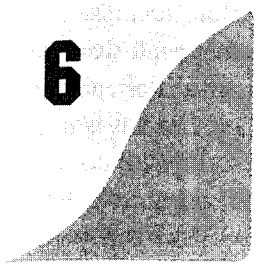


Inequality and Poverty

Bangladesh is one of the world's most heavily populated low-income nations. In 2010, per capita income among Bangladesh's 164 million people was $1,486 (US$, PPP). On a daily basis, this amounts to a bit more than $4 per person per day, which would permit a meager standard of living at best. But $4 per day refers only to the average, the income level that would prevail if all of GDP was available for consumption and then was divided equally among the entire population, which, of course, it is not. What income level is earned by those who fall below the average? How much do the poorest Bangladeshis depend on for their survival? Evidence from the World Bank suggests that 50 percent of Bangladeshis survive on $1.25 a day or less, the standard international definition for absolute poverty.[1]

The most recent estimates for global poverty are for 2005, although projections have been made for more recent years. In 2005, 1.4 billion people, or more than one out of every five people, were estimated to live below the $1.25 a day poverty line; 2.6 billion people, about half the population of the developing world in 2005, survived on less than $2 a day. For most readers of this book, who are enrolled in a college or

[1]The World Bank's international poverty line originally referred to $1 a day, in 1985 US$ (PPP). It has been revised several times. The most recent estimates identify two poverty lines: $1.25 a day in 2005 US$ (PPP) is the mean of the national poverty lines for 15 of the world's poorest countries and is considered a measure of extreme poverty; $2.00 a day is the mean national poverty line among all developing countries. The selection of these poverty lines is discussed in more detail later in the chapter. Global poverty estimates refer to 2005 and are from S. Chen and M. Ravallion, "The Developing World Is Poorer Than We Thought, but No Less Successful in the Fight Against Poverty," *Quarterly Journal of Economics* 125, no. 4 (2010). Estimates for Bangladesh and other countries referred to in this chapter are from World Bank, "World Development Indicators," http://databank.worldbank.org unless otherwise indicated.

university, the idea of living on $1 to $2 a day is close to inconceivable. But these are the circumstances facing tens of millions of Bangladeshis and billions of people worldwide.

The major explanation for the degree of absolute poverty in Bangladesh and other low income nations is the low level of total production per capita. But this is not the only factor. Mexico is an upper-middle-income nation with a 2010 GDP per capita income of US$15,224 (PPP), more than 10 times the level in Bangladesh. If GDP were distributed equally in Mexico, each Mexican would have about $42 per day. But income is not equally shared in Mexico, or in Bangladesh, or for that matter, in any other country. The richest 20 percent of Mexicans receive over 50 percent of total household income, almost *15 times* as much as the poorest 20 percent who receive only 3.5 percent of total income. The distribution of income in Mexico results in over 3.5 million Mexicans (about 3.4 percent of the population in 2008) living below the $1.25 a day poverty line and 8.1 percent living below $2 a day.

Raising people out of poverty requires economic growth. Increases in GDP per capita typically benefit those below the poverty line as well as those who live near or considerably above it. Without sustained economic growth, the most Bangladesh could achieve is the low level of income that $4 a day permits. But the distribution of national income plays a vital role, too. Inequality affects the amount of poverty generated by a given level of income. It may affect growth just as growth may affect levels of inequality, and inequality *itself* is something people care about, independent of its effects on poverty and growth.

If both economic growth and distribution affect poverty levels, what does this suggest about policy? Toward the end of this chapter, we consider potential elements of a pro-poor development strategy. These elements include encouraging more rapid economic growth, improving opportunities for the poor via investments in basic education and healthcare, and designing social safety nets and other programs for especially vulnerable groups.

MEASURING INEQUALITY

Economists often are interested in the distribution of *income* among households within a nation. But these are not the only dimensions of inequality we might want to investigate. Instead of income, development economists often look at the distribution of household *consumption*, usually measured by household expenditures, whether in-kind or in money terms. In poor countries income can be hard to measure, especially for subsistence farm households who consume rather than market most of what they produce. Consumption also may be a more reliable indicator of welfare than is income, in part because consumption tends not to fluctuate as much as income from one period to the next.

One might also be interested in the distribution of *wealth*, which always is more unequal than the distribution of either income or consumption. Distributions of

assets, whether of land or education, are useful in understanding the opportunities individuals have to be productive and generate household income. The distribution of income depends on ownership of factors of production (including the value of the labor services that one "owns") and the role each factor plays in the production process. Ownership of land and capital often is highly concentrated, so anything that enhances the relative returns to these factors makes the distribution of income more unequal. Conversely, relatively higher wages for unskilled labor, the most widely distributed factor of production in developing nations, tend to lead to a more equal distribution.

In addition to deciding whether to look at the distribution of income, consumption, or wealth *within* one nation, one might want to look at how each is distributed *among* nations. We assess the level of global inequality at the end of the chapter. One can also look within the household at patterns of intrahousehold inequality, which are critical for understanding gender issues and the welfare of children.

No matter what dimension of distribution one is interested in, one needs a set of analytical tools for describing and understanding distributional outcomes. The simplest way of depicting any distribution is to display its **frequency distribution**, which tells us how many (or what percent of) families or individuals receive different amounts of income. Figure 6-1a presents the frequency distribution of household consumption per capita for Bangladesh. This distribution is based on a survey of about 7,000 Bangladeshi families, selected to represent the over 24 million households in Bangladesh. Surveyed households responded to detailed questionnaires about their sources of income and consumption of a wide variety of goods. Researchers used this information to derive an estimate of each household's per capita consumption.

Figure 6-1a tells us the percentage of individuals with different levels of annual consumption starting from the lowest reported level and rising in increments of 650 taka, the Bangladeshi currency. Almost 1 million people, less than 1 percent of Bangladesh's population, reported the lowest annual consumption expenditures in the survey, under 3,250 taka per year (less than $270, PPP); 8.4 percent (the highest bar in the figure) had per capita consumption of between 5,850 and 6,500 taka (around $500, PPP); and less than 0.5 percent had the top amounts reported in Figure 6-1a, over 22,750 taka (almost $1,900, PPP). There are households with even higher consumption in Bangladesh, but Figure 6-1a reports the distribution for only 95 percent of individuals ranked by per capita consumption. Had the top 5 percent been included in the figure, the tail of the distribution would continue to extend much farther to the right of the diagram.[2]

[2]Household income and expenditures surveys, like the one for Bangladesh, often fail to capture two groups of households. Both the poorest and richest families are likely to be underrepresented. The poorest families, including those who are homeless and live in places such as railway stations or river gullies, tend not to be adequately enumerated. Similarly, the most affluent, few in number, are unlikely to be part of the statistical sample. There also is a tendency for more affluent households not to respond to such surveys or to underreport their incomes. Thus even in the best of surveys, the degree of inequality may be underestimated.

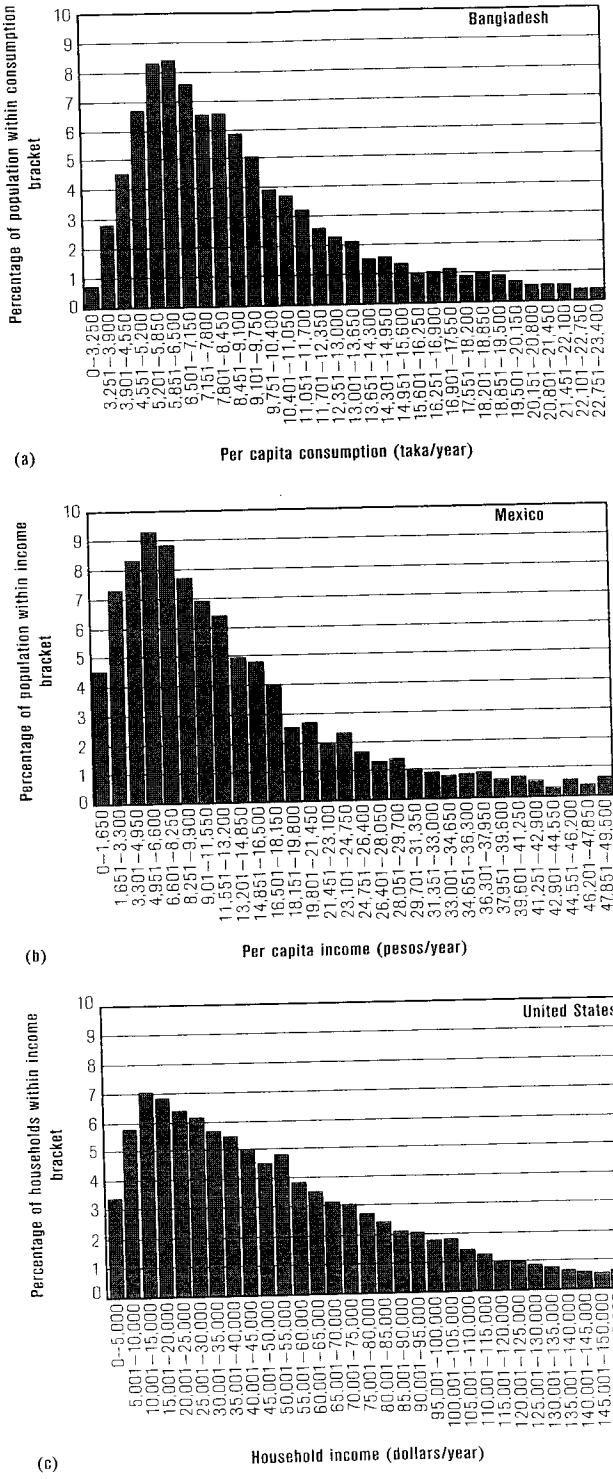


FIGURE 6-1 The Distribution of Income: Bangladesh, Mexico, and the United States, 2000s

Sources: Collaboration with Claudio E. Montenegro, World Bank; *U.S. Current Population Survey* (March 2004).

Take a look at the shape of the frequency distribution for Bangladesh in Figure 6-1a. The distribution is not rectangular, with every level of consumption represented by the same percentage of individuals, nor was it expected to be. The height of the bars, each bar representing a different consumption level, initially rises and then grows progressively shorter. If distributions were very equal, there would be a small number of very tall bars in the middle of the diagram, indicating that just about everyone had nearly the same level of consumption. The distribution also is not a normal distribution, the so-called bell curve, with which you may be familiar from courses in statistics. If consumption or income were distributed normally, there would be an equal number of households on either side of the mean and symmetric tails to the distribution suggesting equal percentages of the population at both low and high consumption and incomes. IQs are distributed normally, but consumption and income are not. The distribution instead is described as lognormal, meaning that if you took the logarithms of household consumption or incomes and redrew the frequency distribution it would approximate the more familiar bell curve.

The lognormal distribution captures what you already know about incomes. In virtually all societies there are a relatively small number of rich households (captured in the long, flat tail to the right) and a much larger number of lower-income families who make up "the hump" of the distribution, which is located at the lower end of the income range. This particular shape of the distribution of income is not unique to Bangladesh. Similar distributional outcomes characterize low-, middle-, and high-income economies. Figure 6-1b-c illustrate this point. These income distributions are based on micro-level household surveys for Mexico and the United States. Note that all three nations exhibit similar lognormal distributions, each with its own long, flat tail to the right.

Bangladesh, Mexico, and the United States all have similarly shaped frequency distributions, but they are not identical. This means that the degree of inequality in the three nations varies. To get a sense of the differences we need to rearrange the data contained in the frequency distributions; these distributions have complex shapes and are difficult to compare across nations or within nations over time. Calculating the **size distribution** provides an easier way of identifying the degree of inequality present in the underlying distribution.

Size distributions tell us the share of total consumption or income received by different groups of households, ranked according to their consumption or income level. One can rank households or individuals by deciles or even percentiles, but the convention is to report on quintiles, ranking households from the poorest 20 percent, to the next 20 percent, all the way to the richest 20 percent of households. In the case of Bangladesh, each quintile represents about 30 million people. Summing all individual consumption expenditures in each quintile and dividing by the country's total consumption yields each quintile's share.

Table 6-1 contains World Bank estimates of the size distribution of consumption for Bangladesh and household income for Mexico and the United States. This way of

TABLE 6-1 Size Distributions of Consumption or Income within Quintiles in Bangladesh, Mexico, and the United States, 2000s

	SHARE OF TOTAL CONSUMPTION OR INCOME		
QUINTILE	BANGLADESH	MEXICO	UNITED STATES
Bottom 20%	9.0	3.5	3.4
Second 20%	12.5	8.2	8.7
Third 20%	16.0	13.3	14.8
Fourth 20%	21.5	21.2	23.4
Top 20%	41.0	53.7	49.8

Sources: Collaboration with Claudio E. Montenegro, World Bank; *U.S. Current Population Survey* (March 2004).

presenting the data makes it clear that, of the three nations, Bangladesh has the relatively most equal distribution because the quintile shares are closer to one another than is the case for either Mexico or the United States. (If the distribution were completely equal, each quintile would receive 20 percent of the total.) In Bangladesh, the top 20 percent receive 41 percent of total consumption, about 4.5 times the amount received by the poorest 20 percent. In Mexico and the United States, the ratio is much larger, roughly 15:1.[3] Some of these differences are due to what precisely is being measured—consumption or income and whether on a per capita or household basis—but much of the difference is due to the underlying distribution within each nation.

The size distribution provides a means for introducing some other techniques commonly used to measure inequality, including some that reduce the entire distribution to a single number. Data from the size distribution can be used to draw a **Lorenz curve** (Figure 6-2), named after Max Lorenz, a statistician. Income recipients are arrayed from lowest to highest income along the horizontal axis. The curve itself shows the share of total income received by any cumulative percentage of recipients. Its shape indicates the degree of inequality in the income distribution. By definition, the curve must touch the 45-degree line at both the lower-left corner (0 percent of recipients must receive 0 percent of income) and the upper-right corner (100 percent of recipients must receive 100 percent of income). If everyone had the same income, the Lorenz curve would lie along the 45-degree line (perfect equality). If only one household received income and all other households had none, the curve

[3]Unlike most low- and middle-income nations, the United States has a comprehensive system of taxation of household incomes and government transfer payments (such as Social Security). The data reported here are for money incomes before taxes and after cash transfer payments. Noncash transfers, such as food stamps and Medicare, are not accounted for. Once taxes and all government transfer payments are included, the distribution becomes somewhat more equal. The ratio of the shares of the top 20 to the bottom 20 falls to closer to 10:1 than the 15:1 reported in Table 6-1.

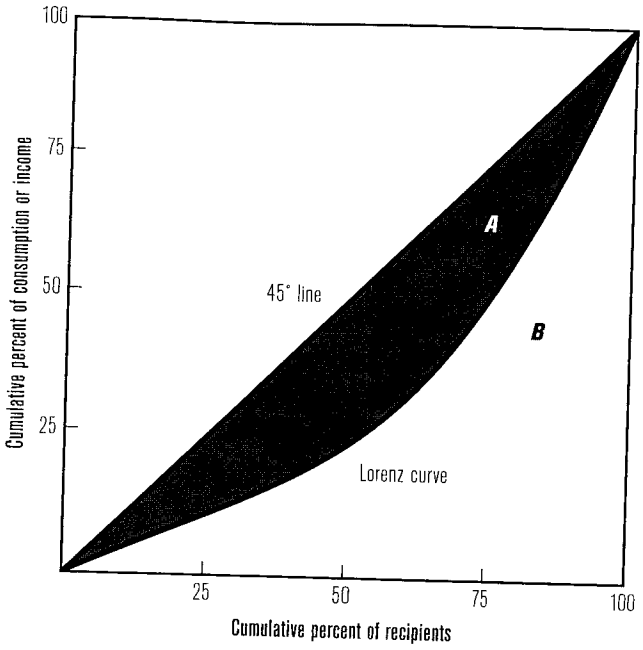


FIGURE 6-2 Lorenz Curve

would trace the bottom and right-hand borders of the diagram (perfect inequality). In all actual cases the Lorenz curve lies somewhere in between. The farther the Lorenz curve bends away from the 45-degree line of perfect equality (the larger the shaded area, *A*) the greater the inequality. When comparing Lorenz curves, either for the same country at different points of time or for different countries, it is possible for the separate curves to intersect. When this happens it is ambiguous if inequality has increased or decreased over time (or if one country has more inequality than the other).[4]

Single numbers can also be used to describe the distribution of income. One commonly used statistic is the ratio of the income share of the top 20 percent of households to the share received by the bottom 20 or 40 percent. The most frequently used statistic, the **Gini coefficient** (named after statistician Corrado Gini,), can be derived from the Lorenz curve. This ratio is understood most easily as the value of area *A* divided by area *A* + *B* in Figure 6-2.[5] The larger the share of the area between

[4]To see the reason for this ambiguity, draw two Lorenz curves and label the point of intersection *X*. Below point *X*, there is relatively more equality along the Lorenz curve closer to the 45-degree line; but above point *X*, there is relatively more equality along the other Lorenz curve. Because both Lorenz curves have sections of greater equality, there is no way to decide, overall, if one represents a more equal distribution than the other.

[5]The Gini coefficient can be calculated using a relatively complex formula based on the absolute income differences across all observations in a population, which are then normalized by both the size and mean income of the population.

the 45-degree line and the Lorenz curve, the higher the value of the Gini coefficient. The theoretical range of the Gini coefficient is from 0 (perfect equality) to 1 (perfect inequality). In practice, values measured in national income distributions have a much narrower range, ordinarily from about 0.25 to 0.65.

Collapsing all the information contained in the frequency distribution into a single number inevitably results in some loss of information about the underlying distribution. Argentina and Kenya both report similar Gini coefficients of around 0.48, but the underlying distributions are not identical. Both nations have considerable amounts of inequality, but the lowest quintile received 4.7 percent of income in Kenya, and only 3.6 percent in Argentina. From the perspective of the poor in these countries, a more than 1 percentage point difference in income shares is a significant amount. Another criticism of the Gini coefficient is that it is more sensitive to changes in some parts of the distribution than in others. Despite these shortcomings of the Gini, the desire among researchers to summarize inequality in a single number combined with some other attractive properties of the Gini, including its geometric interpretation using Lorenz curves, have encouraged its widespread use.[6]

PATTERNS OF INEQUALITY

Simon Kuznets, one of the early Nobel Prize winners in economics and a pioneer of empirical work on the processes of economic growth and development, was one of the first economists to investigate patterns of inequality. In his presidential address to the 1954 meeting of the American Economic Association, Kuznets reported on historical data on income shares for England, Germany, and the United States. He then introduced a few data points for the developing world: Ceylon (now Sri Lanka), India, and Puerto Rico. The data were so limited that Kuznets did not include them in a table or figure; he simply listed them in the text.[7] Some 50 years later, researchers are far less constrained. Data on inequality are available for most nations of the world, although for most countries they are updated only once or twice a decade. The quality and comparability of these data also are sometimes a concern: The World Bank, one of the primary compilers of such information, offers more than the usual caveats about data comparability across countries and over time.

Figure 6-3 presents one set of estimates of Gini coefficients of the distribution of household consumption or income for countries by region. What is immediately

[6]There are other single-number measures of inequality in addition to the Gini coefficient and top 20 to bottom 20 or 40 ratios. Discussion of the alternatives and the desirable properties of measures of inequality can be found in Gary Fields, *Distribution and Development: A New Look at the Developing World* (Cambridge: MIT Press, 2001).

[7]Simon Kuznets, "Economic Growth and Income Inequality," *American Economic Review* 45, no. 1 (1955).

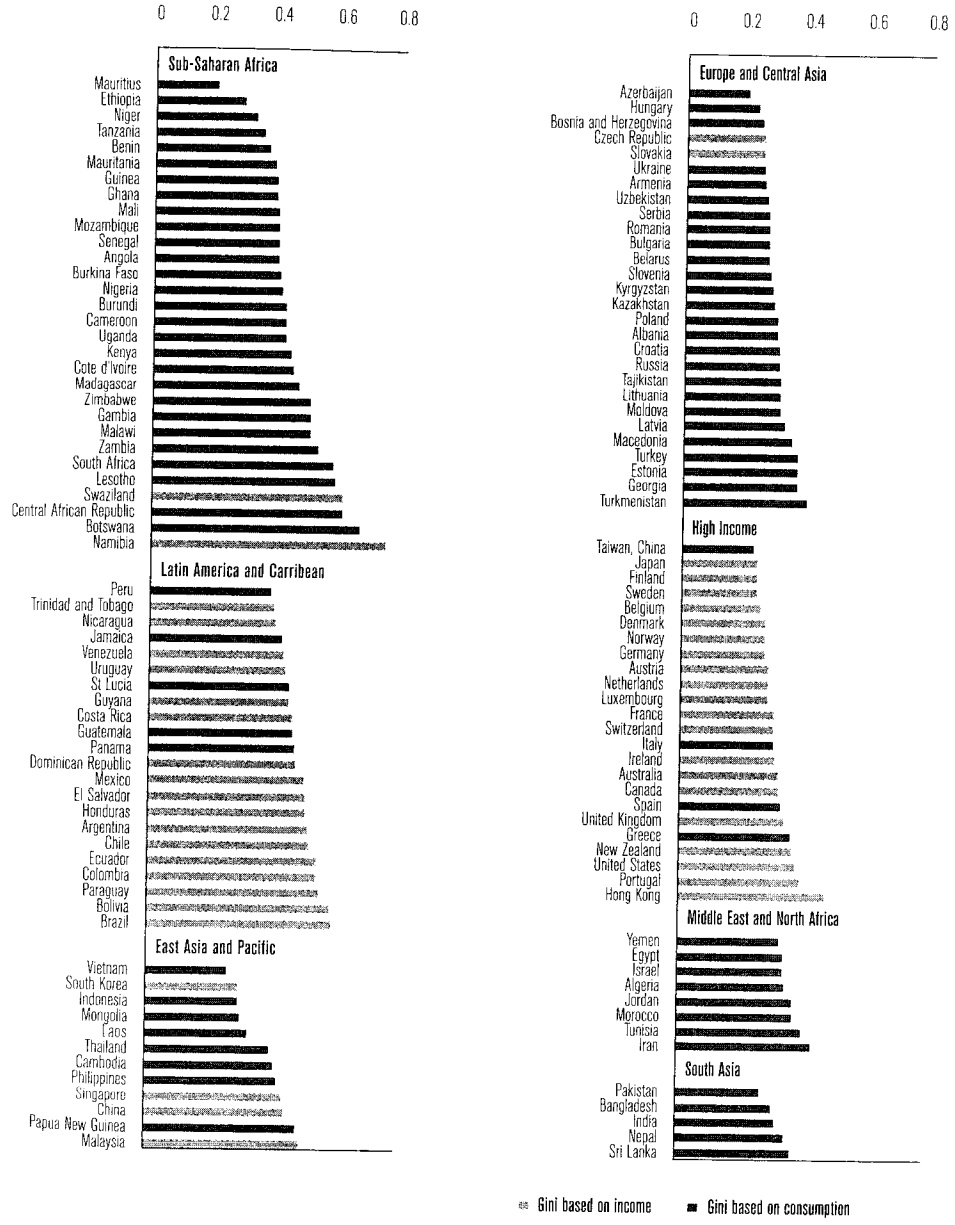


FIGURE 6-3 Gini Coeffiecients by Country and Region

Sources: Figure 2.9 from The International Bank for Reconstruction and Development. The World Bank: *World Development Report*, 2006. Reprinted with permission.

apparent is the variance in inequality both within and across regions. There is evidence of a tendency toward higher inequality, with the Gini coefficient generally above 0.40 and in some cases approaching 0.65, in Latin America and parts of Africa (especially southern Africa). Low inequality is characteristic of the transition economies of eastern Europe and central Asia, many of the high-income economies of the Organisation for Economic Co-Operation and Development

(OECD) economies, and much of South Asia. Nations in East Asia generally range from low to moderate levels of income inequality; the Middle East and North Africa report moderate levels.

What explains these differences? Are they related to specific characteristics of different regions or are regions a proxy for something else—income level, perhaps? One idea with a long history is that economic growth itself may be associated with the degree of inequality. The basic intuition is that growth is an inherently unbalanced process. Some individuals capture the benefits of growth early on, and it takes time for others to benefit and for returns to equalize.

GROWTH AND INEQUALITY

Kuznets was one of the first economists to speculate on the relationship between growth and inequality, suggesting that inequality might first increase as a nation makes the transition from a mostly agricultural economy to an industrial one. The underlying mechanism for this rise in income inequality is the result of differences in the returns to factors of production between agriculture (where they are lower and less dispersed) and industry. When everyone works in agriculture, income is distributed relatively equally, but as industrialization and urbanization progress, inequality rises. As more factors make the transition from farm to factory, inequality may then start to fall. Kuznets readily acknowledged that the basis for this relationship was "perhaps 5 percent empirical information and 95 percent speculation, some of it possibly tainted by wishful thinking."

Other economists offered alternative explanations for an association between growth and inequality. W. Arthur Lewis, a Nobel Prize winner, developed a theoretical model that predicts rising inequality followed by a "turning point," which eventually leads to a decline in inequality. Employing a two-sector model, the modern or industrial sector faces "unlimited supplies" of labor as it is able to draw workers with low or even zero marginal product from agriculture. With wages held down by the elastic supply of workers, industrial growth is accompanied by a rising share of profits. As average incomes rise, labor receives a smaller share of the total, increasing inequality. The turning point is reached when all the surplus labor has been absorbed and the supply of labor becomes more inelastic. Wages and labor's share of income then start to rise and inequality falls.[8]

In Lewis's **surplus labor model**, inequality is not just a necessary effect of economic growth; it is a cause of growth. A distribution of income that favors high-income groups contributes to growth because profit earners save to obtain funds

[8]W. Arthur Lewis, "Economic Development with Unlimited Supplies of Labor," *Manchester School* 22 (1954). The Lewis model is more fully developed in Chapter 16.

for expanding their enterprises. The more income they receive, the more they invest. Their saving and investment increase the economy's productive capacity and thus bring about output growth. Not only does inequality contribute to growth according to Lewis, but attempts to redistribute income prematurely run the risk that economic growth will be slowed. These were powerful conclusions. Could they be maintained in light of the empirical evidence on economic growth and inequality?

The ideas of Kuznets, Lewis, and others about growth and inequality held considerable sway among development economists for several decades. During the 1960s, a period of strong growth in many regions, some economists wondered why growth was not yielding more rapid reductions in poverty. One idea was that the relationship that came to be known as Kuznets inverted-U, or the **Kuznets curve**, might be at work. Twenty years after Kuznets's original paper, researchers were armed with more data on inequality and reexamined the relationship using primarily cross-section analyses of countries, including many developing countries. A key assumption in this approach was that nations at different levels of per capita income could approximate what individual nations might experience over time as they achieved economic growth. Studies using this approach supported the existence of the Kuznets curve.[9] The tendency for inequality to rise and then fall with rising levels of per capita income was maintained as a stylized fact about development until the late 1980s. Subsequent research has overturned this perspective.

Better and more abundant data on income inequality, especially time-series data on individual countries, coupled with more rigorous econometric methods, permitted researchers to identify patterns over time within individual nations. In India, a low-income nation with generally low-income inequality, there is evidence of some decline in inequality from 1950 until the mid-1960s, but at least into the 1990s there was no distinct trend in either direction.[10] Figure 6–4 illustrates the trend in the Gini coefficient since 1980 for Chile and Taiwan. Chile, one of Latin America's most successful economies, has been a middle-income nation throughout this period; Taiwan has gone from middle- to high-income status. Chile's Gini coefficient fluctuates minimally from year to year but exhibits no particular pattern over time, except perhaps for a recent slight downward trend. What is most apparent in Chile's case is the persistence of a relatively high level of inequality. Taiwan also exhibits little fluctuation over time. The most notable feature of Taiwan's

[9]Montek S. Ahluwalia, "Inequality, Poverty and Development," *Journal of Development Economics* 3 (1976).

[10]Michael Bruno, Martin Ravallion, and Lyn Squire, "Equity and Growth in Developing Countries: Old and New Perspectives on the Policy Issues," in Vito Tanzi and Ke-young Chu, eds., *Income Distribution and High-Quality Growth* (Cambridge: MIT Press, 1998).

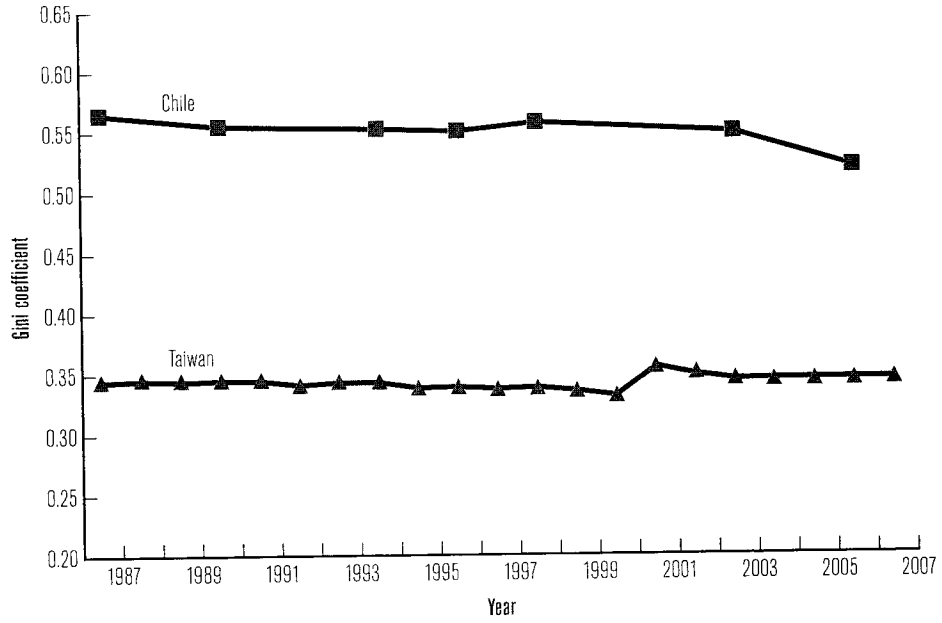


FIGURE 6-4 Trends in Inequality: Gini Coefficients in Chile and Taiwan

Sources: Data for Chile: World Bank, "World Development Indicators," http://databank.worldbank.org. Data for Taiwan: Statistical Bureau of the Republic of China (Taiwan), Report on the Survey of Family Income and Expenditure, "Percentage Share of Disposable Income by Percentile Groups of Income Recipients and Measures of Income Distribution," 2007, link available at http://eng.stat.gov.tw/ct.asp?xItem=3417&CtNode=1596, accessed June 2009.

experience is the persistence of a very low level of inequality.[11] There is no evidence of any inverted-U for India, Chile, or Taiwan.

One should not generalize from a few cases, so it is important to look at the experience of a larger number of nations. Researchers who have done so find little evidence of a general tendency for income inequality to first rise and then fall with economic growth. It is as common for Gini coefficients to rise as per capita income grows as it is for them to fall.[12] The persistence of a given level of inequality within nations may be the strongest trend. Support for the Kuznets curve in earlier cross-section analysis was driven by the higher inequality of a subset of middle-income nations. Better econometric tests reveal that the inverted-U was driven not by

[11]Taiwan's record of rapid economic growth with low income inequality is somewhat unique. Some transition economies have similarly low or even lower levels of income inequality but none has yet achieved Taiwan's per capita income level. Among rapidly growing economies, China has achieved similar growth rates, although not yet for as many years, but China has done so with significantly higher inequality. The same is true for Malaysia, Thailand, and Singapore. Korea's record on growth and inequality comes closest to Taiwan's.

[12]Klaus Deininger and Lyn Squire, "New Ways of Looking at Old Issues: Inequality and Growth," *Journal of Development Economics* 57 (1998); Martin Ravallion and Shaohua Chen, "What Can New Survey Data Tell Us about Recent Changes in Distribution and Poverty?" *World Bank Economic Review* 11, no. 2 (1997).

economic growth but by the coincidence of Latin America's high levels of inequality and middle-income ranking. Investigation of the Kuznets curve offers a cautionary tale for empirical work on developing nations. Patterns observed across nations may not always provide reliable insight into what ultimately are dynamic processes that occur within nations.[13]

Rejection of the Kuznets curve as an overall tendency does not imply that economic growth has no impact on inequality, nor does it deny that something like the Kuznets curve might occur in some countries. The lack of one general pattern simply confirms the complexity of the process that determines inequality. Research on the Kuznets curve identifies the large role played by country- or region-specific circumstances, which appear far more important in determining distributional outcomes than the level of per capita income. This is an encouraging finding. That all nations do not follow a similar distributional path suggests that there may be greater scope for government policy to influence the distributional outcomes that accompany economic growth.

WHAT ELSE MIGHT CAUSE INEQUALITY?

If inequality is not systematically associated with the level of income, what else accounts for the observed differences across countries and regions shown in Figure 6-3? There is little doubt that history and politics have played an important role. An obvious example is South Africa, which has one of the world's highest levels of income inequality. For decades, the apartheid government excluded blacks and other nonwhite South Africans from owning prime agricultural land, getting a decent education, and living in major urban areas. The legacy of these policies remains today, reflected in South Africa's highly unequal distribution of income. According to the World Bank's country brief on South Africa, the Gini coefficient in 2008 was 0.67—one of the highest in the world.

History and politics also played key roles in other parts of the world. At the end of World War II, the United States administered a land reform in South Korea as part of the dissolution of 50 years of Japanese colonial rule. These reforms redistributed land from Japanese to Korean households, providing millions of Korean families with a key asset from which they could earn a living, resulting in a relatively equal distribution of rural incomes. Low levels of inequality in eastern Europe and central Asia are, in part, the product of years of legislated wages and state ownership of the means of production. Citizens of these countries had limited opportunity to accumulate

[13]Even the experience of the United States now rejects Kuznets's original hypothesis. Income inequality in the United States fell over the four decades after the great Depression. But, after 1975, during a period of continued growth in the U.S. economy, household incomes became increasingly *unequal*, the opposite of the predictions of the Kuznets curve. Economists believe technological change, immigration, increased international trade, and a slowdown in the growth of school attainment are some of the factors that explain this post-1975 shift.

any productive assets other than an education. It is not surprising that, with the turn toward the market, inequality is now rising in many of these countries; in some of them this is happening alongside renewed economic growth.

Some of the high levels of inequality in Latin America may be traced to patterns of land ownership dating back centuries. Not only was the colonial legacy part of this process but the demands of specific crops, including the advantages of plantation-style agriculture, were also a factor. In East Asia, rice cultivation was better suited to family farming and established a basis for higher income equality in this region. Conversely, mineral wealth, whether in diamonds or oil, tends to produce higher inequality. Factor endowments shaped distributional outcomes in the past and continue to do so today.

Resource endowments and the "persistence of the past" play significant roles in shaping a nation's distribution of income, but policy choices made today also affect these outcomes. Government policy influences the accumulation of assets, including education. Policy decisions affect the diffusion of technology and access to markets, which condition productivity growth and the returns to factors of production. Taxes and government spending, including expenditures on social safety nets, directly influence how income is divided. The level of inequality in any nation is the result of complex interactions among history, politics, resource endowments, market forces, and government policies.

WHY INEQUALITY MATTERS

If economic development requires a reduction in the amount of poverty, then the simplest explanation for why income inequality matters is that the degree of inequality plus the level of income determines the extent of poverty. Even without a discussion of how to define poverty (which we will get to shortly), some examples of the relationship between economic growth, income inequality, and poverty should be clear. If an economy grows and inequality remains unchanged, the income of the poor has grown in line with everyone else's. The poorest quintiles have more income, which potentially helps raise some households out of poverty. If per capita income remains unchanged and inequality rises, the poorest quintiles have less income and some households probably have fallen into poverty. These propositions merely express the basic mathematics governing the relationship among poverty, growth, and inequality.

But inequality and growth are not determined independently of one another. There may not be one systematic tendency for how inequality changes as nations grow, but inequality often changes with rising per capita incomes. Similarly, inequality may affect the rate of growth an economy achieves. Do nations with more inequality tend to experience slower growth, thus doubly hurting the well-being of the poor?

Finally, income inequality also matters in its own right. Societies have preferences concerning inequality and may (or may not) wish for their governments to intervene to achieve distributional outcomes.[14]

Just as there has been a long debate over the impact of growth on inequality, there is ongoing debate over how inequality affects economic growth. As discussed previously in this chapter, some early theories of economic development concluded that inequality might raise growth rates. By concentrating income in fewer hands, there might be more savings available to finance investments critical for capital accumulation. But this simple view of distribution and growth fails to capture other channels in which income inequality can be a drag on economic growth. Contemporary discussion of the relationship between inequality and growth explores these channels.

When inequality is high, worthwhile investments may not be undertaken. Poor people may have promising investment opportunities. Buying a farm animal or improving irrigation, investing in a piece of equipment or building a store, or sending a child to school all may yield a good economic return. But the individuals or families may not undertake these investments because they cannot afford them. Credit market imperfections and the inability of the poor to offer lenders collateral lowers the amount of productive investment they engage in and leads to less economic growth. If the economy had a more equal income distribution, more of these productive investments could be financed and pursued.

Another channel that links inequality and growth is the political process. There are numerous "political economy" connections between distribution and growth. Some argue that, when inequality is high, the rich use their wealth to secure outcomes favorable to their interests, influencing everything from government spending (disproportionate amounts spent on public universities, which the children of the rich attend, as compared to primary schools) to trade policy (using tariffs and other forms of trade protection to maintain domestic monopolies). These policies can lead to inefficient outcomes that lower growth rates. Others argue the opposite political response occurs. When inequality is high, populist movements may arise that focus more on redistribution and less on growth, leading, for example, to higher taxes and less investment. High inequality also tends to be associated with more violence, both personal and political, which in turn can reallocate expenditures to less productive activities (more police and private security services) and discourage greater investment.

Given the multitude of connections between inequality and growth, the net effect is an empirical matter. Studies that attempt to sort out the relationship tend to rely on the cross-country growth regressions introduced in Chapter 3. Early studies found statistical support that high initial inequality, especially of landholdings, was

[14]Evidence that people prefer fairness is presented in World Bank, "Equity and Well-Being," *2006 World Development Report: Equity and Development* (Washington, DC: World Bank, 2005.)

associated with slower subsequent growth. But later studies, using larger data sets and different econometric techniques, either found no such effect or even an opposing one.[15] The inconclusive nature of these results is not surprising, given both the complexity and potential circularity of the relationship. Inequality affects growth and growth affects inequality, complicating statistical identification. It also is unlikely that one systematic pattern describes the relationship between inequality and growth for all countries at all times. This does not imply that, in a specific-country context, inequality and growth are unrelated. High inequality may be a constraint on growth, but easing this constraint is always a daunting challenge for policy makers.

MEASURING POVERTY

People sometimes refer to inequality and poverty as if they were the same thing. They are not. Inequality is an important determinant of poverty, but the two concepts are distinct. To see why, consider the following. Assume your lot in life was to fall in the bottom quintile of the income distribution. If you could pick the nation you would live in, would it be one where the bottom 20 percent received 3.4, 3.5, or 9.0 percent of household income? If your answer is the nation where the poorest receive 9.0 percent, you are confusing inequality with poverty. You also probably are forgetting the results presented in Table 6-1. Recall from that table that the share of household income of the poorest quintile in Bangladesh was 9.0 percent; in Mexico, 3.5 percent; and in the United States, only 3.4 percent!

In the United States the bottom 20 percent refers to over 60 million people. Some of these people are destitute but the overwhelming majority is not. Almost all live in a permanent dwelling with electricity, a gas or electric stove, clean water, and indoor plumbing. Most have access to medical care (even if it means an emergency room at a local hospital) and, during childhood, receive a full regimen of vaccinations against many infectious diseases. The likelihood of contracting malaria or dying of a diarrheal disease is remote, although both were common in the United States in its earlier history. For those with children, the probability of an infant dying before its first birthday is low, and that child is likely to receive at least 12 years of education. Those in the bottom quintile in the United States are likely to own a television and a landline or cellular phone and perhaps a car, and have some access to a computer at a public library if not in their own homes.

[15]Two frequently cited papers that reach opposite conclusions relating inequality and growth are Alberto Alesina and Dani Rodrik, "Distributive Politics and Economic Growth," *Quarterly Journal of Economics* 109, no. 2 (1994); and Kristin Forbes, "A Reassessment of the Relationship between Inequality and Growth," *American Economic Review* 90, no. 4 (2000).

The poorest 20 percent are poor relative to most other Americans and may find this demoralizing, but they have a substantially higher material standard of living than the poor in either Bangladesh or Mexico. No one in the bottom quintile in Bangladesh (or in most any quintile) is likely to receive the health or education benefits or the material goods consumed by America's poorest individuals. The 30 million individuals who make up the bottom quintile in Bangladesh are likely to live in the most rudimentary of dwellings, those that can be washed away in a bad storm. Food is often scarce and clean water unavailable. Living with intestinal parasites is a regular occurrence; infectious diseases take a regular toll on young and old and infant deaths are a common event. School enrollment rates are rising, but the educational attainment of poor Bangladeshis, especially females, is well below that of their American counterparts. Consumer goods consist of a few articles of clothing, some cooking utensils and little else. Most of those in the bottom 20 percent have never placed a phone call or clicked on a mouse.

The bottom quintile in the United States receives only 3.4 percent of household income, whereas the bottom quintile in Bangladesh consumes 9.0 percent of total consumption expenditures in Bangladesh. But America's bottom 20 percent commands a much larger amount of *total* income and, therefore, enjoys a higher standard of living even if its relative share is so much less. The Gini coefficient is thus a measure of relative equity; it describes the outcomes for one group relative to other groups but provides no information about absolute standards of living.

POVERTY LINES

Just as a set of analytical tools is needed for describing and understanding distributional outcomes, a similar set of tools is needed to define and measure poverty. We focus mostly on a consumption or income definition of **absolute poverty**, but it is important to recognize that poverty is multidimensional and encompasses deprivations not readily captured by income measures alone. This should be a familiar idea because it parallels the debate over how to define economic development. Both the human development index (HDI) and the millennium development goals (MDGs), discussed in Chapter 2, go well beyond GDP per capita as a measure of well-being and similar approaches are used in defining poverty.

Poverty lines, defined as having a certain amount of taka or pesos or dollars to spend per day, can capture the degree of material deprivation but may not reflect securing basic health and education. A family may have sufficient funds to purchase a minimal basket of food, but if they have no ready access to safe drinking water, food purchases are no guarantee of meeting nutritional needs because waterborne microbes may result in gastrointestinal illness and reduce the absorption of key nutrients. In this critical sense, access to safe drinking water joins money income as a determinant of absolute poverty. The availability of public services, including basic health and education, can also have an impact on poverty status today and the

transmission of poverty across generations, independent of current consumption levels. Another dimension of poverty is vulnerability to adverse shocks. Expenditures in one period may raise a family above the poverty line, but in a subsequent period, natural disasters, economywide downturns, or even the ill health or death of a family's breadwinner can push the family below the poverty line. Families often move in and out of poverty and reducing vulnerability is intrinsic to improving well-being.

Poverty is multidimensional, and it is possible to quantify many of its dimensions.[16] A great deal of attention is paid to quantifying income or consumption poverty. Development economists often use a definition of absolute poverty by which a specific monetary value is defined as a dividing line between the poor and nonpoor. Most nations define their own poverty lines, usually basing the amount on the per capita cost of some minimal consumption basket of food and a few other necessities (Box 6-1). Food dominates these consumption bundles because it may account for two-thirds to three-quarters of poor people's total expenditures. In many low-income nations, poverty lines are based on a standard of obtaining 2000 or more calories per day. While these caloric requirements seem "scientific," the actual poverty line remains a social construct. The food purchased to achieve these calories depends on what individuals actually choose to buy. Expenditures even lower than the poverty line might achieve required calories but hardly anyone would actually purchase such a consumption basket.

Often governments specify more than one poverty line. Because of regional price differences, distinct poverty lines may be applied for urban versus rural areas or, as is the case in Bangladesh, for different regions of the country. Once a poverty line (or lines) is established and expressed in a nation's own currency, that level of consumption or income has to be adjusted on an annual basis to account for changes in the price of the underlying bundle of goods. The goal is to maintain a constant poverty line over time, holding constant the ability to purchase the core consumption basket of food and other necessities.[17] This permits policy makers and researchers to chart the progress a country or region is making in lifting people out of absolute poverty.

[16]Multidimensional indices of poverty have been developed by scholars at the Oxford Poverty & Human Development Initiative (www.ophi.org.uk). With their assistance, the multidimensional poverty index (MPI) was introduced by the UN Development Programme (UNDP) in its 2010 human development report and serves as an alternative to measuring income poverty. The MPI defines someone as poor if he or she experiences deprivation in a number of areas, including education (for example, "if no household member has completed five years of schooling"), health (for example, "if any household member is malnourished"), and standard of living (for example, "if the household has no electricity" or "if the household has a dirt, sand, or dung floor").

[17]Poverty lines also can be expressed in relative terms. In the European Union, poverty is sometimes defined as living below 60 percent of median income. With this definition, the poverty line does not represent the ability to purchase a fixed bundle of goods but changes as median incomes change. Using this approach, absolute poverty declines only if incomes become more equally distributed, not if there is a general increase in per capita incomes.

BOX 6-1 NATIONAL POVERTY LINES IN BANGLADESH, MEXICO, AND THE UNITED STATES

Instead of one official poverty line, Bangladesh has many. Separate poverty lines exist for each of 14 regions to reflect varying costs. Regional lines are further divided into upper and lower levels to capture different intensities of poverty. All poverty lines are based on securing a minimum daily caloric intake of 2,112 calories. The representative bundle of food to obtain these calories was specified in the early 1990s and is made up of 11 items: rice, wheat, pulses, milk, oil, meat, freshwater fish, potatoes, other vegetables, sugar, and fruit. The cost of this bundle is adjusted using a domestic price index. The lower poverty line in each region represents the level of poverty at which a person does not have the resources to meet both food and nonfood requirements and must sacrifice some minimum daily caloric requirement to afford essential nonfood needs. The upper poverty line represents a level of poverty at which a person is able to meet minimum daily food requirements and afford some nonfood expenditures.

Mexico has three official poverty lines that capture a range of conditions of poverty. Within these lines, there is differentiation between rural and urban populations. The lowest poverty line is estimated by calculating the cost of a representative bundle of food, taking into account the differing nutritional requirements of rural versus urban dwellers in terms of daily calories and grams of protein. Falling below this poverty line indicates that a person cannot meet even these minimal daily nutrition requirements. Falling below the second poverty line means the person does not have the resources to meet both daily nutritional requirements and minimum health and educational expenses. The third line indicates that resources are insufficient to pay for all necessary costs of living, including food, education, health, clothing and footwear, housing, and public transportation expenses.

The United States also specifies multiple poverty lines that vary, not by location, but according to household size and age of household members. U.S. poverty lines, like those in Bangladesh and Mexico, start with the cost of a basket of food items. Designed to meet a person's nutritional needs at minimum cost, the bundle of food items used is still based on a 1955 survey of household food consumption. It is made up of servings of milk, cheese, and ice cream; meat, poultry and fish; eggs; dry beans, peas, and nuts; flour, cereal, and baked goods; citrus fruit and tomatoes; dark-green and deep-yellow vegetables; potatoes; other vegetables and fruits; fats and oils; and sugars and sweets. The cost of the bundle of food was multiplied by three to arrive at the poverty threshold because the 1955 survey found that the average family of three or more people spent

approximately one-third of its disposable income on food. Since adopting these poverty lines in 1965, the dollar value is adjusted annually to account for price inflation. Neither the bundle of food items nor the portion of income a family spends on food has been adjusted in almost 60 years despite changes in diets and evidence that even poor Americans spend less than one-third of their after-tax income on food.

Sources: Fernando Cortés, Daniel Hernández, Enrique Hernández Laos, Miguel Székely, and Hadid Vera Llamas, "Evolución y características de la pobreza en México en la última década del siglo XX," Economia Mexicana NUEVA EPOCA, vol. XII (2003), available at www.economiamexicana.cide.edu/num_anteriores/XII-2/Fernando_Cortes.pdf. Eloise Cofer, Evelyn Grossman, and Faith Clark, "Family Food Plans and Food Costs: For Nutritionists and Other Leaders Who Develop or Use Food Plans," Home Economics Research Report 20 (Washington, DC: U.S. Government Printing Office, November 1962), available at http://aspe.hhs.gov/poverty/familyfoodplan.pdf, accessed July 2005; Constance Citro and Robert T. Michael, *Measuring Poverty: A New Approach* (Washington, DC: National Academy Press, 1995); World Bank, "Poverty in Bangladesh: Building on Progress," Report 24299-BD (Washington, DC: World Bank, December 2002).

Most nations have their own poverty lines, and these could be used to make international comparisons. One could combine the number who are deemed poor in Bangladesh (daily per person regional poverty lines of between roughly 19 and 32 taka, or US$1.70 and $2.80, PPP) with the number said to be poor in Mexico (poverty lines of 30 to 45 pesos, or US$4.60 to $6.60, PPP) and in the United States (daily per person poverty line of around $15).[18] This would offer a measure of poverty as perceived by each nation. But the resulting differences in poverty rates across nations would themselves be functions of the poverty lines the nations choose. An alternative and more widely adopted approach is to establish a single global poverty line. By applying one common poverty line, often the $1.25-a-day or $2-a-day measure, it may be possible to obtain a more consistent picture of the degree of absolute poverty across countries and regions and of how the number of poor is changing over time.

Before investigating the origins of the $1.25-a-day line and regional trends in poverty, it is worth examining the use of poverty lines in a bit more detail and defining some alternative measures of poverty that can be based on such lines. Figure 6–5 reproduces the frequency distribution of consumption per capita in Bangladesh with

[18]The United States defines poverty depending on the size and composition of a household. Households with children or elderly members are assumed to have different food requirements, leading to different poverty lines. Households with more members are assumed to achieve economies of scale in consumption and this, too, affects their poverty lines. In 2009, daily per capita requirements ranged from $30 for a household with one nonelderly member to $12 for a household of eight with six children. The $15 refers to the average poverty line for households with four members. The reported values for Bangladesh and Mexico refer to their upper poverty lines, as discussed in Box 6–1, for the years 2000 and 2002, respectively.

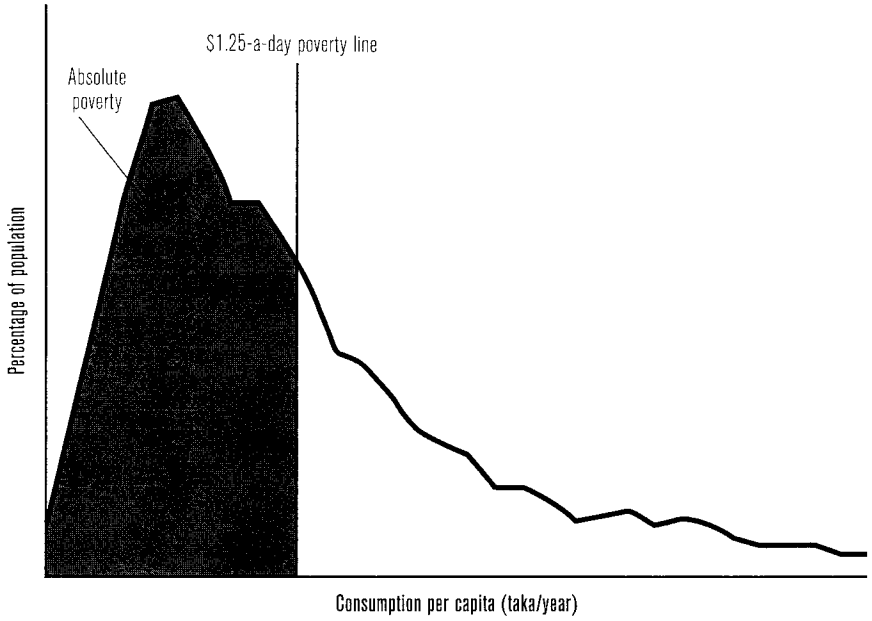


FIGURE 6-5 Absolute Poverty in Bangladesh

Source: Collaboration with Claudio E. Montenegro, World Bank.

the addition of the $1.25-a-day poverty line. Individuals with consumption below the poverty line, some 50 percent of all Bangladeshis, are considered absolutely poor. It should be evident that there is something arbitrary about this distinction between the poor and the nonpoor. Is someone just above the poverty line, with a few taka more of consumption expenditures, living that much differently from someone just below the poverty line? This arbitrary character of poverty lines is inevitable. But poverty lines still are useful in providing a sense of the extent of absolute poverty, a means for assessing the success of policies designed to alleviate poverty, and a mechanism for calling attention to and mobilizing support for reducing human deprivation. Strategies that succeed in reducing the numbers below the poverty line usually spill over and also help the "near poor," those just to the right of the poverty line in the frequency distribution.

Once a poverty line is selected, the extent of absolute poverty can be identified in a number of ways. The simplest is to report the number of people below the poverty line. Equally straightforward is the **head-count index**, the ratio of the number below the poverty line to total population. A third measure, the **poverty gap**, describes the severity of poverty. The severity of poverty refers to both how many people fall below the poverty line and how far they are from that line. Look again at Figure 6-5. Imagine if the frequency distribution below the $1.25-a-day poverty line was somewhat higher closer to the origin and somewhat lower closer to the poverty line. This would mean that poverty was more severe. The same number of individuals might

fall below the poverty line but the total amount of income they would need to get to the poverty line is greater. The poverty gap (PG) captures such differences and can be calculated as

$$PG = [(PL - MC)/PL] \times H$$

where PL stands for the poverty line, MC is mean consumption per capita of all individuals below the poverty line, and H is the head-count index. The bracketed term in the equation indicates in relative terms how far the average poor person is from the poverty line; the head-count index then weights this amount by the percent of poor people in the population. The poverty gap, a measure of how much income is needed to get the poor to the poverty line, increases the farther mean consumption of the poor is from the poverty line and the higher the share of the population is below the poverty line.

The head-count index, tells us what proportion of the population is poor, and the poverty gap tells us proportionately how far below the poverty line the mean income of the poor falls. Neither indicator is sensitive to changes in the income distribution among the poor, and by relying on the mean income gap, PG places equal weight on an individual just below the poverty line and on another individual who might be quite far below the line. These shortcomings are addressed simply by squaring PG. This third indicator, known (it's not surprising) as the poverty gap squared, places greater weight on incomes that fall farther below the poverty line and thus more fully captures the severity of poverty. These three indicators together provide a much richer picture of the various dimensions of poverty than any one of them alone.

WHY $1.25 A DAY?

The first widely used global poverty line was a $1 a day and had its origins in the late 1980s. To determine the extent of absolute poverty in the world, the World Bank's 1990 World Development Report (WDR) examined a set of 34 country-specific poverty lines from both developing and developed nations. As expected, these poverty lines generally rose with income level. Focusing only on the low-income nations in this group, the country-specific poverty lines tended to fall within a range of $275 to $370, measured in terms of 1985 PPP dollars per person per year. The upper bound of this range, just over $1 a day, was adopted as a global poverty threshold.

To chart changes in poverty over time, it is necessary to increase the poverty line in local currencies in response to changes in domestic prices. Ideally, this would be done using a price index based on the goods the poor tend to consume. In practice, a nation's consumer price index is used. To assess what happened to regional and global poverty since 1985, researchers have done more than just adjust the original $1-a-day poverty line by domestic price inflation. The most recent estimate defines *extreme poverty* as living below $1.25, measured in terms of 2005 PPP dollars.

To compute this latest global poverty line, researchers were aided by an expanded compilation of poverty lines, now including 74 developing countries, as well as new estimates of purchasing power parity, which, for the first time, included price surveys for China. The new compilation of poverty lines was especially important because the composition of low-income nations changed between 1985 and 2005. The original $1-a-day poverty line reflected national poverty lines, including those of Bangladesh, Egypt, India, Indonesia, Kenya, Morocco, and Tanzania. Economies in sub-Saharan Africa were underrepresented. Rather than relying on an inflation-adjusted value of the poverty line defined by this earlier group of countries, researchers at the World Bank repeated the original exercise and determined a new poverty line based on 15 of today's poorest countries.[19] The new group includes 13 sub-Saharan countries, Nepal, and Tajikistan. The average of the national poverty lines of this group is $1.25 a day, which is thought to be more representative of how the poorest nations define absolute poverty. The median poverty line of all developing economies in the sample was $2.00 a day, which is often used as a measure of poverty in middle-income economies, especially in Latin America and eastern Europe.

New estimates of purchasing power parity were equally important in establishing the $1.25-a-day poverty line and in assessing the extent of poverty. If two people have the same purchasing power, they should be considered poor or not poor independent of where they live. But if they live in different countries they use different currencies and face different prices. As discussed in Chapter 2, we cannot rely on comparisons made using market exchange rates as a way to ensure that these two people living in different countries will be evaluated similarly. This is because of the importance of nontraded goods in consumption. To capture PPP, economists rely on detailed price surveys in individual countries. Prices in shops and stalls of specific items, including everything from 500-gram packages of durum spaghetti to low-heeled ladies' shoes, are collected. These surveys are conducted under the auspices of the United Nations International Comparison Program (ICP) and offer estimates of PPP.

The most recent poverty estimates rely on ICP surveys from 2005, which have several important advantages over previous rounds. One problem in comparing prices in different countries is accounting for the quality of goods. Nontraded goods may be cheaper in poor countries than in rich countries, but some of this difference may be due to inferior quality, leading to an underestimation of PPP in poor countries. The 2005 ICP made corrections for this problem. It also expanded country coverage; China participated for the first time. Given the size of China's population and its success in reducing poverty, accurate measures of its PPP were critical for improved estimates of global poverty. Finally, the most recent estimates of global poverty were aided by improved coverage of the household surveys needed to make poverty estimates. Over 1.2 million households were part of 1 of 675 surveys taken

[19]S. Chen, M. Ravallion, and P. Sangraula, "Dollar a Day Revisited," *World Bank Economic Review* 23, no. 2 (2009).

in 115 countries and covering over 90 percent of the population of low- and middle-income nations. Based on these new sources of information, it was possible not only to estimate poverty in 2005 but also to reestimate values back to 1981.

Figure 6-6 presents the most recent poverty estimates by World Bank economists Shaohua Chen and Martin Ravallion. The headline news from these new estimates was that "the developing world is poorer than we thought, but no less successful in the fight against poverty." The key reason for finding more poverty was that the latest PPP estimates indicated that the cost of living in developing countries, including China and India, was higher than previously thought. Consumption expenditures therefore purchased less, causing poverty levels to rise, not only for 2005 but also in the revised poverty counts going back to 1981. As far as the world's poor was concerned, nothing had changed. The difficulty of their circumstances remained the same. It was only the official count of the number of poor that had gotten worse.

Employing the $1.25-a-day poverty line, the good news is that the number of people living in absolute poverty fell by almost 520 million people, from 1.90 in 1981 to 1.38 billion in 2005. This represents an incredible achievement in reducing human deprivation. The bad news is that 1.38 billion people in poverty still accounts for more than one out of every five people living in developing nations. A closer look at regional patterns also reveals how isolated and uneven the fall in poverty has been. Almost the entire decline occurred in East Asia, and within East Asia most of the

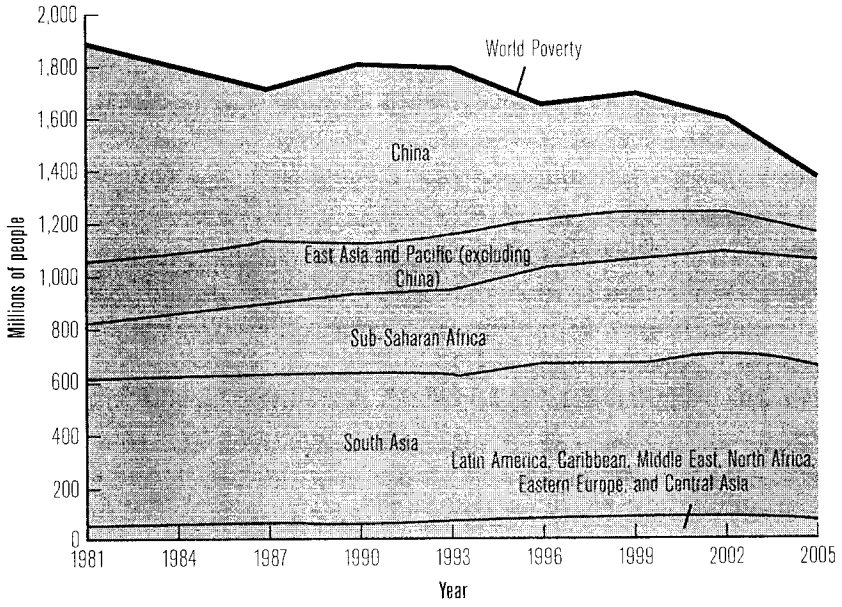


FIGURE 6-6 Number of People Living Below $1.25 a Day

Source: S. Chen and M. Ravallion, "The Developing World Is Poorer Than We Thought, but No Less Successful in the Fight Against Poverty," *Quarterly Journal of Economics* 125, no. 4 (2010).

decline is due to China's success. Over 600 million fewer Chinese people lived below $1.25 a day in 2005 than did in 1981. Many observers trace the start of China's success to the economic reforms of the late 1970s, which decollectivized agriculture and encouraged farm households to produce and market more of their output, pulling them out of poverty.

Poverty reduction was dramatic throughout all of East Asia, with large declines in Indonesia, Malaysia, South Korea, Taiwan, and Thailand. But in absolute terms, given the size of China's population, China's success dominates the global decline. By comparison, South Asia, dominated by India, saw an increase of almost 50 million in the number of poor. In sub-Saharan Africa, the trend was worse. As the population of this region grew, so did absolute poverty, from 214 million in 1981 to 391 million in 2005.[20] Trends in other regions add little to the aggregate picture for two reasons: Their population size is relatively small and, as mostly middle-income nations, the share of their populations living at only $1.25 a day was and remains low.

Trends in absolute numbers are one way to mark the progress made against absolute poverty. But it is not the only way. The head-count index presents poverty relative to population size and reinforces both the good and bad news on poverty (Table 6-2). In 1981, China's head-count index was 84 percent; by 2005, it was down to only 16 percent. In South Asia, the incidence of poverty also declined significantly, from just over 59 percent to 40 percent. Sub-Saharan Africa showed a modest decrease, from 54 to 51 percent. Latin America also had limited success at decreasing its poverty rate; the head-count index fell from 11.5 to 8.4 percent. Given their generally middle-income status, $1.25 a day is not the most meaningful poverty line for eastern Europe and central Asia (ECA) or for the Middle East and North Africa (MENA). Both regions have had poverty rates in the single digits for the past 25 years, although ECA experienced an increase in poverty since 1981 while MENA saw a decline. For the developing world as a whole, there has been a significant decline in the percentage of people who experience the grinding poverty of living below $1.25 a day. Approximately 52 percent of the developing world fell below the $1.25-a-day poverty line in 1981; 24 years later, this ratio stood at 25. Can similar progress be made over the next 20 years?

Before trying to answer that question, it is worth considering the severity of poverty as measured by the poverty gap (Table 6-2). In 1981, absolute poverty was severe in the most populous regions of the developing world. In East and South Asia, as well as in sub-Saharan Africa, the poverty gap ranged from 20 to 36 percent. But, by 2005, the poverty gap had fallen to 10 percent or less everywhere but in sub-Saharan Africa,

[20]S. Chen and M. Ravallion, "How Have the World's Poorest Fared Since the Early 1980s?" *World Bank Research Observer* 19, no. 2 (2004). The authors point out that the earlier their estimates, the less confident they are in the results because of the paucity of household surveys from the early 1980s. This is especially true in Africa. The trend toward increasing absolute poverty in sub-Saharan Africa is not in doubt, but the magnitude of this increase may not be precise.

TABLE 6-2 Absolute Poverty* by Region, 1981–2005

	NUMBER OF POOR (MILLIONS)			HEAD-COUNT INDEX (PERCENT)			POVERTY GAP (PERCENT)		
REGION	1981	1990	2005	1981	1990	2005	1981	1990	2005
East Asia	1,071.5	873.3	316.2	77.7	54.7	16.8	35.5	18.2	4.0
(China only)	(835.1)	(683.2)	(207.7)	(84)	(60.2)	(15.9)	(39.3)	(20.7)	(4.0)
South Asia	548.3	579.2	595.6	59.4	51.7	40.3	19.6	15.2	10.3
Sub-Saharan Africa	213.7	299.1	390.6	53.7	57.9	51.2	22.9	26.6	21.1
Latin America and Caribbean	42.0	42.9	46.1	11.5	9.8	8.4	4.0	3.6	3.2
Middle East and North Africa	13.7	9.7	11.0	7.9	4.3	3.6	1.6	0.9	0.8
Eastern Europe and Central Asia	7.1	9.1	17.3	1.7	2.0	3.7	0.4	0.6	1.1
Total†	1,896.2	1,813.4	1,376.7	51.8	41.6	25.2	21.3	14.2	7.6
(Total excluding China)	(1,061.1)	(1,130.2)	(1,169.0)	(39.8)	(35.0)	(28.2)	(n.a.)‡	(n.a.)	(n.a.)

*Absolute poverty refers to a poverty line of $1.25 a day (PPP, 2005).
†Total refers to low- and middle-income nations only.
‡n.a., not available.

Source: S. Chen and M. Ravallion, "The Developing World Is Poorer Than We Thought, but No Less Successful in the Fight Against Poverty," *Quarterly Journal of Economics* 125, no. 4 (2010).

where it remained at over 20 percent. Almost 1.4 billion people still lived on less than $1.25 a day in 2005, but most of them had gotten a good deal closer to this bare minimum of consumption.

China's success at lowering its poverty gap from 39 to 4 percent is an unprecedented achievement in human history. It also holds some promise for what is possible and, therefore, what nations in sub-Saharan Africa might achieve in the next few decades. Much of sub-Saharan Africa began the twenty-first century with a poverty gap well below China's level 25 years earlier. However, the challenge facing Africa is greater. In 1981, China had a more equal distribution of income than is typical of most African nations. Therefore, African growth rates have to be even faster than China's or policies of redistribution greater for absolute poverty to fall as rapidly. It is hard to envision such outcomes. China benefited from a fundamental transformation in its economy, which brought tremendous economic progress. It is hard to identify anything in Africa comparable to China's transition out of socialism and toward the market that has the potential to produce sustained growth rates in output approaching double digits. Reducing absolute poverty in sub-Saharan Africa remains a huge challenge to both African nations and the global community.

DISSENTING OPINIONS ON THE EXTENT OF ABSOLUTE POVERTY

With something as complex as estimating the amount of absolute poverty in the world, it should come as no surprise that not everyone agrees with the numbers. Some criticize the estimates as too low; others claim they are too high.

The somewhat arbitrary nature of any poverty line already has been identified. Is someone living on just less than $1.25 a day poor, whereas someone consuming just over $1.25 a day not poor? Princeton economist Angus Deaton has a different concern. He devoted his 2010 presidential address to the American Economic Association to the latest round of poverty estimates and argued that the $1.25-a-day poverty line is *too high*! The latest poverty estimates raise the number of poor in 2005 by close to half a billion people compared to using the previous method and applying it to 2005. This is a huge increase for a measure of *absolute* poverty, which is intended to stay constant in real terms over time.

Deaton traces the problem to how the poverty line was constructed. He is not persuaded that the 15 countries used to establish the new poverty line were the right ones. He notes that the small nation of Guinea-Bissau, with a population of about 1.5 million people, was included in the construction of the new poverty line, but India, with a population exceeding 1 billion people, was excluded. India has a national poverty line below $1.25 a day but is now judged as having many more poor people because of a standard determined by the poverty conditions prevailing in Guinea-Bissau (where the poverty line is above $1.25 a day) and other smaller economies. Deaton favors using a weighted average of national poverty lines from a much larger group of developing nations so that the weights reflect the number of poor people living in each nation. These and other recommended adjustments result in a global poverty line of less than $1 a day and a world poverty count in 2005 of well under 1 billion.[21]

Some commentators disagree with Deaton and see $1.25 a day as *too low* a threshold for defining absolute poverty at a global level. This cutoff has been described as "destitution" and may be too low to serve as an effective benchmark for poverty alleviation. Others are critical of what they consider the particularly arbitrary nature of any international poverty line. They argue that the use of one global poverty line bears too little relationship to national poverty lines and therefore defines poverty in way that may have little relevance to the actual bundles of goods poor people need to purchase to attain their basic needs.[22] This latter argument has special merit for middle-income nations whose poverty lines tend to be above $1.25 a day. Still others contend that even $2 a day is too low a threshold for a *global* poverty line (Box 6–2).

[21]A. Deaton, "Price Indexes, Inequality, and the Measurement of World Poverty," *American Economic Review* 100, no. 1 (2010).

[22]See *In Focus: Dollar a Day: How Much Does It Say?* International Poverty Centre, UN Development Programme, September 2004. www.ipc-undp.org/pub/IPCPovertyInFocus4.pdf.

BOX 6-2 WHO IS *NOT* POOR?

Economist Lant Pritchett argues against $1.25 a day and even $2 a day as legitimate measures of *global* poverty. He suggests instead a poverty line no less than $15 a day (2000, PPP), close to the lower bound of the prevailing poverty lines in high-income nations. Pritchett argues as follows:

> Because poverty is a social construct each country should be free to set its own definitions of poverty and its own poverty line. . . . But for setting a common, international standard for income poverty—for what constitutes "unacceptable" deprivation in the human condition or inadequate income in a globalized world—it seems grossly unfair that a person is "poor" if born in one country and yet is "not poor" with a level of real income *ten times* lower if born in another. That is, while India might set a poverty line that is attuned to its capabilities and circumstances and the USA another, for international comparisons choosing the lower line implies that what is "unacceptable" deprivation for a US resident is acceptable for another human being simply because of their residence.

Pritchett goes on to demonstrate that the World Bank's poverty lines are grossly inconsistent with achieving minimally acceptable levels of such indicators of physical well-being as infant mortality and stunting, the latter referring to the fraction of children whose height for age is less than two standard deviations below medical norms.

Pritchett recommends defining $1.25 a day as "destitution," $2 a day as "extreme poverty," and $15 a day as *global* poverty. He concludes, "This simple shift in definitions allows continuity and comparability with previous measures of poverty while embracing a new bold vision of what the dream of a world free of poverty really means."

Sources: Lant Pritchett, "Who Is *Not* Poor? Proposing a Higher International Standard for Poverty" CGD Working Paper 33 (Washington, DC: Center for Global Development, November 2003); Lant Pritchett, "Who Is *Not* Poor? Dreaming of a World Truly Free of Poverty," *World Bank Research Observer* 21, no. 1 (2006).

POVERTY TODAY

In 2005, 2.6 billion people, 47 percent of the population of all low- and middle-income economies, fell below the $2-a-day poverty line. Regional head-count indices reached as high as 73 percent in South Asia and sub-Saharan Africa. China stood at 36 percent, and Latin America at 17 percent. When comparing world regions at $2 a day, poverty remained most severe in sub-Saharan Africa (it has the highest poverty gap), but there were still more than three times the number of poor in all of Asia than in sub-Saharan Africa (Figure 6-7). What has happened since 2005?

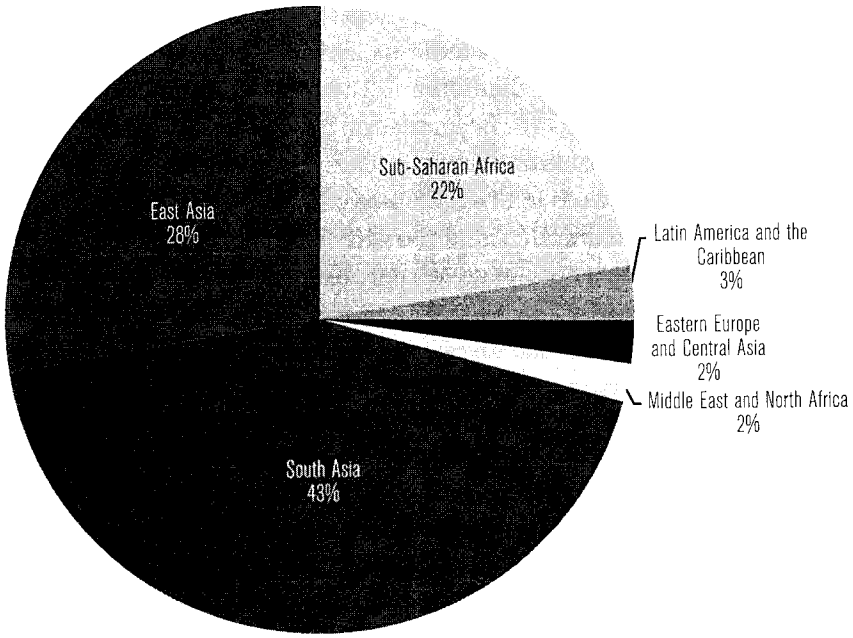


FIGURE 6-7 Regional Distribution of People Living below the $2-a-Day Poverty Line, 2005

Source: S. Chen and M. Ravallion, "The Developing World Is Poorer Than We Thought, but No Less Successful in the Fight Against Poverty," *Quarterly Journal of Economics* 125, no. 4 (2010).

The simple answer is that we do not really know. The data required for making estimates of global poverty are considerable and the exercise is not undertaken frequently. Following the financial crisis of 2008, which began in the United States and quickly spread to other nations, there was considerable fear that developing nations would be hit hard. Many were but certainly not all; China and India continued to grow rapidly. The World Bank estimated that 64 million people in developing nations were pushed into "extreme poverty" (under $1.25 a day) because of the crisis. But the years leading up to the crisis were years of strong growth in many regions of the world, and 2010 saw a faster rebound for developing regions than many expected. Far more people are thought to have escaped poverty between 2005 and 2010 than the number pushed back into poverty because of the global financial crisis. Because economic growth tends to be good for the poor, a point we return to below, there is every reason to believe that the number of absolutely poor people as well as the percentage that are poor will be much lower in the second decade of the twenty-first century than in the first.

WHO ARE THE POOR?

If the World Bank's estimates for 2005 are correct and nearly three out of every four Africans and South Asians lived below the $2-a-day poverty line, it might be easier to identify the nonpoor than the poor. This is a somewhat cynical response

to the question, Who are the poor? Even though the majority of African and South Asian populations live in conditions that qualify as poverty, some live well below the poverty line and are poorer than others. There are defining characteristics of extreme poverty.

The twenty-first century is the first time in human history that the majority of the world's population lives in areas defined as urban. Nevertheless, rural poverty, in terms of absolute numbers and rates, tends to be higher than urban poverty. This may come as a surprise to the casual observer who contrasts the image of rural villages, with their open spaces and often picturesque arrangements of straw huts and basic dwellings, with the urban squalor and densely settled and seeming disorganization in the shantytowns and favelas[23] common to large cities in low- and middle-income nations. What the casual observer fails to see are the lack of opportunities in rural areas. There are fewer ways to earn income, less education and healthcare, and often more vulnerability to the weather and forces of nature. Within rural areas, poverty often is most common among landless casual laborers or, in sub-Saharan Africa, among pastoralists. Individuals often choose to leave the countryside for the slums of the city because there are more economic opportunities in urban areas.

In addition to the rural–urban divide, poverty rates vary by regions within countries. Two examples are northeast Brazil and the Indian state of Uttar Pradesh, which for decades have been pockets of deep and persistent poverty compared to the rest of their respective countries. The persistence of regional poverty reflects both the limits of spreading development from one region to another and the constraints individuals may face in escaping poverty by migrating from one region to another. Poverty also has a racial and ethnic face. Scheduled castes in India, certain ethnic minorities in eastern Europe including Roma, and indigenous groups in the Andean region all experience poverty rates in excess of others in their societies.

Looking at poverty from the perspective of gender requires consideration of intra-household distribution, the sharing of resources within family units. Most studies of gender roles and opportunities in developing and developed nations conclude that women are disadvantaged relative to men along many dimensions.[24] Women have less access to property rights, including ownership of land, and often are denied inheritance. Girls have tended to receive less primary and secondary education than boys, although in many countries and regions this is no longer the case. Labor markets tend to discriminate against women, paying them less than men for the same work. Combining the work done at home with that done for income,

[23]The origin of the word *favela* is the Morro de Favela hillside in Rio de Janeiro, Brazil, where freed slaves established a community of squatters in the late nineteenth century. Over time the term has been adopted to describe any urban slum, especially in Latin America.

[24]This discussion draws from World Bank, *Engendering Development* (Washington, DC: Oxford University Press, 2001).

women tend to work many more hours per week. Domestic violence against women is all too common. Sex-selective abortion favors the birth of boys over girls in many parts of the world.

Given all these disadvantages, the feminization of poverty seems straightforward. But it is not. Measures of individual consumption are based on household data, and it is difficult to disentangle who consumes what within the family. Some goods, including housing, are jointly consumed. Given the lack of data on individual consumption by gender, some studies compare poverty rates between households headed by men and women. The results are inconclusive. Some categories of women-headed households do quite poorly. For example, widows without male heirs in India and elderly women on pensions in eastern Europe have particularly high poverty rates. But other women-headed households, including unmarried women working in urban areas and married women with husbands working abroad and sending remittances, may experience lower-than-average poverty rates. Studies of nutrition that assess the degree to which the needs of females versus males are met find some evidence of the relative deprivation of females but the results vary widely across regions of the world and even within countries. Despite the lack of evidence on the feminization of poverty, it is hard to imagine that reducing gender inequality would not also help reduce poverty in general.

LIVING IN POVERTY

You now know how economists define poverty, how many poor people there are, and a bit about the characteristics of the poor. What do we know about the lives of the poor? You might think living below $1.25 a day implies living on the edge of subsistence and leading a monotonous life with few choices. But this is not the case. The poor are a heterogeneous group who do not devote all their resources to food, who engage in a variety of economic activities, and who pursue strategies to reduce the risks associated with their vulnerable economic situations.

Social scientists, especially anthropologists, have been studying the poor for a long time.[25] This work has been complemented more recently with the collection of household-level surveys that include the poorest families. Many of these surveys have been part of the World Bank's Living Standards Measurement Study (LSMS) surveys, the first of which were undertaken in Côte-d'Ivoire and Peru in 1985. The LSMS and other similar surveys have been used to obtain counts of the poor and to understand the circumstances and behavior of poor households. MIT economists

[25]In 1953, Sol Tax, an anthropologist, published *Penny Capitalism* (Washington, DC: Smithsonian) based on his observation of the lives of a poor indigenous community in Guatemala. Tax observed that members of the community were efficient in their use of time and other resources despite their poverty.

Abhijit Banerjee and Esther Duflo employ 13 of these surveys from around the developing world to create a profile of the economic lives of the poor.[26]

Banerjee and Duflo find that, on average, poor households do not put every penny into purchasing more calories. Food represents about half to three-quarters of total consumption expenditures. For those living under $1.25 a day, the elasticity of spending on calories relative to total food expenditures is about 0.5,[27] suggesting that the poor care about what they eat as well as how much they eat; how food tastes matters even when one is poor. The poor, like the rest of us, spend money on nonessential items, including alcohol, tobacco, festivals (funerals, weddings, and religious holidays), radios, and televisions. The health of the poor is far more compromised than that of the nonpoor. In a number of surveys that ask about health, Banerjee and Duflo find that a family member often is reported to have been bedridden for a day or more during the past month. In the Udaipur district in India, 43 percent of households reported that members did not have enough to eat throughout the year, and 55 percent of adults were anemic.

In their productive activities, the poor tend to diversify their labor time, pursuing multiple opportunities rather than specializing. Among rural households, almost all farm their own land, but this is not their only or even their primary source of income. Poor men often work as daily laborers; poor women might sew, gather fuel, or run small eateries (for example, selling dosas in the morning in India). In one survey of rural West Bengal in India, the median family had three working members engaged in *seven* different occupations. Household members in poor families may engage in temporary migration to obtain work, usually for not more than a month or two. Permanent migration of the poor out of West Bengal is rare, and most migration for work is not far from where the poor live. Reliance on multiple occupations and a willingness to temporarily migrate to find work are strategies that reduce risk. If one activity is no longer available or remunerative, another can be pursued. Such a strategy has its costs. By not specializing and investing in specific skills, it is hard to achieve economies of scale and to gain the productivity required for higher income.

While the poor are often entrepreneurial and lead diverse lives, it would be a mistake to romanticize their situation. Living under $1.25 is a constant struggle filled with uncertainty and vulnerability. Among the poor we can identify a group of "ultra-poor," who find themselves barely surviving. A study by the International Food Policy Research Institute (IFPRI) found that in 2004, 162 million people were ultra-poor,

[26] A. Banerjee and E. Duflo, "The Economic Lives of the Poor," *Journal of Economic Perspectives* 21, no. 1 (2007). Also see their book *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty* (New York: Public Affairs, 2011).

[27] Calories are obtained from different types of food. Coarse grains, like rice and wheat, are inexpensive to buy and offer an individual relatively cheap calories. Meat is expensive making the calories obtained from meat consumption more costly ones. By investigating the foods poor households consume to obtain their calories, it is possible to estimate the elasticity of spending on calories relative to total food expenditures.

living on *less than* 50 cents a day.[28] In another series of studies, researchers asked the poor to describe poverty. Some of their responses follow:[29]

> Don't ask me what poverty is because you have met it outside my house. Look at the house and count the number of holes. Look at my utensils and the clothes that I am wearing. Look at everything. . . . What you see is poverty.—A man in Kenya
>
> Poverty is hunger, loneliness, nowhere to go when the day is over, deprivation, discrimination, abuse, and illiteracy.—A mother in Guyana
>
> Poverty is pain; it feels like a disease. It attacks a person not only materially but also morally. It eats away one's dignity and drives one into total despair.—A woman in Moldova

When asked to describe poverty and its causes, poor people reveal poverty to be more than just a lack of money. Not only do the poor suffer from material deprivation but poverty exacts an often severe psychological toll. There are many causes of poverty. The poor lack assets, especially land, and are aware that illiteracy often constrains their opportunities. Illness is dreaded because it can drive a family into destitution. The poor are vulnerable to environmental risks as well, whether droughts or floods or the degradation of their land. The poor often feel exploited by markets, in which private traders charge exorbitant prices for necessities or levy usurious rates for credit, and by governments, who do not provide essential services to the essentially voiceless poor unable to affect change.

STRATEGIES TO REDUCE POVERTY

The World Bank's *1990 World Development Report* not only provided an estimate of the amount of world poverty but also outlined a strategy for alleviating it. The strategy had two main elements: (1) promote market-oriented economic growth and (2) direct basic health and education services to the poor. Market-oriented growth included many of the familiar recommendations of the Washington Consensus discussed in Chapter 5: macroeconomic stability, greater economic openness to trade and investment, increased public investment in infrastructure, improved credit markets, and the

[28]Estimates of the number of ultra-poor are from Akhter U. Ahmed, Ruth Vargas Hill, Lisa C. Smith, Doris M. Weismann, and Tim Frankenberger, "The World's Most Deprived," 2020 Discussion Paper 43, International Food Policy Research Institute, Washington, DC, 2007. This study was undertaken before the latest round of the ICP. With the new PPP estimates, the number of ultra-poor would be higher. At over 160 million, the ultra-poor collectively represent a population similar to that of Pakistan's, the world's sixth most populous nation.

[29]The quotations are from United Nations Development Programme, *Human Development Report 1997* (New York: Oxford University Press, 1997), and D. Narayan, *Voices of the Poor: Can Anyone Hear Us?* (Washington, DC: World Bank, 2000).

like. Combined, these policies would lead to labor-demanding growth, which would benefit the poor because the primary asset the poor rely on is their labor. The second element of the strategy called for investing in people. Directing government health and education services to the poor would increase their productivity and thereby contribute to poverty reduction. A third but less emphasized part of the strategy was to develop social safety nets to assist individuals unable to take advantage of market opportunities. This group includes the sick and the old but also all those who suffer from systemic shocks, such as natural disasters and macroeconomic crises.

Most strategies for reducing poverty call for increasing the rate of overall economic growth, because the poor are expected to benefit from economic growth along with the rest of the population. To quote a popular metaphor for development economists, "A rising tide lifts all boats." But there are dissenting voices. In 1996, the United Nations Development Progamme (UNDP) wrote in its flagship publication, *The Human Development Report*, "Policy-makers are often mesmerized by the quantity of growth. They need to be more concerned with its structure and quality." The report goes on to specify problems with economic growth: "*jobless*—where the overall economy grows but does not expand opportunities for employment," "*ruthless*—where the fruits of economic growth mostly benefit the rich, leaving millions of people struggling in ever-deepening poverty," "*voiceless*—where growth in the economy has not been accompanied by an extension of democracy or empowerment," *rootless*—which causes people's cultural identity to wither," and "*futureless*—where the present generation squanders resources needed by future generations."[30]

The UNDP report raises many concerns. One of them is to question whether (or at least how often) economic growth is good for the poor or whether the benefits are more likely to be concentrated on the rich. The basic mathematics of growth, distribution, and poverty suggests that, generally, growth should be good for the poor. Earlier in this chapter, we saw that inequality does not systematically increase with economic growth. This implies that in most cases growth should benefit the poor just as it benefits others in a society. As long as GDP grows faster than the population, average incomes within each quintile usually also increase. Numerous studies support this conclusion.

GROWTH IS GOOD FOR THE POOR

Figure 6-8 reproduces the data from one of the studies supporting the notion that growth is good for the poor.[31] This figure compares the growth in income of the poor, here defined as the bottom 20 percent of the income distribution, with overall eco-

[30]United Nations Development Programme, *Human Development Report* (New York: Oxford University Press, 1996), p. 3-4.

[31]David Dollar and Aart Kraay, "Growth Is Good for the Poor," *Journal of Economic Growth* 7, no. 3 (2002). Earlier studies that reached similar conclusions are Michael Roemer and Mary Kay Gugerty, "Does Economic Growth Reduce Poverty?" CAER Discussion Paper No. 5, Harvard Institute for International Development, Cambridge, 1997; and John Gallup, Steve Radelet, and Andrew Warner, "Economic Growth and the Income of the Poor," CAER Discussion Paper No. 36, Harvard Institute for International Development, Cambridge, 1999.

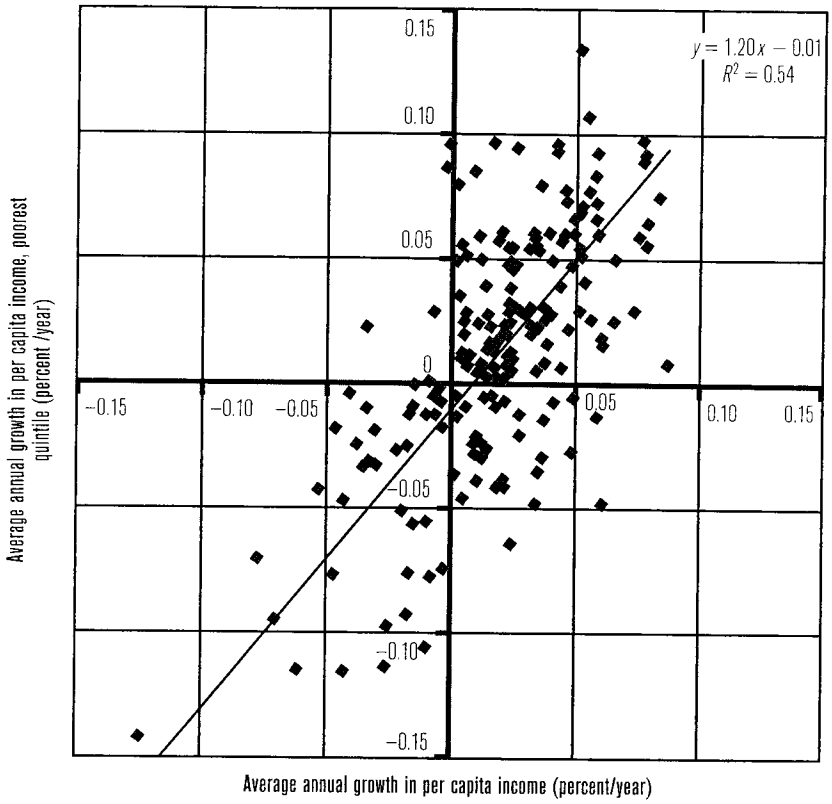


FIGURE 6-8 Is Growth Good for the Poor?

Source: David Dollar and Aart Kraay. "Growth Is Good for the Poor," *Journal of Economic Growth* 7 (September 2002). Dataset available at http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/0,,contentMDK:22802584~pagePK:64165401~piPK:64165026~theSitePK:469372,00.html.

nomic growth (growth in GDP per capita). Each observation refers to a growth spell of five or more years in a given country. In many cases, there is more than one observation per country. This occurs when information on the distribution of income is available for multiple years. Growth spells have a median length of six years. These spells occur between the years 1956 to 1999, with most taking place in the 1980s and 1990s. Not all countries are represented in the data set, but there is good coverage by region and for the world population as a whole.[32]

The trend shown in Figure 6-8 is consistent with the view that growth is generally good for the poor. The fitted regression line has a *positive* slope of 1.2, indicating that, *on average*, the incomes of the poor grow at a slightly higher rate than does GDP per capita. The slope of 1.2 means that if GDP per capita grows, say, at 5 percent, the regression predicts that the incomes of the poor will grow by 6 percent. Most observations lie in the quadrant in which both the growth in per capita income

[32]Departing from the original study, the Organisation for Economic Co-Operation and Development (OECD) economies are excluded from the figure, as are a few statistical outliers.

and the growth in the incomes of the poor are positive. This quadrant can be further divided in two. More than half the observations lie above the 45-degree line (not shown), where the incomes of the poor grow faster than average incomes. Growth is still "good for the poor" among the observations that lie below the 45-degree line but above the x-axis. In these cases the incomes of the poor grow at a rate somewhat less than the rest of the economy.

Returning to Figure 6-8, there also are cases of **immiserizing growth**, situations in which the poor witness a decline in their average incomes despite growth in the economy. The UNDP's concern over *ruthless* growth appears to have merit in some cases. In about one in five cases of positive economic growth, the income levels of the poor decrease. For Latin America this occurs about one-third of the time. Rapid growth, however, minimizes such outcomes. In these data, when growth is over 5 percent, there are only two cases of immiserizing growth.[33] Rapid growth seems especially good for the poor and nonpoor alike. The opposite also is true. The poor are particularly vulnerable during periods of economic decline. This is shown in the lower-left-hand quadrant, where many of the observations lie well below the regression line (a substantial number from eastern Europe and central Asia during the late 1980s and early 1990s). Although there are important exceptions, the empirical record suggests that economic growth benefits the poor more often than it leaves the poor behind.

SOMETIMES GROWTH MAY NOT BE ENOUGH

The centrality of economic growth in achieving economic development is a major theme of this textbook, as is the role of markets in achieving more rapid economic growth. But, in some situations, more than economic growth and market forces may be needed to reduce absolute poverty. First, there are the cases just identified, in which the well-being of the bottom quintile falls despite increases in GDP per capita. These are cases in which the increase in income inequality that accompanied economic growth was so large as to reverse any potential gains for the poor from rising GDP per capita. Second are cases in which, despite economic growth, too few of the poor cross the poverty line because their initial share of income is so low. This situation is not depicted by the data in Figure 6-8 because the vertical axis measures changes in the mean income of the bottom 20 percent, not changes in the headcount index or poverty gap. This makes a difference. Imagine an economy in which average incomes are low and inequality is high. If the bottom 20 percent receives only 2 to 3 percent of the total income, as they do in many countries in Latin America and southern Africa, the well-being of the poor makes little progress even if their

[33]The two cases are Puerto Rico (1963-69) and Singapore (1978-83).

incomes grow at the same rate as the nation's average income. If high levels of inequality further reduce the prospects for more rapid economic growth, the situation of the poor is that much worse.

A third situation is where distributional changes reduce the amount of poverty alleviation generated by economic growth. Latin America during the 1990s experienced only modest economic growth accompanied by rising income inequality. Even the modest growth that was achieved, assuming no change in inequality, would have reduced the numbers living under $2 a day by 90 million people.[34] But, because inequality increased during the 1990s, the number of people living in poverty fell by only 45 million. Poverty in Latin America would have fallen further had there been both faster growth and less inequality.

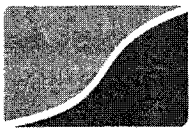
The data in Figure 6–8 report on rates of growth. But how does growth affect the *absolute amount* of income individuals in different quintiles actually receive? Even when the growth in income of the poor exceeds that of the rich, higher income quintiles usually still receive a much larger increase in absolute income. This is because a small percentage of a large number always represents much more additional income than a larger percentage of a small number. Consider the cases of Bangladesh and Mexico presented at the beginning of this chapter. If economic growth is distributionally neutral (GDP per capita rises but inequality remains the same), then for each increase of 100 taka or 100 pesos going to someone in the bottom 20 percent, someone in the top 20 percent, on average, receives roughly 450 more taka in Bangladesh and 1,500 more pesos in Mexico. In other words, even when growth is good for the poor and the number below the poverty line falls,[35] the absolute income gap between rich and poor continues to widen.

PRO-POOR GROWTH

With increasing attention paid to global poverty, captured by the MDG of cutting poverty in half by 2015, development experts frequently refer to the need for development strategies that adopt a poverty focus (Box 6–3). Sometimes this is referred to as **pro-poor growth**. This is not a well-defined term. Pro-poor growth is sometimes described as the situation in which income growth among the poor is faster than average income growth. The problem with this definition is that it favors circumstances in which the incomes of the poor grow, for example, at 3 percent while the GDP per capita grows at 2 percent over situations in which the incomes of the poor

[34] "Is Growth Enough?" *Latin American Economic Policies* 14 (2001).

[35] The elasticity of the poverty rate with respect to growth in GDP per capita is reported by Ravallion to be around -2 but with lots of variation. With a 95 percent confidence interval, a 2 percent rate of growth in average household income generates a 1 to 7 percent decline in the poverty rate. Martin Ravallion, "Poverty and Growth" in David Clark, ed., *The Elgar Companion to Development Studies* (Cheltenham, UK: Elgar Publishing, 2006).



BOX 6-3 WHY SHOULD DEVELOPMENT STRATEGIES HAVE A POVERTY FOCUS?

In an interview appearing in *Finance and Development*, a journal of the International Monetary Fund, Harvard University economist Dani Rodrik makes a compelling case for reform strategies to adopt a poverty focus.

> First, in considering social welfare, most people, and democratically elected governments in particular, would give more weight to the well-being of the poor than to that of the rich. The economy's growth rate is not a sufficient statistic for making welfare evaluations because it ignores not only the level of income but also its distribution. A policy that increases the income of the poor by one rupee can be worthwhile at the margin, even if it costs the rest of society more than a rupee. From this perspective, it may be entirely rational and proper for a government considering two competing growth strategies to choose the one that has a greater potential payoff for the poor, even if its impact on overall growth is less assured.
>
> Second, even if the welfare of the poor does not receive extra weight, interventions aimed at helping the poor may still be the most effective way to raise average incomes. Poverty is naturally associated with market imperfections and incompleteness. The poor remain poor because they cannot borrow against future earnings to invest in education, skills, new crops, and entrepreneurial activities. They are cut off from economic activity because they are deprived of many collective goods (such as property rights, public safety, and infrastructure) and lack information about market opportunities. It is a standard tenet of economic theory that raising real average incomes requires interventions designed to close gaps between private and social costs. There will be a preponderance of such opportunities where there is a preponderance of poverty.
>
> Third, focusing on poverty is also warranted from the perspective of a broader, capabilities-oriented approach to development. An exclusive focus on consumption or income levels constitutes too narrow an approach to development. As Nobel Laureate Amartya Sen has emphasized, the overarching goal of development is to maximize people's ability to lead the kind of life they value. The poor face the greatest hurdles in this area and are therefore the most deserving of urgent policy attention.

Source: Excerpt from Dani Rodrik, "Growth Versus Poverty Reduction: A Hollow Debate," *Finance and Development* 37, no. 4 (December 2000). Reprinted by permission of the International Monetary Fund.

grow at 4 percent while the GDP per capita grows at 6 percent, even though more rapid poverty reduction would occur in the latter case. This is not a hypothetical distinction; China's experience reflects the second scenario. An alternative and more general definition of pro-poor growth is economic growth that includes any growth in the incomes of the poor.

While not well-defined, at least the intentions of pro-poor growth are clear. What can governments do to achieve economic growth that rapidly improves the well-being of the poor? Answers lie in better understanding the complex interactions among growth, inequality, and poverty. Pro-poor growth does not represent a choice between being pro-growth and being pro-poor. The strategy calls for combining more rapid growth with increased opportunities for the poor to participate in that growth. Policies that both accelerate growth and address inequality may be needed to achieve these goals.

Those who question whether growth is good for the poor may also be skeptical about the ability of markets to help poor people. Competition may be seen as exploiting poor people, by paying them too little for their labor or by charging too much for the inputs they purchase or the goods they buy. Policies associated with the Washington Consensus are often viewed critically as protecting the interests of rich countries or rich citizens in poor nations at the expense of the masses of poor people in low- and middle-income countries. But are these criticisms valid? Can market-friendly strategies serve the interests of the poor?

Consider China's experience. Before 1980, China's farm system was dominated by collectives and communes. Market forces played little role in the allocation of farm inputs or in returns to agricultural work. Market reforms under the household responsibility system changed everything. It transferred control (but not ownership) over farmland to individual farmers. After meeting output quotas to the state, farmers were free to keep or sell additional output on relatively open markets. The unleashing of personal incentives resulted in a massive supply response and lifted hundreds of millions of Chinese peasants out of poverty. This outcome was supported by a relatively equal distribution of land, which occurred after the breakup of the communes. Low inequality in access to farmland was essential for the pro-poor growth that followed.[36]

Macroeconomic stability and economic openness are major elements of the Washington Consensus. What impact do these policies have on the poor? Maintaining fiscal discipline and reducing price inflation are key features of macroeconomic stability. Such stability usually entails reducing budget deficits, achieved by cutting government expenditures. This in turn often brings forth protests that the poor are hurt by reduced government spending on basic services. There can be considerable truth to such concerns, but it is not the whole picture. Government spending frequently fails to reach the poor, as programs, including those on health and education, often are targeted at higher income quintiles.

Maintaining unsustainable budget deficits also leads to price inflation, which tends to hurt the poor much more than the rich. Higher income individuals have ways to avoid the negative consequences of rapid price inflation. They can send

[36]Martin Ravallion, "A Comparative Perspective on Poverty Reduction in Brazil, China and India," *World Bank Research Observer* 26, no. 1 (2011).

their savings abroad or hold their wealth in land or real estate, which often are a hedge against inflation. But the poor lack these options. What minimal savings they have can disappear under persistent price inflation, the costs of even their minimal borrowing escalate, and any type of fixed income, like a pension, for example, soon becomes relatively worthless. Price inflation usually leads to the depreciation of the currency, which raises the price of imported goods, including fuel and other essential commodities. When fuel prices go up, transportation costs increase, affecting many items the poor depend on. Price inflation also acts like a brake on investment and economic growth, and slower economic growth is not in the interests of the poor. Overall, macroeconomic stability tends to be good for both economic growth and the poor.

Trade liberalization and greater economic openness entail reducing trade barriers, encouraging foreign direct investment and freeing up exchange rates. Anti-globalization advocates see such measures as hurting the poor, who cannot protect themselves from the vagaries of world capital markets or the onslaught of cheap exports. Once again, there is merit to this position in some circumstances. The Asian financial crisis of the late 1990s hurt both the rich and the poor in many economies. Cheap crops, the result (in part) of farm subsidies in the European Union and the United States, hurt farmers in some economies. Cotton growers in West Africa are often cited as an example.

But there is another side to increased economic openness. If nations export goods in which they have a comparative advantage, many low-income nations specialize in goods that rely on unskilled labor. This leads to an increase in the employment of such workers and, over time, to an increase in their wages. Because poverty is likely to be common among the least skilled, trade increases labor demand and reduces poverty. Greater openness, including the exchange of technology and the capital accumulation that results from foreign direct investment, can improve productivity and raise overall economic growth. In addition, trade may also reduce the prices the poor must pay for goods and services, further improving their welfare.

The textbook case for trade is compelling, and the success in poverty reduction throughout East Asia often identifies trade, especially exports of labor-intensive manufactured products, as an engine of growth. But there is more to economic openness than increasing exports, and a full account of the impact of globalization on poverty does not yield one simple conclusion. Trade reform can help some of the poor while hurting others. In Mexico, the North American Free Trade Agreement (NAFTA) brought more liberalized trade, which hurt farmers who previously were protected by tariffs on corn at the same time that it helped those who found employment in the growing export sector. (See Chapters 18 and 19 for a fuller account of the impact of trade on growth, development, and poverty.) Trade reforms illustrate an important principle: Market forces create new opportunities that benefit some and hurt others. Helping the poor get the most out of new opportunities is a challenge facing all economies.

IMPROVING OPPORTUNITIES FOR THE POOR

Improving the operation of markets helps the poor only if they can take advantage of these opportunities. This is why expanding basic education and health services is often a main element of strategies to reduce poverty. Education tends to make people more productive. It permits them to access new information and helps them take advantage of new opportunities, from new seed varieties that increase farm yields to new jobs that require the ability to read and write and new medicines that increase child survival or improve adult health. Education is not, however, a panacea. In a bad economic environment, education can yield a low return (see Chapter 8). But without an education, many of the poor may get trapped in intergenerational cycles of poverty. Similar arguments can be made for the importance of basic health (see Chapter 9). The debilitating effects of a host of diseases, including malaria and HIV/AIDS, prevent those who are infected from engaging in work and seizing new opportunities. No matter how well markets work, if someone is too sick to take advantage of such opportunities, poverty persists.

Investing in education and health—that is, in the human capital of the poor—is part of an agenda for improving the opportunities of the poor. Other reforms also warrant consideration. Most of the poor live in rural areas and either directly or indirectly depend on agriculture as a source of income. Studies of India find that growth in the rural economy alleviates both rural and urban poverty, whereas urban growth primarily reduces only urban poverty.[37] Supporting the rural economy is not something governments in low- and middle-income nations always do. More attention needs to be paid to rural infrastructure, including better roads and telecommunications, so that poor farmers can more easily market their crops and obtain information about prices. Tube wells for safe drinking water, improved irrigation, agriculture extension services, research and development on crop varieties, and expanded access to credit are other interventions that can contribute to the improved performance of the rural economy and a decline in rural poverty (see Chapters 16 and 17 for further discussion of agricultural development and its impact on the poor.)

Spending more on the poor, whether on their education or healthcare, on the infrastructure on which they depend, or in the rural economy where most of the poor live, means spending less on other groups in society. Reforming the allocation of government expenditures can be both pro-poor and pro-growth. But it is bound to encounter resistance as interest groups act to maintain government expenditures they have come to expect. Even more controversial are proposals to redistribute assets, most often land, to the poor.

Explanations for the economic growth and success at poverty alleviation among East Asian countries, including China, Korea, and Taiwan, often point to the role

[37]Martin Ravallion and Gaurav Datt, "Why Has Economic Growth Been More Pro-Poor in Some States of India than Others?" *Journal of Development Economics* 68 (2002).

played by earlier policies of land redistribution. These were fairly radical interventions that included the expropriation of land by the state with minimal or no compensation to owners. Land reforms in East Asia occurred during times of extreme political upheaval, whether social revolution in China or the end of foreign occupation in Korea. Despite the ultimate success of these economies and the role redistribution of agricultural land played in these nations' subsequent economic development, land reforms and other types of asset redistribution receive less support today. They often are seen as politically difficult, if not unfeasible, by both national governments and multilateral institutions like the International Monetary Fund and World Bank. Land reforms also have gone badly in many countries. Zimbabwe's land reform is but one element of the destructive actions taken by the government of Robert Mugabe that turned Zimbabwe from a net food exporter into a nation dependent on food aid. Zimbabwe's experience is an extreme example; it demonstrates that solely redistributing assets offers little promise of alleviating poverty. A much broader set of complementary policies is needed to permit the poor to take advantage of any increase in their assets. But even when such policies are in place, asset redistribution is often politically too difficult to play much of a role in a pro-poor growth strategy.

INCOME TRANSFERS AND SAFETY NETS

Every nation has individuals who are poor because they lack economic opportunity or are beyond the reach of the market. The latter include those who are too old, too young, or too sick to work and are without family networks to care for them. There are also situations in which systemic shocks, whether due to natural catastrophes or economic crises, require government action because the marketplace cannot resolve them.

Situations of chronic poverty tend to call for income transfers. These may take the form of cash grants or food pricing/distribution programs. The challenge facing all such programs is making them cost effective and having them reach the target population and not "leak" to higher-income groups. Food price subsidies, for example, aid the poor but also subsidize the purchases of the nonpoor. The net result can be an unsustainable fiscal burden on the budget.

Conditional cash transfers (CCTs) increasingly are employed in all regions to address both current and future poverty. These programs provide cash payments to eligible households and in return families must satisfy program goals, usually enrolling children in school and requiring them to attend at least 80 to 85 percent of school days. Some CCTs also require families to visit health clinics for periodic checkups, vaccinations of young children, prenatal care for expecting mothers, and other services. Cash payments address current poverty. By encouraging school enrollment and better healthcare, the programs simultaneously increase the human capital of children with the goal of reducing the transmission of poverty from one generation to the next.

Two of the most well known programs are Bolsa Familia Program (family allowance) in Brazil and Oportunidades (opportunities) in Mexico (originally called PROGRESA: Programa de Educación, Salud y Alimentación). Oportunidades uses geographic targeting based on census data to identify the poorest rural areas and urban blocks. It then uses household surveys on income and assets ("Do you have a dirt or cement floor?" "Do you own a hot-water heater?") in the identified areas to direct benefits to eligible households. This approach reduces the leakage of program benefits to the nonpoor. Transfers are made to the female head of a household (usually the mother, but sometimes a grandmother), consistent with evidence that women are more likely than men to spend financial resources on their children and to improve the well-being of their families. Banks rather than government agencies handle the transfer of funds to individual recipients, reducing the number of intermediaries involved and cutting down on corruption. A high percentage of the program's budget goes directly to beneficiaries who spend the money on local businesses, often small in scale and located within the poor Mexican communities where recipients live. From its inception, Oportunidades set up systems for data collection and rigorous program evaluation so that the impact of CCTs could be determined and verified.[38]

Bolsa Familia offers eligible households about $13 a month per child, helping to lift many families above Brazil's poverty line. The program has been especially effective in rural areas but somewhat less so in urban ones, where costs are higher and the $13 does not go as far. Problems of drug addiction, violence, child labor, and family breakdown also compound the causes of income poverty in urban areas. Bolsa Familia today covers families representing almost 50 million Brazilians, about one quarter of the population, but the aggregate cost is small, about 0.5 percent of Brazil's GDP and 2.5 percent of total government expenditures. This modest amount is seen as having played a role in reducing poverty *and* inequality in Brazil.

Social safety nets are similar to income transfers but, in their design, recognize that household poverty often is transitory rather than chronic. Panel data that trace individuals or households over time find that there are fewer families who are always poor than there are families who are poor some of the time. This outcome is true in low- and middle-income economies as well as in high-income settings. The transitory nature of poverty does not minimize the hardship families endure nor does it imply that those living on amounts just over a nation's poverty line are satisfying their material needs. But it does recommend designing policies that help individuals and households when income and consumption shortfalls occur, not in a permanent fashion. Public employment schemes are one example.

[38]Because of the linkage with schooling, we discuss CCTs again in Chapter 8; see especially Box 8-3. A comprehensive review of CCTs is provided by Ariel Fiszbein and Norbert Schady, *Conditional Cash Transfers: Reducing Present and Future Poverty* (Washington, DC: World Bank, 2009).

The Employment Guarantee Scheme (EGS) in the Indian state of Maharashtra and the Trabajar program in Argentina were designed to ensure poor people a source of income and reduce the variability of their incomes. The EGS guarantees employment within a few weeks of the individual's request and provides a job relatively close to a person's home. These jobs involve public works, such as road construction and repair, irrigation systems, and prevention of soil erosion. To solve the targeting problem, wages in public employment schemes must be kept low relative to market alternatives. By offering the prevailing market wage for unskilled rural labor, EGS encourages self-targeting, which increases the likelihood that those who choose to participate are individuals the program is intended to benefit. This maintains the cost-effectiveness of the scheme by minimizing the number of nonpoor people seeking these jobs. There also is a ceiling on the number of days per year such employment will be available.

To encourage self-targeting, Trabajar in Argentina offered a monthly wage set at 75 percent of the average monthly earnings of workers in the bottom 10 percent of households living in and around Buenos Aires. Evaluation of these public employment schemes finds that they were well used and well targeted. ESG provides about 100 million person-days of employment, varying both by season and by year. Participation falls during the busy season in agriculture, confirming that poor families use the program to counter the variability in monthly incomes. The majority of participants in the ESG and Trabajar programs were from the lowest income deciles. Participants realized significant increases in their incomes, lifting many above poverty.[39] The experience with ESG is one of the reasons why India launched a similar nationwide initiative, the Mahatma Gandhi National Rural Employment Guarantee Act, which promises up to 100 days of unskilled manual labor on rural public works projects per family per year. Pay is equal to the official minimum wage rate for agricultural labor.

GLOBAL INEQUALITY AND THE END OF POVERTY

Our discussion of inequality and poverty reduction has so far focused on nations. We looked carefully at levels and trends in inequality within nations and pro-poor policies that governments might pursue. Most policy making occurs at a national level, so this focus is warranted. But there also is a global dimension to issues of inequality and poverty. The gap between rich and poor across countries tends to be greater than it is within most nations. Should anything be done to change this outcome? Is

[39]World Bank, "Principles of Successful Workfare Programs," *World Development Report 2000/2001: Attacking Poverty* (Washington, DC: World Bank, 2001), Box 8.9.

reducing world poverty a global goal? Is there a role for actions that go beyond the nation-state? There is considerable debate over the answers to these questions.

A simple way of portraying global inequality is to divide the world into the high- versus low- and middle-income economies. In 2010, the high-income nations accounted for 16 percent of world population and consumed 55 percent of world output. The low- and middle-income nations represented the rest: 84 percent of world population and 45 percent of world output. This level of global inequality is comparable to that in Brazil and South Africa, two of the world's most unequal nations. This degree of global inequality is not a recent outcome. About 30 years ago the results were similar: in 1980 the high-income nations represented 18 percent of world population and consumed 62 percent of world output.[40] This simple division of the world provides a fairly reliable snapshot of global inequality, but it ignores important differences between countries within each of these groups. In addition, not everyone in a high-income economy is rich, nor is everyone in a low-income nation poor. To resolve these problems, three measures often are used in debates over whether the world is becoming a more equal or unequal place.

One approach is to define **international inequality** by comparing average incomes across countries. For some questions, it is appropriate to rely on this method. For example, the convergence debate, discussed in Chapter 4, asks whether there is a tendency for the income levels across nations to converge over time. Comparing mean incomes is warranted here. This approach treats each of the world's nations equally, whether the Caribbean nation of Dominica, with a population of about 75,000, or China with more than 1.3 billion people. But for a discussion of human welfare, treating each nation the same without regard to its population seems less warranted. An alternative index of international inequality is to weight each nation's mean income by its population. A population-weighted measure of international inequality is better suited for some questions but still leaves a key issue unresolved. By multiplying the average level of income by population, no account is taken of the domestic distribution of income; everyone in China or Dominica is assumed to have the same income as everyone else in the nation. To avoid this problem, one needs a measure of global inequality that compares the income or consumption of each individual regardless of where that person lives. Such a measure describes inequality among all individuals, not just among all nations. It is not surprising that the level of inequality and its trend varies according to which of these definitions is employed.

Figure 6-9 compares two estimates of international inequality, one weighted and the other unweighted by population, from 1961 to 2008. Gini coefficients are

[40]The share of world output refers to gross national income (GNI) measured in terms of PPP. If GNI is measured at market exchange rates, the high-income nations' share of GNI was closer to 80 percent in 1980 and 70 percent in 2010.

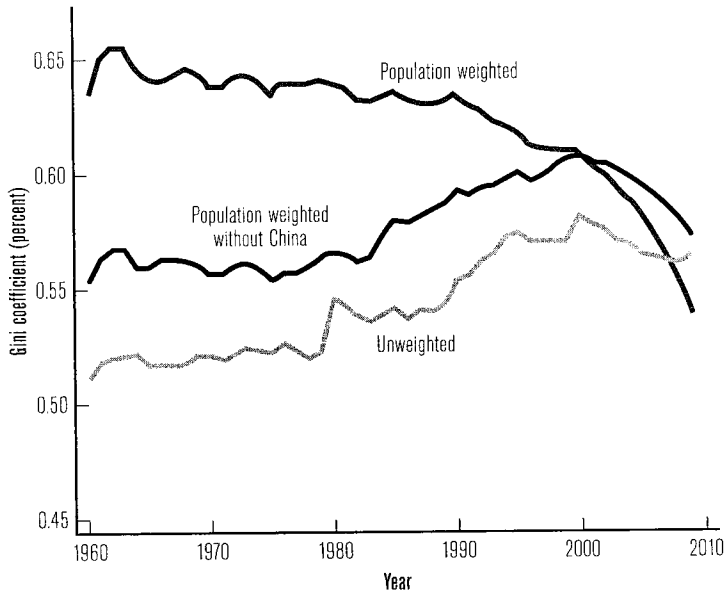


FIGURE 6-9 Trends in International Inequality, 1961–2008

Source: Figure 1 from The International Bank for Reconstruction and Development. The World Bank: *Policy Research Working Paper 5061* by Branko Milanovic, 2009. Reprinted with permission.

estimated annually for each of these series.[41] The unweighted trend (counting each country the same) shows little systematic change until the early 1980s, after which there is an almost continuous rise in inequality until 2000, when it begins to decline. The weighted series (giving larger countries more influence) shows something different. First, it suggests a higher level of inequality until the very end of the series. Second, the time trend never systematically rises and starts to decrease earlier and more rapidly, beginning around 1990.

The differences in trends between the two series are easy to explain. The rise in the unweighted measure of international inequality between 1980 and 2000 reflects the regional growth trends we first encountered in Chapter 2. The 1980s were a "lost decade" for Latin America, with debt crises followed by economic stagnation and decline. In the 1990s, the transition experience in eastern Europe and central Asia was accompanied by steep declines in income. These reversals of fortune contrast with positive growth in the high-income economies and parts of Asia and account for rising international inequality. Decreasing international inequality in the 2000s is evidence of faster growth in most low- and middle-income economies.

[41]Much of this discussion of trends in global inequality draws from Branko Milanovic, *Worlds Apart: Measuring International and Global Inequality* (Princeton, NJ: Princeton University Press, 2005); and Branko Milanovic, "Global Inequality Recalculated: The Effect of New 2005 PPP Estimates on Global Inequality," Policy Research Working Paper 5061 World Bank, Washington, DC, September 2009.

The population-weighted measure of international inequality shows a different trend. For four decades, the measure declined, picking up speed after 1990. Given the construction of this measure, what happened in heavily populated nations drives the outcome. China's experience explains much of the observed trend. This is evident when one compares the population-weighted trend in Figure 6-9 that includes China versus the one that excludes it. China's post-1978 economic transformation quickly moved the nation from low- to middle-income status. This closed some of the gap between China and the high-income nations, especially the heavily populated United States, but increased the income gap between China and the remaining low-income nations. On net, the Chinese population's move toward the middle of the world distribution of income resulted in a significant decline in the population-weighted Gini ratio. Rapid growth since 2000 in India, another heavily populated nation, accounts for the decrease in the population-weighted trend in international inequality excluding China. Rapid income growth in China and India helps explain why by 2008 the population-weighted measure finally falls below the unweighted measure.

Population-weighted international inequality assigns all citizens within a nation the same level of per capita income or consumption—that is, it assumes "perfect income equality" within every nation. This is a poor assumption for measuring inequality for the world's population. Correcting this problem requires more than data on GDP per capita and population size. Household-level data are needed to assign a more precise estimate of income levels to every person in the world and to compute what might be called global inequality. There is considerable variance in the level of global inequality predicted by various studies and no consensus on trends in recent decades. But what all these studies show is that global inequality is significantly higher than population-weighted international inequality. Estimates of global Gini coefficients range from about 0.60 to 0.80.[42] China, India, and the United States, the three most populous nations in the world, contribute significantly to this level of inequality. In recent decades, all three have had economic growth accompanied by rising domestic Gini coefficients.

Measured this way, global inequality at the beginning of the twenty-first century exceeds the level of inequality of almost any nation in the world. It should come as no surprise that the world is a very unequal place, but the *degree* of inequality is striking. Your response to the evidence on the degree of global inequality may be, "Something should be done about this!" If it is, it is important to be clear on the nature of the problems created by global inequality that you wish to resolve.

Consider the following: Global inequality would be lower if, all else equal, economic growth in high-income economies were slower. Some may be in favor of slower economic growth in the United States and elsewhere, but their reasons

[42]Reviews of alternative studies can be found in Branko Milanovic, *Worlds Apart: Measuring International and Global Inequality* (Princeton, NJ: Princeton University Press, 2005), 119–27; and in World Bank, *World Development Report 2006: Equity and Development* (Washington, DC: World Bank, 2006), chap. 9.

may have little to do with global inequality or with the well-being of people in poor nations. You may reject the relentless consumerism of the United States. Americans buy ever-larger houses, fill them with a seemingly endless supply of goods, and drive bigger vehicles on increasingly congested roads. There is much in the lifestyles and consumption habits of high-income economies to criticize. But slower economic growth in rich nations, even if it led to lower global inequality, might have an adverse impact on low- and middle-income nations. If rich nations grew more slowly, their demand for goods from other nations would fall, affecting these nations' growth rates. Global inequality brought about by slower growth in high-income economies could prove a detriment to progress in reducing global poverty. There is no reason to believe that if the United States grew more slowly, Africa or some other poor region would grow more quickly. In all likelihood, the opposite would be true.

There are many ways in which global inequality could be lower today. What if income inequality in China had not risen over the past 20 years? Remember that China has had an exceptionally high growth rate for more than two decades and has been able to lift over 400 million of its citizens above the $1.25-a-day poverty line. China's economic miracle also contributed to reducing global inequality, but the effect would have been even greater if income inequality within China had not risen. Could China have grown rapidly, dramatically reduced poverty, *and* kept its level of inequality from rising? We really do not know because we cannot observe the counterfactual. But there is some chance that lower inequality within China might have required slower economic growth.

Calls for reducing global inequality may be misplaced unless proper consideration is taken of how greater equality might be achieved. Even before considering how to achieve greater global equality, the question of why to do so remains. We have encountered some of these arguments before on a national level and some are also applicable on a global level. First, on the grounds of economic efficiency, the concentration of world incomes may lower productivity growth. Market failures limit poor people from borrowing to finance worthwhile projects, and some redistribution of income could increase the return on total global investments. Second, it may be in the self-interest of higher-income households, wherever they may live, to support redistribution. Health risks, for example, cross borders faster than in the past. The rapid transmission of HIV/AIDS across continents is one example. A redistribution of world resources might mitigate the health risks facing both the poor and the rich. Another reason why it may be in the interest of high-income households to favor greater global equality is that, in an information age, people around the world are aware of the gap between rich and poor. This knowledge and frustration over feeling left out may play a destabilizing role in international affairs, affecting the interests of the rich as well as the poor. Third, a more equitable distribution may be the right goal to strive for on moral grounds. Philosophers since Plato have been writing about this subject. Especially given the size of the income gap between those on the top versus

those on the bottom, global inequality should be seen as an opportunity to address the absolute poverty that has been a central focus of this chapter.

If those in higher income quintiles are averse to high levels of inequality and willing to move toward a world of less poverty and greater equality of incomes and opportunities, what might they do? Columbia University economist Jeffrey Sachs offers both a diagnosis and a blueprint. In his book *The End of Poverty*, he writes,

> The greatest tragedy of our time is that about one sixth of humanity is not even on the development ladder. A large number of the extreme poor are caught in a poverty trap, unable on their own to escape from extreme material deprivation. They are trapped by disease, physical isolation, climate stress, environmental degradation, and by extreme poverty itself. Even though life-saving solutions exist to increase their chances for survival—whether in the form of new farming techniques, or essential medicines, or bed nets that can limit the transmission of malaria—these families and their governments simply lack the financial means to make these critical investments. The world's poor know about the development ladder: they are tantalized by images of affluence from halfway around the world. But they are not able to get a first foothold on the ladder, and so cannot even begin the climb out of poverty.[43]

Sachs proposes a global compact to end absolute poverty by 2025. As with any compact there are at least two parties: poor countries and rich ones. Poor countries are to be held accountable for their efforts to reduce poverty. Corrupt regimes and those that pursue war rather than development cannot be part of this compact. Sachs makes it clear, however, that even among low- and middle-income nations that sign onto the compact, their actions alone may not be enough to end poverty. Conditions in parts of Africa are so dire that many of the poor, lacking the basics of food, clean water, medicines, and healthcare facilities, are, in Sachs's words, "too poor to stay alive."

Given the degree of absolute poverty in the world, there is a need for rich nations to do more to alleviate poverty. Some of Sachs's suggestions meet with wide support among development economists: the need for rich countries to keep their markets open to exports from poor nations and the need for rich nations to invest in global public goods, such as basic science on combating tropical diseases and improving agricultural yields. Other elements of his global compact are more controversial: the need for better environmental stewardship by the rich nations to minimize the impact of climate change on poor nations, the need for debt forgiveness of the accumulated international debts of poor nations owed to multilateral institutions like the IMF and World Bank, and the need for a significant increase in the foreign aid from rich nations to poor ones. We explore these ideas in later chapters. Despite

[43]Jeffrey Sachs, *The End of Poverty: Economic Possibilities for Our Time* (New York: Penguin Press, 2005), p. 19–20.

disagreement about elements of this global compact to end poverty, it is hard to argue against one of its central ideas: Rich nations have a critical role to play in reducing global poverty.

SUMMARY

- The number of people in poverty in a given country depends on both the level of per capita income or consumption and its distribution. Distributional outcomes are described using size distributions, which report inequality in terms of shares going to each population quintile ranked from poorest to richest; the Lorenz curve, which offers a geometric portrait of inequality; and the Gini coefficient, which provides a single summary statistic.
- Income and consumption inequality exhibits significant regional variation. Latin America and sub-Saharan Africa have relatively high levels of inequality; eastern Europe and central Asia, South Asia, and the high-income economies generally have low levels; and inequality in East Asia generally falls in the medium range. These regional patterns seem to have less to do with the *level* of per capita income than with underlying historical and political determinants as well as factor endowments.
- According to World Bank studies, in 2005 nearly 1.4 billion people, representing 25 percent of the developing world's population, lived below the international poverty line of $1.25 a day, sometimes referred to as *absolute poverty* or *extreme poverty*. The number of people living in absolute poverty declined by 520 million between 1981 and 2005. Most of this decline happened in East Asia, especially in China. With generally strong economic growth in many low- and middle-income economies since 2005, absolute poverty probably has declined since then.
- Because world population grew significantly from 1981 to 2005, success at poverty reduction can also be measured in relative terms. Estimates of the head-count index suggest that the incidence of poverty fell significantly in East and South Asia. In sub-Saharan Africa, the level remained at over 50 percent. Most of the world's poor still live in East and South Asia, although both the poverty rate (head-count index) and the severity of poverty (poverty gap) are highest in sub-Saharan Africa.
- Poverty tends to be greater in rural than in urban areas. Racial and ethnic minorities often face higher poverty rates. Women are discriminated against throughout the world. They earn lower wages on average, often are denied inheritance or the right to own land, and traditionally have received less education than men. However, because household resources tend to

be shared as a result of intra-household distribution decisions, there is less evidence that income poverty rates for women are higher than for men.

- Empirical studies confirm that economic growth tends to be good for the poor. Across countries, the incomes of the bottom 20 percent grew at the same rate as GDP per capita. This is an average tendency, and in some cases and in some time periods, the average income of the poorest quintile *fell* despite increases in GDP per capita.
- *Pro-poor growth* refers to a development strategy that combines more rapid economic growth with increased opportunities for the poor to participate in the economy. Many economists believe that market-friendly policies, including maintaining fiscal discipline, reducing price inflation, and increasing economic openness, serve the interests of the poor. But these interventions alone are not enough; some of the poor will benefit and others will be hurt.
- Growth strategies designed to include the poor may have the greatest potential to promote pro-poor growth. Because poverty tends to be disproportionately rural, growth strategies that include agricultural development may be particularly important to pursue.
- Governments must also invest in the education and health of the poor and in the infrastructure on which the poor rely. Conditional cash transfer programs, such as Bolsa Familia in Brazil and Oportunidades in Mexico, have proven cost-effective in reducing current poverty and making investments in children that should reduce future poverty. Social safety nets, such as guaranteed employment schemes, are designed for those temporarily unable to take advantage of the opportunities markets provide.
- Just as we can measure inequality within nations, it is possible to estimate the degree of global inequality. The most comprehensive measure of global inequality compares the income (or consumption) of each individual regardless of where that person lives. Estimates of this measure report Gini coefficients of global inequality of 0.60 to 0.80, values higher than for almost any single nation. Given both the level of absolute poverty in the world and the degree of global income inequality, it is important to consider the steps rich nations can take to help poor nations.