5

Poverty, Inequality, and Development

No society can surely be flourishing and happy, of which by far the greater part of the numbers are poor and miserable.

—*Adam Smith, 1776*

Viewed through the lens of human development, the global village appears deeply divided between the streets of the haves and those of the have-nots.

—*United Nations Development Programme,* Human Development Report, 2006

Social protection directly reduces poverty and helps make growth more pro-poor.

—*Organization for Economic Cooperation and Development, 2010*

The coincidence of severe and persistent poverty and hunger indicates the presence of poverty traps—conditions from which individuals or groups cannot emerge without the help of others.

—*International Food Policy Research Institute, 2007*

The World Bank Group has adopted two new goals: end extreme poverty by 2030 and boost shared prosperity by maximizing income growth for the poorest 40 percent in every country.

—*Jim Yong Kim, President, World Bank, 2013*

Chapters 1 and 2 introduced the problem that despite significant improvements over the past half century, extreme poverty remains widespread in the developing world. In 2010, more than 1.2 billion people lived on less than $1.25 per day at 2005 U.S. purchasing power parity (2013 World Bank estimate). Some 2.4 billion—more than one-third of the world's population—lived on less than $2 a day. As you will see in the next few chapters, often these impoverished people suffer from undernutrition and poor health, have little or no literacy, live in environmentally degraded areas, have little political voice, are socially excluded, and attempt to earn a meager living on small and marginal farms (or as day laborers) or in dilapidated urban slums. In this chapter, we set the stage with an in-depth examination of the problems of poverty and of highly unequal distributions of income.

That development requires a higher gross national income (GNI), and hence sustained growth, is clear. The basic issue, however, is not only how to make GNI grow but also who would make it grow: the few or the many. If it were the rich, it would most likely be appropriated by them, and progress against poverty would be slow, and inequality would worsen. But if it were generated by the many, they would be its principal beneficiaries, and the fruits of economic growth would be shared more evenly. Thus, many developing countries that had experienced relatively high rates of economic growth by historical standards discovered that such growth often brought little in the way of significant benefits to their poor.

Because the elimination of widespread poverty and high and even growing income inequality are at the core of all development problems and in fact define for many people the principal objective of development policy, we begin Part Two by focusing on the nature of the poverty and inequality problem in developing countries. Although our main focus is on economic poverty and inequalities in the distribution of incomes and assets, it is important to keep in mind that this is only part of the broader inequality problem in the developing world. Of equal or even greater importance are inequalities of power, prestige, status, gender, job satisfaction, conditions of work, degree of participation, freedom of choice, and many other dimensions of the problem that relate more to our second and third components of the meaning of development, self-esteem, and freedom to choose. As in most social relationships, we cannot really separate the economic from the noneconomic manifestations of inequality. Each reinforces the other in a complex and often interrelated process of cause and effect.

After introducing appropriate measures of inequality and poverty, we define the nature of the poverty and income distribution problem and consider its quantitative significance in various developing nations. We then examine in what ways economic analyses can shed light on the problem and explore possible alternative policy approaches directed at the elimination of poverty and the reduction of excessively wide disparities in the distributions of income in developing countries. A thorough understanding of these two fundamental economic manifestations of underdevelopment provides the basis for analysis in subsequent chapters of more specific development issues, including population growth, education, health, rural development, environmental degradation and climate change, and foreign assistance.

In this chapter, therefore, we will examine the following critical questions about the relationship among economic growth, income distribution, and poverty:

1. How can we best measure inequality and poverty?
2. What is the extent of relative inequality in developing countries, and how is this related to the extent of absolute poverty?
3. Who are the poor, and what are their economic characteristics?
4. What determines the nature of economic growth—that is, who benefits from economic growth, and why?
5. Are rapid economic growth and more equal distributions of income compatible or conflicting objectives for low-income countries? To put it another way, is rapid growth achievable only at the cost of greater inequalities in the distribution of income, or can a lessening of income disparities contribute to higher growth rates?
6. Do the poor benefit from growth, and does this depend on the type of growth a developing country experiences? What might be done to help the poor benefit more?
7. What is so bad about extreme inequality?
8. What kinds of policies are required to reduce the magnitude and extent of absolute poverty?

We begin the chapter by defining *inequality* and *poverty*, terms that are commonly used in informal conversation but need to be measured more precisely to provide a meaningful understanding of how much progress has already been made, how much remains to be achieved, and how to set incentives for government officials to focus on the most pressing needs. You will see that the most important measures of poverty and inequality used by development economists satisfy properties that most observers would agree are of fundamental importance. After a discussion of why attention to inequality as well as poverty is important, we then use the appropriate measures of poverty and inequality to evaluate the welfare significance of alternative patterns (or "typologies") of growth. After reviewing the evidence on the extent of poverty and inequality in the developing world, we conclude with an overview of the key issues in poverty policy. Some important principles of effective poverty policies are considered, together with some initial examples of programs that have worked well in practice. We conclude the chapter with a comparative case study of Ghana and Côte d'Ivoire, which illustrates, issues of the quality of growth and the difficulties of achieving it.

5.1 Measuring Inequality

In this section, we define the dimensions of the income distribution and poverty problems and identify some similar elements that characterize the problem in many developing nations. But first we should be clear about what we are measuring when we speak about the distribution of income and absolute poverty.

Economists usually distinguish between two principal measures of income distribution for both analytical and quantitative purposes: the personal or size distribution of income and the functional or distributive factor share distribution of income.

Personal distribution of income (size distribution of income) The distribution of income according to size class of persons—for example, the share of total income accruing to the poorest specific percentage or the richest specific percentage of a population—without regard to the sources of that income.

Quintile A 20% proportion of any numerical quantity. A population divided into quintiles would be divided into five groups of equal size.

Decile A 10% portion of any numerical quantity; a population divided into deciles would be divided into ten equal numerical groups.

Size Distributions

The **personal** or **size distribution of income** is the measure most commonly used by economists. It simply deals with individual persons or households and the total incomes they receive. The way in which they received that income is not considered. What matters is how much each earns irrespective of whether the income is derived solely from employment or comes also from other sources such as interest, profits, rents, gifts, or inheritance. Moreover, the locational (urban or rural) and occupational sources of the income (e.g., agriculture, manufacturing, commerce, services) are ignored. If Ms. X and Mr. Y both receive the same personal income, they are classified together irrespective of the fact that Ms. X may work 15 hours a day as a doctor while Mr. Y doesn't work at all but simply collects interest on his inheritance.

Economists and statisticians therefore like to arrange all individuals by ascending personal incomes and then divide the total population into distinct groups, or sizes. A common method is to divide the population into successive **quintiles** (fifths) or **deciles** (tenths) according to ascending income levels and then determine what proportion of the total national income is received

TABLE 5.1 Typical Size Distribution of Personal Income in a Developing Country by Income Shares—Quintiles and Deciles

Individuals	Personal Income (money units)	Share of Total Income (%)	
		Quintiles	Deciles
1	0.8		
2	1.0		1.8
3	1.4		
4	1.8	5	3.2
5	1.9		
6	2.0		3.9
7	2.4		
8	2.7	9	5.1
9	2.8		
10	3.0		5.8
11	3.4		
12	3.8	13	7.2
13	4.2		
14	4.8		9.0
15	5.9		
16	7.1	22	13.0
17	10.5		
18	12.0		22.5
19	13.5		
20	15.0	51	28.5
Total (national income)	100.0	100	100.0

by each income group. For example, Table 5.1 shows a hypothetical but fairly typical distribution of income for a developing country. In this table, 20 individuals, representing the entire population of the country, are arranged in order of ascending annual personal income, ranging from the individual with the lowest income (0.8 units) to the one with the highest (15.0 units). The total or national income of all individuals amounts to 100 units and is the sum of all entries in column 2. In column 3, the population is grouped into quintiles of four individuals each. The first quintile represents the bottom 20% of the population on the income scale. This group receives only 5% (i.e., a total of 5 money units) of the total national income. The second quintile (individuals 5 through 8) receives 9% of the total income. Alternatively, the bottom 40% of the population (quintiles 1 plus 2) is receiving only 14% of the income, while the top 20% (the fifth quintile) of the population receives 51% of the total income.

A common measure of **income inequality** that can be derived from column 3 is the ratio of the incomes received by the top 20% and bottom 40% of the population. This ratio, sometimes called a *Kuznets ratio* after Nobel laureate Simon Kuznets, has often been used as a measure of the degree of inequality between high- and low-income groups in a country. In our example, this inequality ratio is equal to 51 divided by 14, or approximately 3.64.

Income inequality The disproportionate distribution of total national income among households.

To provide a more detailed breakdown of the size distribution of income, decile (10%) shares are listed in column 4. We see, for example, that the bottom 10% of the population (the two poorest individuals) receives only 1.8% of the total income, while the top 10% (the two richest individuals) receives 28.5%. Finally, if we wanted to know what the top 5% receives, we would divide

the total population into 20 equal groups of individuals (in our example, this would simply be each of the 20 individuals) and calculate the percentage of total income received by the top group. In Table 5.1, we see that the top 5% of the population (the twentieth individual) receives 15% of the income, a higher share than the combined shares of the lowest 40%.

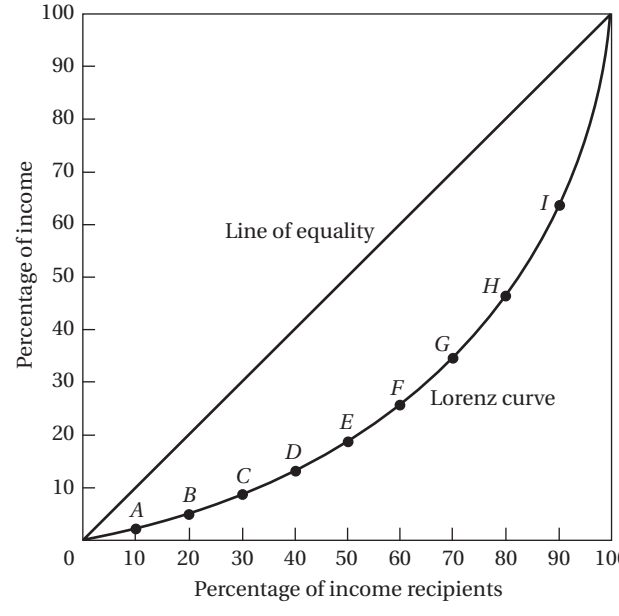
Lorenz Curves

Lorenz curve A graph depicting the variance of the size distribution of income from perfect equality.

Another common way to analyze personal income statistics is to construct what is known as a **Lorenz curve**.[1] Figure 5.1 shows how it is done. The numbers of income recipients are plotted on the horizontal axis, not in absolute terms but in *cumulative percentages*. For example, at point 20, we have the lowest (poorest) 20% of the population; at point 60, we have the bottom 60%; and at the end of the axis, all 100% of the population has been accounted for. The vertical axis shows the share of total income received by each percentage of population.

It is also cumulative up to 100%, meaning that both axes are the same length. The entire figure is enclosed in a square, and a diagonal line is drawn from the lower left corner (the origin) of the square to the upper right corner. At every point on that diagonal, the percentage of income received is *exactly equal* to the percentage of income recipients—for example, the point halfway along the length of the diagonal represents 50% of the income being distributed to exactly 50% of the population. At the three-quarters point on the diagonal, 75% of the income would be distributed to 75% of the population. In other words, the diagonal line in Figure 5.1 is representative of "perfect equality" in size distribution of income. Each percentage group of income recipients is receiving

FIGURE 5.1 The Lorenz Curve

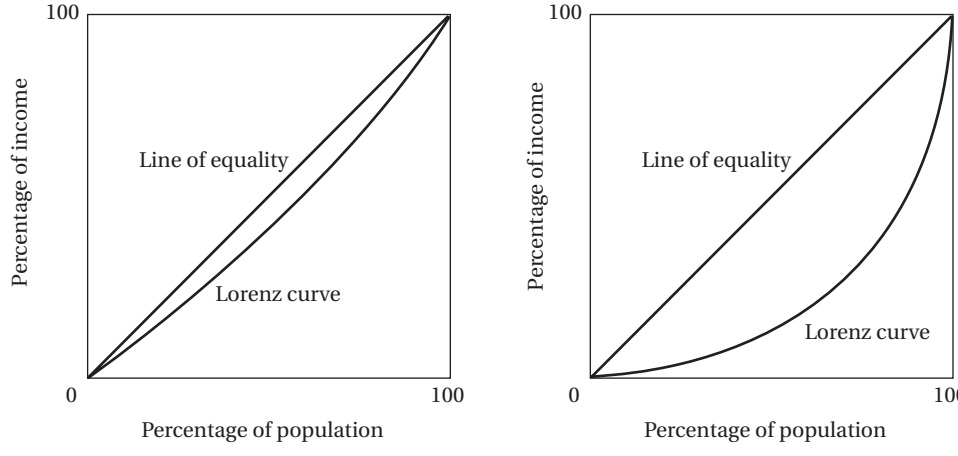


that same percentage of the total income; for example, the bottom 40% receives 40% of the income, while the top 5% receives only 5% of the total income.[2]

The Lorenz curve shows the *actual* quantitative relationship between the percentage of income recipients and the percentage of the total income they did in fact receive during, say, a given year. In Figure 5.1, we have plotted this Lorenz curve using the decile data contained in Table 5.1. In other words, we have divided both the horizontal and vertical axes into ten equal segments corresponding to each of the ten decile groups. Point *A* shows that the bottom 10% of the population receives only 1.8% of the total income, point *B* shows that the bottom 20% is receiving 5% of the total income, and so on for each of the other eight cumulative decile groups. Note that at the halfway point, 50% of the population is in fact receiving only 19.8% of the total income.

The more the Lorenz line curves away from the diagonal (line of perfect equality), the greater the degree of inequality represented. The extreme case of perfect inequality (i.e., a situation in which one person receives all of the national income while everybody else receives nothing) would be represented by the congruence of the Lorenz curve with the bottom horizontal and right-hand vertical axes. Because no country exhibits either perfect equality or perfect inequality in its distribution of income, the Lorenz curves for different countries will lie somewhere to the right of the diagonal in Figure 5.1. The greater the degree of inequality, the greater the bend and the closer to the bottom horizontal axis the Lorenz curve will be. Two representative distributions are shown in Figure 5.2, one for a relatively equal distribution (Figure 5.2a) and the other for a relatively unequal distribution (Figure 5.2b). (Can you explain why the Lorenz curve could not lie above or to the left of the diagonal at any point?)

FIGURE 5.2 The Greater the Curvature of the Lorenz Line, the Greater the Relative Degree of Inequality



(a) A relatively equal distribution

(b) A relatively unequal distribution

Gini Coefficients and Aggregate Measures of Inequality

Gini coefficient An aggregate numerical measure of income inequality ranging from 0 (perfect equality) to 1 (perfect inequality). It is measured graphically by dividing the area between the perfect equality line and the Lorenz curve by the total area lying to the right of the equality line in a Lorenz diagram. The higher the value of the coefficient is, the higher the inequality of income distribution; the lower it is, the more equal the distribution of income.

A final and very convenient shorthand summary measure of the relative degree of income inequality in a country can be obtained by calculating the ratio of the area between the diagonal and the Lorenz curve divided by the total area of the half-square in which the curve lies. In Figure 5.3, this is the ratio of the shaded area *A* to the total area of the triangle *BCD*. This ratio is known as the *Gini concentration ratio* or **Gini coefficient**, named after the Italian statistician who first formulated it in 1912.

Gini coefficients are aggregate inequality measures and can vary anywhere from 0 (perfect equality) to 1 (perfect inequality). In fact, as you will soon discover, the Gini coefficient for countries with highly unequal income distributions typically lies between 0.50 and 0.70, while for countries with relatively equal distributions, it is on the order of 0.20 to 0.35. The coefficient for our hypothetical distribution of Table 5.1 and Figure 5.1 is approximately 0.44—a relatively unequal distribution.

Four possible Lorenz curves such as might be found in international data are drawn in Figure 5.4. In the "Lorenz criterion" of income distribution, whenever one Lorenz curve lies above another Lorenz curve, the economy corresponding to the upper Lorenz curve is more equal than that of the lower curve. Thus, economy *A* may unambiguously be said to be more equal than economy *D*. Whenever two Lorenz curves cross, such as curves *B* and *C*, the Lorenz criterion states that we "need more information" or additional assumptions before we can determine which of the underlying economies is more equal. For example, we might argue on the grounds of the priority of addressing problems of poverty that curve *B* represents a more equal economy, since the poorest are richer, even though the richest are also richer (and hence the middle class is "squeezed"). But others might start with the assumption that

FIGURE 5.3 Estimating the Gini Coefficient

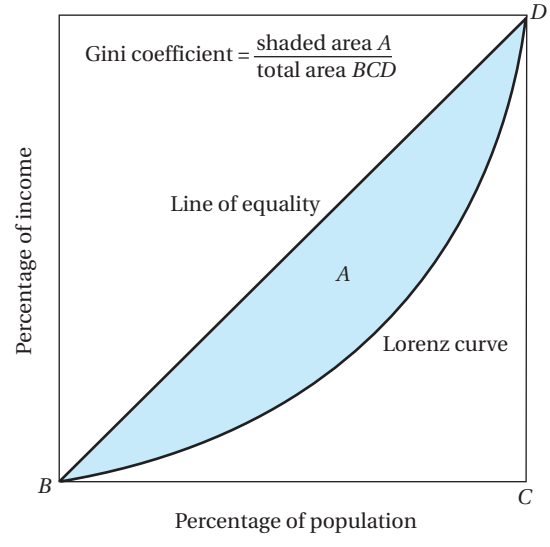
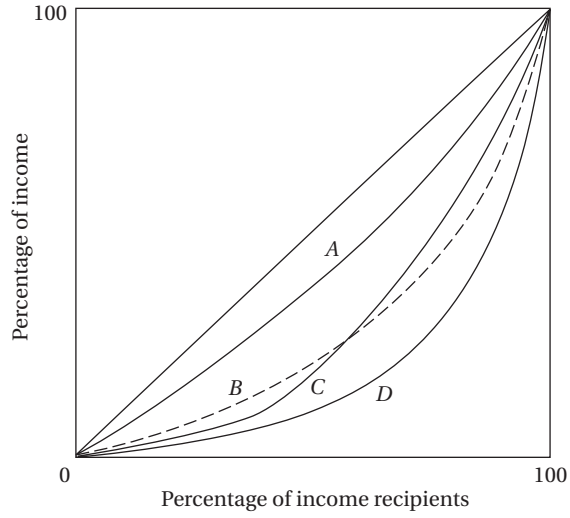


FIGURE 5.4 Four Possible Lorenz Curves



an economy with a stronger middle class is inherently more equal, and those observers might select economy *C*.

One could also use an aggregate measure such as the Gini coefficient to decide the matter. As it turns out, the Gini coefficient is among a class of measures that satisfy four highly desirable properties: the anonymity, scale independence, population independence, and transfer principles.[3] The *anonymity principle* simply means that our measure of inequality should not depend on who has the higher income; for example, it should not depend on whether we believe the rich or the poor to be good or bad people. The *scale independence principle* means that our measure of inequality should not depend on the size of the economy or the way we measure its income; for example, our inequality measure should not depend on whether we measure income in dollars or in cents or in rupees or rupiahs or for that matter on whether the economy is rich on average or poor on average—because if we are interested in inequality, we want a measure of the dispersion of income, not its magnitude (note that magnitudes are very important in poverty measures). The *population independence principle* is somewhat similar; it states that the measure of inequality should not be based on the number of income recipients. For example, the economy of China should be considered no more or less equal than the economy of Vietnam simply because China has a larger population than Vietnam. Finally, we have the *transfer principle* (sometimes called the *Pigou-Dalton principle* after its creators); it states that, holding all other incomes constant, if we transfer some income from a richer person to a poorer person (but not so much that the poorer person is now richer than the originally rich person), the resulting new income distribution is more equal. If we like these four criteria, we can measure the Gini coefficient in each case and rank the one with the larger Gini as more unequal. However, this is not always a perfect solution. For example, the Gini coefficient can, in theory, be identical for two Lorenz curves that cross; can you see why by looking at curves *B* and *C* in Figure 5.4? And sometimes different

inequality measures that satisfy our four properties can give different answers as to which of two economies are more unequal.[4]

Note that a measure of dispersion common in statistics, the coefficient of variation (CV), which is simply the sample standard deviation divided by the sample mean, is another measure of inequality that also satisfies the four criteria. Although the CV is more commonly used in statistics, the Gini coefficient is often used in studies of income and wealth distribution due to its convenient Lorenz curve interpretation. Note, finally, that we can also use Lorenz curves to study inequality in the distribution of land, in education and health, and in other assets.

Functional Distributions

Functional distribution of income (factor share distribution of income) The distribution of income to factors of production without regard to the ownership of the factors.

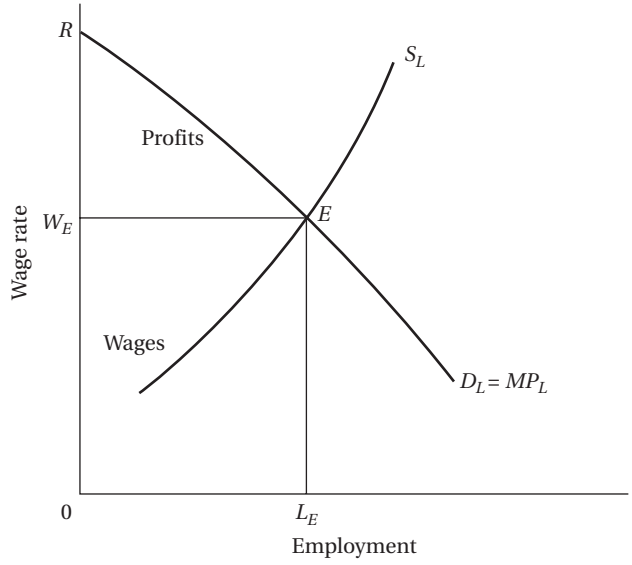
Factors of production Resources or inputs required to produce a good or a service, such as land, labor, and capital.

The second common measure of income distribution used by economists, the **functional** or **factor share distribution of income**, attempts to explain the share of total national income that each of the **factors of production** (land, labor, and capital) receives. Instead of looking at individuals as separate entities, the theory of functional income distribution inquires into the percentage that labor receives as a whole and compares this with the percentages of total income distributed in the form of rent, interest, and profit (i.e., the returns to land and financial and physical capital). Although specific individuals may receive income from all these sources, that is not a matter of concern for the functional approach.

A sizable body of theoretical literature has been built up around the concept of functional income distribution. It attempts to explain the income of a factor of production by the contribution that this factor makes to production. Supply and demand curves are assumed to determine the unit prices of each productive factor. When these unit prices are multiplied by quantities employed on the assumption of efficient (minimum-cost) factor utilization, we get a measure of the total payment to each factor. For example, the supply of and demand for labor are assumed to determine its market wage. When this wage is then multiplied by the total level of employment, we get a measure of total wage payments, also sometimes called the *total wage bill*.

Figure 5.5 provides a simple diagrammatic illustration of the traditional theory of functional income distribution. We assume that there are only two factors of production: capital, which is a fixed (given) factor, and labor, which is the only variable factor. Under competitive market assumptions, the demand for labor will be determined by labor's marginal product (i.e., additional workers will be hired up to the point where the value of their marginal product equals their real wage). But in accordance with the principle of diminishing marginal products, this demand for labor will be a declining function of the numbers employed. Such a negatively sloped labor demand curve is shown by line D_L in Figure 5.5. With a traditional, neoclassical, upward-sloping labor supply curve S_L, the equilibrium wage will be equal to W_E and the equilibrium level of employment will be L_E. Total national output (which equals total national income) will be represented by the area $0REL_E$.[5] This national income will be distributed in two shares: $0W_EEL_E$ going to workers in the form of wages and W_ERE remaining as capitalist profits (the return to owners of capital). Hence, in a competitive market economy with constant-returns-to-scale

FIGURE 5.5 Functional Income Distribution in a Market Economy: An Illustration



production functions (a doubling of all inputs doubles output), factor prices are determined by factor supply and demand curves, and factor shares always combine to exhaust the total national product. Income is distributed by function—laborers are paid wages, owners of land receive rents, and capitalists obtain profits. It is a neat and logical theory in that each and every factor gets paid only in accordance with what it contributes to national output, no more and no less. In fact, as you may recall from Chapter 3, this model of income distribution is at the core of the Lewis theory of modern-sector growth based on the reinvestment of rising capitalist profits.

Unfortunately, the relevance of the functional theory is greatly diminished by its failure to take into account the important role and influence of nonmarket forces such as power in determining these factor prices—for example, the role of collective bargaining between employers and trade unions in the setting of modern-sector wage rates, and the power of monopolists and wealthy landowners to manipulate prices on capital, land, and output to their own personal advantage. Appendix 5.1 examines the economic implications of factor price distortions, and we return to consider their implications for policy at the end of this chapter.

The Ahluwalia-Chenery Welfare Index (ACWI)

A final approach to accounting for the distribution of income in assessing the quality of growth is to value increases in income for all individuals but to assign a higher weight to income gains by lower-income individuals than to gains by higher-income individuals. Perhaps the best-known example is the Ahluwalia-Chenery Welfare Index (ACWI), which is explained in Appendix 5.2.

5.2 Measuring Absolute Poverty

Now let's switch our attention from relative income shares of various percentile groups within a given population to the fundamentally important question of the extent and magnitude of **absolute poverty** in developing countries.

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

Income Poverty

In Chapter 2, we defined the extent of absolute poverty as the number of people who are unable to command sufficient resources to satisfy basic needs. They are counted as the total number living below a specified minimum level of real income—an international poverty line. That line knows no national boundaries, is independent of the level of national per capita income, and takes into account differing price levels by measuring poverty as anyone living on less than $1.25 a day or $2 per day in PPP dollars. Absolute poverty can and does exist, therefore, as readily in New York City as it does in Kolkata, Cairo, Lagos, or Bogotá, although its magnitude is likely to be much lower in terms of percentages of the total population.

Absolute poverty is sometimes measured by the number, or "headcount," H, of those whose incomes fall below the absolute poverty line, Y_p. When the headcount is taken as a fraction of the total population, N, we define the **headcount index**, H/N (also referred to as the "headcount ratio"). The poverty line is set at a level that remains constant in real terms so that we can chart our progress on an absolute level over time. The idea is to set this level at a standard below which we would consider a person to live in "absolute human misery," such that the person's health is in jeopardy.

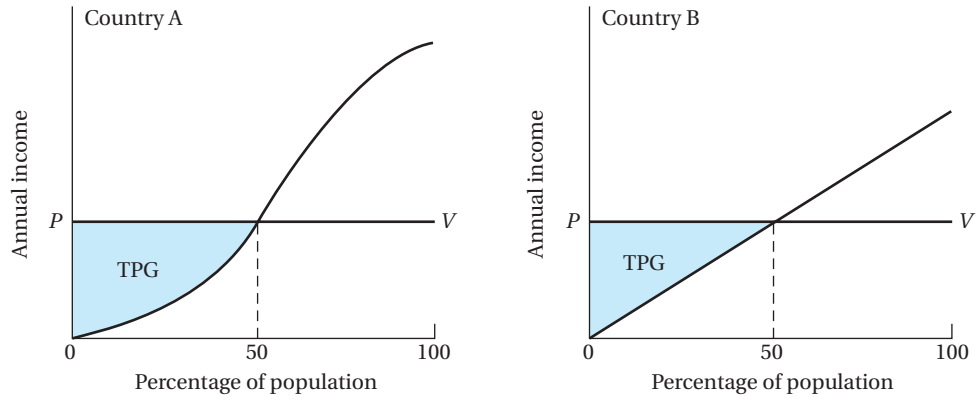
Headcount index The proportion of a country's population living below the poverty line.

Of course, to define a minimum health standard that is invariant across historical epochs is an impossibility, in part because technology changes over time. For example, today we have 15-cent oral rehydration therapy packets that can save the life of a child in Malawi. Not long ago, the death of a child after a diarrheal disease would be taken as a sad but inevitable part of life, whereas today we regard such a death as a catastrophic moral failure of the international community. We simply come as close as we can to establishing a reasonable minimum standard that might hold over a few decades so that we can estimate more carefully how much progress we have made on a (more) absolute rather than a (highly) relative scale.

Certainly one would not accept the international poverty level of $1.25 a day in an unquestioning way when planning local poverty work. One practical strategy for determining a local absolute poverty line is to start by defining an adequate basket of food, based on nutritional requirements from medical studies of required calories, protein, and micronutrients. Then, using local household survey data, one can identify a typical basket of food purchased by households that just barely meet these nutritional requirements. One then adds other expenditures of this household, such as clothing, shelter, and medical care, to determine the local absolute poverty line. Depending on how these calculations are done, the resulting poverty line may come to more than $1.25 per day at PPP.

However, simply counting the number of people below an agreed-on poverty line has serious limitations. For example, if the poverty line is set at U.S. $450 per person, it makes a big difference whether most of the absolute

FIGURE 5.6 Measuring the Total Poverty Gap



(a) A relatively large poverty gap

(b) A relatively small poverty gap

poor earn $400 or $300 per year. Both are accorded the same weight when calculating the proportion of the population that lies below the poverty line; clearly, however, the poverty problem is much more serious in the latter instance. Economists therefore attempt to calculate a **total poverty gap (TPG)** that measures the total amount of income necessary to raise everyone who is below the poverty line up to that line. Figure 5.6 illustrates how we can measure the total poverty gap as the shaded area between poverty line, *PV*, and the annual income profile of the population.

Total poverty gap (TPG) The sum of the difference between the poverty line and actual income levels of all people living below that line.

Even though in both country A and country B, 50% of the population falls below the same poverty line, the TPG in country A is greater than in country B. Therefore, it will take more of an effort to eliminate absolute poverty in country A.

The TPG—the extent to which the incomes of the poor lie below the poverty line—is found by adding up the amounts by which each poor person's income, Y_i, falls below the absolute poverty line, Y_p, as follows:

$$\text{TPG} = \sum_{i=1}^{H} (Y_p - Y_i) \tag{5.1}$$

We can think of the TPG in a simplified way (i.e., no administrative costs or general equilibrium effects are accounted for) as the amount of money per day it would take to bring every poor person in an economy up to our defined minimum income standards. On a per capita basis, the *average poverty gap (APG)* is found by dividing the TPG by the total population:

$$\text{APG} = \frac{\text{TPG}}{N} \tag{5.2}$$

Often we are interested in the size of the average poverty gap in relation to the poverty line, so we would use as our income shortfall measure the *normalized poverty gap (NPG):* $\text{NPG} = \text{APG}/Y_p$; this measure lies between 0 and 1 and so can be useful when we want a unitless measure of the gap for easier comparisons.

Another important poverty gap measure is the *average income shortfall (AIS)*, which is the total poverty gap divided by the headcount of the poor: AIS = TPG/H. The AIS tells us the average amount by which the income of a poor person falls below the poverty line. This measure can also be divided by the poverty line to yield a fractional measure, the *normalized income shortfall (NIS):* NIS = AIS/Y_p.

The Foster-Greer-Thorbecke Index We are also often interested in the degree of income inequality among the poor, such as the Gini coefficient among those who are poor, G_p, or alternatively, the coefficient of variation (CV) of incomes among the poor, CV_p. One reason that the Gini or CV among the poor can be important is that the impact on poverty of economic shocks can differ greatly, depending on the level and distribution of resources among the poor. For example, if the price of rice rises, as it did in 1998 in Indonesia, low-income rice producers, who sell a little of their rice on local markets and whose incomes are slightly below the absolute poverty line, may find that this price rise increases their incomes to bring them out of absolute poverty. On the other hand, for those with too little land to be able to sell any of the rice they grow and who are net buyers of rice on markets, this price increase can greatly worsen their poverty. Thus, the most desirable measures of poverty would also be sensitive to the distribution of income among the poor.

As is the case with inequality measures, there are criteria for a desirable poverty measure that are widely accepted by development economists: the anonymity, population independence, monotonicity, and distributional sensitivity principles. The first two principles are very similar to the properties we examined for inequality indexes: Our measure of the extent of poverty should not depend on who is poor or on whether the country has a large or small population. The monotonicity principle means that if you add income to someone below the poverty line, all other incomes held constant, poverty can be *no greater* than it was.[6] The distributional sensitivity principle states that, other things being equal, if you transfer income from a poor person to a richer person, the resulting economy should be deemed strictly poorer. The headcount ratio measure satisfies anonymity, population independence, and monotonicity, but it fails on distributional sensitivity. The simple headcount fails even to satisfy the population independence principle.

Foster-Greer-Thorbecke (FGT) index A class of measures of the level of absolute poverty.

A well-known poverty index that in certain forms satisfies all four criteria is the **Foster-Greer-Thorbecke (FGT) index**, often called the $P\alpha$ class of poverty measures.[7] The $P\alpha$ index is given by

$$P_\alpha = \frac{1}{N}\sum_{i=1}^{H}\left(\frac{Y_p - Y_i}{Y_p}\right)^\alpha \tag{5.3}$$

where Y_i is the income of the ith poor person, Y_p is the poverty line, and N is the population. Depending on the value of α, the $P\alpha$ index takes on different forms. If $\alpha = 0$, the numerator is equal to H, and we get the headcount ratio, H/N. Unfortunately, this measure is the same whether those in poverty earn 90 cents per day or 50 cents per day, so it cannot reveal the depth of poverty.

If $\alpha = 1$, we get the normalized (per capita) poverty gap. An alternative formula that can be derived for P_1 is given by $P_1 = (H/N)$*(NIS), that is, the headcount ratio (H/N) times the normalized income shortfall (NIS). So, P_1 has

the properties that poverty goes up whenever either the fraction of people in poverty goes up or the fractional income deficits (poverty depth) go up (or both)—in general, this makes it a better measure than P_0.

If $\alpha = 2$, we account for poverty severity, in that the impact on measured poverty of a gain in income by a poor person increases in relation to the square of the distance of the person from the poverty line. For example, raising the income of a person from a household living at half the per capita poverty line by, say, one penny per day would have five times the impact on poverty reduction as would raising by the same amount the income of a person living at 90% of the poverty line; this differing magnitude results from squaring the poverty gaps, so the P_2 measure captures the *severity* of poverty.

As a numerical example of the calculation of P_2, consider an 8-person economy with a poverty line of 1, and a hypothetical income distribution of: (0.6, 0.6, 0.8, 0.8, 2, 2, 6, 6). The headcount is 4, because two people have incomes of 0.6 and two people have incomes of 0.8; but the others have incomes above the poverty line. Using these numbers, we can find the P_2 level of poverty from equation 5.3:

$$P_2 = (1/8)[0.4^2 + 0.4^2 + 0.2^2 + 0.2^2] = (1/8)\,[0.16 + 0.16 + 0.04 + 0.04] = 0.4/8 = 0.05$$

Note that P_2 can be expressed in an alternative form to add further intuition. If $\alpha = 2$, the resulting measure, P_2, can be rewritten as[8]

$$P_2 = \left(\frac{H}{N}\right)[\mathrm{NIS}^2 + (1 - \mathrm{NIS})^2(\mathrm{CV}_P)^2] \tag{5.4}$$

As Equation 5.4 shows, P_2 contains the CV_p measure, and it satisfies all four of the poverty axioms.[9] Clearly, P_2 increases whenever H/N, NIS, or CV_p increases. Note from the formula that there is a greater emphasis on the distribution of income among the poor (CV_p) when the normalized income shortfall is small and a lesser emphasis when the NIS is large.

The ***P*₂ poverty measure**, also known as the *squared poverty gap index*, has become a standard of income poverty measure used by the World Bank and other agencies, and it is used in empirical work on income poverty because of its sensitivity to the depth and severity of poverty. Mexico uses the P_2 poverty measure to allocate funds for education, health, and welfare programs for the poor (in particular in the Progresa/Oportunidades Program, described at the end of Chapter 8), in accordance with the regional intensity of poverty.[10]

Another reason to prefer P_2 (or at least P_1) over P_0 is that standard headcount measures also have the perverse property of creating incentives for officials to focus efforts on the poor who are closest to the poverty line—because that is the easiest and cheapest way for them to demonstrate progress. We encountered a version of this problem in Chapter 1—a critique of the Millennium Development Goals focus on reducing the fraction of those living below the poverty line.

Values of P_0 and P_2 for selected developing countries are found in Table 5.6 later in this chapter.

Person-Equivalent Headcounts Although P_1 and P_2 are more informative measures, which provide better incentives to poverty programs than P_0, many agencies (including U.S. Agency for International Development—USAID)

continue to report progress primarily if not exclusively in terms of P_0 headcount measures—apparently responding to public and legislative expectations to discuss poverty in terms of numbers of people. Given a political need to feature "headline" headcount measures, a partial improvement is to convert changes in the poverty gap into its headcount-equivalent (based on the initial average income shortfall). If aid agencies featured a supplementary headcount-equivalent, they could report in terms of numbers of people while accounting for changes in poverty depth. Estimates using this approach show progress against poverty in many countries is significantly greater than revealed using conventional headcount measures alone. [11]

Multidimensional Poverty Measurement Poverty cannot be adequately measured with income alone, as Amartya Sen's capability framework, examined in Chapter 1, makes apparent. To fill this gap, Sabina Alkire and James Foster have extended the FGT index to multiple dimensions.[12]

As always, the first step in measuring poverty is to know which people are poor. In the multidimensional poverty approach, a poor person is identified through what is called the "dual cutoff method": first, the cutoff levels within each of the dimensions (analogous to falling below a poverty line such as $1.25 per day if income poverty were being addressed) and second, the cutoff of the number of dimensions in which a person must be deprived (below the line) to be deemed multidimensionally poor. Using calculations analogous to the single-dimensional $P\alpha$ index, the multidimensional $M\alpha$ index is constructed. The most basic measure is the fraction of the population in multidimensional poverty—the multidimensional headcount ratio H_M.

The most common measure in practice is M_0, the *adjusted* headcount ratio, which uses ordinal data and is similar conceptually to the poverty gap P_1 (which again can be expressed as the headcount ratio times the normalized income shortfall). M_0 may be represented by the product of the multidimensional headcount ratio times the average fraction of dimensions in which the poor are deprived (or "average intensity of poverty" A, that is, $M_0 = H_M * A$. (In contrast to the simple multidimensional headcount ratio, the adjusted multidimensional headcount ratio satisfies the desirable property (called "dimensional monotonicity") that if the average fraction of deprivations increases, so does M_0).

In applied studies, proxy measures, called *indicators,* are used for each of the selected dimensions. Details of the way this measure has been constructed and applied in the UNDP Multidimensional Poverty Index and findings across countries are reported in Section 5.4, when we apply the poverty measures to examine the extent of poverty in different countries and regions. Another wisely used application is the Women's Empowerment in Agriculture Index, referred to in Chapter 9.

5.3 Poverty, Inequality, and Social Welfare

What's So Bad about Extreme Inequality?

Throughout this chapter, we are assuming that social welfare depends positively on the level of income per capita but negatively on poverty and negatively on the level of inequality, as these terms have just been defined. The

problem of absolute poverty is obvious. No civilized people can feel satisfied with a state of affairs in which their fellow humans exist in conditions of such absolute human misery, which is probably why every major religion has emphasized the importance of working to alleviate poverty and is at least one of the reasons why international development assistance has the nearly universal support of every democratic nation. But it may reasonably be asked, if our top priority is the alleviation of absolute poverty, why should *relative inequality* be a concern? We have seen that inequality among the poor is a critical factor in understanding the severity of poverty and the impact of market and policy changes on the poor, but why should we be concerned with inequality among those *above* the poverty line?

There are three major answers to this question. First, extreme income inequality leads to economic inefficiency. This is partly because at any given average income, the higher the inequality is, the smaller the fraction of the population that qualifies for a loan or other credit. Indeed, one definition of *relative poverty* is the lack of collateral. When low-income individuals (whether they are absolutely poor or not) cannot borrow money, they generally cannot adequately educate their children or start and expand a business. Moreover, with high inequality, the overall rate of savings in the economy tends to be lower, because the highest rate of marginal savings is usually found among the middle classes. Although the rich may save a larger dollar amount, they typically save a smaller fraction of their incomes, and they almost always save a smaller fraction of their marginal incomes. Landlords, business leaders, politicians, and other rich elites are known to spend much of their incomes on imported luxury goods, gold, jewelry, expensive houses, and foreign travel or to seek safe havens abroad for their savings in what is known as *capital flight*. Such savings and investments do not add to the nation's productive resources; in fact, they represent substantial drains on these resources. In short, the rich do not generally save and invest significantly larger proportions of their incomes (in the real economic sense of productive domestic saving and investment) than the middle class or even the poor.[13] Furthermore, inequality may lead to an inefficient allocation of assets. As you will see in Chapter 8, high inequality leads to an overemphasis on higher education at the expense of quality universal primary education, which not only may be inefficient but is also likely to beget still more inequality in incomes. Moreover, as you will see in Chapter 9, high inequality of land ownership—characterized by the presence of huge *latifundios* (plantations) alongside tiny *minifundios* that are incapable of supporting even a single family—also leads to inefficiency because the most efficient scales for farming are family and medium-size farms. The result of these factors can be a lower average income and a lower rate of economic growth when inequality is high.[14]

The second reason to be concerned with inequality above the poverty line is that extreme income disparities undermine social stability and solidarity. Also, high inequality strengthens the political power of the rich and hence their economic bargaining power. Usually this power will be used to encourage outcomes favorable to themselves. High inequality facilitates *rent seeking*, including actions such as excessive lobbying, large political donations, bribery, and cronyism. When resources are allocated to such rent-seeking behaviors, they are diverted from productive purposes that could lead to faster growth. Even worse, high inequality makes poor institutions very difficult to improve,

because the few with money and power are likely to view themselves as worse off from socially efficient reform, and so they have the motive and the means to resist it (see Chapter 2). Of course, high inequality may also lead the poor to support populist policies that can be self-defeating. Countries with extreme inequality, such as El Salvador and Iran, have undergone upheavals or extended civil strife that have cost countless lives and set back development progress by decades. High inequality is also associated with pathologies such as higher violent crime rates. In sum, with high inequality, the focus of politics often tends to be on supporting or resisting the redistribution of the existing economic pie rather than on policies to increase its size (Chapter 11 examines these concerns in more detail).[15]

Finally, extreme inequality is generally viewed as unfair. The philosopher John Rawls proposed a thought experiment to help clarify why this is so.[16] Suppose that before you were born into this world, you had a chance to select the overall level of inequality among the earth's people but not your own identity. That is, you might be born as Bill Gates, but you might be born as the most wretchedly poor person in rural Ethiopia with equal probability. Rawls calls this uncertainty the "veil of ignorance." The question is, facing this kind of risk, would you vote for an income distribution that was more equal or less equal than the one you see around you? If the degree of equality had no effect on the level of income or rate of growth, most people would vote for nearly perfect equality. Of course, if everyone had the same income no matter what, there would be little incentive to work hard, gain skills, or innovate. As a result, most people vote for *some* inequality of income outcomes, to the extent that these correspond to incentives for hard work or innovation. But even so, most vote for *less* inequality than is seen in the world (or in virtually any country) today. This is because much of the inequality we observe in the world is based on luck or extraneous factors, such as the inborn ability to kick a football or the identity of one's great-grandparents.

For all these reasons, for this part of the analysis we will write welfare, W, as

$$W = W(Y, I, P) \tag{5.5}$$

where Y is income per capita and enters our welfare function positively, I is inequality and enters negatively, and P is absolute poverty and also enters negatively. These three components have distinct significance, and we need to consider all three elements to achieve an overall assessment of welfare in developing countries. (A similar framework can be applied to health and education.)

Dualistic Development and Shifting Lorenz Curves: Some Stylized Typologies

As introduced by Gary Fields, Lorenz curves may be used to analyze three limiting cases of dualistic development:[17]

1. The *modern-sector enlargement* growth typology, in which the two-sector economy develops by enlarging the size of its modern sector while maintaining constant wages in both sectors. This is the case depicted by the

Lewis model in Chapter 3. It corresponds roughly to the historical growth pattern of Western developed nations and, to some extent, the pattern in East Asian economies such as China, South Korea, and Taiwan.

2. The *modern-sector enrichment* growth typology, in which the economy grows but such growth is limited to a fixed number of people in the modern sector, with both the numbers of workers and their wages held constant in the traditional sector. This roughly describes the experience of many Latin American and African economies.
3. The *traditional-sector enrichment* growth typology, in which all of the benefits of growth are divided among traditional-sector workers, with little or no growth occurring in the modern sector. This process roughly describes the experiences of countries whose policies focused on achieving substantial reductions in absolute poverty even at very low incomes and with relatively low growth rates, such as Sri Lanka, and the state of Kerala in southwestern India.

Using these three special cases and Lorenz curves, Fields demonstrated the validity of the following propositions (reversing the order just presented):

1. In the *traditional-sector enrichment* typology, growth results in higher income, a *more equal* relative distribution of income, and less poverty. Traditional-sector enrichment growth causes the Lorenz curve to shift uniformly upward and closer toward the line of equality, as depicted in Figure 5.7.
2. In the *modern-sector enrichment* growth typology, growth results in higher incomes, a *less equal* relative distribution of income, and no change in poverty.

FIGURE 5.7 Improved Income Distribution under the Traditional-Sector Enrichment Growth Typology

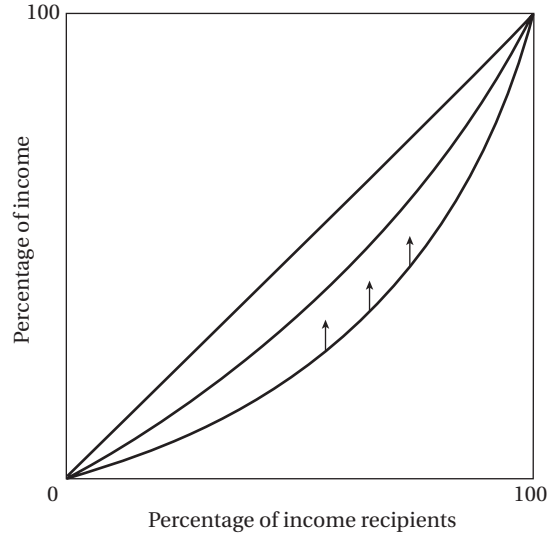
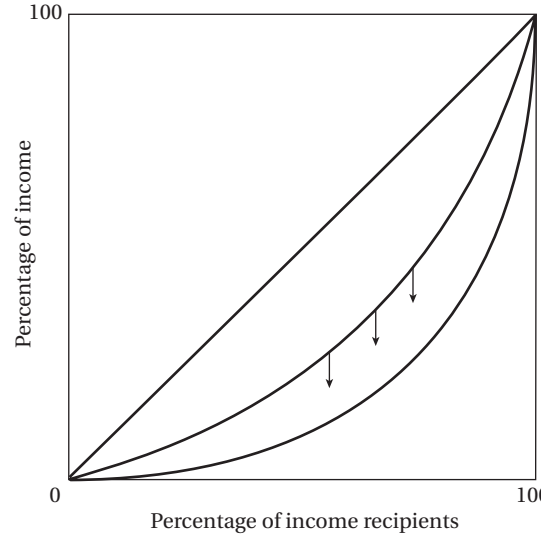


FIGURE 5.8 Worsened Income Distribution under the Modern-Sector Enrichment Growth Typology



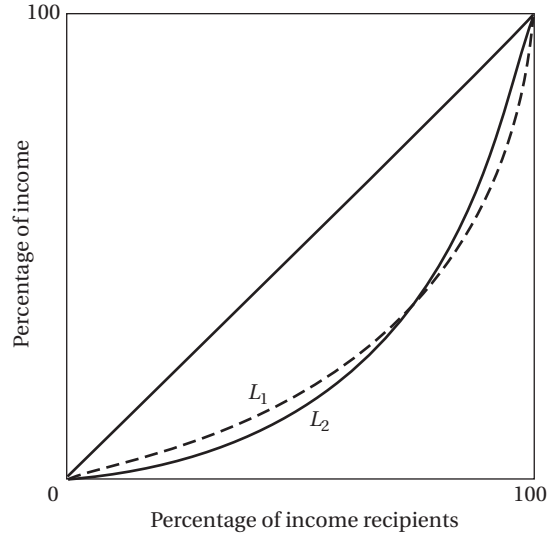
Modern-sector enrichment growth causes the Lorenz curve to shift downward and farther from the line of equality, as shown in Figure 5.8.

3. Finally, in the case of Lewis-type, *modern-sector enlargement* growth, absolute incomes rise and absolute poverty is reduced, but the Lorenz curves will always cross, indicating that we cannot make any unambiguous statement about changes in relative inequality: It may improve or worsen. Fields shows that if, in fact, this style of growth experience is predominant, inequality is likely first to worsen in the early stages of development and then to improve. The crossing of the Lorenz curves is demonstrated in Figure 5.9.

The explanation for the crossing in Figure 5.9 is as follows: The poor who remain in the traditional sector have their incomes unchanged, but these incomes are now a smaller fraction of the larger total, so the new Lorenz curve, L_2, lies below the old Lorenz curve, L_1, at the lower end of the income distribution scale. Each modern-sector worker receives the same absolute income as before, but now the share received by the richest income group is smaller, so the new Lorenz curve lies *above* the old one at the higher end of the income distribution scale. Therefore, somewhere in the middle of the distribution, the old and new Lorenz curves must cross.[18]

These three typologies offer different predictions about what will happen to inequality in the course of economic growth. With modern-sector enrichment, inequality rises steadily, while under traditional-sector enrichment, inequality falls steadily. Under modern-sector enlargement, inequality first rises and then falls;[19] if this admittedly highly stylized process of development were occurring, we would not be concerned about the temporary rise in inequality, because in addition to being temporary, it would be reflecting a

FIGURE 5.9 Crossing Lorenz Curves in the Modern-Sector Enlargement Growth Typology



process in which citizens are, one by one, achieving incomes above the absolute poverty line.[20]

These observations tell us that we have to qualify our conclusion that a rise in inequality is inherently bad. In some cases, inequality may increase on a temporary basis due to causes that will eventually make everyone better off and ultimately lower inequality. However, with modern-sector enrichment growth, the increase in inequality is not later reversed, and the poor do not escape their poverty.[21] So we need to be careful about drawing conclusions from short-run changes in economic statistics before we know more about the underlying changes in the real economy that have given rise to these statistics. The process of modern-sector enlargement growth suggests a possible mechanism that can give rise to Kuznets's "inverted-U" hypothesis, so we turn to this question next.

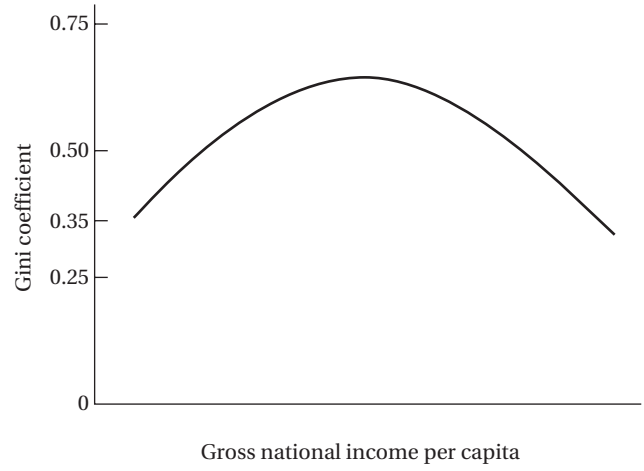
Kuznets's Inverted-U Hypothesis

Simon Kuznets suggested that in the early stages of economic growth, the distribution of income will tend to worsen; only at later stages will it improve.[22] This observation came to be characterized by the "inverted-U" **Kuznets curve** because a longitudinal (time-series) plot of changes in the distribution of income—as measured, for example, by the Gini coefficient—seemed, when per capita GNI expanded, to trace out an inverted U-shaped curve in some of the cases Kuznets studied, as illustrated in Figure 5.10.

Kuznets curve A graph reflecting the relationship between a country's income per capita and its inequality of income distribution.

Explanations as to why inequality might worsen during the early stages of economic growth before eventually improving are numerous. They almost always relate to the nature of structural change. Early growth may, in accordance with the Lewis model, be concentrated in the modern industrial sector, where employment is limited but wages and productivity are high.

FIGURE 5.10 The "Inverted-U" Kuznets Curve



As just noted, the Kuznets curve can be generated by a steady process of modern-sector enlargement growth as a country develops from a traditional to a modern economy. Alternatively, returns to education may first rise as the emerging modern sector demands skills and then may fall as the supply of educated workers increases and the supply of unskilled workers falls. So while Kuznets did not specify the mechanism by which his inverted-U hypothesis was supposed to occur, it could in principle be consistent with a sequential process of economic development. But as shown earlier, traditional- and modern-sector enrichment would tend to pull inequality in opposing directions, so the net change in inequality is ambiguous, and the validity of the Kuznets curve is an empirical question.

Disregarding the merits of the methodological debate, few development economists would argue that the Kuznets sequence of increasing and then declining inequality is inevitable. There are now enough case studies and specific examples of countries such as Taiwan, South Korea, Costa Rica, and Sri Lanka to demonstrate that higher income levels can be accompanied by falling and not rising inequality. It all depends on the nature of the development process.

Evidence on the Inverted-U Hypothesis Let us look at data collected from 18 countries on the percentage shares in total national income going to different percentile groups (see Table 5.2). Though methods of collection, degree of coverage, and specific definitions of personal income may vary from country to country, the figures recorded in Table 5.2 give a first approximation of the magnitude of income inequality in developing countries. For example, we see that in Zambia, the poorest 20% (first quintile) of the population receives only 3.6% of the income, while the highest 10% and 20% (fifth quintile) receive 38.9% and 55.2%, respectively. By contrast, in a relatively equal developed country like Japan, the poorest 20% receives a much higher 10.6% of the income, while the richest 10% and 20% get only 21.7% and 35.7%, respectively.

TABLE 5.2 Selected Income Distribution Estimates

Country	Lowest 10%	Quintile 1st	Quintile 2nd	Quintile 3rd	Quintile 4th	Quintile 5th	Highest 10%	Year
Bangladesh	4.3	9.4	12.6	16.1	21.1	40.8	26.6	2005
Brazil	1.1	3.0	6.9	11.8	19.6	58.7	43.0	2007
China	2.4	5.7	9.8	14.7	22.0	47.8	31.4	2005
Colombia	0.8	2.3	6.0	11.0	19.1	61.6	45.9	2006
Costa Rica	1.6	4.4	8.5	12.7	19.7	54.6	38.6	2007
Guatemala	1.3	3.4	7.2	12.0	19.5	57.8	42.4	2006
Honduras	0.7	2.5	6.7	12.1	20.4	58.4	42.2	2006
India	3.6	8.1	11.3	14.9	20.4	45.3	31.1	2005
Jamaica	2.1	5.2	9.0	13.8	20.9	51.2	35.6	2004
Namibia	0.6	1.5	2.8	5.5	12.0	78.3	65.0	1993
Pakistan	3.9	9.1	12.8	16.3	21.3	40.5	26.5	2005
Peru	1.3	3.6	7.8	13.0	20.8	54.8	38.4	2007
Philippines	2.4	5.6	9.1	13.7	21.2	50.4	33.9	2006
South Africa	1.3	3.1	5.6	9.9	18.8	62.7	44.9	2000
Tanzania	3.1	7.3	11.8	16.3	22.3	42.3	27.0	2001
Zambia	1.3	3.6	7.8	12.8	20.6	55.2	38.9	2005
Japan	4.8	10.6	14.2	17.6	22.0	35.7	21.7	1993
United States	1.9	5.4	10.7	15.7	22.4	45.8	29.9	2000

Source: based on World Bank, *World Development Indicators, 2010.* (Washington, D.C.: World Bank, 2010), tab. 2.9.

The income distribution of the United States, a relatively less equal developed country, is given for comparison in Table 5.2.

Consider now the relationship, if any, between levels of per capita income and degree of inequality. Are higher incomes associated with greater or lesser inequality, or can no definitive statement be made? Table 5.3 on page 240 provides data on income distribution in relation to per capita GNI for a sampling of countries, arranged from lowest to highest in terms of per capita income. What clearly emerges from Table 5.3 is that per capita incomes are not necessarily related to inequality. The very poorest countries, such as Ethiopia, may have low inequality simply because there is so little income. But even very poor countries such as Mozambique and Zambia have extremely high inequality by international standards. Although many high-inequality Latin American countries are found in the middle-income range, this range also includes countries such as Egypt and Indonesia, as well as eastern European countries, with low inequality. High-income countries do tend to be somewhat more equal than middle-income countries, but again, there is wide variation in inequality levels. In recent years, there has even been a tendency for inequality to rise in high-income countries and to fall at least somewhat in several Latin American countries.

In fact, the Kuznets curve that is seen in the data is now understood to be partially a statistical fluke resulting from the fact that for extraneous historical reasons, most Latin American countries just happen to have both a middle level of income and a high level of inequality (see Box 5.1).

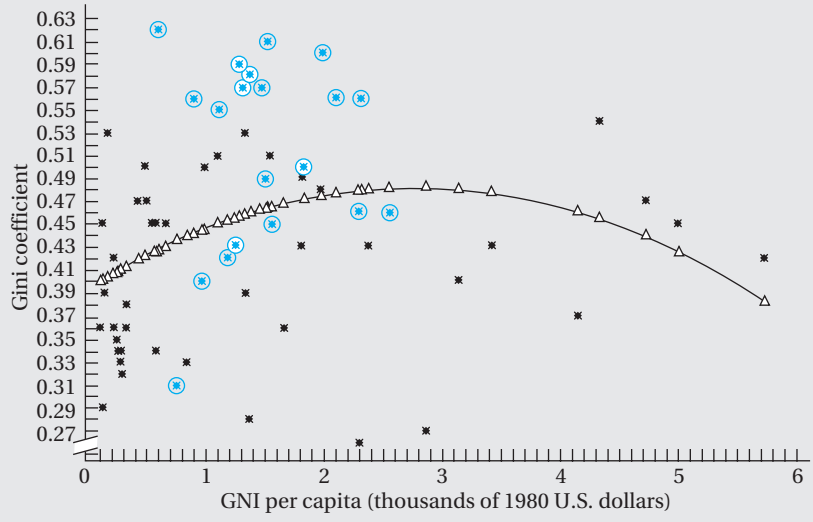
Detailed longitudinal studies of developing countries show a very mixed pattern. Juan Luis Lonondro found an inverted U for Colombia, but Harry Oshima found no particular pattern among several Asian countries.[23] In fact, for many

BOX 5.1 The Latin America Effect

Gary Fields and George Jakubson used a combination of both cross-sectional and longitudinal (time-series) data to consider whether the inverted-U could result from the Latin American effect and how patterns might differ across countries. Figure 5.11 plots a combination of data from the 35 countries in Fields and Jakubson's data set, where reliable estimates of the Gini coefficient have been available for various developing countries at different points in time. The inverted-U relationship, tracing the triangles, is a computer-generated parabola that best fits the data under standard statistical criteria. Observations on Latin American countries are circled: All of the highest-inequality countries in their data come from that region. Statistically, when the Latin American identity of the country is controlled for, the inverted-U drawn in Figure 5.11 tends to disappear in this data set and others as well.[24]

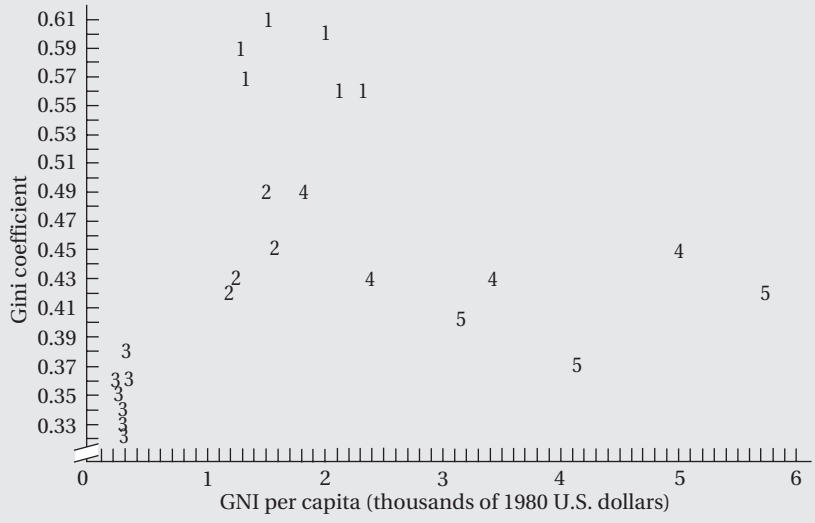
So the question is, what happens over time? In Figure 5.12 on page 239, selected countries from the data in Figure 5.11 have been isolated. As can be seen, the data from Brazil, which have the label *1* in the diagram, do plainly show an inverted-U pattern. Data from Hong Kong and Singapore, in contrast, labeled *4* and *5* in the diagram, appear to reflect a U-shaped pattern. But when these separate experiences are merged into one picture, the eyes (and the computer) misleadingly trace an inverted U in the data taken as a whole. This reinforces the great importance of understanding what gives rise to the statistical patterns in the data rather than taking them at face value.

FIGURE 5.11 Kuznets Curve with Latin American Countries Identified



Source: Gary S. Fields, *Distribution and Development: A New Look at the Developing World* (Cambridge, Mass.: MIT Press, 2001), ch. 3, p. 46. © 2001 Massachusetts Institute of Technology, by permission of The MIT Press.

FIGURE 5.12 Plot of Inequality Data for Selected Countries



1 = Brazil
2 = Costa Rica
3 = Pakistan
4 = Hong Kong
5 = Singapore

Source: Gary S. Fields, *Distribution and Development: A New Look at the Developing World* (Cambridge, Mass.: MIT Press, 2001), ch. 3, p. 44. © 2001 Massachusetts Institute of Technology, by permission of The MIT Press.

countries, there is no particular tendency for inequality to change in the process of economic development. Inequality seems to be a rather stable part of a country's socioeconomic makeup, altered significantly only as a result of a substantial upheaval or systematic policies. East Asia achieved its relatively low inequality largely from exogenous forces: the U.S. occupation of Japan, the Nationalist takeover of Taiwan, and the expulsion of the Japanese from South Korea. In all three cases, land reform that had far-reaching effects on inequality was implemented (we examine land reform in Chapter 9). But inequality can be gradually reduced through well-implemented policies to promote pro-poor growth over time. With regressive policies, inequality may rise over time.

Growth and Inequality

Having examined the relationship between inequality and levels of per capita income, let us look now briefly at the relationship, if any, between economic growth and inequality. During the 1960s and 1990s, per capita growth in East Asia averaged 5.5% while that of Africa declined by 0.2%, yet both Gini coefficients remained essentially unchanged. Once again, it is not just the rate but

TABLE 5.3 Income and Inequality in Selected Countries

Country	Income Per Capita (U.S. $, 2008)	Gini Coefficient	Survey Year for Gini Calculation
Low Income			
Ethiopia	280	29.8	2005
Mozambique	380	47.1	2003
Nepal	400	47.3	2004
Cambodia	640	40.7	2007
Zambia	950	50.7	2005
Lower Middle Income			
India	1,040	36.8	2005
Cameroon	1,150	44.6	2001
Bolivia	1,460	57.2	2007
Egypt	1,800	32.1	2005
Indonesia	1,880	37.6	2007
Upper Middle Income			
Namibia	4,210	74.3	1993
Bulgaria	5,490	29.2	2003
South Africa	5,820	57.8	2000
Argentina	7,190	48.8	2006
Brazil	7,300	55.0	2007
Mexico	9,990	51.6	2008
Upper Income			
Hungary	12,810	30.0	2004
Spain	31,930	34.7	2000
Germany	42,710	28.3	2000
United States	47,930	40.8	2000
Norway	87,340	25.8	2000

Source: data from World Bank, *World Development Indicators, 2010* (Washington, D.C.: World Bank, 2010), tabs. 1.1 and 2.9.

Character of economic growth The distributive implications of economic growth as reflected in such factors as participation in the growth process and asset ownership.

also the **character of economic growth** (how it is achieved, who participates, which sectors are given priority, what institutional arrangements are designed and emphasized, etc.) that determines the degree to which that growth is or is not reflected in improved living standards for the poor. Clearly, it is not necessary for inequality to increase for higher growth to be sustained.

5.4 Absolute Poverty: Extent and Magnitude

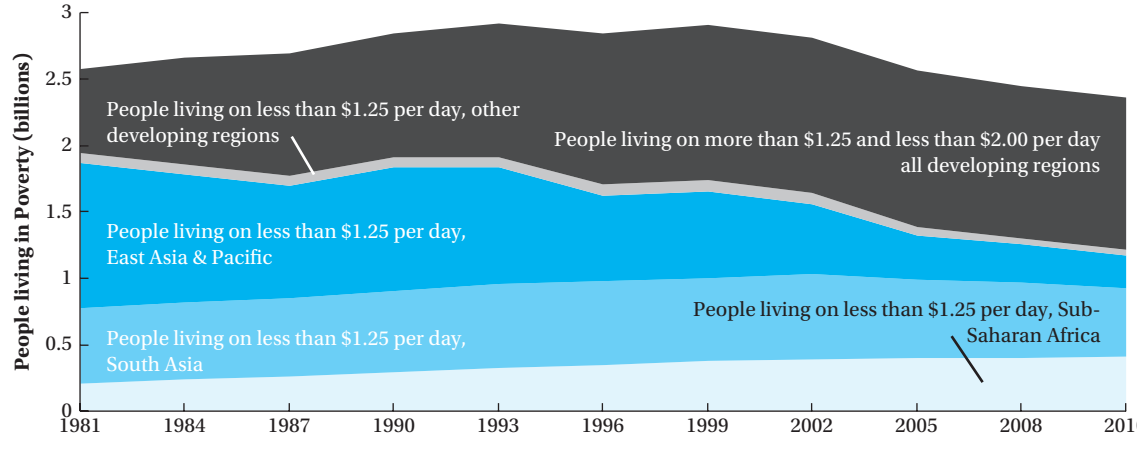
Like so much in economic development, the critical problem of eradicating absolute poverty is one of bad news and good news—of a glass that may be seen as either half empty or half full.

It is extremely difficult to arrive at a tight estimate of the extent of global poverty at any point in time. Major World Bank reports issued within a couple of years of each other have provided estimates of the dollar-a-day headcount that differ by tens of millions of people. This reflects the difficulty of the task. Another difficulty is determining the most appropriate cutoff income for extreme poverty. The $1-a-day line was first set in 1987 dollars, and for years the standard was $1.08 in 1993 U.S. purchasing power parity. In 2008, the equivalent line was reset at $1.25 at 2005 U.S. purchasing power. This (along with

improved estimates of prices faced by the poor) resulted in an increase in the estimated number of the poor but did not change the conclusion that the number in poverty has been falling markedly since 1990, most conspicuously due to progress in China. Even as updated to today's dollars, the poverty line is to some degree arbitrary (although it has corresponded roughly to what many developing countries use and is at least related to expenditures of people who barely meet minimum nutrition).

The most recent systematic poverty estimates (available as of early 2014) show that in 2010 some 1.22 billion people lived below $1.25 per day, and some 2.36 billion below $2 per day (see Figure 5.13). The number of people living in $1.25 per day income poverty fell from about 1.94 billion in 1981 – a 37% reduction in the headcount. The drop in the number living on less than $2 per day was much smaller – under 8% - but this more modest decline was partly due to people whose incomes actually had crossed above the $1.25 per day, though still remained below $2 per day. These achievements in reducing the number of people living in poverty are all the more impressive when we note that world population rose by 2.39 billion people (53%) between 1981 and 2010 (UN estimates). Thus the headcount ratio (fraction) living on less than $1.25 per day fell to about 18% by 2010 – approaching half (55%) of its 1990 level of 33%. Thus, the MDG of halving $1.25 per day poverty was close to having been met by 2010; and preliminary estimates show that this goal had been met – and indeed exceeded – by the end of 2013. Global and regional poverty trends are summarized in Figure 5.13. Note that the numbers of the poor who live in sub-Saharan Africa rose steadily throughout this three-decade period; but the headcount of the poor declined in other regions.

FIGURE 5.13 Global and Regional Poverty Trends, 1981–2010



Source: Figure drawn using data from PovcalNet/World Bank; data downloaded 13 February 2014 from http://iresearch.worldbank.org/PovcalNet/index.htm?1.

TABLE 5.4 Regional Poverty Incidence, 2010

Region	Headcount Ratio (P_0)	Poverty Gap (P_1)	Squared Poverty Gap (P_2)
Regional Aggregation at $1.25 per Day			
East Asia and the Pacific	12.48	2.82	0.93
Europe and Central Asia	0.66	0.21	0.13
Latin America and the Caribbean	5.53	2.89	2.12
Middle East and North Africa	2.41	0.55	0.23
South Asia	31.03	7.09	2.36
Sub-Saharan Africa	48.47	20.95	11.85
Total	20.63	6.3	2.92
Regional Aggregation at $2 per Day			
East Asia and the Pacific	29.14	9.42	4.05
Europe and Central Asia	2.27	0.64	0.3
Latin America and the Caribbean	10.18	4.67	3.13
Middle East and North Africa	11.55	2.66	0.99
South Asia	65.8	22.86	10.19
Sub-Saharan Africa	69.31	35.22	22.03
Total	40.08	15.32	7.79

Source: data from World Bank, "PovcalNet," http://iresearch.worldbank.org/PovcalNet, accessed 13 February 2014.

The incidence of extreme poverty is very uneven around the developing world. Household survey–based estimates are regarded as the most accurate ways to estimate poverty incidence. Table 5.4 provides some survey-based poverty estimates by region at the $1.25 and $2 poverty lines. As can be seen, poverty incidence is very high in both South Asia, with about 40% below $1.25 per day, and in sub-Saharan Africa, with 51% below. But poverty severity is far higher in sub-Saharan Africa, with a squared poverty gap index P_2 (in percentage terms) at 11.05, far above that of South Asia at 3.64. Table 5.5 provides estimates for some specific countries in Africa, Asia, and Latin America at the $1.25 and $2 poverty lines. It can be seen that about 44% of India's 2004 rural population lived below the $1.25-a-day poverty line, while almost 80% lived on less than $2 per day. In contrast, less than 36% of its urban population lived on less than $1.25 per day, although about 66% still lived on less than $2 per day.

Unfortunately, sub-Saharan Africa has shown far less progress than other developing regions. While the fraction living in poverty has fallen somewhat in the last decade, the headcount of individuals living in poverty rose dramatically in the 1981–2010 period, from about 205 million to about 414 million (World Bank, 2013). The concentration of poverty may make it more difficult to redress. In most countries in other regions, the poverty gap has fallen along with the poverty headcount. But between 1981 and 2010, the average income of the extremely poor hardly increased in sub-Saharan Africa, remaining near an appalling 70 cents per person per day.

The Multidimensional Poverty Index (MPI)

The MPI is the most prominent application of multidimensional poverty measurement; it incorporates three dimensions at the household level: health, education, and wealth.

TABLE 5.5 Income Poverty Incidence in Selected Countries

Country	Year	Per Capita Monthly Income (2005 PPP)	Headcount Ratio (%)	Poverty Gap (%)	Squared Poverty Gap (%)	Gini Index (%)
Incidence at $1.25 a Day; Poverty Line at 38 (monthly equivalent)						
Bangladesh	2005	48.27	50.47	14.17	5.20	33.22
Benin	2003	52.77	47.33	15.73	6.97	38.62
Brazil	2007	346.64	5.21	1.26	0.44	55.02
Burkina Faso	2003	46.85	56.54	20.27	9.38	39.6
China—Rural	2005	71.34	26.11	6.46	2.26	35.85
China—Urban	2005	161.83	1.71	0.45	0.24	34.8
Côte d'Ivoire	2002	101.11	23.34	6.82	2.87	48.39
Guatemala*	2006	191.7	12.65	3.83	1.63	53.69
Honduras*	2006	184.45	18.19	8.19	5.00	55.31
India—Rural	2004	49.93	43.83	10.66	3.65	30.46
India—Urban	2004	62.43	36.16	10.16	3.80	37.59
Indonesia—Rural	2005	62.79	24.01	5.03	1.61	29.52
Indonesia—Urban	2005	89.1	18.67	4.06	1.29	39.93
Madagascar	2005	44.82	67.83	26.52	13.23	47.24
Mexico	2006	330.37	0.65	0.13	0.05	48.11
Mozambique	2002	36.58	74.69	35.4	20.48	47.11
Nicaragua*	2005	151.18	15.81	5.23	2.54	52.33
Nigeria	2003	39.46	64.41	29.57	17.2	42.93
Pakistan	2004	65.76	22.59	4.35	1.28	31.18
Peru	2006	216.82	7.94	1.86	0.61	49.55
Philippines	2006	98.99	22.62	5.48	1.74	44.04
Rwanda	2000	33.76	76.56	38.21	22.94	46.68
Senegal	2005	66.86	33.5	10.8	4.67	39.19
Incidence at $2 a Day; Poverty Line at 60.84 (monthly equivalent)						
Bangladesh	2005	48.27	80.32	34.35	17.55	33.22
Benin	2003	52.77	75.33	33.51	18.25	38.62
Brazil	2007	346.64	12.70	4.15	1.85	55.02
Burkina Faso	2003	46.85	81.22	39.26	22.58	39.60
China—Rural	2005	71.34	55.63	19.47	8.94	35.85
China—Urban	2005	161.83	9.38	2.12	0.81	34.8
Côte d'Ivoire	2002	101.11	46.79	17.62	8.78	48.39
Guatemala*	2006	191.7	25.71	9.63	4.84	53.69
Honduras*	2006	184.45	29.73	14.15	8.91	55.31
India—Rural	2004	49.93	79.53	30.89	14.69	30.46
India—Urban	2004	62.43	65.85	25.99	12.92	37.59
Indonesia—Rural	2005	62.79	61.19	19.55	8.27	29.52
Indonesia—Urban	2005	89.1	45.85	14.85	6.39	39.93
Madagascar	2005	44.82	89.62	46.94	28.5	47.24
Mexico	2006	330.37	4.79	0.96	0.31	48.11
Mozambique	2002	36.58	90.03	53.56	36.00	48.07
Nicaragua*	2005	151.18	31.87	12.26	6.44	52.33
Nigeria	2003	39.46	83.92	46.89	30.8	42.93
Pakistan	2004	65.76	60.32	18.75	7.66	31.18
Peru	2006	216.82	18.51	5.95	2.54	49.55
Philippines	2006	98.99	45.05	16.36	7.58	44.04
Rwanda	2000	33.76	90.3	55.69	38.5	44.11
Senegal	2005	66.86	60.37	24.67	12.98	39.19

Source: data from World Bank, "PovcalNet," http://iresearch.worldbank.org/PovcalNet.

Income is imperfectly measured, but even more important, the advantages provided by a given amount of income greatly differ, depending on circumstances. To capture this idea, the United Nations Development Programme (UNDP) used its *Human Poverty Index*[26] from 1997 to 2009.

Multidimensional Poverty Index (MPI) A poverty measure that identifies the poor using dual cutoffs for levels and numbers of deprivations, and then multiplies the percentage of people living in poverty times the percent of weighted indicators for which poor households are deprived on average.

In 2010, the UNDP replaced the HPI with its **Multidimensional Poverty Index (MPI)**; by building up the index from the household level, the MPI takes into account that there are negative interaction effects when people have multiple deprivations—worse poverty than can be seen by simply adding up separate deprivations for the whole country, then taking averages, and only then combining them.

The index's creators report that they selected the three dimensions (health, education, and standard of living) and each of their corresponding indicators because they reflect problems often mentioned by the poor, they have been long considered important by the development community particularly as reflected in the Millennium Development Goals (see Chapter 1), and they are well established philosophically as human rights or basic needs; naturally, reliable data also had to be available for enough countries when selecting specific indicators for the index.

With respect to health, two indicators—whether any child has died in the family and whether any adult or child in the family is malnourished—are weighted equally (so each counts one-sixth toward the maximum possible deprivation in the MPI). Regarding education also, two indicators—whether not even one household member has completed five years of schooling and whether any school-age child is out of school for grades one through eight—are given equal weight (so again, each counts one-sixth toward the MPI). Finally, in terms of standard of living, equal weight is placed on six deprivations (each counting one-eighteenth toward the maximum possible): lack of electricity, insufficiently safe drinking water, inadequate sanitation, inadequate flooring, unimproved cooking fuel, and lack of more than one of five assets—telephone, radio, television, bicycle, and motorbike or similar vehicle.

Calculating deprivation in this way, individuals are then identified as "multidimensionally poor" when their family is deprived by a "weighted sum" of 0.3 or more (3 out of 10 points as calculated in practice). For concreteness, consider three examples of families whose members would be classified as multidimensionally poor. First, a person would get a value of 33% and thus be considered poor by having a child in the family who was malnourished, while at the same time the most educated person in the family received only three years of schooling. Second, a multidimensionally poor person might live in a household that had experienced a child's death and was also deprived in at least three of the six living standard indicators, which also would sum to $1/6 + 1/18 + 1/18 + 1/18 = 1/3$, or 33%. Third, they could live in a household that was deprived in the other three living standard indicators and in which there was a school-age child not attending school. But if there were no health or education deprivations, a person would have to live in a family which was deprived in all six standard-of-living indicators to be deemed poor. Thus, the MPI approach identifies the very poor by measuring a range of important household deprivations directly, rather than only indirectly through income, then building the index from household measures up to the aggregate measure. Rather than using already aggregated statistics in an index, the approach takes into account the *multiplied or interactive harm* done when multiple deprivations are experienced by *individuals in the same family*. In essence, the approach assumes that an individual's lack of capability in one area can to a degree be made up for by other capabilities—but only to a degree. (Put differently, capabilities are treated as substitutes up to a point but then as complements.) This greatly augments measures used previously.

Finally, the actual MPI for the country (or region or group) is computed with the adjusted headcount ratio; as noted previously, a convenient way to express the resulting value is the product of the headcount ratio, H_M (the percentage of people living in multidimensional poverty) and the average intensity of deprivation, A (the percentage of weighted indicators for which poor households are deprived on average). The adjusted headcount ratio, H_MA, is a special case of the broader class of multidimensional poverty measures developed by Sabira Alkire and James Foster introduced earlier; H_MA is readily calculated, and it also satisfies some desirable properties, including *dimensional monotonicity*, meaning that when a person deemed poor becomes deprived in another indicator, he or she is deemed even poorer.[27]

In its 2013 *Human Development Report*, the UNDP presents the MPI for 104 developing countries, based on the currently available data; some examples are given in Table 5.6. Brazil and Mexico have very low MPI levels of just 0.011 and 0.015, respectively, while the world's most impoverished country for which data were available to compute the MPI, Niger, ranks 104th, with an MPI value of 0.642. The UNDP reports that there are nearly 1.6 billion people living in multidimensional poverty—several hundred million more than the estimated number living on an income of less than $1.25 per day. At the broadest level, the results are not out of line with what one might expect; sub-Saharan Africa has the highest *proportion* of people living in poverty, and South Asia has the largest *number* of people living in poverty.

The poorest country is Niger, the only country with an MPI higher than 0.6. Six other countries had an MPI higher than 0.5, all in sub-Saharan Africa: Ethiopia, Mali, Burkina Faso, Burundi, Mozambique, and Guinea (available earlier data also show Angola, the Central African Republic, and Somalia with an MPI greater than 0.5).

Countries outside Africa with high levels of multidimensional poverty for their regions include Bangladesh (with an MPI of 0.292), Cambodia (0.212), Haiti (0.299), Honduras (0.159), India (0.283), Lao PRD (0.267), Nepal (0.217) Pakistan (0.264), Timor-Leste (0.360), and Yemen (0.283).

The results show that knowing income poverty is not enough if our concern is with multidimensional poverty. For example, multidimensionally, Bangladesh is substantially less poor and Pakistan substantially poorer than would be predicted by these countries' income poverty (this finding may be related to some of the comparisons in the end-of-chapter case study in Chapter 2). In Africa, Ethiopia is far more multidimensionally poor and Tanzania much less so than predicted by income poverty. Most Latin American countries studied rank worse on multidimensional poverty than on income poverty, but Colombia's income and MPI poverty ranks are about the same.

The severity of poverty in Africa is also highlighted by some of the findings. In Guinea, Mali, and Niger, more than 50% are poor and live in a household in which at least one child has died. In Mozambique, Guinea, Burundi, Mali, Ethiopia, Burkina Faso, and Niger, more than 50% live in a poor household where no one has completed five years of education. Outside of Africa, 39% in India and 37% in Bangladesh live in a poor household where at least one child or woman is undernourished.[28]

Different regions in the same country can have very different MPIs. In Kenya, the MPI for Nairobi is close to that of Brazil. Central Kenya's MPI is similar to

TABLE 5.6 Multidimensional Poverty Index, Data for 2007–2011

Country and Survey Year	MPI	Percent Poor	Thousands Poor	Poverty Intensity (*A*)
Bangladesh 2007 (D)	0.292	57.8	83,207	50.4
Brazil 2006 (N)	0.011	2.7	5,075	39.3
Burundi 2005 (M)	0.530	84.5	6,128	62.7
Bolivia, PS 2008 (D)	0.089	20.5	1,972	43.7
Burkina Faso 2010 (D)	0.535	84.0	13,834	63.7
Cambodia 2010 (D)	0.212	45.9	6,415	46.1
Colombia 2010 (D)	0.022	5.4	2,500	40.9
Congo, DR 2010 (M)	0.392	74.0	48,815	53.0
Côte d'Ivoire 2005 (D)	0.353	61.5	11,083	57.4
Dominican Republic 2007 (D)	0.018	4.6	439	39.4
Egypt 2008 (D)	0.024	6.0	4,699	40.7
Ethiopia 2011 (D)	0.564	87.3	72,415	64.6
Ghana 2008 (D)	0.144	31.2	7,258	46.2
Guinea 2005 (D)	0.506	82.5	7,459	61.3
Haiti 2005/2006 (D)	0.299	56.4	5,346	53.0
Honduras 2005/2006 (D)	0.159	32.5	2,281	48.9
India 2005/2006 (D)	0.283	53.7	612,203	52.7
Indonesia 2007 (D)	0.095	20.8	48,352	45.9
Kenya 2008/2009 (D)	0.229	47.8	18,863	48.0
Lao PRD 2006 (M)	0.267	47.2	2,757	56.5
Liberia 2007 (D)	0.485	83.9	3,218	57.7
Mali 2006 (D)	0.558	86.6	11,771	64.4
Mexico 2006 (N)	0.015	4.0	4,313	38.9
Madagascar 2008/2009 (D)	0.357	66.9	13,463	53.3
Malawi 2010 (D)	0.334	66.7	9,633	50.1
Mozambique 2009 (D)	0.512	79.3	18,127	64.6
Nepal 2011 (D)	0.217	44.2	13,242	49.0
Niger 2006 (D)	0.642	92.4	12,437	69.4
Nigeria 2008 (D)	0.310	54.1	83,578	57.3
Pakistan 2006/2007 (D)	0.264 d	49.4 d	81,236 d	53.4 d
Peru 2008 (D)	0.066	15.7	4,422	42.2
Philippines 2008 (D)	0.064	13.4	12,083	47.4
Rwanda 2010 (D)	0.350	69.0	6,900	50.8
Senegal 2010/2011 (D)	0.439	74.4	7,642	58.9
Sierra Leone 2008 (D)	0.439	77.0	4,321	57.0
South Africa 2008 (N)	0.057	13.4	6,609	42.3
Tanzania, 2010 (D)	0.332	65.6	28,552	50.7
Timor-Leste 2009/2010 (D)	0.360	68.1	749	52.9
Uganda 2011 (D)	0.367	69.9	24,122	52.5
Vietnam 2010/2011 (M)	0.017	4.2	3,690	39.5
Yemen 2006 (M)	0.283	52.5	11,176	53.9

Key: D indicates data are from Demographic and Health Surveys, M indicates data are from Multiple Indicator Cluster Surveys, d indicates lower bound estimate, and N indicates data are from national surveys. Not all indicators were available for all countries; caution should thus be used in cross-country comparisons. Where data are missing, indicator weights are adjusted to total 100%.

Source: UNDP, *Human Development Report, 2013*, pp. 160–161.

that of Bolivia. And northeastern Kenya has a worse MPI even than Niger. There are also great inequalities across ethnic groups in Kenya, with 29% of the Embu considered multidimensionally poor, compared with a staggering 96% of the Turkana and Masai peoples. Great inequalities are also found in India, in which indigenous ("tribal") peoples and low-ranked ("scheduled") castes are far poorer than people from high-ranking castes. In the Delhi and Kerala regions, just 14 to 16% are MPI poor, but in Jharkhand and Bihar, 77 to 81% are MPI poor. Finally, changes in the MPI over time are examined for three countries: Ghana saw its MPI halved from 0.29 to 0.14; Bangladesh saw its MPI reduced by a more modest 22%; and in Ethiopia, the MPI fell by 16% in the periods studied.

As with all indexes, the MPI has some limitations. As mentioned, data are from the household rather than the individual level (such as whether *any* child of school age is out of school or whether *any* family member is undernourished). It does not fully distinguish between past and present conditions (because its measure is whether a child has *ever* died). It does not distinguish differences within households (such as who may use the bicycle or whether the undernourished individuals are females). Proxies are imperfect; for example, nourishment does not capture micronutrient deficiencies. Sometimes a person has to be labeled nondeprived if data are missing, so the numbers may understate poverty somewhat. Education considers only inputs such as enrolling or attending for five years, not outputs such as being able to read. And the choice of basic assets is questionable; for example, even where a radio and a simple bicycle are present, a woman may have just one dress and the children may sleep on a rough concrete floor.

The MPI provides a new and fundamentally important way to measure poverty, to help us understand how poverty levels differ across and within countries, and also how the dimensions (or composition) of poverty can differ greatly in different settings. Ultimately, this should assist with better design and targeting of programs and policies and help us evaluate their performance more quickly and effectively.

For now, because of the way living standards and human development surveys are conducted, most of the usable data is at the household level, making it difficult to "drill down" to the individual level. Household data are far better than what used to be available; in fact, the availability of household data has already had a substantial impact on improving the study of development economics. It is a great improvement to be able to focus on what is happening at the family rather than the national level. Well-designed income poverty measures such as P_2 will always be used for many purposes; but the MPI is likely to help usher in an era in which multidimensional poverty is examined in most assessments.

Chronic Poverty Research suggests that approximately one-third of all people who are income poor at any one time are chronically (always) poor. Andrew McKay and Bob Baulch provide a well-regarded "guesstimate" that about 300 to 420 million people were chronically poor at the $1-per-day level in the late 1990s. The other two-thirds are made up of families that are vulnerable to poverty and become extremely poor from time to time. These may be divided between families usually poor but occasionally receiving enough income to cross the poverty line and families usually nonpoor but occasionally experiencing a shock that knocks them temporarily below the poverty line. Chronic poverty is concentrated in India, where the largest numbers are found, and in Africa, where the severity of poverty among the chronically poor is greatest.[29]

Problems of the poorest of the poor pose particular challenges. *Ultrapoverty* differs from conventional poverty in terms of depth (degree of deprivation), length (duration of time), and breadth (the number of dimensions, such as illiteracy and malnutrition).[30] The mutual reinforcement among the different dimensions of poverty can potentially result in multiple mutually reinforcing poverty traps. This makes ultrapoverty a more difficult problem to address than conventional poverty, which can more often be redressed with simpler solutions such as microfinance (see Chapter 15) plus business training. The

chronic nature and severity of ultrapoverty also make short-term policies more problematic. Poverty innovators such as Fazle Hasan Abed have concluded that conventional programs have often not reached the ultra-poor. An income-based definition of ultrapoverty is living on half the dollar-a-day poverty line, or 54 cents per day in 1993 dollars. According to International Food Policy Research Institute (IFPRI) estimates, 162 million people live below this stark income level, generally with malnutrition and other destitute conditions. The IFPRI study concluded:

> poverty just below $1 a day has fallen faster than poverty below 50 cents a day, suggesting that it has been easier to reach those living closer to the dollar-a-day line rather than those living well below it. . . .The slow progress of poverty reduction for the world's most deprived indicates the presence of poverty traps, or conditions from which the poorest individuals or groups cannot emerge without outside assistance.[31]

Some NGOs have responded to this problem, such as BRAC's Targeting the Ultra-Poor Program and Grameen's Beggars Program, both introduced in the case study for Chapter 11.

The prospect for ending poverty depends critically on two factors: first, the rate of economic growth—provided it is undertaken in a shared and sustainable way—and second, the level of resources devoted to poverty programs and the quality of those programs.

Growth and Poverty

Are the reduction of poverty and the acceleration of growth in conflict? Or are they complementary? Traditionally, a body of opinion held that rapid growth is bad for the poor because they would be bypassed and marginalized by the structural changes of modern growth. Beyond this, there had been considerable concern in policy circles that the public expenditures required for the reduction of poverty would entail a reduction in the rate of growth. The concerns that concentrated efforts to lower poverty would slow the rate of growth paralleled the arguments that countries with lower inequality would experience slower growth. In particular, if there were redistribution of income or assets from rich to poor, even through progressive taxation, the concern was expressed that savings would fall. However, while the middle class generally has the highest savings rates, the marginal savings rates of the poor, when viewed from a holistic perspective, are not small. In addition to financial savings, the poor tend to spend additional income on improved nutrition, education for their children, improvements in housing conditions, and other expenditures that, especially at poverty levels, represent investments rather than consumption. There are at least five reasons why policies focused toward reducing poverty levels need not lead to a slower rate of growth—and indeed could help to accelerate growth.

First, *widespread poverty creates conditions in which the poor have no access to credit,* are unable to finance their children's education, and, in the absence of physical or monetary investment opportunities, have many children as a source of old-age financial security. Moreover, lack of credit denies people living in poverty of opportunities for entrepreneurship that could otherwise help

to spur growth. Together these factors cause per capita growth to be less than what it would be if there were less poverty.

Second, a wealth of empirical data bears witness to the fact that unlike the historical experience of the now developed countries, *the rich in many contemporary poor countries are generally not noted for their frugality or for their desire to save and invest* substantial proportions of their incomes in the local economy.

Third, the *low incomes and low levels of living for the poor, which are manifested in poor health, nutrition, and education, can lower their economic productivity and thereby lead directly and indirectly to a slower-growing economy.* Strategies to raise the incomes and levels of living of the poor will therefore contribute not only to their material well-being but also to the productivity and income of the economy as a whole.[32] (These issues are considered further in Chapter 8.)

Fourth, *raising the income levels of the poor will stimulate an overall increase in the demand for locally produced necessity products* like food and clothing, whereas the rich tend to spend more of their additional incomes on imported luxury goods. Rising demand for local goods provides a greater stimulus to local production, local employment, and local investment. Such demand thus creates the conditions for rapid economic growth and a broader popular participation in that growth.[33]

Fifth, *a reduction of mass poverty can stimulate healthy economic expansion by acting as a powerful material and psychological incentive to widespread public participation in the development process*. By contrast, wide income disparities and substantial absolute poverty can act as powerful material and psychological disincentives to economic progress. They may even create the conditions for an ultimate rejection of progress by the masses, impatient at the pace of progress or its failure to alter their material circumstances.[34] We can conclude, therefore, that promoting rapid economic growth and reducing poverty are not mutually conflicting objectives.[35]

That dramatic reductions in poverty need not be incompatible with high growth is seen both in case studies and in the cross-national comparisons of data. Countries where poverty has been reduced the most tend to have had sustained growth; at the same time, growth does not guarantee poverty reduction. Over the past 30 years, China has experienced the highest growth rate in the world and also the most dramatic reductions in poverty. The headcount of the poor in China fell from 634 million in 1981 to 128 million in 2004, with the corresponding headcount ratio falling from 64% to 10%. This did not occur merely as a result of high growth. Policies actively encouraged modern-sector enlargement. Moreover, China has worked with the World Bank and other development agencies to improve its poverty reduction programs and has built on its long-standing efforts to provide at least minimal education and health care for its people as a firm foundation for long-term progress. Although the plight of many peasants has worsened in recent years, especially in interior regions, and inequality has greatly increased, the positive overall results of China's efforts to fight extreme poverty are apparent. Recent dramatic reductions of poverty in Vietnam have followed a similar pattern.

Richer countries strongly tend to have low levels of absolute poverty. Through one means or another—the availability of employment and entrepreneurship opportunities and greater public and NGO assistance—people who live in rich countries tend to escape from poverty. Among developing countries, there is evidence that countries with faster overall rates of per

capita income growth also tend on average to have faster rates of per capita income growth among those in the bottom quintile of the income distribution, though the proportions vary widely. While we cannot passively count on even sustainable growth by itself to end absolute poverty, ending poverty can be greatly facilitated through wise and shared stewardship of the various resources provided by growth.[36]

Certainly, the relationship between economic growth and progress among the poor does not by itself indicate causality. Some of the effect probably runs from improved incomes, education, and health among the poor to faster overall growth (as suggested by some of the arguments listed previously). Moreover, as we have noted, poverty reduction is possible without rapid growth. But whatever the causality, it is clear that growth and poverty reduction are entirely compatible objectives.

5.5 Economic Characteristics of High-Poverty Groups

So far we have painted a broad picture of the income distribution and poverty problem in developing countries. We have argued that the magnitude of absolute poverty results from a combination of low per capita incomes and highly unequal distributions of that income. Clearly, for any given distribution of income, the higher the level of per capita income is, the lower the numbers of the absolutely poor. But higher levels of per capita income are no guarantee of lower levels of poverty. An understanding of the nature of the size distribution of income is therefore central to any analysis of the poverty problem in low-income countries.

But painting a broad picture of absolute poverty is not enough. Before we can formulate effective policies and programs to attack poverty at its source, we need some specific knowledge of these high-poverty groups and their economic characteristics.[37]

Rural Poverty

Perhaps the most valid generalizations about the poor are that they are disproportionately located in rural areas, that they are primarily engaged in agricultural and associated activities, that they are more likely to be women and children than adult males, and that they are often concentrated among minority ethnic groups and indigenous peoples. Data from a broad cross section of developing nations support these generalizations. We find, for example, that about two-thirds of the very poor scratch out their livelihood from subsistence agriculture either as small farmers or as low-paid farmworkers. Some of the remaining one-third are also located in rural areas but engaged in petty services, and others are located on the fringes and in marginal areas of urban centers, where they engage in various forms of self-employment such as street hawking, trading, petty services, and small-scale commerce. On the average, we may conclude that in Africa and Asia, about 80% of all target poverty groups are located in the rural areas, as are about 50% in Latin America. Some data for specific countries are provided in Table 5.7.

TABLE 5.7 Poverty: Rural versus Urban

Region and Country	Survey Year	Percentage below National Poverty Line		
		Rural Population	Urban Population	National Population
Sub-Saharan Africa				
Benin	2003	46.0	29.0	39.0
Burkina Faso	2003	52.4	19.2	46.4
Cameroon	2007	55.0	12.2	29.9
Malawi	2005	55.9	25.4	52.4
Tanzania	2001	38.7	29.5	35.7
Uganda	2006	34.2	13.7	31.1
Zambia	2004	72.0	53.0	68.0
Asia				
Bangladesh	2005	43.8	28.4	40.0
India	2000	30.2	24.7	28.6
Indonesia	2004	20.1	12.1	16.7
Uzbekistan	2003	29.8	22.6	27.2
Vietnam	2002	35.6	6.6	28.9
Latin America				
Bolivia	2007	63.9	23.7	37.7
Brazil	2003	41.0	17.5	21.5
Dominican Republic	2007	54.1	45.4	48.5
Guatemala	2006	72.0	28.0	51.0
Honduras	2004	70.4	29.5	50.7
Mexico	2004	56.9	41.0	47.0
Peru	2004	72.5	40.3	51.6

Source: data from World Bank, *World Development Indicators, 2010* (Washington, D.C.: World Bank, 2010), tab. 2.7.

It is interesting to note, in light of the rural concentration of absolute poverty, that the majority of government expenditures in most developing countries over the past several decades has been directed toward the urban area and especially toward the relatively affluent modern manufacturing and commercial sectors. Whether in the realm of directly productive economic investments or in the fields of education, health, housing, and other social services, this urban modern-sector bias in government expenditures is at the core of many of the development problems that will be discussed in succeeding chapters. We need only point out here that in view of the disproportionate number of the very poor who reside in rural areas, any policy designed to alleviate poverty must necessarily be directed to a large extent toward rural development in general and the agricultural sector in particular (we will discuss this matter in detail in Chapter 9).

Women and Poverty

Women make up a substantial majority of the world's poor. If we compared the lives of the inhabitants of the poorest communities throughout the developing world, we would discover that virtually everywhere women and children experience the harshest deprivation. They are more likely to be poor and malnourished and less likely to receive medical services, clean water, sanitation, and other benefits.[38] The prevalence of female-headed households, the

lower earning capacity of women, and their limited control over their spouses' income all contribute to this disturbing phenomenon. In addition, women have less access to education, formal-sector employment, social security, and government employment programs. These facts combine to ensure that poor women's financial resources are meager and unstable relative to men's.

A disproportionate number of the ultrapoor live in households headed by women, in which there are generally no male wage earners. Because the earning potential of women is considerably below that of their male counterparts, women are more likely to be among the very poor. In general, women in female-headed households have less education and lower incomes. Furthermore, the larger the household is, the greater the strain on the single parent and the lower the per capita food expenditure.

A portion of the income disparity between male- and female-headed households can be explained by the large earnings differentials between men and women. In addition to the fact that women are often paid less for performing similar tasks, in many cases they are essentially barred from higher-paying occupations. In urban areas, women are much less likely to obtain formal employment in private companies or public agencies and are frequently restricted to illegal, low-productivity jobs. The illegality of piecework, as in the garment industry, prevents it from being regulated and renders it exempt from minimum-wage laws or social security benefits. Even when women receive conventional wage payments in factory work, minimum wage and safety legislation may be flagrantly ignored. Similarly, rural women have less access to the resources necessary to generate stable incomes and are frequently subject to laws that further compromise earning potential. Legislation and social custom often prohibit women from owning property or signing financial contracts without a husband's signature. With a few notable exceptions, government employment or income-enhancing programs are accessible primarily if not exclusively by men, exacerbating existing income disparities between men and women.

But household income alone fails to describe the severity of women's relative deprivation. Because a higher proportion of female-headed households are situated in the poorest areas, which have little or no access to government-sponsored services such as piped water, sanitation, and health care, household members are more likely to fall ill and are less likely to receive medical attention. In addition, children in female-headed households are less likely to be enrolled in school and more likely to be working in order to provide additional income.

The degree of economic hardship may also vary widely within a household. We have already discussed the fact that GNI per capita is an inadequate measure of development because it fails to reflect the extent of absolute poverty. Likewise, household income is a poor measure of individual welfare because the distribution of income within the household may be quite unequal. In fact, among the poor, the economic status of women provides a better indication of their own welfare, as well as that of their children. Existing studies of intrahousehold resource allocation clearly indicate that in many regions of the world, there exists a strong bias against females in areas such as nutrition, medical care, education, and inheritance. Moreover, empirical research has shown that these gender biases in household resource allocation significantly reduce the rate of survival among female infants. This is one reason why recorded female-male sex ratios

are so much below their expected values, primarily in Asian countries, that well over 100 million girls and women are said to be "missing."[39] The favor shown toward boys in part reflects the fact that men are perceived to have a greater potential for contributing financially to family survival. This is not only because well-paying employment for women is unavailable but also because daughters are often married to families outside the village, after which they become exclusively responsible to their in-laws and thus cease contributing to their family of origin.

The extent of these internal biases is strongly influenced by the economic status of women. Studies have found that where women's share of income within the home is relatively high, there is less discrimination against girls, and women are better able to meet their own needs as well as those of their children. When household income is marginal, most of women's income is contributed toward household nutritional intake. Since this fraction is considerably smaller for men, a rise in male earnings leads to a less than proportionate increase in the funds available for the provision of daily needs. It is thus unsurprising that programs designed to increase nutrition and family health are more effective when targeting women than when targeting men. In fact, significant increases in total household income do not necessarily translate into improved nutritional status (see Chapter 8). The persistence of low levels of living among women and children is common where the economic status of women remains low. Box 5.2 provides some views of the poor on gender relations.

Women's control over household income and resources is limited for a number of reasons. Of primary importance is the fact that a relatively large proportion of the work performed by women is unremunerated—for example, collecting firewood and cooking—and may even be intangible, as with parenting. Women's control over household resources may also be constrained by the fact that many women from poor households are not paid for the work they perform in family agriculture or business. It is common for the male head of household to control all funds from cash crops or the family business, even though a significant portion of the labor input is provided by his spouse. In addition, in many cultures, it is considered socially unacceptable for women to contribute significantly to household income, and hence women's work may remain concealed or unrecognized. These combined factors perpetuate the low economic status of women and can lead to strict limitations on their control over household resources.

Development policies that increase the productivity differentials between men and women are likely to worsen earnings disparities as well as further erode women's economic status within the household. Since government programs to alleviate poverty frequently work almost exclusively with men, they tend to exacerbate these inequalities. In urban areas, training programs to increase earning potential and formal-sector employment are generally geared to men, while agricultural extension programs promote male-dominated crops, frequently at the expense of women's vegetable plots (see Chapter 9). Studies have shown that development efforts can actually increase women's workload while at the same time reduce the share of household resources over which they exercise control. Consequently, women and their dependents remain the most economically vulnerable group in developing countries.

The fact that the welfare of women and children is strongly influenced by the design of development policy underscores the importance of integrating

BOX 5.2 Problems of Gender Relations in Developing Countries: Voices of the Poor

Sister, if you don't beat them, they'll stop being good. And if they're good and you beat them, they'll stay that way.

—A man in Bangladesh

When my husband died, my in-laws told me to get out. So I came to town and slept on the pavement.

—A middle-aged widow in Kenya

When I was working, I used to decide. When she is working, she owns her money and does anything she wishes.

—A man from Vila Junqueira, Brazil

Problems have affected our relationship. The day my husband brings in money, we are all right together. The day he stays at home [out of work], we are fighting constantly.

—A woman from El Gawaber, Egypt

The unemployed men are frustrated because they can no longer play the part of family providers and protectors. They live on the money made by their wives and feel humiliated because of this.

—An elderly woman from Uchkun, Kyrgyzstan

When a woman gives her opinion, they [men] make fun of her and don't pay attention. If women go to a meeting, they don't give their opinion.

—A woman in Las Pascuas, Bolivia

women into development programs. To improve living conditions for the poorest individuals, women must be drawn into the economic mainstream. This would entail increasing female participation rates in educational and training programs, formal-sector employment, and agricultural extension programs. It is also of primary importance that precautions be taken to ensure that women have equal access to government resources provided through schooling, services, employment, and social security programs. Legalizing informal-sector employment where the majority of the female labor force is employed would also improve the economic status of women.

The consequences of declines in women's relative or absolute economic status have both ethical and long-term economic implications. Any process of growth that fails to improve the welfare of the people experiencing the greatest hardship, broadly recognized to be women and children, has failed to accomplish one of the principal goals of development. In the long run, the low status of women is likely to translate into slower rates of economic growth. This is true because the educational attainment and future financial status of children are much more likely to reflect those of the mother than those of the father. Thus, the benefits of current investments in human capital are more likely to be passed on to future generations if women are successfully integrated into the growth process. And considering that human capital is perhaps the most important prerequisite for growth, education and enhanced economic status for women are critical to meeting long-term development objectives. (We examine these issues in greater detail in Chapter 8.)

As feminist development economists have often expressed it, official poverty programs cannot simply "add women and stir." Women-centered poverty strategies often require us to challenge basic assumptions. The harsher conditions for women and women's crucial role in a community's escape from poverty mean that involvement of women cannot be left as an afterthought

but will be most effective if it is the *first* thought—and the consistent basis for action—when addressing poverty.

Ethnic Minorities, Indigenous Populations, and Poverty

A final generalization about the incidence of poverty in the developing world is that it falls especially heavily on minority ethnic groups and indigenous populations. We pointed out in Chapter 2 that some 40% of the world's nation-states have more than five sizable ethnic populations, one or more of which faces serious economic, political, and social discrimination. In recent years, domestic conflicts and even civil wars have arisen out of ethnic groups' perceptions that they are losing out in the competition for limited resources and job opportunities. The poverty problem is even more serious for indigenous peoples, whose numbers exceed 300 million in over 5,000 different groups in more than 70 countries.[40]

Although detailed data on the relative poverty of minority ethnic and indigenous peoples are difficult to obtain (for political reasons, few countries wish to highlight these problems), researchers have compiled data on the poverty of indigenous people in Latin America.[41] The results clearly demonstrate that a majority of indigenous groups live in extreme poverty and that being indigenous greatly increases the chances that an individual will be malnourished, illiterate, in poor health, and unemployed. For example, the research has shown that in Mexico, over 80% of the indigenous population is poor, compared to 18% of the nonindigenous population. Table 5.8 shows that similar situations exist in countries such as Bolivia, Guatemala, and Peru (not to mention Native American populations in the United States and Canada). Moreover, a 2006 World Bank study confirmed that all too little progress had been made. Whether we speak of Tamils in Sri Lanka, Karens in Myanmar, Untouchables in India, or Tibetans in China, the poverty plight of minorities is as serious as that of indigenous peoples.

Poor Countries Finally, it should be noted that the poor come from poor countries. Although this may seem like a trivial observation, it is actually a useful note of optimism. The negative relationship between poverty and per capita income suggests that if higher incomes can be achieved, poverty will be reduced, if only because of the greater resources that countries will have available to tackle poverty problems and the growth of civil society and the voluntary sector. Unfortunately,

TABLE 5.8 Indigenous Poverty in Latin America

Population below the Poverty Line (%), Early 1990s			Change in Poverty (%), Various Periods		
Country	Indigenous	Nonindigenous	Period	Indigenous	Nonindigenous
Bolivia	64.3	48.1	1997–2002	0	–8
Guatemala	86.6	53.9	1989–2000	–15	–25
Mexico	80.6	17.9	1992–2002	0	–5
Peru	79.0	49.7	1994–2000	0	+3

Sources: Data for the left side of the table from George Psacharopoulos and Harry A. Patrinos, "Indigenous people and poverty in Latin America," *Finance and Development* 31 (1994): 41, used with permission; data for the right side of the table from Gillette Hall and Harry A. Patrinos, eds., *Indigenous Peoples, Poverty, and Human Development in Latin America, 1994–2004* (New York: Palgrave Macmillan, 2006).

as noted earlier, a high level of absolute poverty can also retard a country's growth prospects. Moreover, many of the poorest countries in sub-Saharan Africa experienced outright declines in per capita income throughout the 1980s and 1990s and in some cases during the first decade of this century. Among those that are growing, at current growth rates it would take decades to reach the levels of income at which poverty tends to be eradicated. After all, Brazil, which has been solidly middle-income for decades, still has 8% of its population living on less than $1.25 per day. Income poverty, malnutrition, low school attendance, and child labor in Brazil finally showed a substantial decline after the turn of this century, when antipoverty and social safety net programs were greatly expanded (see the case study at the end of Chapter 1). We can conclude that higher national incomes greatly facilitate poverty reduction, while at the same time, poverty still needs to be addressed directly.

5.6 Policy Options on Income Inequality and Poverty: Some Basic Considerations

Areas of Intervention

Developing countries that aim to reduce poverty and excessive inequalities in their distribution of income need to know how best to achieve their aim. What kinds of economic and other policies might governments in developing countries adopt to reduce poverty and inequality while maintaining or even accelerating economic growth rates? As we are concerned here with moderating the size distribution of incomes in general and raising the income levels of people living in poverty, it is important to understand the various determinants of the distribution of income in an economy and see in what ways government intervention can alter or modify their effect. The main focus of this section is on the relationship between income inequality and poverty. We examine the effects of policies and programs involving nonincome aspects of poverty in the subsequent chapters in Part Two—particularly with respect to health, nutrition, and education in Chapter 8.

We can identify four broad areas of possible government policy intervention, which correspond to the following four major elements in the determination of a developing economy's distribution of income.

1. *Altering the functional distribution*—the returns to labor, land, and capital as determined by factor prices, utilization levels, and the consequent shares of national income that accrue to the owners of each factor.
2. *Mitigating the size distribution*—the functional income distribution of an economy translated into a size distribution by knowledge of how ownership and control over productive assets and labor skills are concentrated and distributed throughout the population. The distribution of these asset holdings and skill endowments ultimately determines the distribution of personal income.
3. *Moderating (reducing) the size distribution at the upper levels* through progressive taxation of personal income and wealth. Such taxation increases government

revenues that decrease the share of disposable income of the very rich—revenues that can, with good policies, be invested in human capital and rural and other lagging infrastructure needs, thereby promoting inclusive growth. (An individual or family's **disposable income** is the actual amount available for expenditure on goods and services and for saving.)

Disposable income The income that is available to households for spending and saving after personal income taxes have been deducted.

4. *Moderating (increasing) the size distribution at the lower levels* through public expenditures of tax revenues to raise the incomes of the poor either directly (e.g., by conditional or unconditional cash transfers) or indirectly (e.g., through public employment creation such as local infrastructure projects or the provision of primary education and health care). Such public policies raise the real income levels of the poor above what their personal income levels would otherwise be, and, as will become clear in later chapters, can do so sustainably when they build the capabilities and assets of people living in poverty.

Altering the Functional Distribution of Income through Relative Factor Prices

Altering the functional distribution is a traditional economic approach. It is argued that as a result of institutional constraints and faulty government policies, the relative price of labor in the formal, modern, urban sector is higher than what would be determined by the free interplay of the forces of supply and demand. For example, the power of trade unions to raise minimum wages to artificially high levels (higher than those that would result from supply and demand) even in the face of widespread unemployment is often cited as an example of the "distorted" price of labor. From this it is argued that measures designed to reduce the price of labor relative to capital (e.g., through market-determined wages in the public sector or public wage subsidies to employers) will cause employers to substitute labor for capital in their production activities. Such factor substitution increases the overall level of employment and ultimately raises the incomes of the poor, who have been excluded from modern-sector employment and typically possess only their labor services. Put differently, artificially increased modern-sector wages reduce the rate of modern-sector enlargement growth, thus harming the poor. (For details of this analysis, see Appendix 5.1.)

However, in recent years, some scholars and practitioners, particularly from the developing world, argue that the impact of minimum wages on poverty is more nuanced in theory and practice, particularly when the possibility of income sharing among the poor is accounted for. In India, the Self-Employed Women's Association argues that minimum wages have beneficial effects even on informal-sector workers. And research by Darryl McLeod and Nora Lustig concludes that higher minimum wages are correlated with reductions in poverty.[42] Thus, actual impacts may vary, depending on local circumstances. These qualifications are particularly relevant for relatively low-skill and informal activities, such as garment stitching, beedi rolling, and incense rolling, in which workers have commonly held very low bargaining power, often due to monopsony, if not extramarket forces.

In addition, often the price of capital equipment is "institutionally" set at artificially low levels (below what supply and demand would dictate)

through various public policies such as investment incentives, tax allowances, subsidized interest rates, overvalued exchange rates, and low tariffs on capital goods imports such as tractors and automated equipment relative to tariffs set on consumer goods. If these special privileges and capital subsidies were removed so that the price of capital would rise to its true "scarcity" level, producers would have a further incentive to increase their utilization of the abundant supply of labor and lower their uses of scarce capital. Moreover, owners of capital (both physical and financial) would not receive the artificially high economic returns they now enjoy.

Because factor prices are assumed to function as the ultimate signals and incentives in any economy, correcting these prices (i.e., lowering the relative price of labor and raising the relative price of capital) would, in general, not only increase productivity and efficiency but also reduce inequality by providing more wage-paying jobs for currently unemployed or underemployed unskilled and semiskilled workers. It would also lower the artificially high incomes of owners of capital. Removal of such *factor-price distortions* would therefore go a long way toward combining more growth, efficiently generated, with higher employment, less poverty, and greater equality (a more detailed analysis is presented in Appendix 5.1).

We may conclude that there is much merit to the traditional factor-price distortion argument and that correcting prices should contribute to a reduction in poverty and an improved distribution of income. How much it actually contributes will depend on the degree to which firms and farms switch to more labor-intensive production methods as the relative price of labor falls and the relative price of capital rises. These are important empirical questions, the answers to which will vary from country to country. Moreover, recent research would suggest that a close study of local conditions is needed before concluding that all minimum wages cause increases in poverty in all circumstances.

Modifying the Size Distribution through Increasing Assets of the Poor

Given correct resource prices and utilization levels for each type of productive factor (labor, land, and capital), we can arrive at estimates for the total earnings of each asset. But to translate this functional income into personal income, we need to know the distribution and ownership concentration of these assets among and within various segments of the population. Here we come to what is probably the most important fact about the determination of income distribution within an economy: The ultimate cause of the unequal distribution of personal incomes in most developing countries is the unequal and highly concentrated patterns of **asset ownership** (wealth) in these countries. The principal reason why 20% of their population often receives over 50% of the national income (see Table 5.2) is that this 20% probably owns and controls well over 90% of the productive and financial resources, especially physical capital and land but also financial capital (stocks and bonds) and human capital in the form of better education and health. Correcting factor prices is certainly not sufficient to reduce income inequalities substantially or to eliminate widespread poverty where physical and financial asset ownership—and education—are highly concentrated.

Asset ownership The ownership of land, physical capital (factories, buildings, machinery, etc.), human capital, and financial resources that generate income for owners.

It follows that the second and perhaps more important line of policy to reduce poverty and inequality is to focus directly on reducing the concentrated control of assets, the unequal distribution of power, and the unequal access to educational and income-earning opportunities that characterize many developing countries. A classic case of such **redistribution policies** as they relate to the rural poor, who comprise 70% to 80% of the target poverty group, is **land reform**. The basic purpose of land reform is to transform tenant cultivators into smallholders who will then have an incentive to raise production and improve their incomes. But as we explain in Chapter 9, land reform may be a weak instrument of income redistribution if other institutional and price distortions in the economic system prevent small farm holders from securing access to much needed critical inputs such as credit, fertilizers, seeds, marketing facilities, and agricultural education. Similar reforms in urban areas could include the provision of commercial credit at affordable rates (rather than through traditional, high-interest moneylenders) to small entrepreneurs (microcredit—for details, see Chapter 15 and the case study on the Grameen Bank at the end of that chapter) so that they can expand their business and provide more jobs to local workers.

Redistribution policies Policies geared to reducing income inequality and expanding economic opportunities in order to promote development, including income tax policies, rural development policies, and publicly financed services.

Land reform A deliberate attempt to reorganize and transform existing agrarian systems with the intention of improving the distribution of agricultural incomes and thus fostering rural development.

In addition to the redistribution of existing productive assets, dynamic redistribution policies could be gradually pursued. For example, governments at least in developing countries that are growing could facilitate the transfer of a certain proportion of annual savings and investments to low-income groups so as to bring about a more gradual and perhaps politically more acceptable redistribution of additional assets as they accumulate over time. This is what is often meant by the expression "redistribution from growth." Whether such a gradual redistribution from growth is any more possible than a redistribution of existing assets is a moot point, especially in the context of very unequal power structures. But some form of asset redistribution, whether static or dynamic, seems to be a necessary condition for any significant reduction of poverty and inequality in most developing countries.

Human capital in the form of education and skills is another example of the unequal distribution of productive asset ownership. Public policy should therefore promote wider access to educational opportunities (for girls as well as boys) as a means of increasing income-earning potential for more people. But as in the case of land reform, the mere provision of greater access to additional education is no guarantee that the poor will be better off unless complementary policies—for example, the provision of more productive employment opportunities for the educated—are adopted to capitalize on this increased human capital. The relationship among education, employment, and development is discussed further in Chapter 8.

People living in poverty tend to have common problems, but the prevalent forms of deprivation and social exclusion can differ considerably even across regions within a country. Policymakers need to have a strong knowledge base. Essential to the process is a means to find out and utilize what the poor know about their own conditions of poverty. Practitioners stress that the more that people living in poverty are engaged in setting the agenda, the more effective programs to increase their assets and capabilities tend to be. But attention must be given to different segments of the local poor communities, as different priorities are often found between men and women, between ethnic groups, and between castes.

Progressive Income and Wealth Taxes

Progressive income tax A tax whose rate increases with increasing personal incomes.

Any national policy attempting to improve the living standards of the bottom 40% must secure sufficient financial resources to transform paper plans into program realities. The major source of such development finance is the direct and progressive taxation of both income and wealth. Direct **progressive income taxes** focus on personal and corporate incomes, with the rich required to pay a progressively larger percentage of their total income in taxes than the poor. Taxation on wealth (the stock of accumulated assets and income) typically involves personal and corporate property taxes but may also include progressive inheritance taxes. In either case, the burden of the tax is designed to fall most heavily on the upper-income groups.

Regressive tax A tax structure in which the ratio of taxes to income tends to decrease as income increases.

Indirect taxes Taxes levied on goods ultimately purchased by consumers, including customs duties (tariffs), excise duties, sales taxes, and export duties.

In reality, in many developing countries (and some developed countries), the gap between what is supposed to be a progressive tax structure and what different income groups actually pay can be substantial. Progressive tax structures on paper often turn out to be **regressive taxes** in practice, in that the lower- and middle-income groups often end up paying a proportionally larger share of their incomes in taxes than the upper-income groups. The reasons for this are simple. The poor are often taxed at the source of their incomes or expenditures (by withholding taxes from wages, general poll taxes, or **indirect taxes** levied on the retail purchase of goods such as cigarettes and beer). By contrast, the rich derive by far the largest part of their incomes from the return on physical and financial assets, which often go unreported. They often also have the power and ability to avoid paying taxes without fear of government reprisal. Policies to enforce progressive rates of direct taxation on income and wealth, especially at the highest levels, are what are most needed in this area of redistribution activity. (See Chapter 15 for a further discussion of taxation for development.)

Direct Transfer Payments and the Public Provision of Goods and Services

Public consumption All current expenditures for purchases of goods and services by all levels of government, including capital expenditures on national defense and security.

The direct provision of tax-financed **public consumption** goods and services to the very poor is another potentially important instrument of a comprehensive policy designed to eradicate poverty. Examples include public health projects in rural villages and urban fringe areas, school lunches and preschool nutritional supplementation programs, and the provision of clean water and electrification to remote rural areas. Direct money transfers and subsidized food programs for the urban and rural poor, as well as direct government policies to keep the prices of essential foodstuffs low, represent additional forms of public consumption **subsidies**.

Subsidy A payment by the government to producers or distributors in an industry to prevent the decline of that industry, to reduce the prices of its products, or to encourage hiring.

Direct transfers and subsidies can be highly effective, but they need to be designed carefully. Four significant problems require attention. First, when resources for attacking poverty are limited—as they always are—they need to be directed to people who are genuinely poor. Second, it is important that beneficiaries not become unduly dependent on the poverty program; in particular, we do not want to give the poor less incentive to build the assets, such as education, that can enable them to stay out of poverty. But a "safety net" can also be valuable to encourage the poor to accept a more entrepreneurial attitude toward their microenterprises. This is much more possible when the poor do not fear that their

children will suffer terrible consequences if their small businesses fail. Third, we do not want to divert people who are productively engaged in alternative economic activities to participate in the poverty program instead. Finally, poverty policies are often limited by resentment from the nonpoor, including those who are working hard but are not very far above the poverty line themselves.

When a subsidy of goods consumed by the poor is planned, it should be targeted to the geographic areas where the poor are found and should emphasize goods that nonpoor people do not consume. This helps conserve resources for the program and minimizes efforts by nonpoor people to benefit from the program. For example, nutritional supplements can be provided for any woman who brings her baby to the neighborhood poverty program center located in villages and neighborhoods with a high incidence of absolute poverty. Although more affluent mothers could use the program, few would risk the stigma of venturing into the poorer villages and neighborhoods, let alone the center itself. The nutritional supplements help poor mothers and their small children stay healthy and thus help break the cycle of poverty.

In addition, it may be useful to impose a work requirement before food aid is provided. This is done in the well-known Bangladesh Food for Work Program and in the Maharashtra Employment Guarantee Scheme in India. More recently, the government of India has introduced a nationwide program to guarantee 100 days of employment to at least one family member each year; early reports suggest that the program has provided substantial benefits. In programs such as these, the poor are put to work building infrastructure, such as roads from outlying areas (where the poor live) to market towns, that will ultimately benefit the poor and others in the region. Although the administrative costs are generally higher and the skills of the workers significantly lower than would be the case with a commercially procured construction contract, in many cases these valuable infrastructure projects would never be tackled at all in the absence of the program. The high work requirement and very modest payment discourage the nonpoor from participating, thus conserving resources. This characteristic is known as the "screening" function of **workfare programs**. These requirements also help preserve the program's political sustainability: When people see that the poor are getting "a hand up rather than a handout," the programs tend to attract wider public support.

Workfare program A poverty alleviation program that requires program beneficiaries to work in exchange for benefits, as in a food-for-work program.

In sum, we can say that workfare, such as the Food for Work Program, represents a better policy than welfare or direct handouts when the following criteria are met:

- The program does not reduce or seriously undermine incentives for the poor to acquire human capital and other assets.
- There are greater *net* benefits of the work output of the program.
- It is harder to screen the poor without the workfare requirement.
- There is lower opportunity cost of time for poor workers (so the economy loses little output when they join the workfare program).
- There is higher opportunity cost of time for nonpoor workers (so they won't avail themselves of the benefits).

- The fraction of the population living in poverty is smaller (so the extra costs of a universal welfare program would be high).
- There is less social stigma attached to participating in a workfare program, so the poor do not suffer undue humiliation and are less deterred from seeking the help that their families need (otherwise, a discreet welfare transfer may be preferable to a highly visible workfare program).[43]

The poor often have low bargaining power in their communities, and while it is difficult politically to increase this power, well-designed programs can accomplish this indirectly by providing improved "outside options" such as guaranteed public employment programs when they are needed.

We will be continuing our examination of policies for poverty reduction throughout the remainder of this text. Appropriate agricultural development policies represent a crucial strategy for attacking poverty because such a high fraction of the poor are located in rural areas and engaged in agricultural pursuits. Strategies for agricultural development are examined in Chapter 9. In addition, the poor in urban as well as rural areas suffer from degraded environmental conditions, which lower opportunities for economic growth and also worsen the health of the poor; these problems are examined in Chapter 10.

Another set of viable policies involve targeted poverty programs to increase the capabilities and human and social capital of the poor. An important example centers on helping the poor develop their microenterprises, on which a large fraction of the nonagricultural poor depend for their survival. It has been found that credit is the binding constraint for many of these tiny firms. By building up the working capital and other assets of microenterprises, the poor can improve their productivity and incomes. The microfinance strategy for accomplishing this goal, as exemplified by the Grameen Bank of Bangladesh, is examined in Chapter 15. In addition, relatively new approaches to attacking poverty focus on an integrated approach to achieving higher incomes together with improved education, health, and nutrition among the poor, notably, conditional cash transfer (CCT) programs that transfer incomes to poor families conditional on behaviors such as keeping their children in school; these approaches are considered in Chapter 8 and its case study. Finally, strategies to assist the development of the urban informal sector are examined in Chapter 7.

5.7 Summary and Conclusions: The Need for a Package of Policies

To summarize our discussion of alternative policy approaches to the problems of poverty and inequality in development, the need is not for one or two isolated policies but for a "package" of complementary and supportive policies, including the following four basic elements.[44]

1. A policy or set of policies designed to correct factor price distortions (underpricing capital or overpricing modern-sector skilled wages) so as to ensure that market or institutionally established prices provide accurate signals and incentives to both producers and resource suppliers. Correcting distorted prices should contribute to greater productive efficiency, more employment,

and less poverty. The promotion of indigenous technological research and development of efficient, labor-intensive methods of production may also be valuable. (For a further analysis of factor price distortions, see Appendix 5.1.)

2. A policy or set of policies designed to bring about far-reaching structural changes in the distribution of assets, power, and access to education and associated income-earning (employment) opportunities. Such policies go beyond the realm of markets and touch on the whole social, institutional, cultural, and political fabric of the developing world. But such fundamental structural changes and substantive asset redistributions, whether immediately achieved (e.g., through public-sector interventions) or gradually introduced over time (through redistribution from growth), will increase the chances of improving significantly the living conditions of the masses of rural and urban poor.
3. A policy or set of policies designed to modify the size distribution of income at the upper levels through the enforcement of legislated progressive taxation on incomes and wealth; and at the same time, providing the poor with direct transfer payments and the expanded provision of publicly provided consumption goods and services, including workfare programs. The net effect is to create a social "safety net" for people who may be bypassed by the development process.
4. A set of targeted policies to directly improve the well-being of the poor and their communities, which goes beyond safety net schemes, to offer programs that build capabilities and human and social capital of the poor, such as microfinance, health, education, agricultural development, environmental sustainability, and community development and empowerment programs, as described throughout this text. These can be carried out either by government or by nongovernmental organizations through local and international support.

While providing a focus on ending extreme poverty and mitigating harmful inequality, such policies can be designed to encourage and accelerate inclusive economic growth targeted at the poor, while keeping in mind the inherently multidimensional nature of poverty. Key examples include growth-supporting investments in education, nutrition, health, and infrastructure that raise the incomes of those in the bottom deciles of the income distribution. Chapters 2 through 4 considered the sources of economic growth and basic policies to identify constraints and maintain growth that benefit people living in poverty. Additional supporting trade, macro, and financial policies are examined in more detail in Chapters 13 through 15. But when it is not inclusive, growth by itself is insufficient to eliminate extreme poverty, at least in any time frame that a nation—let alone people living in poverty—will find acceptable. So encouragement of inclusive growth goes hand in hand with active policies and programs to reduce poverty and to prevent nonpoor people from falling into poverty.

Though the task of ending extreme poverty will be difficult, it is possible, if we can only muster the will. As noted by James Speth, the executive director of the United Nations Development Programme, "Poverty is no longer inevitable. The world has the material and natural resources, the know-how and the people to make a poverty-free world a reality in less than a generation. This is not woolly idealism but a practical and achieveable goal."[45]