unsustainable debts of the poorest nations.[29]

However, the MDGs have also come in for some criticism.[30] For example, some observers believe that the MDG targets were not ambitious enough, going little beyond projecting past rates of improvement 15 years into the future. Moreover, the goals were not prioritized; for example, reducing hunger may leverage the achievement of many of the other health and education targets. At the same time, although the interrelatedness of development objectives was implicit in the MDGs' formulation, goals are presented and treated in reports as stand-alone objectives; in reality, the goals are not substitutes for

each other but complements, such as the close relationship between health and education. Further, the setting of 2015 as an end date for the targets could discourage rather than encourage further development assistance if it were not met. Moreover, when the MDGs measure poverty as the fraction of the population below the $1-a-day line, this is arbitrary and fails to account for the intensity of poverty—that a given amount of extra income to a family with a per capita income of, say, 70 cents a day makes a bigger impact on poverty than to a family earning 90 cents per day (see Chapter 5). Other critics have complained that $1 a day is too low a poverty line and about the lack of goals on reducing rich-country agricultural subsidies, improving legal and human rights of the poor, slowing global warming (which is projected to harm Africa and South Asia the most), expanding gender equality, and leveraging the contribution of the private sector. While the reasonableness of some of these criticisms may be questioned, it should be acknowledged that the MDGs do have some inherent limitations.

Sector A subset (part) of an economy, with four usages in economic development: technology (modern and traditional sectors); activity (industry or product sectors); trade (export sector); and sphere (private and public sectors)

With the imminent expiration of the MDGs, the UN coordinated global efforts to launch its successor, Sustainable Development Goals (SDGs), with the May 2013 agenda-setting report of the High-Level Panel of Eminent Persons on Development Agenda.[31] This highly diverse panel of political leaders from every part of the world agreed upon a bold approach that is expected to substantially influence the eventual shape of the post-2015 agenda, the SDGs. The panel repeatedly stressed that it is "a universal agenda" for all countries, developed as well as developing and without exceptions, "to be driven by five big, transformative shifts." These universal shifts are:

1. Leave no one behind—to move "from reducing to ending extreme poverty, in all its forms;" in particular, to "design goals that focus on reaching excluded groups."
2. Put sustainable development at the core, "to integrate the social, economic, and environmental dimensions of sustainability."
3. Transform economies for jobs and inclusive growth, while moving to sustainable patterns of work and life.
4. Build peace and effective, open, and accountable institutions for all, which "encourage the rule of law, property rights, freedom of speech and the media, open political choice, access to justice, and accountable government and public institutions."
5. Forge a new global partnership so that each priority should involve governments and also others, including people living in poverty, civil society and indigenous and local communities, multilateral institutions, business, academia, and philanthropy.

The High-Level Panel also agreed on well-recognized and illustrative universal goals and national targets for the SDGs, including an outright end by 2030 of poverty, hunger, child marriage, and preventable under-5 deaths, and specific targets on stunting, social protection coverage, and maternal mortality. The debate will be lively throughout 2014 and 2015.

1.5 Conclusions

Development economics is a distinct yet very important extension of both traditional economics and political economy. While necessarily also concerned with efficient resource allocation and the steady growth of aggregate output over time, development economics focuses primarily on the economic, social, and institutional mechanisms needed to bring about rapid and large-scale improvements in standards of living for the masses of poor people in developing nations. Consequently, development economics must be concerned with the formulation of appropriate public policies designed to effect major economic, institutional, and social transformations of entire societies in a very short time.

As a social science, economics is concerned with people and how best to provide them with the material means to help them realize their full human potential. But what constitutes the good life is a perennial question, and hence economics necessarily involves values and value judgments. Our very concern with promoting development represents an implicit value judgment about good (development) and evil (underdevelopment). But development may mean different things to different people. Therefore, the nature and character of development and the meaning we attach to it must be carefully spelled out. We did this in section 1.3 and will continue to explore these definitions throughout the text.

The central economic problems of all societies include traditional questions such as what, where, how, how much, and for whom goods and services should be produced. But they should also include the fundamental question at the national level about who actually makes or influences economic decisions and for whose principal benefit these decisions are made. Finally, at the international level, it is necessary to consider the question of which nations and which powerful groups within nations exert the most influence with regard to the control, transmission, and use of technology, information, and finance. Moreover, for whom do they exercise this power?

Any realistic analysis of development problems necessitates the supplementation of strictly economic variables such as incomes, prices, and savings rates with equally relevant noneconomic institutional factors, including the nature of land tenure arrangements; the influence of social and class stratifications; the structure of credit, education, and health systems; the organization and motivation of government bureaucracies; the machinery of public administrations; the nature of popular attitudes toward work, leisure, and self-improvement; and the values, roles, and attitudes of political and economic elites. Economic development strategies that seek to raise agricultural output, create employment, and eradicate poverty have often failed in the past because economists and other policy advisers neglected to view the economy as an interdependent social system in which economic and noneconomic forces are continually interacting in ways that are at times self-reinforcing and at other times contradictory. As you will discover, underdevelopment reflects many individual market failures, but these failures often add up to more than the sum of their parts, combining to keep a country in a poverty trap. Government can play a key role in moving the economy to a better equilibrium, and in many countries, notably in East Asia, government has done so; but all too often government itself is part and parcel of the bad equilibrium.

Achieving the Millennium Development Goals will be an important milestone on the long journey to sustainable and just development. Although progress has been substantial, many of the interim targets remain unachieved—nor do the MDGs include all of the critical objectives of development. The emerging Sustainable Development Goals, planned as the MDGs' successor after 2015, will be even more ambitious, including the full eradication of extreme poverty.

Despite the great diversity of developing nations—some large, others small; some resource-rich, others resource-barren; some subsistence economies, others modern manufactured-good exporters; some private-sector oriented, others to a large degree run by the government—most share common problems that define their underdevelopment. We will discuss these diverse structures and common characteristics of developing countries in Chapter 2.

The oil price shocks of the 1970s, the foreign-debt crisis of the 1980s, and the twenty-first-century concerns with economic globalization, economic imbalances and financial crises, global warming, and international terrorism have underlined the growing interdependence of all nations and peoples in the international social system. What happens to life in Caracas, Karachi, Cairo, and Kolkata will in one way or another have important implications for life in New York, London, and Tokyo. It was once said that "when the United States sneezes, the world catches pneumonia." A more fitting expression for the twenty-first century would perhaps be that "the world is like the human body: If one part aches, the rest will feel it; if many parts hurt, the whole will suffer."

Developing nations constitute these "many parts" of the global organism. The nature and character of their future development should therefore be a major concern of *all* nations irrespective of political, ideological, or economic orientation. There can no longer be two futures, one for the few rich and the other for the very many poor. In the words of a poet, "There will be only one future—or none at all."

Case Study 1

Progress in the Struggle for More Meaningful Development: Brazil

There are two faces of development in Brazil. World-competitive industry coexists with stagnant, protected sectors. Modern agriculture coexists with low-productivity traditional practices. But Brazil is in the midst of a spurt of economic development that might herald a lasting transformation for a country often considered synonymous with inequality and unmet potential. Economic growth has returned, health and education have improved markedly, the country's democratization has proved durable, and inequality—among the highest in the world—has at long last started to fall. But there is still a long way to go to achieve genuine development in Brazil. Growth remains vulnerable to world commodity prices, and social progress remains tenuous as revealed by the widespread protest demonstrations that erupted in 2013.

Many Brazilians have been frustrated with the uneven pace of development and are known for telling self-deprecating jokes such as "Brazil is the country of the future—and always will be." Brazil has even been cited as an example of a country that has experienced "growth without development." But despite huge inequities, Brazil has made economic and social progress. Extremely high economic inequality and social divisions do pose a serious threat to further progress in Brazil. But there are growing reasons to hope that Brazil may overcome its legacy of inequality so that the country may yet join the ranks of the developed countries.

Brazil is of special interest in part because its growth performance from the 1960s through the early 1980s was the best in Latin America, with at least some parallels with East Asian export policy and performance, although Brazil had a larger role for state-owned enterprises, much lower education and other social expenditures, and much higher inflation.

Brazil's performance is followed widely in the developing world, as it is the largest and most populous country in Latin America; with close to 200 million people, it is the world's fifth-largest country in both area and population. Brazil is consolidating its role as the lead country in the Latin America and Caribbean region; it is a key member of the G20 leading economies; and one of a group of developing countries pushing for fairer international trade rules. It is one of four influential countries referred to by the media and financial analysts as the "BRICs" (Brazil, Russia, India, and China, often expanded to include South Africa).

Although over two decades of military rule ended in Brazil in 1985, an ongoing debt crisis, years of stagnant incomes, and extremely high inflation followed. It took drastic policies to reduce inflation, and incomes continued to stagnate in the aftermath. The 1980s and the 1990s have been described as "lost decades" for development. So the recent signs of palpable progress, especially since about 2004, have been welcomed with relief and growing enthusiasm among many Brazilians. Although the country remains politically divided between the center-left and the center-right, a striking convergence has been achieved on policies agreed to be necessary for equitable and sustained growth, ranging from active poverty reduction programs to relatively orthodox monetary policies. The economy has been growing more rapidly (if inconsistently), in part due to commodity exports to China, from soybeans to iron ore. One persistent worry is whether the economy could continue to grow rapidly if commodity prices, which have been

much higher in recent years, revert to their very long-term trends for decline (see Chapter 12), or the slowing growth in China curtails demand for Brazil's products—both genuine worries by 2013. High crime remains a problem, especially in the *favelas* (slums).

But despite the nation's early and now resumed growth, other indicators of development in Brazil lagged, eventually undermining growth prospects. Benefiting from much higher incomes than Central American countries and spared the destructiveness of civil war, Brazil, it would seem, should have been in a much better position to fight extreme poverty and improve economic equity and social indicators. Instead, despite recent improvement, the country has continued to see a higher percentage of its population in poverty than would be expected for an upper-middle-income country. Brazil remains one of the countries with the highest levels of inequality in the world. So how should Brazil's development performance be evaluated and future priorities chosen?

Income and Growth

Growth is generally necessary, though not sufficient, for achieving development. In 2011, Brazil's per capita income was close to $11,000, still well under a quarter of that of the United States but more than nine times greater than that of Haiti (World Bank data).

Growth has been erratic, with substantial swings over time. Data for growth of gross domestic product (GDP) per capita are sometimes presented for the periods 1965–1990, when for Brazil it was 1.4%, and for 1990–2000, when it was 1.5%. This appears to suggest a remarkable stability. But the former figures combine the booming years from 1967 to 1980 and Brazil's "lost decade of development" of the 1980s. Nevertheless, performance through this period was still better than most other countries of Latin America. In 2000–2011, average annual per capita growth rose to about 2.8% (World Bank data). But wide swings continue, with a spike close to 7% in 2010 slowing to a near standstill by the end of 2012.

Brazil has had an export policy stressing incentives for manufacturing exports, as well as protections for domestic industry, with numerous parallels with Taiwan and South Korea in their earlier formative stages (see Chapter 12). Its percentage share of manufactured exports in total exports grew dramatically, reaching 57% in 1980, although it dropped dramatically during the lost decade of the 1980s. Although the share of manufactured exports increased again, reaching a new peak of 58% in 2000, it has fallen steadily since, to 45% in 2008, and by 2011, this figure had fallen to just 34% (World Bank data). Although part of this decline reflected an increase in commodity prices, it is still a striking reversal that probably increases the vulnerability of the Brazilian economy (see Chapter 12). Brazil must decide whether to respond to its good fortune of a period of high commodity prices as a spur to action or an excuse for complacency.

Brazil's prolonged status as a highly indebted country (see Chapter 13) was a substantial drag on growth performance, as were continued problems with infrastructure. Recently, however, the Industrial, Technological and Foreign Trade Policy (*PITCE*) program has been actively working to upgrade the quality and competitiveness of Brazilian industry.

High and growing taxes may have also slowed formal-sector employment growth. The overall tax burden increased from about 25% of gross national income to nearly 40% in the decade from 1993 to 2004, before leveling off (it was about 38% in 2012). Payroll taxes are high and as many as half of Brazil's labor force now works in the informal sector, where taxes may be avoided (and labor rights and regulation circumvented).

However, Ricardo Hausmann, Dani Rodrik, and Andrés Velasco argue that Brazil does not lack for productive investment ideas, nor is concern about government behavior the factor holding back investment. Using their decision tree framework to identify the most binding constraints on economic growth (see Chapter 4), Hausmann, Rodrik, and Velasco argue that Brazil has high returns to investment and is most constrained by a lack of savings to finance its productive opportunities at reasonable interest rates. In raising domestic savings, Hausmann has emphasized the importance of "creating a financially viable state that does not over-borrow, over-tax or under-invest."

Technology transfer is critical to more rapid growth, competing internationally, and beginning to catch up with advanced countries. Brazil has

made notable progress. The country is viewed as being at the cutting edge of agricultural research and extension in commercially successful export crops such as citrus and soybeans. After a disastrous attempt to protect the computer industry in the 1980s was abandoned, Brazil has begun to see the expansion of a software industry, as also seen in India. But Brazil has not absorbed technology to the degree that East Asian countries have.

Social Indicators

Brazil's human development statistics compare unfavorably with many other middle-income countries such as Costa Rica and quite a few low-income countries, let alone with the advanced industrialized countries. As of 2007, Brazil ranked just 85th on the United Nations Development Programme's 2013 Human Development Index (explained in Chapter 2), eight positions lower than would be predicted by its income, and below such countries as Peru, Mauritius, and Azerbaijan.

In Brazil, life expectancy at birth in 2011 was 73 years, compared with 81 in South Korea. Brazil's under-5 mortality rate is 16 per 1,000 live births, an impressive improvement from its 2000 rate of 36 per 1,000 but still high compared with 10 in similar-income Costa Rica and just 5 in Korea (World Bank data). But about 7% of all children under the age of 5 still suffer from malnutrition in Brazil (World Bank data).

Brazil suffers from a high incidence of child labor for its income level, as a World Bank study and reports by the International Labor Office have underlined. As many as 7 million children still work in Brazil, despite the country's having officially made the eradication of child labor a priority. (For an analysis of the problems of child labor and appropriate child labor policies, see Chapter 8.) In the education sphere, Brazil's officially reported adult literacy rate has now risen to 90% (independent observers have concluded that Brazil's effective literacy is under 50%), while that of similar-income Costa Rica is 96%. Helping explain this difference, in Costa Rica, six years of school attendance are mandatory, and 99% attendance is reported.

The UNDP concluded that

> the unequal distribution of social spending is no doubt a major factor in maintaining inequality and thus poverty.…The bulk of the benefits go to the middle classes and the rich. Close to a third of the poorest fifth of the population does not attend primary school. But the sharpest differences show up in secondary and tertiary education. More than 90% of the poorest four-fifths of the population do not attend secondary school, and practically none make it to universities. Only primary schools end up being relatively targeted to the poor, not because the government succeeds in targeting resources, but because richer households send their children to private schools. Public expenditures on secondary and tertiary education are very badly targeted to the poor. For scholarships—chiefly to graduate students—four-fifths of the money goes to the richest fifth of the population.

In fact, with public universities offering free tuition to mostly high-income undergrads as well as grad students, the distortion is even greater. Moreover, corruption and waste limit the effectiveness of government expenditures. And the quality of primary schools in poor areas remains low.

So while the persistence of poverty in Brazil is undoubtedly due in part to mediocre growth relative to East Asia or to Brazil's potential, the most important explanation is the highly concentrated distribution of income, worsened by inequitable social spending.

Development depends on a healthy, skilled, and secure workforce. Ultimately, a slower improvement in health, education, and community development can feed back to a slower rate of growth, a process that has plagued Brazilian development. A hopeful sign is the role played now in Brazil by a free press, strengthened basic rights, and a very active but peaceful political competition. These elements can be a precursor of expanded capabilities in Amartya Sen's analysis.

Poverty

Perhaps the most important social indicator is the extent of extreme poverty among a country's people. Poverty has been high in Brazil for an upper-middle-income country. There has been progress; a World Bank study found that Brazil's average per capita income grew by 220% in the high-growth years from 1960 to 1980, with a 34% decline in the share of the poor in the population. On the other hand, similarly sized Indonesia grew 108% from 1971 to 1987, with a 42% decline in poverty incidence. And some of the ground gained on poverty

was subsequently lost in Brazil in the 1980s and 1990s. According to World Bank estimates, in 2009, some 10.8% of the population of Brazil lived on less than $2 per day. And according to the most recent data, 6.1% actually lived in extreme poverty, with incomes below $1.25 per day (World Bank, *2013 World Development Indicators*), worse than some low-income countries such as Sri Lanka. But this may actually be an underestimate. According to a Brazilian government research institute cited by the United Nations Development Programme, an even more shocking 15% of Brazilians have incomes of less than $1 a day. However, poverty is now falling, and the recent Bolsa Familia (family stipend) government program has received high marks for addressing poverty through its "conditional cash transfers" of resources to poor families, provided that they keep children vaccinated and in school; it is similar to the Mexican Progresa/Oportunidades program that is the subject of the end-of-chapter case study for Chapter 8. It must also be mentioned that physical security remains a pressing problem in Brazil, with violent gangs having extensive sway. This problem can have the greatest negative impact on people living in poverty.

Inequality

For decades, Brazil's inequality in income (as well as in land and other assets) has ranked among the worst in the world. High inequality not only produces social strains but can also ultimately retard growth, as examined in detail in Chapter 5. The degree of income inequality in Brazil is reflected in the low share of income going to the bottom 60% and the high share to the top 10% of the population, as seen in the following income distribution data for Brazil (2009 survey data, from the *2013 World Development Indicators*):

Fraction of Population	Share Received (%)
Lowest 10%	0.8
Lowest 20%	2.9
Second 20%	7.1
Third 20%	12.4
Fourth 20%	19.0
Highest 20%	58.6
Highest 10%	42.9

As these figures show, the top 10% of income earners receive about 43% of national income, while the bottom 40% receive just 10%. The UNDP concludes that high inequality is the reason for the high level of extreme poverty and the very slow rate of poverty reduction. Inequality in assets is also high. In recent years, inequality in Brazil has moderated somewhat, although it remains among the highest in the world. In addition to Bolsa Familia and other social program innovations, Brazilian analysts generally conclude that a recent increase in (and enforcement of) the minimum wage also has reduced inequality; this has had, wide impact as many local government workers receive the minimum wage.

Land Reform

Land is very unequally distributed in Brazil, and there is both an efficiency and a social equity case for land reform (a subject discussed in Chapter 9). But land reform has been repeatedly blocked in Brazil by the political power of large plantation owners (*fazenderos*). In response, impoverished farmers in the "landless movement," or MST, have increasingly seized land, often arable but unused land within large plantations. Thousands of families have taken part. Farmers have also settled in fragile rain forest areas, finding themselves unable to acquire land in areas that are more agriculturally suitable and less ecologically sensitive. In response, the government has initiated a land reform program, but the results to date have been modest in relation to the scope of the problem.

Sustainability of Development

As described in Chapter 10, growth that relies on running down the natural environment is contrasted with sustainable development, which preserves the ecology on which future income and people's health vitally depend. But Brazilians across the political spectrum appear determined not to acknowledge destruction of forests as a genuine or pressing problem. Deforestation of the Brazilian Amazon rain forest displays conflicts between short- and long-term development goals and the consequences of huge inequality and state intervention on behalf of the rich. Despite their destructiveness, economic activities in the Amazon often benefited in the past from ill-conceived subsidies, now curtailed. Grandiose showcase development projects and schemes, such as subsidized ore mining, charcoal-consuming industries, and cattle ranching, were carried out on a large scale.

The encouragement of rain forest settlement seemed to be a politically inexpensive alternative to land reform. In the end, the best lands became concentrated in the hands of large, powerful farmers. Rights of indigenous peoples were flagrantly violated, with some terrible atrocities committed by settlers. Ecological campaigners and activists among rubber-tappers whose livelihoods were threatened were attacked and sometimes murdered. In the meantime, much of these fragile lands appears to have become irreversibly degraded. Many of the subsidies have now been withdrawn, and at least some protections and "extractive reserves" have been put in place, but rain forest destruction is hard to reverse. Forest management in other tropical rain forests has led to a rapid growth in ecotourism and very high, profitable, and sustainable fruit yields. Products that can be harvested without serious ecological disruption include fibers, latex, resins, gums, medicines, and game. However, it is clear that this cannot protect land on the vast scale at risk. Because the rest of the world benefits from Brazil's rain forests through prevention of global warming, ecological cleansing, and the irreplaceable biodiversity needed for future antibiotics and other medicines and goods, the international community should be prepared to pay something to ensure its continuation, such as paying forest dwellers to preserve and protect natural resources. Financial support for land reform outside sensitive areas is one clear direction.

Problems of Social Inclusion

Few discussions about poverty in Brazil pay much attention to race. But about half of the population of Brazil is of African or mulatto heritage. As a result, it is sometimes noted that Brazil is the world's largest black nation after Nigeria. And most of the poor in Brazil are black or mulatto. Although racial discrimination is a crime in Brazil, no one has ever been sent to jail for it. According to one estimate, the average black worker receives only 41% of the salary of the average white worker. Most of the millions of Brazilians living in the worst *favelas*, or shantytown slums, are black. The endemic extreme poverty of the Northeast, which has lagged development standards of the Southeast for decades, afflicts indigenous and mulatto populations. Although the Northeast has only about 30% of Brazil's population, an estimated 62% of the country's extreme poor live in the region. Black representation in government is shockingly rare, even in the states where nonwhites make up a majority of the population. University places are overwhelmingly claimed by whites. Some progress has been made, but Brazil may need a stronger movement comparable to the U.S. civil rights struggle of the 1960s. But in the absence of overt Jim Crow laws, it is sometimes hard to identify the appropriate target. Some form of meaningful affirmative action may be the only way to begin to overcome the problem.

Conclusion

It might be most accurate to say that Brazil has experienced some economic growth without as much social development as could be expected from its income level, rather than the more blanketing "growth without development," which applies better to countries such as Pakistan, Gabon, and Equatorial Guinea. But continuing racial disparities, unjust treatment of indigenous peoples, lack of access of the poor to fertile land, extremely high inequality and surprisingly high poverty for its income level, and the danger that growth will prove ecologically unsustainable all mean that Brazil will have to continue its recent efforts to make social inclusion and human development, as well as environmental sustainability, top priorities if it is to resume and maintain rapid economic growth, let alone achieve true multidimensional development.

Part of the explanation for high rates of income poverty and poor social indicators in Brazil is the relatively slower growth that has prevailed since the early 1980s, excepting its recent spurt. But a major explanation is that government social spending on health, education, pensions, unemployment benefits, and other transfers are going to the well-off, frequently to those in the top 20% of income distribution. Government policy has often had the effect of worsening inequality rather than softening it. The Bolsa Familia program is an important recent exception that has made a substantial impact in Brazil. Bolsa Familia transfers income to poor families on the condition that their children stay in school, thus providing current consumption as well as the potential of future higher earnings for families trapped in chronic poverty.

In November 2002, the left-leaning labor leader Luiz Inacio Lula da Silva, known universally as

Lula, was elected president of Brazil on a platform promising greater equity. This generated a lot of excitement in the country, with renewed hopes for greater social inclusion; his first term saw some renewal of growth and a greater public policy focus on poverty, with some improvements in the *favelas* and better rural nutrition, for example, but the rate of progress on social inclusion was disappointingly slow for many Brazilians. Lula was reelected in 2006, and the general view is that the following four years went well, with steadier growth and significant improvements in many social indicators; and Lula's Worker's Party successor, Dilma Rousset—who was imprisoned and tortured during military rule—won the 2010 presidential election to become the first woman to lead Brazil. But substantial unrest emerged in the country in 2013, and many questions remain. Many Brazilians find the contrast between slum neighborhoods and gleaming new sports facilities that can be seen from them a grating reminder of dubious development priorities. Can steady progress be made on the racial divide, physical security, environmental decay, poverty, inequality, high borrowing costs, needed diversification of exports, and high and inefficient government spending? If so, the outlook for Brazil is bright.

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Notes: The Instituto Brasileiro de Geografia e Estatística (IBGE) provides data on Brazil that supplements that found in the World Development Indicators and other international sources. See www.ibge.gov.br/english. This case study benefits greatly from annual exchanges on evolving policies and conditions with Brazilian civil servants.

Concepts for Review

Absolute Poverty
Attitudes
Capabilities
Developing countries
Development
Development economics
Freedom
Functionings
Globalization
Gross domestic product
Gross national income (GNI)
Income per capita
Institutions
Less developed countries
Millennium Development Goals (MDGs)
More developed countries (MDCs)
Political economy
Sector
Self-esteem
Social system
Subsistence economy
Sustenance
Traditional economics
Values

All boldfaced terms that appear in the text are listed in Concepts for Review at the end of each chapter. A glossary at the back of the book provides quick-reference definitions for these and other, more general economic concepts.

Questions for Discussion

1. Why is economics central to an understanding of the problems of development?
2. Is the concept of the developing world a useful one? Why or why not?
3. What do you hope to gain from this course on development economics?
4. Briefly describe the various definitions of the term *development* encountered in the text. What are the strengths and weaknesses of each approach? Do you think that there are other dimensions of development not mentioned in the text? If so, describe them. If not, explain why you believe that the text description of development is adequate.
5. Why is an understanding of development crucial to policy formulation in developing nations? Do you think it is possible for a nation to agree on a rough definition of *development* and orient its strategies accordingly?
6. Why is a strictly economic definition of *development* inadequate? What do you understand *economic development* to mean? Can you give hypothetical or real examples of situations in which a country may be developing economically but may still be underdeveloped?
7. How does the concept of "capabilities to function" help us gain insight into development goals and achievements? Is money enough? Why or why not?
8. What forces may be at work in giving the Millennium Development Goals such a high profile in international economic relations?
9. What critical issues are raised from the examination of development problems and prospects facing Brazil?
10. It has been said that ending extreme poverty and achieving genuine development are *possible* but not *inevitable* and that this gives the study of economic development its moral and intellectual urgency. What is meant by this? Comment and evaluate.

Notes

1. United Nations Development Programme, "The Rise of the South: Human Progress in a Diverse World," *Human Development Report 2013*. New York: United Nations Development Programme, 2003. Poverty figures are drawn from the World Bank.

2. "Voices of the Poor" boxed quotations throughout the text are for the most part drawn from the World Bank "Voices of the Poor" Web site, http://www.worldbank.org/poverty/voices/overview.htm. The Voices project was undertaken as background for the World Development Report, *Attacking Poverty*. The results were published for the World Bank by Oxford University Press in a three-volume series titled *Can Anyone Hear Us? Crying Out for Change*, and *From Many Lands*, edited by Deepa Narayan.
3. See Paul Krugman, "Toward a counter-counter-revolution in development theory," *Proceedings of the World Bank Annual Conference on Development Economics, 1992* (Washington, D.C.: World Bank, 1993), p. 15. See also Syed Nawab Haider Naqvi, "The significance of development economics," *World Development* 24 (1996): 975–987.
4. For a classic argument on the role of values in development economics, see Gunnar Myrdal, *The Challenge of World Poverty* (New York: Pantheon, 1970), ch. 1. A more general critique of the idea that economics can be "value-free" is to be found in Robert Heilbroner's "Economics as a 'value-free' science," *Social Research* 40 (1973): 129–143, and his *Behind the Veil of Economics* (New York: Norton, 1988). See also Barbara Ingham, "The meaning of development: Interactions between 'new' and 'old' ideas," *World Development* 21 (1993): 1816–1818; Paul P. Streeten, *Strategies for Human Development* (Copenhagen: Handelshøjskolens Forlag, 1994), pt. 1; Selo Soemardjan and Kenneth W. Thompson, eds., *Culture, Development, and Democracy* (New York: United Nations University Press, 1994); and Mozaffar Qizilbash, "Ethical development," *World Development* 24 (1996): 1209–1221.
5. Soedjatmoko and Anne Elizabeth Murase, *The Primacy of Freedom in Development* (Lanham, Md.: University Press of America, 1985), p. 11.
6. Dudley Seers, "The meaning of development," paper presented at the Eleventh World Conference of the Society for International Development, New Delhi (1969), p. 3. See also Richard Brinkman, "Economic growth versus economic development: Toward a conceptual clarification," *Journal of Economic Issues* 29 (1995): 1171–1188; and P. Jegadish Gandhi, "The concept of development: Its dialectics and dynamics," *Indian Journal of Applied Economics* 5 (1996): 283–311.
7. Denis Goulet, *The Cruel Choice: A New Concept in the Theory of Development* (New York: Atheneum, 1971), p. 23. Reprinted with permission from Ana Maria Goulet.
8. Amartya Sen, "Development Thinking at the Beginning of the 21st Century." In *Economic and Social Development in the XXI Century.* Emmerij, Luis (Ed.) Inter-American Development Bank and Johns Hopkins University Press, Washington, D.C. [Also available as LSE working paper, Copyright Amartya Sen, at http://eprints.lse.ac.uk/6711/.] See also Sen, *Commodities and Capabilities* (Amsterdam: Elsevier, 1985). We thank Sabina Alkire and James Foster for their helpful suggestions on updating this section for the Twelfth Edition to reflect Professor Sen's latest thinking on his capability approach, including ideas reflected in his recent book, *The Idea of Justice*.
9. Amartya Sen, *Commodities and Capabilities,* p. 12.
10. Sen, *Commodities and Capabilities,* pp. 25–26; and *Development as Freedom*, pp. 70–71.
11. Sen, *Commodities and Capabilities,* pp. 25–26. From *Commodities and Capabilities* by Amartya Sen. Copyright © 1999 by Amartya Sen. Reprinted with permission.
12. Ibid., p. 21. Sen points out that even if we identify utility with "desire fulfillment," we still suffer from the twin defects of "physical-condition neglect" and "valuation neglect." He notes that "valuing is not the same thing as desiring." Ignoring a person's objectively deprived physical condition just because the person considers this subjectively unimportant yields an obviously defective measure of well-being. The paper by Foster and Handy is "External Capabilities," in *Arguments for a Better World: Essays in Honor of Amartya Sen*, eds. Kaushik Basu and Ravi Kanbur (Oxford: Oxford University Press, 2008).
13. Ibid., pp. 10–11. From *Commodities and Capabilities* by Amartya Sen. Copyright © 1999 by Amartya Sen. Reprinted with permission.
14. Amartya Sen, *Commodities and Capabilities*, p. 13.

14a. See, for example, William Easterly, "The political economy of growth without development: A case study of Pakistan," in *In Search of Prosperity: Analytic Narratives on Economic Growth*, ed. Dani Rodrik (Princeton, N.J.: Princeton University Press, 2003).

15. Sen, *Commodities and Capabilities*, p. 52.
16. See Richard Layard, *Happiness: Lessons from a New Science* (New York: Penguin, 2005), esp. pp. 32–35 and 62–70. The data on happiness and satisfaction are based on an average of the two responses. For more on the underlying data and analysis, see http://cep.lse.ac.uk/layard/annex.pdf. For a critique of some aspects of this research, see Martin Wolf, "Why progressive taxation is not the route to happiness," *Financial Times*, June 6, 2007, p. 12. For an excellent review of the literature through 2010 that puts the data and their interpretation in useful perspective, see Carol Graham, *Happiness around the World: The Paradox of Happy Peasants and Miserable Millionaires* (New York: Oxford University Press, 2010).
17. For the revised happiness index formula being considered in Bhutan, see http://www.grossnationalhappiness.com/gnhIndex/introductionGNH.aspx. The formula is closely related to the Alkire-Foster Multidimensional Poverty Index, introduced in Chapter 5. For earlier background see Andrew C. Revkin, "A new measure of well-being from a happy little kingdom," *New York Times*, October 4, 2005, http://www.nytimes.com/2005/10/04/science/04happ.html.
18. Commission on the Measurement of Economic Performance and Social Progress, p. 16, http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf accessed November 12, 2010.
19. See Goulet, *Cruel Choice*, pp. 87–94.
20. For a description of the "basic needs" approach, see Pradip K. Ghosh, ed., *Third World Development: A Basic Needs Approach* (Westport, Conn.: Greenwood Press, 1984).
21. Goulet, *Cruel Choice*, p. 124.
22. For an early attempt to specify and quantify the concept of basic needs, see International Labor Organization, *Employment, Growth, and Basic Needs* (Geneva: International Labor Organization, 1976). A similar view with a focus on the notion of entitlements and capabilities can be found in Amartya Sen, "Development: Which way now?" *Economic Journal* 93 (1983): 754–757. See also United Nations Development Programme, *Human Development Report, 1994* (New York: Oxford University Press, 1994).
23. Goulet, *Cruel Choice*, p. 90. For an even more provocative discussion of the meaning of individual self-esteem and respect in the context of Latin American development, see Paulo Freire, *Pedagogy of the Oppressed* (New York: Continuum, 1990).
24. W. Arthur Lewis, "Is economic growth desirable?" in *The Theory of Economic Growth* (London: Allen & Unwin, 1963), p. 420. For an outstanding and thoughtful analysis of the importance of freedom in development by a leading Developing World intellectual, see Soedjatmoko, *Primacy of Freedom*. See also Sen, *Development as Freedom*.
25. For a "political freedom index," see United Nations Development Programme, *Human Development Report, 1992* (New York: Oxford University Press, 1992), pp. 20, 26–33. The Heritage Foundation and the *Wall Street Journal* produce an annual "Index of Economic Freedom." For 2014 rankings of 165 countries from "free" to "repressed," see http://www.heritage.org/index/.
26. For a commentary from the UNDP on why its freedom index was discontinued, see United Nations Development Programme, *Human Development Report, 2000*, pp. 90–93, esp. box 5.2, at http://hdr.undp.org/docs/statistics/understanding/resources/HDR2000_5_2_freedom_indices.pdf.
27. United Nations Development Programme, *Human Development Report, 2003—Millennium Development Goals: A Compact among Nations to End Human Poverty* (New York: Oxford University Press, 2003), also available at http://hdr.undp.org/reports/global/2003.
28. The United Nations issues annual reports on progress and challenges toward achieving the MDGs. The 2006 and 2009 reports, on which this section also draws, can be accessed at http://mdgs.un.org. The World Bank also publishes the *Global Monitoring Report* on the MDGs. The 2010 monitoring report found that the global economic crisis slowed progress on poverty reduction, hunger, child and maternal health, access to clean water, and disease control, and is expected to have impacts beyond 2015. See *Global Monitoring Report 2010: The MDGs after the Crisis*, January 1, 2010, at http://web.worldbank.org. See Report of the Secretary-General, *Keeping the Promise: A Forward-Looking Review to*

Promote an Agreed Action Agenda to Achieve the Millennium Development Goals by 2015, February 12, 2010 http://www.un.org/ga/search/view_doc.asp?symbol=A/64/665.

29. Despite some disappointments of slow rates of achievement of several targets in some regions, the September 2010 UN summit to review progress on the MDGs underscored its role as a global rallying point and measure of development success.
30. See Jan Vandemoortele, "Can the MDGs foster a new partnership for pro-poor policies?" in *NGOs and the Millennium Development Goals: Citizen Action to Reduce Poverty*, eds. Jennifer Brinkerhoff, Stephen C. Smith, and Hildy Teegen (New York: Palgrave Macmillan, 2007), and Sabina Alkire with James Foster, "The MDGs: Multidimensionality and Interconnection," at www.ophi.org.uk/wp-content/uploads/OPHI-RP-8a.pdf.
31. High-Level Panel of Eminent Persons on the Post-2015 Development Agenda, *A New Global Partnership: Eradicate Poverty and Transform Economies Through Sustainable Development: The Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda*, May 30, 2013, http://www.post2015hlp.org/featured/high-level-panel-releases-recommendations-for-worlds-next-development-agenda.

2

Comparative Economic Development

Among countries colonized by European powers during the past 500 years, those that were relatively rich in 1500 are now relatively poor….The reversal reflects changes in the institutions resulting from European colonialism.

—Daron Acemoglu, Simon Johnson, and James A. Robinson, 2002

Emerging powers in the developing world are already sources of innovative social and economic policies and are major trade, investment, and increasingly development cooperation partners for other developing countries.

—Helen Clark, Administrator, United Nations Development Programme, 2012

The developing world has made substantial economic development progress in recent years. But the most striking feature of the global economy remains its extreme contrasts. Output per worker in the United States is about 10 times higher than it is in India and more than 50 times higher than in the Democratic Republic of Congo (DRC).[1] In 2011, real income per capita was $48,820 in the United States, $3,640 in India, and $340 in the DRC.[2] If the world were a single country, its income would be distributed more unequally than every nation except Namibia.[3] There are also enormous gaps in measures of welfare. Life expectancy is 79 in the United States, 65 in India, and just 48 in the DRC. The percent of children who are underweight is less than 3% in the United States but 43% in India and 24% in the DRC. Whereas almost all women are literate in the United States, just 51% are in India and 57% in the DRC.[4] How did such wide disparities come about? In today's world, with so much knowledge and with the movement of people, information, and goods and services so rapid and comparatively inexpensive, how have such large gaps managed to persist and even widen? Why have some developing countries made so much progress in closing these gaps while others have made so little?

In this chapter, we introduce the study of comparative economic development. We begin by defining the developing world and describing how development is measured so as to allow for quantitative comparisons across countries. Average income is one, but only one, of the factors defining a country's level of

economic development. This is to be expected, given the discussion of the meaning of development in Chapter 1.

We then consider 10 important features that developing countries tend to have in common, on average, in comparison with the developed world. In each case, we also discover that behind these averages are very substantial differences in all of these dimensions among developing countries that are important to appreciate and take into account in development policy. These areas are the following:

1. Lower levels of living and productivity
2. Lower levels of human capital
3. Higher levels of inequality and absolute poverty
4. Higher population growth rates
5. Greater social fractionalization
6. Larger rural populations but rapid rural-to-urban migration
7. Lower levels of industrialization
8. Adverse geography
9. Underdeveloped financial and other markets
10. Lingering colonial impacts such as poor institutions and often external dependence.

The mix and severity of these challenges largely set the development constraints and policy priorities of a developing nation.

After reviewing these commonalities and differences among developing countries, we further consider key differences between conditions in today's developing countries and those in now developed countries at an early stage of their development, and we examine the controversy over whether developing and developed countries are now converging in their levels of development.

We then draw on recent scholarship on comparative economic development to further clarify how such an unequal world came about and remained so persistently unequal, and we shed some light on the positive factors behind recent rapid progress in a significant portion of the developing world. It becomes quite clear that colonialism played a major role in shaping institutions that set the "rules of the economic game," which can limit or facilitate opportunities for economic development. We examine other factors in comparative development, such as nations' levels of inequality. We will come to appreciate why so many developing countries have such difficulties in achieving economic development but also will begin to see some of the outlines of what can be done to overcome obstacles and encourage faster progress even among today's least developed countries.

The chapter concludes with a comparative case study of Bangladesh and Pakistan.

2.1 Defining the Developing World

The most common way to define the developing world is by per capita income. Several international agencies, including the Organization for Economic Cooperation and Development (OECD) and the United Nations, offer classifications of countries by their economic status, but the best-known system is that of the International Bank for Reconstruction and Development (IBRD), more commonly known as the **World Bank**. (The World Bank is examined in detail in Box 13.2). In the World Bank's classification system, 213 economies with a population of at least 30,000 are ranked by their levels of gross national income (GNI) per capita. These economies are then classified as **low-income countries (LICs)**, lower-middle-income countries (LMCs), upper-middle-income countries (UMCs), high-income OECD countries, and other high-income countries. (Often, LMCs and UMCs are informally grouped as the **middle-income countries**.)

World Bank An organization known as an "international financial institution" that provides development funds to developing countries in the form of interest-bearing loans, grants, and technical assistance.

Low-income countries (LICs) In the World Bank classification, countries with a GNI per capita of less than $1,025 in 2011.

Middle-income countries In the World Bank classification, countries with a GNI per capita between $1,025 and $12,475 in 2011.

With a number of important exceptions, the developing countries are those with low-, lower-middle, or upper-middle incomes. These countries are grouped by their geographic region in Table 2.1, making them easier to identify on the map in Figure 2.1. The most common cutoff points for these categories are those used by the World Bank: Low-income countries are defined as having a per capita gross national income in 2011 of $1,025 or less; lower-middle-income countries have incomes between $1,026 and $4,035; upper-middle-income countries have incomes between $4,036 and $12,475; and high-income countries have incomes of $12,476 or more. Comparisons of incomes for several countries are shown graphically in Figure 2.2.

Note that a number of the countries grouped as "other high-income economies" in Table 2.1 are sometimes classified as developing countries, such as when this is the official position of their governments. Moreover, high-income countries that have one or two highly developed export sectors but in which significant parts of the population remain relatively uneducated or in poor health, or social development is viewed as low for the country's income level, may be viewed as still developing. Examples may include oil exporters such as Saudi Arabia and the United Arab Emirates. Upper-income economies also include some tourism-dependent islands with lingering development problems, which now face daunting climate change adaptation challenges. Even a few of the high-income OECD member countries, notably Portugal and Greece, have been viewed as developing countries at least until recently—a perception that grew again with the ongoing economic crises (e.g., in October 2013 S&P Dow Jones reclassified Greece from "developed market" to "emerging market."). Nevertheless, the characterization of the developing world as sub-Saharan Africa, North Africa and the Middle East, Asia (except for Japan and, more recently South Korea and perhaps two or three other high-income economies), Latin America and the Caribbean, and the "transition" countries of eastern Europe and Central Asia including the former Soviet Union, remains a useful generalization. In contrast, the developed world constituting the core of the high-income OECD is largely comprised of the countries of western Europe, North America, Japan, Australia, and New Zealand.

Sometimes a special distinction is made among upper-middle-income or newly high-income economies, designating some that have achieved relatively

TABLE 2.1 Classification of Economies by Region and Income, 2013

Country	Code	Class
East Asia and the Pacific		
American Samoa‡	ASM	UMC
Cambodia*	KHM	LIC
China	CHN	UMC
Fiji‡	FJI	LMC
Indonesia	IDN	LMC
Kiribati*‡	KIR	LMC
(North) Korea, Dem. Rep.	PRK	LIC
Lao PDR*†	LAO	LMC
Malaysia	MYS	UMC
Marshall Islands‡	MHL	LMC
Micronesia, Fed. Sts.‡	FSM	LMC
Mongolia†	MNG	LMC
Myanmar	MMR	LIC
Palau‡	PLW	UMC
Papua New Guinea‡	PNG	LMC
Philippines	PHL	LMC
Samoa*‡	WSM	LMC
Solomon Islands*‡	SLB	LMC
Thailand	THA	UMC
Timor-Leste*‡	TLS	LMC
Tonga‡	TON	LMC
Tuvalu	TUV	LMC
Vanuatu*‡	VUT	LMC
Vietnam	VNM	LMC
Europe and Central Asia		
Albania	ALB	LMC
Armenia†	ARM	LMC
Azerbaijan†	AZE	LMC
Belarus	BLR	UMC
Bosnia and Herzegovina	BIH	UMC
Bulgaria	BGR	UMC
Georgia	GEO	LMC
Kazakhstan†	KAZ	UMC
Kosovo	KSV	LMC
Kyrgyz Republic†	KGZ	LIC
Latvia	LVA	UMC
Lithuania	LTU	UMC
Macedonia, FYR†	MKD	UMC
Moldova†	MDA	LMC
Montenegro	MNE	UMC
Romania	ROU	UMC
Russian Federation	RUS	UMC
Serbia	SRB	UMC
Tajikistan†	TJK	LIC
Turkey	TUR	UMC
Turkmenistan†	TKM	UMC
Ukraine	UKR	LMC
Uzbekistan†	UZB	LMC
Latin America and the Caribbean		
Antigua and Barbuda	ATG	UMC
Argentina	ARG	UMC
Belize‡	BLZ	LMC
Bolivia†	BOL	LMC
Brazil	BRA	UMC
Chile	CHL	UMC
Colombia	COL	UMC
Costa Rica	CRI	UMC
Cuba‡	CUB	UMC
Dominica‡	DMA	UMC
Dominican Republic‡	DOM	UMC
Ecuador	ECU	UMC
El Salvador	SLV	LMC
Grenada‡	GRD	UMC
Guatemala	GTM	LMC
Guyana‡	GUY	LMC
Haiti*‡	HTI	LIC
Honduras	HND	LMC
Jamaica‡	JAM	UMC
Mexico	MEX	UMC
Nicaragua	NIC	LMC
Panama	PAN	UMC
Paraguay†	PRY	LMC
Peru	PER	UMC
St. Kitts and Nevis‡	KNA	UMC
St. Lucia‡	LCA	UMC
St. Vincent and the Grenadines‡	VCT	UMC
Suriname‡	SUR	UMC
Uruguay	URY	UMC
Venezuela, RB	VEN	UMC
Middle East and North Africa		
Algeria	DZA	UMC
Djibouti*	DJI	LMC
Egypt, Arab Rep.	EGY	LMC
Iran, Islamic Rep.	IRN	UMC
Iraq	IRQ	LMC
Jordan	JOR	LMC
Lebanon	LBN	UMC
Libya	LBY	UMC
Morocco	MAR	LMC
Syrian Arab Rep.	SYR	LMC
Tunisia	TUN	LMC
West Bank and Gaza	WBG	LMC
Yemen, Rep.*	YEM	LMC
South Asia		
Afghanistan*†	AFG	LIC
Bangladesh*	BGD	LIC
Bhutan*†	BTN	LMC
India	IND	LMC
Maldives*‡	MDV	UMC
Nepal*†	NPL	LIC
Pakistan	PAK	LMC
Sri Lanka	LKA	LMC
Sub-Saharan Africa		
Angola*	AGO	UMC
Benin*	BEN	LIC
Botswana†	BWA	UMC
Burkina Faso*†	BFA	LIC
Burundi*†	BDI	LIC
Cameroon	CMR	LMC
Cape Verde‡	CPV	LMC
Central African Rep.*†	CAF	LIC
Chad*†	TCD	LIC
Comoros*‡	COM	LIC
Congo, Dem. Rep.*	COD	LIC
Congo, Rep.	COG	LMC
Côte d'Ivoire	CIV	LMC
Eritrea*	ERI	LIC
Ethiopia*†	ETH	LIC
Gabon	GAB	UMC
Gambia, The*	GMB	LIC
Ghana	GHA	LIC
Guinea*	GIN	LIC
Guinea-Bissau*‡	GNB	LIC
Kenya	KEN	LIC
Lesotho*†	LSO	LMC
Liberia*	LBR	LIC
Madagascar*	MDG	LIC
Malawi*†	MWI	LIC
Mali*†	MLI	LIC
Mauritania*	MRT	LIC
Mauritius‡	MUS	UMC
Mayotte	MYT	UMC
Mozambique*	MOZ	LIC
Namibia	NAM	UMC
Niger*†	NER	LIC
Nigeria	NGA	LMC
Rwanda*†	RWA	LIC
Sao Tome and Principe*‡	STP	LMC
Senegal*	SEN	LMC
Seychelles‡	SYC	UMC
Sierra Leone*	SLE	LIC
Somalia*	SOM	LIC
South Africa	ZAF	UMC
South Sudan	SSD	LIC
Sudan*	SDN	LMC
Swaziland†	SWZ	LMC
Tanzania*	TZA	LIC
Togo*	TGO	LIC
Uganda*†	UGA	LIC
Zambia*†	ZMB	LMC
Zimbabwe†	ZWE	LIC

(*Continued*)

TABLE 2.1 (*Continued*)

Country	Code	Class	Country	Code	Class	Country	Code	Class
High-Income OECD Countries			Spain	ESP		Guam‡	GUM	
Australia	AUS		Sweden	SWE		Hong Kong, China	HKG	
Austria	AUT		Switzerland	CHE		Isle of Man	IMN	
Belgium	BEL		United Kingdom	GBR		Israel	ISR	
Canada	CAN		United States	USA		Kuwait	KWT	
Czech Rep.	CZE		**Other High-Income Economies**			Liechtenstein	LIE	
Denmark	DNK		Andorra	AND		Macao, China	MAC	
Finland	FIN		Antigua and Barbuda‡	ATG		Malta	MLT	
France	FRA		Aruba‡	ABW		Monaco	MCO	
Germany	DEU		Bahamas, The‡	BHS		Netherlands Antilles‡	ANT	
Greece	GRC		Bahrain‡	BHR		New Caledonia‡	NCL	
Hungary	HUN		Barbados‡	BRB		Northern Mariana Islands‡	MNP	
Iceland	ISL		Bermuda	BMU		Oman	OMN	
Ireland	IRL		Brunei Darussalam	BRN		Poland	POL	
Italy	ITA		Cayman Islands	CYM		Puerto Rico‡	PRI	
Japan	JPN		Channel Islands	CHI		Qatar	QAT	
Korea, Rep. (South)	KOR		Croatia	HRV		San Marino	SMR	
Luxembourg	LUX		Cyprus	CYP		Saudi Arabia	SAU	
Netherlands	NLD		Estonia	EST		Singapore‡	SGP	
New Zealand	NZL		Equatorial Guinea*	GNQ		Slovenia	SVN	
Norway	NOR		Faeroe Islands	FRO		Taiwan, China	TWN	
Portugal	PRT		French Polynesia‡	PYF		Trinidad and Tobago‡	TTO	
Slovak Republic	SVK		Greenland	GRL		United Arab Emirates	ARE	

* least developed countries
† landlocked developing countries
‡ small island developing states

Source: Data from World Bank, *World Development Indicators*, 2013 (Washington, D.C.: World Bank, 2013) and WDI online; United Nations; and http://www.iso.org.

Newly industrializing countries (NICs) Countries at a relatively advanced level of economic development with a substantial and dynamic industrial sector and with close links to the international trade, finance, and investment system.

Least developed countries A UN designation of countries with low income, low human capital, and high economic vulnerability.

Human capital Productive investments in people, such as skills, values, and health resulting from expenditures on education, on-the-job training programs, and medical care.

advanced manufacturing sectors as **newly industrializing countries (NICs)**. Yet another way to classify the nations of the developing world is through their degree of international indebtedness; the World Bank has classified countries as severely indebted, moderately indebted, and less indebted. The United Nations Development Programme (UNDP) classifies countries according to their level of human development, including health and education attainments as low, medium, high, and very high. We consider the traditional and new UNDP Human Development Indexes in detail later in the chapter.

Another widely used classification is that of the **least developed countries**, a UN designation that as of 2012 included 49 countries, 34 of them in Africa, 9 in Asia, 5 among Pacific Islands, plus Haiti. For inclusion, a country has to meet each of three criteria: low income, low **human capital**, and high economic vulnerability. Other special UN classifications include landlocked developing countries (of which there are 30, with 15 of them in Africa) and small island developing states (of which there are 38).[5]

Finally, the term *emerging markets* was introduced at the International Finance Corporation to suggest progress (avoiding the then-standard phrase *Third World* that investors seemed to associate with stagnation). While the term is appealing, we do not use it in this text for three reasons. First, *emerging market* is widely used in the financial press to suggest the presence of active

stock and bond markets; although financial deepening is important, it is only one aspect of economic development. Second, referring to nations as *markets* may lead to an underemphasis on some non-market priorities in development. Third, usage varies, and there is no established or generally accepted designation of which markets should be labeled as *emerging* and which as yet to emerge (the latter now sometimes dubbed *frontier markets* in the financial press).

The simple division of the world into developed and developing countries is sometimes useful for analytical purposes. Many development models apply across a wide range of developing country income levels. However, the wide income range of the latter serves as an early warning for us not to overgeneralize. Indeed, the economic differences between low-income countries in sub-Saharan Africa and South Asia and upper-middle-income countries in East Asia and Latin America can be even more profound than those between high-income OECD and upper-middle-income developing countries.

2.2 Basic Indicators of Development: Real Income, Health, and Education

In this section, we examine basic indicators of three facets of development: real income per capita adjusted for purchasing power; health as measured by life expectancy, undernourishment, and child mortality; and educational attainments as measured by literacy and schooling.

Purchasing Power Parity

In accordance with the World Bank's income-based country classification scheme, **gross national income (GNI)** per capita, the most common measure of the overall level of economic activity, is often used as a summary index of the relative economic well-being of people in different nations. It is calculated as the total domestic and foreign **value added** claimed by a country's residents without making deductions for **depreciation** (or wearing out) of the domestic **capital stock**. **Gross domestic product (GDP)** measures the total value for final use of output produced by an economy, by both residents and nonresidents. Thus, GNI comprises GDP plus the difference between the income residents receive from abroad for factor services (labor and capital) less payments made to nonresidents who contribute to the domestic economy. Where there is a large nonresident population playing a major role in the domestic economy (such as foreign corporations), these differences can be significant (see Chapter 12). In 2011, the total national income of all the nations of the world was valued at more than U.S. $66 trillion, of which about $47 trillion originated in the economically developed high-income regions and about $19 trillion was generated in the less developed nations, despite their representing about five-sixths of the world's population. In 2011, Norway had 240 times the per capita income of Ethiopia and 63 times that of India.

Per capita GNI comparisons between developed and less developed countries like those shown in Figure 2.2 are, however, exaggerated by the use of official foreign-exchange rates to convert national currency figures into U.S. dollars. This conversion does not measure the relative domestic purchasing

Gross national income (GNI) The total domestic and foreign output claimed by residents of a country, consisting of gross domestic product (GDP) plus factor incomes earned by foreign residents, minus income earned in the domestic economy by nonresidents.

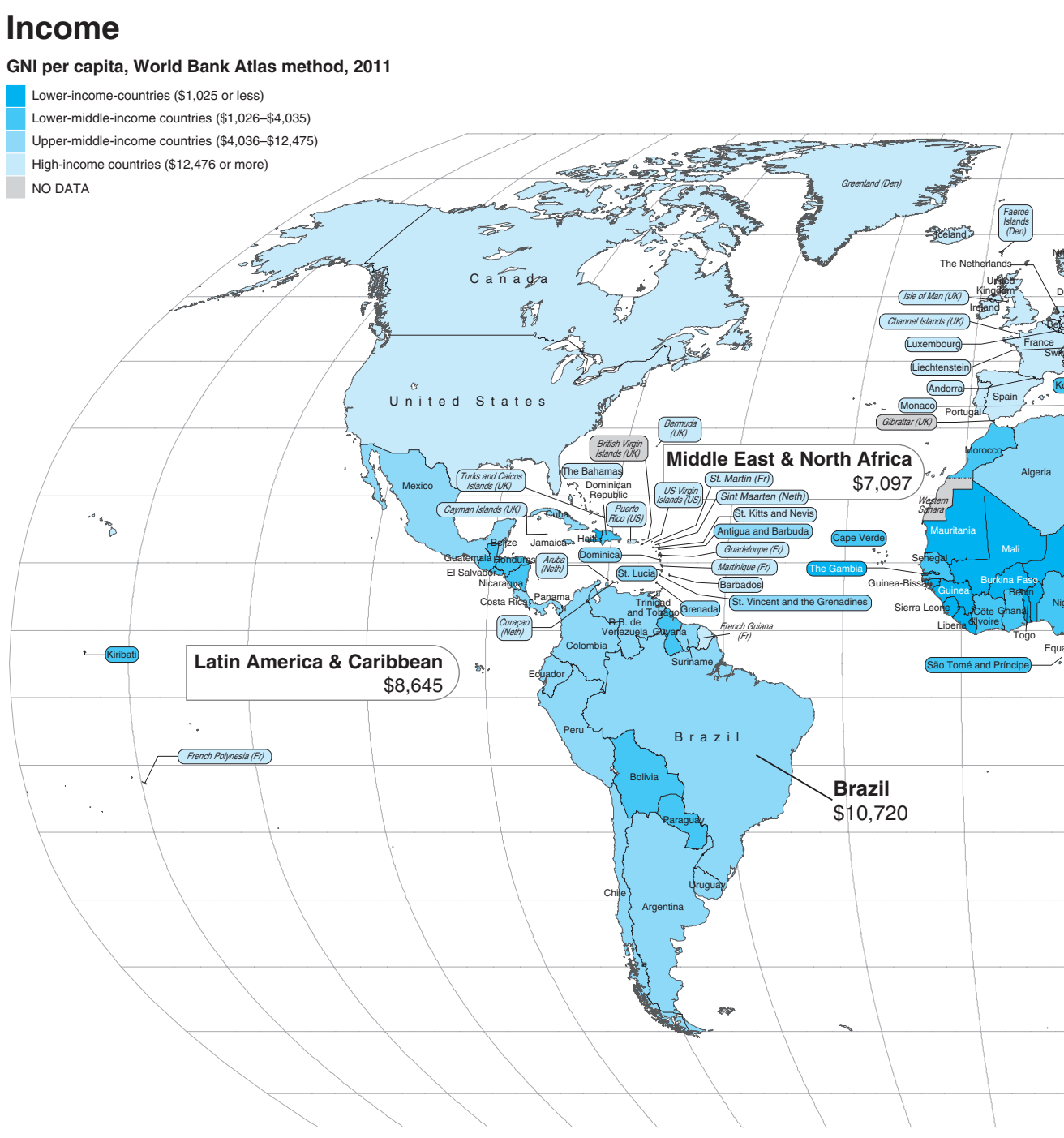
Value added The portion of a product's final value that is added at each stage of production.

Depreciation (of the capital stock) The wearing out of equipment, buildings, infrastructure, and other forms of capital, reflected in write-offs to the value of the capital stock.

Capital stock The total amount of physical goods existing at a particular time that have been produced for use in the production of other goods and services.

Gross domestic product (GDP) The total final output of goods and services produced by the country's economy within the country's territory by residents and nonresidents, regardless of its allocation between domestic and foreign claims.

FIGURE 2.1 Nations of the World, Classified by GNI Per Capita



Source: Data from *Atlas of Global Development*, 4th ed., pp. 16-17: World Bank and Collins. 2013. *ATLAS OF GLOBAL DEVELOPMENT: A VISUAL GUIDE TO THE WORLD'S GREATEST CHALLENGES, FOURTH EDITION*. Washington, DC and Glasgow: World Bank and Collins. doi: 10.1596/978-0-8213-9757-2. License: Creative Commons Attribution CC BY 3.0

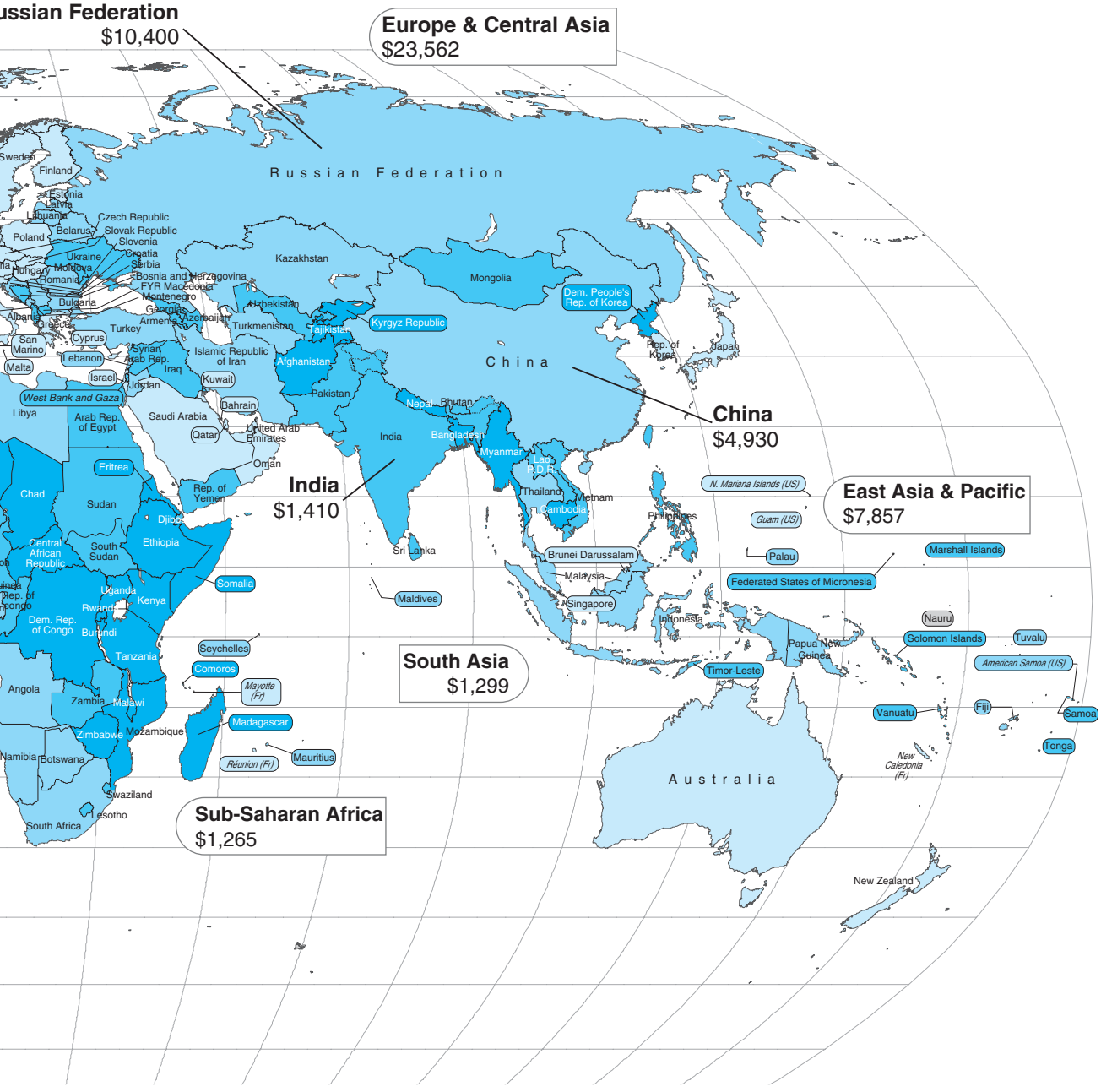
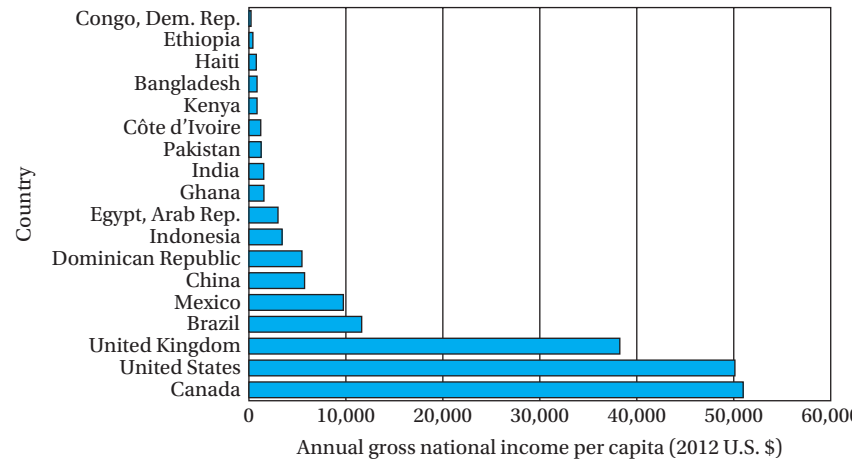


FIGURE 2.2 Income Per Capita in Selected Countries, 2011



Source: Data from World Bank, *World Development Indicators, 2013* (Washington, D.C.: World Bank, 2013), tab. 1.1.

Purchasing power parity (PPP) Calculation of GNI using a common set of international prices for all goods and services, to provide more accurate comparisons of living standards.

power of different currencies. In an attempt to rectify this problem, researchers have tried to compare relative GNIs and GDPs by using **purchasing power parity (PPP)** instead of exchange rates as conversion factors. PPP is calculated using a common set of international prices for all goods and services. In a simple version, *purchasing power parity* is defined as the number of units of a foreign country's currency required to purchase the identical quantity of goods and services in the local developing country market as $1 would buy in the United States. In practice, adjustments are made for differing relative prices across countries so that living standards may be measured more accurately.[6] Generally, prices of nontraded services are much lower in developing countries because wages are so much lower. Clearly, if domestic prices are lower, PPP measures of GNI per capita will be higher than estimates using foreign-exchange rates as the conversion factor. For example, China's 2011 GNI per capita was only 10% of that of the United States using the exchange-rate conversion but rises to 17% when estimated by the PPP method of conversion. Income gaps between developed and developing nations thus tend to be less when PPP is used.

Table 2.2 provides a comparison of exchange rate and PPP GNI per capita for 30 countries, 10 each from Africa, Asia, and Latin America, plus Canada, the United Kingdom and the United States. In the first column of Table 2.2, incomes are measured at market or official exchange rates and suggest that income of a person in the United States is 242 times that of a person in the DRC. But this is unbelievable, as many services cost much less in the DRC than in the United States. The PPP rates give a better sense of the amount of goods and services that could be bought evaluated at U.S. prices and suggest that real U.S. incomes are closer to 135 *times* that of the DRC—still a level of inequality that stretches the imagination. Overall, the average real (PPP) income per capita in

TABLE 2.2 A Comparison of Per Capita GNI in Selected Developing Countries, the United Kingdom, and the United States, Using Official Exchange-Rate and Purchasing Power Parity Conversions, 2011

	GNI Per Capita (U.S. $)	
Country	Exchange Rate	Purchasing Power Parity
Bangladesh	770	1,910
Bolivia	2,020	4,890
Botswana	7,070	15,550
Brazil	10,700	11,410
Cambodia	800	2,180
Canada	46,730	41,390
Chile	12,270	19,820
China	4,940	8,390
Colombia	6,090	9,600
Congo, Dem. Rep.	200	360
Costa Rica	7,660	11,910
Côte d'Ivoire	1,140	1,780
Dominican Republic	5,190	9,350
Egypt, Arab Rep.	2,760	6,440
Ghana	1,420	1,830
Guatemala	2,870	4,760
Haiti	700	1,190
India	1,450	3,680
Indonesia	2,930	4,480
Kenya	810	1,690
Korea, Rep.	20,870	29,860
Mexico	8,970	15,930
Niger	330	600
Nigeria	1,260	2,270
Pakistan	1,120	2,880
Peru	5,120	9,390
Philippines	2,200	4,120
Senegal	1,070	1,940
Thailand	4,620	8,710
Uganda	470	1,230
United Kingdom	37,840	35,950
United States	48,550	48,820
Vietnam	1,270	3,250
Low income	554	1,310
Middle income	3,923	6,802
High income	36,390	36,472

Source: Data from World Bank, *World Development Indicators, 2013* (Washington, D.C.: World Bank, 2013), tab. 1.1.

high-income countries is more than 28 times that in low-income countries and more than 5 times higher than in middle-income countries.

Indicators of Health and Education

Besides average incomes, it is necessary to evaluate a nation's average health and educational attainments, which reflect core capabilities. Table 2.3 shows some basic indicators of income, health (the under-5 mortality rate for 1990 and 2011, plus the rate of malnutrition and life expectancy), and education

TABLE 2.3 Commonality and Diversity: Some Basic Indicators

	Prevalence of Malnutrition Underweight % of Children Under Age 5	Primary Completion Rate Total % of Relevant Age Group		Under-5 Mortality Rate Total per 1,000 Live Births		Life Expectancy
	2005-11	1991	2011	1990	2011	
Bangladesh	41.3	46	..	139	46	69
Bolivia	4.5	71	95	120	51	67
Botswana	11.2	89	97	53	26	53
Brazil	2.2	92	..	58	16	73
Cambodia	29	38	90	117	43	63
Central African Republic	28	28	43	169	164	48
Chile	0.5	..	95	19	9	79
China	3.4	109	..	49	15	73
Colombia	3.4	73	112	34	18	74
Congo, Dem. Rep.	28.2	49	61	181	168	48
Costa Rica	1.1	80	99	17	10	79
Côte d'Ivoire	29.4	43	59	151	115	55
Cuba	1.3	94	99	13	6	79
Dominican Republic	3.4	63	92	58	25	73
Egypt, Arab Rep.	6.8	..	98	86	21	73
Ethiopia	29.2	23	58	198	77	59
Ghana	14.3	65	94	121	78	64
Guatemala	13	..	86	78	30	71
India	43.5	63	97	114	61	65
Indonesia	18.6	89	108	82	32	69
Mexico	3.4	88	104	49	16	77
Mozambique	18.3	27	56	226	103	50
Niger	39.9	18	46	314	125	55
Nigeria	26.7	..	74	214	124	52
Pakistan	30.9	..	67	122	72	65
Peru	4.5	..	97	75	18	74
Philippines	20.7	89	92	57	25	69
Senegal	19.2	41	63	136	65	59
Uganda	16.4	..	55	178	90	54
Vietnam	20.2	..	104	50	22	75
Low income	22.6	46	67	164	95	59
Middle income	16	83	94	82	46	69
High income	1.7	97	101	12	6	79
East Asia & Pacific	5.5	84	..	..	21	72
Latin America & Caribbean	3.1	84	102	53	19	74
Middle East & North Africa	6.3	77	91	70	32	72
South Asia	33.2	63	88	119	62	66
Sub-Saharan Africa	21.4	52	69	178	109	55

Note: Some of the specific countries listed in Table 2.3 differ from those listed in Table 2.2 due to differing availability of the most recent comparable data by topic; for example, primary completion rate was not available for Haiti; and income was not available for Cuba.

Source: World Bank, *World Development Indicators 2013*, and World Bank WDI online, accessed 1 August 2013.

(the primary completion rate for 1991 and 2011). (Each country's region and income grouping can be found in Table 2.1). Life expectancy is the average number of years newborn children would live if subjected to the mortality risks prevailing for their cohort at the time of their birth. Undernourishment means consuming too little food to maintain normal levels of activity; it is what is often called the problem of hunger. High fertility can be both a cause and a consequence of underdevelopment, so the birth rate is reported as another basic indicator. Literacy is the fraction of adult males and females reported or estimated to have basic abilities to read and write; functional literacy is generally lower than the reported numbers.

Table 2.3 shows these data for the low-, lower-middle-, upper-middle-, and high-income country groups. The table also shows averages from five developing regions (East Asia and the Pacific, Latin America and the Caribbean, the Middle East and North Africa, South Asia, and sub-Saharan Africa) and from 30 illustrative countries balanced across developing regions similar to those in Table 2.2 (with a few substitutions due to data availability).

Note that in addition to big differences across these income groupings, the low-income countries are themselves a very diverse group with greatly differing development challenges.

For example, even Bangladesh has a real income that is now more than five times greater than the DRC; and India's income is more than 10 times greater. Under-5 malnutrition (underweight) is higher in Bangladesh, at 41.3%, than DRC (a still very high 28.2%). The under-5 mortality rate in Bangladesh is 46, while that of the DRC is nearly quadruple that number at 168. Life expectancy in Congo is just 48, compared with 69 in Bangladesh. But while India and Bangladesh clearly do better overall than countries like the DRC, most low- and lower-middle-income countries still face enormous development challenges as seen by comparing these statistics even to Botswana, Peru, or Thailand

2.3 Holistic Measures of Living Levels and Capabilities

The New Human Development Index

The most widely used measure of the comparative status of socioeconomic development is presented by the United Nations Development Programme (UNDP) in its annual series of *Human Development Reports*. The centerpiece of these reports, which were initiated in 1990, is the construction and refinement of its informative **Human Development Index (HDI)**. This section examines the New HDI, initiated in 2010 (the well-known traditional HDI—the UNDP centerpiece from 1990–2009—is examined in detail in Appendix 2.1). Box 2.2 summarizes "What Is New in the New HDI."

Human Development Index (HDI) An index measuring national socioeconomic development, based on combining measures of education, health, and adjusted real income per capita.

The New HDI, like its predecessor, ranks each country on a scale of 0 (lowest human development) to 1 (highest human development) based on three goals or end products of development: *a long and healthy life* as measured by life expectancy at birth; *knowledge* as measured by a combination of average schooling attained by adults and expected years of schooling for school-age children; and a *decent standard of living* as measured by real per capita gross

Diminishing marginal utility The concept that the subjective value of additional consumption lessens as total consumption becomes higher.

domestic product adjusted for the differing purchasing power parity of each country's currency to reflect cost of living and for the assumption of **diminishing marginal utility** of income.

There are two steps in calculating the New HDI: first, creating the three "dimension indices"; and second, aggregating the resulting indices to produce the overall New Human Development Index (NHDI).

After defining the relevant minimum and maximum values (or lower and upper "goalposts"), each dimension index is calculated as a ratio that basically is given by the percent of the distance above the minimum to the maximum levels that a country has attained.

$$\text{Dimension index} = \frac{\textit{Actual Value} - \textit{Minimum Value}}{\textit{Maximum Value} - \textit{Minimum Value}} \tag{2.1}$$

The health (or "long and healthy life") dimension of the New HDI is calculated with a life expectancy at birth index, which takes a minimum value of 20 years and a maximum value of 83.57 years (the observed maximum value for any country). For example, for the case of Ghana this is:

$$\text{Life expectancy index} = (64.6 - 20)/(83.6 - 20) = 0.701 \tag{2.2}$$

The education ("knowledge") component of the HDI is calculated with a combination of the average years of schooling for adults aged 25 and older and expected years of schooling for a school-age child now entering school. As explained by the UNDP, these indicators are normalized using a minimum value of 0, and maximum values are set to the actual observed maximum value of mean years of schooling from the countries in the time series, 1980–2012, which is 13.3 years estimated for the United States in 2010. For Ghana, the average years of schooling among adults is 7 years, so the mean years of schooling subindex is calculated as:

$$(7.0 - 0)/(13.3 - 0) = 0.527 \tag{2.3}$$

We can think of this as saying that Ghana is about 53% of the way to the global standard of average education.

In considering expected future education, the highest value (cap, or "goalpost") is given as 18 years (which we may think of as approximately corresponding to a master's degree).

For Ghana, the expected number of years of schooling for a child entering school now is estimated at 11.4 years. The expected years of schooling subindex is then calculated as:

$$(11.4 - 0)/(18.0 - 0) = 0.634 \tag{2.4}$$

The education index is then calculated as a version of the geometric mean of the two subindexes.[7]

The standard of living (income) component is calculated using purchasing-power-adjusted per-capita gross national income (GNI). For Ghana, the income index then is (where ln stands for natural log):

$$\text{Income index} = [\ln(1{,}684) - \ln(100)]/[\ln(87{,}478) - \ln(100)] = 0.417 \tag{2.5}$$

Using these three measures of development and applying the formula to data for all 187 countries for which data is available, the HDI currently ranks countries into four groups: low human development (0.0 to 0.535), medium human development (0.536 to 0.711), high human development (0.712 to 0.799), and very high human development (0.80 to 1.0).

The component indexes of the NHDI are computed by taking the difference between the country's actual achievement and the minimum goalpost value, and then dividing the result by the difference between the overall maximum goalpost and minimum goalpost values. But in calculating the overall index, in place of the arithmetic mean, a geometric mean of the three indexes is used (a geometric mean is also used to build up the overall education index from its two components).

Let's look at why this change is important and how the calculations are done.

Computing the NHDI The use of a geometric mean in computing the New HDI is very important. When using an arithmetic mean (adding up the component indexes and dividing by 3) in the HDI, the effect is to assume perfect substitutability across income, health, and education. For example, a higher value of the education index could compensate, one for one, for a lower value of the health index. In contrast, use of a geometric mean ensures that poor performance in any dimension directly affects the overall index. Thus, allowing for imperfect substitutability is a beneficial change; but there is active debate about whether using the geometric mean is the most appropriate way to accomplish this.[8]

Thus, as the UNDP notes, the new calculation "captures how well rounded a country's performance is across the three dimensions." Moreover, the UNDP argues "that it is hard to compare these different dimensions of well-being and that we should not let changes in any of them go unnoticed."

So in the New HDI, instead of adding up the health, education, and income indexes and dividing by 3, the New HDI is calculated with the geometric mean:

$$\text{NHDI} = \text{H}^{1/3}\text{E}^{1/3}\text{I}^{1/3} \tag{2.6}$$

where *H* stands for the health index, *E* stands for the education index, and *I* stands for the income index. This is equivalent to taking the cube root of the product of these three indexes. The calculations of the NHDI are illustrated for Ghana in Box 2.1.

Table 2.4 shows the 2013 values of the New HDI for a set of 31 countries. South Korea has achieved the status of a fully developed country, ranking below Canada but above the United Kingdom. Countries such as the United Arab Emirates, Turkey, Guatemala, Gabon, Côte d'Ivoire, Pakistan, Papua New Guinea, and South Africa perform more poorly on the New HDI than would be predicted from their income level, while the reverse is true of South Korea, Chile, Bangladesh, Cuba, Madagascar, and Ghana. Countries such as Russia, Mexico, India, and Niger perform on the New HDI just about as predicted by their income levels.

Income predicts rather weakly how countries will perform on education and health, or on the NHDI in particular. For example, Cuba and Egypt have nearly the same real income per person, but Cuba ranks 59th on the New HDI (44 points

BOX 2.1 Computing the New HDI: Ghana

Example: Ghana

Indicator	Value
Life expectancy at birth (years)	64.6
Mean years of schooling	7.0
Expected years of schooling	11.4
GNI per capita (PPP $)	1,684
Indexes	

Note: Values are rounded.

$$\text{Life expectancy index} = \frac{64.6 - 20}{83.6 - 20} = 0.701$$

$$\text{Mean years of schooling index} = \frac{7.0 - 0}{13.3 - 0} = 0.527$$

$$\text{Expected years of schooling index} = \frac{11.4 - 0}{18.0 - 0} = 0.634$$

$$\text{Education index} = \frac{\sqrt{0.527 \times 0.634} - 0}{0.971 - 0} = 0.596$$

$$\text{Income index} = \frac{\ln(1{,}684) - \ln(100)}{\ln(87{,}478) - \ln(100)} = 0.417$$

Human Development Index

$$= \sqrt[3]{0.701 \times 0.558 \times 0.417} = 0.596$$

UN income estimate will differ somewhat from World Bank estimate.

Source: UNDP, *Human Development Report, 2013*, Technical Notes (online):, http://hdr.undp.org/en/media/HDR%202013%20technical%20notes%20EN.pdf.

above where predicted by its income level) and Egypt ranks 112th (6 below where predicted by income). Mexico and Gabon have a very similar income, but Mexico is 4 places above what would be predicted by its income and Gabon is 40 points below. Bangladesh and Pakistan have an identical New HDI ranking, but Pakistan has a much higher income, and Bangladesh is 9 places higher than expected while Pakistan is 9 places below; see the case study at the end of this chapter for a detailed examination of diverging development in these two countries.

The UNDP now also offers the Inequality-Adjusted Human Development Index (IHDI)—which imposes a penalty on the HDI that increases as inequality across people becomes greater—and the Gender Inequality Index (GII), as well as an important innovation, the Multidimensional Poverty Index (MPI), which is examined in detail in Chapter 5.

Clearly, the Human Development Index, in its Traditional as well as New forms, has made a major contribution to improving our understanding of what constitutes development, which countries are succeeding (as reflected by rises in their NHDI over time), and how different groups and regions within countries are faring. By combining social and economic data, the NHDI allows nations to take a broader measure of their development performance, both relatively and absolutely.

Although there are some valid criticisms, the fact remains that the New HDI and its Traditional version considered in Appendix 2.1, when used in

TABLE 2.4 2013 New Human Development Index and its Components for Selected Countries

Country	NHDI Rank	Life Expectancy at Birth	Mean Yrs Schooling (of Adults)	Expected Years Schooling (of children)	GNI Per Capita	New HDI value	GNI Per Capita Rank Minus HDI Rank
United States	3	78.7	13.3	16.8	43,480	0.937	6
Canada	11	81.1	12.3	15.1	35,369	0.911	5
South Korea	12	80.7	11.6	17.2	28,231	0.909	15
United Kingdom	26	80.3	9.4	16.4	32,538	0.875	5
Chile	40	79.3	9.7	14.7	14,987	0.819	13
United Arab Emirates	41	76.7	8.9	12	42,716	0.818	–31
Russian Federation	55	69.1	11.7	14.3	14,461	0.788	0
Cuba	59	79.3	10.2	16.2	5,539	0.78	44
Mexico	61	77.1	8.5	13.7	12,947	0.775	4
Costa Rica	62	79.4	8.4	13.7	10,863	0.773	12
Brazil	85	73.8	7.2	14.2	10,152	0.73	–8
Turkey	90	74.2	6.5	12.9	13,710	0.722	–32
Sri Lanka	92	75.1	9.3	12.7	5,170	0.715	18
China	101	73.7	7.5	11.7	7,945	0.699	–11
Gabon	106	63.1	7.5	13	12,521	0.683	–40
Egypt	112	73.5	6.4	12.1	5,401	0.662	–6
Botswana	119	53	8.9	11.8	13,102	0.634	–55
South Africa	121	53.4	6.7	10.6	9,594	0.629	–42
Guatemala	133	71.4	4.1	10.7	4,235	0.581	–14
Ghana	135	64.6	7	11.4	1,684	0.558	22
Equatorial Guinea	136	51.4	5.4	7.9	21,715	0.554	–97
India	136	65.8	4.4	10.7	3,285	0.554	–3
Kenya	145	57.7	7	11.1	1,541	0.519	15
Bangladesh	146	69.2	4.8	8.1	1,785	0.515	9
Pakistan	146	65.7	4.9	7.3	2,566	0.515	–9
Madagascar	151	66.9	5.2	10.4	828	0.483	28
Papua New Guinea	156	63.1	3.9	5.8	2,386	0.466	–15
Côte d'Ivoire	168	56	4.2	6.5	1,593	0.432	–9
Burkina Faso	183	55.9	1.3	6.9	1,202	0.343	–18
Chad	184	49.9	1.5	7.4	1,258	0.34	–20
Niger	186	55.1	1.4	4.9	701	0.304	–4

Source: 2013 Human Development Report 2013, Table 1, pages 144-147 (New York: United Nations Development Programme, 2013)

conjunction with other economic measures of development, greatly increase our understanding of which countries are experiencing development and which are not. And by modifying a country's overall NHDI to reflect income distribution, gender, regional, and ethnic differentials, as presented in recent Human Development Reports, we are now able to identify not only whether a country is developing but also whether various significant groups within that country are participating in that development.[9]

2.4 Characteristics of the Developing World: Diversity within Commonality

As noted earlier, there are important historical and economic commonalities among developing countries that have led to their economic development

BOX 2.2 What Is New in the New Human Development Index

In November 2010, the UNDP introduced its New Human Development Index (NHDI), which has eight notable changes, each with strengths but also a few potential drawbacks.

1. Gross national income (GNI) per capita replaces gross domestic product (GDP) per capita. This should be an unambiguous improvement: GNI reflects what citizens can do with income they receive, whereas that is not true of value added in goods and services produced in a country that go to someone outside it, and income earned abroad still benefits some of the nation's citizens. As trade and remittance flows have been expanding rapidly, and as aid has been better targeted to very low-income countries, this distinction has become increasingly important.
2. The education index has been completely revamped. Two new components have been added: the average actual educational attainment of the whole population and the expected attainment of today's children. Each of these changes to the index has implications. Use of actual attainment—average years of schooling—as an indicator is unambiguously an improvement. Estimates are regularly updated, and the statistic is easily compared quantitatively across countries. And even though it is at best a very rough guide to what is actually learned—on average, a year of schooling in Mali provides students with much less than a year of schooling in Norway—this is the best measure we have at present because more detailed data on quality that are credible and comparable are simply not available.
3. Expected educational attainment, the other new component, is somewhat more ambiguous: It is not an achievement but a UN forecast. History shows that much can go wrong to derail development plans. Nevertheless, there have also been many development upside surprises, such as rapid improvements in educational attainment in some countries; there is a risk that low expectations will prove discouraging. Note that life expectancy, which remains the indicator for health, is also a projection based on prevailing conditions.
4. The two previous components of the education index, literacy and enrollment, have been correspondingly dropped. In contrast to expected attainment, literacy is clearly an achievement, and even enrollment is at least a modest achievement. However, literacy has always been badly and too infrequently measured and is inevitably defined more modestly in a less developed country. And enrollment is no guarantee that a grade will be completed or for that matter that anything is learned or that students (or teachers) even attend.
5. The upper goalposts (maximum values) in each dimension have been increased to the observed maximum rather than given a predefined cutoff. In some ways, this returns the index to its original design, which was criticized for inadequately recognizing small gains by countries starting at very low levels.
6. The lower goalpost for income has been reduced. This is based on updated estimates for the historic low for recorded income for any country.[10]
7. Another minor difference is that rather than using the common logarithm (log) to reflect diminishing marginal benefit of income, the NHDI now uses the natural log (ln), as used in the fifth equation in Box 2.1. This reflects a more usual construction of indexes.
8. Possibly the most consequential change is that the NHDI is computed with a geometric mean rather than a simple arithmetic mean, as examined previously.

problems being studied within a common analytical framework in development economics. These widely shared problems are examined here in detail on an issue-by-issue basis. At the same time, however, it is important to bear in mind that there is a great deal of diversity throughout the developing world, even within these areas of broad commonality. The wide range of income, health, education, and HDI indicators already reviewed is sometimes called a "ladder of development."[11] Different development problems call for different specific policy responses and general development strategies. This section examines the 10 major areas of "diversity within commonality" in the developing world.

Lower Levels of Living and Productivity

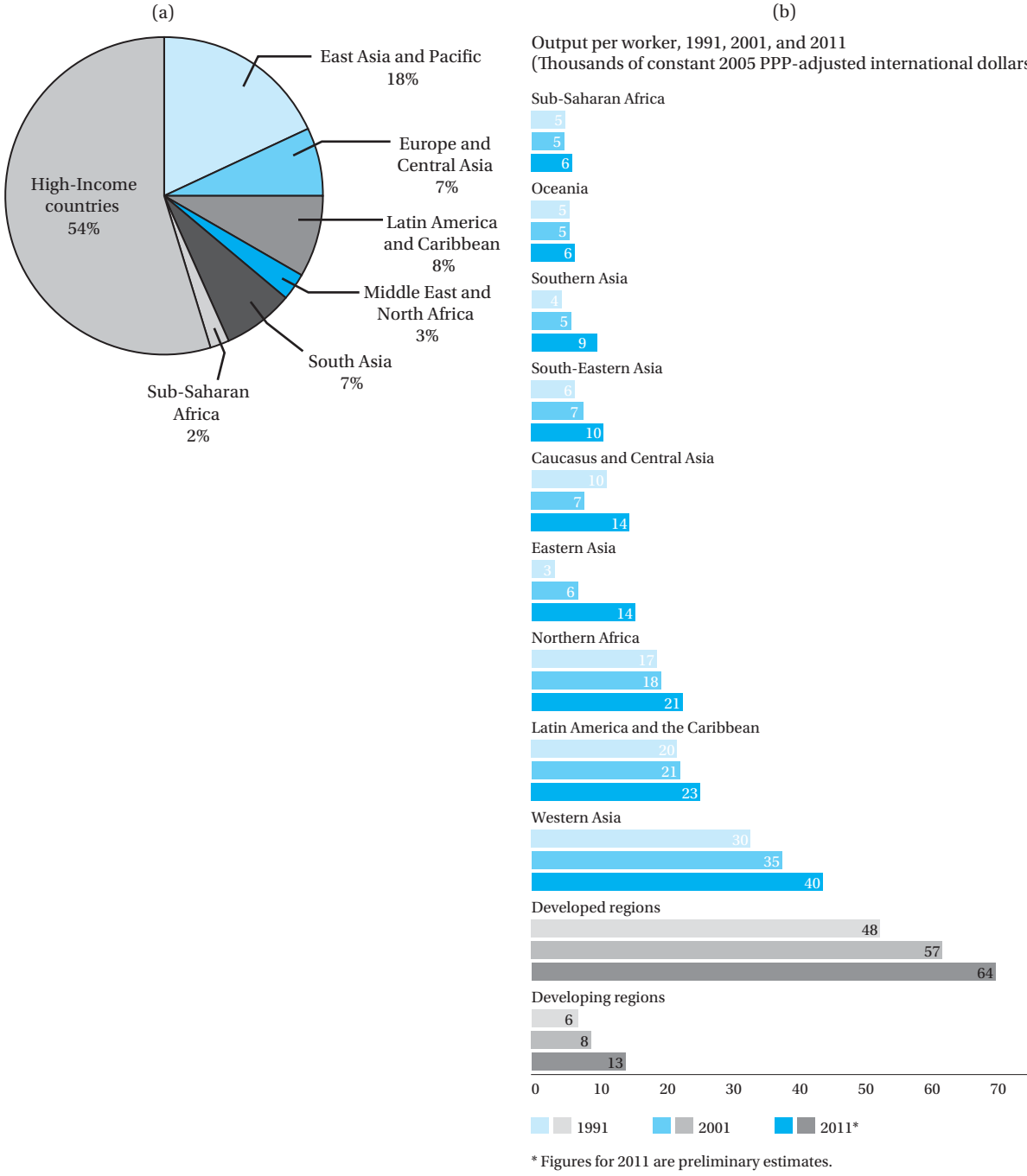
As we noted at the outset of the chapter, there is a vast gulf in productivity between advanced economies such as the United States and developing nations, including India and the DRC, but also a wide range among these and other developing countries. And as we have seen, all countries with averages below what is defined as high income are considered developing in most taxonomies (and some in the high-income range as defined by the World Bank are still considered developing). The lower average levels but wide ranges of income in developing areas are seen in Table 2.3. Even when adjusted for purchasing power parity and despite extraordinary recent growth in China and India, the low- and middle-income developing nations, with more than five-sixths (84%) of the world's people, received only about 46% of the world's income in 2011, as seen in Figure 2.3a. Though resulting from a number of deeper causes, the wide disparity in income largely corresponds to the large gaps in output per worker between developing and developed countries as seen in Figure 2.3b.[12]

At very low income levels, in fact, a vicious circle may set in, whereby low income leads to low investment in education and health as well as plant and equipment and infrastructure, which in turn leads to low productivity and economic stagnation. This is known as a *poverty trap* or what Nobel laureate Gunnar Myrdal called "circular and cumulative causation."[13] However, it is important to stress that there are ways to escape from low income, as you will see throughout this book. Further, the low-income countries are themselves a very diverse group with greatly differing development challenges.[14]

Some star performers among now high-income economies such as South Korea and Taiwan were once among the poorest in the world. Some middle-income countries are also relatively stagnant, but others are growing rapidly—China most spectacularly, as reviewed in the case study at the end of Chapter 4. Indeed, income growth rates have varied greatly in different developing regions and countries, with rapid growth in East Asia, slow or even no growth in sub-Saharan Africa, and intermediate levels of growth in other regions. Problems of igniting and then sustaining economic growth are examined in depth in Chapters 3 and 4.

One common misperception is that low incomes result from a country's being too small to be self-sufficient or too large to overcome economic inertia. However, there is no necessary correlation between country size in population or area and economic development (in part because each has different advantages and disadvantages that can offset each other).[15]

FIGURE 2.3 (a) Shares of Global Income, 2008. (b) Developing regions lag far behind the developed world in productivity measured as output per worker.



Source: Figure 2.3a, Data from World Bank, *World Development Indicators 2013* (Washington, D. C.: World Bank, 2013), p.24. Figure 2.3b, United Nations, *Millenium Development Goals Report 2012*, p.9.

TABLE 2.5 The 12 Most and Least Populated Countries and Their Per Capita Income, 2008

Most Populous	Population (millions)	GNI Per Capita (U.S. $)	Least Populous[a]	Population (thousands)	GNI Per Capita (U.S. $)
1. China	1,325	2,940	1. Palau	20	8,630
2. India	1,140	1,040	2. St. Kitts and Nevis	49	10,870
3. United States	304	47,930	3. Marshall Islands	60	3,270
4. Indonesia	227	1,880	4. Dominica	73	4,750
5. Brazil	192	7,300	5. Antigua and Barbuda	87	13,200
6. Pakistan	166	950	6. Seychelles	87	10,220
7. Bangladesh	160	520	7. Kiribati	97	2,040
8. Nigeria	151	1,170	8. Tonga	104	2,690
9. Russian Federation	142	9,660	9. Grenada	104	5,880
10. Japan	128	38,130	10. St. Vincent and the Grenadines	109	5,050
11. Mexico	106	9,990	11. Micronesia	110	2,460
12. Philippines	90	1,890	12. São Tomé and Príncipe	160	1,030

[a]Criteria for inclusion in the least-populous rankings: United Nations member as of mid-2010, with 2008 comparable population and GNI per capita data in tab. 1.6 in the source.

Source: The World Bank, *World Development Indicators, 2010* (Washington, D.C.: World Bank, 2010), tabs 1.1 and 1.6.

The 12 most populous countries include representatives of all four categories: low-, lower-middle-, upper-middle-, and high-income countries (see Table 2.5). The 12 least populous on the list include primarily lower-middle- and upper-middle-income countries, although the 12th least populous country, São Tomé and Príncipe, has a per capita income of just $1,030. And four very small but high-income European countries that are UN members (Andorra, Monaco, Liechtenstein, and San Marino) would appear on the list if comparable World Bank income data were available.

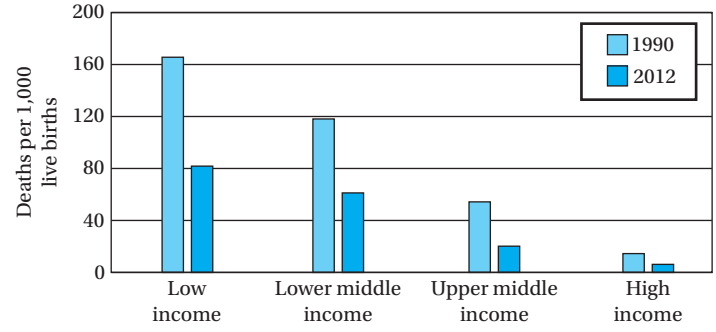
Lower Levels of Human Capital

Human capital—health, education, and skills—is vital to economic growth and human development. We have already noted the great disparities in human capital around the world while discussing the Human Development Index. Compared with developed countries, much of the developing world has lagged in its average levels of nutrition, health (as measured, for example, by life expectancy or undernourishment), and education (measured by literacy), as seen in Table 2.3. The under-5 mortality is 17 times higher in low-income countries than in high-income countries, although great progress has been made since 1990, as shown graphically in Figure 2.4.

Table 2.6 shows primary school enrollment rates (percentage of students of primary age enrolled in school) and the primary school pupil-to-teacher ratio for the four country income groups and for six major developing regions. Enrollments have strongly improved in recent years, but student attendance and completion, along with attainment of basic skills such as functional literacy, remain problems. Indeed, *teacher* truancy remains a serious problem in South Asia and sub-Saharan Africa.[16]

Moreover, there are strong synergies (complementarities) between progress in health and education (examined in greater depth in Chapter 8). For

FIGURE 2.4 Under-5 Mortality Rates, 1990 and 2012



Source: Data drawn from World Bank, World Development Indicators, accessed 22 Sept. 2013 Reprinted with permission.

example, under-5 mortality rates improve as mothers' education levels rise, as seen in the country examples in Figure 2.5.

The well-performing developing countries are much closer to the developed world in health and education standards than they are to the lowest-income countries.[17] Although health conditions in East Asia are relatively good, sub-Saharan Africa continues to be plagued by problems of malnourishment, malaria, tuberculosis, AIDS, and parasitic infections. Despite progress, South Asia continues to have high levels of illiteracy, low schooling attainment, and undernourishment. Still, in fields such as primary school completion, low-income countries are also making great progress; for example, enrollments in India are up from 68% in the early 1990s to a reported 94% by 2008.

Higher Levels of Inequality and Absolute Poverty

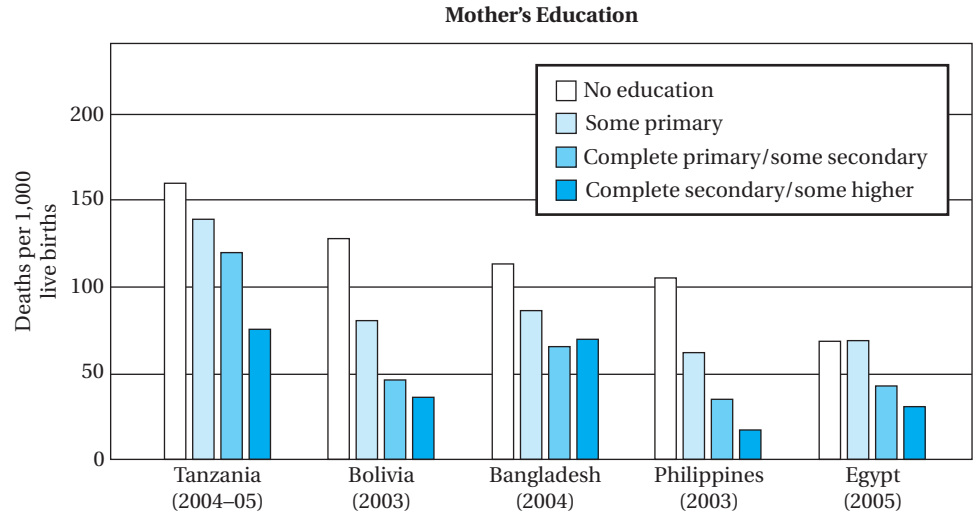
Globally, the poorest 20% of people receive just 1.5% of world income. The lowest 20% now roughly corresponds to the approximately 1.2 billion people

TABLE 2.6 Primary School Enrollment and Pupil-Teacher Ratios, 2010

Region or Group	Net Primary School Enrollment (%)	Primary Pupil-Teacher Ratio
Income Group		
Low	80	45
Lower Middle	87	23[a]
Upper Middle	94	22
High	95	15
Region		
East Asia and Pacific	93[a]	19
Latin America and the Caribbean	94	25
Middle East and North Africa	91	24
South Asia	86	40[a]
Sub-Saharan Africa	73	49
Europe and Central Asia	92	16

[a]Data for 2009.
Source: Data from World Bank, *World Development Indicators, 2010* (Washington, D.C.: World Bank, 2010), tabs 2.11 and 2.12.

FIGURE 2.5 Correlation between Under-5 Mortality and Mother's Education



Source: International Bank for Reconstruction and Development/World Bank, *World Development Indicators, 2007* (Washington, D.C.: World Bank, 2007), p. 119. Reprinted with permission.

living in extreme poverty on less than $1.25 per day at purchasing power parity.[18] Bringing the incomes of those living on less than $1.25 per day up to this minimal poverty line would require less than 2% of the incomes of the world's wealthiest 10%.[19] Thus, the scale of global inequality is also immense.

But the enormous gap in per capita incomes between rich and poor nations is not the only manifestation of the huge global economic disparities. To appreciate the breadth and depth of deprivation in developing countries, it is also necessary to look at the gap between rich and poor *within* individual developing countries. Very high levels of inequality—extremes in the relative incomes of higher- and lower-income citizens—are found in many middle-income countries, partly because Latin American countries historically tend to be both middle-income and highly unequal. Several African countries, including Sierra Leone, Lesotho, and South Africa, also have among the highest levels of inequality in the world.[20] Inequality is particularly high in many resource-rich developing countries, notably in the Middle East and sub-Saharan Africa. Indeed, in many of these cases, inequality is substantially higher than in most developed countries (where inequality has in many cases been rising). But inequality varies greatly among developing countries, with generally much lower inequality in Asia. Consequently, we cannot confine our attention to averages; we must look within nations at how income is distributed to ask who benefits from economic development and why.

Corresponding to their low average income levels, a large majority of the extreme poor live in the low-income developing countries of sub-Saharan Africa and South Asia. Extreme poverty is due in part to low human capital but also to social and political exclusion and other deprivations. Great progress has already been made in reducing the fraction of the developing world's population living on less than $1.25 per day and raising the incomes of those still below that level, but much remains to be done, as we examine in detail in Chapter 5.

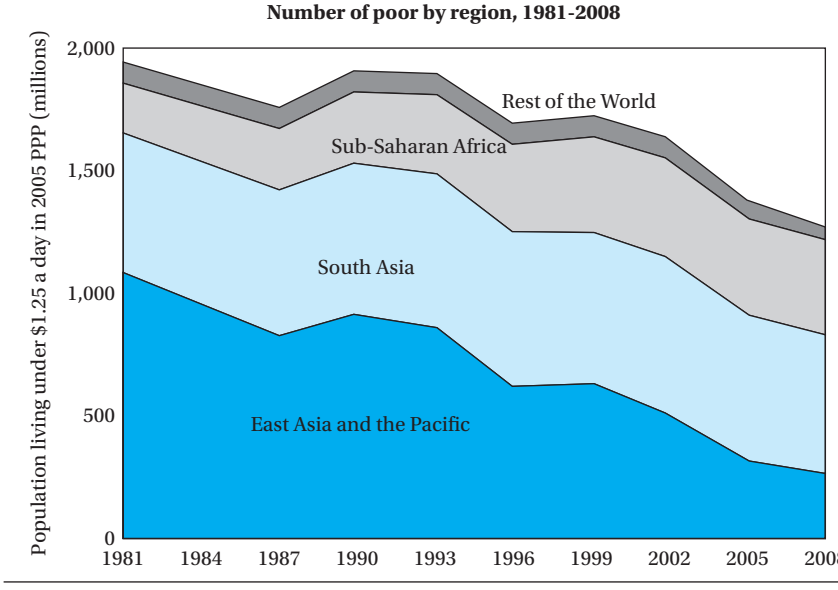
Absolute poverty The situation of being unable or only barely able to meet the subsistence essentials of food, clothing, shelter, and basic health care.

Development economists use the concept of **absolute poverty** to represent a specific minimum level of income needed to satisfy the basic physical needs of food, clothing, and shelter in order to ensure continued survival. A problem, however, arises when one recognizes that these minimum subsistence levels will vary from country to country and region to region, reflecting different physiological as well as social and economic requirements. Economists have therefore tended to make conservative estimates of world poverty in order to avoid unintended exaggeration of the problem.

The incidence of extreme poverty varies widely around the developing world. The World Bank estimates that the share of the population living on less than $1.25 per day is 9.1% in East Asia and the Pacific, 8.6% in Latin America and the Caribbean, 1.5% in the Middle East and North Africa, 31.7% in South Asia, and 41.1% in sub-Saharan Africa.[21] The share of the world population living below this level had fallen encouragingly to an estimated 21% by 2010, though there are concerns that the pace of poverty reduction may have slowed recently.[22] But as Figure 2.6 shows, the number living on less than $1.25 per day fell from about 1.9 billion in 1981 to about 1.2 billion by 2008, despite a 59% increase in the developing world's population.

Extreme poverty represents great human misery, and so redressing it is a top priority of international development. Development economists have also increasingly focused on ways in which poverty and inequality can lead to slower growth. That is, not only do poverty and inequality result from distorted growth, but they can also cause it. This relationship, along with

FIGURE 2.6 Number of People Living in Poverty by Region, 1981–2008



Source: World Bank, "World Bank sees progress against extreme poverty, but flags vulnerability," April 2012, http://web.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTPROGRAMS/EXTPOVRES/EXTPOVCALNET/0,,contentMDK:22716987~pagePK:64168435~theSitePK:5280443~isCURL:Y,00.html.

measurements of inequality and poverty and strategies to address these problems, is examined in depth in Chapter 5; because of their central importance in development, poverty reduction strategies are examined throughout the text.

Higher Population Growth Rates

Global population has skyrocketed since the beginning of the industrial era, from just under 1 billion in 1800 to 1.65 billion in 1900 and to over 6 billion by 2000. World population topped 7 billion by 2012. Rapid population growth began in Europe and other now developed countries. But in recent decades, most population growth has been centered in the developing world. Compared with the developed countries, which often have birth rates near or even below replacement (zero population growth) levels, the low-income developing countries have very high birth rates. More than five-sixths of all the people in the world now live in developing countries; and some 97% of net population growth (births minus deaths) in 2012 took place in developing regions.

But population dynamics varies widely among developing countries. Populations of some developing countries, particularly in Africa, continue to grow rapidly. From 1990 to 2008, population in the low-income countries grew at 2.2% per year, compared to 1.3% in the middle-income countries (the high-income countries grew at 0.7% per year, reflecting both births and immigration).[23]

Middle-income developing countries show greater variance, with some having achieved lower birth rates closer to those prevailing in rich countries. The birth rate is about three times as high in the low-income countries as in the high-income countries. In sub-Saharan Africa, the annual birth rate is 39 per 1,000—four times the rate in high-income countries. Intermediate but still relatively high birth rates are found in South Asia (24), the Middle East and North Africa (24), and Latin America and the Caribbean (19). East Asia and the Pacific have a moderate birth rate of 14 per 1,000, partly the result of birth control policies in China. The very wide range of **crude birth rates** around the world is illustrated in Table 2.7. As of 2010, the average rate of population growth was about 1.4% in the developing countries.

Crude birth rate The number of children born alive each year per 1,000 population.

A major implication of high birth rates is that the active labor force has to support proportionally almost twice as many children as it does in richer countries. By contrast, the proportion of people over the age of 65 is much

TABLE 2.7 Crude Birth Rates Around the World, 2012

45+	Chad, Dem. Rep. of Congo, Mali, Niger, Uganda, Zambia
40–44	Afghanistan, Angola, Benin, Burkina Faso, Liberia, Malawi, Mozambique, Nigeria, Somalia, South Sudan, Tanzania
35–39	Central African Republic, Côte d'Ivoire, Eritrea, Iraq, Jordan, Kenya, Madagascar, Senegal, Sierra Leone, Yemen
30–34	Ethiopia, Ghana, Papua New Guinea, Sudan, Timor-Leste, Vanatu, Zimbabwe
25–29	Algeria, Bolivia, Cambodia, Egypt, Guatemala, Haiti, Honduras, Kyrgyzstan, Pakistan, Philippines, Samoa, Tonga
20–24	Dominican Republic, El Salvador, India, Libya, Mexico, Peru, Saudi Arabia, South Africa, Venezuela
15–19	Argentina, Brazil, Colombia, Costa Rica, Indonesia, Jamaica, Sri Lanka, Turkey, Vietnam
10–14	Australia, Canada, China, France, Russia, United Kingdom, United States
<10	Austria, Croatia, Germany, Hungary, Italy, Japan, South Korea, Serbia, Portugal, Taiwan

Source: Population Reference Bureau, *Population Data Sheet, 2012.*

greater in the developed nations. Both older people and children are often referred to as an economic **dependency burden** in the sense that they must be supported financially by the country's labor force (usually defined as citizens between the ages of 15 and 64). In low-income countries, there are 66 children under 15 for each 100 working-age (15–65) adults, while in middle-income countries, there are 41 and in high-income countries just 26. In contrast, low-income countries have just 6 people over 65 per 100 working-age adults, compared with 10 in middle-income countries and 23 in high-income countries. Thus, the total dependency ratio is 72 per 100 in low-income countries and 49 per 100 in high-income countries.[24] But in rich countries, older citizens are supported by their lifetime savings and by public and private pensions. In contrast, in developing countries, public support for children is very limited. So dependency has a further magnified impact in developing countries.

Dependency burden The proportion of the total population aged 0 to 15 and 65+, which is considered economically unproductive and therefore not counted in the labor force.

We may conclude, therefore, that not only are developing countries characterized by higher rates of population growth, but they must also contend with greater dependency burdens than rich nations, though with a wide gulf between low- and middle-income developing countries. The circumstances and conditions under which population growth becomes a deterrent to economic development is a critical issue and is examined in Chapter 6.

Greater Social Fractionalization

Low-income countries often have ethnic, linguistic, and other forms of social divisions, sometimes known as **fractionalization**. This is sometimes associated with civil strife and even violent conflict, which can lead developing societies to divert considerable energies to working for political accommodations if not national consolidation. It is one of a variety of governance challenges many developing nations face. There is some evidence that many of the factors associated with poor economic growth performance in sub-Saharan Africa, such as low schooling, political instability, underdeveloped financial systems, and insufficient infrastructure, can be statistically explained by high ethnic fragmentation.[25]

Fractionalization Significant ethnic, linguistic, and other social divisions within a country.

The greater the ethnic, linguistic, and religious diversity of a country, the more likely it is that there will be internal strife and political instability. Some of the most successful development experiences—South Korea, Taiwan, Singapore, and Hong Kong—have occurred in culturally homogeneous societies.

But today, more than 40% of the world's nations have more than five significant ethnic populations. In most cases, one or more of these groups face serious problems of discrimination, social exclusion, or other systematic disadvantages. Over half of the world's developing countries have experienced some form of interethnic conflict. Ethnic and religious conflicts leading to widespread death and destruction have taken place in countries as diverse as Afghanistan, Rwanda, Mozambique, Guatemala, Mexico, Sri Lanka, Iraq, India, Kyrgyzstan, Azerbaijan, Somalia, Ethiopia, Liberia, Sierra Leone, Angola, Myanmar, Sudan, the former Yugoslavia, Indonesia, and the DRC.

Conflict can derail what had otherwise been relatively positive development progress, as in Côte d'Ivoire since 2002 (see Chapter 14 and the case study for Chapter 5). There is, however, a heartening trend since the late 1990s toward more successful resolution of conflicts and fewer new conflicts.

If development is about improving human lives and providing a widening range of choice to all peoples, racial, ethnic, caste, or religious discrimination is pernicious. For example, throughout Latin America, indigenous populations have significantly lagged behind other groups on almost every measure of economic and social progress. Whether in Bolivia, Brazil, Peru, Mexico, Guatemala, or Venezuela, indigenous groups have benefited little from overall economic growth. Being indigenous makes it much more likely that an individual will be less educated, in poorer health, and in a lower socioeconomic stratum than other citizens.[26] This is particularly true for indigenous women. Moreover, descendants of African slaves brought forcefully to the western hemisphere continue to suffer discrimination in countries such as Brazil.

Ethnic and religious diversity need not necessarily lead to inequality, turmoil, or instability, and unqualified statements about their impact cannot be made. There have been numerous instances of successful economic and social integration of minority or indigenous ethnic populations in countries as diverse as Malaysia and Mauritius. And in the United States, diversity is often cited as a source of creativity and innovation. The broader point is that the ethnic and religious composition of a developing nation and whether or not that diversity leads to conflict or cooperation can be important determinants of the success or failure of development efforts.[27]

Larger Rural Populations but Rapid Rural-to-Urban Migration

One of the hallmarks of economic development is a shift from agriculture to manufacturing and services. In developing countries, a much higher share of the population lives in rural areas, and correspondingly fewer in urban areas, as seen in Table 2.8. Although modernizing in many regions, rural areas are poorer and tend to suffer from missing markets, limited information, and social stratification. A massive population shift is also under way as hundreds of millions of people are moving from rural to urban areas, fueling rapid urbanization, with its own attendant problems. The world as a whole has just crossed the 50% threshold: For the first time in history, more people live in cities than

TABLE 2.8 The Urban Population in Developed Countries and Developing Regions

Region	Population (millions, 2009)	Urban Share (%)
World	6,810	50
More developed countries	1,232	75
Less developed countries	5,578	44
Sub-Saharan Africa	836	35
Northern Africa	205	50
Latin America and the Caribbean	580	77
Western Asia	231	64
South-central Asia	1,726	31
Southeast Asia	597	43
East Asia	1,564	51
Eastern Europe	295	69

Source: Population Reference Bureau, *2009 World Data Sheet*.

in rural areas. But sub-Saharan Africa and most of Asia remain predominantly rural. Migration and agriculture issues are examined in Chapters 7 and 9.

Lower Levels of Industrialization and Manufactured Exports

One of the most widely used terminologies for the original Group of Seven (G7) countries[28] and other advanced economies such as smaller European countries and Australia is the "industrial countries." Industrialization is associated with high productivity and incomes and has been a hallmark of modernization and national economic power. It is no accident that most developing-country governments have made industrialization a high national priority, with a number of prominent success stories in Asia.

Table 2.9 shows the relationship between employment and share of GDP in agriculture, industry, and services in selected developing and developed countries, in the 2004 to 2008 period. Generally, developing countries have a far higher share of employment in agriculture than developed countries. Moreover, in developed countries, agriculture represents a very small share of both employment and output—about 1% to 2% in Canada, the United States and United Kingdom—although productivity is not below the average for these economies as a whole. This is in sharp contrast to a majority of developing nations, which have relatively low productivity in agriculture in comparison

TABLE 2.9 Share of the Population Employed in the Agricultural, Industrial, and Service Sectors in Selected Countries, 2004–2008 (%)

	Agriculture			Industry			Services		
	Males	Females	Share of GDP (2008)	Males	Females	Share of GDP (2008)	Males	Females	Share of GDP (2008)
Africa									
Egypt	28	43	13	26	6	38	46	51	49
Ethiopia	12	6	44	27	17	13	61	77	42
Madagascar	82	83	25	5	2	17	13	16	57
Mauritius	10	8	4	36	26	29	54	66	67
South Africa	11	7	3	35	14	34	54	80	63
Asia									
Bangladesh	42	68	19	15	13	29	43	19	52
Indonesia	41	41	14	21	15	48	38	44	37
Malaysia	18	10	10	32	23	48	51	67	42
Pakistan	36	72	20	23	13	27	41	15	53
Philippines	44	24	15	18	11	32	39	65	53
South Korea	7	8	3	33	16	37	60	74	60
Thailand	43	40	12	22	19	44	35	41	44
Vietnam	56	60	22	21	14	40	23	26	38
Latin America									
Colombia	27	6	9	22	16	36	51	78	55
Costa Rica	18	5	7	28	13	29	54	82	64
Mexico	19	4	4	31	18	37	50	77	59
Nicaragua	42	8	19	20	18	30	38	73	51
Developed Countries									
United Kingdom	2	1	1	32	9	24	66	90	76
United States	2	1	1	30	9	22	68	90	77

Note: Ethiopia agricultural employment reflects limited coverage.
Source: World Bank, *World Development Indicators, 2010* (Washington, D.C.: World Bank, *2010*), tabs. 2.3 and 4.2.

to other sectors of their own economies—particularly industry. Madagascar is a dramatic example: while about 82% of both men and women worked in agriculture, it represented only a quarter of total output. In Indonesia, 41% of both men and women worked in agriculture, but it represented just 14% of output. The proportion of women who work in the agricultural sector varies greatly across the developing world. Generally, in Latin America a significantly higher proportion of men work in agriculture than women; but in numerous countries in Africa and Asia, a larger proportion of women work in agriculture.

Table 2.10 reveals the structural transformation of employment that has been occurring in developing countries. Where available, the table shows employment shares in both 1990–1992 and 2008–2011 periods. There have been substantial declines over this two-decade period in the share in employment in agriculture in most developing countries for which comparable data is available. For example, in Indonesia the proportion of men who work in agriculture fell from 54% to 37%; and the proportion of women who work in agriculture fell from 57% to 35%. Partial exceptions include Pakistan and Honduras, for which the share of women's agricultural employment rose by approximately as much as that of men fell.

At the same time, the share of employment in industry in many developed countries is smaller now than in some developing countries, particularly among women, as developed countries continue their secular trend to switch to from industry to service sector employment. However, many developed-country industrial jobs require high skills and pay high wages.

Relatively few countries managed a substantial gain of the fraction in manufacturing in this period; Indonesia, Turkey, and Mexico showed modest gains, particularly for men. (Other evidence indicates that a large fraction of global manufacturing jobs were gained in one country—China—during this period; but comparable data for China were unavailable for comparison.) The share of industrial employment in Africa remains low for both men and women in most countries.

Along with lower industrialization, developing nations tended to have a higher dependence on primary exports. Most developing countries have diversified away from agricultural and mineral exports to some degree. The middle-income countries are rapidly catching up with the developed world in the share of manufactured goods in their exports, even if these goods are typically less advanced in their skill and technology content. However, the low-income countries, particularly those in Africa, remain highly dependent on a relatively small number of agricultural and mineral exports. Africa will need to continue its efforts to diversify its exports. We examine this topic in Chapter 12.

Adverse Geography

Many analysts argue that geography must play some role in problems of agriculture, public health, and comparative development more generally. Landlocked economies, common in Africa, often have lower incomes than coastal economies.[29] As can be observed on the map on the inside cover, developing countries are primarily tropical or subtropical, and this has meant that they suffer more from tropical pests and parasites, endemic diseases such as malaria, water resource constraints, and extremes of heat. A great concern

TABLE 2.10 Share of the Population Employed in the Agricultural, Industrial, and Service Sectors in Selected Countries, 1990–92 and 2008–2011 (%)

	Agriculture				Industry				Services				
	Males		Females		Males		Females		Males		Females		
	% of Male Employment		% of Female Employment		% of Male Employment		% of Female Employment		% of Male Employment		% of Female Employment		
	1990–92	2008–11	1990–92	2008–11	1990–92	2008–11	1990–92	2008–11	1990–92	2008–11	1990–-92	2008–-11	Region
Cameroon	..	49	..	58	..	13	..	12	..	38	..	30	Africa
Egypt, Arab Rep.	35	28	52	46	25	27	10	6	41	44	37	49	Africa
Liberia	..	50	..	48	..	14	..	5	..	37	..	47	Africa
Mauritius	15	9	13	7	36	32	48	21	48	59	39	73	Africa
Namibia	45	23	52	8	21	24	8	9	34	53	40	83	Africa
Indonesia	54	37	57	35	15	24	13	15	31	40	31	50	Asia
Malaysia	23	16	20	9	31	31	32	21	46	53	48	71	Asia
Pakistan	45	37	69	75	20	22	15	12	35	41	16	13	Asia
Philippines	53	41	32	23	17	18	14	10	29	41	55	68	Asia
Thailand	60	41	62	37	18	23	13	18	22	37	25	45	Asia
Turkey	33	18	72	39	26	31	11	15	41	51	17	45	Asia
Chile	24	14	6	5	32	31	15	10	45	55	79	85	Latin America
Costa Rica	32	20	5	4	27	25	25	11	41	55	69	84	Latin America
Dominican Republic	26	19	3	2	23	21	21	7	52	47	76	60	Latin America
Honduras	53	50	6	12	18	19	25	21	29	31	69	67	Latin America
Mexico	34	19	11	4	25	30	19	18	41	51	70	78	Latin America
Canada	6	3	2	1	31	32	11	10	64	65	87	89	Developed
Japan	6	4	7	4	40	33	27	15	54	62	65	80	Developed
United Kingdom	3	2	1	1	41	29	16	8	55	69	82	91	Developed
United States	4	2	1	1	34	25	14	7	62	72	85	92	Developed

Note: Country selection reflects that only a limited number of countries are covered or have data over time. Data represent most recent in timeframe if average for the period is not available.

Source: World Bank, *World Development Indicators, 2013* (Washington, D.C.: World Bank, *2013*), tab. 2.3.

going forward is that global warming is projected to have its greatest negative impact on Africa and South Asia (see Chapter 10).[30]

The extreme case of favorable physical **resource endowment** is the oil-rich Persian Gulf states. At the other extreme are countries like Chad, Yemen, Haiti, and Bangladesh, where endowments of raw materials and minerals and even fertile land are relatively minimal. However, as the case of the DRC shows vividly, high mineral wealth is no guarantee of development success. Conflict over the profits from these industries has often led to a focus on the distribution of wealth rather than its creation and to social strife, undemocratic governance, high inequality, and even armed conflict, in what is called the "curse of natural resources."

Resource endowment A nation's supply of usable factors of production, including mineral deposits, raw materials, and labor.

Clearly, geography is not destiny; high-income Singapore lies almost directly on the equator, and parts of southern India have exhibited enormous economic dynamism in recent years. Prior to colonization, some tropical and subtropical regions had higher incomes per capita than Europe. However, the presence of common and often adverse geographic features in comparison to temperate zone countries means it is beneficial to study tropical and subtropical developing countries together for some purposes. Redoubled efforts are now under way to extend the benefits of the green revolution and tropical disease control to sub-Saharan Africa. In section 2.7 of this chapter, we add further perspectives on the possible indirect roles of geography in comparative development.

Underdeveloped Markets

Imperfect markets and incomplete information are far more prevalent in developing countries, with the result that domestic markets, notably but not only financial markets, have worked less efficiently, as examined in Chapters 4, 11, and 15. In many developing countries, legal and institutional foundations for markets are extremely weak.

Some aspects of market underdevelopment are that they often lack (1) a legal system that enforces contracts and validates property rights; (2) a stable and trustworthy currency; (3) an **infrastructure** of roads and utilities that results in low transport and communication costs so as to facilitate interregional trade; (4) a well-developed and efficiently regulated system of banking and insurance, with broad access and with formal credit markets that select projects and allocate loanable funds on the basis of relative economic profitability and enforce rules of repayment; (5) substantial market information for consumers and producers about prices, quantities, and qualities of products and resources as well as the creditworthiness of potential borrowers; and (6) social norms that facilitate successful long-term business relationships. These six factors, along with the existence of economies of scale in major sectors of the economy, thin markets for many products due to limited demand and few sellers, widespread externalities (costs or benefits that accrue to companies or individuals not doing the producing or consuming) in production and consumption, and poorly regulated common property resources (e.g., fisheries, grazing lands, water holes) mean that markets are often highly imperfect. Moreover, information is limited and costly to obtain, thereby often causing goods, finances, and resources to be misallocated. And we have come to understand that small externalities can interact in ways that add up to very large distortions in an economy and present the real possibility of an

Infrastructure Facilities that enable economic activity and markets, such as transportation, communication and distribution networks, utilities, water, sewer, and energy supply systems.

underdevelopment trap (see Chapter 4). The extent to which these **imperfect markets** and **incomplete information** systems justify a more active role for government (which is also subject to similar problems of incomplete and imperfect information) is an issue that we will be dealing with in later chapters. But their existence remains a common characteristic of many developing nations and an important contributing factor to their state of underdevelopment.[31]

Imperfect market A market in which the theoretical assumptions of perfect competition are violated by the existence of, for example, a small number of buyers and sellers, barriers to entry, and incomplete information.

Incomplete information The absence of information that producers and consumers need to make efficient decisions resulting in underperforming markets.

Lingering Colonial Impacts and Unequal International Relations

Colonial Legacy Most developing countries were once colonies of Europe or otherwise dominated by European or other foreign powers, and institutions created during the colonial period often had pernicious effects on development that in many cases have persisted to the present day. Despite important variations that proved consequential, colonial era institutions often favored extractors of wealth rather than creators of wealth, harming development then and now. Both domestically and internationally, developing countries have more often lacked institutions and formal organizations of the type that have benefited the developed world: Domestically, on average, **property rights** have been less secure, constraints on elites have been weak, and a smaller segment of society has been able to gain access to and take advantage of economic opportunities.[32] Problems with governance and public administration (see Chapter 11), as well as poorly performing markets, often stem from poor institutions.

Property rights The acknowledged right to use and benefit from a tangible (e.g., land) or intangible (e.g., intellectual) entity that may include owning, using, deriving income from, selling, and disposing.

Decolonization was one of the most important historical and geopolitical events of the post–World War II era. More than 80 former European colonies have joined the United Nations. But several decades after independence, the effects of the colonial era linger for many developing nations, particularly the least developed ones.

Colonial history matters not only or even primarily because of stolen resources but also because the colonial powers determined whether the legal and other institutions in their colonies would encourage investments by (and in) the broad population or would instead facilitate exploitation of human and other resources for the benefit of the colonizing elite and create or reinforce extreme inequality. Development-facilitating or development-inhibiting institutions tend to have a very long life span. For example, when the conquered colonial lands were wealthier, there was more to steal. In these cases, colonial powers favored extractive (or "kleptocratic") institutions at the expense of ones that encouraged productive effort. When settlers came in large numbers to live permanently, incomes ultimately were relatively high, but the indigenous populations were largely annihilated by disease or conflict, and descendants of those who survived were exploited and blocked from advancement. A growing body of evidence demonstrates that practices such as forced labor had pernicious effects on human development even centuries after they were discontinued (see Box 2.3).

In a related point of great importance, European colonization often created or reinforced differing degrees of inequality, often correlated with ethnicity, which have also proved remarkably stable over the centuries. In some respects, postcolonial elites in many developing countries largely took over the exploitative role formerly played by the colonial powers. High inequality sometimes emerged as a result of slavery in regions where comparative advantage in crops

BOX 2.3 FINDINGS The Persistent Effects of Colonial Forced Labor on Poverty and Development

In a 2010 study, Melissa Dell used historical district-level data to examine the long-run impacts of the *mita* forced labor system in Peru and Bolivia, which "required over 200 indigenous communities to send one-seventh of their adult male population to work in the Potosi silver and Huancavelica mercury mines between 1573 and 1812." Forced labor can severely harm subjected communities. But Dell finds even today—two centuries later—districts covered by the *mita* system have lower household consumption and higher probability of stunting in children.

Can development economists conclude with confidence that a colonial system ending two centuries ago is the *cause* of worse performance in the districts it affected? In principle, such correlations could be due to observed or unobserved factors other than the *mita*. For example, households in *mita* districts may have been less well off to begin with. To address this question, Dell employed an important tool used by development economists to establish causal effects, known as regression discontinuity design (RDD).

RDD has many uses, including evaluation of development programs. In evaluating a program, if each individual is associated with an "assignment variable," z, and a "treatment" is assigned to individuals with a value of z less than or equal to a cutoff level z_0, then the impact of the treatment on an outcome variable, y, can be identified by comparing observations of those who started just below the threshold z_0 with those who started just above it. For this group, any difference in the outcome variable between people on each side of the discontinuity would be caused by the treatment. The assignment z can represent many types of threshold variables, including income, birth date, test scores, or a geographic boundary. And it turns out that a very wide range of impacts can be considered as a treatment—whatever impacts only people who are on one side of a threshold, provided that all relevant influences other than treatment vary smoothly across the threshold. Economists have learned that RDD estimates have statistically reliable properties that in some circumstances can make these studies virtually as informative as a randomized trial.

One basic assumption of RDD is that individuals just below and just above the cutoff are otherwise similar and have the same potential outcomes in the absence of the treatment. This assumption means that individuals cannot "sort themselves" to be just under the cutoff (or over the cutoff, if that is the incentive). For example, people cannot pretend to be poorer in order to get into a poverty program. Otherwise, the estimated effect can be compounded with the characteristics of those people who respond by sorting themselves (e.g., people with higher cognitive skills).

Dell's RDD strategy was to use longitude-latitude, or simply distance to mines, as the assignment variable to predict the *mita* coverage. The effect of the *mita* system on social or economic outcomes can be estimated by comparing districts with and without the *mita* system among those close to the *mita* coverage boundary. These districts were considered likely to be similar in all respects except for the *mita*; and indeed, Dell found that prior to the *mita* system, factors such as tax rates, steepness of terrain, and ethnic distribution were similar across the boundaries that she studies. Using this strategy, Dell concluded that the "*mita* effect" lowers household consumption by approximately 25% and that it increases child stunting "by around 6 percentage points." These are really striking findings: Two centuries have passed since the *mita* boundary line carried any legal meaning whatsoever.

Dell then asked, "Why would the *mita* affect economic prosperity nearly 200 years after its abolition?" While "there exist many potential channels," Dell proposed, "the *mita*'s influence has persisted through its impacts on land tenure and public good provision." Outside the *mita* district boundaries, the Spanish *hacienda* system emerged—it was a feudal system, not a market in which labor was free. While the measured impact of the *mita* likely would have been even worse in comparison with "secure, enfranchised

smallholders," Dell contrasted the two actual historical experiences in this region. Some exploitive conditions are worse than land inequality. Dell pointed out that the land tenure system in non-*mita* districts was more stable compared to *mita* districts, where there was no system of enforceable peasant titling even after the *mita* ended. For example, Dell cites a judicial procedure used in *mita* districts to seize land from peasants by falsely claiming their land was abandoned. Large landowners also had a profit incentive and the political influence to get more roads built in their districts. Dell argued that in this region of Peru, "large landowners—while they did not aim to promote economic prosperity for the masses—did shield individuals from exploitation by a highly extractive state and did ensure public goods."

Source: Melissa Dell. "The Persistent Effects of Peru's Mining Mita." *Econometrica* 78(2010): 1863–1903.

such as sugarcane could be profitably produced on slave plantations. It also emerged where a large, settled indigenous population could be coerced into labor. This history had long-term consequences, particularly in Latin America.[33] Where inequality was extreme, the result was less movement toward democratic institutions, less investment in public goods, and less widespread investment in human capital (education, skills, and health). These are among the ways in which extreme inequality is harmful to development and so is also an important long-term determinant of comparative development. We return to these themes later in this chapter.

The European colonial powers also had a dramatic and long-lasting impact on the economies and political and institutional structures of their African and Asian colonies by their introduction of three powerful and tradition-shattering ideas: private property, personal taxation, and the requirement that taxes be paid in money rather than in kind. These innovations were introduced in ways that facilitated elite rule rather than broad-based opportunity. The worst impact of colonization was probably felt in Africa, especially if one also considers the earlier slave trade. Whereas in former colonies such as India local people played a role in colonial governance, in Africa most governance was administered by expatriates. Other well-documented impacts included lasting damage to social trust.[34]

In Latin America, a longer history of political independence plus a more shared colonial heritage (Spanish and Portuguese) has meant that in spite of geographic and demographic diversity, the countries possess relatively similar economic, social, and cultural institutions and face similar problems, albeit with particular hardships for indigenous peoples and descendants of slaves. Latin American countries have long been middle-income but rarely have advanced to high-income status—reflecting a situation now known as the "middle-income trap." In Asia, different colonial heritages and the diverse cultural traditions of the people have combined to create different institutional and social patterns in countries such as India (British), the Philippines (Spanish and American), Vietnam (French), Indonesia (Dutch), Korea (Japanese), and China (not formally colonized but dominated by a variety of foreign powers).[35] To a widely varying degree, newly independent nations continued to experience foreign domination by former colonial powers and the United States, and in a number of countries by the Soviet Union, particularly during the Cold War

period. The diversity of colonial experiences is one of the important factors that help explain the wide spectrum of development outcomes in today's world.

External Dependence Relatedly, developing countries have also been less well organized and influential in international relations, with sometimes adverse consequences for development. For example, agreements within the World Trade Organization (WTO) and its predecessors concerning matters such as agricultural subsidies in rich countries that harm developing-country farmers and one-sided regulation of intellectual property rights have often been relatively unfavorable to the developing world. The "Doha Development Round" of trade negotiations that began in 2001 was supposed to rectify some of these imbalances, but talks have been essentially stalled since 2008 (see Chapter 12). During debt crises in the 1980s and 1990s, the interests of international banks often prevailed over those of desperately indebted nations (discussed in Chapter 13). More generally, developing nations have weaker bargaining positions than developed nations in international economic relations. Developing nations often also voice great concern over various forms of cultural dependence, from news and entertainment to business practices, lifestyles, and social values. The potential importance of these concerns should not be underestimated, either in their direct effects on development in its broader meanings or indirect impacts on the speed or character of national development.

Developing nations are also dependent on the developed world for environmental preservation, on which hopes for sustainable development depend. Of greatest concern, global warming is projected to harm developing regions more than developed ones; yet both accumulated and current greenhouse gas emissions still largely originate in the high-income countries, despite the role of developing-country deforestation and growing emissions from lower-middle-income countries such as China and India. Thus the developing world endures what may be called *environmental dependence*, in which it must rely on the developed world to cease aggravating the problem and to develop solutions, including mitigation at home and assistance in developing countries. This topic is explored further in Chapter 10.

2.5 How Low-Income Countries Today Differ from Developed Countries in Their Earlier Stages

The position of developing countries today is in many important ways significantly different from that of the currently developed countries when they embarked on their era of modern economic growth. We can identify eight significant differences in initial conditions that require a special analysis of the growth prospects and requirements of modern economic development:

1. Physical and human resource endowments
2. Per capita incomes and levels of GDP in relation to the rest of the world
3. Climate
4. Population size, distribution, and growth

5. Historical role of international migration
6. International trade benefits
7. Basic scientific and technological research and development capabilities
8. Efficacy of domestic institutions

We will discuss each of these conditions with a view toward formulating requirements and priorities for generating and sustaining economic growth in developing countries.

Physical and Human Resource Endowments

Contemporary developing countries are often less well endowed with natural resources than the currently developed nations were at the time when the latter nations began their modern growth. Some developing nations are blessed with abundant supplies of petroleum, minerals, and raw materials for which world demand is growing; most less developed countries, however—especially in Asia, where more than half of the world's population resides—are poorly endowed with natural resources. Moreover, in parts of Africa, where natural resources are more plentiful, and geologists anticipate that there is far more yet to be discovered, heavy investments of capital are needed to exploit them, which until very recently has been strongly inhibited by domestic conflict and perhaps Western attitudes. A new wave of investments from China and other "nontraditional investors" has begun to change the picture, though critics are raising concerns about the process and foreign appropriation of gains.

The difference in skilled human resource endowments is even more pronounced. The ability of a country to exploit its natural resources and to initiate and sustain long-term economic growth is dependent on, among other things, the ingenuity and the managerial and technical skills of its people and its access to critical market and product information at minimal cost.[36] Paul Romer argues that today's developing nations "are poor because their citizens do not have access to the ideas that are used in industrial nations to generate economic value."[37] For Romer, the technology gap between rich and poor nations can be divided into two components, a physical object gap, involving factories, roads, and modern machinery, and an idea gap, including knowledge about marketing, distribution, inventory control, transactions processing, and worker motivation. This idea gap, and what Thomas Homer-Dixon calls the ingenuity gap (the ability to apply innovative ideas to solve practical social and technical problems), between rich and poor nations lies at the core of the development divide. There were no comparative human resource gaps for the now developed countries on the eve of their industrialization.

Relative Levels of Per Capita Income and GDP

The people living in low-income countries have, on average, a lower level of real per capita income than their developed-country counterparts had in the nineteenth century. First of all, nearly 40% of the population of developing

countries is attempting to subsist at bare minimum levels. Obviously, the average standard of living in, say, early-nineteenth-century England was nothing to envy or boast about, but it was not as economically debilitating or precarious as it is today for a large fraction of people in the 40 or so least developed countries, the people now often referred to as the "bottom billion."

Second, at the beginning of their modern growth era, today's developed nations were economically in advance of the rest of the world. They could therefore take advantage of their relatively strong financial position to widen the income gaps between themselves and less fortunate countries in a long period of income divergence. By contrast, today's developing countries began their growth process at the low end of the international per capita income scale.

Climatic Differences

Almost all developing countries are situated in tropical or subtropical climatic zones. It has been observed that the economically most successful countries are located in the temperate zone. Although social inequality and institutional factors are widely believed to be of greater importance, the dichotomy is more than coincidence. Colonialists apparently created unhelpful "extractive" institutions where they found it uncomfortable to settle. But also, the extremes of heat and humidity in most poor countries contribute to deteriorating soil quality and the rapid depreciation of many natural goods. They also contribute to the low productivity of certain crops, the weakened regenerative growth of forests, and the poor health of animals. Extremes of heat and humidity not only cause discomfort to workers but can also weaken their health, reduce their desire to engage in strenuous physical work, and generally lower their levels of productivity and efficiency. As you will see in Chapter 8, malaria and other serious parasitic diseases are often concentrated in tropical areas. There is evidence that tropical geography does pose significant problems for economic development and that special attention in development assistance must be given to these problems, such as a concerted international effort to develop a malaria vaccine.[38]

Population Size, Distribution, and Growth

In Chapter 6, we will examine in detail some of the development problems and issues associated with rapid population growth. At this point, it is sufficient to note that population size, density, and growth constitute another important difference between less developed and developed countries. Before and during their early growth years, Western nations experienced a very slow rise in population growth. As industrialization proceeded, population growth rates increased primarily as a result of falling death rates but also because of slowly rising birth rates. However, at no time did European and North American countries have natural population growth rates in excess of 2% per annum, and they generally averaged much less.

By contrast, the populations of many developing countries have been increasing at annual rates in excess of 2.5% in recent decades, and some are still rising that fast today. Moreover, the concentration of these large and

growing populations in a few areas means that many developing countries have considerably higher person-to-land ratios than the European countries did in their early growth years. Finally, in terms of comparative absolute size, no country that embarked on a long-term period of successful economic growth approached the present-day population size of India, Egypt, Pakistan, Indonesia, Nigeria, or Brazil. Nor were their rates of natural increase anything like that of present-day Kenya, the Philippines, Bangladesh, Malawi, or Guatemala. In fact, many observers doubt whether the Industrial Revolution and the high long-term growth rates of contemporary developed countries could have been achieved or proceeded so fast and with so few setbacks and disturbances, especially for the very poor, had their populations been expanding so rapidly.

The Historical Role of International Migration

In the nineteenth and early twentieth centuries, a major outlet for rural populations was international migration, which was both widespread and large-scale. More than 60 million people migrated to the Americas between 1850 and 1914, a time when world population averaged less than a quarter of its current levels. In countries such as Italy, Germany, and Ireland, periods of famine or pressure on the land often combined with limited economic opportunities in urban industry to push unskilled rural workers toward the labor-scarce nations of North America and Australia. In Brinley Thomas's famous description, the "three outstanding contributions of European labor to the American economy—1,187,000 Irish and 919,000 Germans between 1847 and 1855, 418,000 Scandinavians and 1,045,000 Germans between 1880 and 1885, and 1,754,000 Italians between 1898 and 1907—had the character of evacuations."[39]

Whereas the main thrust of international emigration up to World War I was both distant and permanent, the period since World War II witnessed a resurgence of international migration within Europe itself, which is essentially over short distances and to a large degree temporary. However, the economic forces giving rise to this migration are basically the same; that is, during the 1960s, surplus rural workers from southern Italy, Greece, and Turkey flocked into areas of labor shortages, most notably western Germany and Switzerland. Similar trends have been observed following the expansion of the European Union. The fact that this later migration from regions of surplus labor in southern and southeastern Europe was initially of both a permanent and a nonpermanent nature provided a valuable dual benefit to the relatively poor areas from which these unskilled workers migrated. The home governments were relieved of the costs of providing for people who in all probability would remain unemployed, and because a large percentage of the workers' earnings were sent home, these governments received a valuable and not insignificant source of foreign exchange.[40]

Historically, at least in the case of Africa, migrant labor both within and between countries was rather common and did provide some relief for locally depressed areas. Until recently, considerable benefits accrued and numerous potential problems were avoided by the fact that thousands of unskilled laborers in Burkina Faso were able to find temporary work in neighboring Côte d'Ivoire.

The same was true for Egyptians, Pakistanis, and Indians in Kuwait and Saudi Arabia; Tunisians, Moroccans, and Algerians in southern Europe; Colombians in Venezuela; and Haitians in the Dominican Republic. However, there is far less scope for reducing the pressures of growing populations in developing countries today through massive international emigration, largely due to the very restrictive nature of immigration laws in modern developed countries.

Despite these restrictions, well over 50 million people from the developing world have managed to migrate to the developed world since 1960. The pace of migration from developing to developed countries—particularly to the United States, Canada, and Australia—has picked up since the mid-1980s to between 2 and 3 million people per year. And the numbers of undocumented or illegal migrants have increased dramatically since 1980. Some people in recipient industrialized nations feel that these migrants are taking jobs away from poor, unskilled citizen workers. Moreover, illegal migrants and their families are often believed to be taking unfair advantage of free local health, educational, and social services, causing upward pressure on local taxes to support these services—despite emerging evidence that legalizing immigration actually provides a net positive effect on reducing deficits as well as to overall economic activity.[41] As a result, major debates are now under way in both the United States and Europe regarding the treatment of illegal migrants. Many citizens want severe restrictions on the number of immigrants that are permitted to enter or reside in developed countries.[42] The anti-immigration law passed in Arizona in 2010 reinforced the deterrent effect of the Mexico-U.S. border fence and also led many legal immigrants to feel vulnerable; a vociferous political debate surrounded proposed immigration reform legislation in the United States in 2013. In Europe, anti-immigrant parties have scored major gains, as in the Netherlands and Sweden in 2010.

The irony of international migration today, however, is not merely that this traditional outlet for surplus people has effectively been closed off but that many of the people who migrate from poor to richer lands are the very ones that developing countries can least afford to lose: the highly educated and skilled. Since the great majority of these migrants move on a permanent basis, this perverse **brain drain** not only represents a loss of valuable human resources but could also prove to be a serious constraint on the future economic progress of developing nations. For example, between 1960 and 1990, more than a million high-level professional and technical workers from the developing countries migrated to the United States, Canada, and the United Kingdom. By the late 1980s, Africa had lost nearly one-third of its skilled workers, with up to 60,000 middle- and high-level managers migrating to Europe and North America between 1985 and 1990. Sudan, for example, lost 17% of its doctors and dentists, 20% of its university teachers, 30% of its engineers, and 45% of its surveyors. The Philippines lost 12% of its professional workers to the United States, and 60% of Ghanaian doctors came to practice abroad.[43] India has been concerned that it may be unable to meet its burgeoning requirements for information technology workers in its growing high-tech enclaves if emigration to the United States, Canada, and the United Kingdom continues at its current pace.[44] Globally, remittances from illegal and legal migrants have been topping $100 million annually in this century and approached $200 billion in 2006.[45] Migration, when it is permitted, reduces poverty for migrants

Brain drain The emigration of highly educated and skilled professionals and technicians from the developing countries to the developed world.

and their families, and most of the poverty-reducing benefits of migration for those remaining in the origin countries come through remittances.[46] This is an extremely important resource (see Chapter 14).

Paradoxically, a *potential* benefit is that the mere possibility of skilled emigration may encourage many more workers to acquire information technology or other skills than are ultimately able to leave, leading to a net *increase* in labor force skills. At least in theory, the result could actually be a "brain gain."[47] The fundamental point remains, however, that the possibility of international migration of unskilled workers on a scale proportional to that of the nineteenth and early twentieth centuries no longer exists to provide an equivalent safety valve for the unskilled contemporary populations of Africa, Asia, and Latin America.

The Growth Stimulus of International Trade

Free trade Trade in which goods can be imported and exported without any barriers in the forms of tariffs, quotas, or other restrictions.

International **free trade** has been called the "engine of growth" that propelled the development of today's economically advanced nations during the nineteenth and early twentieth centuries. Rapidly expanding export markets provided an additional stimulus to growing local demands that led to the establishment of large-scale manufacturing industries. Together with a relatively stable political structure and flexible social institutions, these increased export earnings enabled the developing countries of the nineteenth century to borrow funds in the international capital market at very low interest rates. This capital accumulation in turn stimulated further production, made increased imports possible, and led to a more diversified industrial structure. In the nineteenth century, European and North American countries were able to participate in this dynamic growth of international exchange largely on the basis of relatively free trade, free capital movements, and the unfettered international migration of unskilled surplus labor.

Terms of trade The ratio of a country's average export price to its average import price.

In the twentieth century, the situation for many developing countries was very different. With the exception of a few very successful Asian countries, the non-oil-exporting (and even some oil-exporting) developing countries faced formidable difficulties in trying to generate rapid economic growth on the basis of world trade. For much of the past century, many developing countries experienced a deteriorating trade position. Their exports expanded, but usually not as fast as the exports of developed nations. Their **terms of trade** (the price they receive for their exports relative to the price they have to pay for imports) declined over several decades. Export volume therefore had to grow faster just to earn the same amount of foreign currency as in previous years. Moreover, it is unclear whether the commodity price boom of the early twenty-first century, which reversed only a portion of the long-term price declines, and fueled by the spectacular growth in China, can be maintained. Commodity prices are also subject to large, potentially destabilizing price fluctuations (see Chapter 13).

Where developing countries are successful at becoming lower-cost producers of competitive products with the developed countries (e.g., textiles, clothing, shoes, some light manufactures), the latter have often resorted to various forms of tariff and nontariff barriers to trade, including "voluntary" import quotas, excessive sanitary requirements, intellectual property claims,

antidumping "investigations," and special licensing arrangements. But in recent years, an increasing number of developing countries, particularly China and others in East and Southeast Asia, have benefited from expanded manufactures exports to developed countries. We will discuss the economics of international trade and finance in the development context in detail in Part Three.

Basic Scientific and Technological Research and Development Capabilities

Basic scientific research and technological development have played a crucial role in the modern economic growth experience of contemporary developed countries. Their high rates of growth have been sustained by the interplay between mass applications of many new technological innovations based on a rapid advancement in the stock of scientific knowledge and further additions to that stock of knowledge made possible by growing surplus wealth. And even today, the process of scientific and technological advance in all its stages, from basic research to product development, is heavily concentrated in the rich nations, despite the emergence of China and India as destinations for **research and development (R&D)** activities of multinational corporations. Moreover, research funds are spent on solving the economic and technological problems of concern to rich countries in accordance with their own economic priorities and resource endowments.[48]

Research and development (R&D) Scientific investigation with a view toward improving the existing quality of human life, products, profits, factors of production, or knowledge.

In the important area of scientific and technological research, low-income developing nations in particular are in an extremely disadvantageous position vis-à-vis the developed nations. In contrast, when the latter countries were embarking on their early growth process, they were scientifically and technologically greatly in advance of the rest of the world. They could consequently focus on staying ahead by designing and developing new technology at a pace dictated by their long-term economic growth requirements.

Efficacy of Domestic Institutions

Another difference between most developing countries and most developed countries at the time of their early stages of economic development lies in the efficacy of domestic economic, political, and social institutions. By the time of their early industrialization, many developed countries, notably the United Kingdom, the United States, and Canada, had economic rules in place that provided relatively broad access to opportunity for individuals with entrepreneurial drive. Earlier in the chapter, we noted that high inequality and poor institutions facilitating extraction rather than providing incentives for productivity were often established by colonial powers. Today such extraction may be carried out by powerful local interests as well as foreign ones. But it is very difficult to change institutions rapidly. As Douglass North stresses, even if the formal rules "may be changed overnight, the informal rules usually change only ever so gradually."[49] We will return to the question of economic institutions later in the chapter.

The developed countries also typically enjoyed relatively stronger political stability and more flexible social institutions with broader access to mobility. States typically emerged more organically over a longer period of time in the

developed regions, and consolidation as nation-states generally occurred before the industrial era. In contrast, particularly in Africa, national boundaries were more arbitrarily dictated by colonial powers. The "failed state," and states in danger of becoming so, is a phenomenon of the postcolonial period, with roots in imperial and colonial practices. Although many developing nations have roots in ancient civilizations, a long hiatus often existed between autonomous regimes.

2.6 Are Living Standards of Developing and Developed Nations Converging?

At the dawn of the industrial era, average real living standards in the richest countries were no more than three times as great as those of the poorest. Today, the ratio approaches 100 to 1. So as noted by Lant Pritchett, there is no doubt that today's developed countries have enjoyed far higher rates of economic growth averaged over two centuries than today's developing countries, a process known as **divergence**. Theories of economic growth are discussed in Chapter 3. But in comparing development performance among developing nations and between developed and developing countries, it is appropriate to consider whether, with strenuous economic development efforts being made throughout the developing world, living standards of developing and developed nations are exhibiting **convergence**.

Divergence A tendency for per capita income (or output) to grow faster in higher-income countries than in lower-income countries so that the income gap widens across countries over time (as was seen in the two centuries after industrialization began).

Convergence The tendency for per capita income (or output) to grow faster in lower-income countries than in higher-income countries so that lower-income countries are "catching up" over time. When countries are hypothesized to converge not in all cases but *other things being equal* (particularly savings rates, labor force growth, and production technologies), then the term *conditional convergence* is used.

If the growth experience of developing and developed countries were similar, there are two important reasons to expect that developing countries would be "catching up" by growing faster on average than developed countries. The first reason is due to technology transfer. Today's developing countries do not have to "reinvent the wheel"; for example, they do not have to use vacuum tubes before they can use semiconductors. Even if royalties must be paid, it is cheaper to replicate technology than to undertake original R&D, partly because one does not have to pay for mistakes and dead ends along the way. This should enable developing countries to "leapfrog" over some of the earlier stages of technological development, moving immediately to high-productivity techniques of production. As a result, they should be able to grow much faster than today's developed countries are growing now or were able to grow in the past, when they had to invent the technology as they went along and proceed step by step through the historical stages of innovation. (This is known as an "advantage of backwardness," a term coined by economic historian Alexander Gerschenkron.) In fact, if we confine our attention to cases of successful development, the later a country begins its modern economic growth, the shorter the time needed to double output per worker. For example, Britain doubled its output per person in the first 60 years of its industrial development, and the United States did so in 45 years. South Korea once doubled per capita output in less than 12 years, and China has done so in less than 9 years.

The second reason to expect convergence if conditions are similar is based on factor accumulation. Today's developed countries have high levels of physical and human capital; in a production function analysis, this would explain their high levels of output per person. But in traditional neoclassical analysis,

the marginal product of capital and the profitability of investments would be lower in developed countries where capital intensity is higher, provided that the law of diminishing returns applied. That is, the impact of additional capital on output would be expected to be smaller in a developed country that already had a lot of capital in relation to the size of its workforce than in a developing country where capital was scarce. As a result, we would expect higher investment rates in developing countries, either through domestic sources or through attracting foreign investment (see Chapter 14). With higher investment rates, capital would grow more quickly in developing countries until approximately equal levels of capital and (other things being equal) output per worker were achieved.[50]

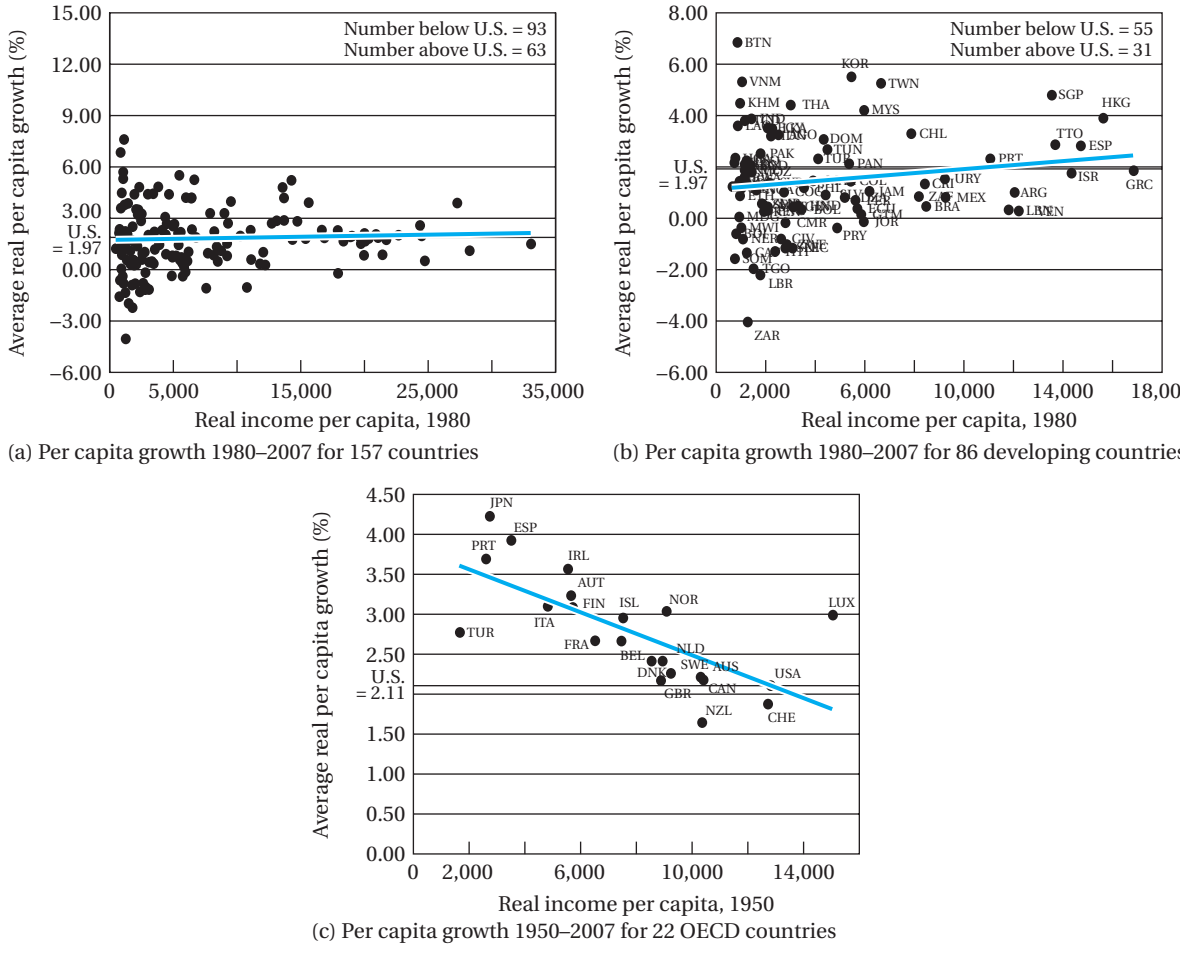
Given one or both of these conditions, technology transfer and more rapid capital accumulation, incomes would tend toward convergence in the long run as the faster-growing developing countries would be catching up with the slower-growing developed countries. Even if incomes did not eventually turn out to be identical, they would at least tend to converge *conditional on* (i.e., after also taking account of any systematic differences in) key variables such as population growth rates and savings rates (this argument is formalized in the neoclassical growth model examined in Chapter 3 and Appendix 3.2). Given the huge differences in capital and technology across countries, if growth conditions were similar, we should see tendencies for convergence in the data.

Whether there is now convergence in the world economy depends on two levels of how the question is framed: whether across average country incomes or across individuals (considering the world as if it were one country); and whether focusing on relative gaps or absolute gaps.

Relative Country Convergence The most widely used approach is simply to examine whether poorer countries are growing faster than richer countries. As long as this is happening, poor countries would be on a path to eventually "catch up" to the income levels of rich countries. In the meantime, the *relative* gap in incomes would be shrinking, as the income of richer countries would become a smaller multiple of income of poorer countries (or looked at from the other perspective, incomes of poor countries would become an increasingly large fraction of income of rich countries). This can be seen on a country-by-country basis. Although China's average income was just 3% that of the United States in 1980, it was estimated to have reached 14% of U.S. income by 2007. But in the same period, the income of the DRC fell from about 5% of U.S. levels to just 1%. But globally, evidence for relative convergence is weak, even for the most recent decades.

Figure 2.7a illustrates the typical findings of this literature. On the x-axis, income data are plotted from the initial year, in this case 1980; while on the y-axis, the average growth rate of real per capita income is plotted, in this case, over the subsequent 27 years to 2007. If there were unconditional convergence, there would be a tendency for the points plotted to show a clear negative relationship, with the initially lower-income countries growing faster. But as seen in Figure 2.7a there is no apparent tendency toward convergence across countries. In fact, even in this recent period, about 60% of countries grew more slowly than the United States. Looking just at the developing countries, as in Figure 2.7b, it is clear that divergence is occurring: middle-income countries are

FIGURE 2.7 Relative Country Convergence: World, Developing Countries, and OECD



(a) Per capita growth 1980–2007 for 157 countries

(b) Per capita growth 1980–2007 for 86 developing countries

(c) Per capita growth 1950–2007 for 22 OECD countries

Source: Data from Center for International Comparisons, University of Pennsylvania, accessed at http://pwt.econ.upenn.edu/php_site/pwt63/pwt63_form.php.

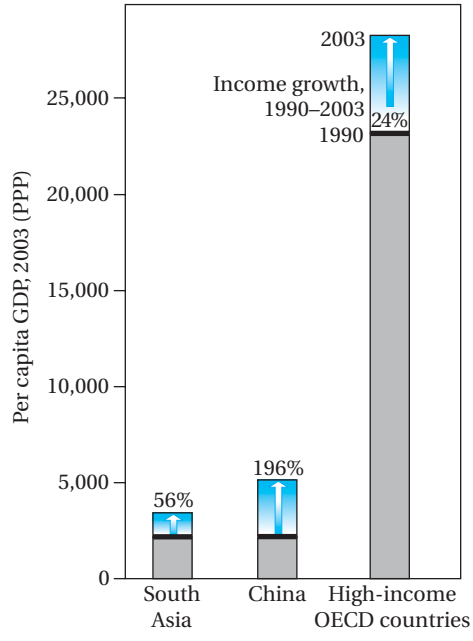
growing faster than low-income countries, so there is a growing gap among developing countries. Many nations, especially among the 49 least developed countries, remain in relative stagnation. Poor developing countries have not been catching up as a group.[51]

In Figure 2.7c, growth of high-income OECD countries is examined separately for 1950–2007. The picture here is one of convergence, and we need to interpret it carefully. One explanation is that all of these countries have similar features, including a relatively early start at modern economic growth. This makes the countries more able to borrow technology from each other, as well as trade with and invest in each other's economies. We might conjecture that if developing countries closely followed the institutions and policies of these OECD economies, they might converge as well. However, as noted earlier, there are many institutional and other differences between low- and

high-income economies today, some of which may be very difficult to change; we explore these further in the next section. Moreover, a poor country cannot force a rich country to lower its trade barriers. In any case, one must draw conclusions from the results with great caution because of *selection bias*. That is, among today's rich countries, some were relatively rich in the past and some were relatively poor; in order for them all to be rich countries today, the poor countries *had* to have grown faster than the rich ones, simply as a matter of logic. Confining attention just to the rich countries thus commits the statistical error of selection bias.[52] Nevertheless, the strong evidence for convergence among the OECD countries, together with the failure at least until very recently to find compelling evidence for longer-term convergence for the world as a whole, particularly divergence for the least developed countries, is likely one reflection of the difference in growth conditions between now developed and developing countries.

Absolute Country Convergence With the recent rapid growth in China, and the acceleration of growth in South Asia as well, these regions are currently on a path of relative country convergence. For example, in the 1990–2003 period, while income grew 24% in high-income OECD countries, it grew 56% in South Asia and 196% in China. But due to their relatively low starting income levels, despite higher growth, income gains were still smaller in absolute amount than in the OECD, as illustrated in Figure 2.8. That is, even when the average income of a developing country is becoming a larger fraction of developed

FIGURE 2.8 Growth Convergence versus Absolute Income Convergence

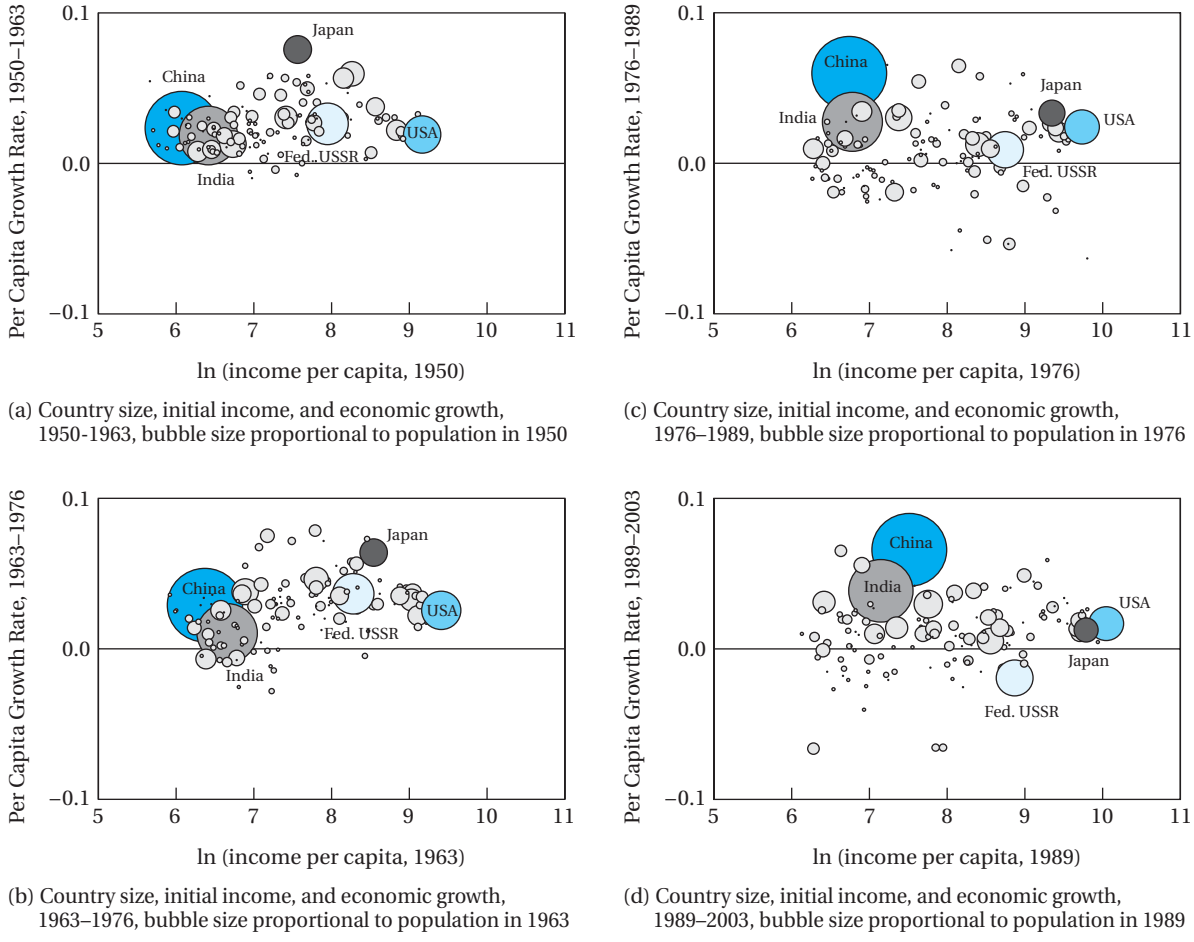


Source: From *Human Development Report, 2005,* p. 37. Reprinted with permission from the United Nations Development Programme.

country average incomes, the difference in incomes can still continue to widen for some time before they finally begin to shrink. A process of absolute country convergence is a stronger standard than (and appears only with a lag after) a process of relative country convergence.[53]

Population-Weighted Relative Country Convergence The high growth rate in China and India is particularly important, because more than one-third of the world's people live in these two countries. This approach frames the question so as to weight the importance of a country's per capita income growth rate proportionately to the size of its population. A typical study of this type is depicted in Figure 2.9a–d. Instead of points representing the data for each country, bubble sizes are used to depict the relative size of countries'

FIGURE 2.9 Country Size, Initial Income Level, and Economic Growth



(a) Country size, initial income, and economic growth, 1950-1963, bubble size proportional to population in 1950

(c) Country size, initial income, and economic growth, 1976–1989, bubble size proportional to population in 1976

(b) Country size, initial income, and economic growth, 1963–1976, bubble size proportional to population in 1963

(d) Country size, initial income, and economic growth, 1989–2003, bubble size proportional to population in 1989

Source: Steven Brakmana and Charles van Marrewijk, "It's a big world after all: On the economic impact of location and distance," *Cambridge Journal of Regions, Economy and Society* 1 (2008): 411–437. Reprinted by permission of Oxford University Press.

populations. To get a sense of how the acceleration of growth in China and India, along with a few other countries, have changed the picture, the data are broken up into four time periods. Figures 2.9a and 2.9b reflect that there was relative per capita *divergence* from 1950 through 1976, but Figure 2.9d reflects relative per capita convergence since 1989 (and less unambiguously but plausibly from 1977 to 1989 as well—see Figure 2.9c). If current trends continue (a "big if" given widespread predictions for a slowing of their growth rates), then China, India, and Brazil will account for nearly 40% of global output by 2050, compared with about 10% in 1950.[54] Although it is true that conditions have remained stagnant or even deteriorated in many of the least developed countries, because of their smaller population sizes with the population-weighted approach, this divergence effect is more than compensated for by growth in countries with large populations. Note that all such trends may be subject to change. For example, the population growth rates of the 49 least developed countries and other low-income countries are much higher than those of the middle- and upper-income countries; so their population-weights are increasing over time. African countries may see a furtherance of their recent trend to faster growth magnifying the new trend to global convergence; or they and other developing regions may see a growth slowdown, with commodity prices falling again and continuing governance problems; and the global economy could return to a period of divergence. These trends will be watched closely.

World-as-One-Country Convergence An alternative approach to the study of convergence is to think of the world as if it were one country. In the first such study, Branko Milanovic stitched together household data sets from around the world and concluded that global inequality rose significantly in the period 1988 to 1993.[55] Studies of this kind are difficult to carry out. The most important difference from population-weighted country convergence is that a world-as-one-country convergence study can take into account changes in inequality *within* countries as well as between them. In particular, the widening gulf between incomes in rural and urban China had a major effect on the finding of global divergence using this method. But most researchers and policymakers frame development as a process that occurs on the national level, something rather different from global inequality; and country convergence studies remain the standard.

Sectoral Convergence Despite evidence that economies are not converging unconditionally, there can be cross-national convergence of economic sectors, which in turn may signal the potential for future convergence. In particular, Dani Rodrik found evidence that there has been convergence in manufacturing, with implications that the failure to find overall convergence across countries is due to the small share and slow growth of manufacturing employment in low-income countries.[56]

2.7 Long-Run Causes of Comparative Development

What explains the extreme variations in development achievement to date among developing and developed countries? The next two chapters examine theories of economic growth and development processes and policy challenges;

here we present a schematic framework for appreciating the major long-run causes of comparative development[57] that have been argued in some of the most influential research literature of this century.[58] (Bear in mind that research on this important subject is still at a relatively early stage; scholars have legitimate disagreements about emphasis and substance, and new findings are being reported regularly.)

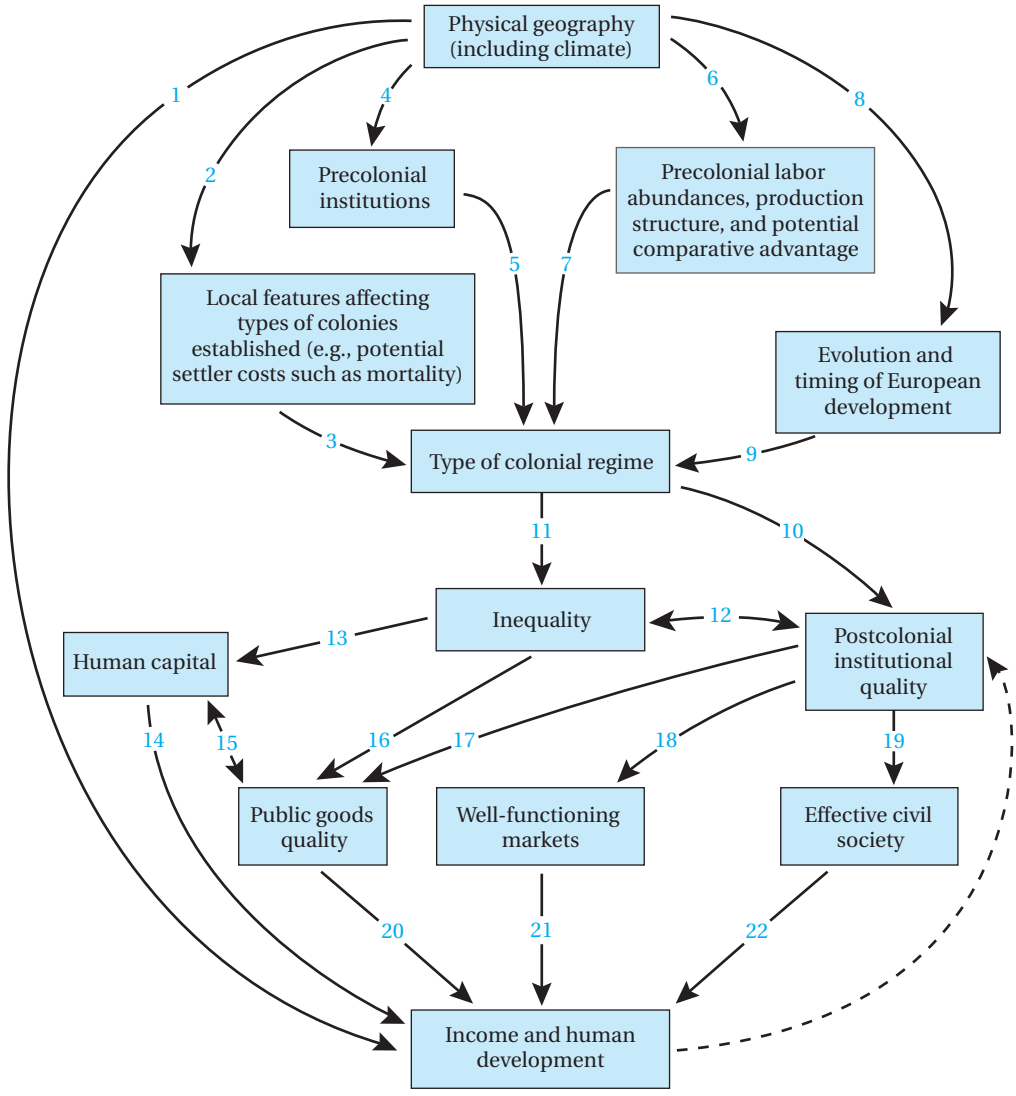
First, in the very long run, few economists doubt that physical geography, including climate, has had an important impact on economic history. *Geography* was once truly exogenous, even if human activity can now alter it, for better or worse. But the economic role played by geography, such as tropical climate, today is less clear. Some research suggests that when other factors, notably inequality and institutions, are taken into account, physical geography adds little to our understanding of current development levels. However, some evidence is mixed. For example, there is some evidence of an independent impact of malaria and indications that in some circumstances, landlocked status may be an impediment to economic growth; indeed, a direct link is argued by some economists,[59] so this possible effect is reflected in **Arrow 1** connecting geography to *income and human development* on the left side of Figure 2.10. Recently, the debate on comparative economic development has been widened further with some evidence that an intermediate degree of genetic diversity (heterozygosity) of human populations is most conducive to long-run economic development.[60]

Economic Institutions
"Humanly devised" constraints that shape interactions (or "rules of the game") in an economy, including formal rules embodied in constitutions, laws, contracts, and market regulations, plus informal rules reflected in norms of behavior and conduct, values, customs, and generally accepted ways of doing things.

Economic institutions, which play an important role in comparative development, are defined by Nobel laureate Douglass North as the "rules of the game" of economic life. As such, institutions provide the underpinning of a market economy by establishing the rules of property rights and contract enforcement; improving coordination;[61] restricting coercive, fraudulent, and anticompetitive behavior; providing access to opportunities for a broad population; constraining the power of elites; and managing conflict more generally. Moreover, institutions include social insurance (which also serves to legitimize market competition) and the provision of predictable macroeconomic stability.[62] Countries with higher incomes can afford better institutions, so it is challenging to identify the impact of institutions on income. But recently, development economists have made influential contributions toward achieving this research goal.

As noted earlier, most developing countries were once colonies. Geography affected the types of colonies established (**Arrow 2**), with one of the now best known geographic features being settler mortality rates, whose impact[63] was examined in work by Daron Acemoglu, Simon Johnson, and James Robinson. In this argument, when potential settlers faced higher mortality rates (or perhaps other high costs), they more often ruled at arm's length and avoided large, long-term settlement. Their interest could be summarized as "steal fast and get out" or "get locals to steal for you." Unfavorable institutions were therefore established, favoring extraction over production incentives. But where mortality was low, populations were not dense, and exploitation of resources required substantial efforts by colonists, institutions broadly encouraging investments, notably constraints on executives and protection from expropriation, were established (sometimes as a result of agitation from settlers who had the bargaining power to demand better treatment). These effects are reflected by **Arrow 3**. Acemoglu and colleagues present evidence that after

FIGURE 2.10 Schematic Representation of Leading Theories of Comparative Development



accounting for institutional differences, geographic variables (e.g., closeness to the equator) have little influence on incomes today.[64] Their statistical estimates imply large effects of institutions on per capita income.

The influence of geography on *precolonial institutions* is captured by **Arrow 4**. Precolonial institutions also mattered to the extent that they had influence on the *type of colonial regime* established. This possible effect is reflected by **Arrow 5**.

Precolonial comparative advantage and evolving *labor abundances* in the Americas and their relation to the institutions established have been examined in the pioneering work of Stanley Engerman and Kenneth Sokoloff.[65] When

climate was suitable for a *production structure* featuring plantation agriculture (particularly sugarcane in the early history), slavery and other types of mass exploitation of indigenous labor were introduced. In other areas, when indigenous peoples survived contact in sufficient numbers and mineral wealth was available, vast land grants that included claims to labor were established (by Spain). Although resulting from different comparative advantage (sugarcane and minerals), economic and political inequality were high and remained high in all of these economies (even among freemen), which had long-lasting negative effects on development. These links are reflected by **Arrow 6** and **Arrow 7**. Early inequities were perpetuated with limits on the nonelite population's access to land, education, finance, property protection, and voting rights, as well as labor markets. This inhibited opportunities to take advantage of industrialization when they emerged in the nineteenth century, a period when broad participation in commercial activity had high social returns.

The contrast with North American potential *production structure* is striking. Its comparative (emerging) advantage in grain lacked at the time the scale economies of tropical agriculture and of mineral extraction seen elsewhere in the Americas. Scarce labor with abundant land inhibited the concentration of power (despite efforts of colonizers to do so). The need to attract more settlers and encourage them to engage the colonial economy led to the evolution of more egalitarian institutions in the North American colonies. North Americans enjoyed greater egalitarianism in access to all of the factors so restricted elsewhere. This environment facilitated broad-based innovation, entrepreneurship, and investment and gave the United States and Canada a decisive advantage despite their starting out as much poorer societies, which they used to economically surpass societies whose populations were mostly illiterate, disenfranchised, and lacking collateral.[66] (We will examine further aspects of Engerman and Sokoloff's analysis shortly.)

When local populations were larger and denser and social organization was more advanced, it was easier for colonists to take over existing social structures to gain tribute. In such cases, resulting institutional arrangements would tend to favor mechanisms of extraction of existing wealth over the creation of new wealth, often leading to declines in the relative fortunes of these regions. This is pointed up by Acemoglu, Johnson, and Robinson, whose influential research on this historical "reversal of fortune"[67] is also reflected by **Arrow 5**. These authors stress that if geography were fundamental to development prospects, the most prosperous areas prior to colonization should continue to be relatively prosperous today. But the most prosperous formerly colonized areas today tend to have been least prosperous in the past. Past population density and past urbanization, which are positively correlated with past income, are *negatively* correlated with current income, these authors show.[68] There is evidence that Europeans set up more *extractive institutions* (ones designed to extract more surplus from colonized populations) in prosperous areas and that these institutions have often persisted to the contemporary period.[69]

Geography undoubtedly influenced early economic history in Europe.[70] This is reflected by **Arrow 8**, leading to *evolution and timing of European development*. Early development in Europe gave it advantages over most other regions—advantages that were used to colonize much of the world. But the

types of colonial regimes implemented varied considerably, depending on conditions prevailing at the time of colonization both in the different parts of the world colonized and within the colonizer's home country. The timing of European development influenced the *type of colonial regime* established, reflected by **Arrow 9**. For example, it has been argued that for various reasons, earlier colonization generally involved more plunder and less active production than later colonization, although both occurred at the expense of the indigenous populations.[71]

Precolonial comparative advantage may also have interacted with the timing of European development in influencing institutions in that settlers in later-colonized temperate zones arrived with more knowledge and more advanced technology. In particular, Europeans brought better agricultural techniques to the later-settled areas such as North America. As noted by David Fielding and Sebastian Torres, by the eighteenth century, population growth in Europe and technical change had produced a large supply of people with temperate-zone agricultural skills in products such as wheat and dairy. They were able to gain higher incomes using these skills in temperate colonies and former colonies (the so-called neo-Europes).[72] Thus, precolonial (potential) comparative advantage again mattered. This link is reflected in the flow through **Arrow 6** and **Arrow 7**. The possible role played by specific skills also points up the importance of human capital investments for development, reflected by **Arrow 14**.

Thus, the types of colonial regimes established, while always designed for the benefit of the colonizers, were influenced by local and European supply and demand factors. The type of regime had enormous influence on *postcolonial institutional quality*, reflected by **Arrow 10**. For example, the depraved rule of Belgium's King Leopold II over the Congo (today's Democratic Republic of Congo) was arguably an ultimate cause of the oppressive Mobutu reign after independence. Of course, not all influences of colonialism were necessarily bad. Along with enslavement, subjugation, exploitation, loss of cultural heritage, and repression, colonists also brought modern scientific methods in fields such as medicine and agriculture. Note that this can be no apologia for colonialism, because these advances could have been gained without the societies' becoming colonized, as in Japan. Still, there is some evidence that countries and territories that spent a longer time as colonies (at least in the case of islands) have higher incomes than those that experienced shorter colonial periods, with this effect greater for entities colonized later (perhaps because earlier colonial activity had more pernicious effects than later ones). Even so, there are strong caveats to this finding.[73]

Besides creating specific institutions, European colonization created or reinforced differing degrees of *inequality* (often correlated with ethnicity), ultimately leading to diminished prospects for growth and development, notably in Latin America and the Caribbean. This is reflected by **Arrow 11**. High inequality often emerged as a result of slavery in regions where crops could be "efficiently" produced on slave plantations. They also emerged where a large, settled indigenous population could be coerced into labor. Such histories had long-term consequences, particularly in Latin America. As Engerman and Sokoloff have argued, the degree of inequality itself can shape the evolution of institutions as well as specific policies. Where inequality was extreme, there was less investment in *human capital* (**Arrow 13**) and other public goods

(**Arrow 16**) and, as reflected by the bidirectional **Arrow 12**, a tendency of *less* movement toward democratic institutions (which could also have facilitated movement to other constructive institutions).[74]

Thus, extreme inequality is likely to be a long-term factor in explaining comparative development. This is raised in the striking historical contrast between the states of North America and the states of Central and South America. There was greater egalitarianism in North America, though the inhuman treatment of Native Americans and of slaves in the southern colonies (later the United States) reflects the fact that this is not because the English settlers were inherently "nicer masters" than the Spanish. Still, much of the North American experience contrasts strongly with the extreme inequality of Central and South America and the Caribbean.[75] Engerman and Sokoloff argued that high inequality in Latin America led to low *human capital* investments, again in contrast to North America;[76] this mechanism is again reflected by **Arrow 13**. Elites in Latin America then loosened their control only when their returns to increased immigration, and thus to creating more attractive conditions for immigrants, were high. Besides creating specific institutions, then, European colonization created or reinforced different degrees of inequality, often correlated with ethnicity. This history had long-term consequences, particularly in Latin America. In the direction from inequality to *postcolonial institutional quality*, **Arrow 12** reflects what has been termed the social conflict theory of institutions. Box 2.4 presents findings that inequality does negatively affect per capita income much in the way predicted by Engerman and Sokoloff.

Cultural factors may also matter in influencing the degree of emphasis on education, postcolonial institutional quality, and the effectiveness of civil society, though the precise roles of culture are not clearly established in relation to the economic factors surveyed in this section and so are not included in the diagram. In addition, institutional quality affects the amount and quality of investments in education and health, via the mediating impact of inequality. In countries with higher levels of education, institutions tend to be more democratic, with more constraints on elites. The causality between education and institutions could run in either direction, or both could be caused jointly by still other factors. Some scholars argue that some countries with bad institutions run by dictators have implemented good policies, including educational investments, and subsequently, after reaping the benefits in terms of growth, those countries have changed their institutions.[77] They argue that human capital is at least as fundamental a source of long-run development as institutions. In the diagram, this would suggest adding an arrow from human capital back to postcolonial institutional quality; this is intuitively plausible, although additional evidence for this link will be needed for it to become more fully established.[78] Clearly, however, in some cases extractive colonial institutions left a legacy that resulted in poor health and education decades after independence; an example from India is examined in Box 2.5.

For the relatively small number of developing countries never colonized, such as Thailand, *type of colonial regime* can be reinterpreted in the diagram as institutional quality at an early stage of development (or as cultural influences not shown)—but note that the evidence for causality patterns is not as convincing in these cases. However, the diversity of development experiences of never-colonized countries caution us not to place complete emphasis on the choices of colonizers; preexisting social capital may matter at least as much.[79]

BOX 2.4 FINDINGS Instruments to Test Theories of Comparative Development: Inequality

In a 2007 study, William Easterly used cross-country data to examine the Engerman and Sokoloff hypothesis. His research confirmed that "agricultural endowments predict inequality and inequality predicts development." Specifically, Easterly finds that inequality negatively affects per capita income; it also negatively affects institutional quality and schooling, which are "mechanisms by which higher inequality lowers per capita income." That the negative relationship between income and inequality is present in the data is clear—but how do development economists take the step to prediction and assignment of causality when measurement error and many confounding factors are present, such as the possible link that underdevelopment itself is a cause of inequality?

Sometimes development economists run field experiments—but obviously, we cannot randomly assign countries various levels of inequality to see what happens! In the many cases when field experiments are impossible, development economists frequently try to understand causality by searching for an instrumental variable (or "instrument"); in fact, many researchers in development economics invest a lot of their time in this search. This is a topic covered in classes in econometrics. But the basic idea is that to identify the effect of a potential causal variable c (such as inequality) on a development outcome variable d (such as income or educational attainment), the hunt is on for an elusive instrumental variable e that affects d only through e's effect on c. So an instrument has no independent effect on the outcome variable of interest. You saw earlier that Acemoglu, Johnson, and Robinson used settler mortality as an instrument for early institutions. Easterly uses "the abundance of land suitable for growing wheat relative to that suitable for growing sugarcane" as an instrument for inequality. Using this strategy, Easterly concludes that high inequality of the Engerman and Sokoloff variety is independently "a large and statistically significant barrier to prosperity, good quality institutions, and high schooling." Schooling and institutional quality are precisely the mechanisms proposed by Engerman and Sokoloff by which higher inequality leads to lower incomes. Like a leprechaun, a good instrumental variable is hard to get hold of but when caught can give the researcher's equivalent of a pot of gold. Though active debate on inequality and development continues, the interplay between the careful institutional analysis and economic history scholarship of Engerman and Sokoloff and the study of causality with larger data sets as used by Easterly gives a window into how the field of development economics continues to make progress.

Sources: William Easterly, "Inequality does cause underdevelopment," *Journal of Development Economics* 84 (2007): 755–776; Joshua D. Angrist and Jorn-Steffen Pischke, *Mostly Harmless Econometrics: An Empiricist's Companion* (Princeton, N.J.: Princeton University Press, 2008). For an important critique of the use and interpretation of instrumental variables (and also of randomization) in development economics research see Angus Deaton, "Instruments, randomization, and learning about development," *Journal of Economic Literature,* 48, no. 2 (2010): 424–455.

Never-colonized countries also show a dramatic range in performance; Ethiopia and Afghanistan remain very poor, Thailand is in the lower-middle range, Turkey is in the upper-middle range, and Japan is among the very wealthiest countries; China, starting among the poorest countries 30 years ago, is now rapidly ascending the income tables. The quality of institutions (and inequality) undoubtedly mattered in noncolonized societies; it is just harder to conclude that institutions led to income rather than only vice versa.

Clearly, human capital has a direct impact on *income and on human development* more broadly, as reflected by **Arrow 14**. The depth and breadth of education in the population will help determine the effectiveness of government as a force for development, reflected by **Arrow 15**. This is due not only

BOX 2.5 FINDINGS Legacy of Colonial Land Tenure and Governance Systems

Substantial evidence on the importance of institutions is provided in a study of the impact of land revenue institutions established by the British Raj in India conducted by Abhijit Banerjee and Lakshmi Iyer. Because areas where land revenue collection was taken over by the British between 1820 and 1856 (but not before or after) were much more likely to have a non-landlord system, the authors used being conquered in this period as an instrument for having a non-landlord system. They also used other statistical tests that showed the results were robust. They found that historical differences in property rights institutions led to sustained differences in economic outcomes, in that the regions in which property rights to land were given to landlords have had significantly lower agricultural investments and productivity in the postindependence period than regions in which property rights were given to cultivators. The authors concluded that the divergence occurred because historical differences in institutions led to different policy choices. Tellingly, the regions in which landlords received the proprietary rights also had significantly lower investments in health and education in the postcolonial period.

In subsequent research, Lakshmi Iyer compared economic outcomes across areas in India that experienced direct versus indirect British colonial rule, controlling for the apparent colonial preference to annex higher-quality lands using another instrumental variable strategy. She found evidence that colonial governance quality had persistent effects on postcolonial outcomes; areas under direct rule received significantly less access to schools, health centers, and roads in the postcolonial period, with higher levels of poverty and infant mortality.

Sources: Abhijit Banerjee and Lakshmi Iyer, "History, institutions, and economic performance: The legacy of colonial land tenure systems in India," *American Economic Review* 95 (2005): 1190–1213; and Lakshmi Iyer, "Direct versus indirect colonial rule in India: Long-term consequences," *Review of Economics and Statistics* 92 (2010): 693–713. Preparation of this box also benefited from a manuscript, Lakshmi Iyer, "The long-run consequences of colonial institutions," draft, Harvard Business School, 2013.

to a better-qualified civil service but also to the understanding of citizens of poor government performance and the knowledge of how to work for a better outcome and capacity to organize.[80] Of course, education could also independently affect the organization and functioning of markets per se (arrow omitted), but the literature to date has primarily viewed the productive impact of human capital on market outcomes as a direct one, reflected by **Arrow 14**. These impacts are explored further in Chapter 8.

The type and quality of global integration (particularly trade) have been stressed as a boon to long-run growth and development in many World Bank reports. Trade may be beneficial in that it provides various kinds of access to technology.[81] And some economists argue that greater openness to trade beneficially affects the subsequent evolution of institutions. On the other hand, critics argue that the wrong kind of integration or the failure to complement integration with appropriate policies could be harmful to development. In fact, evidence suggests that once institutions are accounted for, trade itself explains very little, so for simplicity, integration is left out of the diagram.[82]

Postcolonial institutional quality has a strong impact on the effectiveness of the private, public, and citizen (or civil society) sectors. Democratic governance, rule of law, and constraints on elites will encourage more and better

quality public goods, reflected by **Arrow 17**. Better property rights protections and contract enforcement for ordinary citizens and broad access to economic opportunities will spur private investments, reflected by **Arrow 18**. And institutions will affect the ability of civil society to organize and act effectively as a force independent of state and market, reflected by **Arrow 19**. Clearly, the activities of the three sectors will each have an influence on productivity and incomes, and on human development more generally, as reflected by **Arrows 20**, **21**, and **22**, respectively.[83] These factors are explored further in Chapter 11.

It is not yet entirely clear which economic institutions are most important in facilitating development or the degree to which strength in one institution can compensate for weakness in another.[84] Clearly, there are multiple paths to economic development (see, e.g., the case study of China at the end of Chapter 4). But a key finding of recent research is that forces that protect narrow elites in ways that limit access of the broader population to opportunities for advancement are major obstacles to successful economic development. If institutions are highly resistant to attempts at reform, this helps clarify why development is so challenging.

Nevertheless, in most countries with poor institutions, there is still much that can be done to improve human welfare and to encourage the development of better institutions. Indeed, economic institutions do change over time, even though political institutions such as voting rules sometimes change without altering the real distribution of power or without leading to genuine reform of economic institutions. Although the evidence of the impact of democracy on growth in the short to medium term is not strong (see Chapter 11), in the long run democratic governance and genuine development do go hand in hand, and the steady spread of more genuinely democratic institutions in the developing world is a very encouraging sign.[85] As Dani Rodrik has noted, "Participatory and decentralized political systems are the most effective ones we have for processing and aggregating local knowledge. We can think of democracy as a meta-institution for building other good institutions."[86] In addition, development strategies that lead to greater human capital, improve access to new technologies, produce better-quality public goods, improve market functioning, address deep-rooted problems of poverty, improve access to finance, prevent environmental degradation, and foster a vibrant civil society all promote development.

2.8 Concluding Observations

History matters. We have learned that conditions prevailing in a developing nation when European colonialism began had a large impact on the subsequent history of inequality and institutional development in the nation in ways that either facilitated or thwarted participation in modern economic growth after the Industrial Revolution arrived in the late eighteenth century. And poor institutions have generally proved very resistant to efforts at reform. But the new perspectives do not imply that development is impossible! Instead, they serve to clarify the nature of the great challenges facing many developing nations. The phenomenon of underdevelopment is best viewed in both a national and an international context. Problems of poverty, inequality, low productivity, population growth, unemployment, primary-product export

dependence, and international vulnerability have both domestic and global origins and potential solutions.

It should be remembered that most developing nations have succeeded in raising incomes significantly. And most developing countries have had notable successes in lowering infant mortality, improving educational access, and narrowing gender disparities.[87] By pursuing appropriate economic and social policies both at home and abroad and with effective assistance from developed nations, even the least developed countries do indeed have the means to realize their development aspirations. Parts Two and Three will discuss the ways in which these hopes and objectives can be attained.

But concomitant and complementary human capital, technological, social, and institutional changes must take place if long-term economic growth is to be realized. Such transformations must occur not only within individual developing countries but also in the international economy. In other words, unless there is some major structural, attitudinal, and institutional reform in the world economy, one that accommodates the rising aspirations and rewards the outstanding performances of individual developing nations, particularly the least developed countries, internal economic and social transformation within the developing world may be insufficient.[88]

There may be some "advantages of backwardness" in development, such as the ability to use existing, proven technologies rather than having to reinvent the wheel and even leapfrogging over older technology standards that developed countries have become locked into. One can also learn valuable lessons from economic policies that have been tried in various countries around the world. These advantages are especially helpful if an economy can successfully manage to get sustained modern economic growth under way, as, for example, in Taiwan, South Korea, China, and a few other cases. However, for most very poor countries, backwardness comes with severe disadvantages, many of which have been compounded by legacies of colonialism, slavery, and Cold War dictatorships. In either case, countries will generally have to do more than simply emulate policies followed by today's developed countries while they were in their early stages of development.

Despite the obvious diversity of these countries, and growing gaps between middle- and low-income countries, most developing nations share a set of common and well-defined goals. These include a reduction in poverty, inequality, and unemployment; the provision of basic education, health, housing, and food to every citizen; the broadening of economic and social opportunities; and the forging of a cohesive nation-state. Related to these economic, social, and political goals are the common problems shared in varying degrees by most developing countries: chronic absolute poverty, high levels of unemployment and underemployment, wide disparities in the distribution of income, low levels of agricultural productivity, sizable imbalances between urban and rural levels of living and economic opportunities, discontent on the part of the segments of the population not benefiting from economic growth, serious and worsening environmental decay, antiquated and inappropriate educational and health systems, and substantial dependence on foreign technologies, institutions, and value systems. It is therefore also possible and useful to talk about the similarities of critical development problems and to analyze these problems in a broad developing world perspective.

Economic and social development will often be impossible without corresponding changes in the social, political, legal, and economic institutions of a nation, such as land tenure systems, forms of governance, educational structures, labor market relationships, property rights, contract law, civic freedoms, the distribution and control of physical and financial assets, laws of taxation and inheritance, and provision of credit. But fundamentally, every developing country confronts its own constraints on feasible policy options and other special circumstances, and each will have to find its own path to effective economic and social institutions. Examples offered by developed countries' earlier experiences and current institutions, as well as those of other countries in the developing world, provide important insights for policy formulation. Economic institutions of Europe and North America are in most cases closer to efficient than those of many developing countries, although all countries have room for further institutional innovations. But developing countries cannot assume without additional investigation that patterning their policies and institutions on those of developed countries will always provide the fastest route to successful economic development; transitional institutions are likely to be the most effective route to rapid economic growth for at least some developing countries (see the case study of China at the end of Chapter 4).

In sum, this chapter has pointed up some important similarities across most developing countries, in contrast to contemporary and historical characteristics of developed countries. It has also shown that developing nations are very heterogeneous, differing in many critical respects. Looming large in explaining the root causes in the levels of incomes and human development are the higher inequality, weaker institutions, and lower levels of education and health. But even starting with these weaknesses, there is much that developing countries can undertake through appropriate policy strategies and at least incremental improvements in institutions to speed economic and social progress.

Indeed, the experience of the past 50 years shows that while development is not inevitable and poverty traps are quite real, it is possible to escape from poverty and initiate sustainable development. Before examining specific policies for doing so, in the next chapters we will set the context further by examining important theories and models of development and underdevelopment. In Chapter 3, we examine classic theories that remain influential and useful in many respects, and in Chapter 4, we consider models of coordination failures and other constraints and conceptual strategies for escaping from them.

Case Study 2

Comparative Economic Development: Pakistan and Bangladesh

In 1971, Bangladesh declared independence from Pakistan. Previously, Bangladesh had been known as East Pakistan, and what is now Pakistan was called West Pakistan. Though more than 1,000 miles apart, both were part of a single country, with economic and political power concentrated in West Pakistan. Because they were once the same country, Pakistan and Bangladesh make for an interesting exercise in comparative development, in that the two shared a common national policy in the early years, even if they did not benefit from it equally. Pakistan and Bangladesh had a similar population in 2012: an estimated 180 million in Pakistan and 153 million in Bangladesh (Population Reference Bureau). They are located in the South Asian region, are both overwhelmingly Islamic, and were both once part of the colonial British Raj of India. Bangladesh was for a long time the global symbol of suffering, from the Bengal famine of 1943 to the 1971 Concert for Bangladesh featuring George Harrison, Eric Clapton, and Bob Dylan to the horrors of the 1974 postindependence famine.

But analysts such as William Easterly have declared Pakistan a leading example of "growth without development," with low social indicators for its income and growth. Meanwhile, Bangladesh, though still very poor and afflicted with many of the social problems found in Pakistan, has been transforming itself from a symbol of famine to a symbol of hope.

When Bangladesh gained its independence, it was viewed as lagging insurmountably behind Pakistan. Indeed, its poor social and economic development in comparison with West Pakistan was a major impetus behind the independence movement, which complained that Bangladesh was being drained of tax revenues to benefit West Pakistan. The war for independence itself and the economic destruction deliberately visited on Bangladesh's industry left an even wider gap, while abuses left serious psychological scars, and a terrible famine followed. One U.S. statesman undiplomatically dubbed Bangladesh the "international basket case." Others somewhat more tactfully called it the "test case for development"—meaning that if development could happen in Bangladesh, it could happen anywhere. Four decades later, Bangladesh is confounding the skeptics; it actually looks like it may pass this test. Although Pakistan still has 44% higher income than Bangladesh according to UNDP estimates, the two countries nonetheless received an identical New HDI ranking for 2013, with Bangladesh 9 places higher on NHDI than predicted for its income level, while Pakistan is 9 places below what would be predicted by income alone.

Not that Bangladesh has dramatically outperformed Pakistan. Bangladesh continues to have serious development problems. It is rather that Bangladesh has made *relatively* better progress than Pakistan, particularly on social development indicators, despite its handicaps at independence and expectations that it would continue to fare badly. Bangladesh started at a much lower level of social development and still has lower income. But in achieving more progress on social development, Bangladesh now also has the conditions for accelerating economic progress in the coming years, particularly if continuing problems of governance can be overcome.

Growth

PPP-adjusted income estimates vary, but all show average income remains higher in Pakistan than in

Bangladesh ($2,880 in Pakistan in 2011 and $1,910 in Bangladesh according to World Bank estimates). In Pakistan, per capita income grew at about 2.2% per year in the half-century from 1950 to 2000. As a result, per capita income tripled. But the growth rate declined decade by decade, even as it rose in other countries, including India. The decline in the growth rate may be a result of the poor performance on social indicators. From 2000 to 2011, GDP growth in Pakistan averaged 4.9% (World Bank); with population growth of 1.8%, per capita GDP growth was about 3.1%. It remains to be seen whether Pakistan's moderately increased growth rate will be sustainable. Indications are that Pakistan has experienced much less inclusive (pro-poor) growth in comparison with Bangladesh.

In Bangladesh, GDP growth averaged 6% from 2000 to 2011 (World Bank). With a 1.3% population growth in this period, per capita GDP growth was about 4.7%, substantially outpacing Pakistan in this period. Farm yields are up dramatically. When the international textiles quota system of the Multifiber Arrangement ended in 2005, Bangladesh garment factory jobs—a major source of job creation—were at ongoing risk. The speed and astuteness of the market response has been a major test of the resiliency of the Bangladeshi economy. So far, the outcome is better than many predicted; and the impact of the global crisis on employment in the sector is comparatively modest. But recent factory deaths resulting from disastrous negligence of owners put future growth of this sector in jeopardy—if only because of the resulting global public relations disaster.

Poverty

The World Bank 2013 WDI reports (albeit based on only 2005 data) that 23% of the population lives below the $1.25 per-day poverty line in Pakistan, compared with 51% in Bangladesh. But poverty progress has been impressive in the onetime "basket case" of Bangladesh, and incomes of the poorest people are rising. Many factors have contributed to the relatively rapid decrease in extreme poverty in the country, including the early and quickly disseminating green revolution, the impressive role of indigenous nongovernmental organizations (NGOs) fighting poverty in rural areas, opportunities for women's employment in export industries, and remittances from relatives working abroad. Bangladesh remains a significantly poorer country, with 80% of Bangladeshis living on less than $2 per day, while the figure is a still very high 61% for Pakistan. But the two countries received much more similar scores on the UNDP's 2010 multidimensional poverty index (discussed in Chapter 5). Pakistan was only slightly less poor, ranking No. 70 with a score of 0.275, while Bangladesh ranked No. 73 with a score of 0.291, when aspects of poverty broader than income are considered.

Education and Literacy

According to UNESCO, in Pakistan in 2011, the female literacy rate was just 40% (the male rate was 69%) for those 15 and older. In some regions of the country, particularly Baluchistan and the Northwest Frontier, it is far lower. Although female literacy is not high in Bangladesh either, it is clearly better than Pakistan by both absolute and relative (gender parity) standards—the UNESCO estimate for Bangladesh in 2011 was 53% literacy for all women over age 15 (the male rate was 62%). Thirty times as many public education dollars are spent per pupil for university education as for primary school education. Primary school expenditures are extremely unequal, with the lion's share of funds going to schools that more often train the few students who will eventually go on to universities. Many teachers are hired for political reasons rather than professional competence, and "teacher truancy" is a serious problem. Easterly and other analysts such as Ishrat Husain believe that Pakistan's poor performance on education and literacy may result from the incentives of the elite to keep the poor from gaining too much education.

Looking to the future, Bangladesh has the clear edge in school enrollments; for example, in 2011 Bangladesh had a 52% enrollment in secondary school, compared with just 35% in Pakistan (2013 World Bank WDI, Table 2.11). Despite school quality problems in both countries, this differential will translate to higher literacy rates and general knowledge in Bangladesh in a few years. In Bangladesh just 30 years ago, attending school was an almost unimaginable luxury for most of the poor. Whereas only half of students completed primary school in 1990, more than two-thirds do today. And recent estimates showed that Bangladesh actually has a

female-to-male primary and secondary enrollment ratio of 1.07 to 1, while in Pakistan it is just 0.83. Thus, as we look ahead, then, we can also expect much greater parity in male and female literacy levels in Bangladesh. The nonformal education programs of NGOs such as BRAC provide a major contribution to this progress (see the case study in Chapter 11). But both countries are now making real progress.

Health

Life expectancy in Bangladesh is now 69 years, compared with only 65 in Pakistan (2012 Population Reference Bureau); but in 1970 life expectancy was 54 in Pakistan and only 44 in Bangladesh. Since 1990, the prevalence of child malnutrition in Bangladesh has fallen from two-thirds to less than half. Nutrition in Bangladesh has benefited from a successful green revolution. But child malnutrition remains lower in Pakistan, at about 38%.

Under-5 mortality in Bangladesh has fallen dramatically. On the eve of independence in 1970, the under-5 mortality rate in Bangladesh was 239 per 1,000 live births; the rate in Pakistan was 180 per 1,000. In 1990, the rate in Bangladesh had fallen to 139, and in Pakistan to 122. By 2011, both countries continued to make strong progress, but again their positions were reversed, with the Bangladesh under-5 mortality rate falling to 46 per 1,000, but that in Pakistan only to 72 per 1,000 (2013 WDI, Table 1.2). Thus, both countries have made progress on health, but the edge is strongly with Bangladesh.

Population

Bangladesh has made much greater progress than Pakistan in reducing fertility. Shortly after independence in 1971, both countries had an extremely high level of over 6 births per woman. In Bangladesh, fertility fell to 2.2 by 2011. But for Pakistan, fertility has fallen only to 3.3 (2013 WDI data), with much of Pakistan's decline very recent. These changes reflect both cause and effect. Fertility tends to fall as social and economic progress increases. Women perceive better economic opportunities and less need to rely on having several children for security. But with lower fertility, more can be invested in each child in health and education, by families, by governments, and by NGOs. Thus the productivity of the next generation is higher. A virtuous cycle can take hold as the country passes through its demographic transition (see Chapter 6). Looked at differently, given the negative relationship between population growth and income per capita growth (see Chapter 6), continuing high fertility augurs relatively poorly for Pakistan as we look ahead (though fertility is falling in Pakistan as well). Rather than simply converging, Bangladesh is actually on a trend to pull ahead of Pakistan as they follow divergent paths, with greater human capital investment in Bangladesh. The early and strong emphasis on an effective family planning strategy was an important factor in the progress of Bangladesh.

Understanding the Divergence

What explains the unexpectedly poor performance of Pakistan in social development and recent growth even in relation to Bangladesh, and what might be done to improve it? The most commonly cited examples of countries exhibiting "growth without development" are the Middle Eastern oil-exporting economies of the Persian Gulf states. Elites contest control of natural resources, an enclave economy develops with relatively few strong links to other sectors of the economy, and social spending is crowded out by national defense expenditures—both to ward off external attack, as exemplified by Iraq's brief conquest of Kuwait in 1990, and at least implicitly also to control the domestic population. In contrast, Pakistan has minimal oil reserves, has to import about four-fifths of its crude oil requirements, and may have to begin importing natural gas.

It is important to note that it is *not* true that there has been no social progress at all in Pakistan. Rather, the concern is that less progress has been made than in many other countries, even in many that grew much more slowly or experienced negative growth. Why has there been such slow progress?

Geography

To the degree that geography constrains development success, Bangladesh would seem to be at a considerable disadvantage. Tropical countries such as Bangladesh have done more poorly around the world, other things being equal. Pakistan, though facing some geographic disadvantages, would seem to hold the edge here. Moreover, aside from a few city-states and islands, Bangladesh is the

most densely populated country in the world. For perspective, the Netherlands is famous for its crowding and has 495 people per square kilometer. But Bangladesh is more than double as densely populated, with 1,174 people per square kilometer (World Bank WDI). Bangladesh has more than half the population of the United States, squeezed into an area less than the size of Wisconsin. (A partial countervailing factor is the greater ease of connecting people and economic activity, facilitating the benefits of the division of labor, for example.)

William Easterly and Ross Levine propose that countries with a multitude of social divisions, ethnic groups, and languages tend to have lower social development and growth rates, although the result is largely muted if the regime is democratic. There is no iron rule here; Mauritius is very diverse but has experienced successful development; India is diverse but has done better than either Pakistan or Bangladesh. Bangladesh is quite homogeneous; as much as 98% of the population is considered ethnic Bangla (Bengali) and speaks the Bangla language. Pakistan has a very high level of ethnic and language diversity. Even its name derives from a compound of *P*unjab, *A*fghanistan, *K*ashmir, and Baluch*istan*. The official language is Urdu, but it is spoken as a first language by only 7% of the population (the largest language group is Punjabi, at 48%). The failure to provide a fair allocation of revenues and services and resolve other issues for one of the largest ethnic groups, the Bangla, led to the division of Bangladesh from Pakistan in the first place. Easterly concludes that part of the cause of Pakistan's "fractionalism lies in ethnolinguistic fractionalization" and argues that "Pakistan is the poster child for the hypothesis that a society polarized by class, gender, and ethnic group does poorly at providing public services."

Gender Equity

According to the *Social Watch Report, 2013*, Bangladesh received a gender equity index ranking of 0.55, much higher than the Pakistan score of just 0.29. In Pakistan, as of 2008, only 60% as many women as men were literate—a figure that is little higher in the 15–24 age group. This is a key age group to consider because it represents those old enough to have had a full chance to gain literacy in school yet not be weighted down by past practices, which tend to perpetuate illiteracy in older groups. In Bangladesh, a significantly higher ratio of female to male literacy of 83% was found in 2008. As already seen, today in Bangladesh, more girls than boys are enrolled in primary education, while in Pakistan, the enrollment level of girls is less than three-quarters that of boys. But both countries have a male-to-female ratio of 1.05, an indicator of gender inequality (higher mortality of girls).

The availability of opportunities for work outside the home, notably in garment factories, has probably increased the autonomy of women. Improved safety is the most urgent priority. Conditions are harsh in other ways by Western standards, and many workers are paid below the official minimum wage; unions are often suppressed. At the same time, incomes are still far higher than alternatives such as domestic work, and the factory jobs have offered a way out for hundreds of thousands of formerly impoverished Bangladeshi women. Ongoing risks facing women factory workers were brought into public view with a factory fire that killed 112 people in November 2012, and a building collapse in April 2013 that killed 1,127 people—the most deadly garment factory disaster in history. More than half of those killed were women; some of their children also died in the buildings. The factory owners may be punished for knowingly subjecting garment workers to risky factory conditions; sustained government, union, and civil society action will be needed to help ensure that safety can be instituted before others die needlessly. Fortunately, rather than simply treating this as a public relations disaster and shifting contracts to other countries, in 2013 a group of major European retailers set up an "Accord," and a grouping of North American retailers set up an "Initiative," to set standards and monitor workplaces producing their contract garment orders. Of the two programs, the European Accord was viewed by many civil society and union observers as being more legally binding than the North American Initiative—and hence more effective (U.S. retailers claim this is because they could face lawsuit risks). In any case, Bangladeshi workers would benefit from enhanced cooperation and coordination between these two alliances.

Meanwhile, conditions do not seem to be much if any better in Pakistan; for example, in less publicized incidents, more than 300 garment workers died in factory fires in Pakistan in September 2012.

Aid

Pakistan has received a great deal of aid. Since independence in 1947, it has been one of the top aid-earning countries. In the aftermath of the terrorist attacks on the United States of September 11, 2001, Pakistan assumed great importance as a strategic ally of the United States in the struggle against terrorism. Sanctions were lifted, and various forms of aid were greatly increased. Although this should be an opportunity for Pakistan to spur development, and growth has accelerated since 2003 apparently in part as a result, history suggests caution. The country was a major Cold War ally of the United States, but the poor seemed to derive little benefit from that association. Bangladesh has also benefited considerably from aid. Effectiveness in the use of aid may be important, particularly the active involvement of effective NGOs in Bangladesh. The major indigenous NGOs and similar groups in Bangladesh generally placed a central emphasis on empowerment of women, and the impacts are generally viewed as having been very strong.

Governance and the Role of the Military

The military has always played a prominent role in Pakistan, and from 1999 to 2008, the nation was governed by a military ruler, General Pervez Musharraf. Pakistan's long-standing rivalry with India and territorial dispute with it over Kashmir since 1947 have diverted resources as well as government attention from social priorities while reinforcing the influence of the military.

The conflicts in northwest Pakistan and neighboring Afghanistan also emphasize a military role. On the other hand, in a heartening sign that democracy is taking firmer root, the May 2013 elections were widely considered fair and represented the first time that Pakistan has seen a civilian transfer of power after successful completion of a full term in office of a democratically elected government.

Although the military was very active in Bangladeshi politics for nearly two decades after independence in 1971, the military's relative withdrawal from politics and government after 1990 probably has been a factor in the country's subsequent progress. Military involvement as the backer of a caretaker government in Bangladesh in 2007 and 2008 was widely viewed as relatively benign, and the country returned to elected civilian rule in 2009, but political polarization and violence escalated dangerously in late 2013 and early 2014. Neither country has been particularly transparent or free from corruption. In fact, in its 2012 Corruption Perceptions Index, Transparency International gave an essentially equally poor score (out of a possible 100) to the two countries, with 27 for Pakistan and only 26 for Bangladesh.

Civil Society

Given the weak government and the private sector, one must look to the third sector, variously referred to as the "nongovernmental, nonprofit, or citizen sector." Here the difference is dramatic. Bangladesh has one of the most vibrant NGO sectors in the world, the most highly developed in Asia. This will be explored in more detail in the end-of-chapter case studies in Chapter 11, where different approaches of NGOs to poverty action in Bangladesh will be discussed in the cases of BRAC and of the Grameen Bank. If a larger NGO sector could be developed in Pakistan, perhaps led by the many educated Pakistanis living in the United Kingdom, the United States, and Canada, it might play a similar catalyzing role.

Ishrat Husain proposes that Pakistan has experienced an "elitist growth model," which he identifies as combining a powerful leader or succession of leaders operating without checks and balances, a bureaucratic class that unquestioningly implements the wishes of the leader, and a passive and subservient population. He argues that "failure of governance and the consistent domination of political power and state apparatus by a narrowly based elite seeking to advance private and family interests to the exclusion of the majority of the population lies at the root of the problem." Husain shows that Pakistan has exhibited these characteristics since independence and points out that "this combination of strong autocratic leaders, a pliant bureaucracy, and a subservient population made it possible for the benefits of growth to be unequally distributed and concentrated." He concludes that "the ruling elites found it convenient to perpetuate low literacy rates. The lower the proportion of literate people, the lower the probability that the ruling elite could be replaced." One reason is that while girls' education is a boon for development as a whole, it is not necessarily in the economic and political interests of some of the elites now in powerful positions, especially at

the local or regional level. The dominance of large landowners over tenants in the social, political, and economic spheres is all too apparent in rural Pakistan. With education, as some landlords and business operators well know, workers, especially women, may finally demand that laws that are in place to protect them be enforced. It is sometimes in the owners' interest to see that this does not happen.

Concluding Remarks

The differences in social development in Bangladesh and Pakistan are not as overwhelming as would be found in a comparison with Sri Lanka, which has had favorable human development statistics for its low-income level despite enduring civil conflict, or even as dramatic as found between low-income states in India, such as the relatively high human development state of Kerala and the low-development state of Bihar. But Pakistan's growth has been higher than many countries that have made much greater social improvements and has done much better with available aid. The alternative interpretation of Pakistan's experience is that economic growth is after all possible even without high investment in health and education. But the long-term trends are for slower growth in Pakistan and higher growth in Bangladesh, making this interpretation simply untenable. As Easterly conjectured:

> It may be that a certain degree of development and growth was attainable with a skilled managerial elite and unskilled workers, but over time this strategy ran into diminishing returns, as human capital did not grow at the same rate as the other factors. This is consistent with the slowdown in growth from the mid-1980s to the present…. Agricultural growth may have also been possible with the landlord elite taking advantage of the immense potential of the irrigation network and the green revolution, using only unskilled agricultural laborers. But agricultural growth may also have run into diminishing returns, as irrigated land and human capital did not grow at the same rate as other factors of production.

The current development levels of these two countries are not dramatically different. But this itself is the dramatic finding, given the wide disparity when the countries separated in 1971.

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Concepts for Review

Absolute poverty
Brain drain
Capital stock
Convergence
Crude birth rate
Dependency burden
Depreciation (of the capital stock)
Diminishing marginal utility
Divergence
Economic institutions
Fractionalization
Free trade
Gross domestic product (GDP)
Gross national income (GNI)
Human capital
Human Development Index (HDI)
Imperfect market
Incomplete information
Infrastructure
Least developed countries
Low-income countries (LICs)
Middle-income countries
Newly industrializing countries (NICs)
Property rights
Purchasing power parity (PPP)
Research and development (R&D)
Resource endowment
Terms of trade
Value added
World Bank

Questions for Discussion

1. For all of their diversity, many less developed countries are linked by a range of common problems. What are these problems? Which do you think are the most important? Why?
2. Explain the distinction between low levels of living and low per capita incomes. Can low levels of living exist simultaneously with high levels of per capita income? Explain and give some examples.
3. Can you think of other common (not necessarily universal but widespread) characteristics of less developed countries not mentioned in the text? See if you can list four or five and briefly justify them.
4. Do you think that there is a strong relationship among health, labor productivity, and income levels? Explain your answer.
5. What is meant by the statement that many developing nations are subject to "dominance, dependence, and vulnerability" in their relations with rich nations? Can you give some examples?
6. Explain the many ways in which developing countries may differ in their economic, social, and political structures.
7. What are some additional strengths and weaknesses of the Human Development Index as a comparative measure of human welfare? If you were designing the HDI, what might you do differently, and why?
8. "Social and institutional innovations are as important for economic growth as technological and scientific inventions and innovations." What is meant by this statement? Explain your answer.
9. Why do many economists expect income convergence between developed and developing countries, and what factors would you look to for an explanation of why this has occurred for only a limited number of countries and in such a limited degree so far?
10. What are good economic institutions, why do so many developing countries lack them, and what can developing countries do to get them? Justify your answer.
11. Which measure shows more equality among countries around the world—GNI calculated at exchange rates or GNI calculated at purchasing power parity? Explain.
12. "South Asia has a lower income per capita than sub-Saharan Africa." Comment on the validity of this statement.
13. What is the meaning of a "colonial legacy"? Discuss any disadvantages and possible advantages.
14. State five characteristics of the developing world. Discuss diversity *within* the developing world on these characteristics in relation to the developed world.

15. Discuss the differences between the traditional HDI (examined in Appendix 2.1) in comparison to the New NHDI formulation. In what ways do you think either one is a better measure of human development? In your answer, consider the significance of computing with a geometric mean, instead of an arithmetic mean.
16. What were the central findings of Melissa Dell's research on the *mita* system, and what is their significance for the study of economic development?

Notes

1. Alan Heston, Robert Summers, and Bettina Aten, *Penn World Table*, version 6.3, Center for International Comparisons of Production, Income and Prices, University of Pennsylvania, August 2009, http://pwt.econ.upenn.edu/php_site/pwt63/pwt63_form.php. Data for 2007.
2. World Bank, *World Development Indicators, 2013.* (Washington, D.C.: World Bank, 2010), tab. 1.1. Data for 2011. These real measures reflect purchasing power parity (explained later in the chapter).
3. United Nations Development Programme (UNDP), *Human Development Report, 2005* (New York: Oxford University Press, 2005), p. 38. The global Gini coefficient is reported at 0.67 (for details on this measure of inequality, see Chapter 5).
4. World Bank, *World Development Indicators, 2010*, various tables. Some of these contrasts are summarized in Table 2.3 of this text.
5. For more information on country classification systems and other key comparative data, go to the World Bank Web site at http://www.worldbank.org/data, the OECD Web site at http://www.oecd.org/oecd, and the United Nations Development Programme Web site at http://www.undp.org. See http://www.unohrlls.org/en/home/ and http://www.unohrlls.org/en/ldc/related/59/. Some least developed countries such as Equatorial Guinea are on an "identified for graduation" list; but Equatorial Guinea does not meet "graduation criteria" on human assets or economic vulnerability.
6. Adjustments are made because otherwise the resulting PPP measure would essentially assume that the relative prices prevailing in the United States (i.e., the numeraire currency) also prevailed elsewhere (which would mean that the resulting total incomes would not be "base-country invariant"; that is, they would differ if, for example, the conversions were made to the UK pound sterling). Accounting for relative price differences recognizes the substitutions people make toward lower-priced goods in their market basket and thus gives a more accurate comparison of living standards. For details on calculations of PPP incomes, see the 2011 International Comparison Program site at http://siteresources.worldbank.org/ICPEXT/ Resources/ICP_2011.html, the UN Statistics Division at http://unstats.un.org/unsd/methods/icp/ipc7_htm.htm, and the *Penn World Table* site at http://pwt.econ.upenn.edu/aboutpwt2.html. These unadjusted figures do provide a useful indicator of the ability of a nation to buy goods and services in dollars abroad, but they are misleading regarding the ability to buy domestically.

   There are also other limitations of GNI (and PPP) calculations as measures of economic performance and welfare. For example, GNI does not take account of the depletion or degradation of natural resources; it assigns positive values to expenditures resulting from repair and cleanup costs following natural disasters (e.g., earthquakes, hurricanes, floods), to polluting activities, and to the costs of environmental cleanups (see Chapter 10). It frequently ignores nonmonetary transactions, household unpaid labor, and subsistence consumption (see Chapter 9). Products consumed by people living in poverty and prices they pay for them differ from the nonpoor. Finally, GNI figures take no account of income distribution (Chapter 5) or capabilities other than income.
7. This is accomplished in a special way. First, Equation 2.1 is applied to each of the two subcomponents, just as in Equations 2.3 and 2.4. Then, as explained by the UNDP, "a geometric mean of the resulting indexes is created and and, finally, Equation 2.1 is reapplied to the geometric mean of the indexes using 0 as the minimum and the highest geometric mean of the

resulting indexes for the time period under consideration as the maximum. This is equivalent to applying Equation 2.1 directly to the geometric mean of the two subcomponents." For further details, see http://hdr.undp.org/en/media/HDR%202013%20technical%20notes%20EN.pdf.

8. There is still substitutability across the three components in the NHDI, but not perfect substitutability as in the HDI. Regarding the calculation in the last equation of Box 2.1, recall that a geometric mean for the case of three variables is equivalent to the cube root of the product (by the properties of exponents). You can see how a geometric mean is used to build up the overall education index from its two components in the fourth equation in Box 2.1. For an interesting critique of the use of a geometric mean rather than a different functional form that also allows for imperfect substitutability, see Martin Ravallion, "Troubling tradeoffs in the Human Development Index," World Bank Policy Research Working Paper No. 5484, 2010.
9. The new UNDP measures can be found at http://hdr.undp.org.
10. It is possible that low income is supplemented by tapping into savings (broadly defined), which would reflect the unsustainable nature of such a low income.
11. See, for example, Jeffrey D. Sachs, *The End of Poverty: Economic Possibilities for Our Time* (New York: Penguin, 2005).
12. World Bank *World Development Indicators, 2013*.
13. Gunnar Myrdal, *Asian Drama* (New York: Pantheon, 1968), app. 2.
14. Recent debates on the incidence of national poverty traps and their causes is examined in Chapter 4. Economic growth is of course another area of wide variations in the developing world, with historically unprecedented growth in East Asia alongside chronic stagnation—at least until recently—in most of sub-Saharan Africa. Economic growth is a major subject of the next chapter.
15. For a discussion of the relative benefits and costs of country size, see Alberto Alesina and Enrico Spolaore, "On the number and size of nations," *Quarterly Journal of Economics* 112 (1997): 1027–1056.
16. For an interesting look at this problem in the context of India, see Kaushik Basu, "Teacher truancy in India: The role of culture, norms and economic incentives," January 2006, http://ssrn.com/abstract=956057. We return to this topic in Chapters 8 and 11.
17. See Table 2.3, columns 3, 4, and 5. See also World Bank, *World Development Indicators, 2007,* tabs. 2.14 through 2.20, and World Health Organization, *World Health Report, 2006,* http://www.who.int/whr/2006/en/index.html.
18. This widely used benchmark is an updated value for the dollar-a-day level. The standard of $1.25 is increasingly used for reasons described in Chapter 5. The 1.2 billion figure, corresponding to 21% of global population, is based on the 2013 World Bank poverty numbers update of April 2013, downloaded July 10, 2013 from: http://www.worldbank.org/content/dam/Worldbank/document/State_of_the_poor_paper_April17.pdf.
19. UNDP, *Human Development Report, 2006*, p. 269.
20. World Bank, *World Development Indicators, 2007,* tab. 2.7.
21. World Bank, *Global Monitoring Report, 2007* (Washington, D.C.: World Bank, 2007), tab. A.1. For recent evidence, please see Shaohua Chen and Martin Ravallion, "The developing world is poorer than we thought, but no less successful against poverty." Policy Research Working Paper 4703, World Bank, August 2008.
22. Ibid. and pp. 40–41; World Bank, *World Development Report, 2000/2001* (New York: Oxford University Press, 2000); *World Development Indicators, 2007,* tab. 2.1; Population Reference Bureau, *2006 World Data Sheet,* http://www.prb.org/pdf06/06WorldDataSheet.pdf. Some economists argue that these figures understate poverty incidence, but the trend has been clearly favorable, at least until 2006. Since then, the World Bank reports, significantly higher food prices and other consequences of the global economic crisis have slowed the pace of poverty reduction substantially.
23. Population Reference Bureau, *World Population Trends 2012*; World Bank, *World Development Indicators, 2010*, tab. 2.1; Population Reference Bureau, *2009 World Data Sheet*, http://www.prb.org/pdf10/10WorldDataSheet.pdf. For the population projections, see United Nations, Population Division, "World Population Prospects: The 2008

Revision," June 2009, http://www.un.org/esa/population/publications/popnews/Newsltr_87.pdf.

24. Population Reference Bureau, *2010 World Data Sheet*.
25. See William Easterly and Ross Levine, "Africa's growth tragedy: Policies and ethnic divisions," *Quarterly Journal of Economics* 112 (1997): 1203–1250, and Alberto Alesina et al., "Fractionalization," *Journal of Economic Growth* 8 (2003): 155–194.
26. For a discussion of these issues and the most careful attempt at generating the needed data, see Gillette Hall and Harry Anthony Patrinos, eds., *Indigenous Peoples, Poverty and Human Development in Latin America: 1994–2004* (New York: Palgrave Macmillan, 2006); Haeduck Lee, *The Ethnic Dimension of Poverty and Income Distribution in Latin America* (Washington, D.C.: World Bank, 1993); and Paul Collier, "The political economy of ethnicity," *Annual World Bank Conference on Development Economics, 1998* (Washington, D.C.: World Bank, 1999).
27. For a review of the complex statistical issues in sorting out the possible impact of ethnic, religious, and linguistic fractionalization, see Alesina et al., "Fractionalization." An earlier paper drawing somewhat different conclusions using less comprehensive measures is Easterly and Levine, "Africa's growth tragedy."
28. The United States, United Kingdom, Japan, Germany, France, Italy, and Canada formed the original Group of Seven (G7) industrial countries, considered the world's leading economies, to meet annually to deliberate global economic policy; the group was later expanded to include Russia as the Group of Eight (G8).
29. See David Landes, *The Wealth and Poverty of Nations: Why Some Are So Rich and Some So Poor* (New York: Norton, 1998); Jared Diamond, *Guns, Germs, and Steel: The Fates of Human Societies* (New York: Norton, 1997); John Luke Gallup, Jeffrey D. Sachs, and Andrew D. Mellinger, "Geography and economic development," *Annual World Bank Conference on Development Economics, 1998* (Washington, D.C.: World Bank, 1999), pp. 127–178; and Paul Collier, *The Bottom Billion* (Oxford: Oxford University Press, 2007), who emphasizes the combination of being landlocked with "bad neighbors."
30. See, for example, Intergovernmental Panel on Climate Change, "Fourth assessment report: Climate change 2007," http://www.mnp.nl/ipcc/pages_edia/AR4-chapters.html. The IPCC was established by the World Meteorological Organization (WMO) and the United Nations Environment Program (UNEP) to "assess available scientific, technical, and socioeconomic information relevant for the understanding of climate change, its potential impacts, and options for adaptation and mitigation." The group won the Nobel Peace Prize in 2007. For more details, see Chapter 10.
31. For a detailed analysis of the importance of information acquisition, its absence in many developing countries, and the consequent role of governments in promoting knowledge and information in the context of limited markets, see World Bank, *World Development Report, 1998/99: Knowledge for Development* (New York: Oxford University Press, 1998), pp. 1–15.
32. These three factors are identified as critically important in the research by Daron Acemoglu and James A. Robinson; see their *Economic Origins of Dictatorship and Democracy* (New York: Cambridge University Press, 2005). See also note 58. As Dani Rodrik noted, a caveat is that the institutions generally viewed as favorable are correlated with each other; it is unclear which of these institutions matter most or how specific in form these institutions have to be to fulfill their main functions.
33. See Kenneth L. Sokoloff and Stanley L. Engerman, "Factor endowments, institutions, and differential paths of growth among New World economies: A view from economic historians of the United States," in *How Latin America Fell Behind: Essays on the Economic Histories of Brazil and Mexico* ed. Stephen Haber, (Stanford, Calif.: Stanford University Press, 1997); see also additional works by these authors cited in note 58.
34. See Nathan Nunn and Leonard Wantchekon, "The slave trade and the origins of mistrust in Africa," *American Economic Review* 101, No. 7 (December 2011): 3221–3252.
35. Having avoided formal colonization is no guarantee of development success; Afghanistan and Ethiopia are frequently cited examples. However, it should also be noted that although it was not successfully colonized, Afghanistan was subjected to extensive indirect control with British and Russian invasions from the early nineteenth to the early twentieth century (and later by Soviet

armies with ongoing consequences), and Ethiopia was subject to invasions and intrigue by Italy and Britain. (Liberia, the other frequently cited example, was also subject to major influence from the developed world.)

36. For an interesting and provocative analysis of the critical role of "ideas" and "ingenuity" in long-term economic growth, see Paul M. Romer, "Idea gaps and object gaps in economic development," *Journal of Monetary Economics* 32 (1993): 543–573, and Thomas Homer-Dixon, "The ingenuity gap: Can poor countries adapt to resource scarcity?" *Population and Development Review* 21 (1995): 587–612.
37. Romer, "Idea gaps," 543.
38. See, for example Gallup, Sachs, and Mellinger, "Geography and economic development," pp. 127–178; Desmond McCarthy, Holger Wolf, and Yi Wu, "The growth costs of malaria," NBER Working Paper No. W7541, February 2000; and John Luke Gallup and Jeffrey D. Sachs, "The economic burden of malaria," Harvard University CID Working Paper No. 52, July 2000. See also p. 85.
39. Brinley Thomas, *Migration and Economic Growth* (London: Cambridge University Press, 1954), p. viii.
40. For an interesting contemporaneous description of the process and implications of international migration from the Mediterranean area to western Europe, see W. R. Böhnung, "Some thoughts on emigration from the Mediterranean basin," *International Labour Review* 14 (1975): 251–277.
41. Congressional Budget Office study, June 18, 2013, http://www.cbo.gov/publication/44225.
42. For an analysis of this issue, see Douglas Massey, "The new immigration and ethnicity in the United States," *Population and Development Review* 21 (1995): 631–652.
43. UNDP, *Human Development Report, 1992* (New York: Oxford University Press, 1992), p. 57.
44. On the emigration of Indian information technology workers, see "India's plan to plug the brain drain," *Financial Times*, April 24, 2000, p.17.
45. World Bank, "Migration and development briefs," http://go.worldbank.org/R88ONI2MQ0.
46. For an excellent overview of these issues, see UNDP, *Human Development Report, 2009*, http://hdr.undp.org/en.
47. For a discussion, see Simon Commander, Mari Kangasniemi, and L. Alan Winters, "The brain drain: Curse or boon? A survey of the literature," in *Challenges to Globalization: Analyzing the Economics* (Chicago: University of Chicago Press, 2004), pp. 235–272. See also C. Simon Fan and Oded Stark, "International migration and 'educated unemployment,'" *Journal of Development Economics* 83 (2007): 76–87.
48. A theoretical contribution to the literature on historical growth and its relevance to contemporary developing countries can be found in Marvin Goodfriend and John McDermott, "Early development," *American Economic Review* 85 (1995): 116–133. Goodfriend and McDermott argue that long-term economic development involves four fundamental processes: the exploitation of increasing returns to specialization, the transition from household to market production, knowledge and human capital accumulation, and industrialization. With regard to developing countries, they argue that "the continuing widespread use of primitive production processes alongside relatively modern techniques is the most striking feature of less-developed countries" (p. 129).
49. Douglass C. North, "Economic performance through time," *American Economic Review* 84 (1994): 359–368, and Douglass C. North, *Institutions, Institutional Change and Economic Performance* (New York: Cambridge University Press, 1990). For a provocative analysis of the historical links between economic development and political development, including democratization and the extension of human and legal rights, drawing on economic theory and 500 years of the global historical record, see Acemoglu and Robinson, *Economic Origins of Dictatorship and Democracy*, and Acemoglu and Robinson, *Why Nations Fail*, 2012.
50. In Chapters 3 and 4, we examine economic growth more after including the contending views about whether such diminishing returns apply to aggregate growth experience. For an appealingly intuitive discussion of these two effects, see Eli Berman, "Does factor-biased technological change stifle international convergence? Evidence from manufacturing," NBER Working Paper, rev. September 2000. Note, however, that other factors such as institutional quality may be at least as important as capital per worker in explaining

income per capita, as you will see later in this chapter and in Chapters 3 and 4. On the long-term divergence between developed and developing nations, see Pritchett, "Divergence, big time."

51. Note that earlier and longer periods tend to show more divergence due to "divergence big time" effect of inequalities growing since the start of the industrial era. Note also that there is evidence of convergence taking place for the years 2001 to 2007 (a shorter period than entertained in this literature but an encouraging and intriguing short-term trend that will bear watching closely); data are awaited to determine if this continued or even amplified after the financial crisis. The sample criteria for the diagrams in Figure 2.8 were as follows. All data are constructed from the Penn World Table using PPP values (which extended through 2007 when the graphs were constructed in 2010). To be included, a country had to have data available in the PWT database for the sample period; by starting in 1980, a relatively small number of countries had to be omitted. For the world diagram, six countries were excluded as 1980 base-period outliers that had very high income in that year due to a temporary oil price increase (Brunei, Qatar, UAE, Libya, Saudi Arabia, and Kuwait). The criterion for inclusion as a developing country in the 1980 base year was classification as a low- or middle-income country in the 1980 World Bank's *World Development Report*; use of this early classification (in the base year of the study) avoided the bias of excluding countries that had grown fast enough to become high-income countries during this period. An implication of this criteria, however, is the exclusion of centrally planned and oil-exporting countries; these two groupings had separate classification categories in the 1980 WDR not based on income level, and for consistency, China is excluded from this group as a centrally planned economy. As it is only one data point, this exclusion does *not* affect the failure to find country convergence in this period. (But the finding of population-weighted convergence since 1989 is substantially driven by the rapid per capita income growth of China, where China is included; note that China is also included in the world sample in Figure 2.8a). For the purpose of the OECD convergence diagram, the inclusion criteria was all original members plus Japan, Finland, Australia, and New Zealand, the four countries that joined after its founding but before 1973 (after which no new countries were admitted until Mexico in 1994), but with the exclusion of West Germany due to the statistical problem presented by its 1990 unification with East Germany.
52. For a detailed discussion, see J. Bradford De Long, "Productivity growth, convergence, and welfare: Comment," *American Economic Review* 78 (1988): 1138–1154.
53. Figure from *Human Development Report, 2005,* ch. 1. For graphs showing relative versus absolute income convergence for China in relation to the United States, see Stephen C. Smith, http://www.gwu.edu/~iiep/G2/. Note that in the 2008-2012 period, continued rapid growth in China, in combination with very slow growth in a majority of high-income OECD countries, led to estimates that China achieved higher per capita GDP absolute gains than OECD high-income countries. (Such absolute inequality measures can be used to address other kinds of questions about convergence or divergence, but this is rarely done. For example, it could be used in the size distribution of income at national or even international scale; but the usual preferred property for inequality measures is to make relative income comparisons. Details are discussed in Chapter 5.)
54. UNDP, *Human Development Report 2013,* p.13.
55. Branko Milanovic, "True world income distribution, 1988 and 1993: First calculation based on household surveys alone," *Economic Journal* 112, (2002) 51–92.
56. See Dani Rodrik, "Unconditional convergence in manufacturing," *Quarterly Journal of Economics* 128, No. 1 (2012): 165–204.
57. We thank Daron Acemoglu, Shahe Emran, Stanley Engerman, and Karla Hoff for their helpful comments on this section. Not all of the causal links described here are supported by the same type of evidence. Some are underpinned by widely (if not universally) accepted statistical (econometric) evidence. Other causal links emerge from historical studies. All links discussed are argued in the development economics literature to be

underlying factors leading to divergent development outcomes. The discussion follows the numbering of the arrows in Figure 2.11, which is arranged for concise display.

58. For very readable introductions to this research, see Daron Acemoglu, Simon Johnson, and James A. Robinson, "Understanding prosperity and poverty: Geography, institutions, and the reversal of fortune," in *Understanding Poverty*, eds. Abhijit Banerjee, Roland Benabou, and Dilip Mookherjee (New York: Oxford University Press, 2006), pp. 19–36, and Stanley L. Engerman and Kenneth L. Sokoloff, "Colonialism, inequality, and long-run paths of development," in *Understanding Poverty*, pp. 37–62. See also Daron Acemoglu, Simon Johnson, and James A. Robinson, "The colonial origins of comparative development: An empirical investigation," *American Economic Review* 91 (2001): 1369–1401, and Kenneth L. Sokoloff and Stanley L. Engerman, "History lessons: Institutions, factor endowments, and paths of development in the New World," *Journal of Economic Perspectives* 14 (2000): 217–232. For an excellent review of the work of these authors, see Karla Hoff, "Paths of institutional development: A view from economic history," *World Bank Research Observer* 18 (2003): 205–226. See also Dani Rodrik, Arvind Subramanian, and Francesco Trebbi, "Institutions rule: The primacy of institutions over geography and integration in economic development," *Journal of Economic Growth* 9 (2004): 135–165, and Dani Rodrik and Arvind Subramanian, "The primacy of institutions, and what this does and does not mean," *Finance and Development* (June 2003), http://www.imf.org/external/pubs/ft/fandd/2003/06/pdf/rodrik.pdf.

59. On the role of geography, see Diamond, *Guns, Germs, and Steel*; Gallup, Sachs, and Mellinger, "Geography and economic development"; Jeffrey D. Sachs, "Institutions don't rule: Direct effects of geography on per capita income," NBER Working Paper No. 9490, 2003; and Jeffrey D. Sachs, "Institutions matter, but not for everything," *Finance and Development* (June 2003), http://www.imf.org/external/pubs/ft/fandd/2003/06/pdf/sachs.pdf. See also Douglas A. Hibbs and Ola Olsson, "Geography, biogeography and why some countries are rich and others poor," *Proceedings of the National Academy of Sciences* (2004): 3715–3740; for a discussion on landlocked status as it affects poor African economies, see Paul Collier, *The Bottom Billion: Why the Poorest Countries Are Failing and What Can Be Done about It* (Oxford: Oxford University Press, 2007), pp. 53–63, 165–166, and 179–180.

60. See Quamrul Ashraf and Oded Galor, "The 'Out of Africa' hypothesis, human genetic diversity, and comparative economic development," *American Economic Review* 103 (2013): 1-46. It is doubtful whether there could be any meaningful policy implications.

61. See Chapter 4 for an analysis of problems of coordination failure and the importance of mechanisms to correct it.

62. For accessible discussions, see North, *Institutions, Institutional Change and Economic Performance;* Justin Lin and Jeffrey Nugent, "Institutions and economic development," *Handbook of Economic Development*, vol. 3A (Amsterdam: North Holland, 1995); Dani Rodrik, "Institutions for high-quality growth: What they are and how to acquire them," *Studies in Comparative International Development* 35, No. 3 (September 2000): 3–31; and Acemoglu, Johnson, and Robinson, "Understanding prosperity and poverty." Note that the quality of many of the institutions described in this paragraph of the text is correlated, and it is disputed which ones matter most and the degree to which they are substitutes for each other in spurring growth.

63. As an instrument for the types of institutions established (note that scholars have widely debated this instrument). For a discussion, with some important caveats, see Rodrik, Subramanian, and Trebbi, "Institutions rule."

64. This is after the problem of simultaneity between income and institutions is controlled for by taking advantage of the exogeneity of initial settler mortality risk (other approaches using different data still find some role for geography; see the papers by Sachs in note 59). See Acemoglu, Johnson, and Robinson, "Colonial origins of comparative development." The schema on page 1370 in their paper corresponds to links 3-10-18-21 or 3-10-19-22 in Figure 2.10 in this text. See also Daron Acemoglu, Simon Johnson, James A. Robinson, and Yunyong

Thaicharoen, "Institutional causes, macroeconomic symptoms: Volatility, crises and growth," *Journal of Monetary Economics* 50 (2003): 49–123. For a summary, see Daron Acemoglu, "Root causes: A historical approach to assessing the role of institutions in economic development," *Finance and Development* (June 2003), http://www.imf.org/external/pubs/ft/fandd/2003/06/pdf/Acemoglu.pdf. It is also worth noting, however, that in the early colonial period, potential settlers who did wish to emigrate to Latin America and the Caribbean (and perhaps to some other colonies in later times) were sometimes restricted by immigration rules. See Stanley L. Engerman and Kenneth L. Sokoloff, "Factor endowments, inequality, and paths of development among New World economies," *Journal of LACEA Economia* 3, No. 1 (Fall) (2002): 41–109. There is also some question about the use of largely eighteenth-century mortality data, which may possibly differ from earlier (but unavailable) mortality rates. These points may suggest some possible limitations to the mortality data-based research, although the results show considerable robustness. For a debate, see David Y. Albouy, "The colonial origins of comparative development: An empirical investigation: Comment." *American Economic Review*, 102, No. 6 (2012): 3059–-3076, and Acemoglu, Johnson, and Robinson, "The colonial origins of comparative development: An empirical investigation: Reply." *American Economic Review*, 102, No. 6 (2012): 3077–3110. See also Rodrik et al., "Institutions rule," and Pranab Bardhan, "Institutions matter, but which ones?" *Economics of Transition* 13 (2005): 499–532.

65. Sokoloff and Engerman, "History lessons"; Engerman and Sokoloff, "Colonialism, inequality, and long-run paths of development."

66. Engerman and Sokoloff, "Colonialism, inequality, and long-run paths of development." On the role of labor scarcity in the development of institutions in North America, see David Galenson, "The settlement and growth of the colonies: Population, labor and economic development," in *The Cambridge Economic History of the United States*, vol. 1, eds. Stanley L. Engerman and Robert Gallman (New York: Cambridge University Press, 1996).

67. See Daron Acemoglu, Simon Johnson, and James A. Robinson, "Reversal of fortune: Geography and institutions in the making of the modern world income distribution," *Quarterly Journal of Economics* 118 (2002): 1231–1294. Although the reversal is now associated with this article, similar historical observations were a theme of the "dependency theory" literature, described in Chapter 3.

68. In fact, the Acemoglu-Johnson-Robinson theory could be said to turn dependency theory on its head. The neo-Marxist dependency theory (see Chapter 3) views development constraints as coming from foreign nationals, but in the Acemoglu et al. theory, the underlying development problem is the presence of extractive institutions, whether the extractors are nationals or foreigners, and the corrective is investment-encouraging institutions, whoever implements them. The preferred institutions include some that are clearly non-Marxist, such as broader respect for private property rights. The implication of their argument is that it is at best no more important to get today's rich countries to change their current behavior toward developing countries than it is to achieve reforms in local institutions, although former colonial powers might reasonably be asked to pay for costs of changing over to better domestic institutions, assuming that such change is possible. Inequality makes reform difficult to achieve.

69. This evidence is presented in Acemoglu, Johnson, and Robinson, "Reversal of fortune." The evidence has been criticized by some economists on the grounds that measures of modern institutions actually show great variability rather than persistence and may follow rather than lead growth; see, for example, Edward L. Glaeser, Rafael La Porta, Florencio Lopez de Silanes, and Andrei Shleifer, "Do institutions cause growth?" *Journal of Economic Growth* 91 (2004): 271–303, who argue that human capital is a more fundamental factor. But for a theoretical analysis of how change in specific political institutions is consistent with stability in economic institutions, see Daron Acemoglu and James A. Robinson, "De facto political power and institutional persistence, *American Economic Review* 96 (2006): 326–330. For an empirical analysis providing evidence that education does not, in fact, lead to democracy within countries over time, see Daron Acemoglu, Simon Johnson, James A. Robinson, and Pierre Yared, "From

education to democracy?" *American Economic Review* 95 (2005): 44–49. Other critical commentary is found in Pranab K. Bardhan, "Institutions matter, but which ones?" *Economics of Transition* 13 (2005): 499–532.

70. The primary evidence for this is historical. See Landes, *Wealth and Poverty of Nations.* For example, the fragmentation of a continent divided by mountains, sea lanes, and rivers facilitated political competition that fueled institutional development. See also Diamond, *Guns, Germs, and Steel.*

71. See David Fielding and Sebastian Torres, "Cows and conquistadors: A contribution on the colonial origins of comparative development," *Journal of Development Studies* 44 (2008): 1081–1099, and James Feyrer and Bruce Sacerdote, "Colonialism and modern income: Islands as natural experiments," *Review of Economics and Statistics* 91 (2009): 245–262. Both build on the pioneering research of Acemoglu, Johnson, and Robinson.

72. Fielding and Torres, "Cows and conquistadors." The neo-Europes are primarily the United States, Canada, Australia, and New Zealand.

73. See Feyrer and Sacerdote, "Colonialism and modern income." The authors use wind direction and wind speed as instruments for length and type of colonial experience of islands. They identify a positive relationship between colonization length and both income and child survival rates. They also use their evidence to argue that "time spent as a colony after 1700 is more beneficial to modern income than years before 1700, consistent with a change in the nature of colonial relationships over time." Note, however, that some islands included in this research are still colonies, such as overseas French departments with large European populations, and that in other independent former colonies with high incomes, the original inhabitants were largely wiped out—facts that weaken the case for benefits of longer colonization from the viewpoint of those who were colonized. But on a positive historical note, Stanley Engerman pointed out that in the later colonial period, Europeans were often responsible for ending slavery in Africa (personal communication with the authors).

74. Engerman and Sokoloff, "Colonialism, inequality, and long-run paths of development." For supporting econometric evidence on the negative effects of inequality using an identification strategy inspired by the Engerman and Sokoloff hypothesis, see Box 2.2. See also William Easterly and Ross Levine, "Tropics, germs, and crops: The role of endowments in economic development," *Journal of Monetary Economics* 50 (2003): 3–39. For a different argument, see Edward L. Glaeser, Giacomo Ponzetto, and Andrei Shleifer, "Why does democracy need education?" NBER Working Paper No. 12128, March 2006; however, see also Acemoglu et al., "From education to democracy?" For alternative perspectives, see Acemoglu and Robinson, *Economic Origins of Dictatorship and Democracy.* It remains unclear whether economic or political inequality is more fundamental, as politicians often amass wealth when their power is secure. For an interesting study suggesting that the latter is important, see Daron Acemoglu, Maria Angelica Bautista, Pablo Querubin, and James A. Robinson, "Economic and political inequality in development: The case of Cundinamarca, Colombia," June 2007, http://econ-www.mit.edu/faculty/download_pdf.php?id=1510.

75. Although in this century so far inequality has been rising in North America and falling somewhat in some Latin American countries, the contrast remains extreme. For a set of excellent analyses on recent trends, see Luis F. López-Calva and Nora Lustig, eds., *Declining Inequality in Latin America: A Decade of Progress?* (Washington, D.C.: Brookings Institution, 2010).

76. Engerman and Sokoloff, "Colonialism, inequality, and long-run paths of development." See also Edward L. Glaeser, "Inequality," in *The Oxford Handbook of Political Economy*, eds. Barry R. Weingast and Donald Wittman (New York: Oxford University Press, 2006), pp. 624–641.

77. See Glaeser et al., "Do institutions cause growth?"

78. Acemoglu et al., "From education to democracy?" esp. pp. 47–48. Evidence for the intuitive idea that migrants to the "neo-Europes" settled by Britain embodied not just better institutions but also higher human capital levels is not well established; see Acemoglu, Johnson, and Robinson, "Colonial

origins of comparative development." The effects of institutions held even when excluding these countries. Another possible channel, recently introduced by Gregory Clark, is that institutions affect preferences, which in turn directly or indirectly affect the quality of the workforce. For his provocative and controversial assessment, see *A Farewell to Alms: A Brief Economic History of the World* (Princeton, N.J.: Princeton University Press, 2007).

79. See, for example, Bardhan, "Institutions matter." This article also argues some limitations of the empirical methods of Acemoglu and colleagues.
80. Glaeser et al., "Do institutions cause growth?"
81. See Jeffrey Frankel and David Romer, "Does trade cause growth?" *American Economic Review* 89 (1999): 379–399.
82. Not surprisingly, trade effects are complex. Geography can influence the pattern and amount of trade. And as countries develop and incomes rise, countries trade in greater amounts and in a wider range of goods. See Rodrik, Subramanian, and Trebbi, "Institutions rule." They provide a diagram of the effects outlined in this paragraph in their Figure 1.
83. Of course, the effectiveness of each sector may also affect the effectiveness of the other sectors. This is not shown in the diagram.
84. Bardhan, "Institutions matter"; Rodrik, "Getting institutions right." For a provocative analysis of the historical links between economic development and political development, including democratization and the extension of human and legal rights, drawing on economic theory and 500 years of the global historical record, see Daron Acemoglu and James A. Robinson, *Economic Origins of Dictatorship and Democracy*. For an insightful analysis of diverging development paths, see Kenneth L. Sokoloff and Stanley L. Engerman, "History lessons: Institutions, factor endowments, and paths of development in the New World," *Journal of Economic Perspectives* 14 (2000): 217–232.
85. See, for example, UNDP, *Human Development Report, 2005.*
86. Dani Rodrik, "Institutions for high-quality growth: What they are and how to acquire them," *Studies in Comparative International Development* 35, No. 3 (2000), 3–31, DOI: 10.1007/BF02699764, p. 5
87. For an elaboration of this point, see Chapter 8 and also Lawrence H. Summers and Vinod Thomas, "Recent lessons of development," *World Bank Research Observer* 8 (1993): 241–254; Pam Woodall, "The global economy," *Economist*, October 1, 1994, pp. 3–38; World Bank, *World Development Indicators, 1998* (Washington, D.C.: World Bank, 1998), pp. 3–11; and UNDP, *Human Development Report, 2003*.
88. Similar conclusions can be found in Irma Adelman and Cynthia Taft Morris, "Development history and its implications for development theory," *World Development* 25 (1997): 831–840.

Appendix 2.1

The Traditional Human Development Index (HDI)

Like the New HDI, the Traditional HDI ranks all countries on a scale of 0 (lowest human development) to 1 (highest human development). The Traditional HDI, the UNDP centerpiece until 2010, is still widely referenced, and in this Appendix we present it in detail with calculations and comparative examples. The Traditional HDI is based on three goals or end products of development, corresponding to health, education, and income: *longevity* as measured by life expectancy at birth, *knowledge* as measured by a weighted average of adult literacy (two-thirds) and gross school enrollment ratio (one-third), and *standard of living* as measured by real per capita gross domestic product adjusted for the differing purchasing power parity of each country's currency to reflect cost of living and for the assumption of diminishing marginal utility of income. Using these three measures of development and applying a formula to data for 177 countries, the HDI ranks countries into four groups: low human development (0.0 to 0.499), medium human development (0.50 to 0.799), high human development (0.80 to 0.90), and very high human development (0.90 to 1.0).

Adjusted income is found by taking the log of current income. Then, to find the income index, one subtracts the log of 100 from the log of current income, on the assumption that real per capita income cannot possibly be less than $100 PPP.[1] The difference gives the amount by which the country has exceeded this "lower goalpost." To put this achievement in perspective, consider it in relation to the maximum that a developing country might reasonably aspire to over the coming generation. The UNDP sets this maximum at $40,000 PPP. So we then divide by the difference between the log of $40,000 and the log of $100 to find the country's relative income achievement. This gives each country an index number that ranges between 0 and 1. For example, for the case of Bangladesh, whose 2007 PPP GDP per capita was estimated by the UNDP to be $1,241, the income index for that year is calculated as follows:

$$\text{Income index} = \frac{[\log(1{,}241) - \log(100)]}{[\log(40{,}000) - \log(100)]} = 0.420 \qquad \text{(A2.1)}$$

The effect of diminishing marginal utility is clear. An income of $1,241, which is just 3% of the maximum goalpost of $40,000, is already enough to reach more than two-fifths of the maximum value that the index can take. Note that a few countries have already exceeded the $40,000 PPP income target; in such cases, the UNDP assigned the maximum value of $40,000 PPP income, and so the country gets the maximum income index of 1.

To find the life expectancy (health proxy) index, the UNDP starts with a country's current life expectancy at birth and subtracts 25 years. The latter is the lower goalpost, the lowest that life expectancy could have been in any country over the previous generation. Then the UNDP divides the result by 85 years minus 25 years, or 60 years, which represents the range of life expectancies expected over the previous and next generations. That is, it is anticipated

that 85 years is a maximum reasonable life expectancy for a country to try to achieve over the coming generation. For example, for the case of Bangladesh, whose population life expectancy in 2007 was 65.7 years, the life expectancy index is calculated as follows:

$$\text{Life expectancy index} = \frac{65.7 - 25}{85 - 25} = 0.678 \qquad \text{(A2.2)}$$

Notice that no diminishing marginal utility of years of life are assumed; the same holds for the education index. The education index is made up of two parts, with two-thirds weight on literacy and one-third weight on school enrollment. Because gross school enrollments can exceed 100% (because of older students going back to school), this index is also capped at 100%. For the case of Bangladesh, adult literacy is estimated (rather uncertainly) at 53.5%, so

$$\text{Adult literacy index} = \frac{53.5 - 0}{100 - 0} = 0.535 \qquad \text{(A2.3)}$$

For the gross enrollment index, for Bangladesh it is estimated that 52.1% of its primary, secondary, and tertiary age population are enrolled in school, so the country receives the following value:

$$\text{Gross enrollment index} = \frac{52.1 - 0}{100 - 0} = 0.521 \qquad \text{(A2.4)}$$

Then, to get the overall education index, the adult literacy index is multiplied by two-thirds and the gross enrollment index is multiplied by one-third. This choice reflects the view that literacy is the fundamental characteristic of an educated person. In the case of Bangladesh, this gives us

$$\begin{aligned}\text{Education index} &= \frac{2}{3}(\text{adult literacy index}) + \frac{1}{3}(\text{gross enrollment index}) \\ &= \frac{2}{3}(0.535) + \frac{1}{3}(0.521) = 0.530 \qquad \text{(A2.5)}\end{aligned}$$

In the final index, each of the three components receives equal, or one-third, weight. Thus,

$$\text{HDI} = \frac{1}{3}(\text{income index}) + \frac{1}{3}(\text{life expectancy index}) + \frac{1}{3}(\text{education index}) \qquad \text{(A2.6)}$$

For the case of Bangladesh,

$$\text{HDI} = \frac{1}{3}(0.420) + \frac{1}{3}(0.678) + \frac{1}{3}(0.530) = 0.543 \qquad \text{(A2.7)}$$

One major advantage of the HDI is that it does reveal that a country can do much better than might be expected at a low level of income and that substantial income gains can still accomplish relatively little in human development.

Moreover, the HDI reminds us that by *development*, we clearly mean broad human development, not just higher income. Many countries, such as some of the higher-income oil producers, have been said to have experienced "growth without development." Health and education are inputs into the national production function in their role as components of human capital,

meaning productive investments embodied in persons. Improvements in health and education are also important development goals in their own right (see Chapter 8). We cannot easily argue that a nation of high-income individuals who are not well educated and suffer from significant health problems that lead to their living much shorter lives than others around the globe has achieved a higher level of development than a low-income country with high life expectancy and widespread literacy. A better indicator of development disparities and rankings might be found by including health and education variables in a weighted welfare measure rather than by simply looking at income levels, and the HDI offers one very useful way to do this.

There are other criticisms and possible drawbacks of the HDI. One is that gross enrollment in many cases overstates the amount of schooling, because in many countries, a student who begins primary school is counted as enrolled without considering whether the student drops out at some stage. Equal (one-third) weight is given to each of the three components, which clearly has some value judgment behind it, but it is difficult to determine what this is. Note that because the variables are measured in very different types of units, it is difficult even to say precisely what equal weights mean. Finally, there is no attention to the role of quality. For example, there is a big difference between an extra year of life as a healthy, well-functioning individual and an extra year with a sharply limited range of capabilities (such as being confined to bed). Moreover, the quality of schooling counts, not just the number of years of enrollment. Finally, it should be noted that while one could imagine better proxies for health and education, measures for these variables were chosen partly on the criterion that sufficient data must be available to include as many countries as possible.

Table A2.1.1 shows the 2009 Traditional Human Development Index (using 2007 data) for a sample of 24 developed and developing nations ranked from low to very high human development (column 3) along with their respective real GDP per capita (column 4) and a measure of the differential between the GDP per capita rank and the HDI rank (column 5). A positive number shows by how much a country's relative ranking rises when HDI is used instead of GDP per capita, and a negative number shows the opposite. We see from Table A2.1.1 that the country with the lowest HDI (0.340) in 2007 was Niger, and the one with the highest (0.971) was Norway.

The HDI has a strong tendency to rise with per capita income, as wealthier countries can invest more in health and education, and this added human capital raises productivity. But what is so striking is that despite this expected pattern, there is still such great variation between income and broader measures of well-being, as seen in Tables A2.1.1 and A2.1.2. For example, Senegal and Rwanda have essentially the same average HDI despite the fact that real income is 92% higher in Senegal. And Costa Rica has a higher HDI than Saudi Arabia, despite the fact that Saudi Arabia has more than double the real per capita income of Costa Rica. Many countries have an HDI significantly different from that predicted by their income. South Africa has an HDI of 0.683, but it ranks just 129th, 51 places lower than to be expected from its middle-income ranking. But similarly ranked São Tomé and Príncipe (number 131) ranks 17 places higher than expected from its income level.

For the countries listed in Table A2.1.2 with GDP per capita near $1,000, the HDI ranges dramatically from 0.371 to 0.543. Correspondingly, literacy rates

TABLE A2.1.1 2009 Traditional Human Development Index for 24 Selected Countries (2007 Data)

Country	Relative Ranking	Human Development Index (HDI)	GDP Per Capita (PPP, U.S. $)	GDP Rank Minus HDI Rank
Low Human Development				
Niger	182	0.340	627	–6
Afghanistan	181	0.352	1,054	–17
Dem. Rep. Congo	176	0.389	298	5
Ethiopia	171	0.414	779	0
Rwanda	167	0.460	866	1
Côte d'Ivoire	163	0.484	1,690	–17
Malawi	160	0.493	761	12
Medium Human Development				
Bangladesh	146	0.543	1,241	9
Pakistan	141	0.572	2,496	–9
India	134	0.612	2,753	–6
South Africa	129	0.683	9,757	–51
Nicaragua	124	0.699	2,570	6
Gabon	103	0.755	15,167	–49
China	92	0.772	5,383	10
Iran	88	0.782	10,955	–17
Thailand	87	0.783	8,135	–5
High Human Development				
Saudi Arabia	59	0.843	22,935	–19
Costa Rica	54	0.854	10,842	19
Cuba	51	0.863	6,876	44
Chile	44	0.878	13,880	15
Very High Human Development				
United Kingdom	21	0.947	35,130	–1
United States	13	0.956	45,592	–4
Canada	4	0.966	35,812	14
Norway	1	0.971	53,433	4

Source: Data from United Nations Development Programme, *Human Development Report, 2009*, tab. 1.

range from just 26% to 71%. Life expectancy ranges from only 44 to 61. Among countries with GDP per capita near $1,500, literacy ranges from 32% to 74% and enrollment, from 37% to 60%, with corresponding variations in the HDI. For the countries in Table A2.1.1 with GDP per capita near $2,000, the HDI ranges, from 0.511 to 0.710. Life expectancy ranges from 48 to 68. The literacy rate ranges from 56% to 99%. For countries listed in Table A2.1.1 with GDP per capita near $4,000, the HDI index ranges from 0.654 to 0.768. Life expectancy ranges from 65 to 74, and literacy rates range strikingly from 56% in Morocco to essentially universal literacy in Tonga. These dramatic differences show that the Human Development Index project is worthwhile. Ranking countries only by income—or for that matter only by health or education—causes us to miss important differences in countries' development levels.

Average income is one thing, but sometimes even in a middle-income country, many people live in poverty. When the aggregate HDI for various countries was adjusted for income distribution, the relative rankings of many developing nations also changed significantly.[2] For example, Brazil had such a highly unequal distribution that its ranking slipped, while Sri Lanka saw its HDI ranking rise due to its more egalitarian distribution.

TABLE A2.1.2 2009 Human Development Index Variations for Similar Incomes (2007 Data)

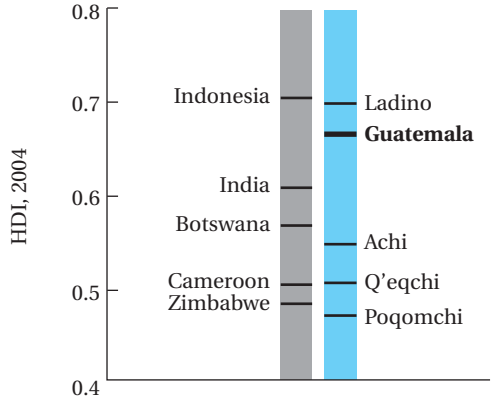
Country	GDP Per Capita (U.S. $)	HDI	HDI Rank	Life Expectancy (years)	Adult Literacy (%)	Combined Gross Enrollment Ratio
GDP Per Capita near PPP $1,000						
Madagascar	932	0.543	145	59.9	70.7	61.3
Haiti	1,140	0.532	149	61.0	62.1	52.1
Rwanda	866	0.460	167	49.7	64.9	52.2
Mali	1,083	0.371	178	48.1	26.2	46.9
Afghanistan	1,054	0.352	181	43.6	28.0	50.1
GDP Per Capita near PPP $1,500						
Kenya	1,542	0.541	147	53.6	73.6	59.6
Ghana	1,334	0.526	152	56.5	65.0	56.5
Côte d'Ivoire	1,690	0.484	163	56.8	48.7	37.5
Senegal	1,666	0.464	166	55.4	41.9	41.2
Chad	1,477	0.392	175	48.6	31.8	36.5
GDP Per Capita near PPP $2,000						
Kyrgyzstan	2,006	0.710	120	67.6	99.3	77.3
Laos	2,165	0.619	133	64.6	72.7	59.6
Cambodia	1,802	0.593	137	60.6	76.3	58.5
Sudan	2,086	0.531	150	57.9	60.9	39.9
Cameroon	2,128	0.523	153	50.9	67.9	52.3
Mauritania	1,927	0.520	154	56.6	55.8	50.6
Nigeria	1,969	0.511	158	47.7	72.0	53.0
GDP Per Capita near PPP $4,000						
Tonga	3,748	0.768	99	71.7	99.2	78.0
Sri Lanka	4,243	0.759	102	74.0	90.8	68.7
Honduras	3,796	0.732	112	72.0	83.6	74.8
Bolivia	4,206	0.729	113	65.4	90.7	86.0
Guatemala	4,562	0.704	122	70.1	73.2	70.5
Morocco	4,108	0.654	130	71.0	55.6	61.0

Source: Data from United Nations Development Programme, *Human Development Report, 2009,* tab. 1.

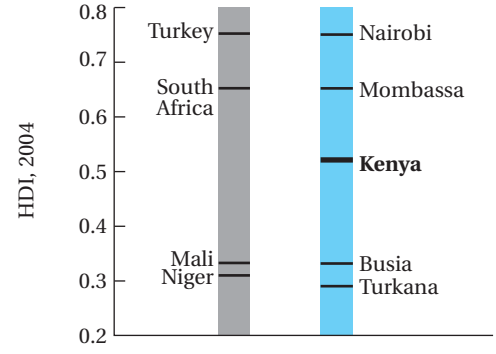
The HDI also ranges greatly for groups within countries. The impact of social exclusion can be seen vividly in Guatemala, where the Q'eqchi ethnic group had an HDI rank similar to Cameroon, and the Poqomchi ranked below Zimbabwe, as seen in Figure A2.1.1a. Regional differences across districts can be seen in Kenya, where the HDI of the capital area of Nairobi ranks as high as Turkey, but Kenya's Turkana district's HDI is lower than that of any country average, as shown in Figure 2.3b. Rural-urban differences are illustrated in China, where as Figure A2.1.1c shows, urban Shanghai's HDI is nearly as high as that of Greece, while rural Gansu has an HDI on a par with India, and the HDI of rural Guizhou is below that of Cambodia. An earlier UN study found similarly that in South Africa, whites enjoy a high HDI level, while that for blacks was much lower.[3]

Among other things, the Traditional HDI had a large impact on encouraging conceptualization of development in a holistic way, elevating health and education to the same rank as income as development indicators; and broadening the types of measures, both individual and composite, that were calculated and reported on a regular basis.

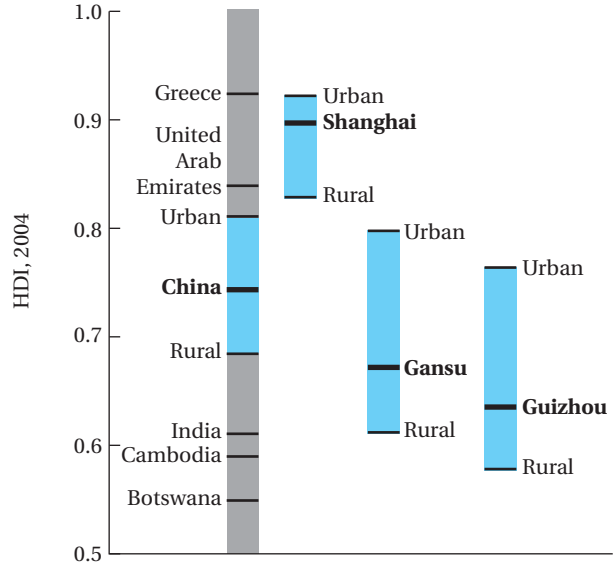
FIGURE A2.1.1 Human Development Disparities within Selected Countries



(a) Large ethnic differences in HDI in Guatemala



(b) Wide inequalities in human development between districts in Kenya



(c) Rural-urban differences intensify regional disparities in China

Source: From *Human Development Report, 2005,* figs. 10–12. Reprinted with permission from the United Nations Development Programme.

Notes

1. In fact, Lant Pritchett argues persuasively, considering available country data and the cost of minimum nutrients, that $250 is a more realistic lower bound for per capita income. See Lant Pritchett, "Divergence, big time," *Journal of Economic Perspectives* 11, No. 3 (1997): 3–17. The logarithms used in the Traditional HDI income index formula are common (base 10) logs rather than natural logs.
2. UNDP, *Human Development Report, 1994* (New York: Oxford University Press, 1994).
3. All but the South Africa example are drawn from *Human Development Report, 2006* (New York: Oxford University Press, 2006). An earlier *Human Development Report* gave South Africa an overall ranking of 0.666, with whites at 0.876 and blacks at 0.462.