

# Equity from a global perspective

## chapter 3

In examining the inequality of opportunities within countries, the previous chapter emphasized people's "predetermined circumstances," or life chances beyond their control, as distinct from their "efforts" and "talents" as individuals. One of these circumstances is a person's place of birth. In many countries, access to basic public health services, for example, is significantly lower in rural areas than in urban areas. That can mean much for surviving the first year of life—the infant mortality rate in Rio de Janeiro was 3.3 percent in 1996, less than half the 7.4 percent in northeast Brazil.

But, just as being born in a village or a city is one circumstance that should be irrelevant to a person's chances in life, being born in a specific country is another. Why is it objectionable for, say, Turkish women to have inferior opportunities and outcomes compared with Turkish men, but not so objectionable if the comparison is between Turkish men and English women? After all, in many dimensions of well-being, major differences in opportunities and outcomes exist between citizens of different countries, in some cases differences larger than those between various groups within countries.

This chapter tries to answer two questions. First, how much does one's country of birth determine one's opportunities in life? Second, does one's country of birth mean less for life chances today than in the near or distant past? To answer these questions, we discuss inequalities in health, education, income, and power in the global arena. We show that the inequalities between countries are staggering despite some improvements over time.

### Examples and concepts

There is no doubt that we live in a world with massive inequalities in the opportuni-

ties to live a free, healthy, and fulfilled life. As Angus Deaton writes,

We are living with appalling inequalities, in which the poor of the world die of AIDS, and, more broadly, where poor people around the world die of diseases that are *readily preventable* elsewhere, including in the first-world hospitals and clinics that serve the rich in poor countries.<sup>1</sup>

In 2000 the life expectancy of a child born in Sierra Leone (37 years) or Botswana (39 years) was less than half that for a child born in the United States (77 years).<sup>2</sup> The average educational attainment (unconditional on quality of schooling) of an individual born in a Sub-Saharan country between 1975 and 1979 is less than 6 years, but more than 12 years in OECD countries. Inequalities in income are also high among individuals in different parts of the world.<sup>3</sup>

How do we view large average improvements in the world, set against this picture of unacceptable inequalities between countries? Sen (2001) describes the current state of the world while making the case for a fairer distribution of the fruits of globalization: "Even though the world is incomparably richer than ever before, ours is also a world of extraordinary deprivation and staggering inequality." He argues that whether there have been some gains for all is not as important as whether the distribution of gains has been fair. Inequalities in affluence—and in political, social, and economic power among countries—are central to the debate on globalization. As long as the sharing of potential gains from globalization is viewed as unfair by many, the inequalities described in this chapter will be deemed unacceptable. This, despite the

fact that absolute poverty has declined in the last two decades—though by no means uniformly.

To put global inequalities in well-being in perspective, it helps to examine two countries at opposite ends of the spectrum—Mali, one of the world's poorest countries, and the United States, one of the richest. A baby born in Mali in 2001 had an approximately 13 percent chance of dying before reaching age one, with this chance declining only slightly (to 9 percent) even if the baby were born to a family in the top quintile of the asset distribution. By contrast, a baby born in the United States the same year had a less than 1 percent chance of dying in its first year. The picture for under-five mortality is even more egregious: 24 percent of children will not reach age five in Mali, compared with less than 1 percent of American children. Even a child born into the richest quintile in Mali is more than 16 times likely to die before age five than an average American child.

The picture does not improve for education. The average American born between 1975 and 1979 has completed more than 14 years of schooling (roughly the same for men and women, and in urban and rural areas), while the average school attainment for the same cohort in Mali is less than two years, with women's attainment less than half that for men, and virtually zero in rural areas. If one considers the quality of the education received, the inequalities in learning achievement are possibly much larger.

It is not surprising, then, that many citizens of Mali, having survived immense hardships as children and without much education, can barely eke out a living as adults, on average living on less than \$2 a day (\$54 a month) in 1994. By comparison, the average American earned \$1,185 a month, more than 20 times that for the average Malian.

While there is probably some consensus that inequalities in health, education, income, and voice are large globally, there is much less agreement on whether things have been getting better or worse. Is one's country of origin more or less pertinent today to the life chances that she faces at birth than it was 20, 50, or 200 years ago?

The debate on inequalities in various dimensions of well-being and their relation to globalization rages on as you read this report.<sup>4</sup> It is indeed harder to assert whether inequalities increased or decreased over time. Various questions have to be answered first: inequality of what, over which time period, using which concept of inequality? While there is some evidence of convergence in opportunities in health and education and some divergence in incomes (or at least lack of convergence), these results cannot be stated without many qualifications and caveats. Box 3.1 introduces some underlying concepts that need to be clarified.

### Global inequalities in health

The unweighted and weighted international distributions of life expectancy at birth (ignoring the distribution of life expectancy at birth within countries) both show a clear "twin-peakedness" in 1960.<sup>7</sup> Data show that 50 countries had life expectancies between 35 and 45 years, 41 countries had life expectancies between 65 and 75 years, and there was relatively little mass in the middle of the distribution.

By 1980 the left-hand mode of the distribution had decreased considerably in size. The distributions began to look more right-skewed, unimodal, especially in the weighted international distribution: 73 countries had a life expectancy between 65 and 75, compared with 31 countries between 55 and 65, and 35 countries between 45 and 55. But by 2000 the two modes become evident once again, especially in the unweighted distribution, although there is more mass in the right mode of the distribution.

In 1980, the average life expectancy in four regions—Middle East and North Africa, East Asia (excluding China and Japan), South Asia, and Sub-Saharan Africa—was below the world average.<sup>8</sup> Between 1980 and 2000, rapid increases in life expectancy in the first three of these regions were globally inequality-reducing, while the decline of life expectancy in Sub-Saharan Africa in the 1990s boosted inequality by stretching the bottom tail of the distribution. By 2000, only South Asia and Sub-Saharan Africa were below the world average, with the difference in life expectancy at birth between

### BOX 3.1 Three competing concepts of inequality: global, international, and intercountry

On the welfare gains from globalization, the two sides of the debate often make statements that are diametrically opposed, all the while examining the same data. While there are some differences in and problems with data, the wide discrepancy in views on the topic seems to stem from the fact that the two sides do not share the same values about what constitutes a just distribution of the gains from globalization.

Considered here are three different concepts of inequality, drawing from Milanovic (2005) and Ravallion (2004a). Both authors, and the globalization debate in general, discuss these “competing concepts” in the domain of incomes. But these concepts can be extended to other dimensions, such as health and education (especially for inequality between countries). The conclusions one would draw in each of these dimensions of well-being then depend on the concept of inequality adopted. It is impossible for the two sides to communicate without first making these concepts clear.

Has global income inequality increased or not? Before we can answer this, we have to define what we mean by *global* inequality and how that differs from what we will call *international* and *intercountry* inequality.

#### Global inequality: forget country boundaries, each person has his or her real income

Global inequality is easy to define: simply forget countries, line up all citizens of the world, and calculate the inequality in the distribution of their real incomes, adjusted for purchasing power parity.<sup>5</sup> The global inequality measures that belong to the general entropy class, such as a mean log deviation or Theil's index, can be neatly decomposed into inequality attributable to inequalities between persons within each country and the mean differences of income between countries (Shorrocks 1980).

Within-country inequality is what the overall inequality in the world would be if there were no differences in mean consumption across countries but each country had its actual inequality level. Between-country inequality can be interpreted as measuring what the level of inequality in the world would be if everyone within each country had the same (the country-average) consumption level. Total inequality in the world is the sum of these two parts, and the ratios of the respective parts to total inequality provide a measure of the percentage contribution of between-country and within-country inequality to total inequality.

#### International inequality: each person has his or her country's mean income

Throughout the rest of the report, we will refer to this between-country inequality as interna-

tional inequality, the inequality in the distribution of all of the world's citizens, but with each person assigned the mean income of his/her country instead of his/her own income. Global inequality is calculated by simply adding international inequality to within-country inequality.

#### Intercountry inequality: each country has one representative at its mean income

These two concepts, however, are not enough to settle the debate. Think of the following statement in support of the argument that inequality in the world has been increasing: “The GDP per capita of the richest country in the world was about 9 times that of the poorest around 1870 compared with 45 times by 1990.”<sup>6</sup> Notice that while this statement seems to be referring to something akin to international inequality, there is a subtle but very important difference: the size of the richest or the poorest country plays no role in this statement. The statement remains the same whether the richest country is Palau and the poorest country is Jamaica, or whether they are China and India.

This is why a third concept is needed. In this concept, all countries of the world (instead of all citizens) line up together, and each of them is assigned her mean income. We will call the inequality in this distribution (of roughly 200 or so countries of the world) intercountry inequality. Milanovic (2005) refers to our intercountry, international, and global inequality concepts as Concept 1, Concept 2, and Concept 3 inequality, respectively (see figure below).

#### Why use intercountry inequality

The implicit value judgment in using intercountry inequality instead of international inequality is that countries, not people, should get equal weight in assessing the fairness of

the division of the gains from globalization. The measures most widely quoted by the critics of globalization treat each country as one observation, while decompositions of world inequality into between-country and within-country components described above give people equal weight, whether they live in China or Chad.

Note that in the globalization debate, the choice of the measure of inequality can also depend on the question one is trying to answer. If one is interested in the impact of some “globalizing” policies on growth or distributional outcomes at the country level, it might be preferable to use a measure of intercountry inequality.

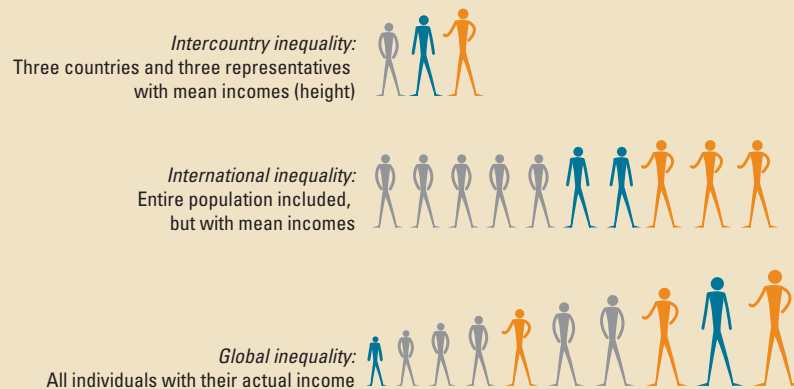
#### Why use international inequality—as we do in this report?

Alternatively, if we are trying to determine whether world poverty or inequality decreased as a result of “globalizing” policies, then we might be more inclined to examine measures of international inequality.

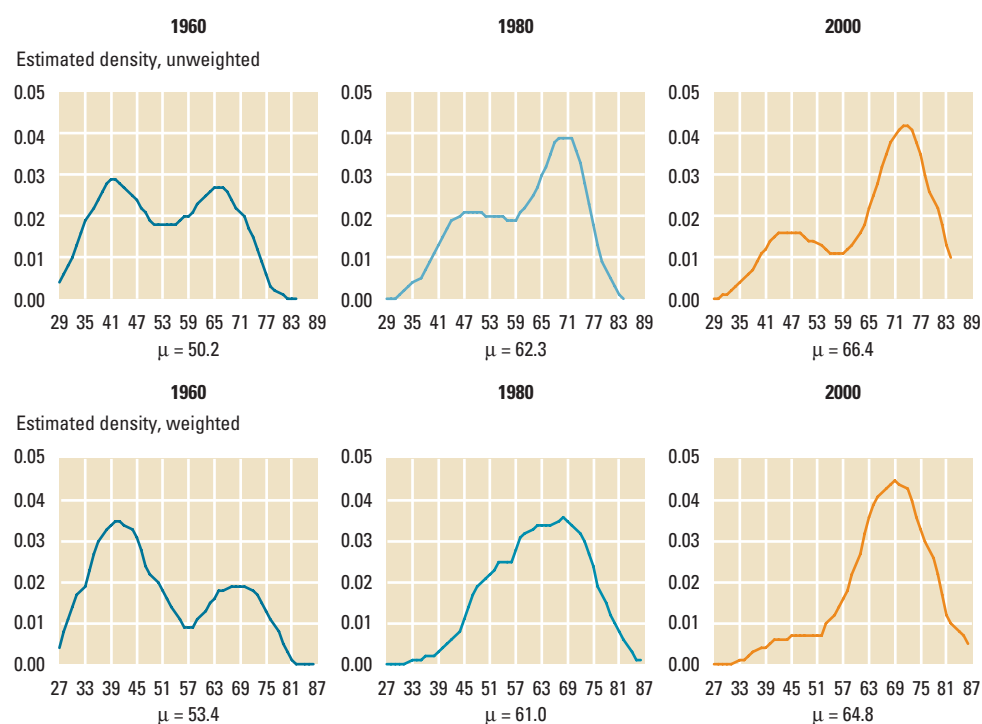
#### No right or wrong choice

Arguments can be made in favor of each of these two concepts when assessing trends in inequality between countries. This choice is not a matter of what is right or wrong. When it comes to judging inequality, intelligent people can disagree about whether countries or people should be weighted equally—something that Ravallion (2004a) argues in detail. The point: the judgments (or the questions of interest) that affect the choice of the inequality concept employed in empirical work matter greatly to the assessment one can make about the distributive justice of current globalization processes.

#### Three concepts of inequality illustrated



Sources: Milanovic (2005) and Ravallion (2004a).

**Figure 3.1 Vanishing twin peaks in life expectancy at birth**

Source: Schady (2005).

these two regions having increased from 5.8 years to 15.6. Between-country inequality declined until the early 1990s and then increased back to its 1980 level by 2000. The large decline in life expectancy at birth in Sub-Saharan Africa more than offset the inequality-reducing effect of growth in South Asia in the 1990s.

Over a longer period (1820–1992) Bourguignon, Levin, and Rosenblatt (2004a) show tremendous gains in life expectancy at birth (rising from approximately 27 years to 61 years), unequally distributed at first, then equalizing in three waves between late nineteenth century and 1990. Decades of

consistent improvements in life expectancy at birth came to a screeching halt in the 1990s (table 3.1). Between-country inequality among developing countries is as high as it has ever been since 1960.

So, there is some convergence in life expectancy at birth over a long period, although there are significant losses in the 1990s in Sub-Saharan Africa, mainly caused by AIDS, and in some European and Central Asian countries.<sup>9</sup> With the developed countries reaching a biological limit at the top of the distribution and many regions catching up to them, the inequality of life expectancy in the world will become more a function of changes in health and population growth in Sub-Saharan Africa—barring a major health catastrophe elsewhere in the world. (We revisit this issue at the end of the chapter.) But for now there remain two worlds with significantly different life expectancies: the gap in life expectancy between Sub-Saharan Africa and Europe and North America in 2000 is higher than it was in 1950.<sup>10</sup>

Health outcomes of even the rich citizens in poor countries remain well below

**Table 3.1 Increases in life expectancy at birth slowed down dramatically in the 1990s**

	1960	1970	1980	1990	2000
Mean	53.4	57.4	61.0	64.0	64.8
Coefficient of variation	0.233	0.203	0.183	0.173	0.194
Theil-T	0.027	0.021	0.017	0.016	0.020
Theil-L	0.028	0.022	0.018	0.017	0.021

Source: Schady (2005).

Note: Theil-L and Theil-T are two inequality measures that belong to the general entropy class, with parameters 0 and 1, respectively (unweighted).

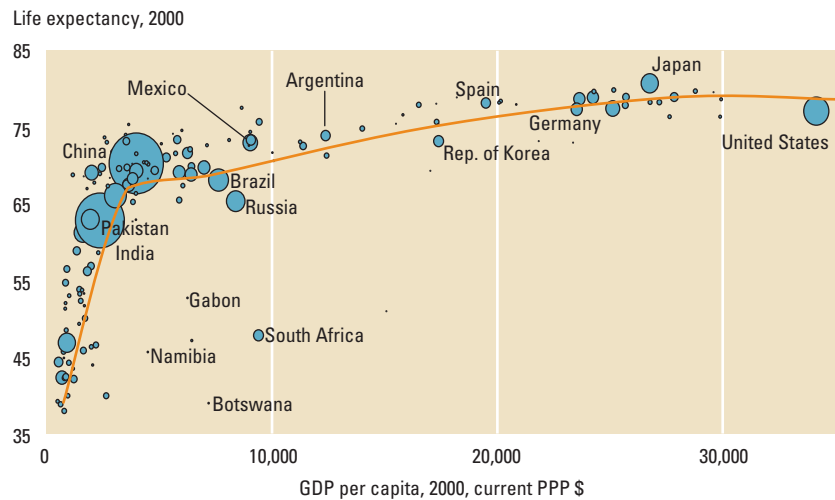
the average in OECD countries. For example, for all countries with average per capita GDP below the \$2 a day threshold, the child mortality rate of the richest 20 percent of the population is more than 10 times the OECD average of six years.<sup>11</sup> While this is also certainly the case with many other indicators, it is difficult to make statements about how large differences between countries are in comparison with inequalities within countries. Unlike the income inequality literature, there are no accepted practices for decomposing inequalities in health into within-country and between-country components.<sup>12</sup>

Consider, however, a simple thought experiment. In the 45 developing countries for which a Demographic Health Survey was available in 2000, 4.9 million infant deaths could be prevented by bringing their infant mortality levels to the OECD average. But if one eliminated the infant mortality gap between the rich and the poor within each of the same countries by lowering the infant mortality rate for everyone to the level of the top decile, 3.1 million infant deaths could be prevented.<sup>13</sup> While the average infant mortality rate for the rich in these poor countries is almost five times larger than the OECD average, it seems that eliminating within-country differences between the rich and the poor (by improving the health of the poor), at least in this particular case, would get us about two-thirds of the way to the number of total preventable deaths (by moving everyone to the OECD average).

So, while large differences in health outcomes remain between countries and within them, it is not possible to make definitive statements about the relative weight of these components in global health inequalities. One can say, however, that there is no clear presumption that inequalities between countries dwarf those within them. This finding, as we will see later in this chapter, stands in sharp contrast to that in incomes but is congruent with that in education.

While technical change in private and public health knowledge may be more important to account for the overall better health,<sup>14</sup> income may be important in the poorest countries, through its impact on

**Figure 3.2 Life expectancy is highly correlated with income, particularly in poor countries**



Source: Deaton (2004).

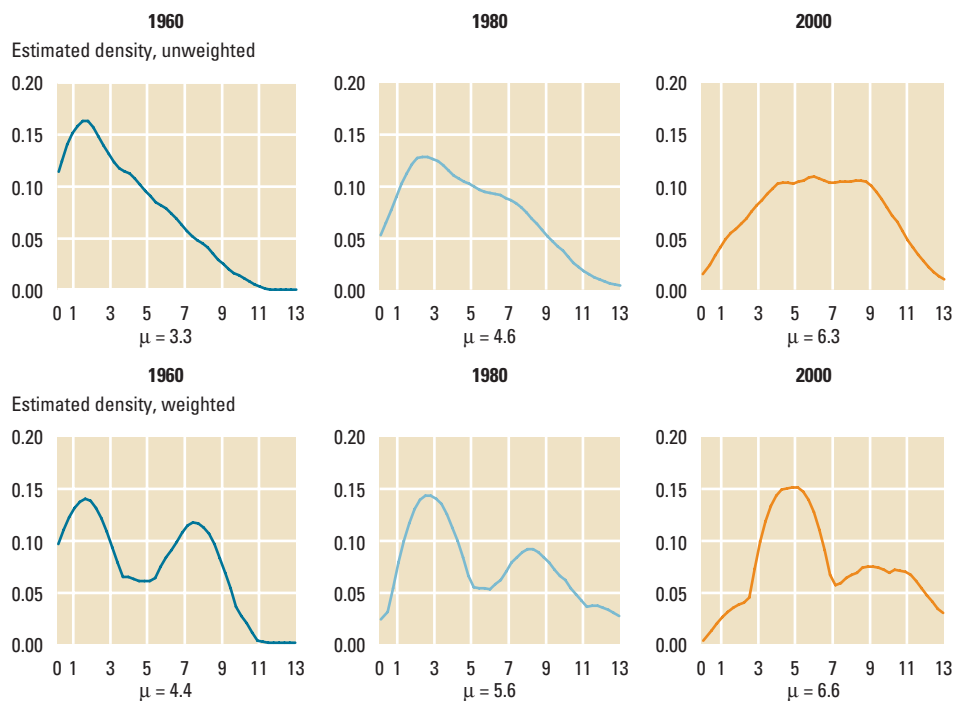
Note: The curve is nonparametrically fitted, weighted by population. The figure plots country life expectancy (using circles whose size is proportional to population) against GDP per capita in purchasing power parity (PPP) dollars at the turn of the twenty-first century.

the adoption of even inexpensive techniques, adequate nutrition, and water and sanitation infrastructure. Life expectancy increases steeply with income among the poorest countries (figure 3.2).<sup>15</sup>

But differences in income growth explain less than a sixth of the variation in improvements in life expectancy at birth. More important determinants are clean water, health systems, demand for adequately operated and equipped health systems, and basic sanitary knowledge, the latter two having much to do with education, particularly women's education.<sup>16</sup>

While life expectancy at birth continued to increase, and the infant and child mortality rates declined, the last decade of the twentieth century has seen a divergence between rich and poor countries.<sup>17</sup> The difficulties faced by Europe and Central Asia countries during transition, and the spread of HIV/AIDS and civil conflicts, were major factors in this, but they are not solely responsible.<sup>18</sup> Cornia and Menchini (2005) cite changes in health spending, public health programs, and the structure and stability of households as possible reasons for the slowdown in health progress in developing countries.

**Figure 3.3 The distribution of years of schooling improved greatly in the second half of the twentieth century**



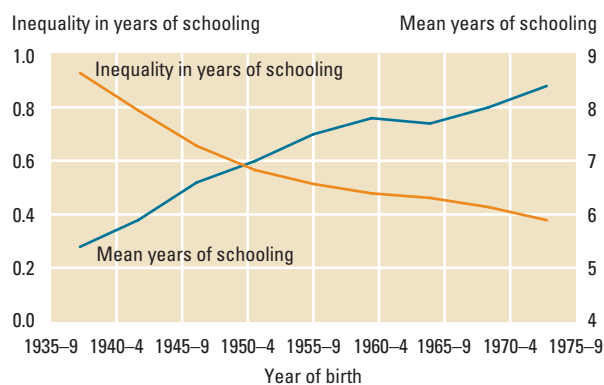
Source: Schady (2005).

### Global inequalities in education

The unweighted distribution of adult school attainment was clearly left-skewed in 1960 (figure 3.3). This reflects the fact that many countries, particularly in Africa and Asia, had mean years of schooling close to zero. The weighted distribution, like that for life expectancy at birth, was bimodal, with one peak around two years of mean schooling and a smaller peak around eight years.

Many of these countries saw large increases in enrollments in the 1960s, 1970s, and 1980s. As these younger cohorts aged, the mean years of schooling in their countries increased, and the skewness in the unweighted international distribution of schooling disappeared. Note that the bimodal distribution of schooling across persons (weighted by population) persisted until the 1990s and then gave way to a unimodal distribution only by 2000.

**Figure 3.4 Mean years of schooling increased while inequality declined across birth cohorts**



Source: Araujo, Ferreira, and Schady (2004).

Note: Inequality in years of schooling is measured using GE (0.5), that is, the general entropy class inequality measure with an inequality aversion parameter of 0.5.

By any measure the international distribution of years of schooling has undergone dramatic changes between 1960 and 2000. As mean levels have risen, inequality has fallen, decade after decade (figure 3.4). The mean years of educational attainment for the world almost doubled from 3.4 to 6.3 (table 3.2). Sub-Saharan Africa, the Middle East and North Africa, and South Asia started with high inequalities (not shown here) and reduced them over time—the Middle East and North Africa region was particularly successful. Latin America and the Caribbean and East Asia also had some inequalities, which they essentially eliminated for their youngest cohorts. Despite the progress, mean levels of educational attain-

ment in Sub-Saharan Africa and South Asia remain low even for the youngest cohorts.

While significant disparities remain in educational attainment across countries despite evidence of significant catch-up by poorer countries in the past half century, there is also large variation within countries (chapter 2). In fact, less than 20 percent of the inequality in educational attainment between adults born between 1935 and 1979 is attributable to that between countries, a share that has been steadily declining over time. While both inequality within and between countries is declining, the rate of convergence in country means has been faster.

The story remains the same when decomposing inequality in educational attainment into inequalities between men and women. Roughly a quarter of global inequality in educational attainment is attributable to differences between men and women, but this gap is again declining over time, from 31 percent in the oldest cohort in our sample, to 16 percent in the youngest. But there are large differences in this convergence by region (figure 3.5). While Latin America and the Caribbean, East Asia, and Europe and Central Asia seem to have reached gender parity in education, along with other developed countries, the progress in South Asia, Sub-Saharan Africa, and the Middle East and North Africa has been slower. Women still lag far behind men in educational attainment.

It should not be assumed that high attainment necessarily implies high achievement, and vice versa. An analysis of the relationship between attainment (measured by the percentage of 25 to 34 year olds with upper-secondary education) and achievement (measured by reading proficiency of 15 year olds) in 27 OECD countries (plus Brazil) shows a rank correlation coefficient between these two variables of 0.57. It is clear that the rankings of countries according to these two indicators are not the same. The Republic of Korea and Japan (at the top of the OECD distribution) and Mexico, Portugal, and Turkey (at the bottom) have similar ranks for both attainment and achievement. But the Czech Republic, Norway, and the United States do worse in achievement than attainment. And achievement rankings

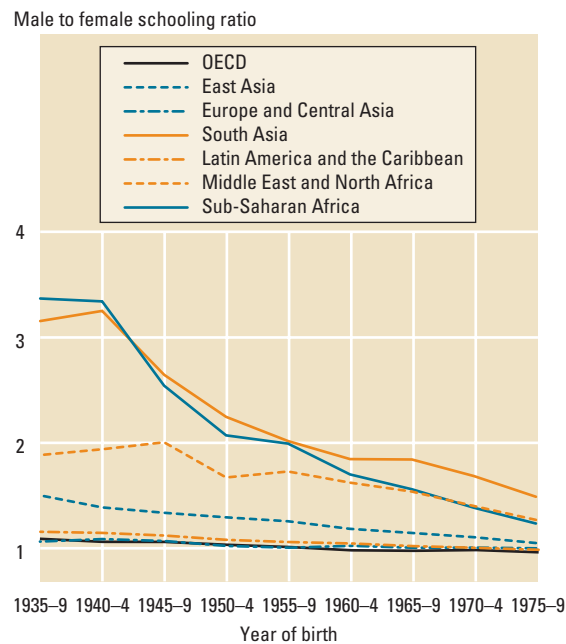
**Table 3.2 Mean years of schooling increased continuously while inequality declined**

	1960	1970	1980	1990	2000
<b>Mean</b>	3.38	3.82	4.67	5.55	6.30
<b>Coefficient of variation</b>	0.739	0.705	0.612	0.518	0.461
<b>Theil-T</b>	0.281	0.259	0.195	0.143	0.115
<b>Theil-L</b>	0.392	0.365	0.250	0.179	0.144

Source: Schady (2005).

Note: Theil-L and Theil-T are two inequality measures that belong to the general entropy class, with parameters 0 and 1, respectively (unweighted).

**Figure 3.5 Gender disparities in years of schooling declined but remained significant in some regions**



Source: Araujo, Ferreira, and Schady (2004).

of Australia, Finland, and Ireland are much higher than their rankings in attainment.

Achievement differences between developing countries and OECD countries remain strikingly large. Using internationally comparable assessments of reading, mathematics, and science, Pritchett (2004b) shows that developing countries do not just constitute the lower tail of the learning distribution, but that most actually do far worse than the poorest performing OECD countries. For example, children in Argentina, Mexico, and Chile perform about two (OECD) standard deviations below children in Greece—one of the poorest performing countries in the OECD. In reading competence (based on PISA 2001), the

average Indonesian student performed at the level of a French student at the seventh percentile. Considering children who have never attended school, those who enrolled but dropped out, and those who completed grade nine but whose test scores remain more than one standard deviation below the OECD mean in mathematics, Pritchett finds that 96 percent of 15 to 19 year olds in Morocco lack achievement in “adequate learning.”<sup>19</sup>

### Global inequalities in income and expenditure

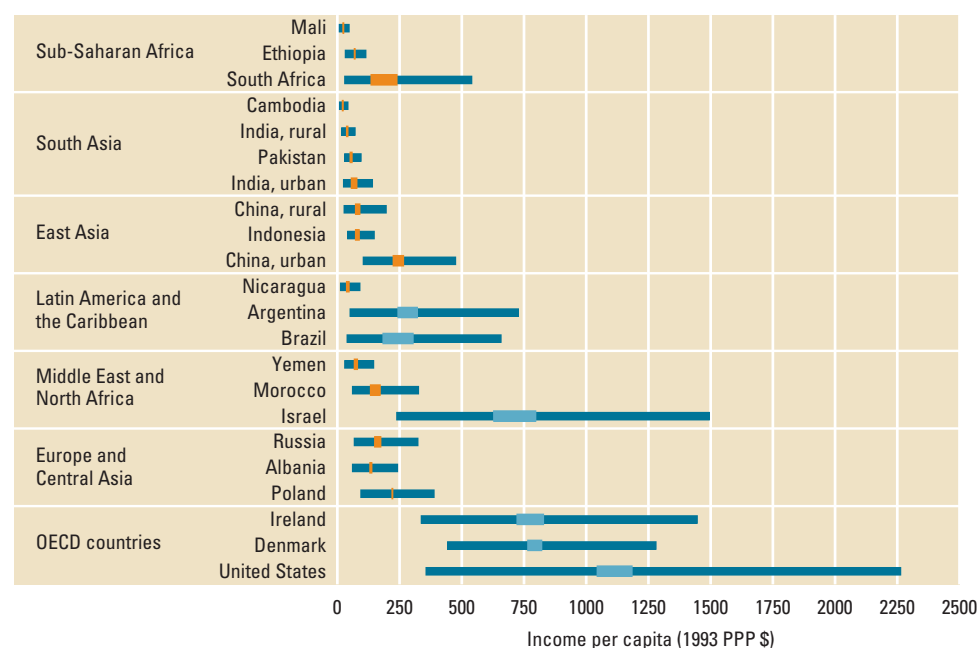
The answers to basic questions—such as whether income inequality has been increasing or decreasing—depends, among other things, on which concept of inequality is under the microscope: intercountry inequality (in the distribution of unweighted country means), international inequality (in the distribution of country means weighted by their population size), or global inequality (in the distribution of individual incomes).

We start the discussion by presenting the median and mean incomes of selected countries by region for a range of years

between 1997 and 2002, as well as the dispersion of those incomes within each country (figure 3.6). Large differences across countries and across people within countries are striking. For example, an individual in the tenth percentile in the U.S. distribution enjoys a level of income higher than an individual earning the mean income in Brazil or Argentina.<sup>20</sup> While a Chinese individual living in a rural area has a mean income similar to an average Cambodian, an urban Chinese enjoys a similar income to an average Brazilian.<sup>21</sup> A South African at the bottom of the income distribution in her country earns as much as the average individual in Mali while a South African at the ninetieth percentile of that income distribution enjoys a standard of living (in income) comparable to that of a median Irish individual.

The difference in the evolution of intercountry (unweighted) and international (weighted) inequality between 1950 and 2000—borrowing from Milanovic (2005), who calls this the “mother of all inequality disputes”—could hardly be more dramatic (figure 3.7). When countries are the unit of

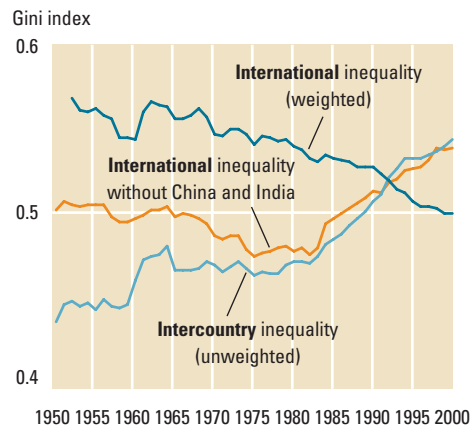
Figure 3.6 Incomes range broadly across countries and individuals



Source: Authors' calculations.

Note: Years range from 1997 to 2002 as measured by adjusted (1993 PPP \$) monthly per capita income (blue box) or consumption (orange box). The lowest point of each line represents the income level at the tenth percentile, followed by that at the median, the mean (the two edges of each box), and the ninetieth percentile (top of each line).

**Figure 3.7** Since 1950, intercountry inequality increased, while international inequality declined



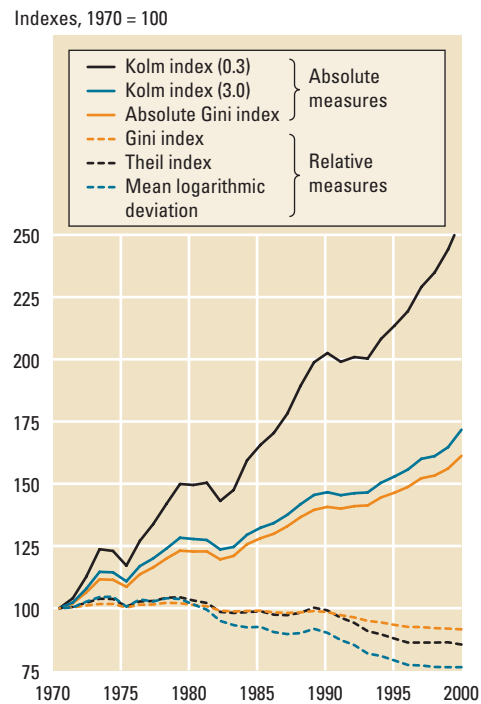
Source: Milanovic (2005).

observation, (intercountry) inequality has been undeniably increasing, especially since the 1980s. But international inequality has been steadily declining, thanks mostly to the income growth in some populous countries, mainly China and India. Note that intercountry inequality and international inequality without China and India track each other quite closely from 1980 onward, coinciding with the period of rapid growth in these two countries, the slower average growth in other developing countries, and the declines in measured output in Eastern Europe and former Soviet Union countries.

If Luxembourg and Nicaragua, at opposite ends of the world income distribution, grew at the same annual rate of 2 percent per capita a year for the next 25 years, the per capita yearly incomes in Luxembourg would increase from \$17,228 (PPP-adjusted) to \$28,264, an increase of more than \$10,000 dollars. That of Nicaragua, by contrast, would increase by a mere \$375, from \$573 to \$940, during the same period. Atkinson and Brandolini (2004) note that “with annual per capita growth rates of 5 percent in China and 2 percent in the United States, the absolute income gap between the two countries would widen for a further 41 years before starting to narrow, to finally disappear in 72 years.”

The evaluative judgments drawn about the distributional changes associated with globalization may depend crucially on whether one thinks about inequality in

**Figure 3.8** Unlike relative inequality, absolute inequality has been steadily increasing



Source: Atkinson and Brandolini (2004).

absolute terms or relative terms. There is no economic theory that tells us that inequality is relative, not absolute. Again, as with intercountry and international inequality, it is not that one concept is right and the other one wrong. Nor are they two ways of measuring the same thing. Instead, they are two different concepts. The revealed preferences for one concept over another reflect implicit value judgments about what constitutes a fair division of the gains from growth. Those judgments need to be brought into the open and critically scrutinized before one can take a well-considered position in this debate.

An examination of international inequality using absolute rather than relative measures of inequality reveals a steady increase over the long run, as well as in recent decades—this latter finding contrasts with relative international inequality trends. Atkinson and Brandolini (2004) find that absolute indexes of inequality, such as the Absolute Gini and the Kolm Index<sup>22</sup> (with various parameters of inequality aversion), have been increasing steadily since 1970 (figure 3.8).<sup>23</sup>

What happened to global inequality in the past 20 years or so has been the subject of fierce debate in the context of globalization and is perhaps the hardest question to answer. Some authors<sup>24</sup> claim that global inequality increased slightly, while others<sup>25</sup> argue that they have declined.

Examining global inequality requires knowledge of the distribution of inequality within each country. Household surveys that collect such data are a relatively new phenomenon, having become more common since the 1980s even in developing countries. So, if we want to know about the distribution of income for everyone in the world, we are confined to a much shorter time period. We have selected three waves, similar to those used by Milanovic (2005): 1986–1990, 1991–96, and 1997–current.

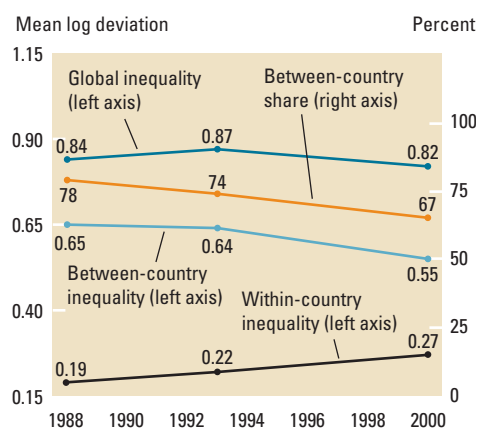
Global inequality (measured by the mean log deviation) did not change significantly over this period, although there is a slight decrease between 1993 and 2000 (figure 3.9). The mean log deviation for the world would have increased without China and India, consistent with the consensus in the literature that international inequality declined in this period thanks largely to these two countries. But if global inequality stayed roughly the same while international inequality declined, inequality within countries must have increased by approximately the same amount—a subject that we discuss below.

Most of the world's income inequality can be explained by the differences in country means—that is, by international (or between-country) inequality. Our estimates show that the share of global inequality, which can be attributed to inequality between countries, declined steadily from 78 percent around 1988 to 74 percent around 1993 and to 67 percent by around 2000. With global inequality staying roughly the same during this period, within-group inequality increased at a somewhat steady pace (figure 3.9). These results are consistent with the evidence (in chapter 2) of increasing inequality within countries in many parts of the world, including Bangladesh, China, the United Kingdom, and the United States.

The between-country share of global inequality is also consistent with Milanovic (2005), who puts this figure at about 71 percent in 1998. It is possible that the Milanovic figures overestimate between-country inequality because he assigns all households in a decile the same income instead of estimating a Lorenz curve (for percentiles). Our results use slightly improved data from Milanovic in three aspects. First, for many countries, we calculate our welfare measures using raw data at the household level, while Milanovic (and many others) use grouped data. Second, we incorporate more recent data for the current period, possibly providing an improvement in data quality, especially for Eastern European countries. Third, for the countries with grouped data, we estimate Lorenz curves instead of assigning everyone in the group with the same income.<sup>26</sup> That most of the global inequality in incomes is explained by between-country inequality seems to be a robust finding in the literature, in stark contrast with the picture in health and education.

Over a much longer period (1820–1992) Bourguignon and Morrisson (2002) estimate that global inequality has been steadily increasing, because of a rapid increase in international inequality until World War II, and then to smaller increases in both within-country and international inequality between 1970 and 1992 (figure 3.10).<sup>27</sup> They also argue that international

**Figure 3.9 The inequality decline between countries was neutralized by increases within countries**



Source: Authors' calculations.

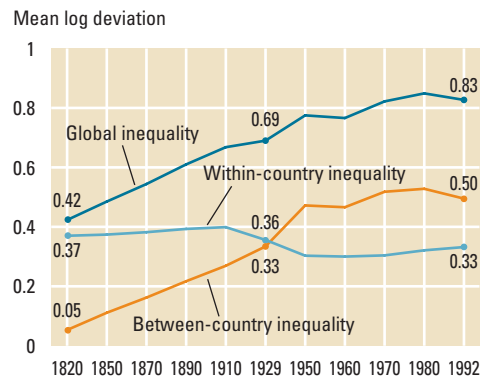
inequality was essentially negligible at the turn of the nineteenth century (accounting for roughly 12 percent of global inequality), but that it increased very rapidly until World War II, and then continued to increase, but at a much slower pace. Within country inequality, however, reached its peak around 1910 and declined dramatically between the two world wars (mainly because of equalizing forces in the now-developed countries), and started creeping back up only since the 1970s. The combined effect of these changes is an increase in the share of international inequality from roughly 10 percent in 1820 to more than 60 percent by 1992.

In summary, while the world got richer, income inequality—relative and absolute, international and global—increased tremendously over a long period of time (1820–1992). But the story is less clear-cut for a more recent time frame. In the post–World War II era, intercountry inequality (unweighted) has continued to increase while international inequality (weighted for population) declined. International inequality declined in the final decades of the twentieth century, because the inequality-reducing effects of income growth in China and South Asia more than offset the inequality-boosting effects of continued steady income growth in the now-developed countries and the declining incomes in Sub-Saharan Africa.

Pritchett (1997), examining the period between 1870 and 1990, argues that while there was convergence of incomes for today's developed countries (what Maddison 1995 calls the “advanced capitalist” countries), the growth rates between developed and developing economies show considerable divergence. He provides evidence that “the growth rates of developed countries are bunched in a narrow group, while those of less developed countries are all over with some in explosive growth and others in implosive decline.”<sup>28</sup>

Further evidence of convergence among rich countries and divergence between rich and poor countries comes from Schultz (1998), who estimates that international inequality accounted for about two-thirds of total inequality (measured by log vari-

**Figure 3.10 Inequality between countries became much more important over the long run**



Source: Authors' manipulation of data from Bourguignon and Morrisson (2002).

ance) between 1960 and 1990; however, there also were large differences by region. Inequality between the countries of OECD (and the rest of Europe including Turkey) decreased by 50 percent during this period, at the end accounting for only one-third of total inequality. During the same period, international inequality in Sub-Saharan Africa nearly doubled, causing its share in total inequality to increase from 20 percent to 36 percent. In both Sub-Saharan Africa and Latin America and the Caribbean, overall inequality levels remain high, while high-income countries show signs of convergence.

One can also examine inequality trends by focusing on the mobility of countries rather than by taking an anonymous approach to inequality comparisons. Poor countries' mobility from the bottom has been limited in the past 25 years. With the exception of China, the six countries that occupied the bottom decile (population-weighted) in 1980—all in Sub-Saharan Africa—had no growth worth noting.<sup>29</sup>

While there is significant upward mobility between 1980 and 2002—the 97.08 percent entry in the first row of table 3.3 is China—there is also troubling stagnation and downward mobility. Note that approximately 8 percent of each of the second and third income ranges fell into the bottom range over these two decades. “It is clear that no Pareto improvement has taken place in the world between 1980 and 2002, which leaves room for different value judgments

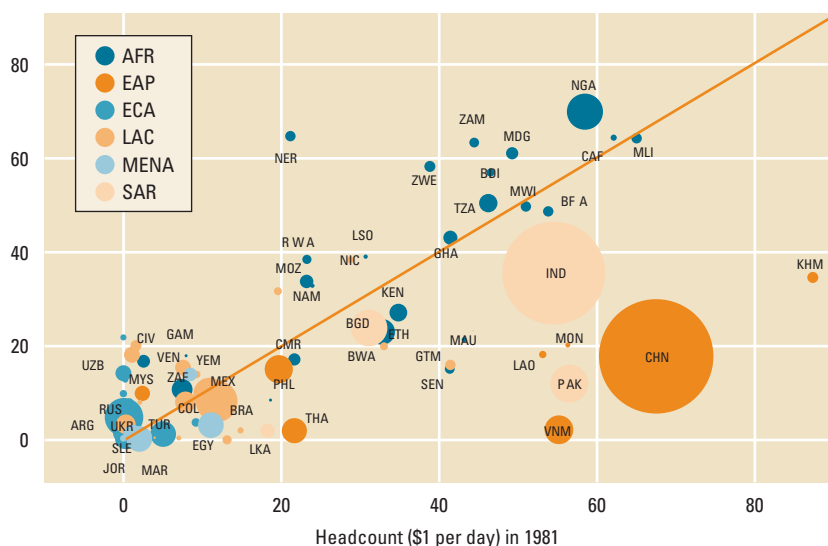
**Table 3.3 Mobility matrix in absolute country per capita incomes, 1980 to 2002**

Income in 1980	Income in 2002				
	<710	711–1,100	1,101–2,890	2,891–10,000	10,001>
<710	1.28%	1.64%	0.00%	97.08%	0.00%
711–1,100	8.23%	3.89%	87.88%	0.00%	0.00%
1,101–2,890	8.09%	0.56%	59.08%	32.28%	0.00%
2,891–10,000	0.00%	0.00%	0.98%	90.84%	8.17%
10,001>	0.00%	0.00%	0.00%	3.99%	96.01%

Source: Bourguignon, Levin, and Rosenblatt (2004a).  
Note: Incomes are per capita (constant PPP dollars).

**Figure 3.11 Absolute poverty declined globally, but not in every region**

Headcount (\$1 per day) in 2001



Source: PovcalNet (<http://iresearch.worldbank.org/PovcalNet/jsp/index.jsp>).

about the evolution of world welfare, inequality, and relative poverty.<sup>30</sup> Milanovic (2005) also point out the “downward mobility” of many countries in the past 40 years or so. Those who do not share the view that inequality between countries fell in the past 20 to 25 years—that is, those who take the “unweighted” view of the world—may have such mobility concerns in mind.

Absolute poverty rates have declined in the past 20 years or so, and a variety of studies have confirmed this trend (figure 3.11).<sup>31</sup> Overall, while there are roughly 400 million fewer people who live on less than a \$1 a day in 2001 than there were in 1981, the number of poor people in Sub-Saharan Africa almost doubled, from approximately 160 million to 313 million.

While some populous countries, almost exclusively in Asia, such as Bangladesh, China, India, and Pakistan, made significant headway against extreme poverty, almost all increases in extreme poverty—especially in countries with high initial headcount rates—took place in Sub-Saharan Africa.<sup>32</sup> Among the larger countries with rising headcount rates are Nigeria, South Africa, and Tanzania.

If the poverty trends discussed here continue, the Millennium Development Goal of halving the proportion of people living on less than \$1 a day will be met. But only East and South Asia will reach this goal. We cannot be satisfied if this were to happen. Other things equal, we would prefer to see the poverty rate falling at the same pace in all countries. Currently, hundreds of millions of people in numerous developing countries lack the opportunity to avoid hunger, poor health, and low access to vital services, such as education and clean water.<sup>33</sup>

## Global inequalities in power

One of the main arguments in the concluding chapter of this report is that the rules and processes in global markets can be unfair to developing countries. A country’s power in decision making in multilateral banks is usually correlated with its economic strength. Even when each country has equal representation in an international body, such as the United Nations system or the World Trade Organization (WTO), powerful forces can chisel away at developing-country interests (through separate bilateral agreements, for example). And the capacity of developing countries to make informed decisions can be limited.

Poor countries lack the financial and human capital resources that would allow them to be equal participants in the international bodies in which decisions are taken that affect them and, beyond that, in setting the rules under which the international system operates.<sup>34</sup>

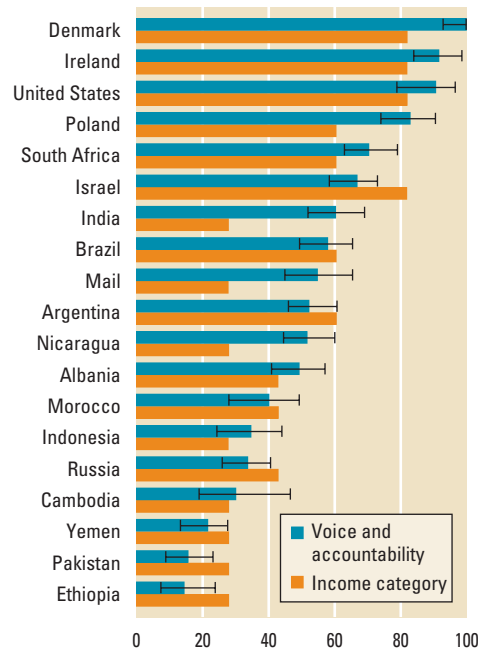
In the International Bank for Reconstruction and Development (IBRD)—the market-lending arm of the World Bank—a country’s voting power depends on the percentage of IBRD shares it holds. The largest shareholders are the United States with 16.4

percent of the vote, Japan with 7.9 percent, Germany with 4.5 percent, France and the United Kingdom with 4.3 percent. Each has a representative on the Board of Directors. By contrast, all Sub-Saharan countries together have two representatives and 5.2 percent of the vote. China and India both have 2.8 percent of the vote.<sup>35</sup> Country influence in setting the agenda for the institutions is not limited to board membership. A 1998 study by Filmer and others (1998) shows that roughly two-thirds of the senior management-level positions at the World Bank are occupied by citizens of Part I (mainly OECD) countries, although these countries account for less than one-fifth of the global population and a smaller share of the number of member countries.

At the WTO, each member country has one vote. Moreover, because decisions are by consensus, each country effectively has veto power. So the WTO is, at least on paper, perhaps the most democratic of international organizations. In practice, the ability of countries to influence the agenda and decisions depends crucially on their capacity to be present, to follow negotiations, to be informed, and to understand fully the impact of the complex issues at hand. A rough indicator of a country's capacity is the size of its representation in Geneva. A study by Blackhurst, Lyakurwa, and Oyejide (2000) found that only 8 of the 38 Sub-Saharan countries had close to five (the WTO average) resident delegates listed in the WTO directory. Worse, 19 of the 38 countries—half of the Sub-Saharan WTO membership—had no delegate resident in Geneva. Only Nigeria had a delegation that deals solely with the WTO.<sup>36</sup>

Even when country representation in the international arena is considered adequate, it is debatable whether the representatives of some countries are fully accountable to their citizens. There are considerable differences among countries in the extent to which their political and legal institutions provide citizens with fair, transparent, and inclusive environments to enhance and leverage their assets. While there are numerous problems with trying to measure such things, Kaufmann, Kraay, and Mastruzzi (2004), in the most comprehensive compar-

**Figure 3.12 There is no one-to-one relationship between voice and income**



Source: Kaufmann, Kraay, and Mastruzzi (2004).

Note: "Voice and accountability" refers broadly to the extent to which citizens have freedom of expression, a free press, and open elections based on a statistical compilation of responses on the quality of governance given by a large number of enterprise, citizen, and expert survey respondents in industrial and developing countries, as reported by a number of survey institutes, think tanks, nongovernmental organizations, and international organizations. Countries' relative positions on these indicators are subject to margins of error that are clearly indicated. Consequently, precise country rankings should not be inferred from these data.

ative assessment to date, integrate data collected by 25 separate sources constructed by 18 (commercial and advocacy) organizations. The authors used the data to provide a common empirical basis to assess the relative differences among countries of the quality of their "governance."

Figure 3.12 summarizes information on "voice and accountability," which refers broadly to the extent to which citizens have freedom of expression, a free press, and open elections, using standardized measures for selected countries (the same ones as in figure 3.6). The upper bar for each country represents the country's percentile rank in the "voice and accountability" distribution with the intersecting black rule line representing the confidence interval. The lower bar is the average percentile score for the income category to which the country belongs.<sup>37</sup> The top of the "voice" rankings is

filled with wealthy countries, such as Denmark, the United States, Ireland, and Israel. The voice ranking of such countries as South Africa, Poland, and especially Mali and India exceed their ranks in incomes. The opposite is true for China, Ethiopia, Pakistan, and the Russian Federation. Cambodia and the Republic of Yemen are both quite poor and rank low in freedom of expression. It is clear that there is no one-to-one relationship between citizens' voice and average income at the country level.

### A glimpse of the future

Despite improvements over time, inequalities among countries in various dimensions remain unacceptably high. Each year 10.5 million child deaths are preventable in the sense that these children would not have died if they had been born in rich countries.<sup>38</sup> The mean educational attainment level for adults born in 1975–79 in Sub-Saharan Africa remains at 5.4 years, compared with 10.1 years in Latin America and Caribbean and 13.4 years in developed countries. Developing countries also face massive challenges in influencing the global rules and processes that determine outcomes, which matter greatly to the well-being of their citizens.

International inequalities in educational attainment have been steadily declining. This is also true in health—one's country of birth 50 years ago was much more pertinent to survival than it is today. In this sense, opportunities across countries are equalizing. But improvements in life expectancy at birth have reversed since the early 1990s, because of the devastating effects of HIV/AIDS and the difficult circumstances facing citizens of some transition economies. The world distribution of incomes, by contrast, was becoming secularly more unequal from the early nineteenth century until about the end of World War II. Since the war, international inequality between countries has decreased immensely, because of the fast growth in China and India in more recent times, and global inequality has leveled off. Because China and India are only two countries, intercountry inequality in incomes has continued to increase.

What explains the convergence in health and education and the lack of it in incomes? Deaton (2004) points out that, while gains in income were undoubtedly important for improving nutrition and funding better water and sanitation schemes, some countries made progress in reducing child mortality even in the absence of economic growth. These improvements came from the globalization of knowledge, facilitated by local political, economic, and education conditions. A possible explanation for the disconnect between the convergence in education and the divergence in incomes is that education is not translating into human capital and that the rise in per worker schooling explains only a small part of the growth in output per worker.<sup>39</sup>

We have seen that the story of income inequality in the world has been a story of falling international inequalities and rising within-country inequality. For global inequality, these two effects are offsetting, and the conclusion drawn depends on knowing which effect dominated. The decline in international inequality is largely due to fast income growth in China and South Asia.<sup>40</sup> But as China and South Asia catch up to the world average, their equalizing effect will diminish. And if they continue to develop at similar rates to that in the past two decades, the effect of their growth will increase international inequality.<sup>41</sup> Without the offsetting effect of declining international inequality, global inequality would also be on the rise again unless inequality within countries starts to decline and Sub-Saharan African economies begin to experience healthy growth. This suggests that the future of world income inequality will increasingly be a function of economic growth in Africa (and some other low-income countries under stress), especially if the population growth rates in Africa remain above the world average. That both population growth and economic growth in Africa have been stunted by the AIDS tragedy is doubly disturbing.

On whether today's poor countries with stagnant economies will take off, some researchers are optimistic. Lucas (2003) suggests that the countries that have not yet joined the industrial revolution (which he

attributes to socialist planning, lawlessness, and corruption) will become the miracle economies of the future. He reckons that the growth rates in these catch-up countries may be quite high and that they will also go through a similar demographic transition experienced by today's developed countries. The world population will stop rising and world production growth will stabilize until all countries, economically, start resembling countries like the United States, thanks to free trade and the diffusion of technology.

Pritchett—who calls this idea “advantage to backwardness”<sup>42</sup>—remains more cautious. Conceding that such rapid gains in productivity are a possibility, he argues that “the cases in which backward countries, and especially the most backward of countries, actually gain significantly on the leader are historically rare.”<sup>43</sup> He observes that there are also forces for “implosive” declines in these countries, suggesting that backwardness may also carry “severe disadvantages.”

On health in Sub-Saharan Africa, the UN Population Division projects that life expectancy at birth in Africa will decline over the next 5 to 10 years and then start climbing again, reaching 65 years by about 2050.<sup>44</sup> These projections assume that HIV/AIDS prevalence rates in Africa will peak sometime before 2010 and then decline over the next decades. But the Joint United Nations Programme on HIV/AIDS estimated that 43 percent of pregnant females in 2000 were HIV positive in Botswana and 19 percent in South Africa.<sup>45</sup>

Thus, millions of babies are being infected at birth, which is mostly preventable with proper interventions. Life expectancy in Africa would not improve much, and certainly not soon, if these assumed improvements in HIV/AIDS prevalence rates do not materialize.

Because South Asia has almost caught up to the world average in life expectancy, Sub-Saharan Africa will be the only region significantly affecting health inequalities between countries, barring a major catastrophe elsewhere.<sup>46</sup> So, improvements in life expectancy in Sub-Saharan Africa are the key to future declines in international health inequalities. Chapter 2 documented within-country inequalities in health opportunities for children born to poor or rich parents, educated or uneducated mothers, in rural or urban areas, and so on. Steep gradients in health opportunities and outcomes exist along these dimensions in many countries. A confident assessment of past and future trends in health inequality awaits future research.

If the trends that brought about the catching up of many poor countries outside of Africa continue in health, education, and incomes, the biggest challenges will remain in Africa and some poor countries in other regions. Growth with equity needs to be revived in stagnating economies around the world, and the AIDS tragedy (along with the folly of preventable diseases) needs to be addressed urgently, especially in Sub-Saharan Africa. These remain the biggest global challenges in development today.