

JAMES M. CYPHER

# THE PROCESS OF ECONOMIC DEVELOPMENT



FOURTH EDITION

ROUTLEDGE

# The Process of Economic Development

'*The Process of Economic Development* has been an excellent text and resource for development studies and economic development students for many years. The new fourth edition of this book continues to provide these important educational services in a relevant and scholarly manner, while effectively keeping up with the evolving research literatures of the field.'

— *Kenneth A. Reinert, George Mason University, USA*

The fourth edition of *The Process of Economic Development* offers a thorough and up-to-date treatment of development economics. This landmark text will continue to be an invaluable resource for students, teachers, and researchers in the fields of development economics and development studies.

The new edition has been revised and updated throughout, reflecting the most recent developments in research and incorporating the latest empirical data, as well as key theoretical advances. The period since the publication of the third edition of *The Process of Economic Development* has been a time of immense change in the developing world. The period has seen huge economic growth in China, economic restructuring in India and the continuing impact of environmental issues such as climate change. The fourth edition reflects these developments, as well as including numerous case studies and new material on the following:

- transnational corporations and labor in export processing zones
- perspectives on structural change
- gender inequality, income distribution and development
- progress towards the Millennium Development Goals
- technology and national innovation systems
- aid and the least developed nations
- the post-debt crisis era and debt relief for Africa.

Cypher's comprehensive account remains the development economics text par excellence, as it takes a much more practical, hands-on view of the issues facing developing countries than other, overly mathematical texts. This book is unique in its scope and in the detailed attention it gives to the historical contexts that have influenced progress toward development. It is accessibly written both for students of economics and for those with an interest in the many aspects of development studies.

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JMC



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# Introduction

Success, it is commonly noted, has many fathers, failure has none.

Until recently, across a broad swath once designated as the “Third World,” with the rarest of exceptions: “failure,” or something perilously close to it was, seemingly, ubiquitous. The great descent began in the early 1980s with the onset of the “Debt Crisis.” Prior to that alarming historical moment, nations that had followed the ideas of the developmental “pioneers,” or had innovated sufficiently on their own, had given shape and hope to national projects of development. In many instances the formulations and policy-driven conceptualizations of these enthusiastic early proponents of development were buttressed by the able intersessions of charismatic political leaders and competent cadres of state operatives all moving forward in lock-step with a newly emerged national bourgeoisie and an ambitious middle-class strata of professionals. From this combination of elements the idea of endogenous development sprang forth in the late 1940s and early 1950s. Unevenly, this grand, gravity-defying, endeavor gained a certain inertial momentum.

When Raúl Prebisch advocated for and then led UNCTAD (the United Nations Conference on Trade and Development) from its onset in 1964; and, when—subsequently—the Brandt Commission called for a New International Economic Order in the 1970s—at a time when OPEC had successfully confronted the globe-straddling petroleum industry of the “North”—the “South” vaulted onward and upward. “Success” spearheaded by state-led industrial promotion across the developing nations, had crystalized. Famously, Mexico’s president announced that “managing abundance” was the challenge of the future.

Then, suddenly, events began to swing in the opposite direction and “failure” became the new, unspoken, catchword—state-led developmentalism was now derided and labeled “exhausted.” Conveniently overlooked by the critical observers arrayed against any attempt to revive and deepen the creative developmental initiatives that marked the 1950s, 1960s, and 1970s was the straightforward fact that the few nations of the South who continued on a successful trajectory in the 1980s did so with the aid of somewhat better, refocused, national projects of development. These nations were all located in Asia. As the 1980s bled into the 1990s, as the reverberations of the debt crisis continued, monetarism, IMF austerity, “shock treatments,” World Bank first-generation structural adjustment, followed by second-generation structural adjustment, were all promoted by the Washington-based “Money Doctors.” They were promoted, that is, until the destructive medicaments proffered had been silently abandoned by the “Money Doctors” of the North shortly after the turn of the millennium. Eventually, no-one claimed “fatherhood” for the failed neoliberal era.

Slowly and quietly around 2002 the undertow of the 1980s and 1990s was replaced by a rising tide that continued to sweep the developing nations forward through 2012. By 2013 “success”—so long forgotten—seemed to be, at long-last, once-again materializing. Even Africa was viewed as on the cusp of a new era where “hope” was more than facile rhetoric.

Of course the dichotomy of success and failure is simplistic when applied in the vast, always shifting, interdisciplinary field of “development.” When, once-upon-a-time, developmentalism was ascendant, exceptions were to be found. Likewise, through the dark neoliberal era several East Asian nations, particularly China, marched ahead.

By 2013, after more than a decade wherein a “reversal of fortune” had been experienced in most developing nations, a whiff of triumphalism, however faint, could be detected. Consider the following:

- From 2000 through 2012 the annual real rate of growth per capita for the less developed nations rose by 5.0 percent. At that rate, real income per person over this thirteen-year period had all but doubled.
- This rate of growth per capita was *five times higher* than the rate of growth of the developed nations.
- During the first decade of the twenty-first century the real rate of growth per person per year in East Asia was 8.6 percent—which far more than doubled the average standard of living for well over *1 billion people*.
- As noted by the United Nations Development Program in their 2013 *Human Development Report: The rise of the South is unprecedented in its speed and scale. Never in history have the living conditions and prospects of so many people changed so dramatically and so fast ... the current economic takeoffs in China and India began with about 1 billion people in each country and doubled output per capita in less than 20 years—an economic force affecting a hundred times as many people as the Industrial Revolution did.*
- The *Report* further notes that: *The 21st century transformation of the South has been accompanied by major advances in public health, education, transportation, telecommunications, and civic engagement in national governance. The human development consequences have been profound: the proportion of people living in extreme poverty fell from 43.1 percent in 1990 to 22.4 percent in 2008; more than 500 million people have been lifted out of poverty in China alone.*
- Developing nations have increased their share of world merchandise trade during the 1980–2010 period from 25 percent to 47 percent, while their share of world output has risen from 33 to 45 percent and South–South trade as a share of world trade has climbed from only 8 percent to 26 percent.
- Across the developing nations the infant mortality rate fell by 50 percent from 1990 to 2010. Malnutrition, once the number one risk factor for death, had fallen to the number eight position by 2010.

This, then, is the new context that undergirds the fourth edition of *The Process of Economic Development*.

As has been the case with earlier editions, preparing this edition entailed reassessment and rewriting of the contents in order to incorporate new perspectives on a very broad range of topics. The changes in this edition greatly transcend those in previous editions.

The fourth edition presents a massive amount of new information, while bringing into the foreground an array of theoretical advances along with all the new data available on the topics included: the linked themes of labor conditions, subcontracting and “global value chains” have been incorporated. *China’s ascendancy is analyzed at multiple points in the text. Joseph Schumpeter and the “Neo-Schumpeterians” are introduced. David Ricardo’s advocacy of comparative advantage is historically contextualized and now can be seen in a much different light. Adam Smith’s pre-industrial perceptions are critically analyzed. Marx’s “productionist” focus is given its due. Two new, extremely important, index measures of human development are introduced. Alice Amsden is included in the pantheon of developmental pioneers. The post-debt crisis era and debt relief for Africa are analyzed. New attention is given to the demographic bonus. Along with the debate over the secular trend in the terms of trade, this edition follows the latest advances that incorporate volatility and its effects into the debate over the secular effects of production and specialization in export commodities. And this is to mention only a few of the substantive changes that have been made, and will be noted in every chapter.*

It is too soon to anticipate what will be the next phase for the developing nations. However, there is little likelihood that the blistering pace of economic ascent that occurred from 2002 through (much of) 2012 can be reproduced. China’s economy has definitely slowed and most specialists have expressed their forebodings. India was seen in a much different, and much more positive, light only a half-decade ago. In 2013 grim notices leading to reassessment of India’s developmental profile, such as the fact that 42 percent of India’s children below five years of age suffer from malnutrition, are all too common.

As Paul Baran long-ago noted, the real essence of economic development can ultimately be found in how a society utilizes its *economic surplus*—the difference between the total annual value of production and that part of production used by society merely to reproduce itself. Unfortunately, a very significant portion of the very large economic surplus that the developing nations managed to obtain early in the twenty-first century has been used to build outsized financial reserves in hard currencies, frequently in “Sovereign Wealth Funds.” By 2012 developing nations combined held between \$7 and 8 *trillion* of such “reserves.” These reserves were commonly used to purchase low-yielding financial assets from the developed nations—such as US Treasury bonds and notes. While there has been a great deal of analysis linking “development” to the opportunities created by incoming capital flows—as direct investments, as foreign aid and multilateral loans, and in other financial flows—*net outflows* (net financial transfers) have been large and *negative* for many years. These funds have consistently been moved from the developing nations to the global centers of economic power. The South in 2011 shifted another \$825 *billion* dollars to the North (not all of which entailed a further build-up in developing nations’ reserves).

As the United Nations commented (rather dryly) in their *World Economic Situation and Prospects, 2012* report: “opportunity costs associated with building reserves exist in the form of forgone domestic investment in development.” The opportunities forgone have been enormous as nations have generally failed to adopt developmental policies that would push their large economic surpluses into strategic investments that would diversify their economies and allow them to be much more sustainable in the face of any future rapid downturn in commodity prices. Some nations have rechanneled a portion of their windfall gains from the commodity



boom into an expansion of their public support system for low-income citizens. This is admirable, but it is not enough. Investments in infrastructure, in education, in technology, in environmental sustainability, in diversification of the economic base, and in machinery and equipment are some of the areas that must receive support from both the public and private sectors if the economic surplus is to be harnessed and put to use. Too little of such efforts can be traced; not for a lack of funding but for a lack of will and perspective.

# **Part I**

An overview of  
economic development

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# The development imperative

“A rich country is a country without poverty”

Official maxim of Brazil’s government under President Dilma Rouseff

### **AFTER READING AND STUDYING THIS CHAPTER, YOU SHOULD BETTER UNDERSTAND:**

- trends in poverty rates and some of its human and social costs;
- differences in income levels amongst regions;
- trends in economic growth in different regions;
- the extent of inequality in the distribution of income and in participation in economic and social life by the world’s poor;
- the obstacles to development, both internal and external, that tend to thwart economic, social, and human development;
- the significance of fundamental structural change and of technological and institutional innovation to more rapid progress in the future;
- the importance of, and progress toward, the Millennial Development Goals.

### **WHY STUDY ECONOMIC DEVELOPMENT?**

On December 26, 2004, the second-most powerful earthquake ever recorded struck in the Indian Ocean, setting off a series of tsunamis that smashed into coastal areas of Indonesia, Thailand, Sri Lanka, India, Somalia, and other countries on the east coast of Africa. Some 187,000 died from these devastating walls of water and rising tides, with another 43,000 listed as missing. The world’s nations and people reacted rapidly to this tragedy with an outpouring of financial aid and direct assistance.

What does this event have to do with economic development? The answer is: a lot.

Many of those killed by the tsunamis were the very poor who lived in low-lying areas prone to flooding from the yearly monsoons. They lived on marginal lands that should not have been occupied at all or, if they were to be occupied, should have been protected from the ravages of natural disasters that are common and expected occurrences. A tsunami of the size that struck in 2004 is, thankfully, a very rare occurrence, but low-quality housing construction and the absence of man-made barriers to flooding contributed to the deadly outcome. With greater economic

progress in the affected countries, human devastation from future natural disasters could be reduced dramatically.

So, economic development *is* about life-and-death issues. Literally. And, consider this fact. Fifteen percent of the world's population suffered from chronic undernourishment in 2010–2012—these 850 million people were overwhelmingly citizens of developing nations (FAO, WFP, and IFAD 2012: 9). In 1990, 23 percent of the world's population suffered from this condition. Thus, large strides toward overcoming the most basic forms of underdevelopment (such as undernourishment/malnutrition) have been taken. Still, one of the grimmest aspects of underdevelopment leaps out: over 5,600,000 children, born in developing countries and under five years of age, died in 2011 (UNICEF 2012: 7, 9). These children sometimes died of “natural causes,” but most died from the effects of chronic malnutrition or from preventable diseases, such as malaria and cholera associated with underdevelopment. Translated, this means over 15,000 child deaths *per day in developing nations*.

This works out to roughly 625 preventable deaths *every hour of every day of every week and of every month of the year*, children whose lives end before they really have an opportunity to begin. More than half of these deaths are due to respiratory illnesses or to diarrhoea (usually due to water-borne pathogens) and the severe dehydration that can ensue, though of course the child's weakened condition may be exacerbated by malnutrition. This is part of a vicious circle of hunger and disease (see Focus 1.1 Saving lives: ORT). These sobering numbers may be difficult to grasp as aggregate abstractions. Think of this: in the roughly ten seconds it takes you to read this paragraph, two more children in the less-developed world will have died, and they will have perished unnecessarily.<sup>1</sup>

In 1990, 67 percent of the citizens in developing nations (2.77 billion people) did not have access to piped water at their residence. (Piped water in developing nations is unlikely to be “potable.”) Also in that year, 64 percent of this slice of the world's population had no access to “improved” sanitation facilities (UNICEF and WHO 2012: 8, 18). By 2010 conditions had changed a great deal in relative terms regarding access to piped water: now “only” 54 percent went without. However, due to population growth, slightly more than 3 billion people lacked direct access to piped water. Meanwhile, 44 percent of these same individuals—or 2.47 billion—lacked access to “improved” sanitation facilities. As a result of such conditions, adults as well as children die or are disabled in pointless numbers in the less-developed world. Most of these deaths are rooted in extreme poverty and deprivation, including famine and sometimes civil war. They are human losses that, in our modern and affluent times, are usually not the result of any lack of human knowledge about how to prevent them.<sup>2</sup> The means to prevent this waste of human life is at hand. Startling progress has been made on many fronts in recent decades. However, what is too-often lacking, it seems, is *sufficient* will to tackle head-on many health-related issues—such as clean water and sanitation systems for the poorest.

In confronting these and other problems, many of the barriers to progress in the less-developed countries seem to continue to be found in obstinate economic, political, and social structures that remain resistant to the changes that could make extreme poverty and privation the relics of history they deserve to be.

Not all of the blame for this ongoing tragedy of death and poverty can be placed on the affected countries. The developed nations have too often failed to carry through on their oft-professed promises and responsibilities to assist the poorest of the poor nations in

**FOCUS 1.1 SAVING LIVES: ORT**

Imagine yourself for a moment as a rural villager in a less-developed nation with a young child in your care who develops diarrhoea. How did this child become sick? Was it from drinking water fetched from a river? From a well? An irrigation ditch? What would you do to prevent the illness from becoming life threatening, regardless of the cause?

Here's the threat. Diarrhoea causes the body to throw off more water than can be reabsorbed. Death can result if more than 15 percent of the body's fluid is lost. What does this child need? What can you do to prevent dehydration and death? Clinics, phone calls, medicine and a visit to a pharmacy are not options! You must come up with a home remedy. And fast! Think carefully about what you would do to save this child's life before reading on.

Did you decide to give the child water? That seems to make sense to replace the water being lost. If so, will that be sufficient to stop the diarrhoea and prevent the plunge into fatal dehydration?

It is important to remember that along with the loss of water due to the diarrhoea, sodium (salt) is also washed away. There is a fairly precise concentration of sodium in the human blood supply required for the body to function properly. With diarrhoea, this balance is upset as the kidneys, which normally regulate the salt level in the blood supply, are unable to maintain the proper balance. What the sick body needs is both sodium *and* more liquid, but the illness disturbs this delicate equilibrium and threatens survival. If you thought more liquid alone was the solution, you may have contributed to the death of the child under your care! The necessary remedy is called "oral rehydration therapy" or ORT. Simply providing the sick child with water to drink—which may have been the immediate cause of the diarrhoea in the first instance—is not enough. Nor, interestingly, is water mixed with salt. Because of the diarrhoea, the body cannot absorb the salt properly, with the result that excess salt gets stored in the intestinal tract and causes more water to pass into the intestine, actually worsening the diarrhoea. However, a mixture of water, salt and sugar (glucose) *will* work, allowing the salt to be properly processed by the body and for water retention to be increased and the dehydration process halted.

A mixture of glucose (20 grams), sodium chloride (salt, 3.5 grams), sodium citrate (citric salt, 2.5 grams) and potassium chloride (1.5 grams) in one litre of clean water provides the ideal mixture for ORT. However, mixing salt and sugar in water in roughly the right proportions will also work fine. ORT must be initiated quickly, before the dehydration becomes too severe. If it is not, intravenous rehydration may be the only alternative.

Why do so many children die each year if the means to halt the dehydration is seemingly so simple? Lack of knowledge about what must be done, and that for children that action must be swift, is part of the problem. Simple hands-on exercises in primary school classes could help to spread the knowledge at a very low cost. Instead of abstract adding and subtraction in mathematics lessons, the measuring and combining of clean water, salt, and sugar in the recommended proportions could transmit information to millions of children who could then educate their families about how to respond when someone falls ill with diarrhoea.

Source: Foster 1992: 197–8

escaping from the trap of deprivation in which so many hundreds of millions continue to live. On this, we shall have more to say later in this chapter.

## POVERTY IN THE LESS-DEVELOPED WORLD

Table 1.1 provides an overview of the extent of poverty facing the less-developed nations. In 1985, one out of every three persons, some 1,116 million men, women, and children,

**Table 1.1** *Extent of world poverty and the poverty gap*

<i>Part I. 1985</i>					
<i>Region</i>	<i>Extremely poor (%)</i>	<i>Poor (%)</i>	<i>Millions of poor</i>	<i>Poverty gap<sup>a</sup></i>	
East Asia	9	20	280	1	
China	8	20	210	3	
Latin America and Caribbean	12	19	70	1	
Middle East and North Africa	21	31	60	2	
South Asia	29	51	520	10	
India	33	55	420	12	
Sub-Saharan Africa	30	47	180	11	
<i>All less-developed countries</i>	18	33	1,116	3	

  

<i>Part II. 1981–2010 Percentage of population living on less than \$1.25 per day (in PPP 2005 \$)<sup>b</sup></i>					
	<i>1981</i>	<i>1990</i>	<i>1999</i>	<i>2010</i>	<i>Poverty gap in 2008<sup>c</sup> (in PPP 2005 \$)</i>
East Asia & Pacific (without China)	61	48	35	13	\$ 0.27
China	84	60	36	12	n.a.
Latin America & Caribbean	12	12	12	6	\$0.63
Middle East & North Africa	10	6	5	2	\$0.28
South Asia (without India)	66	62	44	26	\$0.28
India	60	51	46	33	n.a.
Sub-Saharan Africa	51	57	58	48	\$0.49
<i>Total</i>	52	43	34	21	\$0.38

Sources: World Bank 1990: Table 2.1; World Bank 2000: Table A.1; World Bank 2013a: 1, 4; World Bank 2013b: 3 (Figure 1d).

### Notes

<sup>a</sup> The "poverty gap" is expressed as the percentage by which the aggregate income of the poor fell below the poverty line. The poverty line in Table 1.1 Part I was set at US\$1.00 per day, in purchasing power parity terms. The PPP concept is explained in Chapter 2.

<sup>b</sup> All data in Table 1.1 Part II is expressed in constant (2005) purchasing power parity US dollars.

<sup>c</sup> Here the "poverty gap" is measured as the difference between the "extreme poverty" line (US\$1.25 per day per person in constant, 2005, PPP dollars) and the *actual average daily level of income of the extreme poor*, expressed in cents per day.

were “extremely poor” by the World Bank’s classification of having less than the equivalent of about \$1 a day per person to meet their needs. By 2002, this number had fallen slightly to 1,015 million persons in poverty. Former World Bank president Robert McNamara called these people the “absolute poor,” human beings who suffer “a condition of life so degraded by disease, illiteracy, malnutrition, and squalor as to deny its victims basic human necessities. . . . [It] is life at the very margin of physical existence.” As McNamara suggested, the wretched condition of life of the absolute poor is almost beyond the power of understanding of those who live in developed countries (McNamara 1976: 5).

Setting the extreme poverty line at US\$1 per day (as it was until relatively recently when it was pushed to US\$1.25 per day) is not based on any rigorous or compelling conceptualization of where extreme poverty “ends,” or “begins.” Consider that if the cut-off line for extreme poverty had been extended to US\$2 a day, some 2.6 billion individuals would have been below that standard in 2002. This was just a bit less than half the world’s population. Such a modest change would have resulted in a larger absolute number of extreme poor in 2002 than had been identified in 1985.<sup>3</sup>

Part II of Table 1.1 shows the evolution of extreme poverty (< \$1.25 a day) for all the less-developed regions. Overall, the incidence of extreme poverty by 2010 had fallen by 60 percent compared to 1981. That is good news. Of course, world population had grown too, so the number of persons in extreme poverty had declined by “only” 37 percent—from 1.9 billion in 1981 to 1.2 billion in 2010 (World Bank 2013a: 1).

What is disheartening is the relatively small decrease in poverty in Sub-Saharan Africa shown in Part II of Table 1.1, and the increase in the incidence of poverty there through the 1990s. The decline in the share of the population in poverty in East Asia (excluding China) from 61 percent of the region’s population in 1981 (using the < \$1.25 poverty line in constant PPP dollars) to 13 percent in 2010 is one of the success stories of the past three decades, one that will be highlighted throughout this text. Still, poverty levels remain much too high—over one-in-every-five individuals in the developing nations—reducing opportunities for the poor and their children over the future in a vicious circle. As the World Bank stated more than two decades ago, “more than 1 billion people, one-fifth of the world’s population, live on less than one dollar a day—a standard that Western Europe and the United States attained two hundred years ago” (World Bank 1991:1). This is still, unfortunately, true today—although the austere “poverty line” has been nudged up a bit. It is also important to recognize that the incidence of poverty is not gender-neutral, something the aggregate figures in the tables obscure: “Poverty has a woman’s face—of 1.3 billion people in poverty 70% are women [female]” (UNDP 1995: 4).<sup>4</sup>

With the exception of the last column of both Part I and Part II, the numbers in Table 1.1 provide what is called a “headcount” of the numbers of poor falling below the poverty line. Such a measure does not distinguish between those whose incomes are far below the poverty line, and who hence need more assistance to reach the poverty threshold, and those whose incomes already have brought them closer to the income level needed to escape official poverty. The headcount measure of poverty simply counts all persons below some income level as poor. The headcount measure is thus not at all sensitive to the *severity* of the poverty situation of those counted as poor; it treats all poor as if they were somehow the same simply because all have income less than \$1 or \$2 per day.



The condition of being poor, however, is not the same for all those who are so classified. Imagine, for example, one country with half its population below the poverty line, but each is only 10 percent per day away from the poverty level of income. That is poverty of quite a different magnitude from another country which also has half its population below the poverty line, but each is 25 percent per day away from escaping poverty. The headcount measure of poverty, by simply adding up how many people fall below the poverty line, fails to capture this distinction and both countries will be counted as having 50 percent of their citizens in poverty by the headcount measure. Obviously, however, the *severity* of poverty in the first country is substantially less than in the second. There is another way to measure poverty that considers this issue.

The last columns of Table 1.1 provide this alternative perspective on measuring poverty. The concept of the “poverty gap” captures the severity of the poor’s plight. It is the additional amount of consumption (or income) that must be generated by a country to bring all the poor above the poverty line. The poverty gap can be measured as a percentage of a region’s (or a country’s) total current consumption (or it could be measured as a percentage of income, or as the amount of income) that must be created and received by the poor to bring each family’s income above the poverty line. For some regions of the world and for some countries the poverty gap was as low as 1–2 percent of current consumption in 1985; in other regions, the poverty gap was as high as 10–12 percent of total consumption. Part II of Table 1.1 shows the poverty gap in cents of Purchasing Power Parity dollars. More recent data is available on the poverty gap for individual economies, not regions, but it is not uniform by years and thus is not so easily displayed for comparison.

Notice that, in Table 1.1, Part II, Latin America and the Caribbean are now (2010) in a category of their own—even with regard to Africa. Latin America’s poor are, on average, the *poorest* of the world’s poor (World Bank 2013b: 3, Figure 1d). Latin America’s poor in 2010 were attempting to live on only *one-half of the extreme poverty line income* (see the last column of Table 1.1, Part II). This was a result one would not expect since by that year Latin America had enjoyed eight years of the commodity boom, and had not been too badly impacted by the Great Financial Crisis that began in the US in late 2007. Although the *incidence* of poverty in Latin America was cut in half (1999–2010), for those left behind, the situation is one of very dark desperation.

For all the less-developed nations, an increase in income equivalent to about 3–4 percent of current consumption received in the right amounts by each family or individual in poverty would have been sufficient to shift all the poor above the World Bank’s \$2 per day poverty line in 1985. By 2010, to close what is known as “the *aggregate* extreme poverty gap”—enough to shift the world’s extreme poor above the \$1.25 PPP dollars per day line—would involve expenditure of \$169 billion (in PPP terms). This is an embarrassingly small number in the grand scheme of things: *it amounted to a mere one-quarter of 1 percent of world GDP in 2010* (World Bank 2013a: 4).

Obviously, to accomplish the long-term objective of a world without poverty, a simple transfer of income from better-off citizens to the poor is not the ultimate means or goal. Reducing poverty is not about *transfers of income*, except in the short run to alleviate the worst kinds of suffering. Rather, a *permanent reduction* in poverty requires a sufficient increase in production, jobs, and incomes for the now poor such that they are no longer poverty-stricken

and remain non-poor through their own efforts, not handouts. Return to Table 1.1, Part II (once again) and take note of the astonishing data presented regarding China. Extreme poverty was essentially the reality for nearly everyone in this vast nation in 1981 (84 percent of the population). Then the numbers began to tumble and by 2010 only 12 percent of the population was left behind. There is nothing that remotely compares with China's ability to eliminate so much poverty in such a short period of time.

This objective of a permanent increase in income and output that reaches the poor in the magnitudes shown in Table 1.1 would not seem to be an overwhelmingly large technical barrier. For example, India could resolve to generate sufficient extra income and output in the economy over a generation to contribute to an increase in the income of the poor in the amount equal to 8 percent of total consumption. Over 10 or 15 (or certainly 25) years, this does not seem to be a technically unattainable goal, amounting to an increase in total consumption on the order of less than 1 percent per year. India *has* made serious progress in bringing down poverty rates to 33 percent in 2010 (from 60 percent in 1981). In subsequent chapters there are "Focus" boxes that examine India's progress and policies that have been implemented.

The possibility of fully eradicating poverty would seem to be within reach. It is not an impossible aspiration requiring super-human efforts beyond current resource capabilities. Greater productivity of labor and a better distribution of the world's productive resources, both human and physical, are what are needed to effect a long-term decrease in the poverty profile. It is a reasonable and humane objective for all the less-developed nations to target the elimination of absolute poverty from within their borders. It is a goal that the World Bank has embraced, with the target of cutting poverty in half by 2015 (World Bank 2000: 5–6; also see UNDP 2001: 22–5). Even for the poorest nations, the magnitude of the increase in output and income required to reduce poverty is within their grasp over a medium-range period of time with the right policies, the right decisions, and the requisite political will (see Focus 1.2).

The relatively modest size of the poverty gap compared to current incomes in the less-developed world strongly suggests that poverty is a problem of distribution, and not only of income. It is especially a problem of access to society's productive resources, particularly human capital-enhancing assets like education and other training. The existence of world poverty does not appear to be the consequence of a fundamental shortfall in aggregate productive capacity given the fairly small size of the poverty gap in most regions. Eradication of absolute poverty is a political–economic problem, not a technical matter. Ending absolute poverty is a challenge of political will and to existing political and economic power structures.

Poverty is not just measured by a shortfall in income, of course. Low incomes have real consequences. For example, in the late 1990s, of the approximately 4.6 billion people in the less-developed countries 968 million persons lacked access to piped or other "improved water sources"; 2.4 million were without proper sanitation; 854 million adults were illiterate (64 percent of whom were women); 34 million were infected with HIV/AIDS, the great majority of these in Africa; and 2.2 million persons were dying annually from indoor air pollution from, particularly, exposure to toxic fumes from wood-burning cooking (the data is for the late 1990s and 2000; UNDP 2001: 9, 13).

The good news, despite these sobering statistics on poverty, is that there have been undeniable improvements in living standards in the less-developed world since 1970. Life

**FOCUS 1.2 THE MILLENNIUM DEVELOPMENT GOALS**

On September 8, 2000, the United Nations General Assembly adopted the Millennium Declaration. The Millennium Development Goals (MDGs) emerged as a means to meet some of the aspirations of the Millennium Declaration. The Secretary-General of the UN issues an annual report on progress toward meeting these goals (see the World Bank website for more details: <http://www.data.worldbank.org>, “Data”). Throughout this and following chapters, we will look at how specific MDGs are being met.

The MDGs comprise eight broad objectives and fifteen more specific “target” policies to reach those objectives. The success of reaching these targets is measured by 53 individual quantitative indicators.

The MDGs represent concrete aims of the entire international community for reducing the ravages of poverty by 2015. Yes, 2015. The approval of these goals by all the members of the UN demonstrates the importance the international community, including the World Bank, places upon reducing poverty, improving health care, expanding educational opportunities, and promoting sustainability for hundreds of millions of poor people around the world. This unified effort of the world community recognizes that all economies are connected and that severe poverty affects us all, directly or indirectly.

**Goal 1** Eradicate extreme poverty and hunger

*Target 1:* Halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day

*Target 2:* Halve, between 1990 and 2015, the proportion of people who suffer from hunger

**Goal 2** Achieve universal primary education

*Target 3:* Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling

**Goal 3** Promote gender equality and empower women

*Target 4:* Eliminate gender disparity in primary and secondary education preferably by 2005 and in all levels of education no later than 2015

**Goal 4** Reduce child mortality

*Target 5:* Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate

**Goal 5** Improve maternal health

*Target 6:* Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio

**Goal 6** Combat HIV/AIDS, malaria, and other diseases

*Target 7:* Have halted by 2015 and begun to reverse the spread of HIV/AIDS

*Target 8:* Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases

**Goal 7** Ensure environmental sustainability

*Target 9:* Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources

*Target 10:* Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation

*Target 11:* Have achieved, by 2020, a significant improvement in the lives of at least 100 million slum dwellers

**Goal 8** Develop a global partnership for development

*Target 12:* Develop further an open, rule-based, predictable, non-discriminatory trading and financial system (includes a commitment to good governance, development, and poverty reduction—both nationally and internationally)

*Target 13:* Address the special needs of the least developed countries (includes tariff- and quota-free access for exports, enhanced program of debt relief for Highly Indebted Poor Countries and cancellation of official bilateral debt, and more generous Foreign Aid for countries committed to poverty reduction)

*Target 14:* Address the special needs of landlocked countries and small island developing states

*Target 15:* Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term

*Target 16:* In cooperation with developing countries, develop and implement strategies for decent and productive work for youth

*Target 17:* In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries

*Target 18:* In cooperation with the private sector, make available the benefits of new technologies, especially information and communications

Source: World Bank 2013b: 1–19

### FOCUS 1.3 MDG GOAL 1: ERADICATE EXTREME POVERTY AND HUNGER

A glance back at Table 1.1, Part II shows that Target 1 *has been met*. In 1990, 43 percent of the less-developed world's population received less than \$1.25 per day; by 2010, the proportion of the population in the developing regions with incomes below the \$1.25 per day standard had dropped to 21 percent, *surpassing* the 50 percent reduction target for 2015.

Most regions met this goal by 2010. India has not. India had reduced its poverty rate by 35 percent at the end of 2010, and may meet the MDG objective by 2015. Sub-Saharan Africa, unfortunately, has seen almost no movement toward reducing extreme poverty. In future chapters we shall see that it is this region where progress toward development has been the weakest, with tragic consequences.

In spite of the progress made, which is certainly to be celebrated, it is important to recall that, as of 2010, there were still 1.2 billion individuals attempting to subsist on < \$1.25 PPP dollars per day.

expectancy at birth rose absolutely and relatively compared to the developed world, from 46 years in 1960, when it was equal to 67 percent of life expectancy in the developed nations, to 65 years in 2005, which is equal to 82 percent of the level achieved in the developed countries. By 2010 it was equal to 85 percent of that of the developed countries. Infant mortality between birth and age one fell from 149 per 1,000 live births in 1960 to 56 in 2005. Adult literacy rose from 46 percent to over 80 percent by 2010. However, in 2005 in the *Least Developed Nations*<sup>5</sup> 70 percent of all adults and only half of adult females could be classified as literate (data for 2010 from World Bank 2012: Tables 2.14, 2.23).

Except for the last figures, all of the above are average values. In general, women do not fare as well as men on these social indicators. Rural areas suffer relative to urban areas, and

**FOCUS 1.4 PROGRESS AND REGRESS, WINNERS AND LOSERS**

In the foregoing sections reliance has been placed on some statistical data to get a “snapshot” of the situation of poverty in the less-developed world. It is important and instructive to collect and try to understand some of this data yourself.

To get you started in that direction go to the website of the World Bank, <http://www.data.worldbank.org> (alternatively, look for a recent issue of the World Bank’s *World Development Report*, available online, which will have similar data, though what is now available is substantially less than was available in the past). Click on “Data by Country.”

Find data for Brazil, China, Costa Rica, Kenya, Korea (Rep.), Mexico, Pakistan, Sri Lanka, and Zimbabwe for the following social and economic variables for the most recent year available: mortality rate, infant; malnutrition prevalence; life expectancy at birth; improved water source; school enrolment, primary; and the population growth rate.

What “picture” does this data give you about each of these countries? What general conclusions can you draw about these countries just using this data as your source of information? Which country do you think is “best off”? Which is “worst off”? Rank these countries from best to worst using these indicators alone as your guide. You will have to decide which indicators are more important to your ranking and which are less important.

Now, record the income per person (GNI per capita) for each of the countries from the same tables. Rank the countries again from best to worst using only the GNI per capita data. Is this ranking of countries substantially different from the first ranking you did using the social and economic variables? If there is a difference in your ranking of countries, what is the significance of that?

What about poverty levels in these countries? Does the country you rank first have the lowest level of poverty? Does the country you rank last have the highest rate of poverty? Let’s see.

Go back to the main World Bank website link above. Choose “Data by Topic” from the drop-down menu. Choose the “Poverty” link and then record the data for each of the above countries for “poverty gap at \$1.25 a day” and the “poverty headcount ratio.” Does the incidence of poverty in the countries match what you thought it would be, given your previous rankings of the countries? Did the “poorest” country have the highest incidence of poverty? Did the “richest” have the lowest incidence of poverty? If there are discrepancies, can you explain them?

ethnic groups and different social classes often have widely diverging outcomes as well. One can find nations that have made, at best, only modest progress on the path toward fuller economic and social development. But there are reasons to be hopeful in many nations.

There remains much to be done to bring as many persons as possible out of poverty and the deprivation it produces, and that is one reason why understanding how economic development takes place is so important. And, of course, progress in overcoming poverty cannot simply be measured by the percentage of individuals who live above or below a numerically determined “poverty line.” There are many other methods that attempt to determine the economic status of nations more broadly—some of these methods are presented in Chapter 2.

## THE DEVELOPMENT ENIGMA

Why is it that there are sharp divisions between rich nations and poor nations, and within nations, and so much human suffering in far too many countries worldwide? Development economics, as a separate field of economic analysis, began to probe this enigmatic question after the Second World War, focusing on the problems of what was then called the “Third World.”<sup>6</sup>

Other similar questions then, and later, arose. Why, for example, is so much of Africa substantially less developed and poorer than Latin America (see Table 1.2), though both regions are considered part of the less-developed world? What accounts for the recent economic success of some East Asian countries, like South Korea and Taiwan, or, taking a slightly longer time span, of Japan, such that they seem to have passed over the threshold from underdevelopment to development? Why does India, with its large number of highly educated citizens and its immense potential market, remain one of the more impoverished nations, while other countries—again, South Korea is an illustration—with a skilled and educated labor force have been able to make the transition toward higher and more equitable levels of economic development? How has China, the most populated nation on earth, been able to make such remarkable progress that it went from being poorer than India to having more than three times the income per person in 2010 (\$1,270 vs. \$4,270)? Why did Argentina, seemingly blessed with a high standard of living and endless natural wealth in 1900, face never-ending economic difficulties in the following century? Why did patterns of “specialization” established in the colonial era seem to define the “destiny” of so many nations, for so long, once they became politically independent?

**Table 1.2** Average income per capita and growth rates of per capita output

	Income per capita <sup>a</sup>				Annual % change in real output <sup>b</sup>		
	1970	1980	2000	2010	1980–1990	1990–2000	2000–2010
<i>Less-developed economies</i>	222	702	1,155	3,286	1.03	2.14	5.1
East Asia and Pacific	122	294	907	3,696	5.38	7.08	8.6
Latin America and Caribbean	579	2,053	3,770	7,733	–0.87	1.62	2.6
Middle East and North Africa	256	1,266	1,662	3,874	–0.05	1.76	2.9
South Asia	117	264	444	1,176 <sup>c</sup>	3.37	3.21	5.8
Sub-Saharan Africa	207	662	485	1,176 <sup>c</sup>	–1.04	–0.34	2.5
<i>Developed economies</i>	2,918	10,456	26,305	38,745	2.62	1.87	1.1

Source: World Bank, World Development Indicators Online.

### Notes

<sup>a</sup> Gross National Income (GNI) per capita, in US dollars (*unadjusted for inflation*).

<sup>b</sup> Of per capita Gross Domestic Product (GDP) in *constant* (inflation adjusted) 2000 dollars:  $\Delta\text{GDP} - \Delta\text{Pop.} = \Delta\text{GDP per capita}$ .

<sup>c</sup> By coincidence, the incomes per capita of these two vast and disparate regions were equal, but only for 2010.

These are the sorts of incongruities and conundrums—and the list could be extended quite easily—that both vex and attract those interested in the problems of economic development. Trying to formulate reasonable explanations for such observed disparities, and, by extension, suggesting what might be done to overcome the barriers that retard economic, social, and human development, is what development economics is all about. In short, development economics is about “getting policy right” under ever-changing conditions.

It is on this adventure into theory and reality that we are about to embark. There are no easy answers that apply always and everywhere. There is no magic, one-stop, cure-all solution that can be offered that applies to every country in all parts of the world. Becoming more developed is a challenge that requires vision and hard work from both the leaders of nations and their citizens. Nonetheless, there are patterns and lessons to be learned from successful as well as unsuccessful development experiences that can help those with the power and the will to move their economies and nations forward.

It is to these patterns and regularities based upon the concrete historical experiences of successful and failed development episodes that we shall turn repeatedly. We are looking for the critical signposts that mark the “process” of development, such that it will be possible to determine what, broadly speaking, needs to be done and what should be avoided if progress is to be made.

Many abstract theories about how to develop have been advanced by economists, and some of these will be considered in later chapters. Such theories are an integral part of development economics and provide an important historical window on how economists have thought and continue to think about development.

Also of importance for less-developed nations are the concrete, positive, historical experiences of successful developers. We shall be looking to the lessons that can be gleaned from the rapid growth of Japan, South Korea, Taiwan, and Hong Kong, as well as other nations of that region that the World Bank called the “High-Performing Asian Economies” (HPAEs).<sup>7</sup>

China’s amazing rates of growth over more than three decades provide lessons too, though in many ways what is happening there affirms what others had done before them. The analysis and recommendations for action in subsequent chapters often are based upon the lessons of East Asia and the now-developed nations, as well as contrasts with less productive cases of transformation, such as the Latin American economies, where the growth process slowed dramatically after initial successes.

Underlying this interest in Development there exists a definite moral dimension. Development is about realizing very fundamental human values and finding the means to extend the fruits of these values to the greatest majority of the world’s population. These human values include, but are not limited to:

- the opportunity for meaningful employment, under honorable conditions, and the possibility to provide for one’s self and family;
- employment under conditions that comply with the following four core labor standards of the International Labour Organization: (1) freedom of association and the effective recognition of the right to collective bargaining; (2) elimination of all forms of forced or compulsory labor; (3) effective abolition of child labor; (4) elimination of discrimination in respect of employment and occupation;

- sufficient food, shelter, and other amenities for a decent and meaningful life above the poverty line;
- the opportunity to pursue education and the increased quality of life it promises;
- a reasonable level of health care;
- social security for old age;
- democracy and political participation in the life of the community and society;
- equal treatment under the law and in the economy, regardless of race, gender, class, ethnicity, religion, nationality, or other differences; and
- respect for individual dignity.

This listing of development goals is not meant to be all-inclusive. It is intended simply to touch upon at least some of the primary ingredients toward which development, and *not just economic development*, is directed. Nonetheless, economic development is of the utmost interest and of the gravest consequence. It touches our shared humanity. The great economists of the eighteenth, nineteenth, and early twentieth centuries—Adam Smith, David Ricardo, John Stuart Mill, Karl Marx, Alfred Marshall—were inspired by a profound concern for understanding the roots of economic wealth and the reasons for poverty, as well as for discovering the mechanisms through which economic and social gains might best be increased and shared amongst the members of society. These matters have captured the attention and hearts as well as the minds of many brilliant thinkers. They are noble questions that often lead students to wish to study themes relating to economic development in the first instance.

This book is an inquiry into what those in the less-developed nations must do if they are to improve their economic and social lot. As well, there is reflection on how the developed world, including concerned citizens of those countries, might understand their role and responsibilities in our increasingly interdependent world of rich and poor. The MDGs are an important recognition of the global obligation of all nations to end extreme poverty, wherever it is found. Everyone's economic interests are joined in a global economic system, sometimes positively, other times negatively, no matter how remotely connected we at times may seem to be. It is one world, albeit unequal, but our destinies are increasingly intertwined via markets, communication networks, the environment, and politics. Achieving the MDGs and making progress toward fundamental structural reforms of the sorts discussed throughout this book is a win–win outcome for all nations.

## **RECENT TRENDS IN ECONOMIC GROWTH**

The 1980s and early 1990s were not particularly propitious for either economic growth or development (the differences between the “growth” and “development” are spelled out in greater detail in Chapter 2). Even the developed world suffered a slowdown in its rate of economic expansion from the 3 percent per person growth rates of the 1960s and 1970s to the slower growth of GDP per person shown in Table 1.2. Some developed countries experienced a sharp decline in living standards after years of prosperity following the Second World War. Unemployment rose in the European Union (EU) to levels that proved difficult to reduce.



The greatest number of jobs being created in the developed nations were concentrated heavily in segments of relatively lower-paying, lower-productivity service sectors that offered meager benefits and other perquisites—from sick leave to health care to retirement packages—that had become integral to the rising living standards of the developed economies after the Great Depression of the 1930s.

In the United States, real wages have decreased for a broad spectrum of the workforce since 1973. Family incomes barely edged upward, and when they did it was due primarily to the fact that more family members, particularly women, entered the labor force in record numbers in an effort to maintain a family standard of living. For increasing numbers who did find work, it was often irregular and part-time, as permanent workforces were replaced by *contingent workers* with fewer rights, lower incomes, and futures that became ever more precarious. So even the already-developed economies experienced problems of long-term progress during some periods, and these problems were often more complex in recent decades given the impact of global competition amongst nations and firms.<sup>8</sup> The difficulties encountered in the 1970s, 80s, and 90s paled in relation to the situation in the early twenty-first century when the developed nations faced an intractable crisis made worse by their own austerity policies. In the developed nations, stagnation and contraction alternated with weak, polarizing, growth: for example, from 1995 to 2011, according to noted income distribution specialist Emmanuel Saez, real annual income for the “bottom 90 percent” in the US declined by 1.5 percent. In those same years, the lion’s share was taken by the top 1 percent, whose bloated incomes rose by 11.2 percent (Shear and Baker 2013: A16).

The less-developed world, on average, fared even worse than the developed economies during the 1980s. However, average growth rates of output for the less-developed economies have exceeded those of the developed world since 1990. But, as can be seen from Table 1.2, much of this success is due to rapid growth of production in South Asia and in East Asia and the Pacific. Not all regions have done as well as the average might suggest. Still, the overall average results for *real per capita income growth, 2000–2010* for the less-developed nations (5.1 percent per year) are spectacular and without precedent. Even the weakest-performing region, Sub-Saharan Africa, achieved growth rates per person that were more than double those attained in the developed economies. Every region did substantially “better” in terms of the average growth of income than they had at any time since 1980.

Table 1.2 provides summary data on the levels of nominal income since 1970 and real growth rates of output per person since 1980 in different regions. Although, as we shall learn in Chapter 2, output and income growth are not the whole of what development is about, these numbers, along with the data on poverty in Table 1.1, do shed some initial light on the wide disparities in living standards which continue to plague many regions and peoples of the world.

The data on income per capita are useful, but only in a comparative sense at one moment in time. They indicate at what level, on average, was one region in relation to all other regions, and the average level of income per capita for all developing nations.<sup>9</sup> Thus, this data informs us of the fact that on average South Asia<sup>10</sup> ranked as the poorest region by income per person in the world in 2000—slightly below Sub-Saharan Africa (\$444 vs. \$485). But, by 2010 Sub-Saharan Africa<sup>11</sup> had exactly the same level of per capita income as South Asia. Both these regions had average income levels that were only 35.8 percent of the level for all developing nations in 2010.

Sub-Saharan Africa's per capita income level fell below that of South Asia in 2011; it is now the poorest region in the world. Income per person was actually lower in 2000 than in 1980, and the growth rate of real output per capita over the same period was nil. Growth resumed in the first decade of the twenty-first century, but this strong growth was combined with a relatively high annual rate of population increase. Thus real per capita income growth was less than half that of South Asia, 2000–10.

Among the less-developed regions of the world, the Middle East and North Africa and Latin America and the Caribbean are, on average, relatively better-off. Still, compared to the developed world, their average per capita incomes were, respectively, only 10 percent and 20 percent of what was received in the developed economies in 2010.

Clearly there remains a substantial gap in average incomes between the less-developed and the developed worlds, a gap that has widened on average from 1970, when income in the less-developed world was 7.6 percent of that in the developed, to 2000, when average income in the less-developed economies had fallen to but 4.4 percent of the average in developed economies. By 2010, there had been a change in direction—average income in the less-developed economies as a share of that in the developed world had all but *doubled* from the 2000 level. *For the first time in 40 years it was substantially above what it had been in 1970.*

As can be confirmed from the data in Table 1.2, East Asia's average income gap compared to the developed economies has shrunk at a spectacular rate over time. The data—a fourfold increase in per capita income in only 10 years—register performance levels unknown in development economics. We will analyze China's central role in these changes at many points in the following chapters.

### **Low- and middle-income less-developed nations**

In our study of economic development, we shall be mostly concerned with the so-called low- and middle-income economies. By the World Bank's categorization, 139 economies fell into these two groupings in 2012 out of a total of 214 nations and territories. Of these, 36 nations were included in the World Bank's "low-income" subgroup, down from 64 nations in 1999; another 48 fell into the "lower-middle" income range, seven fewer than had been in this grouping in 1999.

Incomes ranged from the poorest nation in the world, the Democratic Republic of Congo, with a meager \$190 per capita yearly income in 2011 (and a population of 68 million), to Tunisia—with the highest per capita income level of the "lower-middle" nations in 2011 (\$4,020). South Korea, not so long ago categorized as a "low-income" nation, "graduated" from its former "upper-middle-income" status in the less-developed world to inclusion among the "high-income" economies of the developed world (with income per capita of \$20,870 in 2011). The world's two most populous economies, India (\$1,420 per capita income in 2011) and China (\$4,940) now share different fates. India was barely above the upper limit for the low-income economies (income of < \$1,036) in 2011. Meanwhile China, as a result of three decades of unprecedented economic expansion, had quickly passed through the "lower-middle-income" group among the less-developed economies to "upper-middle" income status in 2010 (World Bank 2013b: Table 1).

The average annual income of the low-income subgrouping of the less-developed nations in 2011 was \$571 per person (lower than in 2005). For the lower-middle-income less-developed economies, average income was \$1,772, with the upper-middle-income group averaging \$6,563 (more complete data for other nations and analysis of the meaning of these data are presented in the next chapter).

The last columns of Table 1.2 show what has happened to the growth of real, inflation-adjusted output (i.e. income) per person since the 1980s. For all regions except East Asia and the Pacific and South Asia, income per person declined over the 1980s, as output contracted or as output growth relative to population growth was inadequate to prevent declines in income per person. For these regions, the income gap with the high-income nations, which experienced positive economic growth, widened in both absolute and relative terms over that decade.<sup>12</sup>

Over the 1990s, all the regions of the less-developed world returned to positive per capita income growth rates, with the exception of Sub-Saharan Africa, which suffered two consecutive decades of declining income per person. Since 2000, growth rates have improved everywhere; what is critical is to keep this momentum of positive growth rates going, as it must if the MDGs have any hope of being reached.

While Table 1.2 highlights the enormous (but recently shrinking) divergence in incomes separating the less-developed nations from the developed, and among the less-developed regions of the world themselves, even that data fails to fully convey the magnitude of this disparity. Table 1.3 provides a more global and yet extraordinarily dramatic portrayal of the distance that continues to separate the developed “have” nations from the less-developed “have-not” economies.

The less-developed world, with more than four-fifths of the world’s population, received slightly less than one-third of total world income in 2010. The developed world nations, with

■ **Table 1.3** *World income, population, and their distribution, 1985–2010*

	Share of world's income (%)			Share of world's population (%)		
	1985	1995	2010	1985	1995	2010
<i>Less-developed economies</i>	22.0	17.5	30.3	81.7	83.2	83.7
East Asia and Pacific	4.1	4.4	11.6	30.5	30.2	28.5
Latin America and Caribbean	5.8	5.8	7.2	8.2	8.4	8.5
Middle East and North Africa	2.5	1.2	2.1	4.1	4.5	4.8
South Asia	2.4	1.6	3.1	20.8	21.8	23.7
Sub-Saharan Africa	1.6	1.0	1.6	9.3	10.4	12.4
<i>Developed economies</i>	78.1	82.5	69.9	18.3	16.8	16.4

Source: World Bank, World Development Indicators Online.

*Note*

Missing data for Europe and Central Asia mean that subtotals do not add up to totals for the less-developed economies. The income shares are computed as a percentage of total world Gross Domestic Product in 1985 and 1995. The 2010 world income is based on Gross National Income. The distinction between GDP and GNI is analyzed in the following chapter.

far less than one-fifth of the world's population, received slightly more than two-thirds of total world income in 2010. The rapid 15 percent decline in their "share" since 1995 is notable.

Examining particular regions within the less-developed world, inequality was more extreme while the income share was minuscule. South Asia, with nearly 24 percent of total world population, received slightly more than 3 percent of world income in 2010. While South Asia's income share is minute, it has essentially doubled from the 1995 level.

The relatively better-off Latin America and the Caribbean region, by comparison, received an income share not far below its population share (7.2 percent vs. 8.5 percent), a vast improvement since 1995.

Sub-Saharan Africa's, in spite of relatively strong real growth in the first decade of the twenty-first century, is moving backward. In 1985 it had 9.3 percent of world population but only a microscopic 1.6 percent of world income. Even worse, however, was the situation in 2010: Sub-Saharan Africa's share of world population was up by 33 percent (1985–2010), while its share of global income was exactly what it had been (1.6 percent) in 1985.

East Asia and the Pacific has increased its share of total world income since 1985—almost a threefold leap. At the same time, the region's share of total population has declined somewhat. This meant very rapidly rising average income levels.

The disparities between the less-developed nations *vis-à-vis* the developed nations shown in Tables 1.2 and 1.3 are not of recent origin. Worse, differences *within* the less-developed world itself have been growing, both between regions and often within countries themselves. For example, as will be discussed in subsequent chapters, the distribution of income in both India and China has become more unequal. Many of the poorest countries (the group known as the *Least Developed Nations*) have suffered a relative decline, and in some instances, an absolute deterioration in their position on many significant measures of productivity and in their contribution to world output.

Between 1960 and 1990, for example, the share of total world output received by the poorest 20 percent of the world's population fell from 2.3 percent to 1.3 percent. Their share of world trade decreased from 1.3 percent to 0.9 percent, and their contribution to global domestic investment fell from 3.5 percent to 1.1 percent (UNDP 1993: 27, Table 2.1). The contributions of the poorest to production and trade and their share of world income declined relative to those of other groups in society, including better-off nations within the less-developed world.

Nonetheless, striking and unanticipated gains have been made in the less-developed world *despite* a sometimes weak and uneven record of economic growth and production from the 1980s until the onset of the twenty-first century.

## WHY DEVELOPMENT, AND WHY NOW?

Nations like Great Britain, the United States, Germany, Japan, Australia, France, and the Scandinavian countries that today can be considered developed did not attain that status overnight.<sup>13</sup> In fact, development in all its economic, political, and social dimensions took place quite slowly and proceeded unevenly over a very long period of time, centuries in fact.

The great majority of the countries now considered to be less developed have had significantly less time to become developed, at least as independent political entities. It is

important to recall how many of the nations of Africa, Asia, and the Caribbean achieved political independence only after the end of the Second World War in 1945, when the drive to decolonize as a result of synergistic pressures from anti-colonial leaders and from the newly created United Nations began in earnest (Prashad 2007). Since then, well over 120 newly independent countries have been established from the former colonial empires and later the collapse of the former Soviet bloc. It is in these new nations that the problematic of becoming developed and of making progress toward authentic human well-being and of achieving the MDGs is most pressing.

It is essential to keep this time dimension in mind, without finding in it an ultimate excuse for slow progress in some economies. Most of the less-developed nations have had, at best, only a few decades to work on the fundamental twin goals of post-colonial construction: nation-building and progress on the path toward higher levels of economic and social development. One can argue that it takes time to undo the ingrained patterns of production, social class, and power inherited from the past. What we will call *adverse path dependence* in Chapter 3 often weighs heavily on the present in many poor nations.

On the other hand, the means to realize development goals, to achieve processes of “leapfrogging,” are closer to hand than at any time in history.<sup>14</sup> The range of available and potentially applicable knowledge would seem to make the diffusion of technological progress, of advances in medicine, of techniques of efficient business and government administration, and so on easier to attain for today’s less-developed nations than it was for earlier developers who had to create that knowledge painstakingly. If only this vast array of knowledge could be effectively transferred, absorbed, harnessed, and applied in the less-developed nations, the current state of poverty in most parts of the world could be overcome.

It is thus necessary to try to balance the short time frame that most countries have had in which to try to become more developed with the fact that the “know-how” for achieving development is available now as never before. Does that then mean that the less-developed nations are on the brink of becoming developed? Not necessarily. Whether the knowledge about *how* to increase economic growth and about *how* to become more developed can be applied in ways that succeed in taking the less-developed nations across the threshold to developed-world status depends upon how stubborn the barriers to development continue to be in each of those nations. *Possibility still needs to be transformed into actuality, and the means to effect that transformation are central to the subject matter of development economics.*

## **ECONOMIC GROWTH AND DEVELOPMENT REQUIRE STRUCTURAL CHANGE**

Economics is often defined as the study of “how societies can best allocate scarce resources among alternative uses” so as to maximize something—usually the level of each individual’s or household’s satisfaction or utility—the presumption being that maximizing individual satisfaction also will maximize society’s total well-being simultaneously. The allocation of society’s resources is assumed to take place within a *given* institutional and organizational setting that is taken to be exogenous to the analysis done by the economist.

This operating framework of orthodox, or neoclassical, economics in which the allocation of existing resources occurs within a given and presumably immutable or slowly changing social and institutional structure has been the key to the robust analysis and the predictive capability

of modern economic models. These are the theories studied in most introductory and intermediate economic theory courses. The presumption of *given* institutions and of *marginal* adjustments by economic agents to their environment is at the heart of neoclassical economics as taught around the world. So basic are these underlying presumptions of marginalism and nearly fixed institutions that the great English economist Alfred Marshall was able to write on the title page of his *Principles of Economics*, first published in 1890, “*Natura non facit saltum*”: nature makes no leaps.

The real-world process of a country becoming more developed, of getting on the path to development, and shedding the ways of the past that resulted in low growth rates and limited progress, is not, however, simply about the efficient allocation of existing resources within a given institutional regime. It is not simply about maximizing utility or profits within the constraints of what is currently available to that society and inherited from the past. Rather, development is fundamentally about *regime change* and about the search for an optimal growth path, or at least one that is superior to the existing allocation of resources and current efficiency levels. Further, fomenting development typically requires substantially new institutional patterns and organizational structures necessary to support such a dynamic process of change.

To get a country on the road to development very often requires a “leap”—often a quite substantial one—away from the past structures. Marginal modifications of the economy and society simply may be insufficient to initiate the forward momentum needed to propel the system in the requisite new direction and on to a higher path of progress for the future. For the less-developed nations, development compels them to undertake substantial *qualitative structural change*. The future cannot be just an extension of the past, of doing more of what is now being done. Change must be dramatic. The past-binding structures and their weight on the present are precisely what have made these nations underdeveloped and it is these political economy structures of power that need to be transcended.

There are a number of major *structural changes* and patterns identified by development economists and economic historians that are believed to be characteristic of any successful development process. We shall be examining these in detail in later chapters. In fact, much of this book is about the importance of these structural changes and what can be done to foment change in the desired direction. Here these structural changes are briefly introduced to suggest the nature of *qualitative* change required and to point out the direction to be taken in the chapters that follow.

- 1 **Increase in industrialization.** Economic growth and development are strongly associated with an increasing share of a nation’s output and labor force involved in industrial, especially manufacturing, activities, at least initially, as we will see in Chapter 9 and 10. Over time, services become increasingly important too as an economy matures even further.

Wages tend to be higher in the industrial sector than in agriculture, because the level and use of technology are greater. This leads to both higher levels of production and worker productivity, and the resulting higher income that is created is shared by workers and owners of enterprises. Production methods also become relatively intensive in the use of knowledge—human capital—and of physical capital. As part of this unfolding process, the

urban population tends to grow both relatively and absolutely compared to the rural population, as rural workers migrate to the cities in search of the higher incomes promised by urban and industrial pursuits.

- 2 **Decrease in agriculture.** Parallel to the expansion of the industrial sector of the economy is a decline in the share of agricultural output in total output. This also means a reduction in the share of the total labor force employed in agriculture and a decrease in the share of the rural population within the total population.

The increase in industrialization and the decrease in agriculture are intimately related. “Surplus labor” (i.e. low-productivity labor) in agriculture migrates to urban areas in search of the promise of better-paid and higher-productivity industrial employment. It is this shift of workers from low-productivity agricultural employment to higher-productivity industrial employment that contributes to a sharp increase in total national output when this process of internal labor migration is initiated. Technological progress and labor productivity are typically lower in the primary (agriculture, mining, and fishing) sector, but over time, output per person approaches the level reached in the industrial, or secondary, sector as the fewer workers in agriculture produce more output per worker.

One leading development expert has written that “economic development is a process of moving from a set of assets based on primary products, exploited by unskilled labor, to a set of assets based on knowledge, exploited by skilled labor” (Amsden 2001: 2).

However, as noted in Chapter 11, the agricultural sector needs to be viewed as much more than a mere labor “reservoir” provisioning the industrialization process. In fact, in recent years, there has been growing emphasis on the need for an “ag-led” process of development for some nations. Such an approach to development can unleash synergistic virtuous circles of complementarities with a growing industrial sector.

- 3 **Changing trade patterns.** Successful development is almost always marked by a maturation in the structure of trade, as a limited range of primary exports—agriculture and fishing products, unprocessed mining and other extractive minerals, and forestry products—is replaced by both a greater diversity of export products and by an evolving export mix toward manufactured goods and services.

Successful developers shift from a dependence on the traditional, primary export products that marked their colonial past toward, first, simpler manufactured and non-traditional primary exports, and ultimately toward more complex commodity exports, from motor cars to computers to biotechnology products to information technology to nanotechnology and other types of high value-added production.

As a result of this evolutionary transformation, manufacturing exports typically come to dominate the export profile of more developed nations as the share of primary exports in total exports shrinks within the export profile.

- 4 **Increased application of human capital and knowledge to production.** Economic growth and development require increases in the productivity of labor in all sectors of the economy if incomes and the standard of living of the population are to rise. This is achieved partly, but quite importantly, through improvements in the training and education of the existing and future labor force by means of increases in what economists

call *human capital accumulation*. This takes place not only through the formal schooling process but also via “learning-by-doing” at the workplace.

Increased productivity of labor is also a consequence of an expansion in the use of more physical capital, that is, more machines and tools which typically embody more advanced technology and knowledge that can help to make a properly trained labor force even more efficient.

Human capacities accumulation, physical capital accumulation, and technology thus all contribute in a synergistic process to increase the productivity of the labor force. Greater productivity means the possibility of higher wages for labor and an easier workplace environment, both of which contribute to the potential well-being of the population.

Stress will be placed again and again on the essential *complementarity* of human and physical capital accumulation and the urgency for less-developed nations not only to tap into the existing pool of knowledge available at the world level but also develop over time an autonomous technological capacity based on indigenous labor skills (this is discussed in Chapters 8 and 13).

- 5 **Undertaking essential institutional change.** Economic growth and development require fundamental institutional change. New organizations such as banks, stock and bond exchanges, and insurance companies gain added importance as an economy modernizes. The role of the central government—the *state*—must change to incubate private initiatives, and sometimes to fill gaps when the private sector lacks initiative. Physical infrastructure such as roads, ports, communications, the provision of electricity, water, and other essential services must be improved, and the state typically must play a central role in these areas, particularly during early stages of structural transformation.

The specific nature of the legal system and of property rights; the rules and regulations governing the emerging financial system; the creation and operation of a civil service system; determining what will be taught in the schools and how success will be measured and so on all must be worked out and codified by government.

Without fundamental changes in the organizational rules, without the specifics defining how new institutions will work and provide improved outcomes compared to existing institutions, many of the “big-picture” structural changes suggested in this text will not have their full desired effects. The state thus has a challenge in clearly defining and enforcing the rule of law, including the defense of property rights, as one of its fundamental tasks. As detailed in Chapter 7, this means that the central government, which is itself an institution inherited from the past, must be modified and made more efficient and streamlined if economic growth and development are to be advanced effectively.

It is thus not only physical infrastructure that must be built, maintained, and improved, but also the “soft” infrastructural institutions of the state that must be created and put into place if a more modern, productive, and equitable outcome is to be attained.

Needed institutional change runs deep into basic values and motivations too. Businesses must increasingly be operated with more attention to efficiency and less to short-term profitability in a more competitive, or regulated, environment. Old ways of thinking and doing—encrusted in oligopolistic and oligarchic production structures—will undoubtedly be threatened by what often will appear to be unsettling competition from



“nascent” industrialists, landowners, and service providers. Even the family is often redefined during the process of development and structural transformation, as the extended family of the past is replaced by the nuclear family of modern society.

Economic growth and development definitely requires a break with the past. As such, the institutional changes traced above, and others, will define the parameters of this book.

Some of the most cherished institutions of many societies today, such as close family structures and interpersonal relations, religious traditions, and the general pace of life, will be altered over time, becoming more and more like those institutions and patterns of behavior in other societies on the path to development and more like those institutions and values already in place in developed nations. There is no doubt that these changes can be conflictual and often wrenching.

### **BARRIERS TO DEVELOPMENT**

Throughout our study of economic development, we will confront repeatedly the perplexing problem as to why some countries are more developed than others. Why is Great Britain more developed than Angola, or the United States than Colombia? The very simple answer, since it is basically a truism, is that the level and pace of economic development are lower the greater are the barriers to economic progress and transformation in a country, and more rapid the fewer and less intractable are those obstacles.

The challenge for the development analyst is thus to attempt to identify the most significant barriers to development in each country and to formulate effective measures, including public policy, that can begin to undo, remove, or at least minimize the effects of these obstacles to progress that slow or thwart the development process.

**Potential internal barriers to development:** Some examples of possible internal barriers that may block fundamental structural change and thus thwart economic growth and development are:

- a inequalities in the existing distributions of income and wealth, including the distribution of land ownership. For most countries, the wealth distribution is intimately related to the nature and power of class relations in society and to control over economic resources and the political sphere;
- b the level and efficiency of physical infrastructure (roads, electricity, water, communication services, port facilities, and so on);
- c the role and level of development of organized banking and lending activities and of equity (stock) and other financial markets and financial intermediaries;
- d an ineffective or underdeveloped educational system, including low levels of general literacy and an imbalance between allocations of financing to primary, secondary, and higher education;
- e prevailing ideological concepts and their impact on thinking and behavior, including the influence of religious thinking, the accepted role of women and ethnic or religious minorities, the prevailing economic orthodoxy, and so on;
- f the initial endowment of natural resources of a nation;

- g the role of the state, that is, the power and nature of the influence of the central government, including the degree of political freedom and the strength of democratic processes (included here is the macroeconomic environment that government at least partially controls, including the nature and definition of property rights and the functioning of the legal system);
- h the extent and importance of political corruption and patronage and the impact of these on public policies and on economic behavior of those governed;
- i the existence of substantial “market failures” such that market signals are not fully, completely, or accurately transmitted to economic agents, thus distorting resource allocation, production decisions, and spending patterns;
- j geographic characteristics, for example, land-locked nations, mountainous terrain, extensive deserts, and even small country size;
- k diseases specific to certain locations;
- l civil war, and so on.

**Potential external barriers to development:** Examples of possible external barriers to development include:

- a transnational corporations that control national resources;
- b the international division of labor and the prevailing patterns of international trade (e.g. primary commodity exporting countries versus manufactured-goods exporting countries), including the operation of the organized institutional structure of the international trade system, the effects of the World Trade Organization’s negotiations and of regional trade blocs, such as the European Union (EU) or the North American Free Trade Agreement (NAFTA);
- c the functioning of international financial institutions, including not only the international private commercial banks but also the World Bank and the International Monetary Fund (IMF);
- d the influence of the geopolitical and strategic interests of larger economic powers *vis-à-vis* smaller and weaker economic entities;
- e the impact of economic policies of more developed nations on interest rates, for example, or on tariffs or non-tariff barriers on the global economic system;
- f external debt;
- g the availability of foreign aid and investment, and so on.

This very broad listing of internal and external barriers is meant only to be suggestive in a general way of the types of, obstructions to progress that can confront individual countries; it could be extended and refined almost indefinitely. Throughout the book we shall be considering and analyzing these and other specific limits to progress that many less-developed nations confront.

For any specific nation, be it India or Thailand, Côte d’Ivoire or Somalia, Bolivia or Guyana, the list of possible internal and external obstacles can only be a guide toward the identification and detailed specification of the unique particulars of the barriers actually operating to thwart progress in that country. For every nation, the obstacles to change, and then the specifics of how

each acts as a restraint on progress, need to be clearly and analytically defined so that the nature of the remedy is also made more apparent.

The relative weight of external versus internal barriers should not be considered a constant in any particular situation.<sup>15</sup> The influence of internal and external barriers can and will alter in importance over time and because of unique situations particular to specific countries. The relative influence of internal and external barriers cannot be presumed a priori but must be understood in each specific and changing circumstance.

What we can state with confidence is that where obstacles to change, be they internal or external, are not terribly powerful, progress tends to be more rapid. On the other hand, development will be less vigorous where the barriers to change exert a more powerful adverse influence.

All countries, including developed nations, always face both internal and external barriers that act as possible obstacles to continued progress. What is central in any particular nation, then, is not whether there are obstacles to progress—for there *always are*—but rather how these existing barriers are to be overcome by that society so that positive change can follow. New obstacles to continued progress inevitably will arise as growth and development proceed, often as a consequence of overcoming an earlier barrier. Solutions to these new obstacles must be devised. All countries thus confront forces—some active, others simply a consequence of lethargy—that tend to slow the pace of change and block the path of development unless they are overcome.

The issue, then, is not why some countries face obstacles and others do not, since all nations constantly encounter barriers to further progress. The challenge is to try to discover how those nations that have been successful at fostering and sustaining economic growth and development have been able to do so by overcoming successive barriers to change and what might be learned from their experiences.

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### QUESTIONS AND EXERCISES

- 1 List five key characteristics that you think are shared by most less-developed economies (not just “low income,” which is obvious, but things like “low level of education,” etc.).
- 2 How does the “headcount” measure of poverty differ from the “poverty gap” measure? Do these two measures provide different information about the extent of poverty in a country? Explain in what sense they tell us different things about the extent of poverty.
- 3 Development tends to be slower the stronger a nation’s barriers to the fundamental structural changes enumerated near the end of the chapter.
  - a For your own country, or for a less-developed nation about which you know something, list three specific obstacles that you think may be acting to slow the pace of economic development. Indicate whether each is an internal or an external barrier.
  - b Briefly explain how each obstacle acts to retard economic progress.
- 4 Transnational corporations (TNCs) often are the target of criticism for their alleged detrimental impact on the economic welfare of less-developed nations. Their operations in the less-developed world are often controversial and evoke strong emotional responses. In actuality, the operations

of TNCs, discussed in more detail in Chapter 14, can be either positive or negative in their consequences.

List and explain (a) two possible advantages that TNCs might provide to the less-developed nations where they operate *and* (b) two possible disadvantages that might result in those nations from the operations of TNCs within their borders. (In Chapter 14, we shall consider how a country might go about attempting to maximize the *net* benefits from the location of foreign TNCs within its economy; here you are being asked only to speculate about the effects of TNCs on the less-developed nations based upon your existing level of knowledge.)

- 5 Why might former colonies that are only recently independent be more likely to be less developed than long-independent nations? Can you think of any former colonies of European powers that have become developed? Of long-independent nations that remain less developed?
- 6 The deadline for attaining the Millennium Development Goals (MDGs) outlined in Focus 1.2 is approaching. In Focus 1.3, we looked at the success of meeting Goal 1 on poverty reduction by 2011. Since then, what progress have the major regions made in attaining Goal 1? You can find the data at the World Bank website in the “Data” section.
- 7
  - a How does the technology of agricultural production in use differ in, say, the Sudan from that used in a developed nation, like the United States? Why do such differences exist?
  - b Could the Sudan use the same kinds of technology—tractors, harvesters, combines, fertilizers, irrigation, and the know-how to utilize these tools effectively—on its land? Why, or why not? Hint: if you have learned about isoquants and isocost curves in one of your economics courses (and have found such an approach useful) draw two graphs with capital measured on one axis and labor on the other. Make one of the graphs for the Sudan and the other for the US. Consider how the different prices of capital and labor in the two countries might affect the most efficient combination of machines and labor in use.
- 8 Many countries in Sub-Saharan Africa have suffered from a high level of HIV/AIDS infection, in some cases above 20 percent of the population. What are some of the direct and indirect (opportunity) costs to an economy of such a high incidence of HIV/AIDS?
- 9 Select a nation that interests you: from the list of internal and external structural barriers to development construct a specific list of the fundamental structural changes the selected country would have to undertake if substantial progress is to be made in the future. Why has this nation not already tackled the structural barriers you have identified?

## NOTES

- 1 Most often diarrhoea is the result of a lack of access to safe drinking water and inadequate sanitation. Young girls or women often collect the water for their families from irrigation ditches, rivers and streams, or dirty well sources. Even city water supplies are often contaminated, particularly after rainstorms. If this water is not properly handled—boiled for some time, for example—and even when it is, intestinal problems that can lead to diarrhoea can easily develop.
- 2 This is not to suggest that no progress has been made. Since 1945, the death rate of children under the age of five has dropped precipitously, but the growth in population since that time means the total number dying from poverty remains unacceptably high.

- 3 The calculation of the numbers of individuals who are living below the \$1.25 extreme poverty line, however, should not be taken as an exact measure. There are several reasons for this, including the physical difficulties of producing an accurate census of the extreme poor. In addition, particularly in rural areas, peasants and other rural residents tend to produce as much “income in kind” (edible foodstuffs, some cultivated or husbanded, some acquired through foraging) as they can. The World Bank admits that while income in kind, in theory, is to be included in their estimates, it is not accurately included in some of the areas surveyed. To the extent that such “income in kind” makes a measureable difference, and to the extent it is not fully and accurately included in the estimates, extreme poverty is “overstated” in the statistics presented in Table 1.1, and elsewhere.
- 4 See Blackwood and Lynch (1994) for formal definitions of poverty, including alternative definitions, such as the Sen Index, which attempts to combine a headcount of the numbers in poverty, the poverty gap, and the distribution of income into one measure of poverty. Their article is an excellent primer on the differences in, and the variety of, poverty measures.

For more recent measures of the poverty gap, but for different years for most countries, see the World Bank’s Global Poverty Monitoring site at <http://go.worldbank.org/7W8NG91DD0>. There they provide poverty gap measures for the \$1 and \$2 per day poverty thresholds.

More recently the World Bank has developed PovcalNet: “PovcalNet is an interactive computational tool that allows you to replicate the calculations made by the World Bank’s researchers in estimating the extent of absolute poverty in the world. PovcalNet also allows you to calculate the poverty measures under different assumptions and to assemble the estimates using alternative country groupings or for any set of individual countries of the user’s choosing.” See: <http://iresearch.worldbank.org/PovcalNet/index.htm>

- 5 In 2010 there were 49 *Least Developed Nations*—34 were in Africa. Least Developed Nations are defined by three criteria: (1) their GNI per capita according to the “Atlas” method as used by the World Bank; (2) their ranking in the Human Asset Index, composed of “(a) health and nutrition, measured by the percentage of the population that is undernourished and the under-5 mortality rate; and (b) education, measured by the gross secondary school enrolment ratio and the adult literacy rate”; (3) their “economic vulnerability index [EVI, which] reflects the risk posed to a country’s sustainable development by exogenous shocks. The EVI is constructed as a composite index containing eight indicators.” These indicators are the basis for the equally weighted “*exposure index*” and the “*shock index*” from which is derived the EVI (UNDESA 2012: 14–17).
- 6 The term “Third World” was used to describe those nations and regions that were neither developed capitalist (i.e. “First World”) nations and regions, like the United States, Canada, Europe, and Japan, for example, nor part of the socialist (i.e. “Second World”) bloc of China, the former Soviet Union, and Eastern Europe. There was some blurring around the edges (was Cuba part of the Third or Second World?), but in general, the Third World nations were considered to be the less-developed, poorer nations of Asia, Africa, and Latin America and the Caribbean. In gross numbers, some 140 countries might still be considered as coming within such a Third World classification.

With the collapse and fragmentation of the Soviet bloc after 1989, the continued usefulness of the First, Second, and Third World categories has been called into question. The People’s Republic of China remains the sole major Second World nation, and many would have classified China as part of the Third World, not the Second. Also in vogue for a time was the “North–South”

terminology, with “North” being shorthand for the already-developed capitalist nations and the “South” denoting the less-developed countries. We have elected, for simplicity’s sake, to use the terms “developed” and “less-developed” (or sometimes “underdeveloped” or “developing”) to describe those nations which were considered part of, respectively, the First and Third Worlds.

- 7 The publication of a World Bank (1993c) study and responses to it by Asian economic specialists provided a growing body of knowledge with applicability to those nations that continue to be less developed. For a necessary counterbalance to the World Bank’s often narrow neoclassical interpretation of the rapid growth of these Asian economies, consult *Miracle or Design?* (Fishlow, Gwin, Haggard, Rodrik, and Wade 1994).
- 8 In fact, the emergence of the so-called new, or endogenous, economic growth theories in the 1980s can at least partly be traced to a concern with the stagnation of economic growth and the rise in unemployment rates in Europe and the United States. These theories and their important implications for economic development in the less-developed world are discussed in detail in Chapter 8.
- 9 The data on income per capita *do not* demonstrate inflation-adjusted changes in income over time. For example, from 2000 to 2010, all developing nations grew at an annual real (inflation-adjusted) per capita rate of 5.1 percent (last column, first row). At that rate income would double in 14 years. This is the result using the rule of “72,” which indicates how many years it would take for income to double at the real rate of growth of 5.1 percent per years ( $72/5.1 = 14.1$  years). However, the *nominal* values (\$1,155 and \$3,286) presented in Table 1.2 roughly doubled in only 10 years (2000–2010). Had Table 1.2 been based on (more useful) inflation-adjusted numbers, the \$3,286 average income figure would have been considerably lower.
- 10 Included in South Asia are Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka.
- 11 Included in Sub-Saharan Africa are Angola, Botswana, Burundi, Comoros, Democratic Republic of the Congo, Eritrea, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mayotte, Mozambique, Namibia, Rwanda, Seychelles, Somalia, South Africa, Sudan, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe in East and Southern Africa; and Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Republic of Congo, Côte d’Ivoire, Equatorial Guinea, The Gambia, Gabon, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, São Tomé and Príncipe, Senegal, Sierra Leone, and Togo in West Africa.
- 12 What was the cost of that economic slowdown? The World Bank (1993a: 41–2) estimated that if economic growth rates had been as rapid in the 1980s as in the period 1960–80 the number of infant deaths in the less-developed world would have been reduced by 6 percent (350,000 fewer deaths). In Latin America, which especially suffered from the slowdown in economic growth in the 1980s, infant deaths would have been 12 percent lower if there had been an economic growth rate more similar to the historical trend.
- 13 Of course, there are some who would argue that the crime, violence, drugs, lack of community, unemployment, pollution and environmental degradation, growing relative poverty, and homelessness in many of the developed nations, especially in their crowded urban areas, make them unworthy of the name “developed.” If “development” is the goal, some would argue, there is much about the already-developed economies that it is not particularly desirable to emulate.

An economist might suggest that these are, perhaps, trade-offs that are the “price” of economic progress, that economic growth and development are not “costless,” and that what each nation must do is to evaluate both the benefits and the costs associated in achieving a higher level of economic growth and development.

One must also question to what extent the problems of the developed nations are perhaps the result of particular patterns of unequally shared growth and development, rather than being necessarily inherent problems that accompany progress *per se*. Is it possible to achieve a higher level of economic growth and a higher level of development without incurring the problems mentioned above? That, too, is a challenge for the future.

- 14 See Gerschenkron (1962) for a fascinating study of so-called “late developers.” Gerschenkron believed that late-developing economies had advantages in attempting to accelerate their pace of development by having access to the most recent technological advances, but that this was always a latent possibility. There was no guarantee that late-developing economies actually would utilize that knowledge to the best advantage. In other words, progress toward higher levels of economic and social development, though possible, was not predetermined simply by the availability of higher levels of world technological knowledge and know-how. It was still up to individual economies to find the means to make effective use of such possibilities and to create the institutional structures capable of effecting such a transition. This theme, well captured by the endogenous growth theories and theories of technological progress we will be discussing in later chapters, forms a large part of this book’s understanding of the development process.
- 15 For example, it was common in the dependency literature on development in the 1960s and 1970s (see Chapter 6) to assume that the less-developed nations were poor primarily because of external forces. Whether these external barriers were the International Monetary Fund, the transnational corporations, or simply “imperialism,” the presumption was that it was the external barriers that kept the less-developed nations poor, and that internal barriers, while perhaps not insignificant, were largely secondary to broader external forces.

We make no such a priori presumption about what the barriers to development are or of their relative weight in any particular country. Nor do we presume anything about the relative importance of internal versus external obstacles to future progress. Each nation’s situation is somewhat *sui generis* and must be analyzed with as few preconceptions as possible.

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**APPENDIX 1: RESOURCES FOR STUDENT USE AND SUGGESTIONS FOR FURTHER READING**

With every passing day, there are more resources available containing data and other information on the situation of nearly every country in the world. Of course, the internet has opened up possibilities for research and data collection and analysis beyond what could have been imagined even a decade or so ago. Every year the data become somewhat more comprehensive and reliable—but also at times they are more than a bit overwhelming. It is possible to find information on everything from income to levels of education of women, to kilometers of roads, to the number of doctors and nurses, to the percentage of dwellings with indoor plumbing. Most college and university library collections are likely to have one or more of the publications, should they not be located on the internet.

The statistical data included in this text are but an insignificant fraction of the data to be obtained from the available sources. You are urged to peruse the sources listed here and others in your library. Focus 1.4 of this chapter has encouraged you to do so. Learning how to “read” statistics, that is, attempting to determine the meaning and implications of data presented in statistical tables without reading the text accompanying such data, will vastly improve your powers of economic and social analysis. The following sources should be of great help in studying the problems of economic development.

- World Bank, *World Development Report*, by year. Issued annually, this is an invaluable resource tool. Besides the statistical tables at the end of every volume, which, unfortunately, have been reduced in recent years, each report has a “theme” that is explored in detail. All recent *World Development Reports* are available online in pdf format, as well as numerous publications of the Bank on an impressive range of topics. All this is thanks to the intercession of former World Bank president Robert Zoellick (2007–12). A perusal of <http://www.worldbank.org> will quickly demonstrate the impressive range of materials available. Many of the problems at the end of the chapters in this text ask you to access the World Bank data.
- United Nations Development Programme, *Human Development Report*, by year. Also issued annually, this report is complementary to the *World Development Report* in that it covers a broader range of development indicators and issues (available online at <http://www.undp.org>). The focus is more on people and the changes in economies that impact on “human development,” as opposed to focusing on the economic side of the ledger. This is an important, evolving source of information, having been published only since 1990. The next chapter examines in greater detail some specific information on human development published in the *Human Development Report*. Larger university libraries are also likely to have this publication in hard copy in their international documentation section, but the full report is available electronically.
- The United Nations also publishes various kinds of data, mostly economic in nature, via its several regional Economic Commissions. One can find statistical and interpretive data published by: the UN Economic Commission for Asia and the Pacific; the UN Economic Commission for Africa and the Middle East; the UN Economic Commission for Latin

America and the Caribbean; and the UN Economic Commission for Europe. If you can locate these volumes, interesting and often quite detailed statistical data may be discovered, though it may be more difficult to work with than data from either of the above two sources, since different assumptions or definitions may be used in assembling the data. At a more general level the annual volume *World Economic Situation and Prospects* is important in understanding current context.

- The intergovernmental organization South Centre, with representation from 51 developing nations, is an important source for research and analysis from an often-absent “South–South” perspective. Formed in 1995, the South Centre presents analyses of the current economic conjuncture, the impact of climate change on developing nations, and the problems faced by commodity producing/exporting nations. The South Centre publishes the useful monthly, *South Bulletin*, and has available on its website over 400 research papers in English at: <http://www.southcentre.org>
- The Institute for Development Studies at Sussex University has, for nearly 40 years, “covered the major themes and influenced debates within international development.” See more at: <http://www.ids.ac.uk/publications/ids-series-titles/ids-bulletin#sthash.y9AtY7qH.dpuf>. The IDS publishes the important *IDS Bulletin* (unfortunately available only by subscription), and numerous “working papers” and research reports.
- The US-based Global Development and Environmental Institute at Tufts University, founded in 1993, places central focus on issues of ecology and development. They have produced numerous analytical studies on topics relating to globalization and sustainability. Their material is available at: <http://www.ase.tufts.edu/gdae/publications/overview.html>
- Non-governmental organizations focusing on development issues are numerous, and the quality of their research and analysis varies. Oxfam, operating anti-poverty programs in over 90 nations, is perhaps the best-known NGO focused on developmental issues. Oxfam offers access to over 3,000 reports, case studies, and policy papers—many on agricultural issues—at: <http://policy-practice.oxfam.org.uk/publications>
- Foreign aid and issues related to this topic have been critically debated for decades. Useful in maintaining focus and accuracy on aid-related issues as well as poverty (and development issues in Africa) is the UK- and Kenya-based independent research center Development Initiatives, which also makes publicly available its clear, concise, well-documented, and well-presented findings at: <http://www.devinit.org/>
- There are a number of scholarly journals related to the study of economic development which often present recent empirical research, as well as more “cutting-edge” theoretical articles. The most widely distributed are *World Development* (monthly), *Economic Development and Cultural Change* (quarterly), *Journal of Development Economics* (quarterly), and the *Journal of Development Studies* (quarterly). Less “economistic” is the *Canadian Journal of Development Studies*. Also, as part of its role as a “knowledge institution” as well as a formulator of official development policy, the *World Bank Economic Review* (thrice annually) and the papers of the *Annual Bank Conference on Development Economics* are available on the World Bank website: <http://www.worldbank.org>

- If you have not visited or lived in a less-developed country, it is often difficult to fully comprehend what it means to be extremely poor. To convey a sense of the deprivation which absolute poverty entails, Robert Heilbroner, in *The Great Ascent*, Chapter 2, transforms a middle-class family in a developed country into an impoverished family in a “typical” less-developed nation. For gaining a sense of empathy short of traveling to a less-developed nation, this is an excellent resource.

As an alternative, there are also short vignettes scattered throughout Jeffrey Sachs’s powerful *The End of Poverty* that drive home the reality of living with poverty daily.

# Measuring economic growth and development

## **AFTER READING AND STUDYING THIS CHAPTER, YOU SHOULD BETTER UNDERSTAND:**

- the difference between economic growth and development;
- why GNI and GDP can differ, how to calculate each, and the adjustments to these so they can be used as more reliable measures of the level and rate of development of economies;
- how the purchasing power parity (PPP) definition of income differs from the usual GNI or GDP measure and why it may be a better indicator for comparing nations;
- the Human Development Index (HDI) and how it can be used as an alternative or complementary measure of development;
- why and how the HDI needs to be adjusted for overrepresentation of income growth vs. social advancement, to provide a better proxy measure of development;
- the Gender Inequality Index (GII) and its importance in measuring development;
- the Inequality-Adjusted HDI (I-AHDI) and why it is the most comprehensive single measure of development;
- the importance of sustainable development;
- the significance of the Kuznets inverted-U hypothesis;
- the importance of knowing something about income distribution, the Lorenz curve, and the Gini coefficient when evaluating the level of development of a country.

## **INTRODUCTION**

What is meant by development? The answer to this deceptively simple question shapes how one judges the respective levels of development of different economies. It affects what factors we consider as contributing to progress, and our answer to what development is will influence the public policies aimed at achieving a society's development goals. Knowing what is meant and what is not meant by development is thus a necessary first step if, as the British economist Joan Robinson once insisted, we are to ask the right questions.

We begin by considering how economists typically measure the level of development of a nation. There are two broad methodologies. One, the income per person, or *economic growth* criterion, suggests that income levels are reasonably good approximate measures for

comparing economies. In this view, income per person can serve as a surrogate for gauging overall progress.

The competing perspective argues that development is such a complex, multifaceted notion that it should be conceived from the outset as considerably broader than income and hence can only be measured by entirely different standards. Let us turn to a discussion of these two viewpoints and methodologies.

### THE ECONOMIC GROWTH/INCOME CRITERION OF DEVELOPMENT

Economists often use the level of a nation's per capita income as a proxy measure for evaluating the overall level of national development and welfare. The rate of growth of income per person can be used to judge the progress of economies over time.

Those who use income per person to evaluate progress are quite aware that the development of a nation encompasses much more than the level of average income and the growth rate of that income. Development incorporates the diverse and broad aspirations of what might be called "a decent life" in all its economic, social, and political dimensions that each society sets, if only implicitly, for itself.

Societies may value, each perhaps differently, goals as diverse as:

- a equality of opportunity;
- b a rising income and standard of living, including a wider array of consumable goods and services over time;
- c equity in the distributions of income and wealth;
- d political democracy and widespread participation in society's decision-making;
- e an expanded role for women, minorities, and all social classes in economic, political, and social life;
- f increased opportunities for education and self-improvement irrespective of class, race, ethnicity, religion, or gender;
- g the expanded availability of, and improvements in, health care;
- h public and private safety nets to protect the most vulnerable—particularly the young, the old, the infirm, and the poorer—from extreme hardship;
- i a reasonably clean, healthy, and *sustainable* environment;
- j an efficient, competent, transparent, and fairly administered public sector;
- k a reasonable degree of competition and consumer safety in the private sector; and so on.

Each of us could add to or subtract from this list of goals (see Alkire 2002 for an overview of the issues involved in defining what encompasses human development). But there is no doubt that development encompasses a wide range of social and human goals that, while including the level of income and economic growth, go well beyond these as well.

Development, being broader than income alone, typically requires fundamental structural change in the economy and society, as discussed in Chapter 1. To attain a higher level of development does not mean that a poor economy simply needs to do more of what it already has been doing. Less-developed countries are less developed precisely because they produce, sell, and export a sub-optimal array of goods and services in inefficient ways.

Development requires that these nations make painful changes that will result in a radically transformed future in which new values and ways of doing things, new institutions, and better-functioning markets emerge. It is not small marginal change that is required, though that can help. Ultimately, however, wholesale social and economy-wide transformations are essential.

The process of becoming more developed by undertaking the necessary fundamental structural reforms is without doubt often a process of wrenching social change. The full range of development goals of any nation goes far beyond any simple concern with the level of income per person. *All* development economists recognize this, including those who use a nation's income per person as an index for the broader development ambitions listed above.

Nonetheless, it is often convenient and simpler to use income per person as a substitute gauge for the broader goals of development. Imagine how difficult it would be not only to collect data on a wide range of development goals such as those listed above but then, with so many variables, to try to compare these for several countries to rank them in terms of which were "better off." The complexity of comparing across many variables with different values and interpretations is simply too daunting, even if each goal can be measured.

Fortunately, there is empirical evidence, some of which shall be examined below, to support at least partially the claim that income per person is highly correlated with key measures of the broader aspirations of economic, social, and political progress. Thus many economists, acknowledging that it would be wrong-headed to suggest that higher income and economic growth are the same as development, firmly assert that it is reasonable to focus on a nation's economic growth and level of income as the measure of development. This is because it is understood that improvements in the specific dimensions of development, such as those listed earlier, are more easily achieved at higher income levels. It is precisely from such higher income over time that the means for reaching the broader goals of development can be obtained.

For most economists, then, it is reasonable as a first approximation to rank nations from highest to lowest by per capita income levels as a measure of their relative development achievement.

Part of the attractiveness of using the per capita economic growth criterion is its very simplicity. All countries collect data on their level of economic activity, though with varying degrees of accuracy, despite efforts by international institutions to unify the methods of data collection and to strive, to the degree feasible, for the comparability of the information collected.<sup>1</sup> The data for comparing income among countries, or for any particular country over time, are thus reasonably readily available and roughly comparable. We make use here of the annual data published by the World Bank in its *World Development Report* and in its *World Development Indicators*, sources which provide a consistent and reliable series of data available to researchers around the world.

## MEASURING ECONOMIC GROWTH

The level of economic development and economic growth can be measured by the growth of either total output or total income. The two most common measures used for international income and output comparisons, and hence for measuring economic growth, are *gross national income* (GNI) and *gross domestic product* (GDP).

**GNI** is the annual total value of all income *accruing to* residents of a country, regardless of the source of that income, that is, irrespective of whether such income is derived from sources within or outside the country.<sup>2</sup> **GDP** is the annual total value of all income (= value of final output) *created within* the borders of a country, regardless of whether the ultimate recipient of that income resides within or outside the country.

How and why do the GNI and GDP measures of income differ? There will be no difference if an economy is completely “closed” to the rest of the world. Closed in this sense means that there is no migration of workers and no flows of investment between a country and the rest of the world. Exports and imports of goods, however, do *not* affect the measurement of GNI or GDP since trade flows do not have anything to do with differences in the values of the two income measures. It is simply that there can be no labor or investment flows between economies if GNI is to equal GDP and an economy is to be considered “closed.”

If an economy is closed in this sense, then the only income that would be received by residents of a country would be derived from new productive activity taking place within the borders of that country. There would be no income received by residents inside the country originating from sources outside the country and no flows of income created within the borders of the country going to income recipients in other nations (such as “repatriated” profits of transnational corporations). In this case, GDP—the income produced within the borders of the country—would equal GNI—the income received by residents of that country.

### **Income flows between economies and GNI and GDP**

However, in a world with transnational corporate investment moving across national boundaries and with myriad financial flows between nations, including speculative and mercurial “hot money” flows, an economy’s GNI will typically diverge from its GDP.<sup>3</sup>

A second type of income flow between nations that can result in a divergence between GDP and GNI is due to worker remittances. As workers migrate from their home country to another in search of work, it is not uncommon that they leave some members of their families behind. Often these workers send a portion of their income home. Such remittances by workers in one country to their families in their home country have the effect of tending to make  $GNI < GDP$  in the *sending* country where the migrating worker is located, and  $GNI > GDP$  in the *receiver* nation where the family and relatives of the worker reside, all else being the same.

For example, many workers from the Philippines work in Asia and Europe. Some of their income is sent home to family still living in the Philippines, which adds to the GNI in the Philippines above the GDP created in the Philippines. In 2000, workers’ remittances sent to the Philippines totaled \$5.2 billion; by 2005, this inward flow of income from the rest of the world had reached \$10.7 billion (*World Development Indicators Online*). These inflows of income tended to make the Philippines’  $GNI > GDP$ , as there was more income to be spent by residents of the Philippines than there was income created within the Philippines.

In general, then, whether a country’s  $GDP < GNI$  or its  $GDP > GNI$  depends on *the sum of all the income inflows into the country from the rest of the world (ROW) less the sum of the income leakages leaving the country and flowing to the ROW*. Again, remember that the only transactions between nations that create a difference between GNI and GDP are *income* flows; the level of exports and imports do not create any difference between the measured values of GNI and GDP.

**Table 2.1** GDP and GNI comparisons, selected nations, 1990 and 2010

	Population (millions)		Total GDP <sup>a</sup>		Total GNI <sup>a</sup>		GDP/GNI gap <sup>b</sup>	GNI per capita (\$)	
	1990	2010	1990	2010	1990	2010	2010	1990	2010
Algeria	25.3	35.5	62.0	162	60.0	156	6	2,371	4,390
Bangladesh	104.0	148.7	30.1	100	30.8	105	-5	296	700
Brazil	149.4	194.9	462.0	2,088	449.7	1,830	258	3,010	9,390
China	1,135.2	1,338.3	354.6	5,927	355.7	5,721	206	313	4,270
Egypt	55.7	81.1	43.1	219	42.0	196	20	755	2,420
Ethiopia	51.2	83.0	12.1	30	12.0	32	-2	235	390
India	849.5	1,224.6	316.9	1,727	312.7	1,554	173	368	1,270
Indonesia	178.2	239.9	114.4	707	109.2	559	108	613	2,500
Korea (Rep.)	42.9	48.9	263.8	1,015	263.6	972	43	6,149	19,890
Malaysia	17.8	28.4	44.0	278	42.2	270	8	2,362	7,760
Pakistan	108.0	173.6	40.0	177	41.7	183	-6	387	1,050
Philippines	61.1	93.3	44.3	200	44.1	192	8	721	2,060

Source: World Bank, World Development Indicators Online.

Notes

<sup>a</sup> Billions of US dollars.

<sup>b</sup> GDP/GNI gap = GDP – GNI, in billions of US dollars. A positive value means that GDP > GNI; a negative value indicates that GNI > GDP.

(All of the income inflows and outflows are registered annually in a nation's *balance of payments* account. Chapter 15 on “the external balance” will offer an analysis of the types of income inflows and outflows that may be important for a given nation.)

Table 2.1 provides some summary data on the two income measures for a number of economies for 1990 and 2010. This table provides information on total GDP, total GNI, and the GDP/GNI gap, that is, the difference between GDP and GNI. When the GDP/GNI gap is positive (i.e.  $GDP - GNI > 0$ ), a country had outflows of income to the ROW that exceeded inflows into the economy from the ROW, and thus its  $GDP > GNI$ . When the GDP/GNI gap is negative ( $GDP - GNI < 0$ ), the economy had inflows of income from the ROW that exceeded outflows to the ROW, and thus its  $GNI > GDP$ . Normally, as can be confirmed by the information provided in Table 2.1, the difference between the two measures, expressed as a percentage of GDP, is relatively small.

For example, China's total GDP was \$5,927 billion (or \$5.927 trillion) in 2010 while its total GNI equaled \$5,721 billion; thus China's GDP/GNI gap was 206 billion. Less income was received by residents of China (GNI) than was created within the borders of China (GDP) due to a net outflow of income to the rest of the world.

Notice Brazil, a nation with a much smaller GDP than China, but with net outflows that were 25 percent larger than those of China. Brazil's huge outflows—12.4 percent of GDP—were 4.5 times greater than in 2006, expressed as a percent of GDP. Why? Two unusual effects coincided to create these gigantic outflows. First, Brazil has, at least since the military coup of 1964, been a nation that has offered *carte blanche* regarding foreign direct



investment (FDI) by transnational corporations. Brazil has not screened these investments in order to coincide with a national project of development. South Korea, China, Taiwan, and some other highly successful developing nations, on the other hand, have had a selective policy regarding FDI. Thus, transnationals rushed into Brazil in the late 1960s and have remained a major force in the economy ever since. Those same transnationals were in deep trouble in 2010 due to the effects of the global financial crisis. They massively repatriated profits to cover losses of their “parent” companies in the developed nations (UNDP 2011: 100). The second effect, unique to Brazil, is that restrictive monetary policies resulted in the highest real (inflation-adjusted) interest rates in the world. Thus Brazil became a magnet for hot money inflows and outflows as financial speculators “round-tripped” their purchases of short-term interest-bearing financial assets, and collected substantial income outflows as interest payments from Brazil. Combined, these two effects overwhelmed income inflows and Brazil was forced to relinquish more than one-out-of-eight reales (Brazil’s currency) produced in the annual GDP to foreign interests. From this one can readily conclude that the difference between GDP and GNI can be crucial in interpreting the development performance of a nation.

## NECESSARY ADJUSTMENTS TO THE GDP AND GNI MEASURES

The values for both total GDP and total GNI for 1990 and 2010 shown in Table 2.1 are total *nominal* figures, that is, they are the *total current US dollar value* of the two alternative measures of total income. There are a number of adjustments to these total nominal values that are desirable if income is to be used in a reliable manner as a surrogate measure suitable for ranking economies as to their level of development.

### 1 Adjusting for population size

A first necessary correction to the total GNI and total GDP figures in Table 2.1 is to adjust them for population size. Dividing GNI (or GDP) by the total population provides a measure of per person income, or, simply, average income. Nominal per capita GNI figures are shown in the last columns of Table 2.1 for 1990 and 2010. You can calculate per capita GDP from the data provided—these are not shown in the table.

This population adjustment is essential for two reasons. First, using *total* GNI (or GDP) to compare different countries makes little sense. From Table 2.1, China had the highest total GNI, followed at a great distance by Brazil. But these two economies have very distinct populations. To be able to compare countries in terms of their *relative* level of development, it is essential to use average income *per capita*, as in the last columns of the table. Otherwise, we would be trying to compare essentially non-comparable values. Total GNI or total GDP tells us nothing about the average standard of living; average GNI per capita, or average GDP per person, gets us a little closer.

In 1990, South Korea, Brazil, and Algeria had the highest average per capita incomes of the countries listed in the table; Ethiopia, Bangladesh, and China (yes, *China*) had the lowest per capita income levels. In 2010, South Korea remained first in per capita income by a substantial margin, followed by Brazil and Malaysia. The three poorest economies were now Ethiopia

(again), Bangladesh (again), and Pakistan. With the exception of Ethiopia, all the nations in the table had experienced substantial gains in per capita income—particularly China. We can thus use per capita income as a means to rank countries from richest to poorest, with differences in incomes reflecting presumed differences in the quality of life, which is the rationale behind using income per person as a proxy for overall welfare.

A second reason for using per capita income is to determine if, over time, changes in the level of aggregate income of any particular economy (a) are just sufficient to keep up with population growth, so that per capita GNI (or GDP) remains constant over time; (b) are more than sufficient to keep up with population growth, so that per capita GNI is rising over time; or (c) are insufficient to keep pace with population growth, such that per capita GNI is falling over time. Using per person income figures allows us to measure, for any particular economy, whether average per capita income—and hence the average standard of living—is growing or not.

Since GNI per capita is simply total GNI  $\div$  population, the percentage change in GNI per capita can be determined as in equation 2.1. This tells us whether an economy's total income is growing fast enough to provide for an increase in the income available per person.

$$\begin{aligned} \text{\% change GNI per capita} &= \text{\% } \Delta (\text{total GNI}/\text{total population}) \\ &= \text{\% } \Delta \text{ total GNI} - \text{\% } \Delta \text{ population} \end{aligned} \tag{2.1}$$

The rate of growth of GNI per capita thus can easily be approximated as the difference between the rate of growth of total GNI and the rate of population expansion. GDP can be substituted for GNI in equation 2.1 to determine the rate of change of GDP per capita.

Equation 2.1 makes it clear why countries with high rates of population growth need to generate higher rates of growth in total income just to keep the level of per capita income constant compared to countries with lower population growth. If one country's population is growing at 2 percent per year, total GNI must increase by 2 percent per annum just to maintain a constant level of income per capita; from equation 2.1, this results in a zero percent change in per capita income. Another economy with 1 percent growth in population and the same 2 percent growth in total GNI would experience an increase in per capita GNI of 1 percent.

It would not be correct, however, to infer from equation 2.1 that slow population growth *causes* a faster rate of growth of income per person or that rapid population growth causes slower growth in income per person. Equation 2.1 is true by definition; it is a mathematical identity. It does not uncover the underlying reasons that result in rapid or slow per capita income growth. Equation 2.1 only indicates the *consequences* of specific rates of change of both total population and total income. This important issue of population growth and its precise relation to economic growth is examined in more detail in Chapter 12.

Having made this population adjustment to total income, countries with higher levels of income per capita may be said to be more developed than countries with lower levels of income per capita using an income criterion of development. Similarly, countries with faster growth

rates of average income as indicated by larger percentage increases in income per person may be said to be developing faster than countries with lower growth rates of per capita income, as China has shown without question and beyond doubt.

## 2 Adjusting nominal income (GNI or GDP) for price changes over time

The total and per capita GNI and GDP measures in Table 2.1 are what are called **nominal values**. To judge how any economy is performing over time, that is, really to be able to compare 1990 and 2010 per capita income figures, it is necessary to convert *nominal or current price* GNI (or GDP) to *real or constant price* GNI (or GDP).

For example, the total GDP figures shown in Table 2.1 were calculated at their nominal values, that is, they were estimated by multiplying the *current*, or nominal, market price of each newly produced good and service by the number of units of new production of each of these goods and services and then summing across all goods and services. Prices act as a common unit of measure that allows us to add together physical quantities of different goods and services that otherwise would not be able to be totaled.

The economic wealth of a society that economists wish to measure is composed of what is produced in actual physical terms, for it is that material production which is potentially available for use in consumption and investment and which can contribute to individual and social welfare. The available output is thus the “income” of an economy. The nominal GDP measure of output (*which is equal to total income created in an economy*) permits us to compute the total value of dissimilar physical outputs and services by measuring them with a comparable yardstick: first by using prices stated in a nation’s own currency and then converting this to US dollars at the official exchange rate for each economy to allow comparisons among countries in a common currency, the US dollar.

The problem with using current prices is that when comparing different years, *unless prices have remained constant*, the current price measure of each year’s GDP will be a mix not only of changes in physical production (the  $Q_i$ s below) but also of the variations in the prices of the goods and services produced (the  $P_i$ s below).

Equation 2.2 shows how total nominal GDP is determined as the sum of all newly produced final goods and services, with:  $n$  being the number of goods and services produced;  $P_i$  being the price of good or service  $i$  in each country’s own currency; and  $Q_i$  representing the quantity of good or service  $i$  produced.

$$\text{Total GDP} = \sum_{i=1}^n P_i Q_i \quad (2.2)$$

From this simple statement, it is clear that in different years the prices of goods and services—the  $P_i$ s—may vary and that different prices can affect the nominal value of total GDP even if total physical output—the  $Q_i$ s—have not changed at all.

For example, imagine in equation 2.2 that from one year to the next all the  $P_i$  values double, so that all prices are twice what they were in the previous year, even with the same level of production in both years; that is, even if the  $Q_i$ s are the same in both years, *total nominal* GDP will be twice as large in the second year as in the first. However, such an economy would be no better off with twice the level of nominal GDP, since all the rise was due to price increases.

There is no additional real output or income available, as the Q values did not change. So, if prices change over time, as they do, nominal GDP and nominal GNI values become distorted by these price changes: what is important is the “real” amount of production available to be consumed, exported, or invested.

In comparing GDP in different years, then, what we want to measure is how much real physical output, the  $Q_i$ s, have changed, *independent of any price changes that may have taken place between the years*. To calculate real, or constant, price GDP, economists simply value the output in different years by using the same prices,  $P_i$ , for all years compared. Once the **base year** vector of prices is chosen, these constant  $P_i$ s can be used in equation 2.2 to value the current  $Q_i$ s. Thus we can write, for example,

$$2012 \text{ GDP}_{1992} = \sum_{i=1}^n P_{i,1992} Q_{i,2012} \quad (2.3)$$

Equation 2.3 shows how real GDP for 2012, calculated at 1992 prices (1992 is the *base year* for prices in this case), would be determined. Using the prices prevailing for each good and service in 1992 ( $P_i, 1992$ ), this price vector is multiplied by the physical quantities of all newly produced final goods and services produced in 2012 ( $Q_i, 2012$ ). The resulting sum is the *real value* of 2012 total GDP stated in 1992 prices. Comparing 1992 GDP and 2012 GDP, prices would be the same and any differences in total GDP values between the two years would be due to differences in the quantity of goods and services produced and not price changes.

In practice, an equivalent approach for calculating 2012 GDP in 1992 prices is to *deflate* nominal 2012 GDP by an appropriate price index, such as the “GDP deflator.” For example, if the total nominal GDP of the fictional country of Luanda in 2012 was US\$3,337 million, and the price index for 2012 was 331.7 (with 1992, the base year = 100, as is always the case for the base year), then real 2012 GDP for Luanda, calculated in constant 1992 US dollars, would be equal to US\$1,006 million, as shown in equation 2.4.

$$\begin{aligned} \frac{2012 \text{ total GDP}}{2012 \text{ Price Index}} \times 100 &= \frac{\text{US\$3,337 million}}{331.7} \times 100 \\ &= \text{US\$1,006 million} \end{aligned} \quad (2.4)$$

This calculation adjusts Luanda’s 2012 GDP for the change in prices that occurred between 1992, the *base year*, and 2012, the *current year*. This operation is equivalent to the calculation in equation 2.3, where 1992 prices are multiplied by 2012 quantities.<sup>4</sup> After making this correction, which is absolutely necessary when comparing income between years, then real GDP per capita can be calculated by making the population adjustment discussed above.

Table 2.2 shows the real GDP per person and the nominal GDP per person for 2000 and 2012 for a sample of economies to give an idea of why it’s so important to make this adjustment for price changes if we are to compare income between years.

The real average per capita GDP figures in the first two columns are calculated in constant (real) 2005 US dollars. Effects of price changes between 2000 and 2012 have been

**Table 2.2** Real GDP per person versus nominal GDP per person, 2000 and 2012

	Real GDP per person (2005\$) <sup>a</sup>			Nominal GDP per person		
	2000	2012	% Change	2000	2012	% Change
Bangladesh	\$ 350	\$ 597	71	\$ 356	\$ 747	110
Botswana	4,521	6,935	53	3,209	7,191	124
Chile	6,552	9,447	44	5,133	15,363	199
China	1,122	3,348	198	949	6,091	542
India	577	1,107	92	455	1,489	227
Indonesia	1,086	1,732	60	790	3,557	350
Kenya	501	593	18	406	862	112
Korea	14,429	21,562	49	11,347	22,590	99
Malaysia	4,862	6,765	39	4,005	10,381	159
Mexico	7,459	8,251	11	5,597	9,742	74
Pakistan	597	802	34	514	1,290	151

Sources: World Bank, "GDP per capita (current US\$)," <http://data.worldbank.org/indicator/NY.GDP.PCAP.CD>; and "GDP per capita (Constant 2005 US\$)," <http://data.worldbank.org/indicator/NY.GDP.PCAP.KD>

Note

<sup>a</sup> In constant 2005 US prices.

corrected by deflating (dividing) each year's nominal GDP per person by the corresponding price index (in this case, the 2005 index based in local price series which are converted to US dollars).<sup>5</sup> The percent change in real GDP per capita between 2000 and 2012 is shown in the third column.

For the sake of comparison, the nominal GDP per capita values for each of the countries is also shown and the percentage change in nominal income per person has been calculated in the last column of Table 2.2.

First, the change in *real* income per capita is lower in all economies than the change in *nominal* income per person. Some of the differences are quite dramatic. For example, Indonesia's nominal income per person increased by 350 percent; however, once price changes are taken into account, real average income actually rose by a modest 60 percent over a 13-year period. Another "standout" case was that of Kenya, with nominal growth of 112 percent, but crawling real annual per capita growth spread over 13 years was a mere 18 percent. Mexico's nominal growth per capita of 74 percent seems small, particularly in relation to the other nations included in Table 2.2. However, this figure was 5.7 times higher than the *real per capita growth rate* of 11 percent—substantially below 1 percent per year. Mexico's dismal performance arose for many reasons, but most particularly because it was converted into an export-based cheap-labor assembly operation as a result of path-dependent processes that culminated in the North American Free Trade Agreement (NAFTA) which went into effect in 1994. Since 70–80 percent of the export assembly operations are directed at the US economy, and since that economy has reeled through two bouts of deep recession and stagnation, Mexico's economy must also stagnate, as it has (Cypher and Delgado Wise 2010).

Second, setting the *base year* nearly in the middle of the time period examined (2005) means that the adjustment necessary to compute real per capita income *raises the nominal levels of 2000* (Bangladesh's contrary numbers could easily be due to data gathering problems). This is so because all 2000 level quantities are, essentially, recomputed in 2005 prices. So, the nominal 2000 income levels are inflated, while the 2012 nominal income levels are deflated. This method is quite reliable—as also is that used in the earlier example of “Luanda.”

Third, China's real income growth stands out, having tripled, per person, since 2000. This is remarkable progress in real income growth, which, since it has been sustained, has brought China out of its less-developed status, much as had happened in South Korea. Korea joined the ranks of the high-income economies in the space of a half-century (see Focus 2.4 later in this chapter on China's economic successes in recent decades).

Fourth, what is most important to retain from Table 2.2 is the fact that, excluding Kenya and Mexico, *all* the developing nations included performed “adequately,” “reasonably well,” or “very well.” Since Table 2.2 includes a very large portion of the total population of the developing nations it should be considered “representative.” In the history of the developing nations since the Second World War, the period under examination in Table 2.2 (2000–12) was exceptional. The reasons for such strong performance are multiple—but they certainly include the stimulus of the commodities boom and the spillover effects of China's extraordinary growth.

### 3 Accounting for income distribution

Income per capita values, as shown in Tables 2.1 or 2.2, are at best an imprecise measure of the *actual income* received by any particular person, since they are only a simple average derived by dividing total GNI or GDP by total population. The per capita income measure does not provide any information about the *dispersion* of actual incomes around this mean.

It is thus helpful also to know something about the distribution of income in an economy if one is to make reasonable sense of the average income figures. Table 2.3 provides income distribution information for the countries in Table 2.1 (excluding Algeria, Korea, and the Philippines), plus Indonesia and Mexico.

The first two columns show the shares of total income received by the poorest 20 percent of the population (the lowest fifth or quintile of income earners) and for the richest 20 percent (the highest quintile). The number of persons or families in each quintile is the same in any nation, representing exactly one-fifth of all income recipients in that economy.

Also shown in the table in the third column is the ratio of the share of total income received by the richest 20 percent of the population divided by the share of total income received by the poorest 20 percent for each country. This tells us how many times larger the average income of the richest 20 percent of the population is as a multiple of the average income of the poorest 20 percent of the population. The closer this number is to 1, the greater the degree of equality between the lowest and highest income receivers; and the further away is the ratio from 1, the greater the degree of relative inequality. In no country is this ratio very close to 1—but the range is extreme. Brazil, commonly criticized for its indifference to income inequality, has *improved* its ratio in recent years (from 21.8 in 2004, for example) but still is the “leader” among the nations represented in Table 2.3.

**Table 2.3** *Income distribution, selected economies*

Country	Poorest 20%	Richest 20%	Richest 20% <sup>a</sup>	Gini coefficient
			Poorest 20%	
Bangladesh (2010)	8.9	41.4	4.7	32.1
Brazil (2009)	2.9	58.6	20.2	54.7
China (2009)	4.7	51.9	9.1	42.1
Egypt (2008)	9.2	40.3	4.4	30.8
Ethiopia (2011)	8.0	41.9	5.2	33.6
India (2010)	8.5	42.8	5.0	33.9
Indonesia (2011)	7.3	46.0	6.3	38.1
Malaysia (2009)	4.5	51.5	11.4	46.2
Mexico (2010)	4.9	52.8	10.8	47.2
Pakistan (2008)	9.6	40.0	4.2	30.0

Sources: World Bank, "Income share held by the lowest 20%," <http://data.worldbank.org/indicator/SI.DST.FRST.20/countries>; "Income share held by the highest 20%," <http://data.worldbank.org/indicator/SI.DST.05TH.20/countries>; and "Gini index," <http://data.worldbank.org/indicator/SI.POV.GINI?page=2>

*Note*

<sup>a</sup> Share of total income (or, for some economies, consumption) received by the richest 20 percent of the population divided by the share of total income (or consumption) received by the poorest 20 percent of the population.

In only a few nations—Bangladesh, Egypt, India, and Pakistan—is the degree of inequality between the richest and the poorest a multiple of 5 or less.

The table documents a substantial degree of inequality in all nations, which, as we shall see later in the chapter, can have dramatic effects on economic growth.

#### 4 Calculating income inequality

We can go a little deeper into the relation of income equality to average income. It is actually possible to estimate the per person income of the poorest and richest income groups separately using the data in Tables 2.1 and 2.3, as follows. Applying Brazil's income distribution figures to its 2010 total GDP of \$2,088 billion (from Table 2.1), the richest 20 percent of the population (equal to  $0.2 \times 195$  million total population = 39 million persons) received \$1,211 billion ( $0.58 \times \$2,088$  billion total GDP) of the economy's total GDP, for a per capita income for the richest 20 percent equal to roughly \$31,308 ( $\$1,221$  billion  $\div$  39 million persons). The poorest 20 percent of the Brazilian population (also 39 million persons) received \$60.5 billion of the total income in 2010 ( $0.029 \times \$2,088$  billion total GDP), for an estimated annual average per capita income for the poorest 20 percent of Brazilians of about \$1,551 ( $\$60.5$  billion  $\div$  39 million persons).<sup>6</sup> You will note that the \$31,308 average annual income of the richest quintile in Brazil is nearly 20.2 times larger than the \$1,564 annual income of the poorest quintile of the population, as Table 2.3 indicated (the slight difference is due to rounding of some of the data).

Compare these two average income values with Brazil's average per capita GDP of \$10,708 calculated from Table 2.1 (column 3). The richest 20 percent of income earners received an

average income nearly three times the level of average GDP per capita income, while the poorest 20 percent of the Brazilian population received incomes that on average were equal to about 14.5 percent of average GDP for the country as a whole. This clearly illustrates the importance of at least having some rough idea of the income distribution in a country if the per capita income figures such as those in Tables 2.1 and 2.2 are to be used to gauge the level of development of an economy. When the gap between the richest and poorest is quite wide, as is the case in Brazil, the average per capita GDP or GNI value should be interpreted with great caution. This is especially true when we are using either figure as a proxy measure of the well-being of a population.

Other countries have substantial deviations between the richest income recipients and the poorest, though none is as wide as those found in Brazil. For any country, the percentage of income received by the richest 20 percent divided by the percentage of income received by the poorest 20 percent tells us by how many times the *average* income of the richest 20 percent of the population in a country exceeds the average income received by the poorest quintile of income earners in that economy. The larger this ratio, the less meaningful is the average GDP per capita—a figure easily calculated from Table 2.1—as a measure of the actual average income received and as a measure of the degree of average development of an economy.

Also shown in Table 2.3 are estimates of Gini coefficients for each economy. The *Gini coefficient* is another method for attempting to capture in a simple form—as does the ratio of income of the richest 20 percent of income earners to the income of the poorest 20 percent—the degree of income inequality in a country, though the Gini coefficient is often a superior measure of the overall distribution of income.

The value of the Gini coefficient can vary between 0 and 100. The closer the Gini coefficient is to 100, the greater is the degree of income inequality; the closer it is to 0, the lesser is the degree of inequality. Similarly, over time, a rising Gini coefficient within an economy would indicate a worsening of the income distribution, while a falling Gini coefficient suggests an improvement in the overall distribution of income.<sup>7</sup>

With some caution, it would be possible to say that Bangladesh, with a Gini coefficient of 32.1, has a more equal distribution of income than did Mexico with a Gini coefficient of 47.2. More interesting and revealing, however, is to compare the evolution of an individual country's Gini coefficient over time.

## 5 Other considerations when using the GNI or GDP measure

Both GNI and GDP fail to include some new production and income that adds to the level of well-being of individuals, while at the same time they count some production as income that does not contribute to human welfare.

One of the most significant omissions from the GNI and GDP measures is an estimate for the value of home production. In particular, the value of the output derived from the labor of women and children, who cook and clean and tend children, who make and mend clothing, who toil in home gardens and subsistence farms, and who perform a variety of other unpaid tasks in the production of non-traded goods and services for their families' own consumption, are not included in the traditional GNI or GDP estimates. And to the extent that family members do work on subsistence farms, in gardens, and in workshops at home resulting



in the production of goods or services consumed solely by the family, the value of their production to an economy's total production also is underestimated and ignored.

The value of this home production, including food produced on subsistence farms (known as "income-in-kind"), is normally excluded because such goods and services are not valued by or exchanged in the market. GDP and hence GNI include only goods and services which are bought and sold on the market. Without doubt, these productive activities normally excluded in the measure of GDP and GNI contribute to the well-being and to the social reproduction of these families by putting food on the table, providing clothing, making tools, and so on (see Focus 2.1: "Valuing women's work"). In fact, for poor families, such non-market

### FOCUS 2.1 VALUING WOMEN'S WORK: THE LOW PRODUCTIVITY TRAP

A part of the work that women do is not counted as contributing to an economy's GNI or GDP. That is because the great bulk of work done by women in poor economies is often done in and for the home—caring for and instructing children, preparing meals, drawing drinking and cooking water from wells, washing dishes, cleaning, and so on—and is not paid employment. The system of national accounts used to calculate the value of an economy's total income excludes such unpaid, non-market production from the total, whether it is done by men or women, or boys or girls. However, since it is women who are more likely to be involved in unpaid household production, much of women's work is said to be "invisible."

What is especially interesting is that women and girls everywhere put in more total hours per week at paid *and* unpaid work than do men or boys. In the 1990s, women in less-developed countries accounted for 53 percent of total work hours to men's 47 percent share. Rural women tended to carry an even larger burden of all work performed. For example, in rural Kenya, women were found to labor an average of 1.35 times more hours than men; in Bangladesh, the ratio was 1.1 times more.

However, though women work more in total than men in less-developed economies, more of women's effort is carried out in non-paid activities (66 percent) than in paid work, which accounted for 34 percent of women's total contribution of hours worked. For men, on the other hand, 76 percent of their labor contribution was in paid pursuits, while only 24 percent of men's total effort was performed in non-paid, non-market activities such as home food production, child care, cooking, tool repairs, or other unpaid activities within the home or on the farm.

For example, in the early 1990s, more than 15 hours per week were expended by women in Mozambique just to fetch water. Women in rural Kenya labored an average of 14 hours per week more than men and did 10 times as much housework, none of which has a "value" in terms of adding to total income. Obviously, though, such unpaid labor is essential to the living standard of poor families and may often spell the difference between survival and perishing.

One estimate of the total contribution of women's unpaid, "invisible" activities was put at \$11 trillion in 1993. Given that total global GDP was estimated at \$23 trillion in that year, an adjusted measure of all production, both that which is exchanged in the market and that which is produced for own-consumption, might result in a value for total global GDP that is as much as 50 percent higher than the standard measure of GDP.

The World Bank's 2012 *Report*, devoted to gender equality, notes that:

Over half a billion women have joined the world's labor force [since 1980] . . . women's participation in paid work has risen in most of the developing world. An important reason has been the unprecedented reduction in fertility in developing countries as diverse as Bangladesh, Colombia, and the Islamic Republic of Iran.

By 2008 women constituted 40 percent of the world's labor force and 43 percent of its agricultural labor force. In all less-developed nations, women now live, on average, 20 years longer than they did in 1960.

However, most of the advances that have been achieved by women in general have not been shared by those within ethnic minorities:

Almost two-thirds of out-of-school girls globally belong to ethnic minority groups in their own countries. The illiteracy rate among indigenous women in Guatemala stands at 60 percent, 20 points above indigenous men and twice the rate of nonindigenous women.

One of the major problems facing women in the developing regions is the relatively higher rate of mortality at all ages. If the mortality rate for females equaled that of males, the world's female population would be higher—the difference is normally termed **“the missing girls and women.”** Why does this occur? One major reason is that women can face risks during childbirth and gestation that men cannot encounter: because of pervasive discrimination, society's resources for health care are not apportioned equally to women who need such care. Poor pre-natal care can be fatal for fetus and mother. Lack of equal access to health care means that poorer women, meaning most women in “low human development” nations, are denied adequate maternal care.

In the twenty-first century “earning gaps” (between males and females) continue to be very large in many developing nations: relative to male business owners, female-owned businesses earn only 32 percent as much in Ethiopia, 50 percent as much in Sri Lanka, and an incredible 12 percent as much in Bangladesh.

Women continue to have unequal access to assets: in Kenya only 5 percent of all farms are owned by women. Women continue to face massive market failures in their participation in the labor force and in their access to credit markets due to path-dependent discriminatory, institutionalized, societal attitudes. Women in the Middle East and North Africa continue to be denied access to the labor market: the female participation rate in 1980 was 21 percent; three decades later it was only 26 percent (the lowest by far of any region). When women *can* find paid labor it is frequently at the lowest end of the spectrum, in sweatshops and in the vast “informal” sector, especially employment as “domestic workers” where precarious labor conditions abound. In 2012 the World Bank *Report* found that:

despite significant progress in female labor force participation over the past 25 years pervasive and persistent gender differences remain in productivity and earnings across different sectors and jobs. Indeed, many women around the world appear to be caught in a [low] productivity trap—one that imposes significant costs on women's welfare and economic empowerment today and serious disincentives to invest in the women of tomorrow.

Sources: UNDP 1995: Chapter 4; World Bank 2012

activities are likely to make a larger contribution to their total income and consumption than is true for better-off families who receive more of their income from paid pursuits and who purchase a larger proportion of their consumption goods in the marketplace.

Thus, social or actual per capita income—from paid and unpaid sources—of poorer families is likely to be underestimated compared to the income for families with higher incomes. Poorer families may have less income from paid sources to use to purchase goods and services on the market, but that paid income underestimates the purchasing power and actual level of

consumption of poorer families by not valuing those goods and services produced at home or on a farm that are part of total consumption for that family.

On the other hand, the production of military goods, logging operations that cause environmental destruction of forests, and production processes that spew toxic wastes into the air and water and then force society to pay for their clean-up or which create health problems requiring remediation via higher health costs are counted as *positive* contributions to the measured level of GNI and GDP. Such activities do not add to the level of development or to society's welfare to the degree that their market-valued contributions would suggest, since social costs and private costs of such goods diverge, often dramatically, as a result of the negative *externalities* created by their production (see Focus 2.2: "Sustainable development").

### **FOCUS 2.2 SUSTAINABLE DEVELOPMENT: BALANCING ECONOMIC GROWTH AND THE ENVIRONMENT**

Since the 1970s, there has been a growing concern about the impact of economic growth on the natural environment. In 1971, a United Nations conference on the Environment and Development was held in Switzerland, followed in 1972 by the UN conference on the Human Environment in Sweden. These and other gatherings of academics, politicians, activists, and NGOs (non-governmental organizations) culminated in the UN conference on Environment and Development—the so-called "Earth Summit"—held in Rio de Janeiro, Brazil, in 1992. And, of course, concern over global warming and its relationship to how and what economies produce has become front-page news since the late 1990s.

The outcome of these various forums and of a growing body of scientific research has been an increasing awareness of and interest in the issue of the *sustainability* of economic growth. Sustainable development was defined by the Brundtland Commission as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Simple, but quite a powerful concept.

While there is still debate over precisely what this definition means, efforts to operationalize it to account for the impact of current economic activities on natural resource use and the carrying capacity of the environment to absorb changes are evident in the creation of the Genuine Progress Indicator (GPI) and in other measures, such as the Environmentally-adjusted net Domestic Product (EDP), as well as other efforts to "green" the national accounts countries traditionally used to measure their economic progress.

The motivating conviction of sustainable development is that economic growth need not be in conflict with the natural environment if attention is paid in economic and public policy decisions to the goal of conserving and enhancing the natural resource base and in using technology in ways that value not only higher levels of output but also consider the impact of such economic expansion on the environment.

Part of the new way of looking at sustainability rests on the critical observation that there is pollution due to poverty, as well as the perhaps more familiar pollution arising from affluence. Pollution due to poverty exists in less-developed nations as a result of the degradation of marginal farm lands by landless farmers, leading to the erosion of top-soil and desertification, and from the clear-cutting of forests, both of which lead to poorer water quality after rains and run-off exacerbated by the lack of sanitation facilities. Toxic fumes enter the atmosphere, generated by using wood as a cooking fuel and the burning of trash by many small farms.

Pollution due to poverty extends to the cities of less-developed countries, in the slums and shanty towns where unclean water and a lack of sanitation create environmental hazards for the poor urban dwellers who crowd into areas that are too small and lacking in necessary services.

But whatever the specific problem that generates “pollution of poverty,” it is the consequence of a lack of overall economic growth and of national systems of income and wealth distribution that lead desperately poor people to abuse their environment and their nation’s stock of natural resources in their effort simply to survive. The effects of such pollution are intensely local, of course, but often they have global consequences, too.

Pollution arising from affluence is the environmental damage due to increased industrial production and from higher-income consumption patterns, such as the proliferation of private motor vehicles and of non-recyclable waste and refuse that contribute to air, land, and water degradation. This type of pollution tends to increase with economic growth, while pollution from poverty tends to decrease, and it is not clear that they cancel out over time with world-wide economic expansion.

Both pollution arising from poverty and pollution due to affluence can have local and global effects. Pollution has been blamed for global warming, the depletion of the ozone layer, desertification, and species extinction (estimated in excess of 5,000 annually). The danger is that degradation of the water, air, and land has set in motion potentially irreversible processes, the effects of which, if unchecked, could have devastating consequences for future generations. Goal 7 of the Millennium Development Goals introduced in Chapter 1 is focused precisely on this sustainability and irreversibility issue.

There thus is a compelling need to find the means and the will to balance the pressing demands for continued economic growth and a better distribution of income and wealth in the poorest nations against the effects this can have on the natural environment. Equally important, then, is the necessity to *value* the world’s natural and environmental resources more rationally, from a social point of view, so that the increased mass consumption that accompanies higher levels of GDP is not automatically counted as having value, while the environmental costs of increased production and consumption are ignored, as if the environment essentially was valued at a zero price. This neglect of environmental costs has resulted in excesses in the pollution of affluence attributable to the richer nations and in the urban areas of many less-developed countries.

In discussions over the sustainability of economic growth, however, views often become polarized. The so-called “deep ecology” perspective tends to be virulently anti-growth, valuing all of nature and all species and natural habitat equally. Humans, in this perspective, have no special rights *vis-à-vis* other species or the environment. The deep ecology perspective exalts relatively simple living with limited material wants as a desirable objective.

Opposed to this viewpoint is that of those who promote economic growth as the best means to improve human development. In this traditional perspective, nature is there for the use of human beings. Not all species have equal value, and the expansion of consumption is one of the chief ends of economic life. The environment and its resources are a means to the end of increasing average incomes. The environment is just another input to production that can help to increase individual income. Relatively little attention had been afforded to environmental concerns until quite recently for those holding to this perspective.

The truth no doubt lies somewhere between these two extreme perspectives. The effort to define “sustainability” has been devoted to finding a middle ground between the view that all of nature is equally valuable and should be preserved as much as possible and the alternative view that nature is to be conquered for the benefit of human beings. Just as we shall find that development economists are taking a closer look at human capital inputs as being critical to progress, concern over sustainability can be seen as part of an effort to view environmental and resource capital as key inputs to potential national and global prosperity. In this vein, environmental and resource capital is now beginning to be valued, measured, and thought about as a non-zero price input to production at least as important as the more traditional inputs of labor and capital.

Increasingly, then, development economists are cognizant of the “eco-nomics” involved in the connection between ecology and development. This requires going beyond the attention paid to the potential “negative externalities” of particular behavior, such as the dumping of toxic wastes in landfills, which has been the traditional way economics has incorporated environmental and resource concerns into its purview. New ways of measuring and valuing environmental and resource capital are called for, as are new institutions that can operationalize and internalize such calculations, including the nature of property rights to resources, land, and water. Increasingly, these have become not just local issues, but global concerns, requiring coordinated action and responses.

The concept of the sustainability of economic growth and development need not be limited to considerations about the natural environment alone. It is also possible to conceive of the sustainability of an economy’s social structures. The pace, level, and distribution of economic growth can be extended to quality of life issues, such as the impact of economic change on urban crime and violence, on illegal drug addiction, on racial and ethnic tensions, on religious conflict, on gender issues, and so on.

As mentioned, Goal 7 of the Millennium Development Goals focuses on the environment, including the issue of sustainability. The World Bank ([www.worldbank.org](http://www.worldbank.org)) includes updated data on progress toward meeting the MDG’s three targets that is worth examining to see how individual countries, as well as the world, are doing in meeting the goals set for 2015.

Empirical results through 2010 suggest that sustainable development remains a distant, and perhaps receding, goal for developing nations. Consider that (1) the developing nations generated 6.7 billion metric tons of CO<sub>2</sub> in 1990 and 18 billion metric tons by 2010; and that (2) the decadal growth in emissions has accelerated in the developing nations from 48 percent 1990–2000, to 81 percent 2000–10; and further that (3) “emissions per unit of economic output remain higher in developing than in developed regions: 0.6 versus 0.4 kilograms of CO<sub>2</sub>, respectively, per dollar of economic output in 2010.” Thus, energy efficiency needs to be increased immediately to drop the emissions rate per unit of output by one-third (although the level of energy efficiency in the developed nations also must be improved). This would require a widespread rejuvenation of the capital stock used in production throughout the developing regions.

Developing regions *have* made progress in important areas. By 2012, 15 percent of the land area had been designated as “protected” vs. 8.6 percent in 1990. For marine areas, however, the extent of protection was limited: 1.6 percent in 1990 and 5.9 percent in 2012. Designating areas as having “protected” status is easy—building the *state capacity to monitor and enforce* such designated areas is extremely difficult.

Sources: Bartelmus 1994: Chapter 2; Elliott 1994; Redclift 1987; UN 2013; WCED 1987: 43

Economists have devised alternative methods to measure an economy’s “true” output and income that go beyond the traditional GDP and GNI values, such as the Measure of Economic Welfare (MEW) and the Genuine Progress Indicator (GPI). These alternatives adjust the GNI and GDP measures both for the omissions that contribute to human welfare not included in the traditional methodology for determining GNI or GDP, as well as for those included values that adversely impact human welfare. While the specifics of making such adjustments are not examined here<sup>8</sup> it is important to keep in mind that some of the goods and services included in

the GNI and GDP measures may contribute negatively to a nation's development goals, while others, such as so-called "women's work" and much of home production in general, represent activities that contribute positively to a nation's total production and to its potential for full human development.

### **GNI OR GDP: IS ONE INCOME MEASURE BETTER THAN THE OTHER?**

Which income measure of economic growth should one use: real GNI per capita or real GDP per capita? Does it make a difference?

The GNI measure provides some notion of what the residents of a nation have available to them for consumption and investment, including government spending. GNI thus furnishes a measure of the sum total of new final goods and services available to the residents of a country for their final use. In economic terms, the level of output and income measured by GNI is a proximate gauge of the aggregate material welfare or well-being of the residents of a nation. If one is going to use income and the economic growth criterion as a substitute measure for the broader goals of development for a nation, it probably makes sense to use real GNI per capita as the standard, since it measures what is actually available for contributing to the standard of living of the population, both now, for current consumption, and in the future, as investment.

GDP, on the other hand, measures all the output and income produced within the borders of a country, even though not all of that income will necessarily be received by residents of the country. GDP is more purely an index of the value of all new goods and services and total income produced within the frontiers of a nation rather than of the income and output available for use to the nation. Real GDP per capita is a less desirable measure to use if one is interested in a surrogate welfare measure for the broad range of development goals of nations. Real GDP per capita does give information on how output is changing in an economy, but it does so *irrespective of who ultimately receives the income* earned from such production. The GDP per capita measure, then, is not as closely connected to what remains in the hands of the residents of the nation for current and future consumption as the GNI per capita measure, and thus GDP per person is a more imperfect measure of a nation's overall well-being.

Which measure is employed will be determined by the use to which the income criterion is to be put. If one is solely interested in the pace of economic growth and total production for a country, then the real GDP per capita measure will serve quite nicely. If, however, one wishes to use the income proxy that best measures what is available for use by a country's residents and which can concretely contribute to their level of well-being, it makes more sense to use the real GNI per capita measure as the surrogate yardstick.

Having said all this, a glance back at Table 2.1 shows that for most of the economies shown in the table, the GDP/GNI gap is not that large. Thus in most cases in most years, using GDP or GNI per capita will make little substantive difference in evaluating the level of development based on the income criterion. There are, however, exceptions, not shown in the table, such as Angola, Brunei, Puerto Rico, Republic of the Congo, and Gabon in previous years, where the gap is such that GNI is anywhere from 20 percent to 40 percent smaller than the value of GDP (based on data in the Penn World Tables). As has been discussed in relation to Brazil, for such countries using real GDP per capita will be a less reliable measure

for approximating the level of development of those countries than the GNI per capita measure. Brazil's situation in terms of the gap between GDP and GNI in 2010 was actually not as great as that of Indonesia, which experienced net income outflows of 15.3 per cent of GDP (see Table 2.1).

### **INTERNATIONAL COMPARISONS OF INCOME: PURCHASING POWER PARITY (PPP) INCOME**

There is a further issue to consider when using income levels as a basis of comparison and as proxy measures of the level of development of different economies. What exactly does a comparison of Pakistan's 2010 GNI per capita of \$1,050 with Algeria's average income of \$4,390 mean? Or, of Malaysia's GNI per capita of \$7,760 with Egypt's \$2,420 per capita income? Is it legitimate to infer from comparing these figures that one dollar of income in each economy is worth the same? Does the local equivalent of one US dollar purchase an equivalent quantity of goods in every single country, so that one could say that the equivalent of US\$1,500 of income would provide the same standard of living in any two (or more) countries?

The simple answer is, no, it is not the case that the equivalent of one US dollar purchases the same quantity of goods regardless of the economy. In the case of "tradeables"—goods that move easily across borders—there is a *tendency* for prices from one nation to the next to be the same, after taxes (including tariffs) are subtracted. Differences do remain, even in tradeables, due to transportation costs, due to the economic power structure of the importers (a high or low degree of importer competition), and due to the fact that a nation's exchange rate can be affected by many factors. But most goods are non-tradeables: a trip to a medical clinic, for example, will entail an exchange based upon local costs for doctors, nurses, and medicine. Housing is another "non-tradeable."

What is likely is that economies with lower per capita GNI will have lower prices for some items (largely the non-tradeables) when these values are converted from the local currency to US dollars. In other words, the equivalent of US\$1,500 will buy different quantities of goods and services in different economies since the prices of some—but *not all*—goods and services will vary with the level of average income of an economy.

The GNI and GDP and the GNI per capita measures shown in Tables 2.1 and 2.2 are shown in US dollar units, but these values are not precisely comparable among economies. These values were calculated by taking each economy's own GNI and GDP values, calculated by each country's statistical agencies in their own currency units (pesos for Mexico, rupees for India, for example) and converting these values to US dollars. How is this conversion to US dollars done? Very simply, the average *official exchange rate* between each country's currency and the US dollar is used as the means to arrive at the US dollar values shown in Table 2.1 (and the real values in Table 2.2). This method is fairly accurate in pricing tradeables because between nations the price of tradeables tends to converge. But for most items—non-tradeables such as locally made furniture—the method introduces inaccuracies.

Let's imagine that the average exchange rate over a year between the Indian rupee and the US dollar is 1 US dollar = 39.45 rupees. If India's GDP is determined to be 41,525,000,000 rupees, when that is converted to dollars using the official exchange rate, it would be equal to

\$1,052,598,226. What such a conversion from rupees to dollars implies is that 1 US dollar in the US can buy exactly the same bundle of goods and services as can 39.45 rupees in India. That is, the buying power of 1 dollar is the same as the buying power of 39.45 rupees.

Thus, this official exchange rate conversion only makes comparable the prices of *traded goods*. However, for *non-traded goods and non-traded services*, which by definition do not enter into international trade between nations, prices between countries can vary quite substantially. For goods that are location-specific, there are no international forces of competition to bring prices into line *between* economies. And, it is extremely common for governments in less-developed nations to subsidize the price of “necessities” such as bread, rice, cooking oil, and a fairly wide range of other edible basic goods. Electricity, water, heating fuel, and public transportation may also be heavily subsidized. Therefore, a US dollar does not have the same buying power everywhere. In poor countries, a US dollar, converted into the local currency, can buy more than a dollar can in the US, since the prices of non-traded goods and services tend to be lower.

There is, however, another way to compare income between countries that attempts to overcome the shortcomings of the traditional exchange rate-converted GNI or GDP values. This is known as the *purchasing power parity*, or PPP, income measure.

Table 2.4 provides a comparison between the values of GNI per capita calculated at the official exchange rate (the same as those shown in Table 2.1) and GNI per capita calculated at PPP values, both in US dollars. The PPP measure makes an adjustment to GNI between countries similar to the adjustment made to determine real GNI discussed earlier. The prices of one country, in this case the United States, become the base prices for determining the purchasing power parity value of GNI per capita in other countries. Thus, Mozambique’s PPP GNI (purchasing power parity GNI) per capita is determined as

$$\text{PPP GNI per capita} = \frac{\sum_{i=1}^n P_{i, \text{US}} \times Q_{i, \text{M}}}{\text{Population}} \quad (2.5)$$

$Q_{i, \text{M}}$  is the output vector of all newly produced final goods and services,  $i$ , available for use by residents of Mozambique and  $P_{i, \text{US}}$  is the price vector for these goods and services,  $i$ , in US prices. Effectively, then, *what the PPP GNI measure provides is the estimated value of Mozambique’s available output valued at the prices for such goods and services prevailing in the United States*. There is no need to use the exchange rate between the two countries to find the value of Mozambique’s GNI per person. Mozambique’s output is valued directly by multiplying that production by US prices.

Obviously, large differences not only in the prices of non-traded goods and services between the two countries but in the proportion of traded to non-traded goods in total national output will affect the PPP measure of GNI per capita compared to the value obtained from the official exchange rate conversion. From Table 2.4, for example, the 2010 per capita PPP value of income in Mozambique was estimated as \$930, which is more than double the exchange rate-converted GNI per capita value of \$440. This PPP per capita income figure is more meaningful when comparing incomes among economies at any point in time. The PPP value of



■ **Table 2.4** Purchasing power parity (PPP) measure of GNI per capita

	GNI per capita at official exchange rate, 2010	PPP GNI per capita, 2010
Algeria	4,390	8,100
Bangladesh	700	1,810
Brazil	9,390	11,000
China	4,270	7,640
Egypt	2,420	6,060
Ethiopia	390	1,040
India	1,270	3,400
Indonesia	2,500	4,200
Korea	19,890	29,110
Malaysia	7,760	14,220
Mozambique	440	930
Pakistan	1,050	2,790
Philippines	2,060	3,980
Canada	43,250	38,370
France	42,370	34,750

Source: World Bank, World Development Indicators 2012: Table 1.

Mozambique's income can be interpreted as follows: \$930 of income would be required in the US to buy what the equivalent of \$440 is able to purchase in Mozambique with its lower prices for non-traded goods and services compared to the US. In other words, the equivalent of \$440 in Mozambique can buy, roughly, what it would take \$930 to buy in the US.

For the less-developed countries in the top part of Table 2.4, all had PPP GNI per capita > the exchange rate determined value of GNI per capita. For example, Egypt had a PPP GNI per capita 2.5 times as large as the exchange rate GNI per capita value. Egypt is a lower-middle-income country, but the \$2,420 income per person figure makes the economy seem poorer than it is. That income buys more in Egypt than it would in the US or other more developed economies, and there is also more home production not counted as income, which adds to the standard of living but does not appear as income. For all the less-developed countries shown in Table 2.4, PPP GNI per capita exceeds the exchange rate GNI value, in some cases (including India) by more than 100 percent. The PPP measure of income gets us a little closer to understanding the levels of income among diverse economies.

On the other hand, look at the comparison between Canada and France's PPP capita and the value of GNI per person found by simply converting per capita GNI to US dollars using the exchange rate. PPP GNI per capita is substantially less. Presumably, the prices of non-tradeables are substantially higher in these nations than in the US.

Typically, then, the actual purchasing power of income in lower-income countries tends to be *understated* by simply converting local GDP or GNI per capita to US dollars using the official exchange rates as a result of the lower prices of non-traded goods and services, such as housing, retail services, local food products, and local transportation in poorer nations. These prices are lower because the lower income of these countries keeps the prices of these non-traded goods

below what they are in more developed nations. The more developed economies tend to have PPP GNI per capita values closer to that calculated at the official exchange rate because of the greater openness to world trade, a mix of production with more traded goods relative to non-traded goods, and because of their more modern (homogeneous) structures of production, which result in greater efficiency in production in both traded and non-traded goods and service sectors, and in similar wages and salaries because productivity is similar.

There is an increasing tendency to prefer the PPP measure of income in making comparisons among countries over the exchange rate-converted GNI or GDP values. In future, income comparisons used as a basis of determining relative levels of development will more and more use the PPP income measure and that will improve the quality of such comparisons and the meaning we attach to them.

### **THE INDICATORS CRITERION OF DEVELOPMENT: THE HUMAN DEVELOPMENT INDEX**

In the 1960s, there emerged from the International Labour Organization, from the World Bank, and from independent researchers a growing backlash against the use of per capita income and the rate of economic growth criterion as the exclusive measures of development. Whether what was proposed as an alternative to the GNI, GDP, or PPP GNI per capita measures was the *basic needs approach* (discussed in Chapter 17) or the *physical quality of life index* (PQLI), or some other composite measure, the objection to the use of the economic growth and income standard was the same: it was far too aggregate and did not capture the distributional inequalities all too common in many of the poor nations of the world.

The income per capita criterion gave a biased view, it was argued, of the level of progress achieved by many countries. Income per capita was, in and of itself, an insufficient target for ultimately achieving society's broader development goals listed earlier in this chapter. The link between the level of income per capita and the full range of development objectives was considered much too tenuous and unreliable, particularly in the poorest nations that needed to make the most progress.

Neither the basic needs nor PQLI methodologies took hold, however; the former perhaps because of some undeniable theoretical and empirical ambiguity and the latter possibly for lack of a powerful institutional champion.<sup>9</sup> Since 1990, when it was first proposed, a new measure of development has gained credibility. The *Human Development Index*, or simply the HDI, has been calculated and published each year by the United Nations Development Programme in its annual *Human Development Report*.

The HDI is a composite index using "longevity, knowledge, and a decent standard of living" as the representative indicators for development. The actual index uses estimates of life expectancy at birth, average years of schooling of those 25 and older, expected years of schooling for a child entering school, and the PPP GNI per capita to calculate an HDI value for each economy.<sup>10</sup> The HDI measure of development is thus broader than the simple income per person yardstick, though income does enter into the calculation of the HDI. At the same time, the HDI gives direct value to those factors, particularly health care and education, which help create opportunities for individuals to reach a higher and more fulfilling standard of living that