

Thinking clearly about the future requires looking critically at the past. In this chapter and the next we assess the evolution of the dimensions of development included in the Human Development Index (HDI; health, education and income) and identify advances and setbacks. We find substantial progress but also considerable variability across countries and time. Progress has been extensive for education, somewhat less so for health and much more variable for income. Despite advances, serious inequalities remain. The gulf separating developed and developing countries is still huge, and some key aspects show no sign of closing.

As stressed in chapter 1, human development encompasses more than health, education and income. The chance to lead a meaningful life depends on the conditions people face, including the distribution of advantages in their society, the possibilities for participating in decision-making and the way choices affect the well-being of future generations. These dimensions merit their own exploration—and receive it in chapter 4.

Trends since publication of the first *Human Development Report (HDR)* reflect longer run processes, so this chapter extends the period of the review. We investigate a specially created dataset covering HDI trends for 135 countries since 1970. We summarize the broad patterns and then discuss progress in each of the three HDI dimensions.

## Recent trends in human development: through the lens of the Human Development Index

The HDI is a central contribution of the *HDR*. Intended as a simple measure of development and as an alternative to gross domestic product (GDP), it captures progress in three basic capabilities: to live a long and healthy life, to be educated and knowledgeable and to enjoy a decent standard of living. In the words of the *HDR*'s founder, Mahbub ul Haq, it shares many of the flaws of GDP but is more relevant to people's lives.<sup>1</sup>

The HDI helps answer some basic questions about the progress of societies, such as which countries have progressed faster and whether poor countries are catching up with

rich ones. Such questions are often addressed using income. However, a much clearer picture of development comes from measures that consider progress more broadly.

Since its inception, the HDI has been revised several times to address major criticisms.<sup>2</sup> This 20th anniversary is an opportunity to reinforce the HDI's credibility and ensure its continuing relevance, building on key strengths and learning from major recent initiatives that are similar in spirit. Among them are the Global Project on Measuring the Progress of Societies, hosted by the Organisation for Economic Co-operation Development, and the Stiglitz-Sen-Fitoussi

Commission. In this Report, we introduce several improvements to the indicators and the construction of the HDI (see box 1.2 in chapter 1 and *Technical note 1* for details).<sup>3</sup>

As described in chapter 1, this Report introduces new indicators into the HDI to exploit the greater availability of data, especially as some indicators—such as the literacy rate—have become less useful precisely because of the progress observed. However, this chapter and the next are about measuring the past, not just the present. For such a historical assessment, data for the original indicators (life expectancy, literacy rate, gross enrolment and per capita GDP) are more broadly available and remain meaningful. Therefore, this chapter and the next use a combination of the original HDI and the new—the original indicators and the new functional form—in what we call a hybrid HDI.<sup>4</sup> (Box 2.1 defines the HDI, the hybrid HDI and other basic terms used in this Report.) For simplicity, we refer to this as the HDI in these two chapters.

## Overall patterns

For the first time since 1990, this Report provides a systematic review of patterns and trends in human development; previous efforts were hampered by sparse data.<sup>5</sup> The analysis is based on a new dataset of human development trends since 1970, covering 135 countries that account for 92 percent of the world's population.<sup>6</sup>

Measured in terms of the HDI, progress around the world has been impressive (figure 2.1). The world average HDI rose to 0.68 in 2010 from 0.57 in 1990, continuing the upward trend from 1970, when it stood at 0.48 (table 2.1).<sup>7</sup> This increase reflects aggregate expansions of about a fourth in the health and education indicators and a doubling of income per capita.<sup>8</sup>

The aggregate global measures are strongly influenced by the most populous countries—China and India. Even so, global figures unweighted by population (and thus reflecting average country performance) show similar progress.<sup>9</sup>

### BOX 2.1

#### Basic terms used in this Report

*Convergence.* A narrowing over time of the gap between countries for a particular indicator.

*Country.* A shorthand term used to refer to countries or territories, including provinces and special administrative regions that directly report data to international statistical agencies.

*Developed/developing.* Countries in the very high HDI category (see below) are referred to as developed, and countries not in this group are referred to as developing. The terms are used for convenience only, to distinguish countries that have attained the highest HDI levels.

*Deviation from fit.* A measure of progress that captures changes in a country's indicators relative to the average change for countries starting from the same point.

*Gender Inequality Index (GII).* A measure that captures the loss in achievements due to gender disparities in the dimensions of reproductive health, empowerment and labour force participation. Values range from 0 (perfect equality) to 1 (total inequality).

*Human Development Index (HDI).* A composite measure of achievements in three basic dimensions of human development—a long and healthy life, access to education and a decent standard of living. For ease of comparability, the average value of achievements in these three dimensions is put on a scale of 0 to 1, where greater is better, and these indicators are aggregated using geometric means (see box 1.2 in chapter 1).

*Hybrid HDI.* HDI calculated using the new functional form described in chapter 1 and the indicators used up through the 2009 *Human*

*Development Report (HDR):* life expectancy, literacy rate, gross enrolment and per capita GDP. For reasons that include greater data availability, this method is more suitable to the exploration of long-term trends presented in chapters 2 and 3.

*Inequality-adjusted HDI (IHDI).* A measure of the average level of human development of people in a society once inequality is taken into account. It captures the HDI of the average person in society, which is less than the aggregate HDI when there is inequality in the distribution of health, education and income. Under perfect equality, the HDI and IHDI are equal; the greater the difference between the two, the greater the inequality.

*Multidimensional Poverty Index (MPI).* A measure of serious deprivations in the dimensions of health, education and living standards that combines the number of deprived and the intensity of their deprivation.

*Top/bottom movers.* The countries that have made the greatest or least progress in improving their HDI, as measured by the deviation from fit criterion.

*Very high, high, medium, low HDI groups.* Country classifications based on HDI quartiles. A country is in the very high group if its HDI is in the top quartile, in the high group if its HDI is in percentiles 51–75, in the medium group if its HDI is in percentiles 26–50 and in the low group if its HDI is in the bottom quartile. Earlier HDRs used absolute rather than relative thresholds.

Note: See chapter 5 and *Technical notes 1–4* for details on the new indices.

Advances in the HDI have occurred across all regions and almost all countries (see table 2.1). The fastest progress has been in East Asia and the Pacific, followed by South Asia, then the Arab States. All but 3 of the 135 countries have a higher level of human development today than in 1970—the exceptions are the Democratic Republic of the Congo, Zambia and Zimbabwe.

Which countries have been most successful in furthering the human development of their people? Table 2.2 shows the top 10 movers—the countries with fastest HDI increase in our sample. These new results offer some interesting insights—and unexpected contrasts.

A country's progress in human development can be measured in various ways, and which countries are classed as top movers depends on the standard used to judge change.<sup>10</sup> This Report uses the deviation from fit—the country's deviation from its expected improvement given its initial HDI and the improvement of countries at a similar starting point—as the measure of country progress over time.<sup>11</sup> Figure 2.2 illustrates how the method works: it selects the countries whose improvement is farthest above or below what would be expected given their initial level of development. This measure builds on earlier research by Gustav Ranis and Frances Stewart, who assessed a country's progress in relation to its HDI group.<sup>12</sup>

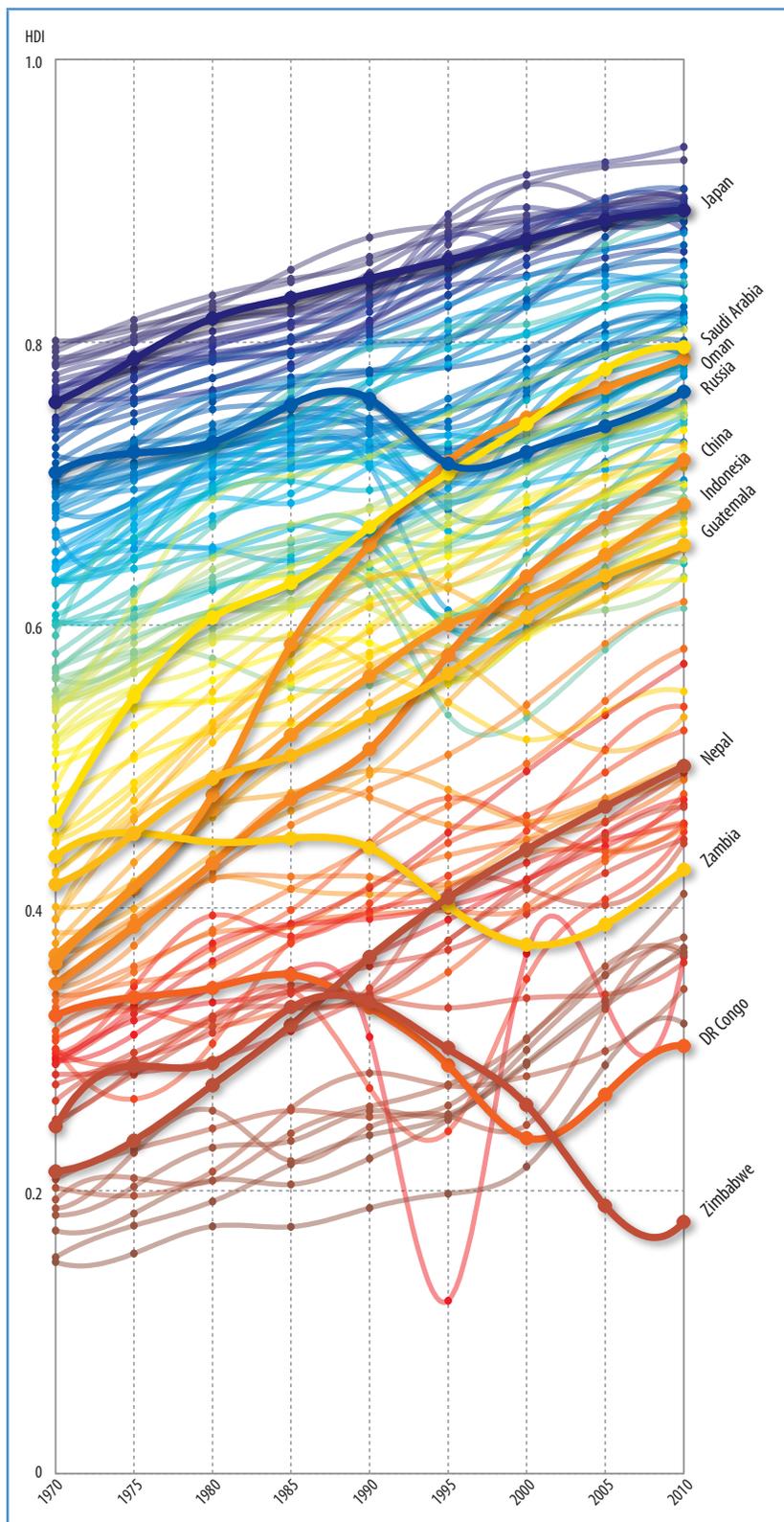
The top movers include several countries in East and South Asia and the Arab States (both from North Africa and the oil-rich Gulf region). Oman—a country that benefited from oil discoveries at the beginning of the period—tops the list, followed by China, Nepal and Indonesia. Since the method used to evaluate progress compares countries with similar initial HDI levels, some countries experiencing rapid progress from low starting points—such as Nepal and Lao PDR—are on the list. A more in-depth discussion of some of these cases—as well as of others with more disappointing experiences—is provided in box 2.2 and box 3.3 in chapter 3.

Strikingly, this list contains several countries not typically described as success stories. This is because several countries make it into

## FIGURE 2.1

### Overall progress, significant variability

Worldwide trends in the Human Development Index, 1970–2010



Note: Results are for a sample of 135 countries based on the hybrid HDI described in box 2.1. The top movers (as defined in box 2.1) are Oman, China, Nepal, Indonesia and Saudi Arabia; the bottom movers are DR Congo, Zambia and Zimbabwe.

Source: Hidalgo (2010) based on HDRO calculations using data from the HDRO database.

## Widespread improvements in the Human Development Index since 1970

Trends in the hybrid HDI and components by regional and HDI groups, 135 countries, 1970–2010

	Hybrid HDI			Life expectancy			Literacy			Gross enrolment			Income		
	Value	% change		Value	% change		Value	% change		Value	% change		Value	% change	
	2010	1970–2010	1990–2010	2010	1970–2010	1990–2010	2010	1970–2010	1990–2010	2010	1970–2010	1990–2010	2010	1970–2010	1990–2010
<b>Regional groups</b>															
Developing countries	0.64	57	23	68	21	8	81	61	21	66	28	24	5,873	184	89
Arab States	0.66	65	20	70	37	10	74	149	41	64	89	22	8,603	66	44
East Asia and the Pacific	0.71	96	35	73	23	9	94	76	18	69	7	31	6,504	1,183	352
Europe and Central Asia	0.75	13	4	69	3	2	97	7	2	82	17	7	11,866	120	20
Latin America and the Caribbean	0.77	32	12	74	24	9	92	27	10	83	59	16	11,092	88	42
South Asia	0.57	72	31	65	33	12	66	113	46	59	64	29	3,398	162	119
Sub-Saharan Africa	0.43	53	21	52	19	7	65	183	43	54	109	42	1,466	20	28
Developed countries	0.89	18	7	80	13	6	99	2	1	92	33	14	37,185	126	38
OECD	0.89	18	7	80	13	6	99	2	1	93	33	14	37,105	125	38
Non-OECD	0.86	24	9	80	14	7	96	13	6	79	29	10	40,043	263	58
<b>HDI groups</b>															
Low	0.44	61	27	55	27	11	63	180	48	52	98	43	1,434	33	44
Medium	0.65	83	31	69	25	9	82	79	24	65	21	28	5,010	606	237
High	0.77	24	9	73	15	7	93	20	8	82	38	13	12,610	94	35
Very high	0.89	18	7	80	13	6	99	2	1	92	33	14	37,185	126	38
<b>1970 hybrid HDI quartiles</b>															
1 (lowest)	0.60	82	32	66	22	8	76	96	29	61	23	33	4,323	560	250
2	0.69	51	16	71	34	11	88	53	15	74	55	16	7,334	110	53
3	0.79	24	9	75	15	6	96	11	4	85	36	16	14,486	152	54
4 (highest)	0.88	16	6	79	11	5	99	1	0	91	29	11	34,585	122	36
<b>World average</b>	<b>0.68</b>	<b>41</b>	<b>18</b>	<b>70</b>	<b>18</b>	<b>7</b>	<b>83</b>	<b>39</b>	<b>15</b>	<b>70</b>	<b>26</b>	<b>20</b>	<b>10,645</b>	<b>107</b>	<b>47</b>

Note: All values are population weighted. Life expectancy is in years, literacy and gross enrolment are in percentages and income is in purchasing power parity 2008 US dollars. See *Definitions of statistical terms* for more detailed descriptions. The sample covers 135 countries, and thus the group aggregates may differ from those presented in statistical tables 1–17. The hybrid HDI is distinct from the 2010 HDI reported in statistical tables 1 and 2: it uses the same functional form but a different set of indicators that are available over a longer time period (see box 2.1). HDI groups are based on the 2010 HDI.

Source: HDRO calculations using data from the HDRO database.

our top 10 list thanks to their high achievements in health and education, in some cases even with unexceptional growth performance. Thus, our list is very different from, say, that presented by the Spence Commission on Growth and Development.<sup>13</sup>

Also remarkable is the general lack of overlap between top performers in growth and those in health and education. Only Indonesia and South Korea are in the top 10 for both income and nonincome dimensions. Of the remaining eight countries, five enter the list through higher levels of health and education; only one (China) enters solely through its

growth performance. The new HDI functional form recognizes balanced development, so that two countries with moderately high progress on both income and nonincome dimensions (Lao PDR and Morocco) make it into the top movers.

Although no countries from Sub-Saharan Africa are in the top 10, Ethiopia comes in at 11, and several African countries are in the top 25 (see box 2.2). Perhaps most notable is the absence of any Latin American country—the top mover there, Guatemala, comes in 22nd. Even so, the top performers are diverse not only in regional origin but in how they achieve success.

**TABLE 2.2**

**Fastest progress in human development comes in different ways**

Top movers in HDI, nonincome HDI and GDP, 1970–2010

Rank	Improvements in		
	HDI	Nonincome HDI	Income
1	Oman	Oman	China
2	China	Nepal	Botswana
3	Nepal	Saudi Arabia	South Korea
4	Indonesia	Libya	Hong Kong, China
5	Saudi Arabia	Algeria	Malaysia
6	Lao PDR	Tunisia	Indonesia
7	Tunisia	Iran	Malta
8	South Korea	Ethiopia	Viet Nam
9	Algeria	South Korea	Mauritius
10	Morocco	Indonesia	India

Note: Improvements in HDI and nonincome HDI are measured by the deviation from fit—how well a country does relative to other countries starting from the same point (see box 2.1). Improvements in income are measured by the annual percentage growth rate in per capita GDP.

Source: HDRO calculations using data from the HDRO database.

**Convergence—big time**

The HDI can help assess whether poor countries are closing the gap with rich countries. This question is generally answered by looking at some measure of difference in a specific indicator between poor and rich countries or by assessing whether less developed countries are advancing more rapidly than more developed ones. Many researchers have investigated this question using GDP as a measure of development. They have generally concluded that the gap is widening.<sup>14</sup>

**Catching up**

But the HDI tells a more optimistic story. Overall, poor countries are catching up with rich countries in the HDI (see table 2.1). The HDI gap between developing and developed countries narrowed by about a fifth between 1990 and 2010 (and by about a fourth since 1970). For example, the HDI more than doubled for Mali (from 0.17 to 0.37), Nepal (from 0.22 to 0.50) and Oman (from 0.36 to 0.79). Good news indeed, this occurred despite the large divergence in incomes.<sup>15</sup>

One might suspect that this convergence is an artefact of the HDI being bounded at 1

or of some indicators—like the literacy rate—having natural upper bounds.<sup>16</sup> While these factors contribute to convergence, they are not the only explanation. Dispersion fell significantly for all the health and education variables that go into the HDI—including those for which the existence of an upper bound is debatable.<sup>17</sup> In contrast, incomes show increased divergence. Statistical tests confirm that upper bounds on these variables do not generate the convergence.<sup>18</sup> But even if the bounds contribute to the convergence, the substantive result—that health and education outcomes are becoming more alike in poor and rich countries—still holds.<sup>19</sup>

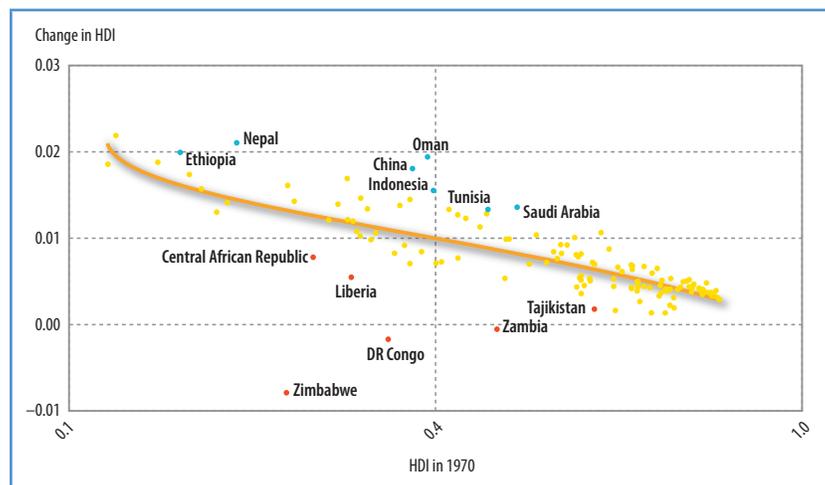
Consider life expectancy. Someone born in The Gambia in 1970 could expect to live to age 41—some 33 years fewer than someone born in Norway. By 2010 life expectancy in The Gambia had increased by 16 years (to 57) but in Norway by only 7 years. Thus, while the gap in life expectancy between Norway and The Gambia is still huge (24 years), it has shrunk by more than a fourth.

On average then, living in a developing country today is more similar—at least for these basic health and education indicators—to living in a developed country than was the case 40 or even 20 years ago. However, this is not true for all developing countries.

**FIGURE 2.2**

**Top movers vary across regions, but bottom movers are concentrated in Africa**

Top and bottom movers as measured by deviation from fit, 1970–2010



Note: HDI values in 1970 are in logarithmic scale.

Source: HDRO calculations using data from the HDRO database.

Sub-Saharan Africa is typically considered the region facing the greatest challenges in human development. Across all dimensions, it has the lowest Human Development Index (HDI) indicators of any region. However, several African countries have registered substantial progress in improving human development. Ethiopia ranks 11th in progress over time; Botswana, Benin and Burkina Faso are also among the top 25 countries with the fastest progress in human development.

Consider Burkina Faso. That it is a top mover may seem surprising: it ranks 126th on the HDI of the 135 countries in our sample. But the country has achieved major strides on the HDI since 1970, when it ranked 134th.

Public policies certainly helped—it ranked sixth among countries with the fastest growth in access to an improved water source since 1970. Access to basic services spread, with primary school enrolment rising from 44 percent in 1999 to 67 percent in 2007. Despite rapid demographic change, income poverty (measured by the share of the population living below \$1.25 a day) declined 14 percentage points to 57 percent between 1994 and 2003.

That Burkina Faso is among the top movers illustrates how our method for assessing progress—which compares countries to those with a similar starting point—works. In fact, other countries with similar starting points experienced economic and social implosions, while Burkina Faso more than doubled its HDI. Our results also shed light on the debate about the “Burkina paradox”—low human development performance despite growth and macroeconomic stability. When progress is evaluated through changes over time and compared with that of countries with similar starting points, the paradox disappears.

By contrast, some African countries have seen dramatic setbacks in human development. The region is home to the only three countries whose HDI is lower today than in 1970: the Democratic Republic of the Congo, Zambia and Zimbabwe.

Zambia experienced declines in life expectancy, gross enrolment and income—for many reasons. The collapse of copper prices in 1980 sparked a protracted depression that shrank the economy by a third. Incomes have yet to return to previous levels. It also suffered from waves of refugees fleeing civil wars in neighbouring Angola and Mozambique and from the HIV epidemic, which gave the country the fifth highest HIV prevalence in the world. The lack of resources and the HIV epidemic hurt the provision of public services. Chapter 4 shows that 63 percent of Zambians suffer poverty in multiple dimensions, similar to the share living below \$1.25 a day.

Zimbabwe was often praised for the progressive social policies adopted after the overthrow of minority White rule. In the 1980s public spending on health and education, especially for rural health centres, water, sanitation and rural schools, rose rapidly. Infant mortality rates were halved between 1980 and 1993, and child immunization rates rose from 25 percent to 80 percent. However, the government faced challenges in sustaining expansion, especially when the economy collapsed because of poor economic management. The HDI fell from 0.34 in 1990 to 0.26 in 2000, driven by a contraction of three of the four indicators used to calculate the HDI—the literacy rate was the exception. Income poverty increased, and people coped in part by moving to towns and neighbouring countries. The HIV epidemic was a further shock, compounding the strains on public services. The income poverty rate is now around 62 percent (up from 42 percent in 1995).

Source: World Bank 2009a, 2010g; Grimm and Günther 2004; UNDP Zambia 1997; UNDP 1998; WHO 2010b; Mwabu and Fosu 2010.

In several countries—mainly in Southern Africa and the former Soviet Union—life expectancy has declined. A handful of countries—including, perhaps most strikingly, China—have also seen drops in gross enrolment.<sup>20</sup> Moreover, in several more cases of some absolute improvements—such as for Armenia and Trinidad and Tobago—these have not been sufficient to narrow the gap with developed countries. In general, however, most developing countries have enjoyed rapid and significant progress in health and education.

A concern more difficult to address due to lack of data is the possibility that the quality of both healthcare and education could be diverging between developing and developed countries.<sup>21</sup> This concern underlines the importance of the measurement agenda in chapter 6.

### *Local variability*

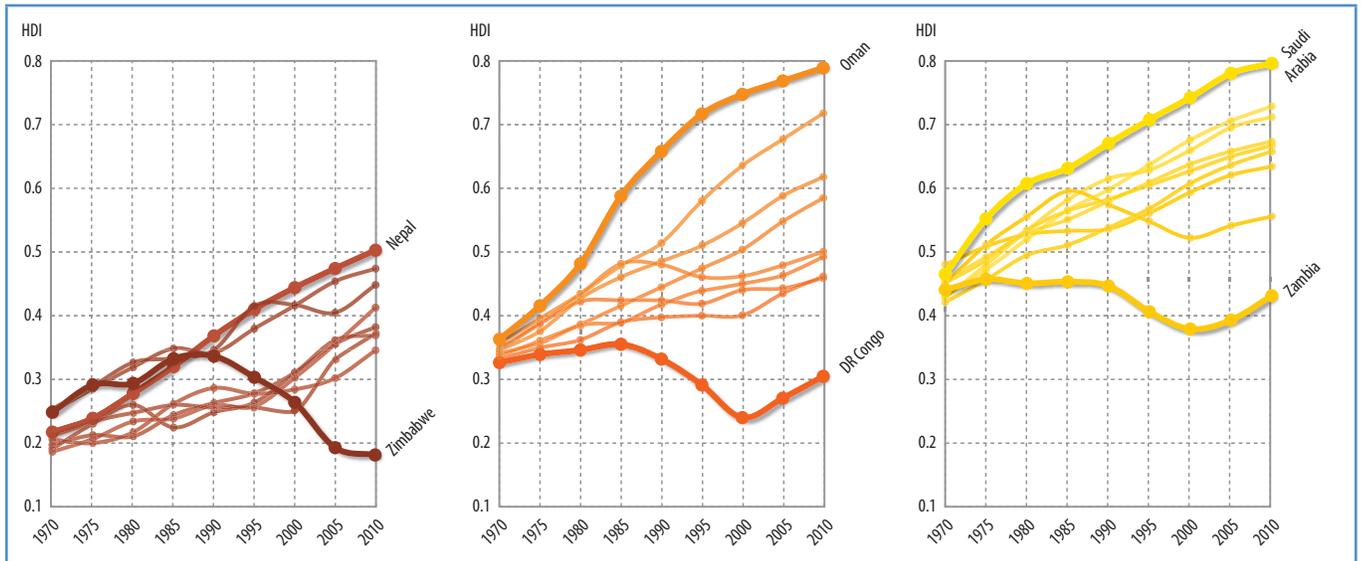
Not all countries have seen rapid progress, and the variation is striking. Over the past four decades a fourth of developing countries saw their HDI increase less than 20 percent, while another fourth experienced a more than 65 percent increase. Since 1990, 10 countries have seen no overall improvement in the HDI.<sup>22</sup> The recent global financial crisis and the East Asian financial crisis of 1997–1998 remind us that progress is not linear, even for countries that perform well. Economic crises can throw countries off track. So can shocks that affect health and education directly, such as epidemics and natural disasters.

To some extent, these differences in rates of progress reflect different starting points—convergence means that less developed countries tend, on average, to improve more rapidly

**FIGURE 2.3**

**Diversity of paths**

Evolution of the HDI from similar starting points in 1970



Source: HDRO calculations using data from the HDRO database.

than more developed ones. However, half the variation in HDI progress is unexplained by initial HDI level, and countries with similar starting points experience remarkably different evolutions over time (figure 2.3). This evidence suggests that country factors such as institutions, geography and policies—and even pure luck (good and bad)—are important in determining outcomes.

Take Morocco and Côte d’Ivoire. Measured by the variables that go into the HDI, they had similar levels of development in 1970 and so might be expected to have followed similar development paths. However, their human development trajectories diverged widely. Over the 40 years to 2010, life expectancy rose

20 years in Morocco but just 11 years in Côte d’Ivoire. Today, 61 percent of Moroccan children are enrolled in schools, far more than the 38 percent in Côte d’Ivoire, and Morocco’s per capita income is 2.7 times Côte d’Ivoire’s.

There is a story behind these differences. Political instability and a protracted civil war held back Côte d’Ivoire, and active social policies appear to have made a big difference in Morocco. Understanding the causes of these variations is of major policy relevance, and we explore them in detail in the next chapter.

By design, the HDI gives only a summary assessment of progress. We need to look at what happened in each of the relevant dimensions—and we do so in turn in the following sections.

**Longer lives, better health**

Many countries have achieved large gains in life expectancy. A baby born today in almost any country can expect to live longer than at any time in history. Life expectancy has risen most in the Arab States, by more than 18 years since 1970 (just more than a third). Even in Sub-Saharan Africa, life expectancy is more

than eight years longer than in 1970. And increases in longevity were more than twice as rapid in the bottom quarter of countries in the 1970 HDI distribution than in the top quarter. In several developing countries—including Chile and Malaysia—mortality rates are about 60 percent what they were 30 years ago.

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If children were still dying at the higher rates prevalent in the late 1970s, 6.7 million more children would die each year

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Figure 2.4 illustrates the extent and breadth of this progress. Alongside the country values of life expectancy represented in the left panel, we introduce a “thermal image” graph in the right panel that helps us see where countries are clustering in the distribution of health achievements. The “hotter” areas—those shaded red and yellow—show that many countries cluster at high life expectancy levels, with very few still at the lower levels (green and blue). This pattern of clustering at high levels is striking for health and education but not, as we will see below, for income (see figures 2.7 and 2.10 later in the chapter).<sup>23</sup> But while life expectancy increased in most countries, some saw precipitous declines. This is also well captured by the thermal graph, which shows some areas of “heat” (shaded yellow) towards the bottom of the right panel.

What accounts for this progress? Mortality rates have fallen faster in infants and children than in adults. If children were still dying at the higher rates prevalent in the late 1970s, 6.7 million more children would die each year.<sup>24</sup> Absolute progress has been fastest in developing countries from the 1970s to the 2000s (figure 2.5). From 1970 to 2005, for example, infant mortality declined by 59 per 1,000 live births in developing countries, almost four times the decline of 16 per 1,000 in developed countries. However, the percentage decline continues to be faster in developed countries (77 percent) than in developing countries (59 percent).<sup>25</sup> And huge health gaps remain, with eight times more infant deaths per 1,000 live births in developing countries than in developed countries. Less than 1 percent of child deaths occur in developed countries.<sup>26</sup>

Maternal mortality ratios have also fallen, though by how much is uncertain. UN estimates show a modest 5 percent decline since 1990—from 430 deaths per 100,000 live births to 400.<sup>27</sup> A recent study using vital registration data, censuses, surveys and verbal autopsy studies found lower levels of maternal mortality and a somewhat faster decline of 22 percent (from 320 per 100,000 to 251) in the same period.<sup>28</sup> These data indicate that even the bottom five countries—Mauritania, Eritrea, Angola, Sierra Leone and

Guinea-Bissau—reduced maternal mortality (from 1,159 per 100,000 live births to 711). Alternative estimates coincide in one basic assessment: progress is far slower than needed to reach the Millennium Development Goal target of reducing maternal deaths by three-fourths between 1990 and 2015.<sup>29</sup>

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## Progress has slowed

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Health progress has slowed since 1990. Average life spans rose about six years between the 1970s and 1990s, but only four years in the subsequent two decades.<sup>30</sup> Adult mortality since the 1990s has fallen 23 percent for women and 6 percent for men, much slower than the declines of 27 percent and 26 percent in the previous two decades. Infant mortality rates also fell more slowly.

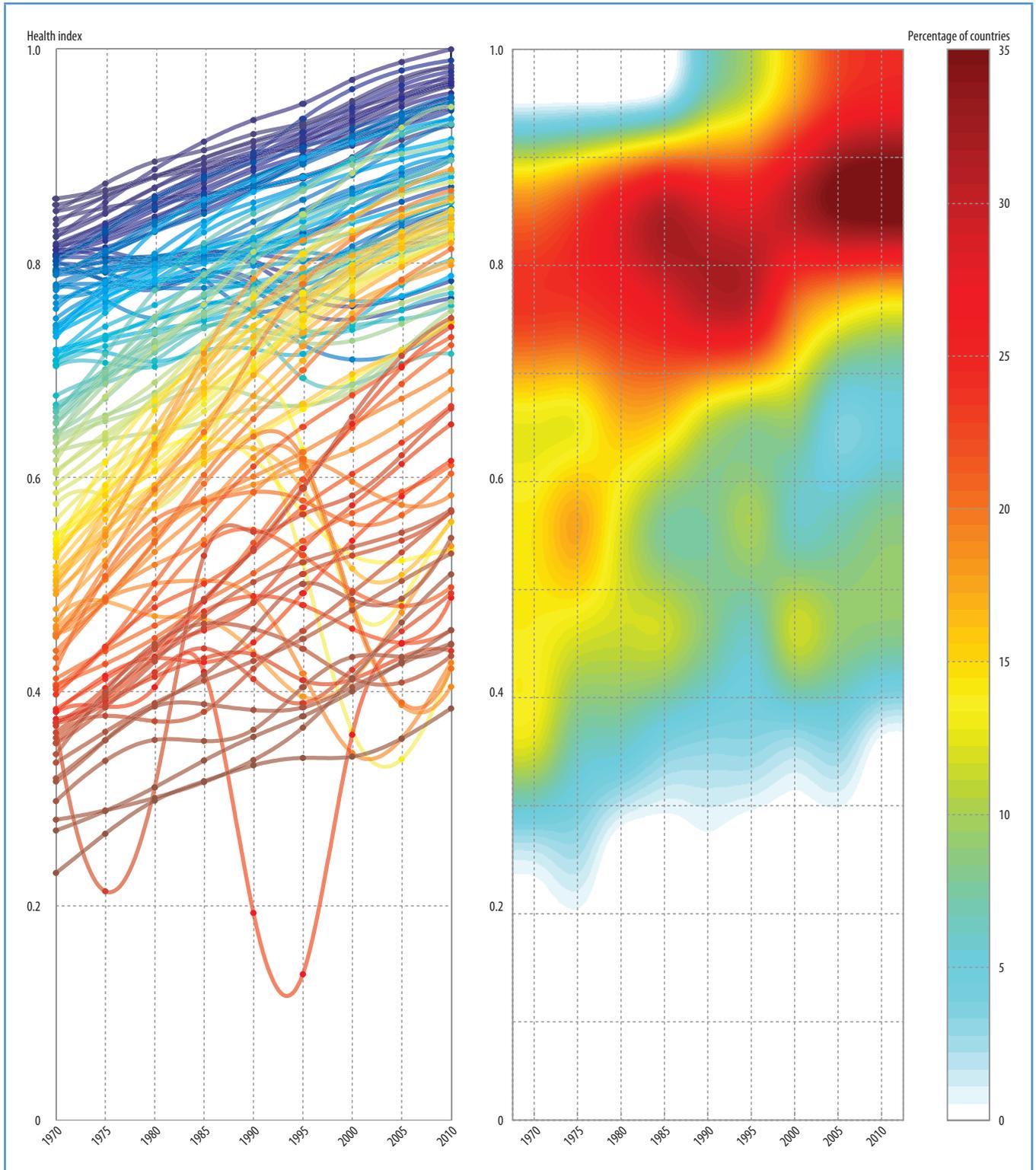
This slowdown in aggregate progress is due largely to dramatic reversals in 19 countries (home to about 6 percent of the world’s people) that experienced declines in life expectancy in the past two decades. In nine countries life expectancy fell below 1970 levels: six in Africa (the Democratic Republic of the Congo, Lesotho, South Africa, Swaziland, Zambia and Zimbabwe) and three in the former Soviet Union (Belarus, the Russian Federation and Ukraine). Driving these declines are the HIV epidemic and the mortality reversal in transition economies. These phenomena have partially offset the convergence in health outcomes observed since 1990, though some convergence—albeit slow—is observed between the rest of developing countries and developed ones (figure 2.6).<sup>31</sup>

The decline in several Sub-Saharan African countries can be clearly linked to the HIV epidemic. Since the 1980s AIDS has slashed life expectancy in Southern Africa, where adult HIV prevalence rates still exceed 15 percent.<sup>32</sup> In the most affected countries life expectancy is now below 51 years; in Lesotho it stands at 46—similar to that in England before the Industrial Revolution. Since 2000 HIV prevalence rates appear to have been stabilizing (though in some cases at very high levels), and most of Southern Africa has seen some recent

**FIGURE 2.4**

**Progress in health**

Worldwide trends in life expectancy, 1970–2010

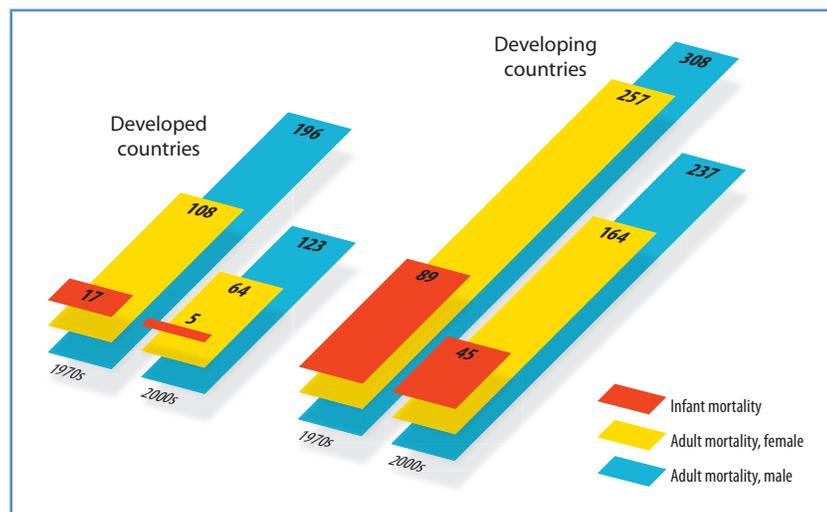


Note: Results are for a sample of 135 countries based on the hybrid HDI described in box 2.1. The health index is calculated applying the methodology presented in *Technical note 1* to life expectancy and thus represents the contribution of the health dimension to both the hybrid HDI and the HDI. The left panel shows the time series for each country; the right panel represents the relative distribution of countries, with colours closer to red denoting a higher share of countries in the corresponding area.

Source: Hidalgo (2010) based on HDRO calculations using data from the HDRO database.

**FIGURE 2.5** Progress in key health indicators, but developing countries still lag

Selected health indicators, 1970s and 2000s

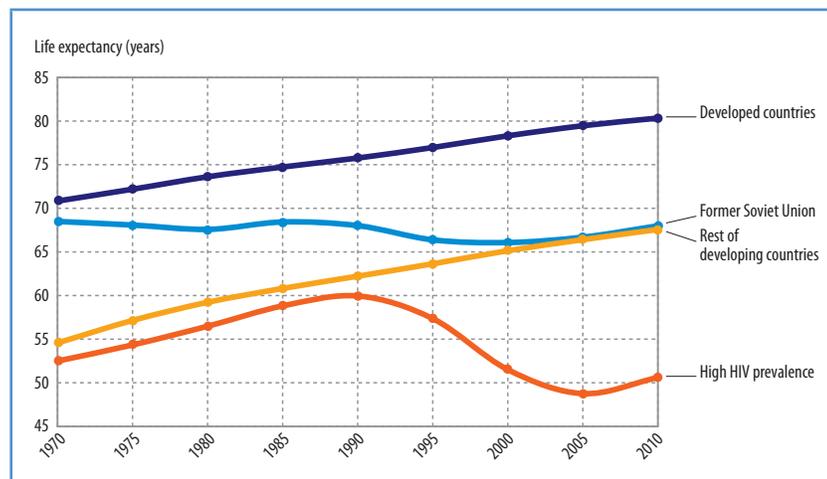


Note: Infant mortality is the number of deaths per 1,000 live births; adult mortality is the number of deaths per 1,000 adults.

Source: HDRO calculations using data from World Bank (2010g).

**FIGURE 2.6** Declines in life expectancy for the former Soviet Union and countries severely affected by HIV

Trends in life expectancy around the world, 1970–2010



Note: A country is considered to have a high HIV prevalence if the rate exceeds 15 percent, which is the case for seven countries in our sample (Botswana, Lesotho, Namibia, South Africa, Swaziland, Zambia and Zimbabwe).

Source: HDRO calculations using data from the HDRO database.

recovery in life expectancy. The exceptions: Lesotho, South Africa and Swaziland, which suffered further declines (of about four years) over the last decade.

The declines in life expectancy in the former Soviet Union were concentrated among

men. In the Russian Federation male life expectancy plummeted by seven years from 1989 to 1994. There is considerable debate over the causes.<sup>33</sup> Alcohol consumption and, after 1990, stress during the transition to a market economy—with high inflation, unemployment and uncertainty—appear to be important in explaining the trends, though disentangling the effects is not easy.<sup>34</sup> One study found that 21 percent of 25,000 men autopsied in Siberia between 1990 and 2004 whose deaths were attributed to circulatory diseases had lethal or near-lethal ethanol concentrations in their blood.<sup>35</sup>

Yet one cannot simply conclude that the transition to a market economy was the main driver of higher mortality. Some transition economies with a similar initial worsening in mortality—including Kyrgyzstan and Montenegro—saw a rapid recovery beginning in the early 2000s. In addition, the decline in life expectancy in the former Soviet Union had started before the transition—it fell by 1 year in the 1970s, a time when life expectancy in the world was increasing by 3.5 years.<sup>36</sup>

Many factors other than disease affect mortality trends. Public sector involvement has been important, with notable changes over time and across countries. Health service fees were introduced in Africa in the late 1980s and subsequently challenged for several reasons, including the limited revenue raised.<sup>37</sup> Several countries in East and Southern Africa have recently abolished fees for some preventive health services for pregnant women, infants and young children. There is evidence of immediate positive effects, with more use of healthcare services among young children. After Uganda abolished fees in 2001, new cases treated rose 19 percent for children under age five, and in the following two years use of government health units in rural areas rose 77 percent.<sup>38</sup>

Health is also affected by conflict, which not only results in deaths and injuries but strains weak public health systems, destroys the infrastructure to deliver medicine and immunizations and makes populations vulnerable to disease and worse.<sup>39</sup> Widespread conflict—as in Afghanistan (1979–1989; 2001–today), Cambodia (1967–1999) and Mozambique

(1975–1992)—can inflict immense damage on people’s health.<sup>40</sup>

Yet stories vary across countries, depending on the nature and intensity of the conflict and the humanitarian response. Conflicts in more isolated areas have not adversely affected nationally measured outcomes (such as Uganda’s northern insurgency), while some countries have even made health advances despite conflict, thanks to extensive humanitarian efforts to deliver basic services. This was the case, for example, in Afghanistan, which saw infant and under-five mortality rates drop by a fourth from 2002 to 2004, thanks to major efforts in constructing health centres and district hospitals, training community health workers and applying simple technologies such as standardized drug kits.<sup>41</sup>

### **Hunger—the many-headed monster**

Mortality data measure one key—if dramatic—aspect of well-being. However, surviving is just one part of leading a long and healthy life. Being well nourished is another. Those who survive need to be sufficiently well nourished to live decently and fulfil their life plans. Going to bed hungry—or falling asleep due to lack of energy—is one of the most tangible deprivations that people can face.

Nutrition is an aspect of health where income matters—hungry people who have more money are likely to spend it on food. And as famously illustrated by Amartya Sen’s ground-breaking work on famines, hunger often reflects the lack of means to acquire food rather than general food scarcity.<sup>42</sup> However, more income does not always guarantee proper nutrition, and people who are not poor can still go hungry.

In fact, differences persist between numbers of poor people—estimated by dollar a day thresholds—and numbers of hungry people. This variation reflects differences in how the two states are measured differently as well as weaknesses in the data.<sup>43</sup> It also reflects influences other than income on the nutritional outcomes of family members—such as maternal

health and education, and feeding and hygiene practices in the home. Researchers in India have highlighted women’s health and feeding practices and the limited reach of public health services as key factors.<sup>44</sup> A study in East Africa commissioned for this Report found that vaccinations and medical care during birth reduce child malnutrition, as does women’s education.<sup>45</sup>

Inadequate nutrition also affects the way people—particularly children—acquire knowledge and participate in society. It hampers the ability to work and be productive and thus limits the ability to earn the income needed to lead a decent life. And the irreversibility of some health consequences of malnutrition—blindness from vitamin A deficiency, physical stunting from protein shortages—reinforces the urgency of eradicating hunger.<sup>46</sup>

Jean Drèze and Amartya Sen wrote that “hunger is a many-headed monster,” highlighting the many ways a lack of food can affect people’s freedoms.<sup>47</sup> Hunger is also a behemoth—and a stubborn one. Hunger persists despite the remarkable boost in food production brought about by the green revolution between the early 1960s and the early 1980s. By 2000 further gains in food production had contributed to lower prices for most staples. The share of undernourished people in developing countries fell from 25 percent in 1980 to 16 percent in 2005.

According to the most recent data used to monitor progress towards the hunger Millennium Development Goal, there have been encouraging advances in reducing the rate of malnourishment. But the absolute number of malnourished people—defined by minimal energy consumption—hardly budged from 850 million since 1980, although it spiked recently to around 1 billion. Of these, 63 percent are in Asia and the Pacific, 26 percent in Sub-Saharan Africa and 1 percent in developed countries.<sup>48</sup>

While many millions of people have too little to eat, millions eat too much. The recent rise in obesity, especially in children, jeopardizes advances in the care of cardiovascular disease, stroke and diabetes. Severe obesity can reduce life by 5–20 years, leading some specialists to conclude that life expectancy in the United

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**Going to bed hungry—  
or falling asleep due to  
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people can face**

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States is likely to level off and may even fall by 2050.<sup>49</sup> These risks are the result not just of higher income but also of cultural influences that can be transmitted across borders. Mexico,

where people's incomes average only a fifth those of the United States, has shares of obese and overweight people similar to those in the United States.<sup>50</sup>

## Knowledge expands possibilities

No country has seen declines in literacy or years of schooling since 1970

Knowledge expands people's possibilities. It promotes creativity and imagination.<sup>51</sup> In addition to its intrinsic value, it has substantial instrumental value in expanding other freedoms. Being educated empowers people to advance their interests and resist exploitation.<sup>52</sup> Educated people are more aware of how to avoid health risks and to live longer and more comfortable lives.<sup>53</sup> They also tend to earn higher wages and have better jobs. Many uneducated parents value schooling because they believe education will enable their sons and daughters to overcome the indignities their families face.

Progress in education has been substantial and widespread, reflecting improvements in the quantity of schooling and in equity of access for girls and boys. To a large extent, this reflects greater state involvement, though many developing countries have proven more capable of putting children in school than of giving them a high quality education.

### Education levels higher than ever

People around the world today have much higher levels of education than ever before—a result that holds across many different measures of education. Take years of schooling: an average person age 15 or older in 1960 had fewer than 4 years of schooling—by 2010 this number had doubled globally and more than tripled in developing countries (from 1.9 years to 6.4). Since the first *HDR* in 1990 average years of schooling have risen by two years and gross enrolment ratios by 12 percentage points—while literacy rates have risen from 73 percent to 84 percent.

Progress has been widespread. No country has seen declines in literacy or years of

schooling since 1970. And education has been extended to many more people: since 1960 the proportion of people who attended school has risen from 57 percent to 85 percent. This means that many countries have achieved success in education, at least as measured by the conventional HDI indicator—one of our key motivations for the refinements discussed in box 1.2 in chapter 1.

The average education index used in the HDI, which combines information on enrolment and literacy, captures this general picture of widespread progress (figure 2.7). As in health, the thermal graph in the right hand panel signals a strong concentration at the top of the distribution.

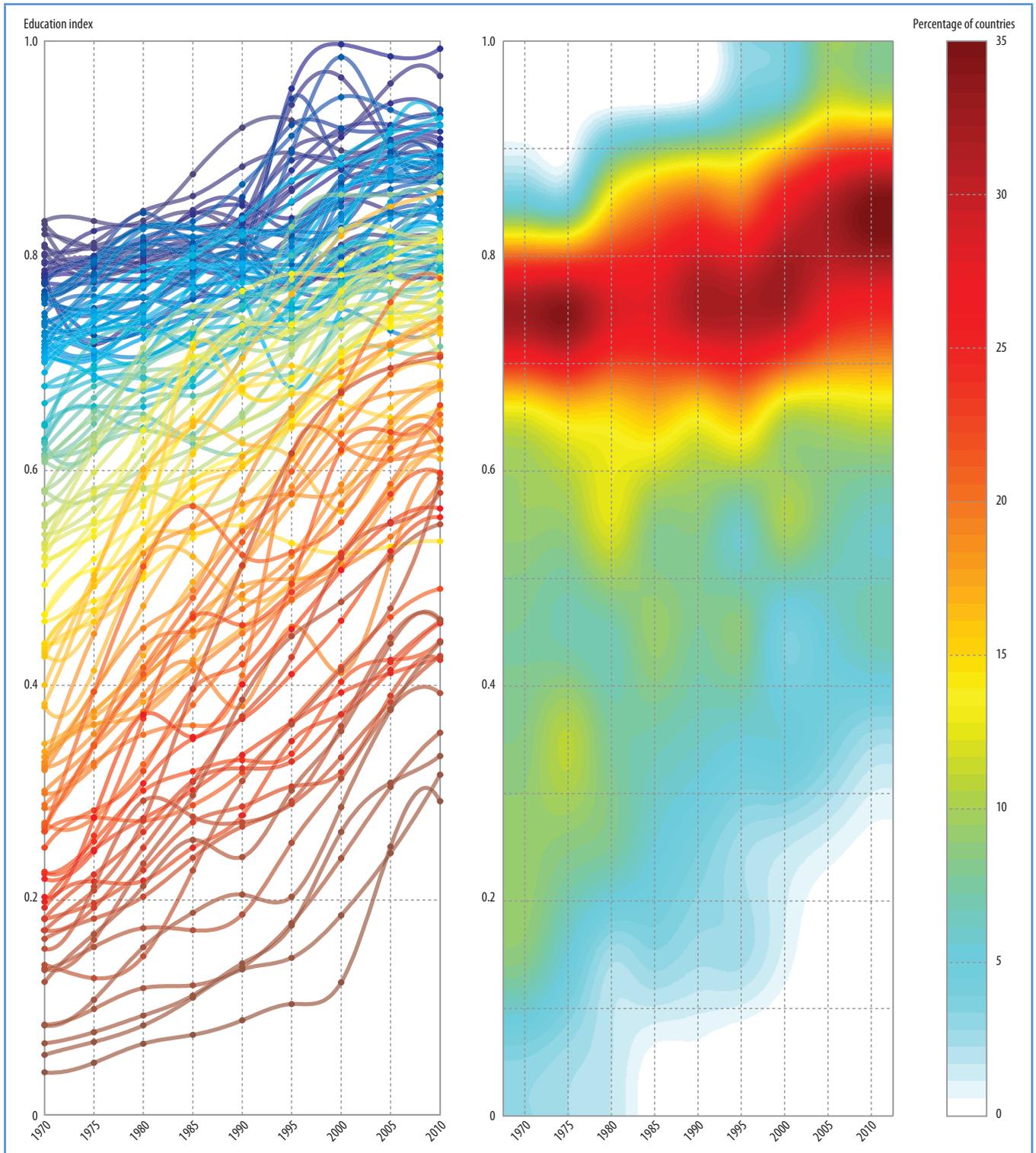
Even these increases may underestimate progress. Literacy and years of schooling reflect past access to education (or lack of it) by people who are adults today; thus, measured progress may not reflect recent advances in schooling for the young population. People who have not been in school tend to be older: in developing countries almost 36 percent of people ages 65–74 never attended school compared with only 7 percent of those ages 15–24. The youth literacy rate now exceeds 95 percent in 63 of the 104 countries with data and is 99 percent in 35 (including such medium HDI countries as Moldova and Samoa). This suggests that lack of basic writing skills will cease to be a major constraint on access to knowledge.

Enrolment ratios and expected years of schooling—the number of years of schooling that today's children can expect to have once they grow up, given current enrolment ratios—give a better picture of children's current access to education. Average world enrolment ratios are now 100 percent or higher for primary education in both developed and developing

**FIGURE 2.7**

**Progress in education**

Worldwide trends in education levels, 1970–2010



Note: Results are for a sample of 135 countries based on the hybrid HDI described in box 2.1. The education index is calculated applying the methodology presented in *Technical note 1* to the country's rate of adult literacy and combined primary, secondary and tertiary gross enrolment ratios and thus represents the contribution of the education dimension to the hybrid HDI. The left panel shows the time series for each country; the right panel represents the relative distribution of countries, with colours closer to red denoting a higher share of countries in the corresponding area.

Source: Hidalgo (2010) based on HDRO calculations using data from the HDRO database.

countries, and both groups have made substantial strides in higher levels of education as well—though developing countries still have large gaps to close (figure 2.8).<sup>54</sup> Not only are more children going to school—but more of those who go are finishing: primary completion rates have risen from 84 percent to 94 percent since 1991. Increased enrolment is reflected in expected years of schooling, which has risen from 9 years in 1980 to 11 years today and from 5 years to 8 years for low HDI countries.

### Gender differences narrowing

Enrolments have increased faster for girls than for boys over the past few decades, and from 1991 to 2007 the ratio of female to male primary enrolment rose in all regions. Both primary and secondary school completion rates have improved more rapidly for girls.

On average between 1991 and 2007, girls' completion rates rose 29 points, to 87 percent; boys' rates rose 17 points, to more than 90 percent.<sup>55</sup> Improvements in girls' rates are reflected in the progress in secondary school enrolment. In 79 of the 134 countries with data—including Bangladesh and Lesotho—secondary school enrolment of women relative to men exceeds 98 percent. In another 17 countries

the female to male enrolment ratio is at least 95 percent.

However, there is still plenty of room for improvement: of the 156 countries with data, only 87 have primary school enrolment ratios for girls close to or above those for boys.<sup>56</sup> While gender gaps are small on average for young children in developing countries, they remain pronounced for older children in rural areas. In Bolivia 35 percent of rural girls and 71 percent of urban boys are enrolled in school. In Guinea the rates are 37 percent and 84 percent.

In contrast, women's enrolment in higher education, also on the rise, exceeds that of men in many parts of the world. In the Arab States, for example, where enrolment in higher education rose 45 percentage points, the average is now 132 women for every 100 men. Lagging are South Asia and Sub-Saharan Africa, with female to male ratios of 75 percent and 51 percent. Among the countries farthest behind are Guinea and Niger, where three men for every woman are enrolled in higher education.

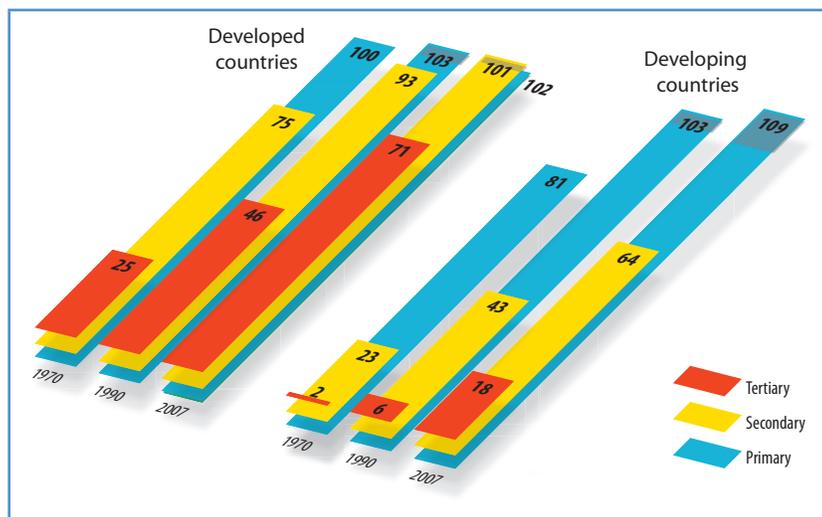
Summary measures of educational attainment (such as mean years of schooling or population with at least secondary education) thus show remarkable increases across the board for both men and women, though the gap is still large in many developing countries (see statistical table 4). In the Arab States and South Asia the gender gap in years of education has narrowed by 33–40 percentage points since 1970; in Sub-Saharan Africa, by 26 points (figure 2.9). But in eight countries—Afghanistan, Benin, Central African Republic, Haiti, Liberia, Mozambique, Niger and Togo—women have fewer than half the years of schooling of men.

### Public sector involvement has grown

Expanded schooling is associated with increased public funding in much of the world. Students attend mainly public schools, especially at the primary (92 percent) and secondary (85 percent) levels.<sup>57</sup> Public spending on education averaged 5.1 percent of GDP in 2006, up from 3.9 percent of GDP in 1970.<sup>58</sup>

**FIGURE 2.8** More children attend school, but there is room for improvement in secondary and higher education

Gross enrolment ratios by level of schooling, 1970–2007



Source: HDRO calculations using data from World Bank (2010g).

As we discuss in chapter 3, this increase continues a longer trend, with education spending around 1 percent of GDP a century ago.<sup>59</sup>

The resources devoted to educating each student have also increased, rising 43 percent since 1990. And pupil–teacher ratios declined.<sup>60</sup> But disparities in spending are enormous. The annual average is nearly \$4,611 per pupil worldwide,<sup>61</sup> but only \$184 in Sub-Saharan Africa—even after increasing 15 percent since 1990—roughly an eighth that in Latin America and less than one fortieth that in developed countries. And the gap in spending per pupil is widening.

A number of countries have worked hard to get more children into school. Yet there have been reversals. As in health services, user fees were heavily promoted by the World Bank and others in the 1980s and early 1990s as a means of cost recovery for government services. Several studies found highly adverse impacts on access. By the late 1980s it was evident that cost recovery was not compatible with education objectives. In one southern Nigerian state primary enrolment plummeted from 90 percent to 60 percent in 18 months following the introduction of school fees in the 1980s.<sup>62</sup>

Many countries later abolished school fees for primary schools. Among them were Ethiopia, Malawi and Uganda in the 1990s and Cambodia, Kenya and Tanzania in the early 2000s. As attendance surged, challenges emerged in seat availability and education quality. In Malawi, a forerunner in abolishing fees in 1994, primary school enrolment grew 97 percent between 1990 and 1995; and in Uganda it grew 72 percent between 1995 and 2000. In Latin America conditional cash transfer programmes were introduced with the explicit aim of increasing school attendance, as with Brazil’s Bolsa Escola and Bolsa Familia, Mexico’s Oportunidades and Chile’s Chile Solidario (see box 3.7 in chapter 3).<sup>63</sup>

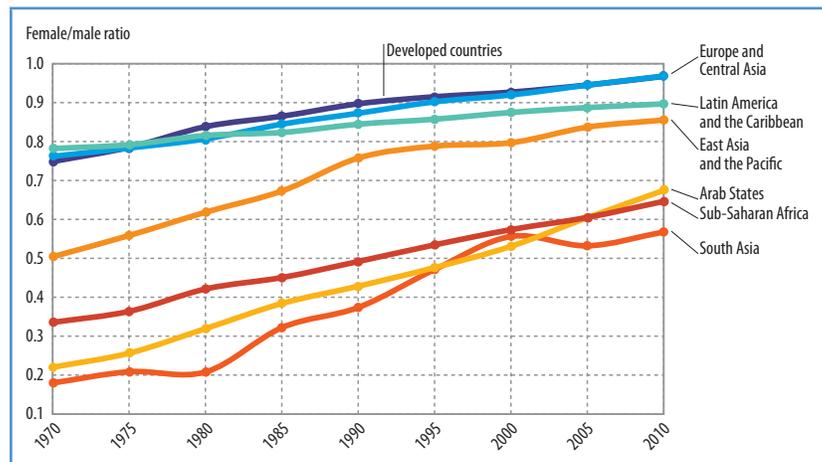
### But many children are not learning

Higher spending and enrolment do not necessarily mean better schooling. The gaps in school

## FIGURE 2.9

### Progress in gender equity in education, but gaps remain

Ratio of female to male mean years of schooling by region, 1970–2010



Source: Barro and Lee 2010.

quality are huge, although whether schooling has improved or deteriorated over time is hard to tell due to lack of data. In general, children in developing countries learn far less than children schooled for the same number of years in developed countries.<sup>64</sup> Children at the same education level in developing countries as their counterparts in developed countries score on average about 20 percent lower on standardized tests—about a three-grade difference.<sup>65</sup> Average math scores were as high in South Korea and Malaysia as in developed countries, but abysmally low in South Africa, for example. In some cases the differences reflect inefficiencies as much as low spending. For example, grade 8 students in Indonesia scored at least as high as those in many Latin American countries, with an eighth of the spending per capita.<sup>66</sup>

Fiji, despite universal primary education, illustrates some of the challenges. Recent focus groups of children revealed corporal punishment, unprofessional teacher behaviour and sexual harassment of female students as driving secondary school dropout rates and other adverse outcomes. As one 17-year-old girl noted, “When children don’t do anything at all, or they start talking or something, that’s when they [teachers] start hitting. I think that should be stopped.” A similar study in Indonesia found that poor students were often singled out for ridicule when they could not pay for

While the advances of the past decades are substantial, there is still a long way to go towards equity in access to knowledge

uniforms or school supplies, often leading to their exclusion. Asked why he dropped out of school, an 11-year-old boy responded: “I often feel embarrassed. When I didn’t wear shoes, the teacher pointed to my feet, and said, ‘This is not the way to come to school.’”<sup>67</sup>

Case studies in poorer developing countries paint an even bleaker picture. Sixth graders in Ghana had an average score of 25 percent on a multiple-choice test—no different from what they would score by choosing answers randomly. More than half of 11-year-olds in Bangladesh could not write basic letters or numerals.<sup>68</sup> In Timor-Leste more than 70 percent of students at the end of grade 1 could not read even one word when shown a simple text passage.<sup>69</sup>

The difficulties in improving education quality illustrate the varying effectiveness of state involvement—at least as traditionally conceived. Decisions to expand schools usually come from the top down, supported by politically aligned teachers unions and contractors. It is much harder to get motivated teachers to impart real learning skills. Solving incentive problems for managers and workers, always difficult, is especially challenging when the state is embedded in patronage-based mechanisms of channelling goods and services to core

supporters, creating new entrenched groups along the way.<sup>70</sup> Almost a decade after De and Drèze’s *Public Report on Basic Education in India* exposed teacher absenteeism of 48 percent, high rates have persisted, despite major budget and management reforms and infrastructure improvements in the interim.<sup>71</sup>

Low quality education in developing countries does not necessarily imply that deterioration has occurred. Data are inadequate for reaching firm conclusions about long- or even medium-term trends in quality. Moreover, test scores depend on many factors, particularly students’ socioeconomic background. Children from well-off families are likely to be better nourished and healthier and have more access to materials than poorer children, and their parents can do more to help them.<sup>72</sup> So as school expansions bring in more disadvantaged students, average test scores will tend to drop even if education quality does not change.<sup>73</sup>

The picture is thus of poor countries rapidly catching up on aggregate educational attainment and gender equity but not necessarily on quality. There are also major disparities between groups within countries, as explored in chapter 4. Thus, while the advances of the past decades are substantial, there is still a long way to go towards equity in access to knowledge.

## Rising standards of living

Income has many shortcomings as a summary measure of development—a central message of *HDRs* for the past 20 years. Among its flaws is the neglect of inequality in distribution and of the unsustainability of current production. However, money is an important means of expanding choice, especially poor people’s choices, and average income does proxy for a society’s overall command of resources. The evolution of income is thus of great interest.

However, the story is not just one of overall increases—it is also one of widening disparities and a persistent divide between developed countries and the rest of the world. Since 1970, 155 countries—home to 95 percent of the world’s people—have experienced increases in

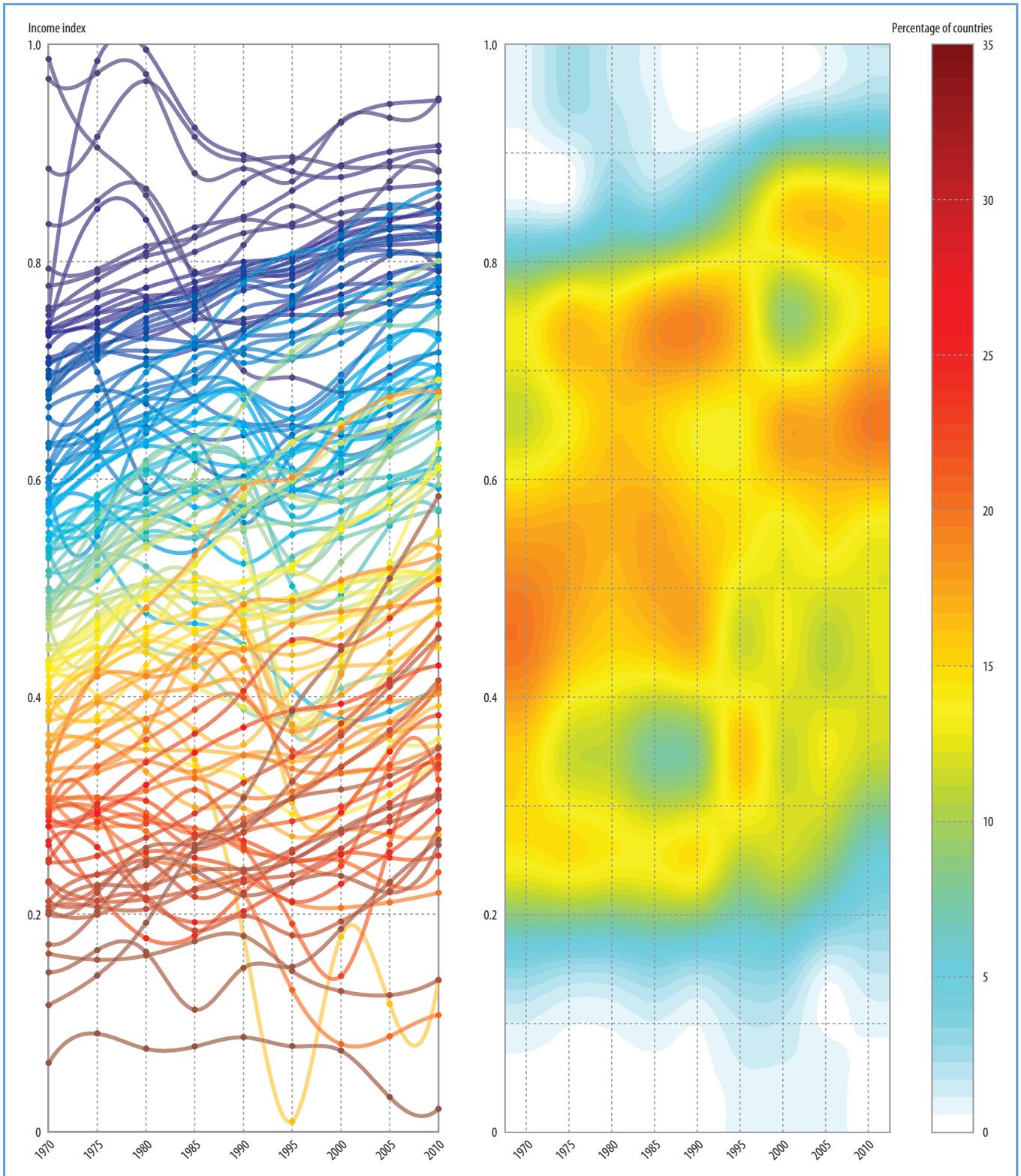
real per capita income (figure 2.10). The annual average today is \$10,760, almost 1.5 times its level 20 years ago and twice its level 40 years ago. People in all regions have seen substantial increases in average income, though patterns vary.<sup>74</sup> And the range, amount and quality of goods and services available to people today is unprecedented.

The thermal graph on the right panel of figure 2.10 shows that the world distribution of income is far more dispersed than that of health and education. The corresponding figures for health (see figure 2.4) and education (see figure 2.7) showed a “hot” red area towards the top where many countries were converging. This is not the case for income, which

**FIGURE 2.10**

**Progress in living standards**

Worldwide trends in GDP, 1970–2010



Note: Results are for a sample of 135 countries based on the hybrid HDI described in box 2.1. The income index is calculated applying the methodology presented in *Technical note 1* to the country's per capita GDP in purchasing power parity adjusted US dollars and thus represents the contribution of the income dimension to the hybrid HDI. The left panel shows the time series for each country; the right panel represents the relative distribution of countries, with colours closer to red denoting a higher share of countries in the corresponding area.

Source: Hidalgo (2010) based on HDRO calculations using data from the HDRO database.

illustrates the fact that the world distribution of income is much more unequal than that of health and education.

### Divergent progress

Unlike in health and education, there has been substantial divergence in income across countries. From 1970 to 2010 per capita income in developed countries increased 2.3 percent a year on average, compared with 1.5 percent for developing countries.<sup>75</sup> In 1970 the average income of a country in the top quarter of the world income distribution was 23 times that of a country in the bottom quarter. By 2010 it approached 29 times. Divergence among developing countries has become more marked as well. Some developing countries—including Botswana, China, Malaysia and Thailand—have grown faster since the 1970s than any rich country.<sup>76</sup> At the same time, the income of several other countries—including Comoros, Iran and Senegal—has stagnated. Still other countries, such as Côte d’Ivoire, Madagascar and Zimbabwe, have suffered economic collapses.

Developing countries’ growth performance has improved over time, both in absolute levels and relative to developed countries. This was particularly evident during the global financial crisis, when many developing countries were able to maintain strong growth. Nevertheless, even over the past 20 years, the gap between developed and developing countries has continued to widen. One important question is whether developing countries will be able to grow at the relatively faster average rates attained over the past five years.<sup>77</sup>

The distance between the richest and poorest countries has widened to a gulf. The richest country today (Liechtenstein) is three times richer than the richest country in 1970.<sup>78</sup> The poorest country today (Zimbabwe) is about 25 percent poorer than the poorest country in 1970 (also Zimbabwe). It is sobering to see, amid enormous material prosperity in developed countries, that the real average income of people in 13 countries in the bottom quarter of today’s world income distribution is lower than in 1970.<sup>79</sup>

### Few countries cross the threshold

Economic growth has been spectacular in some developing countries. Between 1970 and 2010, China’s per capita income rose twenty-one-fold, Botswana’s more than ninefold and Malaysia’s and Thailand’s more than fivefold.<sup>80</sup> But these countries have far to go before they cross the divide: China’s per capita income is only a fifth the average for developed countries. Botswana, Malaysia and Thailand are also far from this mark.

Will these countries continue to grow until they cross the threshold to developed countries? History suggests that growth cannot be taken for granted. Many countries grew impressively over long periods only to stagnate. For example, between 1950 and 1980 Brazil’s per capita economic growth was almost 5 percent a year—similar to recent growth in Botswana, Singapore and Thailand—but its economy collapsed in the 1980s and has only recently started to recover. Argentina’s collapse was even more dramatic, from a per capita GDP in 1913 that exceeded the European average,<sup>81</sup> to one in 2007 that was just a fifth of Western Europe’s.

These cases illustrate how hard it is to cross the great income divide. Of the 108 countries with incomes below \$7,000 per capita in 1970, only 4 moved up to the World Bank’s high-income classification in 2010. Three are small island economies (Antigua and Barbuda, Equatorial Guinea and Malta), one with abundant oil. The fourth—South Korea—remains an important exception. Estonia and Slovakia did not exist as independent countries in 1970, but both achieved growth that moved them up into the high-income group.

\* \* \*

In important respects, the world is a better place today than it was in 1990. Many people live longer, children spend more time in school and people have access to many more goods—including food, housing, clothing and other necessities for a decent life—than at any time in history. The major convergence of countries

The gap in incomes between developed and developing countries has continued to widen

in the HDI, documented systematically for the first time in this Report, has been a huge achievement. As we discuss in chapter 4, these advances extend to other dimensions of human development, notably to political freedoms.

Yet the assessment of the past few decades is by no means wholly positive. Some countries have suffered grave setbacks—particularly in health—sometimes erasing in a few years the gains of several decades. Patterns of economic growth have been extremely unequal—both in the countries experiencing fast growth and, as we explore in chapter 4, in the groups benefiting from national progress.

And despite convergent trends in health and education, gaps in human development are huge. A person born in Niger can expect to live 26 fewer years, to have 9 fewer years of education and to consume 53 times fewer goods than a person born in Denmark. While the Danes have elected their parliament in free and open elections since 1849, Niger's president dissolved parliament and Supreme Court in 2009—and was then ousted in a military coup. More than 7 of 10 people surveyed in Niger say there were times in the past year when they did not have enough money to buy food for their families. Very few Danes would be in such straits.