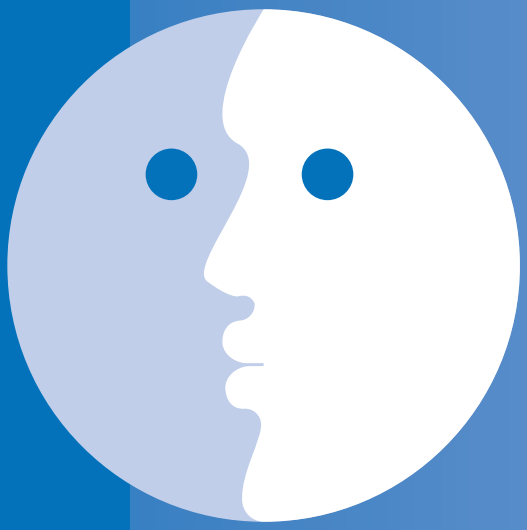
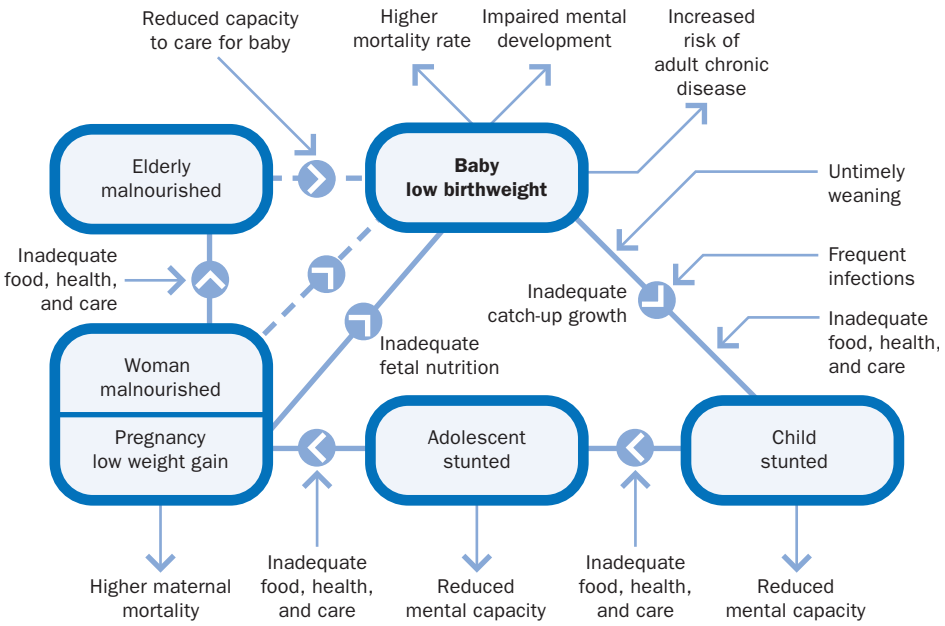


PEOPLE

Nutrition throughout the life cycle



Source: UN ACC/SCN 2000.

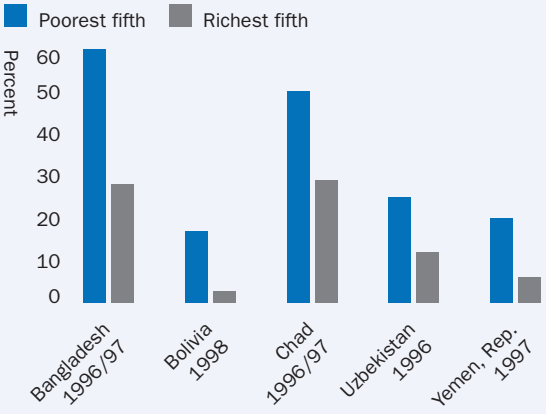
Hunger and malnutrition

Hunger and malnutrition still pose a major challenge to many developing countries. In countries already saddled with poverty, malnutrition starts a vicious cycle of ill health, lower learning capacity, and poor physical growth. Because that undermines a country's social and economic development, investing in better nutrition is essential.

Reflecting this development priority, the Millennium Development Goals adopted a target to halve, between 1990 and 2015, the proportion of people in developing countries who suffer from hunger. Two indicators were identified to track progress: the prevalence of underweight in children under age five and the proportion of undernourished people.

Child malnutrition is highest among the poor

Under-five child malnutrition rate by quintile



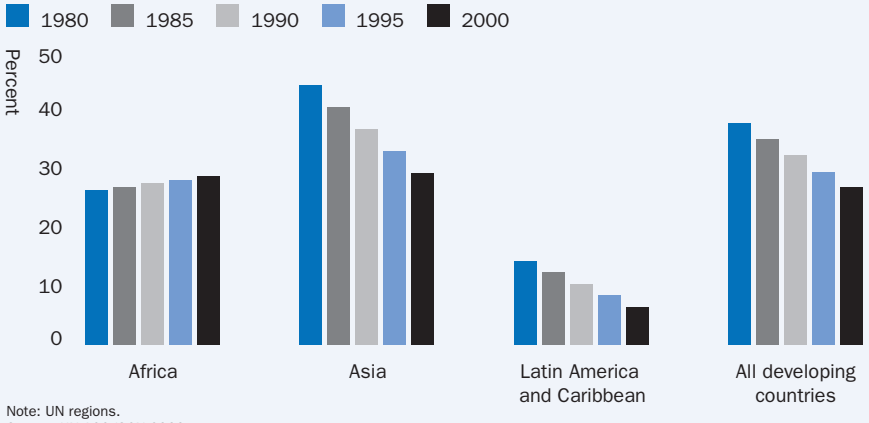
Source: Demographic and Health Survey data.

Malnutrition is pervasive

The prevalence of child malnutrition in the developing world fell from 46.5 percent in 1970 to 27 percent in 2000. Even so, 150 million children under five are still malnourished. The situation is bleakest in Africa, where both the number and the proportion of malnourished children have been rising. At current rates of improvement, now slowing, halving child malnutrition by 2015 is unlikely. In 2020, 140 million children under five in developing countries will still be underweight, or about 50 million short of the goal (Smith and Haddad 2000).

Malnutrition rates are falling—except in Africa

Trends in child malnutrition rate in developing countries by region, 1980–2000



Note: UN regions.
Source: UN ACC/SCN 2000.

Why focus on malnutrition?

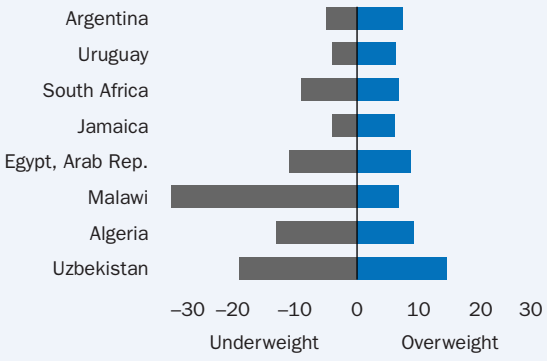
Overweight and underweight

Some wealthier developing countries are also starting to have worrisome rates of overweight children. These countries are undergoing a rapid nutrition transition, often to diets high in saturated fats, sugar, and refined foods (UN ACC/SCN 2000). In these countries obesity coexists with undernutrition (de Onis and Blossner 2000).

Data on nutritional status during the life cycle are slowly becoming available, mainly for women. The limited data suggest that women in developing countries fall on average in the bottom quarter of weight-for-height standards and the bottom fifth of height. In addition, weight gains during pregnancy are usually half or less of those recommended (McGuire 1996).

Overweight and underweight coexist in some countries

Underweight and overweight preschool children, latest available year (percent)



Source: de Onis and Blossner 2000 and WHO child growth and malnutrition database.

The number of undernourished people in the developing world is expected to decline, from 777 million in 1997–99 to 576 million in 2015, halving the proportion of the population that was undernourished in 1990–92 and thus meeting the Millennium Development Goal. But the number of people undernourished in 2015 will still be around 70 percent of the 840 million people undernourished in 1990–92, far short of the World Food Summit goal of a reduction by half in the number of undernourished people.

Undernourishment and food insecurity

The chronic undernourishment measure, based on average caloric consumption (also called food inadequacy or food insecurity), developed by the Food and Agriculture Organization (FAO 2000), has the value of focusing world attention on food insecurity and food-insecure people. It also focuses the attention of national governments and international development agencies on a numerical goal and the political will to attain it, as part of the Millennium Development Goals.

However, the measure, derived largely from food supply data and an estimate of the distribution of food consumption across households, has its limitations:

- Food insecurity is an individual, household, or national phenomenon. And the average amount of food available to each person in the population, even if corrected for the possible effects of low income, is not a good predictor of food insecurity in the population. Furthermore, food insecurity can be a seasonal phenomenon even when there is aggregate food security.
- In addition to being influenced by access to food, nutrition security is also determined by the quality of care for mothers and children and the quality of the household's health environment.
- Food-insecure households often have well-nourished children, which shows that some households have adaptive behaviors that contribute to better nutrition.
- The estimation method has problems because distribution of consumption among households is often not directly measured, and food availability at the national level is subject to many unmeasured errors.

These limitations become harder to ignore with the increasing numbers of nationally representative household food consumption and expenditure surveys that are now available.

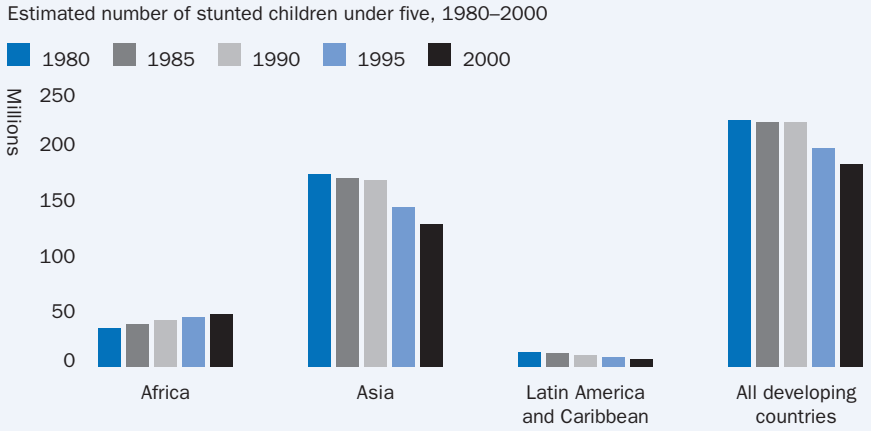
Source: Adapted from Smith 1998.

Because it is a powerful indicator of extreme poverty.

Stunting—a strong indicator of poverty

Malnutrition affects the poor more than the rich because factors associated with income poverty—such as female illiteracy, food insecurity, and a poor health environment—also cause malnutrition. Malnutrition is thus a cause and a consequence of poverty. Tracking trends in nutritional status is therefore useful in tracking the overall effectiveness of poverty reduction strategies. Stunting in children under five is the most appropriate indicator for populationwide monitoring. Stunting is an inexpensive and robust indicator when measured in a representative sample.

Stunting in children under five is a robust indicator of poverty



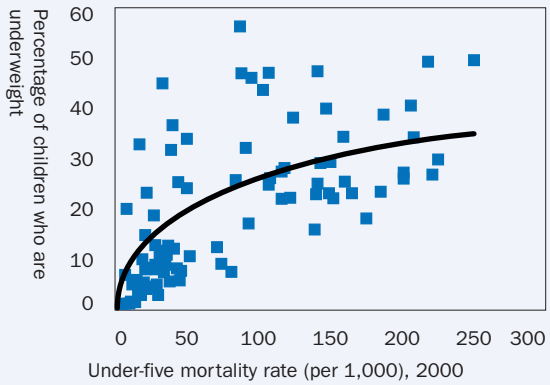
Note: UN regions.
Source: UN ACC/SCN 2000.

Higher mortality

Nearly a third of poor health outcomes are associated with malnutrition. More than half of child deaths—mostly from diarrheal diseases and respiratory infections—are associated with low weight for age. In India underweight children had two to four times the mortality rate of normal weight children (McGuire 1996). Mortality is also associated with essential micronutrient deficiencies. Severely anemic women are at considerably greater risk of death during childbirth, since anemia lowers the tolerance to blood loss and the resistance to infection. Anemia may account for almost 20 percent of maternal deaths. And addressing vitamin A deficiency in areas where it is common can result in a 23 percent reduction in mortality among children between ages two and six.

Survival prospects are poor for underweight children

Regression of malnutrition on under-five mortality, latest available data



Source: WHO child growth and malnutrition database and World Bank data.

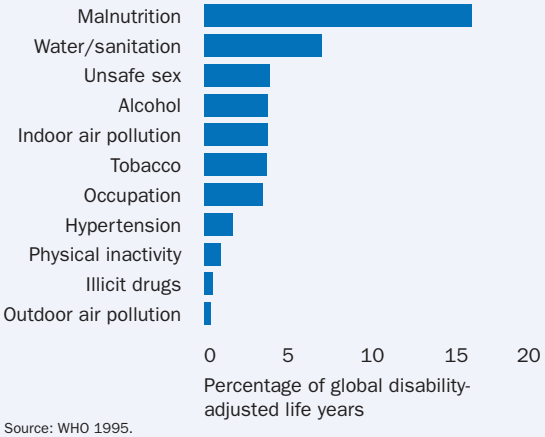
The costs of malnutrition are high

Poorer health

Morbidity indicators are also linked with malnutrition. Chronic noncommunicable diseases, such as diabetes and cardiovascular disease, are associated with inadequate diets for mothers and low birthweights for infants. Malnourished children have less resistance to infection. Malnutrition has been associated with a 10–45 percent increase in the incidence of diarrhea and a 30–55 percent increase in its duration. Similarly, vitamin A–deficient children are two to four times as susceptible to respiratory disease and twice as susceptible to diarrhea.

Malnutrition is by far the greatest health hazard

Burden of disease due to selected risk factors, 1995



Source: WHO 1995.

Costs to the national health system are substantial. Poor nutritional status is by far the largest single risk factor for disease in the WHO's calculations of the total burden of disease, leading to 1.1 billion days of illness a year worldwide.

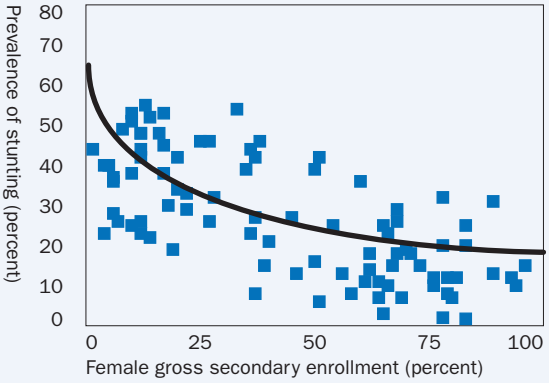
Women in poor developing countries are disproportionately affected by malnutrition and health risks, causing an intergenerational vicious circle. The incidence of low-birthweight infants is higher among women who are short and undernourished. Low-birthweight infants are more likely to be stunted. And stunted girls grow up to be short women.

Less education and learning

Childhood malnutrition is often caused by improper feeding and caring practices, making the knowledge and values of caregivers very important. Women with at least a secondary education tend to have fewer children. They also have the knowledge and skills to provide them with better nutritional care. Women's education levels therefore influence nutritional status, and nutritional status affects children's educational attainment.

Less educated mothers are likely to have stunted children

Female secondary enrollment and child stunting, latest available data



Source: WHO child growth and malnutrition database and UNESCO Institute of Statistics data.

Chronic malnutrition and bouts of hunger in children affect school enrollment, attendance, and cognitive development. In Brazil a 12 percent reduction in malnutrition resulted in a 4 percent improvement in passing rates for first and second grades (McGuire 1996). A study of 9- to 11-year-olds in Indonesia found that the achievement scores of anemic children improved by more than 10 percent after 12 weeks of iron supplementation (Soemantri, Pollitt, and Kim 1985). Nutrition affects school performance indirectly as well. Stunted children tend to enroll later in school than better-nourished children. In Ghana a 10 percent increase in stunting caused a 3.5 percent increase in the age of first enrollment in school (UN ACC/SCN 2000).

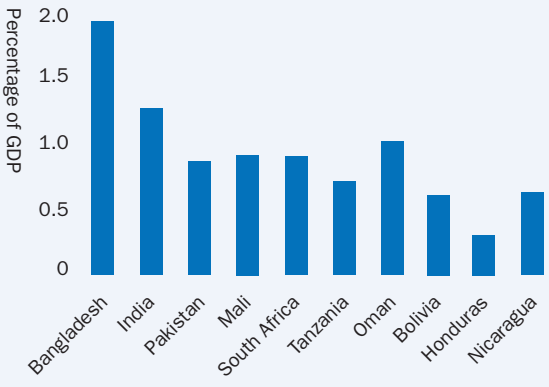
throughout childhood and adult life.

Lower productivity

The economic livelihood of populations depends on the health and nutrition of adults. This reflects the legacy of malnutrition in childhood as well as whether adults have sufficient food intake to sustain both normal body weight and the physical activity needed for the tasks of daily life. Child malnutrition manifests itself in reduced schooling and shorter stature, both linked to lower wages in rural and urban settings (Thomas and Strauss 1997).

Malnutrition has economic costs as well

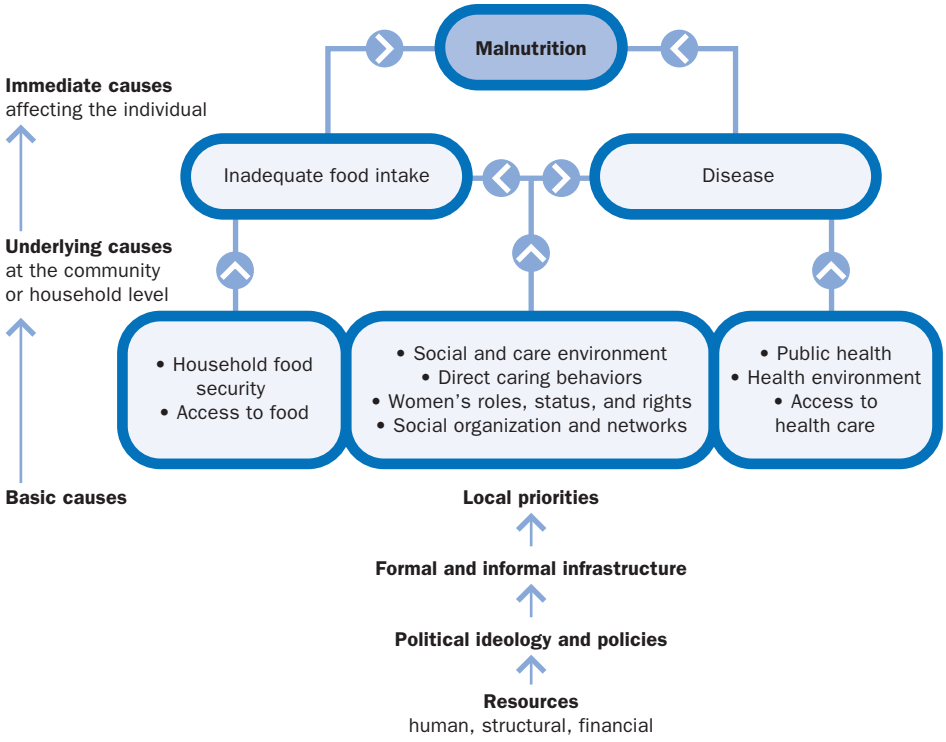
Estimated economic costs of anemia, selected countries (through effects on cognitive ability and productivity)



Source: Measham 2001.

Adult nutrition affects body mass. In India a 30 percent reduction in lean body mass was associated with 20 percent lower wages (McGuire 1996). Deficiencies in vitamin A, iron, and iodine can also cause prolonged impairment, reducing productivity and gross domestic product.

Causes of poor nutrition



Source: Young 2001.

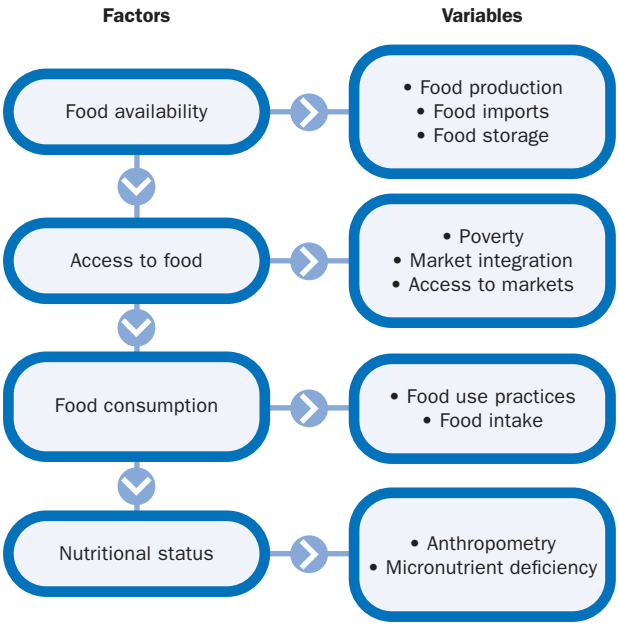
Why does chronic malnutrition persist?

Slow progress against malnutrition

There are three main reasons for the generally slow progress in tackling malnutrition (Measham 2001). First, malnutrition is a complex intersectoral problem. It encompasses biological and socioeconomic causes at both micro and macro levels. It therefore rarely has an institutional home, such as a single ministry.

Second, because malnutrition is not highly visible, its severity and effects may be ignored. Even countries with national nutrition plans may not have a clearly articulated strategy for addressing malnutrition because politicians and decision-makers fail to see the urgency and significance of the problem. And unlike education or health, malnutrition does not have a constituency to demand policies and programs to address it. Poor people often say that food is their first priority, but they lack the political power to get government to respond. If government does respond, it usually tries to increase agricultural output or undertake expensive, ineffective food giveaways. This does not necessarily mean additional food consumption or increased income for the malnourished. Seldom is there a well-defined strategy for translating the demand for food into ways of increasing the nutritional well-being of those in need.

Third, even when confronting malnutrition is a priority, lack of government capacity results in inappropriate policies and programs, such as untargeted and unaffordable food subsidies, with implementation depending on institutions that are already overburdened. Good nutrition programs need not be expensive, but they require skilled administrators and appropriate design. As nongovernmental organizations conduct more nutrition programs, government resources become less of a constraint.



Food security and food policy

Food security and food policy are important in dealing with the underlying and basic causes of malnutrition. The need for adequate information on food security at global, national, and subnational levels received attention when international targets for the eradication of hunger and malnutrition were adopted. The World Food Conference in 1974 called for eradicating hunger and malnutrition, and the World Food Summit in 1996 set the less ambitious goal of reducing the number of undernourished people by half no later than 2015.

Food security is determined by four sets of factors:

- Food availability.
- Access to food.
- Food consumption.
- Nutritional status.

Policymakers often assume that interventions at any point in the chain will have a direct effect in reducing undernutrition or food insecurity. But links are more complex than they appear. For example, a school feeding scheme may have little impact on nutritional status if parents reallocate household resources away from providing food to the child.

To monitor food security, most countries collect information from a variety of sources, including national population censuses, agricultural surveys, agroecological zoning, market monitoring, health center records, livelihood monitoring, vulnerability mapping, and income, consumption, and expenditure surveys. Often not all these data sources are fully exploited because data collection and reporting tend to be divided among ministries, and as a result databases and information are not always coordinated.

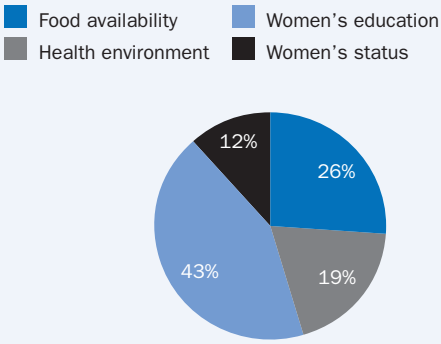
Source: Adapted from Devereux 2001.

The way forward

Sustained income growth can do much to reduce malnutrition in the next two decades. But economic growth by itself is unlikely to achieve the Millennium Development Goal for malnutrition (Alderman and others 2001). Although economic growth can foster improvements in nutrition, many other factors influence the process. The most important appears to be women's education, followed by food availability (or income), the government's commitment to health at local and national levels, and women's status (Smith and Haddad 2000).

What reduces malnutrition?

Estimated contributions, 1970–95



Source: Smith and Haddad 2000.

Income growth should therefore be part of a balanced strategy for addressing nutritional problems. As income rises, so does investment in other factors that influence nutrition, notably education and health.

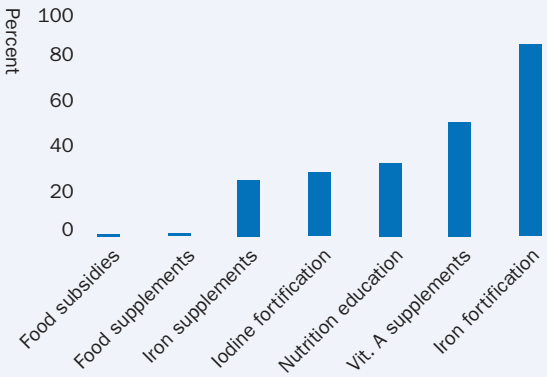
Monitoring and measuring malnutrition tells a vivid story.

Some impressive returns

But given the difficulty many countries face in achieving sustained economic growth, especially those in Sub-Saharan Africa, nutrition education, supplementation, fortification, and supply and price mechanisms should be considered at both national and community levels.

Returns to nutrition programs vary widely

Returns to nutrition programs (in wages)



Note: Estimated returns in dollar terms (in lifelong wages) per $1 spent on programs.
Source: Measham 2001.

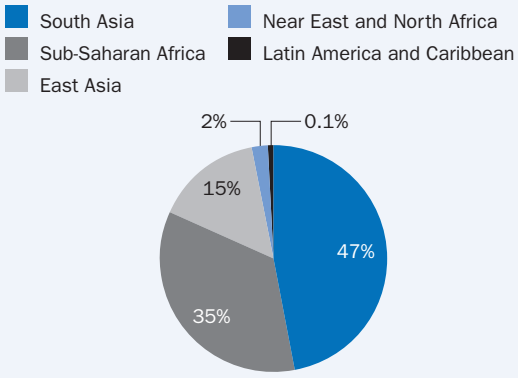
The World Bank estimates that sustained elimination of micronutrient deficiencies could alone contribute as much as 5 percent of GDP annually to an affected country—for an investment of less than 0.3 percent of GDP (McGuire 1996). The returns per dollar invested in higher lifelong wages and lower disability are impressive.

Nutrition needs are still great

Over the past two decades progress has been dramatic in some areas of nutrition, especially in reducing micronutrient deficiencies. The proportion of stunted and underweight preschool children has declined in all regions except parts of Sub-Saharan Africa.

Malnutrition will remain high in South Asia and Africa

Regional distribution of malnourished children, 2020



Source: Smith and Haddad 2000.

But high proportions of Asian and African mothers are malnourished, and the numbers are expected to grow. In developing countries some 30 million children are born each year with their growth already retarded. More than 150 million preschool children are still underweight, many with anemia and vitamin A deficiency. And more children and adults are becoming overweight or obese.

Making malnutrition visible

Because malnutrition is not very visible, it is often overlooked until it becomes severe. Making it visible is central to an effective strategy. Countries need to identify appropriate indicators of nutritional status and trends—and strengthen their statistical systems for collecting, analyzing, publishing, and using data.

Tracking malnutrition

Indicators that focus attention on nutritional status and behavior can be identified at household, community, and national levels.

Household

- Growth promotion
- Breastfeeding practices
- Access to health care
- Household food security

Community

- Well-functioning food markets
- Access to clean water and sanitation
- Availability of health care
- Nutrition education

National

- Trends in child growth
- Women's health
- Girls' education
- Trends in childhood infections
- Immunization trends
- Food prices and price variability across time and regions
- Wage and employment rates, especially among the rural poor
- Income of the poor

2.1 | Population dynamics

	Total population			Average annual population growth rate		Population age composition			Dependency ratios		Crude death rate	Crude birth rate
	millions			%		Ages 0-14 %	Ages 15-64 %	Ages 65+ %	dependents as proportion of working age population young	old	per 1,000 people	per 1,000 people
	1980	2000	2015	1980-2000	2000-2015	2000	2000	2000	2000	2000	2000	2000
Afghanistan	16.0	26.6 [a]	37.8	2.5	2.4	43.5	53.7	2.8	0.8	0.1	22	48
Albania	2.7	3.4	4.0	1.2	1.0	30.0	64.2	5.9	0.5	0.1	6	17
Algeria	18.7	30.4	39.1	2.4	1.7	34.8	61.0	4.1	0.6	0.1	5	25
Angola	7.1	13.1	19.6	3.1	2.7	48.2	49.0	2.8	1.0	0.1	19	48
Argentina	28.1	37.0	42.8	1.4	1.0	27.7	62.6	9.7	0.4	0.2	8	19
Armenia	3.1	3.8	4.0	1.0	0.4	23.7	67.6	8.6	0.4	0.1	6	11
Australia	14.7	19.2	21.5	1.3	0.8	20.5	67.2	12.3	0.3	0.2	7	13
Austria	7.6	8.1	8.0	0.4	-0.1	16.6	67.8	15.6	0.3	0.2	10	10
Azerbaijan	6.2	8.0	9.2	1.3	0.9	29.0	64.2	6.8	0.5	0.1	6	15
Bangladesh	85.4	131.1	167.7	2.1	1.6	38.7	58.2	3.1	0.7	0.1	9	28
Belarus	9.6	10.0	9.4	0.2	-0.4	18.7	68.0	13.3	0.3	0.2	14	9
Belgium	9.8	10.3	10.3	0.2	0.0	17.3	65.7	17.0	0.3	0.3	10	11
Benin	3.5	6.3	9.0	3.0	2.4	46.4	50.9	2.7	1.0	0.1	13	39
Bolivia	5.4	8.3	10.9	2.2	1.8	39.6	56.4	4.0	0.7	0.1	9	31
Bosnia and Herzegovina	4.1	4.0	4.4	-0.1	0.6	18.9	71.2	9.9	0.3	0.1	8	12
Botswana	0.9	1.6	1.7	2.8	0.6	42.1	55.1	2.8	0.8	0.1	20	32
Brazil	121.6	170.4	201.3	1.7	1.1	28.8	66.1	5.1	0.4	0.1	7	20
Bulgaria	8.9	8.2	7.4	-0.4	-0.6	15.7	68.1	16.1	0.2	0.2	14	9
Burkina Faso	7.0	11.3	15.6	2.4	2.2	48.7	48.1	3.2	1.0	0.1	19	44
Burundi	4.1	6.8	8.8	2.5	1.7	47.6	49.6	2.9	1.0	0.1	20	40
Cambodia	6.8	12.0	15.2	2.8	1.6	43.9	53.3	2.8	0.8	0.1	12	30
Cameroon	8.7	14.9	19.4	2.7	1.8	43.1	53.2	3.7	0.8	0.1	14	37
Canada	24.6	30.8	33.6	1.1	0.6	19.1	68.3	12.6	0.3	0.2	8	11
Central African Republic	2.3	3.7	4.6	2.4	1.5	43.0	53.0	4.0	0.8	0.1	20	36
Chad	4.5	7.7	11.8	2.7	2.9	46.5	50.4	3.1	0.9	0.1	16	45
Chile	11.1	15.2	17.7	1.6	1.0	28.5	64.4	7.2	0.4	0.1	6	17
China	981.2	1,262.5	1,392.6	1.3	0.7	24.8	68.3	6.9	0.4	0.1	7	15
Hong Kong, China	5.0	6.8	7.5	1.5	0.6	16.3	73.1	10.6	0.2	0.2	5	8
Colombia	28.4	42.3	51.6	2.0	1.3	32.8	62.5	4.7	0.5	0.1	6	23
Congo, Dem. Rep.	26.9	50.9	75.6	3.2	2.6	48.8	48.4	2.9	1.0	0.1	17	46
Congo, Rep.	1.7	3.0	4.6	3.0	2.8	46.3	50.4	3.3	0.9	0.1	14	43
Costa Rica	2.3	3.8	4.7	2.6	1.5	32.4	62.5	5.1	0.5	0.1	4	20
Côte d'Ivoire	8.2	16.0	20.5	3.3	1.7	42.1	54.8	3.1	0.8	0.1	17	37
Croatia	4.6	4.4	4.2	-0.2	-0.3	18.0	67.8	14.1	0.3	0.2	12	10
Cuba	9.7	11.2	11.7	0.7	0.3	21.2	69.2	9.6	0.3	0.1	7	13
Czech Republic	10.2	10.3	9.9	0.0	-0.2	16.4	69.7	13.8	0.2	0.2	11	9
Denmark	5.1	5.3	5.4	0.2	0.1	18.3	66.7	15.0	0.3	0.2	11	12
Dominican Republic	5.7	8.4	10.1	1.9	1.3	33.5	62.2	4.3	0.5	0.1	6	23
Ecuador	8.0	12.6	15.8	2.3	1.5	33.8	61.5	4.7	0.6	0.1	6	24
Egypt, Arab Rep.	40.9	64.0	80.7	2.2	1.6	35.4	60.5	4.1	0.6	0.1	6	25
El Salvador	4.6	6.3	8.0	1.6	1.6	35.6	59.4	5.0	0.6	0.1	6	26
Eritrea	2.4	4.1	5.9	2.7	2.4	43.9	53.2	2.9	0.8	0.1	13	39
Estonia	1.5	1.4	1.3	-0.4	-0.5	17.7	67.9	14.4	0.3	0.2	13	9
Ethiopia	37.7	64.3	88.1	2.7	2.1	45.2	51.9	3.0	0.9	0.1	20	44
Finland	4.8	5.2	5.3	0.4	0.1	18.0	67.0	14.9	0.3	0.2	10	11
France	53.9	58.9	61.6	0.4	0.3	18.7	65.3	16.0	0.3	0.2	9	13
Gabon	0.7	1.2	1.7	2.9	2.2	40.2	54.0	5.8	0.7	0.1	16	36
Gambia, The	0.6	1.3	1.8	3.5	2.1	40.3	56.6	3.1	0.7	0.1	13	39
Georgia	5.1	5.0	4.8	0.0	-0.3	20.5	66.6	12.9	0.3	0.2	9	9
Germany	78.3	82.2	80.0	0.2	-0.2	15.5	68.1	16.4	0.2	0.2	11	9
Ghana	10.7	19.3	24.7	2.9	1.6	40.9	55.8	3.2	0.7	0.1	11	30
Greece	9.6	10.6	10.3	0.5	-0.2	15.1	67.4	17.6	0.2	0.3	11	12
Guatemala	6.8	11.4	16.3	2.6	2.4	43.6	52.8	3.5	0.8	0.1	7	33
Guinea	4.5	7.4	9.8	2.5	1.9	44.1	53.2	2.8	0.8	0.1	17	39
Guinea-Bissau	0.8	1.2	1.7	2.3	2.2	43.5	52.9	3.6	0.8	0.1	20	42
Haiti	5.4	8.0	10.3	2.0	1.7	40.6	55.7	3.7	0.7	0.1	13	32
Honduras	3.6	6.4	8.5	2.9	1.9	41.8	54.8	3.4	0.8	0.1	6	31

	Total population			Average annual population growth rate		Population age composition			Dependency ratios		Crude death rate	Crude birth rate
		millions		%		Ages 0-14 %	Ages 15-64 %	Ages 65+ %	dependents as proportion of working age population young	old	per 1,000 people	per 1,000 people
	1980	2000	2015	1980-2000	2000-2015	2000	2000	2000	2000	2000	2000	2000
Hungary	10.7	10.0	9.4	-0.3	-0.4	16.9	68.4	14.6	0.3	0.2	14	10
India	687.3	1,015.9	1,227.9	2.0	1.3	33.5	61.5	5.0	0.5	0.1	9	25
Indonesia	148.3	210.4	250.5	1.7	1.2	30.8	64.4	4.8	0.5	0.1	7	22
Iran, Islamic Rep.	39.1	63.7	80.4	2.4	1.6	37.4	59.2	3.4	0.6	0.1	6	22
Iraq	13.0	23.3	31.2	2.9	2.0	41.6	55.5	2.9	0.8	0.1	9	31
Ireland	3.4	3.8	4.3	0.5	0.8	21.6	67.1	11.3	0.3	0.2	8	14
Israel	3.9	6.2	7.9	2.4	1.6	28.3	61.9	9.9	0.5	0.2	6	21
Italy	56.4	57.7	54.8	0.1	-0.3	14.3	67.6	18.1	0.2	0.3	10	9
Jamaica	2.1	2.6	3.1	1.1	1.0	31.5	61.3	7.2	0.5	0.1	6	21
Japan	116.8	126.9	124.6	0.4	-0.1	14.7	68.1	17.2	0.2	0.3	8	9
Jordan	2.2	4.9	6.8	4.0	2.2	40.0	57.2	2.8	0.7	0.1	4	29
Kazakhstan	14.9	14.9	15.3	0.0	0.2	27.0	66.2	6.9	0.4	0.1	10	15
Kenya	16.6	30.1	37.5	3.0	1.5	43.5	53.7	2.8	0.8	0.1	14	35
Korea, Dem. Rep.	17.2	22.3	24.2	1.3	0.6	26.5	67.6	5.9	0.4	0.1	11	18
Korea, Rep.	38.1	47.3	50.3	1.1	0.4	20.8	72.1	7.1	0.3	0.1	6	13
Kuwait	1.4	2.0	2.7	1.8	2.1	31.3	66.5	2.2	0.5	0.0	2	20
Kyrgyz Republic	3.6	4.9	5.8	1.5	1.1	33.9	60.0	6.0	0.6	0.1	7	21
Lao PDR	3.2	5.3	7.3	2.5	2.2	42.7	53.8	3.5	0.8	0.1	13	37
Latvia	2.5	2.4	2.1	-0.4	-0.7	17.4	67.8	14.8	0.3	0.2	14	9
Lebanon	3.0	4.3	5.2	1.8	1.2	31.1	62.8	6.1	0.5	0.1	6	20
Lesotho	1.4	2.0	2.3	2.0	0.8	39.3	56.6	4.2	0.7	0.1	17	33
Liberia	1.9	3.1	4.5	2.6	2.5	42.7	54.5	2.9	0.8	0.1	17	44
Libya	3.0	5.3	7.0	2.8	1.9	33.9	62.7	3.4	0.5	0.1	5	27
Lithuania	3.4	3.7	3.6	0.4	-0.2	19.5	67.2	13.4	0.3	0.2	11	9
Macedonia, FYR	1.9	2.0	2.2	0.4	0.4	22.6	67.4	10.0	0.3	0.2	8	13
Madagascar	8.9	15.5	22.5	2.8	2.5	44.7	52.3	3.0	0.9	0.1	12	40
Malawi	6.2	10.3	13.6	2.6	1.8	46.3	50.7	2.9	0.9	0.1	24	46
Malaysia	13.8	23.3	29.3	2.6	1.5	34.1	61.8	4.1	0.6	0.1	4	25
Mali	6.6	10.8	15.0	2.5	2.2	46.1	49.9	4.0	0.9	0.1	20	46
Mauritania	1.6	2.7	3.9	2.7	2.5	44.1	52.7	3.2	0.8	0.1	15	42
Mauritius	1.0	1.2	1.4	1.0	0.9	25.6	68.2	6.2	0.4	0.1	7	17
Mexico	67.6	98.0	121.1	1.9	1.4	33.1	62.1	4.7	0.5	0.1	5	25
Moldova	4.0	4.3	4.2	0.3	-0.1	23.1	67.6	9.3	0.3	0.1	11	10
Mongolia	1.7	2.4	2.9	1.8	1.3	35.2	61.0	3.8	0.6	0.1	6	22
Morocco	19.4	28.7	35.4	2.0	1.4	34.7	61.2	4.1	0.6	0.1	6	24
Mozambique	12.1	17.7	22.7	1.9	1.7	43.9	52.8	3.2	0.8	0.1	20	40
Myanmar	33.7	47.7	55.8	1.7	1.0	33.1	62.3	4.6	0.5	0.1	12	25
Namibia	1.0	1.8	2.1	2.9	1.2	43.7	52.5	3.8	0.8	0.1	17	36
Nepal	14.6	23.0	31.1	2.3	2.0	41.0	55.2	3.7	0.7	0.1	10	33
Netherlands	14.2	15.9	16.9	0.6	0.4	18.3	68.1	13.6	0.3	0.2	9	13
New Zealand	3.1	3.8	4.1	1.0	0.5	23.0	65.4	11.7	0.4	0.2	7	15
Nicaragua	2.9	5.1	7.0	2.8	2.1	42.6	54.3	3.0	0.8	0.1	5	30
Niger	5.6	10.8	16.8	3.3	2.9	49.9	48.1	2.0	1.0	0.0	19	51
Nigeria	71.1	126.9	169.4	2.9	1.9	45.1	51.9	3.0	0.9	0.1	16	40
Norway	4.1	4.5	4.8	0.5	0.4	19.8	64.9	15.4	0.3	0.2	10	13
Oman	1.1	2.4	3.3	3.9	2.2	44.1	53.4	2.5	0.8	0.1	3	28
Pakistan	82.7	138.1	192.8	2.6	2.2	41.8	54.5	3.7	0.8	0.1	8	34
Panama	2.0	2.9	3.5	1.9	1.3	31.3	63.2	5.5	0.5	0.1	5	21
Papua New Guinea	3.1	5.1	6.9	2.5	2.0	40.1	57.5	2.4	0.7	0.0	9	32
Paraguay	3.1	5.5	7.5	2.8	2.1	39.5	57.0	3.5	0.7	0.1	5	30
Peru	17.3	25.7	31.4	2.0	1.3	33.4	61.8	4.8	0.5	0.1	7	23
Philippines	48.0	75.6	97.3	2.3	1.7	37.5	58.9	3.5	0.6	0.1	5	27
Poland	35.6	38.7	38.8	0.4	0.0	19.2	68.7	12.1	0.3	0.2	10	10
Portugal	9.8	10.0	9.9	0.1	-0.1	16.7	67.7	15.6	0.3	0.2	11	12
Puerto Rico	3.2	3.9	4.4	1.0	0.7	23.8	65.7	10.5	0.4	0.2	8	15
Romania	22.2	22.4	21.4	0.1	-0.3	18.3	68.4	13.3	0.3	0.2	11	10
Russian Federation	139.0	145.6	134.5	0.2	-0.5	18.0	69.6	12.5	0.3	0.2	15	9

2.1 Population dynamics

	Total population			Average annual population growth rate		Population age composition			Dependency ratios		Crude death rate	Crude birth rate
	millions			%		Ages 0-14 %	Ages 15-64 %	Ages 65+ %	dependents as proportion of working age population young	old	per 1,000 people	per 1,000 people
	1980	2000	2015	1980-2000	2000-2015	2000	2000	2000	2000	2000	2000	2000
Rwanda	5.2	8.5	11.1	2.5	1.8	44.3	53.1	2.6	0.9	0.1	22	44
Saudi Arabia	9.4	20.7	32.1	4.0	2.9	42.9	54.1	3.0	0.8	0.1	4	33
Senegal	5.5	9.5	13.0	2.7	2.1	44.3	53.2	2.5	0.8	0.1	13	37
Sierra Leone	3.2	5.0	6.9	2.2	2.1	44.2	52.8	2.9	0.8	0.1	23	44
Singapore	2.4	4.0	4.9	2.5	1.3	21.9	70.9	7.2	0.3	0.1	4	12
Slovak Republic	5.0	5.4	5.4	0.4	0.0	19.5	69.1	11.4	0.3	0.2	10	10
Slovenia	1.9	2.0	1.9	0.2	-0.2	15.9	70.2	13.9	0.2	0.2	10	9
Somalia	6.5	8.8	14.2	1.5	3.2	48.0	49.6	2.4	1.0	0.1	17	51
South Africa	27.6	42.8	45.8	2.2	0.5	34.0	62.4	3.6	0.6	0.1	16	26
Spain	37.4	39.5	38.8	0.3	-0.1	14.7	68.3	17.0	0.2	0.3	9	10
Sri Lanka	14.7	19.4	23.0	1.4	1.1	26.3	67.4	6.3	0.4	0.1	6	18
Sudan	19.3	31.1	41.8	2.4	2.0	40.1	56.4	3.4	0.7	0.1	11	34
Swaziland	0.6	1.0	1.3	3.1	1.3	41.6	55.0	3.5	0.8	0.1	15	36
Sweden	8.3	8.9	8.8	0.3	-0.1	18.2	64.4	17.4	0.3	0.3	11	10
Switzerland	6.3	7.2	7.1	0.6	0.0	16.7	67.3	16.0	0.3	0.2	9	10
Syrian Arab Republic	8.7	16.2	22.1	3.1	2.1	40.8	56.0	3.1	0.7	0.1	5	29
Tajikistan	4.0	6.2	7.7	2.2	1.5	39.4	56.0	4.6	0.7	0.1	5	19
Tanzania	18.6	33.7	43.9	3.0	1.8	45.0	52.6	2.4	0.9	0.1	17	39
Thailand	46.7	60.7	68.7	1.3	0.8	26.7	68.1	5.2	0.4	0.1	7	17
Togo	2.5	4.5	6.0	2.9	1.9	44.3	52.6	3.1	0.8	0.1	15	37
Trinidad and Tobago	1.1	1.3	1.5	0.9	0.8	25.0	68.4	6.7	0.4	0.1	7	15
Tunisia	6.4	9.6	11.6	2.0	1.3	29.7	64.4	5.9	0.5	0.1	6	17
Turkey	44.5	65.3	77.8	1.9	1.2	30.0	64.2	5.8	0.5	0.1	6	20
Turkmenistan	2.9	5.2	6.4	3.0	1.3	37.6	58.1	4.3	0.7	0.1	7	21
Uganda	12.8	22.2	31.6	2.8	2.4	49.2	48.3	2.5	1.0	0.1	19	45
Ukraine	50.0	49.5	44.9	-0.1	-0.6	17.8	68.3	13.8	0.3	0.2	15	9
United Arab Emirates	1.0	2.9	3.8	5.1	1.8	26.0	71.3	2.7	0.4	0.0	3	17
United Kingdom	56.3	59.7	59.7	0.3	0.0	19.0	65.3	15.8	0.3	0.2	11	11
United States	227.2	281.6	317.8	1.1	0.8	21.7	66.0	12.3	0.3	0.2	9	15
Uruguay	2.9	3.3	3.7	0.7	0.6	24.8	62.3	12.9	0.4	0.2	10	16
Uzbekistan	16.0	24.8	30.1	2.2	1.3	36.3	59.1	4.7	0.6	0.1	6	22
Venezuela, RB	15.1	24.2	30.3	2.4	1.5	34.0	61.5	4.4	0.6	0.1	4	22
Vietnam	53.7	78.5	94.4	1.9	1.2	33.4	61.3	5.3	0.5	0.1	6	19
West Bank and Gaza	..	3.0	5.0	..	3.5	..	..	..	..	..	4	40
Yemen, Rep.	8.5	17.5	27.0	3.6	2.9	50.1	47.6	2.3	1.1	0.1	11	40
Yugoslavia, Fed. Rep.	9.8	10.6	10.7	0.4	0.1	20.0	66.9	13.1	0.3	0.2	11	12
Zambia	5.7	10.1	12.2	2.8	1.3	46.5	50.5	2.9	0.9	0.1	21	40
Zimbabwe	7.1	12.6	14.0	2.9	0.7	45.2	51.6	3.2	0.9	0.1	18	30
World	**4,429.3 s**	**6,057.3 s**	**7,101.2 s**	**1.6 w**	**1.1 w**	**30.0 w**	**63.1 w**	**6.9 w**	**0.47 w**	**0.11 w**	**9 w**	**22 w**
Low income	1,609.5	2,459.8	3,090.3	2.1	1.5	36.9	58.7	4.4	0.6	0.1	11	29
Middle income	2,030.0	2,694.6	3,063.4	1.4	0.9	27.4	66.0	6.6	0.4	0.1	8	18
Lower middle income	1,563.7	2,047.6	2,306.4	1.3	0.8	26.9	66.4	6.8	0.4	0.1	8	17
Upper middle income	466.3	647.0	757.1	1.6	1.0	29.1	64.6	6.2	0.5	0.1	7	20
Low & middle income	3,639.5	5,154.4	6,153.7	1.7	1.2	31.9	62.5	5.6	0.5	0.1	9	23
East Asia & Pacific	1,396.9	1,855.2	2,097.8	1.4	0.8	26.9	66.8	6.2	0.4	0.1	7	17
Europe & Central Asia	425.8	474.3	478.8	0.5	0.1	22.0	67.1	10.8	0.3	0.2	11	12
Latin America & Carib.	359.6	515.7	625.4	1.8	1.3	31.5	63.0	5.4	0.5	0.1	6	22
Middle East & N. Africa	174.0	295.2	388.7	2.6	1.8	37.8	58.6	3.6	0.6	0.1	6	26
South Asia	901.4	1,355.1	1,681.9	2.0	1.4	35.1	60.3	4.6	0.6	0.1	9	27
Sub-Saharan Africa	381.7	658.9	881.1	2.7	1.9	44.4	52.6	3.0	0.8	0.1	17	39
High income	789.8	902.9	947.5	0.7	0.3	18.5	66.9	14.7	0.3	0.2	9	12
Europe EMU	286.7	304.0	302.3	0.3	0.0	16.2	67.3	16.4	0.2	0.2	10	11

a. Estimate does not account for recent refugee flows.

About the data

Population estimates are usually based on national population censuses, but the frequency and quality of these vary by country. Most countries conduct a complete enumeration no more than once a decade. Pre- and postcensus estimates are interpolations or extrapolations based on demographic models. Errors and undercounting occur even in high-income countries; in developing countries such errors may be substantial because of limits in the transport, communications, and other resources required to conduct a full census. The quality and reliability of official demographic data are also affected by the public trust in the government, the government's commitment to full and accurate enumeration, the confidentiality and protection against misuse accorded to census data, and the independence of census agencies from undue political influence. Moreover, the international comparability of population indicators is limited by differences in the concepts, definitions, data collection procedures, and estimation methods used by national statistical agencies and other organizations that collect population data.

Of the 152 economies listed in the table, 118 (about 78 percent) conducted a census between 1990 and 2001. The currentness of a census, along with the availability of complementary data from surveys or registration systems, is one of many objective ways to judge the quality of demographic data. In some European countries registration systems offer complete information on population in the absence of a census. See *Primary data documentation* for the most recent census or survey year and for registration completeness.

Current population estimates for developing countries that lack recent census-based data, and pre- and postcensus estimates for countries with census data, are provided by national statistical offices, the United Nations Population Division, and other agencies. The standard estimation method requires fertility, mortality, and net migration data, which are often collected from sample surveys, some of which may be small or limited in coverage. The population estimates are the product of demographic modeling and so are susceptible to biases and errors because of shortcomings in the model as well as in the data. Population projections are made using the cohort component method.

The growth rate of the total population conceals the fact that different age groups may grow at very different rates. In many developing countries the population under 15 was earlier growing rapidly, but is now starting to shrink. Previously high fertility rates and declining mortality rates are now reflected in the larger share of the working-age population.

The variations in the proportions of children, aged persons, and persons of working age are taken into account in the dependency ratio. Separate calculations of young-age dependency and old-age dependency reflect the burden of dependency that the working-age population must bear in relation to the proportion of children and the aged in the population. Age dependency ratios are a measure of the age composition, not of economic dependency. It should be noted that some people in the dependent age range are part of the labor force, and many persons in the working age range are not in the labor force.

The vital rates shown in the table are based on data derived from birth and death registration systems, censuses, and sample surveys conducted by national statistical offices, United Nations agencies, and other organizations. The estimates for 2000 for many countries are based on extrapolations of levels and trends measured in earlier years.

Vital registers are the preferred source of these data, but in many developing countries systems for registering births and deaths do not exist or are incomplete because of deficiencies in geographic coverage or coverage of events. Many developing countries carry out specialized household surveys that estimate vital rates by asking respondents about births and deaths in the recent past. Estimates derived in this way are subject to sampling errors as well as errors due to inaccurate recall by the respondents.

The United Nations Statistics Division monitors the completeness of vital registration systems. The share of countries with at least 90 percent complete vital registration increased from 45 percent in 1988 to 53 percent in 1999. Still, some of the most populous developing countries—China, India, Indonesia, Brazil, Pakistan, Bangladesh, Nigeria—do not have complete vital registration systems. Fewer than 30 percent of births and fewer than 40 percent of deaths worldwide are thought to be registered and reported.

International migration is the only other factor besides birth and death rates that directly determines a country's population growth. In the high-income countries about 40 percent of annual population growth in 1990–95 was due to migration, while in the developing countries migration reduced population growth by about 3 percent. Estimating international migration is difficult. At any time many people are located outside their home country as tourists, workers, or refugees or for other reasons. Standards relating to the duration and purpose of international moves that qualify as migration vary, and accurate estimates require information on flows into and out of countries that is difficult to collect.

Definitions

• **Total population** of an economy includes all residents who are present regardless of legal status or citizenship— except for refugees not permanently settled in the country of asylum, who are generally considered part of the population of their country of origin. The indicators shown are midyear estimates for 1980 and 2000 and projections for 2015. • **Average annual population growth rate** is the exponential change for the period indicated. See *Statistical methods* for more information. • **Population age composition** represents the percentage of the total population that is in specific age groups. • **Dependency ratios** are the ratios of dependents—people younger than 15 and older than 64—to the working-age population—those between ages 15–64. • **Crude death rate** and **crude birth rate** are the number of deaths and the number of live births occurring during the year, per 1,000 population estimated at midyear. Subtracting the crude death rate from the crude birth rate provides the rate of natural increase, which is equal to the population growth rate in the absence of migration.

Data sources

The World Bank's population estimates are produced by its Human Development Network and Development Data Group in consultation with its operational staff and country offices. Important inputs to the World Bank's demographic work come from the following sources: census reports and other statistical publications from national statistical offices; Demographic and Health Surveys conducted by national agencies, Macro International, and the U.S. Centers for Disease Control and Prevention; United Nations Statistics Division, *Population and Vital Statistics Report* (quarterly); United Nations Population Division, *World Population Prospects: The 2000 Revision;* Eurostat, *Demographic Statistics* (various years); Centro Latinoamericano de Demografía, *Boletín Demográfico* (various years); and U.S. Bureau of the Census, International Database.

2.2 | Labor force structure

	Population ages 15-64		Labor force						
	millions		Total millions			Average annual growth rate %		Female % of labor force	
	1980	2000	1980	2000	2010	1980-2000	2000-2010	1980	2000
Afghanistan	8.5	14.2	6.8	11.2	13.8	2.5	2.1	34.8	35.5
Albania	1.6	2.2	1.2	1.7	2.0	1.7	1.5	38.8	41.3
Algeria	9.3	18.6	4.8	10.2	14.6	3.7	3.5	21.4	27.6
Angola	3.7	6.4	3.5	6.0	8.1	2.7	3.0	47.0	46.3
Argentina	17.2	23.2	10.7	15.0	18.5	1.7	2.1	27.6	33.2
Armenia	2.0	2.6	1.4	1.9	2.2	1.4	1.3	47.9	48.6
Australia	9.6	12.9	6.7	9.8	10.6	1.9	0.8	36.8	43.7
Austria	4.8	5.5	3.4	3.8	3.8	0.6	0.0	40.5	40.3
Azerbaijan	3.7	5.2	2.7	3.6	4.3	1.4	1.9	47.5	44.6
Bangladesh	44.8	76.2	40.3	69.2	86.7	2.7	2.3	42.3	42.4
Belarus	6.4	6.8	5.1	5.3	5.3	0.2	0.1	49.9	49.0
Belgium	6.5	6.7	3.9	4.3	4.2	0.4	-0.2	33.9	40.9
Benin	1.8	3.2	1.7	2.8	3.7	2.7	2.8	47.0	48.3
Bolivia	2.9	4.7	2.0	3.4	4.4	2.6	2.5	33.3	37.8
Bosnia and Herzegovina	2.7	2.8	1.6	1.9	2.0	0.7	0.9	32.8	38.1
Botswana	0.4	0.9	0.4	0.7	0.8	2.9	0.9	50.1	45.3
Brazil	70.3	112.6	47.7	79.7	90.0	2.6	1.2	28.4	35.5
Bulgaria	5.8	5.6	4.6	4.2	3.9	-0.5	-0.7	45.3	48.2
Burkina Faso	3.4	5.4	3.8	5.6	6.7	1.9	1.9	47.6	46.5
Burundi	2.1	3.4	2.3	3.7	4.6	2.5	2.2	50.2	48.7
Cambodia	3.9	6.4	3.7	6.3	7.9	2.7	2.3	55.4	51.7
Cameroon	4.5	7.9	3.6	6.1	7.5	2.5	2.1	36.8	38.0
Canada	16.7	21.0	12.2	16.5	17.5	1.5	0.6	39.5	45.8
Central African Republic	1.3	2.0	1.2	1.8	2.1	1.9	1.5	..	..
Chad	2.3	3.9	2.2	3.7	5.0	2.6	3.0	43.4	44.7
Chile	6.8	9.8	3.8	6.2	7.5	2.4	1.9	26.3	33.6
China	586.3	862.2	538.7	756.8	818.3	1.7	0.8	43.2	45.2
Hong Kong, China	3.4	5.0	2.5	3.6	3.9	1.9	0.8	34.3	37.1
Colombia	15.8	26.4	9.4	18.5	23.0	3.4	2.2	26.2	38.7
Congo, Dem. Rep.	13.8	24.6	12.0	21.0	28.2	2.8	3.0	44.5	43.4
Congo, Rep.	0.9	1.5	0.7	1.2	1.7	2.9	3.0	42.4	43.5
Costa Rica	1.3	2.4	0.8	1.5	1.9	3.3	2.1	20.8	31.1
Côte d'Ivoire	4.2	8.8	3.3	6.4	8.0	3.3	2.3	32.2	33.4
Croatia	3.1	3.0	2.2	2.1	2.0	-0.2	-0.2	40.2	44.2
Cuba	5.9	7.7	3.7	5.5	5.9	2.0	0.7	31.4	39.5
Czech Republic	6.5	7.2	5.3	5.8	5.5	0.4	-0.4	47.1	47.3
Denmark	3.3	3.6	2.7	2.9	2.8	0.4	-0.5	44.0	46.4
Dominican Republic	3.1	5.2	2.1	3.7	4.6	2.8	2.2	24.7	30.8
Ecuador	4.2	7.8	2.5	4.9	6.5	3.3	2.7	20.1	28.0
Egypt, Arab Rep.	23.1	38.7	14.3	24.4	32.2	2.7	2.8	26.5	30.4
El Salvador	2.4	3.7	1.6	2.7	3.6	2.8	2.9	26.5	36.5
Eritrea	1.3	2.2	1.2	2.1	2.7	2.6	2.7	47.4	47.4
Estonia	1.0	0.9	0.8	0.8	0.7	-0.4	-0.2	50.6	49.0
Ethiopia	19.9	33.4	16.9	27.6	34.6	2.4	2.3	42.3	40.9
Finland	3.2	3.5	2.4	2.6	2.5	0.4	-0.5	46.5	48.1
France	34.4	38.5	23.8	26.7	27.6	0.6	0.3	40.1	45.1
Gabon	0.4	0.7	0.4	0.6	0.7	2.2	2.0	45.0	44.7
Gambia, The	0.3	0.7	0.3	0.7	0.8	3.5	2.4	44.8	45.1
Georgia	3.3	3.3	2.6	2.5	2.5	-0.2	0.1	49.3	46.8
Germany	51.6	55.9	37.5	40.9	40.8	0.4	0.0	40.1	42.3
Ghana	5.5	10.8	5.1	9.2	11.2	2.9	2.0	51.0	50.5
Greece	6.2	7.1	3.8	4.6	4.6	1.0	0.1	27.9	37.8
Guatemala	3.5	6.0	2.3	4.2	6.0	2.9	3.5	22.4	28.9
Guinea	2.3	3.9	2.3	3.5	4.3	2.1	2.0	47.1	47.2
Guinea-Bissau	0.4	0.6	0.4	0.6	0.7	1.9	2.3	39.9	40.5
Haiti	2.9	4.4	2.5	3.5	4.2	1.6	1.8	44.6	42.9
Honduras	1.8	3.5	1.2	2.4	3.4	3.5	3.3	25.2	31.8

	Population ages 15-64		Labor force						
	millions		Total millions			Average annual growth rate %		Female % of labor force	
	1980	2000	1980	2000	2010	1980-2000	2000-2010	1980	2000
Hungary	6.9	6.9	5.1	4.8	4.6	-0.3	-0.5	43.3	44.7
India	394.5	625.2	299.5	450.8	543.6	2.0	1.9	33.7	32.3
Indonesia	83.2	135.6	58.6	101.8	124.5	2.8	2.0	35.2	40.8
Iran, Islamic Rep.	20.5	37.7	11.7	19.7	27.7	2.6	3.4	20.4	27.1
Iraq	6.7	12.9	3.5	6.5	8.6	3.0	2.8	17.3	19.7
Ireland	2.0	2.5	1.3	1.6	1.8	1.2	1.3	28.1	34.5
Israel	2.3	3.9	1.5	2.7	3.5	3.1	2.5	33.7	41.2
Italy	36.4	39.0	22.6	25.7	24.7	0.7	-0.4	32.9	38.5
Jamaica	1.1	1.6	1.0	1.4	1.6	1.8	1.5	46.3	46.2
Japan	78.7	86.4	57.2	68.3	66.1	0.9	-0.3	37.9	41.4
Jordan	1.0	2.8	0.5	1.5	2.0	5.2	3.4	14.7	24.6
Kazakhstan	9.1	9.8	7.0	7.3	7.7	0.2	0.6	47.6	47.1
Kenya	7.8	16.2	7.8	15.5	19.0	3.4	2.0	46.0	46.1
Korea, Dem. Rep.	10.5	15.1	7.5	11.7	12.3	2.2	0.5	44.8	43.3
Korea, Rep.	23.7	34.1	15.5	24.2	26.6	2.2	0.9	38.7	41.4
Kuwait	0.8	1.3	0.5	0.8	1.2	2.4	4.0	13.1	31.3
Kyrgyz Republic	2.1	2.9	1.5	2.1	2.6	1.6	2.1	47.5	47.3
Lao PDR	1.8	2.8	1.7	2.5	3.3	2.1	2.6	..	..
Latvia	1.7	1.6	1.4	1.3	1.3	-0.5	-0.4	50.8	50.5
Lebanon	1.6	2.7	0.8	1.5	2.0	2.9	2.6	22.6	29.6
Lesotho	0.7	1.2	0.6	0.8	0.9	1.9	1.2	37.9	36.9
Liberia	1.0	1.7	0.8	1.3	1.6	2.3	2.1	38.4	39.6
Libya	1.6	3.3	0.9	1.5	1.9	2.4	2.4	18.6	23.1
Lithuania	2.2	2.5	1.8	1.9	2.0	0.3	0.2	49.7	48.0
Macedonia, FYR	1.2	1.4	0.8	1.0	1.0	0.8	0.6	36.1	41.7
Madagascar	4.6	8.1	4.3	7.3	9.7	2.6	2.9	45.2	44.7
Malawi	3.1	5.2	3.1	5.0	6.0	2.3	1.9	50.6	48.6
Malaysia	7.8	14.4	5.3	9.6	12.7	3.0	2.8	33.7	37.9
Mali	3.3	5.4	3.4	5.3	6.6	2.2	2.3	46.7	46.2
Mauritania	0.8	1.4	0.7	1.2	1.6	2.5	2.7	45.0	43.6
Mauritius	0.6	0.8	0.3	0.5	0.6	2.0	1.1	25.7	32.6
Mexico	34.5	60.9	22.0	40.4	50.9	3.0	2.3	26.9	33.2
Moldova	2.6	2.9	2.1	2.2	2.2	0.1	0.2	50.3	48.6
Mongolia	0.9	1.5	0.8	1.2	1.5	2.2	2.1	45.7	47.0
Morocco	10.2	17.6	7.0	11.5	14.7	2.5	2.5	33.5	34.7
Mozambique	6.4	9.3	6.7	9.2	11.1	1.6	1.9	49.0	48.4
Myanmar	18.6	29.7	17.1	25.4	29.3	2.0	1.5	43.7	43.4
Namibia	0.5	0.9	0.4	0.7	0.8	2.6	1.4	40.1	40.9
Nepal	8.1	12.7	7.1	10.7	13.6	2.1	2.4	38.8	40.5
Netherlands	9.4	10.8	5.6	7.4	7.6	1.4	0.2	31.5	40.6
New Zealand	2.0	2.5	1.3	1.9	2.0	1.9	0.6	34.3	45.0
Nicaragua	1.5	2.8	1.0	2.1	2.9	3.6	3.4	27.6	35.9
Niger	2.7	5.2	2.8	5.1	7.0	3.0	3.2	44.6	44.3
Nigeria	37.0	65.9	29.5	50.3	63.2	2.7	2.3	36.2	36.5
Norway	2.6	2.9	1.9	2.3	2.4	0.9	0.3	40.5	46.4
Oman	0.6	1.3	0.3	0.6	0.8	3.3	2.7	6.2	17.1
Pakistan	45.4	75.3	29.3	51.7	71.4	2.8	3.2	22.7	28.6
Panama	1.1	1.8	0.7	1.2	1.5	2.8	2.0	29.9	35.3
Papua New Guinea	1.7	2.9	1.5	2.5	3.2	2.5	2.3	41.7	42.2
Paraguay	1.7	3.1	1.1	2.1	2.8	3.0	3.0	26.7	30.0
Peru	9.4	15.9	5.4	9.7	12.6	2.9	2.6	23.9	31.3
Philippines	25.8	44.5	18.7	31.9	41.0	2.7	2.5	35.0	37.8
Poland	23.3	26.6	18.5	19.9	20.3	0.4	0.2	45.3	46.4
Portugal	6.2	6.8	4.6	5.1	5.0	0.5	-0.1	38.7	44.0
Puerto Rico	1.9	2.6	1.0	1.5	1.7	1.9	1.2	31.8	37.2
Romania	14.0	15.4	10.9	10.7	10.6	-0.1	-0.1	45.8	44.5
Russian Federation	94.7	101.2	76.0	77.7	77.0	0.1	-0.1	49.4	49.2

2.2 Labor force structure

	Population ages 15-64		Labor force						
	millions		Total millions			Average annual growth rate %		Female % of labor force	
	1980	2000	1980	2000	2010	1980-2000	2000-2010	1980	2000
Rwanda	2.5	4.5	2.6	4.6	5.8	2.8	2.2	49.1	48.8
Saudi Arabia	5.0	11.2	2.8	6.8	9.6	4.5	3.4	7.6	16.1
Senegal	2.9	5.1	2.5	4.3	5.4	2.6	2.3	42.2	42.6
Sierra Leone	1.7	2.7	1.2	1.9	2.4	2.0	2.4	35.5	36.8
Singapore	1.6	2.8	1.1	2.0	2.2	2.9	1.1	34.6	39.1
Slovak Republic	3.2	3.7	2.5	3.0	3.0	0.9	0.2	45.3	47.8
Slovenia	1.2	1.4	1.0	1.0	1.0	0.3	-0.3	45.8	46.5
Somalia	3.3	4.4	3.0	3.8	5.2	1.2	3.3	43.4	43.4
South Africa	15.2	26.7	10.3	17.0	18.4	2.5	0.8	35.1	37.8
Spain	23.5	27.0	14.0	17.4	17.6	1.1	0.1	28.3	37.2
Sri Lanka	8.9	13.1	5.4	8.5	10.1	2.2	1.7	26.9	36.6
Sudan	10.2	17.6	7.1	12.4	16.2	2.8	2.6	26.9	29.5
Swaziland	0.3	0.6	0.2	0.4	0.5	3.2	2.0	33.5	37.7
Sweden	5.3	5.7	4.2	4.8	4.6	0.7	-0.3	43.8	48.0
Switzerland	4.2	4.8	3.1	3.9	3.9	1.2	0.0	36.7	40.5
Syrian Arab Republic	4.2	9.1	2.5	5.2	7.5	3.7	3.8	23.5	27.0
Tajikistan	2.1	3.5	1.5	2.4	3.3	2.3	3.0	46.9	44.9
Tanzania	9.3	17.7	9.5	17.3	21.1	3.0	2.0	49.8	49.1
Thailand	26.9	41.4	24.4	36.8	40.8	2.1	1.0	47.4	46.3
Togo	1.3	2.4	1.1	1.9	2.3	2.7	2.3	39.3	40.0
Trinidad and Tobago	0.7	0.9	0.4	0.6	0.7	1.6	1.6	31.4	34.3
Tunisia	3.5	6.2	2.2	3.8	4.8	2.7	2.4	28.9	31.7
Turkey	24.9	41.9	18.7	31.3	37.1	2.6	1.7	35.5	37.6
Turkmenistan	1.6	3.0	1.2	2.3	2.9	3.2	2.4	47.0	45.9
Uganda	6.4	10.7	6.6	10.9	14.0	2.5	2.5	47.9	47.6
Ukraine	33.4	33.8	26.4	25.1	24.4	-0.3	-0.3	50.2	48.9
United Arab Emirates	0.7	2.1	0.6	1.4	1.7	4.7	1.9	5.1	14.8
United Kingdom	36.1	39.0	26.9	29.9	29.7	0.5	-0.1	38.9	44.1
United States	150.6	185.8	110.1	144.7	158.0	1.4	0.9	41.0	46.0
Uruguay	1.8	2.1	1.2	1.5	1.7	1.4	0.9	30.8	41.8
Uzbekistan	8.6	14.6	6.5	10.5	13.3	2.4	2.4	48.0	46.9
Venezuela, RB	8.5	14.9	5.2	9.9	12.8	3.3	2.6	26.7	34.8
Vietnam	28.6	48.1	25.6	40.4	48.0	2.3	1.7	48.1	48.9
West Bank and Gaza	..	..	..	..	..	..	..	..	..
Yemen, Rep.	4.0	8.3	2.5	5.5	7.7	4.0	3.3	32.5	28.1
Yugoslavia, Fed. Rep.	6.5	7.1	4.5	5.1	5.2	0.6	0.3	38.7	42.9
Zambia	2.9	5.1	2.4	4.3	5.1	2.9	1.8	45.4	44.8
Zimbabwe	3.5	6.5	3.2	5.8	6.6	3.0	1.2	44.4	44.5
World	**2,600.9 s**	**3,806.4 s**	**2,036.1 s**	**2,943.2 s**	**3,380.2 s**	**1.8 w**	**1.4 w**	**39.1 w**	**40.6 w**
Low income	894.7	1,443.2	708.7	1,115.1	1,367.6	2.3	2.0	37.8	37.8
Middle income	1,200.1	1,774.6	969.3	1,388.8	1,558.3	1.8	1.2	40.2	42.1
Lower middle income	929.9	1,356.8	785.4	1,100.4	1,223.6	1.7	1.1	41.9	43.4
Upper middle income	270.2	417.8	183.9	288.4	334.7	2.2	1.5	33.0	36.7
Low & middle income	2,094.8	3,217.8	1,678.0	2,503.9	2,926.0	2.0	1.6	39.2	40.2
East Asia & Pacific	820.4	1,239.7	719.3	1,051.7	1,170.0	1.9	1.1	42.5	44.4
Europe & Central Asia	274.2	318.4	214.1	238.1	249.0	0.5	0.4	46.7	46.3
Latin America & Carib.	201.0	324.9	129.8	222.1	269.1	2.7	1.9	27.8	34.8
Middle East & N. Africa	91.6	171.2	54.1	99.0	134.5	3.0	3.1	23.8	27.7
South Asia	510.7	817.4	388.7	602.6	739.9	2.2	2.1	33.8	33.4
Sub-Saharan Africa	197.0	346.3	172.0	290.5	363.5	2.6	2.2	42.0	42.0
High income	506.2	588.6	358.1	439.4	454.3	1.0	0.3	38.4	43.2
Europe EMU	185.1	204.6	123.4	141.0	141.2	0.7	0.0	36.4	41.3

About the data

The labor force is the supply of labor available for the production of goods and services in an economy. It includes people who are currently employed and people who are unemployed but seeking work as well as first-time job-seekers. Not everyone who works is included, however. Unpaid workers, family workers, and students are among those usually omitted, and in some countries members of the military are not counted. The size of the labor force tends to vary during the year as seasonal workers enter and leave it.

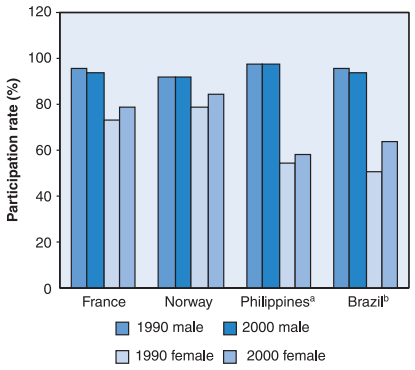
Data on the labor force are compiled by the International Labour Organization (ILO) from censuses or labor force surveys. For international comparisons the most comprehensive source is labor force surveys. Despite the ILO's efforts to encourage the use of international standards, labor force data are not fully comparable because of differences among countries, and sometimes within countries, in their scope and coverage. In some countries data on the labor force refer to people above a specific age, while in others there is no specific age provision. The reference period of the census or survey is another important source of differences: in some countries data refer to people's status on the day of the census or survey or during a specific period before the inquiry date, while in others the data are recorded without reference to any period. In developing countries, where the household is often the basic unit of production and all members contribute to output, but some at low intensity or irregular intervals, the estimated labor force may be significantly smaller than the numbers actually working (ILO, *Yearbook of Labour Statistics 1997*).

The labor force estimates in the table were calculated by World Bank staff by applying economic activity rates from the ILO database to World Bank population estimates to create a series consistent with these population estimates. This procedure sometimes results in estimates of labor force size that differ slightly from those in the ILO's *Yearbook of Labour Statistics*. The population ages 15–64 is often used to provide a rough estimate of the potential labor force. But in many developing countries children under 15 work full or part time. And in some high-income countries many workers postpone retirement past age 65. As a result, labor force participation rates calculated in this way may systematically over- or underestimate actual rates.

In general, estimates of women in the labor force are lower than those of men and are not comparable internationally, reflecting the fact that for women, demographic, social, legal, and cultural trends and norms determine whether their activities are regarded as economic. In many countries large numbers of women work on farms or in other family enterprises without pay, while others work in or near their homes, mixing work and family activities during the day. Countries differ in the criteria used to determine the extent to which such workers are to be counted as part of the labor force.

Figure 2.2

Labor force participation rate, ages 25-54, 1990 and 2000



a. Data refer to 1999 rather than 2000. b. Data refer to 1998 rather than 2000.

Source: ILO. *Key Indicators of the Labour Market* database *(2001-02).*

The analysis of labor force participation by sex shows that for economies for which information is available, women are less likely than men to participate in the labor force. This reflects whether their work is regarded as economic as it does the competing demands of household work and childbearing and childcare.

For the majority of economies, the gap between male and female labor force participation has been falling. This results from both the reduced rates for men and the rising rates for women.

Definitions

• **Population ages 15–64** is the number of people who could potentially be economically active. • **Total labor force** comprises people who meet the ILO definition of the economically active population: all people who supply labor for the production of goods and services during a specified period. It includes both the employed and the unemployed. While national practices vary in the treatment of such groups as the armed forces and seasonal or part-time workers, the labor force generally includes the armed forces, the unemployed, and first-time job-seekers, but excludes homemakers and other unpaid caregivers and workers in the informal sector. • **Average annual growth rate of the labor force** is calculated using the exponential endpoint method (see *Statistical methods* for more information). • **Females as a percentage of the labor force** show the extent to which women are active in the labor force.

Data sources

The population estimates are from the World Bank's population database. The economic activity rates are from the ILO database Estimates and Projections of the Economically Active Population, 1950–2010. The ILO publishes estimates of the economically active population in its *Yearbook of Labour Statistics.*

2.3 | Employment by economic activity

	Agriculture				Industry				Services			
	Male % of male labor force		Female % of female labor force		Male % of male labor force		Female % of female labor force		Male % of male labor force		Female % of female labor force	
	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]
Afghanistan	66	..	86	..	9	..	12	..	26	..	2	..
Albania	..	..	..	..	..	..	..	..	..	..	..	..
Algeria	27	..	69	..	33	..	6	..	40	..	25	..
Angola	67	..	87	..	13	..	1	..	20	..	11	..
Argentina	..	1	..	0 [b]	..	34	..	10	..	65	..	89
Armenia	..	..	..	..	..	..	..	..	..	..	..	..
Australia	8	6	4	4	39	30	16	10	53	64	79	86
Austria	..	6	..	7	..	43	..	14	..	52	..	79
Azerbaijan	..	..	..	..	..	..	..	..	..	..	..	..
Bangladesh	..	..	..	..	..	..	..	..	..	..	..	..
Belarus	..	..	..	..	..	..	..	..	..	..	..	..
Belgium	..	3	..	2	..	37	..	13	..	60	..	86
Benin	66	..	69	..	10	..	4	..	24	..	27	..
Bolivia	52	58 [c]	28	2 [c]	21	40 [c]	19	16 [c]	27	58 [c]	53	82 [c]
Bosnia and Herzegovina	26	..	38	..	45	..	24	..	30	..	39	..
Botswana	6	..	3	..	41	..	8	..	53	..	89	..
Brazil	34	26	20	19	30	27	13	10	36	47	67	71
Bulgaria	..	..	..	..	..	..	..	..	..	..	..	..
Burkina Faso	92	..	93	..	3	..	2	..	5	..	5	..
Burundi	..	..	..	..	..	..	..	..	..	..	..	..
Cambodia	..	..	..	..	..	..	..	..	..	..	..	..
Cameroon	65	..	87	..	11	..	2	..	24	..	11	..
Canada	7	5	3	2	37	32	16	11	56	63	81	87
Central African Republic	79	..	90	..	5	..	1	..	15	..	9	..
Chad	82	..	95	..	6	..	0 [b]	..	..	..	4	..
Chile	22	19	3	5	27	31	16	14	51	49	81	82
China	..	..	..	..	..	..	..	..	..	..	..	..
Hong Kong, China	2	0 [b]	1	0 [b]	47	28	56	12	52	71	43	88
Colombia	2	2	1	1	39	27	26	20	59	71	74	79
Congo, Dem. Rep.	62	..	84	..	18	..	4	..	20	..	12	..
Congo, Rep.	42	..	81	..	20	..	2	..	38	..	17	..
Costa Rica	34	27	6	5	25	26	20	17	40	46	74	77
Côte d'Ivoire	60	..	75	..	10	..	5	..	30	..	20	..
Croatia	..	15	..	13	..	34	..	21	..	51	..	66
Cuba	30	..	10	..	32	..	22	..	39	..	68	..
Czech Republic	13	6	11	4	57	49	39	28	30	48	50	69
Denmark	11	5	4	2	41	37	16	15	48	58	80	83
Dominican Republic	..	..	..	..	..	..	..	..	..	..	..	..
Ecuador	..	11	..	2	..	26	..	14	..	63	..	84
Egypt, Arab Rep.	45	29	10	35	21	25	13	9	33	46	69	56
El Salvador	51	37	10	6	21	24	21	25	28	38	69	69
Eritrea	79	..	88	..	7	..	2	..	14	..	11	..
Estonia	..	11	..	7	..	40	..	23	..	49	..	70
Ethiopia	..	..	..	..	..	..	..	..	..	..	..	..
Finland	15	8	12	4	44	40	23	14	41	52	65	82
France	3	2	1	1	50	35	25	13	48	63	75	86
Gabon	59	..	74	..	18	..	6	..	24	..	21	..
Gambia, The	78	..	93	..	10	..	3	..	13	..	5	..
Georgia	..	..	..	..	..	..	..	..	..	..	..	..
Germany	..	3	..	2	..	46	..	19	..	50	..	79
Ghana	..	..	..	..	..	..	..	..	..	..	..	..
Greece	26	16	42	20	34	29	18	12	40	54	40	67
Guatemala	..	..	..	..	..	..	..	..	..	..	..	..
Guinea	86	..	97	..	2	..	1	..	12	..	3	..
Guinea-Bissau	81	..	98	..	3	..	..	..	17	..	3	..
Haiti	81	..	53	..	8	..	8	..	11	..	39	..
Honduras	..	50	..	9	..	21	..	25	..	30	..	67

	Agriculture				Industry				Services			
	Male % of male labor force		Female % of female labor force		Male % of male labor force		Female % of female labor force		Male % of male labor force		Female % of female labor force	
	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]
Hungary	24	9	19	4	45	42	36	25	31	48	45	71
India	..	..	..	..	..	..	..	..	..	..	..	..
Indonesia	57	..	54	..	13	..	13	..	29	..	33	..
Iran, Islamic Rep.	..	..	..	..	..	..	..	..	..	..	..	..
Iraq	21	..	62	..	24	..	11	..	55	..	28	..
Ireland	..	12	..	2	..	38	..	15	..	50	..	83
Israel	8	3	4	1	39	35	16	13	52	61	79	86
Italy	13	6	16	5	43	39	28	21	44	55	56	74
Jamaica	47	30	23	10	20	26	8	9	33	45	69	81
Japan	9	5	13	6	40	38	28	22	51	57	58	73
Jordan	..	..	..	..	..	..	..	..	..	..	..	..
Kazakhstan	..	..	..	..	..	..	..	..	..	..	..	..
Kenya	23	20	25	16	24	23	9	10	53	57	65	75
Korea, Dem. Rep.	39	..	52	..	37	..	20	..	24	..	28	..
Korea, Rep.	31	10	39	13	32	34	24	19	37	56	37	68
Kuwait	2	..	..	..	36	..	3	..	62	..	97	..
Kyrgyz Republic	..	52	..	53	..	14	..	8	..	34	..	38
Lao PDR	77	..	82	..	7	..	4	..	16	..	13	..
Latvia	..	17	..	14	..	35	..	18	..	49	..	69
Lebanon	13	..	20	..	29	..	21	..	58	..	59	..
Lesotho	26	..	64	..	52	..	5	..	22	..	31	..
Liberia	69	..	89	..	9	..	1	..	22	..	10	..
Libya	16	..	63	..	29	..	3	..	55	..	34	..
Lithuania	..	24	..	..	..	33	..	..	..	43	..	..
Macedonia, FYR	..	..	..	..	..	..	..	..	..	..	..	..
Madagascar	73	77	93	76	9	6	2	4	19	16	5	20
Malawi	..	..	..	..	..	..	..	..	..	..	..	..
Malaysia	34	21	44	13	26	33	20	29	40	46	36	58
Mali	86	..	92	..	2	..	1	..	12	..	7	..
Mauritania	65	..	79	..	11	..	2	..	25	..	19	..
Mauritius	29	..	30	..	19	..	40	..	47	..	31	..
Mexico	..	27	..	9	..	27	..	21	..	45	..	69
Moldova	..	..	..	..	..	..	..	..	..	..	..	..
Mongolia	..	..	..	..	..	..	..	..	..	..	..	..
Morocco	..	6	..	6	..	32	..	40	..	63	..	54
Mozambique	72	..	97	..	14	..	1	..	14	..	2	..
Myanmar	..	..	..	..	..	..	..	..	..	..	..	..
Namibia	52	..	42	..	22	..	10	..	27	..	47	..
Nepal	..	..	..	..	..	..	..	..	..	..	..	..
Netherlands	7	4	3	2	39	31	13	9	54	63	84	84
New Zealand	..	11	..	6	..	32	..	12	..	56	..	81
Nicaragua	..	..	..	..	..	..	..	..	..	..	..	..
Niger	7	..	6	..	69	..	29	..	25	..	66	..
Nigeria	..	..	..	..	..	..	..	..	..	..	..	..
Norway	10	6	6	2	41	33	13	9	49	61	81	88
Oman	52	..	24	..	21	..	33	..	27	..	43	..
Pakistan	..	..	..	..	..	..	..	..	..	..	..	..
Panama	37	25	6	2	21	22	12	10	39	52	81	88
Papua New Guinea	76	..	92	..	8	..	2	..	16	..	6	..
Paraguay	2	..	0 [b]	..	35	..	13	..	63	..	86	..
Peru	..	8	..	3	..	25	..	11	..	67	..	86
Philippines	60	47	37	27	16	18	15	13	25	36	48	61
Poland	..	19	..	19	..	41	..	21	..	39	..	60
Portugal	22	11	35	14	44	44	25	24	34	45	40	62
Puerto Rico	8	3	0 [b]	0 [b]	27	28	24	14	65	69	75	85
Romania	22	39	39	45	52	33	34	22	26	29	27	33
Russian Federation	19	15	13	8	50	36	37	23	31	49	50	69

2.3 Employment by economic activity

	Agriculture				Industry				Services			
	Male % of male labor force		Female % of female labor force		Male % of male labor force		Female % of female labor force		Male % of male labor force		Female % of female labor force	
	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]
Rwanda	88	..	98	..	5	..	1	..	7	..	1	..
Saudi Arabia	45	..	25	..	17	..	5	..	39	..	70	..
Senegal	74	..	90	..	9	..	2	..	17	..	8	..
Sierra Leone	63	..	82	..	20	..	4	..	17	..	14	..
Singapore	2	0 [b]	1	0 [b]	33	33	40	23	65	67	59	77
Slovak Republic	..	10	..	5	..	49	..	26	..	42	..	69
Slovenia	..	11	..	11	..	46	..	28	..	42	..	61
Somalia	69	..	90	..	12	..	2	..	19	..	8	..
South Africa	..	..	..	..	..	..	..	..	..	..	..	..
Spain	20	9	18	5	42	40	21	14	39	51	60	81
Sri Lanka	44	38	51	49	19	23	18	22	30	37	28	27
Sudan	66	..	88	..	9	..	4	..	24	..	8	..
Swaziland	40	..	38	..	29	..	14	..	30	..	48	..
Sweden	8	4	3	1	45	38	16	12	47	59	81	87
Switzerland	8	5	5	4	47	36	23	13	46	59	72	83
Syrian Arab Republic	..	..	..	..	..	..	..	..	..	..	..	..
Tajikistan	..	..	..	..	..	..	..	..	..	..	..	..
Tanzania	..	..	..	..	..	..	..	..	..	..	..	..
Thailand	68	50	74	47	13	20	8	17	20	31	18	36
Togo	70	..	67	..	12	..	7	..	19	..	26	..
Trinidad and Tobago	11	11	9	3	44	37	21	13	45	52	70	83
Tunisia	33	..	53	..	30	..	32	..	37	..	16	..
Turkey	4	34	9	72	36	25	31	10	60	41	60	18
Turkmenistan	..	..	..	..	..	..	..	..	..	..	..	..
Uganda	..	..	..	..	..	..	..	..	..	..	..	..
Ukraine	..	..	..	..	..	..	..	..	..	..	..	..
United Arab Emirates	5	..	..	..	40	..	7	..	55	..	93	..
United Kingdom	4	2	1	1	48	36	23	12	49	61	76	87
United States	5	4	2	1	39	32	19	12	56	64	80	86
Uruguay	..	6	..	1	..	34	..	14	..	61	..	85
Uzbekistan	..	..	..	..	..	..	..	..	..	..	..	..
Venezuela, RB	20	..	2	..	31	..	18	..	49	..	79	..
Vietnam	..	..	..	..	..	..	..	..	..	..	..	..
West Bank and Gaza	22	..	25	..	43	..	25	..	36	..	50	..
Yemen, Rep.	60	..	98	..	19	..	1	..	21	..	1	..
Yugoslavia, Fed. Rep.	..	..	..	..	..	..	..	..	..	..	..	..
Zambia	69	..	85	..	13	..	3	..	19	..	13	..
Zimbabwe	29	..	50	..	31	..	8	..	40	..	42	..
World	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w
Low income	..	..	..	..	..	..	..	..	..	..	..	..
Middle income	..	..	..	..	..	..	..	..	..	..	..	..
Lower middle income	..	..	..	..	..	..	..	..	..	..	..	..
Upper middle income	..	22	..	21	..	31	..	16	..	48	..	64
Low & middle income	..	..	..	..	..	..	..	..	..	..	..	..
East Asia & Pacific	..	..	..	..	..	..	..	..	..	..	..	..
Europe & Central Asia	..	21	..	21	..	35	..	21	..	44	..	58
Latin America & Carib.	..	20	..	11	..	28	..	14	..	52	..	75
Middle East & N. Africa	..	..	..	..	..	..	..	..	..	..	..	..
South Asia	..	..	..	..	..	..	..	..	..	..	..	..
Sub-Saharan Africa	..	..	..	..	..	..	..	..	..	..	..	..
High income	7	4	6	2	42	36	22	15	51	60	72	82
Europe EMU	..	4	..	2	..	41	..	17	..	55	..	80

a. Data are for the most recent year available. b. Less than 0.5. c. Break in series between 1980 and 1990.

Employment by economic activity | 2.3

About the data

The International Labour Organization (ILO) classifies economic activity on the basis of the International Standard Industrial Classification (ISIC) of All Economic Activities. Because this classification is based on where work is performed (industry) rather than on what type of work is performed (occupation), all of an enterprise's employees are classified under the same industry, regardless of their trade or occupation. The categories should add up to 100 percent. Where they do not, the differences arise because of people who are not classifiable by economic activity.

Data on employment are drawn from labor force surveys, establishment censuses and surveys, administrative records of social insurance schemes, and official national estimates. The concept of employment generally refers to people above a certain age who worked, or who held a job, during a reference period. Employment data include both full-time and part-time workers. There are, however, many differences in how countries define and measure employment status, particularly for part-time workers, students, members of the armed forces, and household or contributing family workers. When the armed forces are included, they are allocated to the service sector, causing that sector to be somewhat overstated in comparison with economies where they are excluded. Where data are obtained from establishment surveys, they cover only employees; thus self-employed and contributing family workers are excluded. In such cases the employment share of the agricultural sector is severely underreported. Countries also take very different approaches to the treatment of unemployed people. In most countries unemployed people with previous job experience are classified according to their last job. But in some countries the unemployed and people seeking their first job are not classifiable by economic activity. Because of these differences, the size and distribution of employment by economic activity may not be fully comparable across countries (ILO, *Yearbook of Labour Statistics 1996,* p. 64).

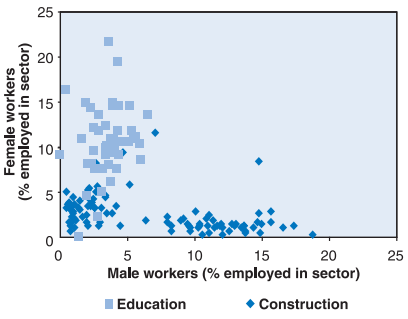
The ILO's *Yearbook of Labour Statistics* and *Key Indicators of the Labour Market* database report data by major divisions of the ISIC revision 2 or ISIC revision 3. In this table the reported divisions or categories are aggregated into three broad groups: agriculture, industry, and services. An increasing number of countries report economic activity according to the ISIC. Where data are supplied according to national classifications, however, industry definitions and descriptions may differ. In addition, classification into broad groups may obscure fundamental differences in countries' industrial patterns.

The distribution of economic activity by gender reveals some interesting patterns. Agriculture accounts for the largest share of female employment in much of Africa and Asia. Services account for much of the increase in women's labor force participation in North Africa, Latin America and the Caribbean, and high-income economies. Worldwide, women are underrepresented in industry.

Segregating one sex in a narrow range of occupations significantly reduces economic efficiency by reducing labor market flexibility and thus the economy's ability to adapt to change. This segregation is particularly harmful for women, who have a much narrower range of labor market choices and lower levels of pay than men. But it is also detrimental to men when job losses are concentrated in industries dominated by men and job growth is centered in service occupations, where women often dominate, as has been the recent experience in many countries.

There are several explanations for the rising importance of service jobs for women. Many service jobs— such as nursing and social and clerical work—are considered "feminine" because of a perceived similarity to women's traditional roles. Women often do not receive the training needed to take advantage of changing employment opportunities. And the greater availability of part-time work in service industries may lure more women, although it is not clear whether this is a cause or an effect.

Figure 2.3



Source: ILO. *Key Indicators of the Labour Market* database *(2001-02).*

Labor market segregation is a consequence of men's and women's tendency to be employed in different occupations. The interest in studying occupational segregation ranges from concerns to identify whether market forces or policies produced the existing occupational structure, to the practical issues of advancing the equality of women and men in employment.

Definitions

• **Agriculture** includes hunting, forestry, and fishing, corresponding to division 1 (ISIC revision 2) or tabulation categories A and B (ISIC revision 3). • **Industry** includes mining and quarrying (including oil production), manufacturing, construction, electricity, gas, and water, corresponding to divisions 2–5 (ISIC revision 2) or tabulation categories C–F (ISIC revision 3). • **Services** include wholesale and retail trade and restaurants and hotels; transport, storage, and communications; financing, insurance, real estate, and business services; and community, social, and personal services—corresponding to divisions 6–9 (ISIC revision 2) or tabulation categories G–P (ISIC revision 3).

Data sources

The employment data are from the ILO database Key Indicators of the Labour Market (2001-02 issue).

2.4 | Unemployment

	Unemployment						Long term unemployment			Unemployment by level of educational attainment		
	Male % of male labor force		Female % of female labor force		Total % of total labor force		% of total unemployment			% of total unemployment		
	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	Male 1998-2000[a]	Female 1998-2000[a]	Total 1998-2000[a]	Primary 1997-99[a]	Secondary 1997-99[a]	Tertiary 1997-99[a]
Afghanistan	..	..	..	..	..	..	..	..	..	..	..	..
Albania	..	15.8	..	20.9	5.6	18.0	..	..	..	..	..	..
Algeria	..	..	..	..	..	..	..	..	..	..	..	..
Angola	..	..	..	..	..	..	..	..	..	..	..	..
Argentina	..	11.9	..	14.3	2.3	12.8	..	..	..	..	..	..
Armenia	..	4.9	..	15.0	..	9.3	..	..	..	..	..	..
Australia	5.0	7.2	7.4	6.7	5.9	6.4	30.6	24.0	27.9	53.3	32.1	11.8
Austria	1.6	4.7	2.3	4.8	1.9	4.7	28.1	36.1	31.7	35.2	60.3	4.6
Azerbaijan	..	1.0	..	1.4	..	1.2	..	..	..	6.7	30.8	62.5
Bangladesh	..	..	..	..	..	..	..	..	..	..	..	..
Belarus	..	..	..	..	..	2.0	..	..	..	7.8	15.5	76.7
Belgium	5.5	5.8	15.0	8.7	9.1	7.0	60.1	60.9	60.5	53.1	33.4	13.6
Benin	..	..	..	..	..	..	..	..	..	..	..	..
Bolivia	..	..	..	..	..	..	..	..	..	..	..	..
Bosnia and Herzegovina	..	..	..	..	..	..	..	..	..	..	..	..
Botswana	..	..	..	..	..	..	..	..	..	..	..	..
Brazil	2.8	7.2	2.8	11.6	2.8	9.6	..	..	..	..	..	..
Bulgaria	..	16.7	..	15.9	..	16.3	58.6	58.7	58.7	7.4	85.3	7.3
Burkina Faso	..	..	..	..	..	..	..	..	..	..	..	..
Burundi	..	..	..	..	..	..	..	..	..	..	..	..
Cambodia	..	..	..	..	..	..	..	..	..	..	..	..
Cameroon	..	..	..	..	..	..	..	..	..	..	..	..
Canada	7.0	6.9	8.2	6.7	7.5	6.8	11.7	9.5	10.7	25.9	31.2	35.6
Central African Republic	..	..	..	..	..	..	..	..	..	..	..	..
Chad	..	..	..	..	..	..	..	..	..	..	..	..
Chile	10.6	7.0	10.0	7.6	10.4	9.9	..	..	..	28.5	56.2	14.6
China	..	..	..	..	4.9	3.1	..	..	..	..	..	..
Hong Kong, China	3.9	5.1	3.4	4.0	3.8	5.0	..	..	..	..	..	..
Colombia	7.5	17.2	11.5	23.3	9.1	20.1	..	..	..	21.3	57.8	19.1
Congo, Dem. Rep.	..	..	..	..	..	..	..	..	..	..	..	..
Congo, Rep.	..	..	..	..	..	..	..	..	..	..	..	..
Costa Rica	5.3	4.9	7.8	8.2	5.9	6.0	..	..	..	75.1	12.7	8.1
Côte d'Ivoire	..	..	..	..	..	..	..	..	..	..	..	..
Croatia	3.4	12.8	8.2	14.5	5.3	16.1	56.3	53.6	60.7	19.5	69.1	11.4
Cuba	..	..	..	..	..	..	..	..	..	..	..	..
Czech Republic	..	7.3	..	10.6	..	8.8	47.5	49.8	48.8	24.2	72.1	3.7
Denmark	6.5	4.5	7.6	5.9	7.0	5.4	20.9	20.1	20.5	34.6	47.7	16.7
Dominican Republic	..	..	..	..	..	..	..	..	..	50.4	31.1	9.6
Ecuador	..	8.4	..	16.0	..	11.5	..	..	..	..	..	..
Egypt, Arab Rep.	3.9	5.1	19.2	19.9	5.2	8.2	..	..	..	..	..	..
El Salvador	..	8.2	..	6.0	12.9	7.3	..	..	..	57.1	23.4	7.5
Eritrea	..	..	..	..	..	..	..	..	..	..	..	..
Estonia	..	13.0	..	10.2	..	14.8	45.4	49.1	47.0	22.5	54.4	23.1
Ethiopia	3.6	..	9.5	..	5.2	..	..	..	..	26.9	61.3	8.1
Finland	4.6	9.7	4.7	10.7	4.7	9.8	30.1	25.2	27.6	41.1	49.8	9.1
France	4.1	8.5	9.1	11.9	6.1	10.0	41.1	43.6	42.5	..	..	..
Gabon	..	..	..	..	..	..	..	..	..	..	..	..
Gambia, The	..	..	..	..	..	..	..	..	..	..	..	..
Georgia	..	15.3	..	12.2	..	13.8	..	..	..	3.9	32.4	60.8
Germany	..	7.6	..	8.6	..	8.1	49.9	54.0	51.7	28.9	57.5	13.6
Ghana	..	..	..	..	..	..	..	..	..	..	..	..
Greece	3.3	7.0	5.7	16.5	2.4	10.8	44.7	61.5	54.9	36.9	40.5	21.9
Guatemala	..	..	..	..	..	..	..	..	..	..	..	..
Guinea	..	..	..	..	..	..	..	..	..	..	..	..
Guinea-Bissau	..	..	..	..	..	..	..	..	..	..	..	..
Haiti	..	..	..	..	..	..	..	..	..	..	..	..
Honduras	8.6	3.7	6.0	3.8	7.3	3.7	..	..	..	63.2	22.4	5.8

	Unemployment						Long term unemployment			Unemployment by level of educational attainment		
	Male % of male labor force		Female % of female labor force		Total % of total labor force		% of total unemployment			% of total unemployment		
							Male	Female	Total	Primary	Secondary	Tertiary
	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1998-2000[a]	1998-2000[a]	1998-2000[a]	1997-99[a]	1997-99[a]	1997-99[a]
Hungary	..	7.5	..	6.3	..	6.5	45.0	43.2	44.3	35.2	61.6	3.2
India	..	..	..	..	..	..	..	..	..	..	..	..
Indonesia	..	..	..	..	..	6.1	..	..	..	38.3	47.9	9.2
Iran, Islamic Rep.	..	..	..	..	..	..	..	..	..	..	..	..
Iraq	..	..	..	..	..	..	..	..	..	..	..	..
Ireland	11.4	4.8	8.2	4.6	10.5	4.7	44.9	23.4	36.5	60.7	20.8	16.1
Israel	4.1	8.5	6.0	8.1	4.8	8.3	..	..	..	23.9	42.2	33.1
Italy	4.8	8.7	13.2	15.7	7.6	10.8	62.1	60.7	61.4	52.3	39.0	6.9
Jamaica	16.3	10.0	39.6	22.5	27.3	15.7	18.0	29.6	25.6	..	..	..
Japan	2.0	5.0	2.0	4.5	2.0	4.8	30.7	17.1	25.5	23.3	51.2	25.6
Jordan	..	11.8	..	20.7	..	13.2	..	..	..	..	..	..
Kazakhstan	..	..	..	..	..	13.7	..	..	..	7.2	52.5	40.3
Kenya	..	..	..	..	..	..	..	..	..	..	..	..
Korea, Dem. Rep.	..	..	..	..	..	..	..	..	..	..	..	..
Korea, Rep.	6.2	7.1	3.5	5.1	5.2	4.1	3.1	0.7	2.3	16.4	52.7	20.0
Kuwait	..	..	..	..	..	..	..	..	..	..	..	..
Kyrgyz Republic	..	..	..	..	..	..	..	..	..	33.4	55.7	10.9
Lao PDR	..	..	..	..	..	..	..	..	..	..	..	..
Latvia	..	15.5	..	13.3	..	8.4	50.5	52.8	51.5	20.8	68.1	8.5
Lebanon	..	..	..	..	..	..	..	..	..	..	..	..
Lesotho	..	..	..	..	..	..	..	..	..	..	..	..
Liberia	..	..	..	..	..	..	..	..	..	..	..	..
Libya	..	..	..	..	..	..	..	..	..	..	..	..
Lithuania	..	17.3	..	13.3	..	11.1	23.4	19.2	21.6	15.4	56.2	28.5
Macedonia, FYR	15.6	32.5	32.8	37.5	22.0	34.5	..	..	..	..	..	..
Madagascar	..	..	..	..	..	..	..	..	..	..	..	..
Malawi	..	..	..	..	..	..	..	..	..	..	..	..
Malaysia	..	..	..	..	..	3.0	..	..	..	..	..	..
Mali	..	..	..	..	..	..	..	..	..	..	..	..
Mauritania	..	..	..	..	..	..	..	..	..	..	..	..
Mauritius	..	..	..	..	..	..	..	..	..	33.2	66.1	..
Mexico	..	1.8	..	2.6	..	2.0	0.4	1.5	0.8	15.5	36.0	37.7
Moldova	..	..	..	..	..	11.1	..	..	..	..	..	..
Mongolia	..	5.2	..	6.3	..	5.7	..	..	..	47.9	24.1	17.3
Morocco	..	20.3	..	27.6	..	22.0	..	..	..	..	..	..
Mozambique	..	..	..	..	..	..	..	..	..	..	..	..
Myanmar	..	..	..	..	..	..	..	..	..	..	..	..
Namibia	..	..	..	..	..	..	..	..	..	..	..	..
Nepal	..	1.5	..	0.7	..	1.1	..	..	..	..	..	..
Netherlands	4.3	2.7	5.2	4.9	4.6	3.6	47.7	40.4	43.5	30.4	33.0	14.3
New Zealand	..	6.1	..	5.8	..	6.0	20.7	12.6	17.1	0.5	38.5	22.6
Nicaragua	..	8.8	..	14.5	..	13.3	..	..	..	54.9	24.7	14.9
Niger	..	..	..	..	..	..	..	..	..	..	..	..
Nigeria	..	..	..	..	..	..	..	..	..	..	..	..
Norway	1.2	3.7	2.1	3.2	1.7	3.4	6.7	2.9	5.0	25.3	54.7	17.3
Oman	..	..	..	..	..	..	..	..	..	..	..	..
Pakistan	3.0	4.2	7.5	14.9	3.6	5.9	..	..	..	..	..	..
Panama	6.3	8.9	13.3	16.9	8.4	11.8	..	..	..	..	..	..
Papua New Guinea	..	..	..	..	..	..	..	..	..	..	..	..
Paraguay	3.8	..	4.8	..	4.1	..	..	..	..	..	..	..
Peru	..	7.5	..	8.6	..	8.0	..	..	..	13.1	52.6	33.3
Philippines	3.2	10.3	7.5	9.9	4.8	10.1	..	..	..	..	..	..
Poland	..	15.2	..	18.5	..	16.7	34.2	41.4	37.9	33.1	64.8	2.0
Portugal	3.3	2.9	12.2	4.8	6.7	3.8	39.5	42.9	41.2	73.9	14.9	5.8
Puerto Rico	19.5	11.9	12.3	7.8	17.1	10.1	..	..	..	..	..	..
Romania	..	7.4	..	6.2	..	10.8	41.0	48.4	44.0	21.7	70.6	6.4
Russian Federation	..	13.6	..	13.1	..	11.4	..	..	11.9	16.8	41.6	41.6

2.4 Unemployment

	Unemployment						Long term unemployment			Unemployment by level of educational attainment		
	Male % of male labor force		Female % of female labor force		Total % of total labor force		% of total unemployment			% of total unemployment		
							Male	Female	Total	Primary	Secondary	Tertiary
	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1980-82[a]	1998-2000[a]	1998-2000[a]	1998-2000[a]	1998-2000[a]	1997-99[a]	1997-99[a]	1997-99[a]
Rwanda	..	..	..	..	..	..	..	..	..	..	..	..
Saudi Arabia	..	..	..	..	..	..	..	..	..	..	..	..
Senegal	..	..	..	..	..	..	..	..	..	..	..	..
Sierra Leone	..	..	..	..	..	..	..	..	..	..	..	..
Singapore	2.9	4.5	3.4	4.6	3.0	4.4	..	..	..	26.8	27.4	28.6
Slovak Republic	..	15.9	..	16.4	..	18.9	43.2	49.7	46.1	..	75.6	3.0
Slovenia	..	7.5	..	7.4	..	7.5	44.3	36.8	40.7	28.2	64.8	7.0
Somalia	..	..	..	..	..	..	..	..	..	..	..	..
South Africa	..	19.8	..	27.8	..	23.3	..	..	..	..	..	..
Spain	10.4	9.7	12.8	20.5	11.1	14.1	39.5	52.4	46.8	52.3	19.1	21.5
Sri Lanka	..	5.9	..	11.0	..	7.7	..	..	..	49.8	..	50.2
Sudan	..	..	..	..	..	..	..	..	..	..	..	..
Swaziland	..	..	..	..	..	..	..	..	..	..	..	..
Sweden	1.9	7.4	2.6	6.7	2.2	5.1	33.3	26.1	30.1	32.0	50.6	15.8
Switzerland	0.2	2.3	0.3	3.1	0.2	2.7	27.5	29.1	28.3	..	..	..
Syrian Arab Republic	3.8	..	3.8	..	3.9	..	..	..	..	..	..	..
Tajikistan	..	..	..	..	..	..	..	..	..	10.6	83.2	6.3
Tanzania	..	..	..	..	..	..	..	..	..	..	..	..
Thailand	1.0	3.0	0.7	3.0	0.8	2.4	..	..	..	71.7	12.3	12.9
Togo	..	..	..	..	..	..	..	..	..	..	..	..
Trinidad and Tobago	8.0	10.9	14.0	16.8	10.0	13.1	19.9	42.3	31.0	38.2	60.7	0.8
Tunisia	..	..	..	..	..	..	..	..	..	..	33.7	4.1
Turkey	9.0	7.6	23.0	6.6	10.9	8.3	29.8	44.1	33.7	..	..	..
Turkmenistan	..	..	..	..	..	..	..	..	..	..	..	..
Uganda	..	..	..	..	..	..	..	..	..	..	..	..
Ukraine	..	12.2	..	11.5	..	11.9	..	..	..	9.4	27.2	63.4
United Arab Emirates	..	..	..	..	..	..	..	..	..	..	..	..
United Kingdom	8.3	6.7	4.8	5.1	6.8	5.3	34.8	21.6	29.8	9.3	43.4	12.1
United States	6.9	3.7	7.4	4.6	7.1	4.1	6.7	5.3	6.0	22.2	35.6	42.1
Uruguay	..	8.7	..	14.6	..	11.3	..	..	..	..	..	..
Uzbekistan	..	..	..	..	..	..	..	..	..	..	..	..
Venezuela, RB	..	..	..	..	5.9	14.9	..	..	..	..	..	..
Vietnam	..	..	..	..	..	..	..	..	..	..	..	..
West Bank and Gaza	..	..	..	..	..	14.1	..	..	..	..	..	..
Yemen, Rep.	..	..	..	..	..	..	..	..	..	..	..	..
Yugoslavia, Fed. Rep.	..	..	..	..	..	..	..	..	..	..	..	..
Zambia	32.7	..	59.0	..	42.2	..	..	..	..	..	..	..
Zimbabwe	..	7.3	..	4.6	..	6.0	..	..	..	..	..	..
World	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w
Low income	..	..	..	..	..	..	..	..	..	..	..	..
Middle income	..	..	..	..	4.8	4.9	..	..	..	..	..	..
Lower middle income	..	..	..	..	4.9	4.3	..	..	..	..	..	..
Upper middle income	..	7.0	..	8.9	..	9.0	..	..	..	..	..	..
Low & middle income	..	..	..	..	..	..	..	..	..	..	..	..
East Asia & Pacific	..	..	..	..	4.7	3.7	..	..	..	..	..	..
Europe & Central Asia	..	11.3	..	11.1	..	11.1	..	..	27.1	17.6	47.3	34.8
Latin America & Carib.	..	7.2	..	10.5	..	9.2	..	..	..	..	..	..
Middle East & N. Africa	..	..	..	..	..	..	..	..	..	..	..	..
South Asia	..	..	..	..	..	..	..	..	..	..	..	..
Sub-Saharan Africa	..	..	..	..	..	..	..	..	..	..	..	..
High income	5.5	5.4	7.0	6.7	6.0	6.2	28.4	25.6	27.3	27.3	41.2	27.4
Europe EMU	5.5	7.9	10.8	11.6	7.1	9.8	48.5	50.9	49.8	42.3	42.9	12.9

a. Data are for the most recent year available.

Unemployment | 2.4

About the data

Unemployment and total employment in a country are the broadest indicators of economic activity as reflected by the labor market. The International Labour Organization (ILO) defines the unemployed as members of the economically active population who are without work but available for and seeking work, including people who have lost their jobs and those who have voluntarily left work. Some unemployment is unavoidable in all economies. At any time some workers are temporarily unemployed—between jobs as employers look for the right workers and workers search for better jobs. Such unemployment, often called frictional unemployment, results from the normal operation of labor markets.

Changes in unemployment over time may reflect changes in the demand for and supply of labor, but they may also reflect changes in reporting practices. Ironically, low unemployment rates can often disguise substantial poverty in a country, while high unemployment rates can occur in countries with a high level of economic development and low incidence of poverty. In countries without unemployment or welfare benefits, people eke out a living in the informal sector. In countries with well-developed safety nets, workers can afford to wait for suitable or desirable jobs. But high and sustained unemployment indicates serious inefficiencies in the allocation of resources.

The ILO definition of unemployment notwithstanding, reference periods, the criteria for those considered to be seeking work, and the treatment of people temporarily laid off and those seeking work for the first time vary across countries. In many developing countries it is especially difficult to measure employment and unemployment in agriculture. The timing of a survey, for example, can maximize the effects of seasonal unemployment in agriculture. And informal sector employment is difficult to quantify where informal activities are not registered and tracked.

Data on unemployment are drawn from labor force sample surveys and general household sample surveys, social insurance statistics, employment office statistics, and official estimates, which are usually based on information drawn from one or more of the above sources. Labor force surveys generally yield the most comprehensive data because they include groups—particularly people seeking work for the first time—not covered in other unemployment statistics. These surveys generally use a definition of unemployment that follows the international recommendations more closely than that used by other sources and therefore generate statistics that are more comparable internationally.

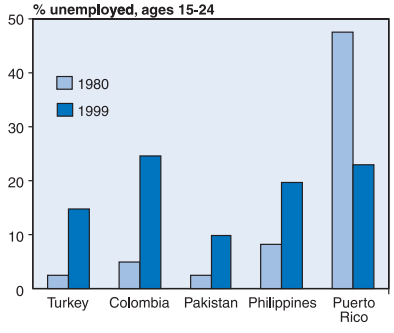
In contrast, the quality and completeness of data obtained from employment offices and social insurance programs vary widely. Where employment offices work closely with social insurance schemes, and registration with such offices is a prerequisite for receipt of unemployment benefits, the two sets of unemployment estimates tend to be comparable. Where registration is voluntary, and where employment offices function only in more populous areas, employment office statistics do not give a reliable indication of unemployment. Most commonly excluded from both these sources are discouraged workers who have given up their job search because they believe that no employment opportunities exist or do not register as unemployed after their benefits have been exhausted. Thus measured unemployment may be higher in economies that offer more or longer unemployment benefits.

Long-term unemployment is measured in terms of duration, that is, the length of time that an unemployed person has been without work and looking for a job. The underlying assumption is that shorter periods of joblessness are of less concern, especially when the unemployed are covered by unemployment benefits or similar forms of welfare support. The length of time a person has been unemployed is difficult to measure, because the ability to recall the length of that time diminishes as the period of joblessness extends. Women's long-term unemployment is likely to be lower in countries where women constitute a large share of the unpaid family workforce. Such women have more access than men to nonmarket work and are more likely to drop out of the labor force and not be counted as unemployed.

No data are given in the table for economies for which unemployment data are not consistently available or are deemed unreliable.

Figure 2.4

Youth unemployment is rising in many countries



Source: ILO. *Key Indicators of the Labour Market* database *(2001-02).*

The youth unemployment rate refers to the share of the labor force ages 15-24 who are unemployed. Youth unemployment is generally viewed as an important policy issue for many economies. Low unemployment among youth does not necessarily imply a high level of school enrollment, it could indicate the difficulties young people have in finding a job.

Definitions

• **Unemployment** refers to the share of the labor force without work but available for and seeking employment. Definitions of labor force and unemployment differ by country (see *About the data*). • **Long-term unemployment** refers to the number of people with continuous periods of unemployment extending for a year or longer, expressed as a percentage of the total unemployed. • **Unemployment by level of educational attainment** shows the unemployed by level of educational attainment, as a percentage of the total unemployed. The levels of educational attainment accord with the United Nations Educational, Cultural, and Scientific Organization's (UNESCO) International Standard Classification of Education.

Data sources

The unemployment data are from the ILO database Key Indicators of the Labour Market (2001-02 issue).

2.5 | Wages and productivity

	Average hours worked per week		Minimum wage		Agricultural wage		Labor cost per worker in manufacturing		Value added per worker in manufacturing	
			$ per year		$ per year		$ per year		$ per year	
	1980-84	1995-99[a]	1980-84	1995-99[a]	1980-84	1995-99[a]	1980-84	1995-99[a]	1980-84	1995-99[a]
Afghanistan	..	..	..	..	..	..	..	..	..	..
Albania	..	..	..	..	..	..	..	..	..	..
Algeria	..	..	..	*1,340*	..	..	6,242	*2,638*	11,306	..
Angola	..	..	..	..	..	..	..	..	..	..
Argentina	41	*40*	..	2,400	..	..	6,768	*7,338*	33,694	*37,480*
Armenia	..	..	..	..	..	..	..	..	..	..
Australia	37	*39*	..	*12,712*	11,212	*15,124*	14,749	26,087	27,801	*57,857*
Austria	33	*32*	..	[b]	..	..	11,949	*28,342*	20,956	*53,061*
Azerbaijan	..	..	..	..	..	..	..	..	..	..
Bangladesh	..	*52*	..	*492*	192	*360*	556	*671*	1,820	*1,711*
Belarus	..	..	..	..	1,641	410	2,233	754	..	..
Belgium	..	*38*	7,661	15,882	6,399	..	12,805	*24,132*	25,579	*58,678*
Benin	..	..	..	..	..	..	..	..	..	..
Bolivia	..	*46*	..	529	..	..	4,432	*2,343*	21,519	*26,282*
Bosnia and Herzegovina	..	..	..	..	..	..	..	..	..	..
Botswana	45	..	894	961	650	*1,223*	3,250	*2,884*	7,791	..
Brazil	..	..	1,690	1,308	..	..	10,080	*14,134*	43,232	*61,595*
Bulgaria	..	..	..	*573*	..	*1,372*	2,485	*1,179*	..	..
Burkina Faso	..	..	695	585	..	..	3,282	..	15,886	..
Burundi	..	..	..	..	..	..	..	..	..	..
Cambodia	..	..	..	..	..	..	..	..	..	..
Cameroon	..	..	..	..	..	..	..	..	..	..
Canada	38	*38*	4,974	7,897	20,429	*30,625*	17,710	*28,424*	36,903	*60,712*
Central African Republic	..	..	..	..	..	..	..	..	..	..
Chad	..	..	..	..	..	..	..	..	..	..
Chile	43	45	663	1,781	..	..	6,234	*5,822*	32,805	*32,977*
China	..	..	..	..	349	*325*	472	729	3,061	*2,885*
Hong Kong, China	48	*46*	..	..	..	..	4,127	*10,353*	7,886	32,611
Colombia	..	..	..	*1,128*	..	..	2,988	*2,507*	15,096	*17,061*
Congo, Dem. Rep.	..	..	..	..	..	..	..	..	..	..
Congo, Rep.	..	..	..	..	..	..	..	..	..	..
Costa Rica	..	*47*	1,042	*1,638*	982	*1,697*	2,433	*2,829*	7,185	*7,184*
Côte d'Ivoire	..	..	1,246	871	..	..	5,132	*9,995*	16,158	..
Croatia	..	..	..	..	..	..	..	..	..	..
Cuba	..	..	..	..	..	..	..	..	..	..
Czech Republic	43	43	..	942	2,277	3,090	2,306	3,815	5,782	*5,094*
Denmark	..	*37*	9,170	19,933	..	..	16,169	*29,235*	27,919	*49,273*
Dominican Republic	44	44	..	*1,439*	..	..	2,191	*1,806*	8,603	..
Ecuador	..	..	1,637	*492*	..	..	5,065	*3,738*	12,197	*9,747*
Egypt, Arab Rep.	58	..	343	*415*	..	..	2,210	*1,863*	3,691	*5,976*
El Salvador	..	..	..	*790*	..	..	3,654	..	14,423	..
Eritrea	..	..	..	..	..	..	..	..	..	..
Estonia	..	..	..	..	..	..	..	..	..	..
Ethiopia	..	..	..	..	..	..	..	*1,596*	..	*7,094*
Finland	..	*38*	..	[b]	..	..	11,522	*26,615*	25,945	*55,037*
France	40	*39*	6,053	*12,072*	..	..	18,488	..	26,751	*61,019*
Gabon	..	..	..	..	..	..	..	..	..	..
Gambia, The	..	..	..	..	..	..	..	..	..	..
Georgia	..	..	..	..	..	..	..	..	..	..
Germany	41	*40*	..	[b]	..	..	15,708	*33,226*	34,945	*79,616*
Ghana	..	..	..	..	1,470	..	2,306	..	12,130	..
Greece	..	*41*	..	6,057	..	..	6,461	*12,296*	14,561	*30,429*
Guatemala	..	..	..	*459*	..	..	2,605	*1,802*	11,144	*9,235*
Guinea	40	..	..	..	..	..	..	..	..	..
Guinea-Bissau	48	..	..	..	..	..	..	..	..	..
Haiti	..	..	..	..	..	..	..	..	..	..
Honduras	..	*44*	..	..	1,623	..	2,949	*2,658*	7,458	*7,427*

	Average hours worked per week		Minimum wage		Agricultural wage		Labor cost per worker in manufacturing		Value added per worker in manufacturing	
			$ per year		$ per year		$ per year		$ per year	
	1980-84	1995-99[a]	1980-84	1995-99[a]	1980-84	1995-99[a]	1980-84	1995-99[a]	1980-84	1995-99[a]
Hungary	35	*33*	1,186	1,132	1,186	2,676	1,410	3,755	4,307	10,918
India	46	..	..	*408*	205	*245*	1,035	*1,192*	2,108	*3,118*
Indonesia	40	43	..	*241*	..	..	898	3,054	3,807	*5,139*
Iran, Islamic Rep.	..	..	..	..	..	..	9,737	*30,562*	17,679	*89,787*
Iraq	..	..	..	..	..	..	4,624	*13,288*	13,599	*34,316*
Ireland	41	*41*	5,556	12,087	..	..	10,190	*22,681*	26,510	*86,036*
Israel	36	*36*	..	*5,861*	4,582	*7,906*	13,541	*21,150*	23,459	*35,526*
Italy	..	*32*	..	[b]	..	..	9,955	*34,859*	24,580	*50,760*
Jamaica	..	*39*	782	*692*	..	..	5,218	*3,655*	12,056	*11,091*
Japan	47	47	3,920	12,265	..	..	12,306	*31,687*	34,456	*92,582*
Jordan	..	*50*	[b]	[b]	..	..	4,643	2,082	16,337	*11,906*
Kazakhstan	..	..	..	..	..	..	..	..	..	..
Kenya	41	*39*	..	551	508	*568*	1,043	810	2,345	1,489
Korea, Dem. Rep.	..	..	..	..	..	..	..	..	..	..
Korea, Rep.	52	*48*	..	3,903	..	..	3,153	*10,743*	11,617	*40,916*
Kuwait	..	..	..	*8,244*	..	..	10,281	..	30,341	..
Kyrgyz Republic	..	..	..	65	1,695	168	2,287	687	..	..
Lao PDR	..	..	..	..	..	..	..	..	..	..
Latvia	..	..	..	..	..	..	..	*366*	..	..
Lebanon	..	..	..	..	..	..	..	..	..	..
Lesotho	..	*45*	..	..	..	..	1,442	..	6,047	..
Liberia	..	..	..	..	..	..	..	..	..	..
Libya	..	..	..	..	..	..	8,648	..	21,119	..
Lithuania	..	..	..	..	..	..	..	..	..	..
Macedonia, FYR	..	..	..	..	..	..	..	..	..	..
Madagascar	..	*40*	..	..	..	..	1,575	..	3,542	..
Malawi	..	..	..	..	..	..	..	..	..	..
Malaysia	..	..	..	[b]	1,435	..	2,519	*3,429*	8,454	*12,661*
Mali	..	..	321	*459*	..	..	2,983	..	10,477	..
Mauritania	..	..	..	..	..	..	..	..	..	..
Mauritius	..	..	..	..	..	..	1,465	*1,973*	2,969	*4,217*
Mexico	43	*45*	1,343	768	1,031	*908*	3,772	7,607	17,448	*25,931*
Moldova	..	..	..	..	..	..	..	..	..	..
Mongolia	..	..	..	..	..	..	..	..	..	..
Morocco	..	..	..	*1,672*	..	..	2,583	*3,391*	6,328	9,089
Mozambique	..	..	..	..	..	..	..	..	..	..
Myanmar	..	..	..	..	..	..	..	..	..	..
Namibia	..	..	..	..	..	..	..	..	..	..
Nepal	..	..	..	..	..	..	371	..	1,523	..
Netherlands	40	*40*	9,074	15,170	..	..	18,891	*34,326*	27,491	*56,801*
New Zealand	39	*39*	3,309	9,091	..	..	10,605	*18,419*	16,835	*32,723*
Nicaragua	..	*44*	..	..	..	..	..	..	..	..
Niger	40	..	..	..	..	..	4,074	..	22,477	..
Nigeria	..	..	..	*300*	..	..	4,812	..	20,000	..
Norway	35	*35*	..	[b]	..	..	14,935	38,415	24,905	*51,510*
Oman	..	..	..	..	..	..	..	*3,099*	..	*61,422*
Pakistan	48	..	..	*600*	427	*416*	1,264	..	6,214	..
Panama	..	..	..	..	..	..	4,768	*6,351*	15,327	*17,320*
Papua New Guinea	44	..	..	..	..	..	4,825	..	13,563	..
Paraguay	36	*39*	..	..	1,606	*1,210*	2,509	*3,241*	..	*14,873*
Peru	48	..	..	..	..	*944*	2,988	..	15,962	..
Philippines	47	*43*	915	1,472	382	..	1,240	*2,450*	5,266	*10,781*
Poland	36	*33*	320	1,584	1,726	*1,301*	1,682	*1,714*	6,242	*7,637*
Portugal	39	*40*	1,606	4,086	..	..	3,115	*6,237*	7,161	*17,273*
Puerto Rico	..	..	..	..	..	..	..	..	..	..
Romania	34	*34*	..	*531*	1,669	*1,864*	1,757	*1,190*	..	*3,482*
Russian Federation	..	..	863	297	2,417	659	2,524	1,528	..	..

2.5 Wages and productivity

	Average hours worked per week		Minimum wage		Agricultural wage		Labor cost per worker in manufacturing		Value added per worker in manufacturing	
			$ per year		$ per year		$ per year		$ per year	
	1980-84	1995-99[a]	1980-84	1995-99[a]	1980-84	1995-99[a]	1980-84	1995-99[a]	1980-84	1995-99[a]
Rwanda	..	..	..	..	..	..	1,871	..	9,835	..
Saudi Arabia	..	..	..	..	..	..	9,814	..	..	..
Senegal	..	..	993	848	..	..	2,828	*7,754*	6,415	..
Sierra Leone	44	..	..	..	..	..	1,624	..	7,807	..
Singapore	46	47	..	..	..	*4,856*	5,576	21,317	16,442	*40,674*
Slovak Republic	43	*40*	..	..	2,277	*1,885*	2,306	*1,876*	5,782	*5,094*
Slovenia	..	..	..	..	..	..	..	*9,632*	..	*12,536*
Somalia	..	..	..	..	..	..	..	..	..	..
South Africa	42	*41*	.. [b]	888	..	6,261	*8,475*	12,705	*16,612*	
Spain	38	*37*	3,058	5,778	..	..	8,276	*19,329*	18,936	*47,016*
Sri Lanka	50	*53*	..	..	198	*264*	447	*604*	2,057	*3,405*
Sudan	..	..	..	..	..	..	..	..	..	..
Swaziland	..	..	..	..	..	..	..	..	..	..
Sweden	36	*37*	..	..	9,576	*27,098*	13,038	*26,601*	32,308	*56,675*
Switzerland	44	*42*	..	.. [b]	..	..	..	..	..	*61,848*
Syrian Arab Republic	..	..	..	..	..	..	2,844	*4,338*	9,607	*9,918*
Tajikistan	..	..	..	..	..	..	..	..	..	..
Tanzania	..	..	..	..	..	..	1,123	..	3,339	..
Thailand	50	*47*	749	*1,159*	..	..	2,305	3,868	11,072	*19,946*
Togo	..	..	..	..	..	..	..	..	..	..
Trinidad and Tobago	..	*40*	..	*2,974*	..	..	..	..	14,008	..
Tunisia	..	..	1,381	*1,525*	668	*968*	3,344	*3,599*	7,111	..
Turkey	..	*48*	594	1,254	1,015	*2,896*	3,582	*7,958*	13,994	*32,961*
Turkmenistan	..	..	..	..	..	..	..	..	..	..
Uganda	43	..	..	..	..	..	253	..	..	..
Ukraine	..	..	..	..	..	..	..	..	..	..
United Arab Emirates	..	..	..	..	..	..	6,968	..	20,344	..
United Kingdom	42	*40*	..	[b]	..	..	11,406	*23,843*	24,716	*55,060*
United States	40	*41*	6,006	8,056	..	..	19,103	*28,907*	47,276	*81,353*
Uruguay	48	*42*	1,262	1,027	1,289	..	4,128	*3,738*	13,722	*16,028*
Uzbekistan	..	..	..	..	..	..	..	..	..	..
Venezuela	41	..	1,869	*1,463*	..	..	11,188	*4,667*	37,063	*24,867*
Vietnam	..	47	..	134	..	442	..	711	..	..
West Bank and Gaza	..	..	..	..	..	..	..	..	..	..
Yemen, Rep.	..	..	..	..	..	..	4,492	1,291	17,935	5,782
Yugoslavia, FR (Serb./Mont.)	..	..	..	..	..	..	..	..	..	..
Zambia	..	*45*	..	..	..	..	3,183	*4,292*	11,753	*16,615*
Zimbabwe	..	..	..	..	1,065	..	4,097	*3,422*	9,625	*11,944*

a. Figures in italics refer to 1990-94. b. Country has sectoral minimum wage but no minimum wage policy.

About the data

Much of the available data on labor markets are collected through national reporting systems that depend on plant-level surveys. Even when these data are compiled and reported by international agencies such as the International Labour Organization or the United Nations Industrial Development Organization, differences in definitions, coverage, and units of account limit their comparability across countries. The indicators in this table are the result of a research project at the World Bank that has compiled results from more than 300 national and international sources in an effort to provide a set of uniform and representative labor market indicators. Nevertheless, many differences in reporting practices persist, some of which are described below.

Analyses of labor force participation, employment, and underemployment often rely on the number of hours of work per week. The indicator reported in the table is the time spent at the workplace working, preparing for work, or waiting for work to be supplied or for a machine to be fixed. It also includes the time spent at the workplace when no work is being performed but for which payment is made under a guaranteed work contract, or time spent on short periods of rest. Hours paid for but not spent at the place of work—such as paid annual and sick leave, paid holidays, paid meal breaks, and time spent in commuting between home and workplace—are not included. When this information is not available, the table reports the number of hours paid for, comprising the hours actually worked plus the hours paid for but not spent in the workplace. Data on hours worked are influenced by differences in methods of compilation and coverage as well as by national practices relating to the number of days worked and overtime, making comparisons across countries difficult.

Wages refer to remuneration in cash and in kind paid to employees at regular intervals. They exclude employers' contributions to social security and pension schemes as well as other benefits received by employees under these schemes. In some countries the national minimum wage represents a "floor," with higher minimum wages for particular occupations and skills set through collective bargaining. In those countries the agreements reached by employers associations and trade unions are extended by the government to all firms in the sector, or at least to large firms. Changes in the national minimum wage are generally associated with parallel changes in the minimum wages set through collective bargaining.

In many developing countries agricultural workers are hired on a casual or daily basis and lack any social security benefits. International comparisons of agricultural wages are subject to greater reservations than those of wages in other activities. The nature of the work carried out by different categories of agricultural workers and the length of the workday and workweek vary considerably from one country to another. Seasonal fluctuations in agricultural wages are more important in some countries than in others. And the methods followed in different countries for estimating the monetary value of payments in kind are not uniform.

Labor cost per worker in manufacturing is sometimes used as a measure of international competitiveness. The indicator reported in the table is the ratio of total compensation to the number of workers in the manufacturing sector. Compensation includes direct wages, salaries, and other remuneration paid directly by employers plus all contributions by employers to social security programs on behalf of their employees. But there are unavoidable differences in concepts and reference periods and in reporting practices. Remuneration for time not worked, bonuses and gratuities, and housing and family allowances should be considered part of the compensation costs, along with severance and termination pay. These indirect labor costs can vary substantially from country to country, depending on the labor laws and collective bargaining agreements in force.

International competitiveness also depends on productivity, which is often measured by value added per worker in manufacturing. The indicator reported in the table is the ratio of total value added in manufacturing to the number of employees engaged in that sector. Total value added is estimated as the difference between the value of industrial output and the value of materials and supplies for production (including fuel and purchased electricity) and cost of industrial services received.

Observations on labor costs and value added per worker are from plant-level surveys covering relatively large establishments, usually employing 10 or more workers and mostly in the formal sector. In high-income countries the coverage of these surveys tends to be quite good. In developing countries there is often a substantial bias toward very large establishments in the formal sector. As a result, the data may not be strictly comparable across countries. The data are converted into U.S. dollars using the average exchange rate for each year.

The data in the table are period averages and refer to workers of both sexes.

Definitions

• **Average hours worked per week** refer to all workers (male and female) in nonagricultural activities or, if unavailable, in manufacturing. The data correspond to hours actually worked, to hours paid for, or to statutory hours of work in a normal workweek. • **Minimum wage** corresponds to the most general regime for nonagricultural activities. When rates vary across sectors, only that for manufacturing (or commerce, if the manufacturing wage is unavailable) is reported. • **Agricultural wage** is based on daily wages in agriculture. • **Labor cost per worker in manufacturing** is obtained by dividing the total payroll by the number of employees, or the number of people engaged, in manufacturing establishments. • **Value added per worker in manufacturing** is obtained by dividing the value added of manufacturing establishments by the number of employees, or the number of people engaged, in those establishments.

Data sources

The data in the table are drawn from Martin Rama and Raquel Artecona's *"Database of Labor Market Indicators across Countries,"* (2001).

2.6 | Poverty

	National poverty line								International poverty line				
		Population below the poverty line				Population below the poverty line							
	Survey year	Rural %	Urban %	National %	Survey year	Rural %	Urban %	National %	Survey year	Population below $1 a day %	Poverty gap at $1 a day %	Population below $2 a day %	Poverty gap at $2 a day %
Afghanistan	..	..	..	..		..	..	..		..	..	..	..
Albania	1994	28.9	..	..	1996	..	15.0	..		..	..	..	..
Algeria	1988	16.6	7.3	12.2	1995	30.3	14.7	22.6	1995	<2	<0.5	15.1	3.6
Angola		..	..	..		..	..	..		..	..	..	..
Argentina	1991	..	..	25.5	1993	..	..	17.6		..	..	..	..
Armenia		..	..	..		..	..	..	1996	7.8	1.7	34.0	11.3
Australia		..	..	..		..	..	..		..	..	..	..
Austria		..	..	..		..	..	..		..	..	..	..
Azerbaijan	1995	..	..	68.1		..	..	..	1995	<2	<0.5	9.6	2.3
Bangladesh	1991-92	46.0	23.3	42.7	1995-96	39.8	14.3	35.6	1996	29.1	5.9	77.8	31.8
Belarus	2000	..	..	41.9		..	..	..	1998	<2	<0.5	<2	<0.5
Belgium		..	..	..		..	..	..		..	..	..	..
Benin	1995	..	..	33.0		..	..	..		..	..	..	..
Bolivia	1993	..	29.3	..	1995	79.1	..	..	1999	14.4	5.4	34.3	14.9
Bosnia and Herzegovina		..	..	..		..	..	..		..	..	..	..
Botswana		..	..	..		..	..	..	1985-86	33.3	12.5	61.4	30.7
Brazil	1990	32.6	13.1	17.4		..	..	..	1998	11.6	3.9	26.5	11.6
Bulgaria		..	..	..		..	..	..	1997	<2	<0.5	21.9	4.2
Burkina Faso		..	..	..		..	..	..	1994	61.2	25.5	85.8	50.9
Burundi	1990	..	..	36.2		..	..	..		..	..	..	..
Cambodia	1993-94	43.1	24.8	39.0	1997	40.1	21.1	36.1		..	..	..	..
Cameroon	1984	32.4	44.4	40.0		..	..	..	1996	33.4	11.8	64.4	31.2
Canada		..	..	..		..	..	..		..	..	..	..
Central African Republic		..	..	..		..	..	..	1993	66.6	38.1	84.0	58.4
Chad	1995-96	67.0	63.0	64.0		..	..	..		..	..	..	..
Chile	1996	..	..	24.6	1998	..	..	21.2	1998	<2	<0.5	8.7	2.3
China	1996	7.9	<2	6.0	1998	4.6	<2	4.6	1999	18.8	4.4	52.6	20.9
Hong Kong, China		..	..	..		..	..	..		..	..	..	..
Colombia	1991	29.0	7.8	16.9	1992	31.2	8.0	17.7	1998	19.7	10.8	36.0	19.4
Congo, Dem. Rep.		..	..	..		..	..	..		..	..	..	..
Congo, Rep.		..	..	..		..	..	..		..	..	..	..
Costa Rica	1992	25.5	19.2	22.0		..	..	..	1998	12.6	6.2	26.0	12.8
Côte d'Ivoire	1993	..	..	32.3	1995	..	..	36.8	1995	12.3	2.4	49.4	16.8
Croatia		..	..	..		..	..	..	1998	<2	<0.5	<2	<0.5
Cuba		..	..	..		..	..	..		..	..	..	..
Czech Republic		..	..	..		..	..	..	1996	<2	<0.5	<2	<0.5
Denmark		..	..	..		..	..	..		..	..	..	..
Dominican Republic	1989	27.4	23.3	24.5	1992	29.8	10.9	20.6	1996	3.2	0.7	16.0	5.0
Ecuador	1994	47.0	25.0	35.0		..	..	..	1995	20.2	5.8	52.3	21.2
Egypt, Arab Rep.	1995-96	23.3	22.5	22.9		..	..	..	1995	3.1	<0.5	52.7	13.9
El Salvador	1992	55.7	43.1	48.3		..	..	..	1998	21.0	7.8	44.5	20.6
Eritrea	1993-94	..	..	53.0		..	..	..	..	..	..	..	
Estonia	1995	14.7	6.8	8.9		..	..	..	1998	<2	<0.5	5.2	0.8
Ethiopia		..	..	..		..	..	..	1995	31.3	8.0	76.4	32.9
Finland		..	..	..		..	..	..		..	..	..	..
France		..	..	..		..	..	..		..	..	..	..
Gabon		..	..	..		..	..	..		..	..	..	..
Gambia, The	1992	..	..	64.0		..	..	..	1998	59.3	28.8	82.9	51.1
Georgia	1997	9.9	12.1	11.1		..	..	..	1996	<2	<0.5	<2	<0.5
Germany		..	..	..		..	..	..		..	..	..	..
Ghana	1992	34.3	26.7	31.4		..	..	..	1999	44.8	17.3	78.5	40.8
Greece		..	..	..		..	..	..		..	..	..	..
Guatemala	1989	71.9	33.7	57.9		..	..	..	1998	10.0	2.2	33.8	11.8
Guinea	1994	..	..	40.0		..	..	..		..	..	..	..
Guinea-Bissau	1991	..	..	48.7		..	..	..		..	..	..	..
Haiti	1987	..	..	65.0	1995	66.0	..	..		..	..	..	..
Honduras	1992	46.0	56.0	50.0	1993	51.0	57.0	53.0	1998	24.3	11.9	45.1	23.5

	National poverty line								International poverty line				
		Population below the poverty line				Population below the poverty line							
	Survey year	Rural %	Urban %	National %	Survey year	Rural %	Urban %	National %	Survey year	Population below $1 a day %	Poverty gap at $1 a day %	Population below $2 a day %	Poverty gap at $2 a day %
Hungary	1989	..	..	1.6	1993	..	..	8.6	1998	<2	<0.5	7.3	1.7
India	1992	43.5	33.7	40.9	1994	36.7	30.5	35.0	1997	44.2	12.0	86.2	41.4
Indonesia	1996	..	..	15.7	1999	..	..	27.1	1999	7.7	1.0	55.3	16.5
Iran, Islamic Rep.		..	..	..		..	..	..		..	..	..	..
Iraq		..	..	..		..	..	..		..	..	..	..
Ireland		..	..	..		..	..	..		..	..	..	..
Israel		..	..	..		..	..	..		..	..	..	..
Italy		..	..	..		..	..	..		..	..	..	..
Jamaica	1992	..	..	33.9	2000	..	..	18.7	1996	3.2	0.7	25.2	6.9
Japan		..	..	..		..	..	..		..	..	..	..
Jordan	1991	..	..	15.0	1997	..	..	11.7	1997	<2	<0.5	7.4	1.4
Kazakhstan	1996	39.0	30.0	34.6		..	..	..	1996	<2	<0.5	15.3	3.9
Kenya	1992	46.4	29.3	42.0		..	..	..	1994	26.5	9.0	62.3	27.5
Korea, Dem. Rep.		..	..	..		..	..	..		..	..	..	..
Korea, Rep.		..	..	..		..	..	..	1993	<2	<0.5	<2	<0.5
Kuwait		..	..	..		..	..	..		..	..	..	..
Kyrgyz Republic	1993	48.1	28.7	40.0	1997	64.5	28.5	51.0		..	..	..	..
Lao PDR	1993	53.0	24.0	46.1		..	..	..	1997	26.3	6.3	73.2	29.6
Latvia		..	..	..		..	..	..	1998	<2	<0.5	8.3	2.0
Lebanon		..	..	..		..	..	..		..	..	..	..
Lesotho	1993	53.9	27.8	49.2		..	..	..	1993	43.1	20.3	65.7	38.1
Liberia		..	..	..		..	..	..		..	..	..	..
Libya		..	..	..		..	..	..		..	..	..	..
Lithuania		..	..	..		..	..	..	1996	<2	<0.5	7.8	2.0
Macedonia, FYR		..	..	..		..	..	..		..	..	..	..
Madagascar	1993-94	77.0	47.0	70.0		..	..	..	1999	49.1	18.3	83.3	44.0
Malawi	1990-91	..	..	54.0		..	..	..		..	..	..	..
Malaysia	1989	..	..	15.5		..	..	..		..	..	..	..
Mali		..	..	..		..	..	..	1994	72.8	37.4	90.6	60.5
Mauritania	1989-90	..	..	57.0		..	..	..	1995	28.6	9.1	68.7	29.6
Mauritius	1992	..	..	10.6		..	..	..		..	..	..	..
Mexico	1988	..	..	10.1		..	..	..	1998	15.9	5.2	37.7	16.0
Moldova	1997	26.7	..	23.3		..	..	..	1997	11.3	3.0	38.4	14.0
Mongolia	1995	33.1	38.5	36.3		..	..	..	1995	13.9	3.1	50.0	17.5
Morocco	1990-91	18.0	7.6	13.1	1998-99	27.2	12.0	19.0	1990-91	<2	<0.5	7.5	1.3
Mozambique		..	..	..		..	..	..	1996	37.9	12.0	78.4	36.8
Myanmar		..	..	..		..	..	..		..	..	..	..
Namibia		..	..	..		..	..	..	1993	34.9	14.0	55.8	30.4
Nepal	1995-96	44.0	23.0	42.0		..	..	..	1995	37.7	9.7	82.5	37.5
Netherlands		..	..	..		..	..	..		..	..	..	..
New Zealand		..	..	..		..	..	..		..	..	..	..
Nicaragua	1993	76.1	31.9	50.3		..	..	..		..	..	..	..
Niger	1989-93	66.0	52.0	63.0		..	..	..	1995	61.4	33.9	85.3	54.8
Nigeria	1985	49.5	31.7	43.0	1992-93	36.4	30.4	34.1	1997	70.2	34.9	90.8	59.0
Norway		..	..	..		..	..	..		..	..	..	..
Oman		..	..	..		..	..	..		..	..	..	..
Pakistan	1991	36.9	28.0	34.0		..	..	..	1996	31.0	6.2	84.7	35.0
Panama	1997	64.9	15.3	37.3		..	..	..	1998	14.0	5.9	29.0	13.8
Papua New Guinea		..	..	..		..	..	..	..	..	..	..	
Paraguay	1991	28.5	19.7	21.8		..	..	..	1998	19.5	9.8	49.3	26.3
Peru	1994	67.0	46.1	53.5	1997	64.7	40.4	49.0	1996	15.5	5.4	41.4	17.1
Philippines	1994	53.1	28.0	40.6	1997	50.7	21.5	36.8	..	..	..	..	
Poland	1993	..	..	23.8		..	..	..	1998	<2	<0.5	<2	<0.5
Portugal		..	..	..		..	..	..	1994	<2	<0.5	<2	<0.5
Puerto Rico		..	..	..		..	..	..		..	..	..	..
Romania	1994	27.9	20.4	21.5		..	..	..	1994	2.8	0.8	27.5	6.9
Russian Federation	1994	..	..	30.9		..	..	..	1998	7.1	1.4	25.1	8.7

2.6 Poverty

	National poverty line								International poverty line				
		Population below the poverty line				Population below the poverty line							
	Survey year	Rural %	Urban %	National %	Survey year	Rural %	Urban %	National %	Survey year	Population below $1 a day %	Poverty gap at $1 a day %	Population below $2 a day %	Poverty gap at $2 a day %
Rwanda	1993	..	..	51.2		..	..	..	1983-85	35.7	7.7	84.6	36.7
Saudi Arabia		..	..	..		..	..	..		..	..	..	..
Senegal	1992	40.4	..	33.4		..	..	..	1995	26.3	7.0	67.8	28.2
Sierra Leone	1989	76.0	53.0	68.0		..	..	..	1989	57.0	39.5	74.5	51.8
Singapore		..	..	..		..	..	..		..	..	..	..
Slovak Republic		..	..	..		..	..	..	1992	<2	<0.5	<2	<0.5
Slovenia		..	..	..		..	..	..	1998	<2	<0.5	<2	<0.5
Somalia		..	..	..		..	..	..		..	..	..	..
South Africa		..	..	..		..	..	..	1993	11.5	1.8	35.8	13.4
Spain		..	..	..		..	..	..		..	..	..	..
Sri Lanka	1990-91	..	..	20.0	1995-96	..	..	25.0	1995	6.6	1.0	45.4	13.5
Sudan		..	..	..		..	..	..		..	..	..	..
Swaziland	1995	..	..	40.0		..	..	..		..	..	..	..
Sweden		..	..	..		..	..	..		..	..	..	..
Switzerland		..	..	..		..	..	..		..	..	..	
Syrian Arab Republic		..	..	..		..	..	..		..	..	..	..
Tajikistan		..	..	..		..	..	..		..	..	..	..
Tanzania	1991	..	..	51.1	1993	49.7	24.4	41.6	1993	19.9	4.8	59.7	23.0
Thailand	1990	..	..	18.0	1992	15.5	10.2	13.1	1998	<2	<0.5	28.2	7.1
Togo	1987-89	..	..	32.3		..	..	..		..	..	..	..
Trinidad and Tobago	1992	20.0	24.0	21.0		..	..	..	1992	12.4	3.5	39.0	14.6
Tunisia	1985	29.2	12.0	19.9	1990	21.6	8.9	14.1	1995	<2	<0.5	10.0	2.3
Turkey		..	..	..		..	..	..	1994	2.4	0.5	18.0	5.0
Turkmenistan		..	..	..		..	..	..	1998	12.1	2.6	44.0	15.4
Uganda	1993	..	..	55.0		..	..	..		..	..	..	..
Ukraine	1995	..	..	31.7		..	..	..	1999	2.9	0.6	31.0	8.0
United Arab Emirates		..	..	..		..	..	..		..	..	..	..
United Kingdom		..	..	..		..	..	..		..	..	..	..
United States		..	..	..		..	..	..		..	..	..	..
Uruguay		..	..	..		..	..	..	1989	<2	<0.5	6.6	1.9
Uzbekistan		..	..	..		..	..	..	1993	3.3	0.5	26.5	7.3
Venezuela, RB	1989	..	..	31.3		..	..	..	1998	23.0	10.8	47.0	23.0
Vietnam	1993	57.2	25.9	50.9		..	..	..		..	..	..	..
West Bank and Gaza		..	..	..		..	..	..		..	..	..	..
Yemen, Rep.	1992	19.2	18.6	19.1		..	..	..	1998	15.7	4.5	45.2	15.0
Yugoslavia, FR (Serb./Mont.)		..	..	..		..	..	..		..	..	..	
Zambia	1991	88.0	46.0	68.0	1993	..	..	86.0	1998	63.7	32.7	87.4	55.4
Zimbabwe	1990-91	31.0	10.0	25.5		..	..	..	1990-91	36.0	9.6	64.2	29.4

About the data

International comparisons of poverty data entail both conceptual and practical problems. Different countries have different definitions of poverty, and consistent comparisons between countries can be difficult. Local poverty lines tend to have higher purchasing power in rich countries, where more generous standards are used than in poor countries. Is it reasonable to treat two people with the same standard of living—in terms of their command over commodities—differently because one happens to live in a better-off country? Can we hold the real value of the poverty line constant across countries, just as we do when making comparisons over time?

Poverty measures based on an international poverty line attempt to do this. The commonly used $1 a day standard, measured in 1985 international prices and adjusted to local currency using purchasing power parities (PPPs), was chosen for the World Bank's *World Development Report 1990: Poverty* because it is typical of the poverty lines in low-income countries. PPP exchange rates, such as those from the Penn World Tables or the World Bank, are used because they take into account the local prices of goods and services not traded internationally. But PPP rates were designed not for making international poverty comparisons but for comparing aggregates from national accounts. As a result, there is no certainty that an international poverty line measures the same degree of need or deprivation across countries.

Past editions of the *World Development Indicators* used PPPs from the Penn World Tables. Because the Penn World Tables updated to 1993 are not yet available, this year's edition (like last year's) uses 1993 consumption PPP estimates produced by the World Bank. The international poverty line, set at $1 a day in 1985 PPP terms, has been recalculated in 1993 PPP terms at about $1.08 a day. Any revisions in the PPP of a country to incorporate better price indexes can produce dramatically different poverty lines in local currency.

Problems also exist in comparing poverty measures within countries. For example, the cost of living is typically higher in urban than in rural areas. (Food staples, for example, tend to be more expensive in urban areas.) So the urban monetary poverty line should be higher than the rural poverty line. But it is not always clear that the difference between urban and rural poverty lines found in practice properly reflects the difference in the cost of living. In some countries the urban poverty line in common use has a higher real value—meaning that it allows the purchase of more commodities for consumption—than does the rural poverty line. Sometimes the difference has been so large as to imply that the incidence of poverty is greater in urban than in rural areas, even though the reverse is found when adjustments are made only for differences in the cost of living. As with international comparisons, when the real value of the poverty line varies, it is not clear how meaningful such urban-rural comparisons are.

The problems of making poverty comparisons do not end there. More issues arise in measuring household living standards. The choice between income and consumption as a welfare indicator is one issue. Income is generally more difficult to measure accurately, and consumption accords better with the idea of the standard of living than does income, which can vary over time even if the standard of living does not. But consumption data are not always available, and when they are not there is little choice but to use income. There are still other problems. Household survey questionnaires can differ widely, for example, in the number of distinct categories of consumer goods they identify. Survey quality varies, and even similar surveys may not be strictly comparable.

Comparisons across countries at different levels of development also pose a potential problem, because of differences in the relative importance of consumption of nonmarket goods. The local market value of all consumption in kind (including consumption from own production, particularly important in underdeveloped rural economies) should be included in the measure of total consumption expenditure. Similarly, the imputed profit from production of nonmarket goods should be included in income. This is not always done, though such omissions were a far bigger problem in surveys before the 1980s. Most survey data now include valuations for consumption or income from own production. Nonetheless, valuation methods vary. For example, some surveys use the price in the nearest market, while others use the average farm gate selling price.

Whenever possible, consumption has been used as the welfare indicator for deciding who is poor. When only household income was available, average income has been adjusted to accord with either a survey-based estimate of mean consumption (when available) or an estimate based on consumption data from national accounts. This procedure adjusts only the mean, however; nothing can be done to correct for the difference in Lorenz (income distribution) curves between consumption and income.

Empirical Lorenz curves were weighted by household size, so they are based on percentiles of population, not households. In all cases the measures of poverty have been calculated from primary data sources (tabulations or household data) rather than existing estimates. Estimation from tabulations requires an interpolation method; the method chosen was Lorenz curves with flexible functional forms, which have proved reliable in past work.

Definitions

• **Survey year** is the year in which the underlying data were collected. • **Rural poverty rate** is the percentage of the rural population living below the national rural poverty line. • **Urban poverty rate** is the percentage of the urban population living below the national urban poverty line. • **National poverty rate** is the percentage of the population living below the national poverty line. National estimates are based on population-weighted subgroup estimates from household surveys. • **Population below $1 a day** and **population below $2 a day** are the percentages of the population living on less than $1.08 a day and $2.15 a day at 1993 international prices (equivalent to $1 and $2 in 1985 prices, adjusted for purchasing power parity). Poverty rates are comparable across countries, but as a result of revisions in PPP exchange rates, they cannot be compared with poverty rates reported in previous editions for individual countries. • **Poverty gap** is the mean shortfall from the poverty line (counting the nonpoor as having zero shortfall), expressed as a percentage of the poverty line. This measure reflects the depth of poverty as well as its incidence.

Data sources

The poverty measures are prepared by the World Bank's Development Research Group. The national poverty lines are based on the Bank's country poverty assessments. The international poverty lines are based on nationally representative primary household surveys conducted by national statistical offices or by private agencies under the supervision of government or international agencies and obtained from government statistical offices and World Bank country departments. The World Bank has prepared an annual review of poverty work in the Bank since 1993. *Poverty Reduction and the World Bank: Operationalizing the World Develoment Report 2000/01* is forthcoming.

2.7 | Social indicators of poverty

	Survey year	Infant mortality rate (per 1,000 live births)		Delivery attendance by a medically trained person (% of births in the five years prior to the survey)		Prevalence of child malnutrition (% of children under five)		Low mother's body-mass index (% of women)		Total fertility rate (births per woman)	
		Poorest quintile	Richest quintile	Poorest quintile	Richest quintile	Poorest quintile	Richest quintile	Poorest quintile	Richest quintile	Poorest quintile	Richest quintile
Bangladesh	1996-97	96	57	2	30	60	28	64.4	32.6	3.8	2.2
Benin	1996	119	63	34	98	37	19	21.0	7.0	7.3	3.8
Bolivia	1998	107	26	20	98	17	3	0.5	2.2	7.4	2.1
Brazil	1996	83	29	72	99	12	3	8.8	5.4	4.8	1.7
Burkina Faso	1992-93	114	80	26	86	36	22	15.7	10.2	7.5	4.6
Cameroon	1991	104	51	32	95	25	6	..	..	6.2	4.8
Central African Republic	1994-95	132	54	14	82	37	20	16.3	11.2	5.1	4.9
Chad	1996-97	80	89	3	47	50	29	27.5	21.0	7.1	6.2
Colombia	1995	41	16	61	98	15	3	5.9	1.2	5.2	1.7
Comoros	1996	87	65	26	85	36	18	7.4	8.6	6.4	3.0
Côte d'Ivoire	1994	117	63	17	84	31	13	11.0	5.7	6.4	3.7
Dominican Republic	1996	67	23	89	98	13	1	8.9	3.0	5.1	2.1
Egypt, Arab Rep.	1995-96	110	32	21	86	17	8	2.9	0.4	4.4	2.7
Ghana	1993	78	46	25	85	33	13	11.3	7.2	6.7	3.4
Guatemala	1995	57	35	9	92	35	7	4.2	2.0	8.0	2.4
Haiti	1994-95	94	74	24	78	39	10	24.9	9.3	7.0	2.3
India	1992-93	109	44	12	79	60	34	..	..	4.1	2.1
Indonesia	1997	78	23	21	89	..	..	..	..	3.3	2.0
Kazakhstan	1995	35	29	99	100	11	3	7.9	3.8	3.2	1.3
Kenya	1998	103	50	23	80	32	10	17.6	6.0	6.6	3.0
Kyrgyz Republic	1997	83	46	96	100	13	8	5.6	3.7	4.6	2.0
Madagascar	1997	119	58	30	89	45	32	24.3	15.1	8.1	3.4
Malawi	1992	141	106	45	78	34	17	14.1	6.0	7.2	6.1
Mali	1995-96	151	93	11	81	47	28	15.9	12.2	6.9	5.1
Morocco	1993	80	35	5	78	17	2	6.2	1.8	6.7	2.3
Mozambique	1997	188	95	18	82	37	14	17.2	4.2	5.2	4.4
Namibia	1992	64	57	51	91	36	13	19.3	5.3	6.9	3.6
Nepal	1996	96	64	3	34	53	28	25.7	21.4	6.2	2.9
Nicaragua	1997-98	51	26	33	92	18	4	4.0	4.1	6.6	1.9
Niger	1998	131	86	4	63	52	37	26.7	12.8	8.4	5.7
Nigeria	1990	102	69	12	70	40	22	..	..	6.6	4.7
Pakistan	1990-91	89	63	5	55	54	26	..	..	5.1	4.0
Paraguay	1990-91	43	16	41	98	6	1	..	..	7.9	2.7
Peru	1996	78	20	14	97	17	1	1.3	1.1	6.6	1.7
Philippines	1998	49	21	21	92	..	..	..	..	6.5	2.1
Senegal	1997	85	45	20	86	..	..	..	..	7.4	3.6
Tanzania	1996	87	65	27	81	40	18	12.2	7.1	7.8	3.9
Togo	1998	84	66	25	91	32	12	13.3	7.9	7.3	2.9
Turkey	1993	100	25	43	99	22	3	2.7	3.2	3.7	1.5
Uganda	1995	109	63	23	70	31	16	12.7	5.8	7.5	5.4
Uzbekistan	1996	50	47	92	100	25	12	11.4	5.7	4.4	2.1
Vietnam	1997	43	17	49	99	..	..	..	..	3.1	1.6
Yemen, Rep.	1997	109	60	7	50	20	6	39.0	13.1	7.3	4.7
Zambia	1996	124	70	19	91	32	13	10.2	7.9	7.4	4.4
Zimbabwe	1994	52	42	55	93	19	9	5.7	1.2	6.2	2.8

Social indicators of poverty | 2.7

About the data

The data in the table describe the health status of individuals in different socioeconomic groups within countries. The data are from Demographic and Health Surveys conducted by Macro International with the support of the U.S. Agency for International Development. These large-scale household sample surveys, conducted periodically in about 50 developing countries, collect information on a large number of health, nutrition, and population measures as well as on respondents' social, demographic, and economic characteristics using a standard set of questionnaires.

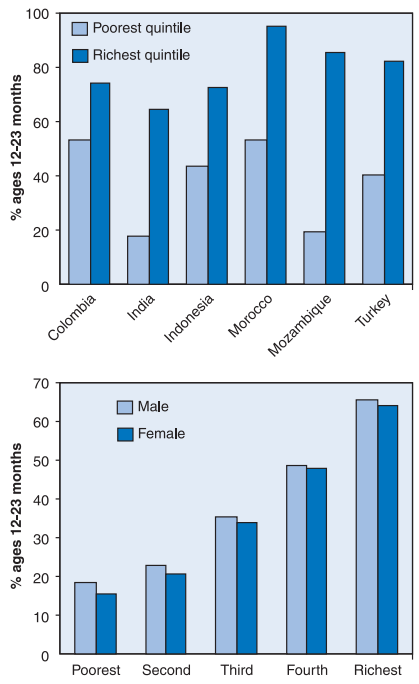
In the table socioeconomic status is defined in terms of household assets, including ownership of consumer items, characteristics of the household's dwelling, and other characteristics related to wealth. Each household asset for which information was collected was assigned a weight generated through principal component analysis. The resulting scores were standardized and then used to create break points defining wealth quintiles, expressed as quintiles of individuals.

The choice of the asset index for defining socioeconomic status was based on pragmatic rather than conceptual considerations: Demographic and Health Surveys do not provide income or consumption data but do have detailed information on household ownership of consumer goods and access to a variety of goods and services. Like income or consumption, the asset index defines disparities in primarily economic terms. It therefore excludes other possibilities of disparities among groups, such as those based on gender, education, ethnic background, or other facets of social exclusion. To that extent the index provides only a partial view of the multidimensional concepts of poverty, inequality, and inequity.

The analysis has been carried out for 45 countries, with the results issued in country reports. The table shows the estimates for the poorest and richest quintiles only; the full set of estimates for more than 20 indicators is available in the country reports (see *Data sources*).

Figure 2.7

Children fully immunized, by quintile, various years



Source: Demographic and Health Survey data.

Governments in developing countries usually finance immunization against childhood diseases as part of the basic health package. The large discrepancies between poor and rich quintiles indicate the lack of access to basic health care among the poor. And while the differences in immunization rates for boys and girls across quintiles in India points to female disadvantage, the data underscore that poverty has a larger impact on access to health care than does gender.

Definitions

• **Survey year** is the year in which the underlying data were collected. • **Infant mortality rate** is the number of infants dying before reaching one year of age, per 1,000 live births. The estimates are based on births in the 10 years preceding the survey and may therefore differ from the estimates in table 2.20. • **Delivery attendance by a medically trained person** refers to births attended by a doctor, nurse, or nurse-midwife. • **Prevalence of child malnutrition** is the percentage of children whose weight is more than two standard deviations below the median reference standard for their age as established by the U.S. National Center for Health Statistics, the U.S. Centers for Disease Control and Prevention, and the World Health Organization. The data are based on a sample of children who survived to age three, four, or five years, depending on the country. • **Low mother's body mass index** refers to the percentage of women whose body mass index (BMI) is less than 18.5, a cutoff point indicating acute malnutrition. The BMI is the weight in kilograms divided by the square of the height in meters. • **Total fertility rate** is the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with current age-specific fertility rates. The estimates are based on births during the three years preceding the survey and may therefore differ from those in table 2.17.

Data sources

Data are from an analysis of Demographic and Health Surveys by the World Bank and Macro International. Country reports are available at www.worldbank.org/poverty/health/data/index.htm.

2.8 | Distribution of income or consumption

	Survey year	Gini Index	Percentage share of income or consumption						
			Lowest 10%	Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%	Highest 10%
Afghanistan		..	..	..	..	..	..	..	..
Albania		..	..	..	..	..	..	..	..
Algeria	1995 [a,b]	35.3	2.8	7.0	11.6	16.1	22.7	42.6	26.8
Angola		..	..	..	..	..	..	..	..
Argentina		..	..	..	..	..	..	..	..
Armenia	1996 [a,b]	44.4	2.3	5.5	9.4	13.9	20.6	50.6	35.2
Australia	1994 [c,d]	35.2	2.0	5.9	12.0	17.2	23.6	41.3	25.4
Austria	1995 [c,d]	31.0	2.5	6.9	13.2	18.1	23.9	38.0	22.5
Azerbaijan	1995 [c,d]	36.0	2.8	6.9	11.5	16.1	22.3	43.3	27.8
Bangladesh	1995-96 [a,b]	33.6	3.9	8.7	12.0	15.7	20.8	42.8	28.6
Belarus	1998 [a,b]	21.7	5.1	11.4	15.2	18.2	21.9	33.3	20.0
Belgium	1996 [c,d]	28.7	3.2	8.3	13.9	18.0	22.6	37.3	23.0
Benin		..	..	..	..	..	..	..	..
Bolivia	1999 [a,b]	44.7	1.3	4.0	9.2	14.8	22.9	49.1	32.0
Bosnia and Herzegovina		..	..	..	..	..	..	..	..
Botswana		..	..	..	..	..	..	..	..
Brazil	1998 [c,d]	60.7	0.7	2.2	5.4	10.1	18.3	64.1	48.0
Bulgaria	1997 [c,d]	26.4	4.5	10.1	13.9	17.4	21.9	36.8	22.8
Burkina Faso	1998 [a,b]	55.1	2.0	4.6	7.2	10.8	17.1	60.4	46.8
Burundi	1998 [a,b]	42.5	1.8	5.1	10.3	15.1	21.5	48.0	32.9
Cambodia	1997 [a,b]	40.4	2.9	6.9	10.7	14.7	20.1	47.6	33.8
Cameroon	1996 [a,b]	47.7	1.9	4.6	8.3	13.1	20.9	53.1	36.6
Canada	1994 [c,d]	31.5	2.8	7.5	12.9	17.2	23.0	39.3	23.8
Central African Republic	1993 [a,b]	61.3	0.7	2.0	4.9	9.6	18.5	65.0	47.7
Chad		..	..	..	..	..	..	..	..
Chile	1998 [c,d]	56.7	1.3	3.3	6.5	10.9	18.4	61.0	45.6
China	1998 [c,d]	40.3	2.4	5.9	10.2	15.1	22.2	46.6	30.4
Hong Kong, China	1996 [c,d]	52.2	1.8	4.4	8.0	12.2	18.3	57.1	43.5
Colombia	1996 [c,d]	57.1	1.1	3.0	6.6	11.1	18.4	60.9	46.1
Congo, Dem. Rep.		..	..	..	..	..	..	..	..
Congo, Rep.		..	..	..	..	..	..	..	..
Costa Rica	1997 [c,d]	45.9	1.7	4.5	8.9	14.1	21.6	51.0	34.6
Côte d'Ivoire	1995 [a,b]	36.7	3.1	7.1	11.2	15.6	21.9	44.3	28.8
Croatia	1998 [c,d]	29.0	3.7	8.8	13.3	17.4	22.6	38.0	23.3
Cuba		..	..	..	..	..	..	..	..
Czech Republic	1996 [c,d]	25.4	4.3	10.3	14.5	17.7	21.7	35.9	22.4
Denmark	1992 [c,d]	24.7	3.6	9.6	14.9	18.3	22.7	34.5	20.5
Dominican Republic	1998 [c,d]	47.4	2.1	5.1	8.6	13.0	20.0	53.3	37.9
Ecuador	1995 [a,b]	43.7	2.2	5.4	9.4	14.2	21.3	49.7	33.8
Egypt, Arab Rep.	1995 [a,b]	28.9	4.4	9.8	13.2	16.6	21.4	39.0	25.0
El Salvador	1998 [c,d]	52.2	1.2	3.3	7.3	12.4	20.7	56.4	39.5
Eritrea		..	..	..	..	..	..	..	..
Estonia	1998 [c,d]	37.6	3.0	7.0	11.0	15.3	21.6	45.1	29.8
Ethiopia	1995 [a,b]	40.0	3.0	7.1	10.9	14.5	19.8	47.7	33.7
Finland	1991 [c,d]	25.6	4.2	10.0	14.2	17.6	22.3	35.8	21.6
France	1995 [c,d]	32.7	2.8	7.2	12.6	17.2	22.8	40.2	25.1
Gabon		..	..	..	..	..	..	..	..
Gambia, The	1998 [a, b]	50.2	1.6	4.0	7.6	12.4	20.8	55.3	38.2
Georgia	1996 [c,d]	37.1	2.3	6.1	11.4	16.3	22.7	43.6	27.9
Germany	1994 [c,d]	30.0	3.3	8.2	13.2	17.5	22.7	38.5	23.7
Ghana	1999 [a,b]	40.7	2.2	5.6	10.0	15.1	22.6	46.7	30.1
Greece	1993 [c,d]	32.7	3.0	7.5	12.4	16.9	22.8	40.3	25.3
Guatemala	1998 [c,d]	55.8	1.6	3.8	6.8	10.9	17.9	60.6	46.0
Guinea	1994 [a,b]	40.3	2.6	6.4	10.4	14.8	21.2	47.2	32.0
Guinea-Bissau	1991 [a,b]	56.2	0.5	2.1	6.5	12.0	20.6	58.9	42.4
Guyana	1993 [a,b]	40.2	2.4	6.3	10.7	15.0	21.2	46.9	32.0
Haiti		..	..	..	..	..	..	..	..
Honduras	1998 [c,d]	56.3	0.6	2.2	6.4	11.8	20.3	59.4	42.7

	Survey year	Gini Index	Percentage share of income or consumption						
			Lowest 10%	Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%	Highest 10%
Hungary	1998 [a,b]	24.4	4.1	10.0	14.7	18.3	22.7	34.4	20.5
India	1997 [a,b]	37.8	3.5	8.1	11.6	15.0	19.3	46.1	33.5
Indonesia	1999 [a,b]	31.7	4.0	9.0	12.5	16.1	21.3	41.1	26.7
Iran, Islamic Rep.		..	..	..	..	..	..	..	..
Iraq		..	..	..	..	..	..	..	..
Ireland	1987 [c,d]	35.9	2.5	6.7	11.6	16.4	22.4	42.9	27.4
Israel	1997 [c,d]	38.1	2.4	6.1	10.7	15.9	23.0	44.2	28.3
Italy	1995 [c,d]	27.3	3.5	8.7	14.0	18.1	22.9	36.3	21.8
Jamaica	2000 [a,b]	37.9	2.7	6.7	10.7	15.0	21.8	46.0	30.3
Japan	1993 [c,d]	24.9	4.8	10.6	14.2	17.6	22.0	35.7	21.7
Jordan	1997 [a,b]	36.4	3.3	7.6	11.4	15.5	21.1	44.4	29.8
Kazakhstan	1996 [a,b]	35.4	2.7	6.7	11.5	16.4	23.1	42.3	26.3
Kenya	1997 [a,b]	44.9	2.4	5.6	9.3	13.6	20.3	51.2	36.1
Korea, Dem. Rep.		..	..	..	..	..	..	..	..
Korea, Rep.	1993 [a,b]	31.6	2.9	7.5	12.9	17.4	22.9	39.3	24.3
Kuwait		..	..	..	..	..	..	..	..
Kyrgyz Republic	1999 [a,b]	34.6	3.2	7.6	11.7	16.1	22.1	42.5	27.2
Lao PDR	1997 [a,b]	37.0	3.2	7.6	11.4	15.3	20.8	45.0	30.6
Latvia	1998 [c,d]	32.4	2.9	7.6	12.9	17.1	22.1	40.3	25.9
Lebanon		..	..	..	..	..	..	..	..
Lesotho	1986-87 [a,b]	56.0	0.9	2.8	6.5	11.2	19.4	60.1	43.4
Liberia		..	..	..	..	..	..	..	..
Libya		..	..	..	..	..	..	..	..
Lithuania	1996 [a,b]	32.4	3.1	7.8	12.6	16.8	22.4	40.3	25.6
Luxembourg	1994 [c,d]	26.9	4.0	9.4	13.8	17.7	22.6	36.5	22.0
Macedonia, FYR		..	..	..	..	..	..	..	..
Madagascar	1999 [a,b]	38.1	2.6	6.4	10.7	15.6	22.5	44.9	28.6
Malawi		..	..	..	..	..	..	..	..
Malaysia	1997 [c,d]	49.2	1.7	4.4	8.1	12.9	20.3	54.3	38.4
Mali	1994 [a,b]	50.5	1.8	4.6	8.0	11.9	19.3	56.2	40.4
Mauritania	1995 [a,b]	37.3	2.5	6.4	11.2	16.0	22.4	44.1	28.4
Mauritius		..	..	..	..	..	..	..	..
Mexico	1998 [c,d]	53.1	1.3	3.5	7.3	12.1	19.7	57.4	41.7
Moldova	1997 [c,d]	40.6	2.2	5.6	10.2	15.2	22.2	46.8	30.7
Mongolia	1995 [a,b]	33.2	2.9	7.3	12.2	16.6	23.0	40.9	24.5
Morocco	1998-99 [a,b]	39.5	2.6	6.5	10.6	14.8	21.3	46.6	30.9
Mozambique	1996-97 [a,b]	39.6	2.5	6.5	10.8	15.1	21.1	46.5	31.7
Myanmar		..	..	..	..	..	..	..	..
Namibia		..	..	..	..	..	..	..	..
Nepal	1995-96 [a,b]	36.7	3.2	7.6	11.5	15.1	21.0	44.8	29.8
Netherlands	1994 [c,d]	32.6	2.8	7.3	12.7	17.2	22.8	40.1	25.1
New Zealand		..	..	..	..	..	..	..	..
Nicaragua	1998 [a,b]	60.3	0.7	2.3	5.9	10.4	17.9	63.6	48.8
Niger	1995 [a,b]	50.5	0.8	2.6	7.1	13.9	23.1	53.3	35.4
Nigeria	1996-97 [a,b]	50.6	1.6	4.4	8.2	12.5	19.3	55.7	40.8
Norway	1995 [c,d]	25.8	4.1	9.7	14.3	17.9	22.2	35.8	21.8
Oman		..	..	..	..	..	..	..	..
Pakistan	1996-97 [a,b]	31.2	4.1	9.5	12.9	16.0	20.5	41.1	27.6
Panama	1997 [a,b]	48.5	1.2	3.6	8.1	13.6	21.9	52.8	35.7
Papua New Guinea	1996 [a,b]	50.9	1.7	4.5	7.9	11.9	19.2	56.5	40.5
Paraguay	1998 [c,d]	57.7	0.5	1.9	6.0	11.4	20.1	60.7	43.8
Peru	1996 [c,d]	46.2	1.6	4.4	9.1	14.1	21.3	51.2	35.4
Philippines	1997 [a,b]	46.2	2.3	5.4	8.8	13.2	20.3	52.3	36.6
Poland	1998 [a,b]	31.6	3.2	7.8	12.8	17.1	22.6	39.7	24.7
Portugal	1994-95 [c,d]	35.6	3.1	7.3	11.6	15.9	21.8	43.4	28.4
Puerto Rico		..	..	..	..	..	..	..	..
Romania	1998 [a,b]	31.1	3.2	8.0	13.1	17.2	22.3	39.5	25.0
Russian Federation	1998 [a,b]	48.7	1.7	4.4	8.6	13.3	20.1	53.7	38.7

2.8 Distribution of income or consumption

	Survey year	Gini Index	Percentage share of income or consumption						
			Lowest 10%	Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%	Highest 10%
Rwanda	1983-85 [a,b]	28.9	4.2	9.7	13.2	16.5	21.6	39.1	24.2
Saudi Arabia		..	..	..	..	..	..	..	..
Senegal	1995 [a,b]	41.3	2.6	6.4	10.3	14.5	20.6	48.2	33.5
Sierra Leone	1989 [a,b]	62.9	0.5	1.1	2.0	9.8	23.7	63.4	43.6
Singapore		..	..	..	..	..	..	..	..
Slovak Republic	1992 [c,d]	19.5	5.1	11.9	15.8	18.8	22.2	31.4	18.2
Slovenia	1998 [c,d]	28.4	3.9	9.1	13.4	17.3	22.5	37.7	23.0
Somalia		..	..	..	..	..	..	..	..
South Africa	1993-94 [a,b]	59.3	1.1	2.9	5.5	9.2	17.7	64.8	45.9
Spain	1990 [c,d]	32.5	2.8	7.5	12.6	17.0	22.6	40.3	25.2
Sri Lanka	1995 [a,b]	34.4	3.5	8.0	11.8	15.8	21.5	42.8	28.0
St. Lucia	1995 [c,d]	42.6	2.0	5.2	9.9	14.8	21.8	48.3	32.5
Sudan		..	..	..	..	..	..	..	..
Swaziland	1994 [c,d]	60.9	1.0	2.7	5.8	10.0	17.1	64.4	50.2
Sweden	1992 [c,d]	25.0	3.7	9.6	14.5	18.1	23.2	34.5	20.1
Switzerland	1992 [c,d]	33.1	2.6	6.9	12.7	17.3	22.9	40.3	25.2
Syrian Arab Republic		..	..	..	..	..	..	..	..
Tajikistan	1998 [a,b]	34.7	3.2	8.0	12.9	17.0	22.1	40.0	25.2
Tanzania	1993 [a,b]	38.2	2.8	6.8	11.0	15.1	21.6	45.5	30.1
Thailand	1998 [a,b]	41.4	2.8	6.4	9.8	14.2	21.2	48.4	32.4
Togo		..	..	..	..	..	..	..	..
Trinidad and Tobago	1992 [c,d]	40.3	2.1	5.5	10.3	15.5	22.7	45.9	29.9
Tunisia	1995 [a,b]	41.7	2.3	5.7	9.9	14.7	21.8	47.9	31.8
Turkey	1994 [a,b]	41.5	2.3	5.8	10.2	14.8	21.6	47.7	32.3
Turkmenistan	1998 [a,b]	40.8	2.6	6.1	10.2	14.7	21.5	47.5	31.7
Uganda	1996 [a,b]	37.4	3.0	7.1	11.1	15.4	21.5	44.9	29.8
Ukraine	1999 [a,b]	29.0	3.7	8.8	13.3	17.4	22.7	37.8	23.2
United Arab Emirates		..	..	..	..	..	..	..	..
United Kingdom	1995 [c,d]	36.8	2.3	6.1	11.6	16.4	22.7	43.2	27.7
United States	1997 [c,d]	40.8	1.8	5.2	10.5	15.6	22.4	46.4	30.5
Uruguay	1989 [c,d]	42.3	2.1	5.4	10.0	14.8	21.5	48.3	32.7
Uzbekistan	1998 [a,b]	44.7	1.2	4.0	9.5	15.0	22.4	49.1	32.8
Venezuela, RB	1998 [c,d]	49.5	0.8	3.0	8.2	13.8	21.8	53.2	36.5
Vietnam	1998 [a,b]	36.1	3.6	8.0	11.4	15.2	20.9	44.5	29.9
West Bank and Gaza		..	..	..	..	..	..	..	..
Yemen, Rep.	1998 [a,b]	33.4	3.0	7.4	12.2	16.7	22.5	41.2	25.9
Yugoslavia, FR (Serb./Mont.)		..	..	..	..	..	..	..	.. ..
Zambia	1998 [a,b]	52.6	1.1	3.3	7.6	12.5	20.0	56.6	41.0
Zimbabwe	1995 [a,b]	50.1	2.0	4.7	8.0	12.3	19.4	55.7	40.4

a. Refers to expenditure shares by percentiles of population. b. Ranked by per capita expenditure. c. Refers to income shares by percentiles of population. d. Ranked by per capita income.

Distribution of income or consumption | 2.8

About the data

Inequality in the distribution of income is reflected in the percentage shares of either income or consumption accruing to segments of the population ranked by income or consumption levels. The segments ranked lowest by personal income receive the smallest share of total income. The Gini index provides a convenient summary measure of the degree of inequality.

Data on personal or household income or consumption come from nationally representative household surveys. The data in the table refer to different years between 1985 and 2000. Footnotes to the survey year indicate whether the rankings are based on per capita income or consumption. Each distribution is based on percentiles of population—rather than of households—with households ranked by income or expenditure per person.

Where the original data from the household survey were available, they have been used to directly calculate the income (or consumption) shares by quintile. Otherwise, shares have been estimated from the best available grouped data.

The distribution indicators have been adjusted for household size, providing a more consistent measure of per capita income or consumption. No adjustment has been made for spatial differences in cost of living within countries, because the data needed for such calculations are generally unavailable. For further details on the estimation method for low- and middle-income economies see Ravallion and Chen (1996).

Because the underlying household surveys differ in method and in the type of data collected, the distribution indicators are not strictly comparable across countries. These problems are diminishing as survey methods improve and become more standardized, but achieving strict comparability is still impossible (see *About the data* for table 2.6).

Two sources of noncomparability should be noted. First, the surveys can differ in many respects, including whether they use income or consumption expenditure as the living standard indicator. The distribution of income is typically more unequal than the distribution of consumption. In addition, the definitions of income used usually differ among surveys. Consumption is usually a much better welfare indicator, particularly in developing countries. Second, households differ in size (number of members) and in the extent of income sharing among members. And individuals differ in age and consumption needs. Differences among countries in these respects may bias comparisons of distribution.

World Bank staff have made an effort to ensure that the data are as comparable as possible. Whenever possible, consumption has been used rather than income. The income distribution and Gini indexes for high-income countries are calculated directly from the Luxembourg Income Study database, using an estimation method consistent with that applied for developing countries.

Definitions

• **Survey year** is the year in which the underlying data were collected. • **Gini index** measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a Gini index of zero represents perfect equality, while an index of 100 implies perfect inequality. • **Percentage share of income or consumption** is the share that accrues to subgroups of population indicated by deciles or quintiles. Percentage shares by quintile may not sum to 100 because of rounding.

Data sources

The data on distribution are compiled by the World Bank's Development Research Group using primary household survey data obtained from government statistical agencies and World Bank country departments. The data for high-income economies are from the Luxembourg Income Study database.

2.9 | Assessing vulnerability

	Urban informal sector employment			Children 10-14 in the labor force		Pension contributors			Private health expenditure	
	% of urban employment			% of age group						
	Male 1995-99[a]	Female 1995-99[a]	Total 1995-99[a]	1980	2000	Year	% of labor force	% of working age population	Year	% of total
Afghanistan	..	..	..	28	24		..	..		..
Albania	..	..	..	4	0	1995	32.0	31.0	1999	25.9
Algeria	..	..	..	7	0	1997	31.0	23.0	1998	27.8
Angola	..	..	..	30	26		..	..		..
Argentina	48	36	43	8	2	1995	53.0	39.0	1999	71.9
Armenia	..	..	..	0	0	1995	66.6	49.4	1995	60.3
Australia	..	..	..	0	0		..	..	1998	30.0
Austria	..	..	..	0	0	1993	95.8	76.6	1999	27.9
Azerbaijan	..	..	..	0	0	1996	52.0	46.0	1997	32.5
Bangladesh	..	..	..	35	28	1993	3.5	2.6	1998	52.5
Belarus	..	..	..	0	0	1992	97.0	94.0	1998	18.1
Belgium	..	..	..	0	0	1995	86.2	65.9	1999	28.7
Benin	..	..	..	30	26	1996	4.8	..	1998	50.6
Bolivia	..	..	53	19	11	1999	14.8	13.3	1998	36.6
Bosnia and Herzegovina	..	..	..	1	0		..	..		..
Botswana	12	28	19	26	14		..	..	1998	38.3
Brazil	43	31	38	19	14	1996	36.0	31.0	1998	55.9
Bulgaria	..	..	..	0	0	1994	64.0	63.0	1999	5.7
Burkina Faso	..	..	..	71	43	1993	3.1	3.0	1998	68.1
Burundi	..	..	..	50	49	1993	3.3	3.0	1999	5.7
Cambodia	..	..	..	27	24		..	..	1998	91.6
Cameroon	..	..	..	34	23	1993	13.7	11.5	1997	79.9
Canada	..	..	..	0	0	1992	91.9	80.2	1998	29.9
Central African Republic	..	..	..	..	..		..	..	1998	33.0
Chad	..	..	..	42	37	1990	1.1	1.0	1998	21.4
Chile	33	32	32	0	0	1995	70.0	43.0	1998	53.5
China	..	..	..	30	8	1994	17.6	17.4	1999	59.2
Hong Kong, China	..	..	..	6	0		..	..	1995	55.0
Colombia	49	44	47	12	6	1999	35.0	29.3	1998	44.8
Congo, Dem. Rep.	..	..	..	33	29		..	..		..
Congo, Rep.	..	..	..	27	25	1992	5.8	5.6	1998	65.8
Costa Rica	43	36	40	10	4	1998	50.6	38.5	1998	22.6
Côte d'Ivoire	37	73	53	28	19	1997	9.3	9.1	1998	67.6
Croatia	6	7	6	0	0	1997	66.0	57.0	1997	16.4
Cuba	..	..	..	0	0		..	..	1994	9.4
Czech Republic	..	..	..	0	0	1995	85.0	67.2	1999	8.5
Denmark	..	..	..	0	0	1993	89.6	88.0	1999	17.8
Dominican Republic	..	..	..	25	13	1999	14.4	12.4	1998	61.3
Ecuador	54	55	53	9	4	1999	43.1	33.8	1998	54.1
Egypt, Arab Rep.	..	..	..	18	9	1994	50.0	34.2	1997	52.6
El Salvador	..	..	..	17	14	1996	26.2	25.0	1998	64.2
Eritrea	..	..	..	44	38		..	..	1994	45.1
Estonia	..	..	..	0	0	1995	76.0	67.0	1999	16.6
Ethiopia	19	53	33	46	41		..	..	1998	58.4
Finland	..	..	..	0	0	1993	90.3	83.6	1999	24.3
France	..	..	..	0	0	1993	88.4	74.6	1999	21.9
Gabon	..	..	..	29	14	1991	7.3	7.0	1998	33.3
Gambia, The	..	..	..	44	34		..	..	1998	50.1
Georgia	..	..	..	0	0	1996	77.0	72.0	1999	73.0
Germany	..	..	..	0	0	1995	94.2	82.3	1999	24.7
Ghana	..	..	79	16	12	1993	7.2	9.0	1998	61.4
Greece	..	..	..	5	0	1996	88.0	73.0	1998	43.7
Guatemala	..	..	..	19	14	1999	22.8	19.3	1998	52.5
Guinea	..	..	..	41	31	1993	1.5	1.8	1998	39.6
Guinea-Bissau	..	..	..	43	37		..	..		..
Haiti	..	..	..	33	23		..	..	1998	66.0
Honduras	53	58	55	14	7	1999	20.6	17.7	1998	54.4

	Urban informal sector employment			Children 10-14 in the labor force		Pension contributors			Private health expenditure	
	% of urban employment			% of age group						
	Male 1995-99[a]	Female 1995-99[a]	Total 1995-99[a]	1980	2000	Year	% of labor force	% of working age population	Year	% of total
Hungary	..	..	..	0	0	1996	77.0	65.0	1998	23.5
India	..	..	..	21	12	1992	10.6	7.9	1997	85.0
Indonesia	19	23	21	13	8	1995	8.0	7.0	1998	53.7
Iran, Islamic Rep.	3	90	18	14	3	1994	29.8	..	1998	59.3
Iraq	..	..	..	11	2		..	..	1998	32.1
Ireland	..	..	..	1	0	1992	79.3	64.7	1998	23.2
Israel	..	..	..	0	0	1992	82.0	63.0	1998	37.4
Italy	..	..	..	2	0	1997	87.0	68.0	1999	32.0
Jamaica	26	21	24	0	0	1999	44.4	45.8	1998	44.6
Japan	..	..	..	0	0	1994	97.5	92.3	1998	21.5
Jordan	..	..	..	4	0	1995	40.0	25.0	1998	47.0
Kazakhstan	..	..	..	0	0	1997	51.0	44.0	1999	51.9
Kenya	..	..	58	45	39	1995	18.0	24.0	1998	69.8
Korea, Dem. Rep.	..	..	..	3	0		..	..		..
Korea, Rep.	..	..	..	0	0	1996	58.0	43.0	1999	56.1
Kuwait	..	..	..	0	0		..	..	1998	12.1
Kyrgyz Republic	..	..	..	0	0	1997	44.0	42.0	1999	50.5
Lao PDR	..	..	..	31	25		..	..	1998	51.6
Latvia	..	..	17	0	0	1995	60.5	52.3	1998	38.3
Lebanon	..	..	..	5	0		..	..	1998	80.1
Lesotho	..	..	..	28	21		..	..		..
Liberia	..	..	..	26	15		..	..		..
Libya	..	..	..	9	0		..	..		..
Lithuania	12	5	9	0	0		..	..	1998	24.2
Macedonia, FYR	..	..	..	1	0	1995	49.0	47.0	1998	15.4
Madagascar	..	..	58	40	34	1993	5.4	4.8	1998	46.7
Malawi	..	..	..	45	31		..	..	1998	56.0
Malaysia	..	..	..	8	2	1993	48.7	37.8	1998	42.3
Mali	..	..	71	61	51	1990	2.5	2.0	1998	51.4
Mauritania	..	..	..	30	22		..	..	1998	71.1
Mauritius	..	..	..	5	2		..	..	1998	46.4
Mexico	38	30	35	9	5	1997	30.0	31.0	1998	52.0
Moldova	..	..	..	3	0		..	..	1998	32.7
Mongolia	..	..	..	4	1		..	..	1992	8.0
Morocco	..	..	..	21	1	1994	20.9	17.8	1998	72.7
Mozambique	..	..	..	39	32		..	..	1998	19.0
Myanmar	53	57	54	28	23		..	..	1998	87.0
Namibia	..	..	..	34	17		..	..	1998	47.8
Nepal	..	..	..	56	42		..	..	1998	76.5
Netherlands	..	..	..	0	0	1993	91.7	75.4	1999	31.5
New Zealand	..	..	..	0	0		..	..	1999	22.5
Nicaragua	..	..	..	19	12	1999	14.3	13.3	1998	32.1
Niger	..	..	..	48	44	1992	1.3	1.5	1998	53.1
Nigeria	..	..	..	29	24	1993	1.3	1.3	1998	70.1
Norway	..	..	..	0	0	1993	94.0	85.8	1999	24.2
Oman	..	..	..	6	0		..	..	1998	17.1
Pakistan	..	..	..	23	15	1993	3.5	2.1	1998	76.4
Panama	36	28	32	6	3	1998	51.6	40.7	1998	32.3
Papua New Guinea	..	..	..	28	17		..	..	1998	21.6
Paraguay	..	..	58	15	6	1997	31.0	29.0	1998	68.0
Peru	45	53	48	4	2	1997	20.0	16.0	1998	61.0
Philippines	16	19	17	14	5	1996	28.3	13.6	1999	57.1
Poland	14	11	13	0	0	1996	68.0	64.0	1999	24.9
Portugal	..	..	..	8	1	1996	84.3	80.0	1998	33.1
Puerto Rico	..	..	..	0	0		..	..		..
Romania	..	..	..	0	0	1994	55.0	48.0	1998	32.6
Russian Federation	..	..	..	0	0		..	..	1997	27.8

2.9 Assessing vulnerability

	Urban informal sector employment			Children 10-14 in the labor force		Pension contributors			Private health expenditure	
	% of urban employment			% of age group						
	Male 1995-99[a]	Female 1995-99[a]	Total 1995-99[a]	1980	2000	Year	% of labor force	% of working age population	Year	% of total
Rwanda	..	..	..	43	41	1993	9.3	13.3	1998	51.8
Saudi Arabia	..	..	..	5	0		..	..	1997	20.0
Senegal	..	..	..	43	27	1998	4.3	4.7	1998	41.6
Sierra Leone	..	..	..	19	14		..	..	1998	83.4
Singapore	..	..	..	2	0	1995	73.0	56.0	1998	64.0
Slovak Republic	25	11	19	0	0	1996	73.0	72.0	1998	21.2
Slovenia	..	..	..	0	0	1995	86.0	68.7	1998	12.0
Somalia	..	..	..	38	31		..	..		..
South Africa	11	26	17	1	0		..	..	1998	53.4
Spain	..	..	..	0	0	1994	85.3	61.4	1998	23.1
Sri Lanka	..	..	..	4	2	1992	28.8	20.8	1999	51.0
Sudan	..	..	..	33	27	1996	3.9	..	1997	79.1
Swaziland	..	..	..	17	12		..	..	1998	28.0
Sweden	..	..	..	0	0	1994	91.1	88.9	1998	16.2
Switzerland	..	..	..	0	0	1994	98.1	96.8	1998	26.4
Syrian Arab Republic	..	..	..	14	2		..	..	1998	65.0
Tajikistan	..	..	..	0	0		..	..	1998	14.5
Tanzania	60	85	67	43	37	1996	2.0	2.0	1998	58.0
Thailand	75	79	77	25	12	1999	18.0	17.0	1998	68.7
Togo	..	..	..	36	27	1997	6.0	3.0	1998	50.0
Trinidad and Tobago	..	..	..	1	0		..	..	1998	42.4
Tunisia	..	..	..	6	0	1991	39.4	27.2	1998	56.5
Turkey	..	..	..	21	8	1990	34.6	..	1998	28.1
Turkmenistan	..	..	..	0	0		..	..	1998	20.8
Uganda	..	..	..	49	44	1994	8.2	..	1998	68.8
Ukraine	5	5	5	0	0	1995	69.8	66.1	1999	33.3
United Arab Emirates	..	..	..	0	0		..	..	1998	90.3
United Kingdom	..	..	..	0	0	1994	89.7	84.5	1999	16.7
United States	..	..	..	0	0	1993	94.0	91.9	1999	55.5
Uruguay	39	41	36	4	1	1995	82.0	78.0	1998	79.4
Uzbekistan	..	..	..	0	0		..	..	1998	15.6
Venezuela, RB	47	46	47	4	0	1999	23.6	18.2	1998	38.1
Vietnam	..	..	..	22	5	1998	8.4	10.0	1998	83.5
West Bank and Gaza	..	..	..	..	..		..	..		..
Yemen, Rep.	..	..	..	26	19		..	..	1997	57.1
Yugoslavia, FR (Serb./Mont.)	..	..	..	0	0		..	..		..
Zambia	..	..	..	19	16	1994	10.2	7.9	1998	48.3
Zimbabwe	..	..	..	37	27		..	..	1999	50.1
World				**20 w**	**11 w**					**57.3 w**
Low income				25	18					71.4
Middle income				21	6					52.7
Lower middle income				24	6					54.6
Upper middle income				10	6					46.8
Low & middle income				23	12					61.3
East Asia & Pacific				26	8					60.3
Europe & Central Asia				3	1					28.1
Latin America & Carib.				13	8					54.2
Middle East & N. Africa				14	4					50.6
South Asia				23	15					80.2
Sub-Saharan Africa				35	29					60.6
High income				0	0					35.1
Europe EMU				1	0					26.3

a. Data are for the most recent year available.

About the data

As traditionally defined and measured, poverty is a static concept, and vulnerability a dynamic one. Vulnerability reflects a household's resilience in the face of shocks and the likelihood that a shock will lead to a decline in well-being. It is therefore primarily a function of a household's asset endowment and insurance mechanisms. Because poor people have fewer assets and less diversified sources of income than the better-off, fluctuations in income affect them more.

Poor households face many risks, and vulnerability is thus multidimensional. The indicators in the table focus on individual risks—informal sector employment, child labor, income insecurity in old age—and the extent to which publicly provided services may be capable of mitigating some of these risks. Poor people face labor market risks, often having to take up precarious, low-quality jobs in the informal sector and to increase their household's labor market participation through their children. Income security is a prime concern for the elderly. And affordable access to health care is a primary concern for all poor people, for whom illness and injury have both direct and opportunity costs.

For informal sector employment the most common sources of data are labor force and special informal sector surveys, based on a mixed household and enterprise survey approach or an economic or establishment census approach. Other sources include multipurpose household surveys, household income and expenditure surveys, surveys of household industries or economic activities, small and micro enterprise surveys, and official estimates. The international comparability of the data is affected by differences among countries in definitions and coverage and in the treatment of domestic workers and those who have a secondary job in the informal sector. The data in the table are based on national definitions of urban areas established by countries. For details on country definitions see the notes in the data source.

Reliable estimates of child labor are hard to obtain. In many countries child labor is officially presumed not to exist and so is not included in surveys or in official data. Underreporting also occurs because data exclude children engaged in agricultural or household activities with their families. Most child workers are in Asia. But the share of children working is highest in Africa, where, on average, one in three children ages 10–14 is engaged in some form of economic activity, mostly in agriculture (Fallon and Tzannatos 1998). Available statistics suggest that more boys than girls work. But the number of girls working is often underestimated because surveys exclude those working as unregistered domestic help or doing full-time household work to enable their parents to work outside the home.

Data on pension contributors come from national sources, the International Labour Organization, and International Monetary Fund country reports. Coverage by pension schemes may be broad or even universal where eligibility is determined by citizenship, residency, or income status. In contribution-related schemes, however, eligibility is usually restricted to individuals who have made contributions for a minimum number of years. Definitional issues—relating to the labor force, for example—may arise in comparing coverage by contribution-related schemes over time and across countries (for country-specific information see Palacios and Pallares-Miralles 2000). Coverage may be overstated in countries that do not attempt to count informal sector workers as part of the labor force.

Total expenditure on health in a country can be divided into two main categories by source of funding: public and private. Public health expenditure consists of spending by central and local governments, including social health insurance funds. Private health expenditure includes private insurance, direct out-of-pocket payments by households, and spending by non-profit institutions serving households, and private corporations. In countries where the proportion of out-of-pocket private expenditure is large, lower-income households may be particularly vulnerable to the impoverishing effects of necessary health care.

Definitions

• **Urban informal sector employment** is broadly characterized as employment in units in urban areas that produce goods or services on a small scale with the primary objective of generating employment and income for those concerned. These units typically operate at a low level of organization, with little or no division between labor and capital as factors of production. Labor relations are based on casual employment, kinship, or social relationships rather than contractual arrangements. • **Children 10–14 in the labor force** refer to the share of that age group active in the labor force. • **Pension contributors** refer to the share of the labor force or working-age population (here defined as ages 20–59) covered by a pension scheme. • **Private health expenditure** includes direct household (out-of-pocket) spending, private insurance, spending by non-profit institutions serving households (other than social insurance), and direct service payments by private corporations.

Data sources

The data on urban informal sector employment are from the International Labour Organization (ILO) database Key Indicators of the Labour Market (2001-02 issue). The child labor force participation rates are from the ILO database Estimates and Projections of the Economically Active Population, 1950–2010. The data on pension contributors are drawn from Robert Palacios and Montserrat Pallares-Miralles's "International Patterns of Pension Provision" (2000). For updates and further notes and sources go to the World Bank's Web site on pensions (www.worldbank.org/pensions). The data on private health expenditure for developing countries are largely from the World Health Organization's *World Health Report 2000* and *World Health Report 2001,* from household surveys and from World Bank poverty assessments and sector studies. The data on private health expenditure for member countries of the Organisation for Economic Co-operation and Development (OECD) are from the OECD.

2.10 | Enhancing security

	Public expenditure on pensions				Public expenditure on health		Public expenditure on education[a]	
	Year	% of GDP	Year	Average pension % of per capita income	Year	% of GDP	% of GDP 1998	Per student % of GDP per capita 1998
Afghanistan		..		..		..	..	..
Albania	1995	5.1		..	1999	2.0	..	..
Algeria	1997	2.1	1991	75.0	1998	2.6	6.0	22.2
Angola	..	..		..		..	2.6	19.1
Argentina	1994	6.2		..	1999	2.4	..	14.7
Armenia	1996	3.1	1996	18.7	1999	4.0	2.0	..
Australia	1997	5.9	1989	37.3	1998	6.0	4.8	..
Austria	1997	14.4	1993	69.3	1999	5.9	6.3	36.5
Azerbaijan	1996	2.5	1996	51.4	1999	1.0	3.4	15.1
Bangladesh	1992	0.0		..	1998	1.7	..	..
Belarus	1997	7.7	1995	31.2	1998	4.6	5.6	..
Belgium	1997	12.9		..	1999	6.3	..	..
Benin	1993	0.4	1993	189.7	1998	1.6	2.6	13.8
Bolivia	1995	2.5		..	1998	4.1	..	..
Bosnia and Herzegovina		..		..	1999	8.0	..	..
Botswana		..		..	1998	2.5	9.1	30.1
Brazil	1996	4.9		..	1999	2.9	4.6	16.1
Bulgaria	1996	7.3	1995	39.3	1999	3.9	3.4	..
Burkina Faso	1992	0.3	1992	207.3	1999	1.5	3.0	..
Burundi	1991	0.2	1991	57.4	1998	0.6	3.9	39.9
Cambodia		..		..	1998	0.6	5.5	26.0
Cameroon	1993	0.4		..	1998	1.0	2.6	13.7
Canada	1997	5.4	1994	54.3	1999	6.6	5.6	27.6
Central African Republic	1990	0.3		..	1998	2.0	1.9	..
Chad	1997	0.1		..	1998	2.3	1.7	..
Chile	1993	5.8	1993	56.1	1998	2.7	3.7	15.5
China	1996	2.7		..	1999	2.1	..	..
Hong Kong, China		..		..	1996	2.1	..	..
Colombia	1994	1.1	1989	72.2	1998	5.2	..	..
Congo, Dem. Rep.		..		..		..	..	..
Congo, Rep.	1992	0.9		..	1998	2.0	4.7	..
Costa Rica	1996	3.8	1993	76.1	1998	5.2	6.0	..
Côte d'Ivoire	1997	0.3		..	1998	1.2	4.2	24.3
Croatia	1997	11.6		..	1999	9.5	..	..
Cuba	1992	12.6		..	1994	8.3	..	..
Czech Republic	1999	9.8	1996	37.0	1999	6.6	4.2	23.8
Denmark	1997	8.8	1994	46.7	1999	6.9	8.2	44.3
Dominican Republic		..		..	1998	1.9	..	..
Ecuador	1997	1.0		..	1998	1.7	..	..
Egypt, Arab Rep.	1994	2.5	1994	45.0	1997	1.8	..	..
El Salvador	1996	1.3		..	1998	2.6	..	..
Eritrea		..		..	1997	2.9	5.0	51.3
Estonia	1995	7.0	1995	56.7	1999	5.1	6.8	32.8
Ethiopia	1993	0.9		..	1999	1.3	4.3	41.6
Finland	1997	12.1	1994	57.4	1999	5.2	..	..
France	1997	13.4		..	1999	7.3	5.9	28.9
Gabon		..		..	1998	2.1	3.3	10.8
Gambia, The		..		..	1999	2.3	4.8	..
Georgia	2000	2.7	1996	12.6	1999	0.8	..	..
Germany	1997	12.1	1995	62.8	1999	7.9	4.6	27.2
Ghana	1993	0.1		..	1999	1.7	4.0	..
Greece	1993	11.9	1990	85.6	1998	4.7	..	..
Guatemala	1995	0.7	1995	27.6	1998	2.1	2.0 [b]	..
Guinea		..		..	1998	2.3	1.8	..
Guinea-Bissau		..		..	1994	1.1	..	..
Haiti		..		..	1998	1.4	..	..
Honduras	1994	0.6		..	1998	3.9	4.0	..

	Public expenditure on pensions				Public expenditure on health		Public expenditure on education[a]	
	Year	% of GDP	Year	Average pension % of per capita income	Year	% of GDP	% of GDP 1998	Per student % of GDP per capita 1998
Hungary	1996	9.7	1996	33.6	1998	5.2	4.6	25.8
India		..		..	1997	0.8	..	..
Indonesia		..		..	1999	0.8	1.4	..
Iran, Islamic Rep.	1994	1.5		..	1998	1.7	4.6	..
Iraq		..		..	1998	3.8	..	..
Ireland	1997	4.6	1993	77.9	1998	5.2	4.5	17.4
Israel	1996	5.9	1992	48.1	1998	6.0	7.7	29.7
Italy	1997	17.6		..	1999	5.6	4.7	29.8
Jamaica	1996	0.3	1989	25.9	1998	3.1	6.3	28.7
Japan	1997	6.9	1989	33.9	1998	5.7	3.5	21.3
Jordan	1995	4.2	1995	144.0	1998	3.6	..	..
Kazakhstan	1997	5.0	1996	18.8	1999	2.7	..	..
Kenya	1993	0.5		..	1998	2.4	6.6	28.2
Korea, Dem. Rep.		..		..		..	..	..
Korea, Rep.	1997	1.3		..	1999	2.4	4.1	..
Kuwait	1990	3.5		..	1997	2.9	6.5	29.9
Kyrgyz Republic	1997	6.4	1994	35.0	1999	2.2	5.4	21.1
Lao PDR		..		..	1998	1.2	2.4	11.2
Latvia	1995	10.2	1994	47.6	1999	4.0	6.8	35.0
Lebanon		..		..	1998	2.2	2.1	9.8
Lesotho		..		..	1995	3.4	13.0	57.9
Liberya		..		..		..	..	..
Libya		..		..		..	..	..
Lithuania	1998	7.3	1995	21.3	1998	4.8	6.4	32.2
Macedonia, FYR	1998	8.7	1996	91.6	1998	5.3	..	..
Madagascar	1990	0.2		..	1998	1.1	1.9	11.4
Malawi		..		..	1998	2.8	4.6	..
Malaysia	1999	6.5		..	1998	1.4	..	..
Mali	1991	0.4		..	1998	2.1	3.0	25.8
Mauritania	1992	0.2		..	1998	1.4	4.3	25.6
Mauritius	1999	4.4		..	1998	1.8	4.0	19.5
Mexico	1997	4.6		..	1998	2.6	..	15.9
Moldova	1996	7.5		..	1999	2.9	..	..
Mongolia		..		..	1995	4.7	..	..
Morocco	1994	1.8	1994	118.0	1998	1.2	..	..
Mozambique	1996	0.0		..	1998	2.8	2.9	22.6
Myanmar		..		..	1998	0.2	..	..
Namibia		..		..	1999	3.3	8.1	26.8
Nepal		..		..	1998	1.3	2.5	11.0
Netherlands	1997	11.1	1989	48.5	1999	6.0	4.9	24.8
New Zealand	1997	6.5		..	1999	6.3	7.2	..
Nicaragua	1996	4.3		..	1998	8.5	4.2	..
Niger	1992	0.1		..	1998	1.2	2.7	..
Nigeria	1991	0.1	1991	40.5	1998	0.8	..	..
Norway	1997	8.2	1994	49.9	1999	7.0	7.7	34.8
Oman		..		..	1998	2.9	3.9	..
Pakistan	1993	0.9		..	1999	0.7	..	..
Panama	1996	4.3		..	1998	4.9	..	..
Papua New Guinea		..		..	1998	2.5	..	..
Paraguay		..		..	1998	1.7	4.5	..
Peru	1996	1.2		..	1998	2.4	3.2	11.0
Philippines	1993	1.0		..	1999	1.6	3.2	..
Poland	1997	15.5	1995	61.2	1999	4.7	5.4	..
Portugal	1997	10.0	1989	44.6	1998	5.1	5.7	27.9
Puerto Rico		..		..		..	..	..
Romania	1996	5.1	1994	34.1	1999	3.8	4.4	..
Russian Federation	1996	5.7	1995	18.3	1997	4.6	..	..

	Public expenditure on pensions				Public expenditure on health		Public expenditure on education[a]	
	Year	% of GDP	Year	Average pension % of per capita income	Year	% of GDP	% of GDP 1998	Per student % of GDP per capita 1998
Rwanda		..		..	1998	2.0	..	..
Saudi Arabia		..		..	1997	6.4	..	..
Senegal	1998	1.5		..	1998	2.6	3.5	24.1
Sierra Leone		..		..	1998	0.9	1.0	..
Singapore	1996	1.4		..	1998	1.2	..	..
Slovak Republic	1994	9.1	1994	44.5	1998	5.7	4.3	20.7
Slovenia	1996	13.6	1996	49.3	1998	6.7	5.8	29.3
Somalia		..		..		..	..	..
South Africa		..		..	1998	3.3	6.1	19.6
Spain	1997	10.9	1995	54.1	1998	5.4	4.5	23.3
Sri Lanka	1996	2.4		..	1999	1.7	..	..
Sudan		..		..	1997	0.7	3.7	30.1
Swaziland		..		..	1998	2.5	6.1	21.9
Sweden	1997	11.1	1994	78.0	1998	6.6	8.0	34.2
Switzerland	1997	13.4	1993	44.4	1998	7.6	5.5	31.7
Syrian Arab Republic	1991	0.5		..	1998	0.9	..	..
Tajikistan	1996	3.0		..	1998	5.2	..	..
Tanzania		..		..	1998	1.3	2.1	..
Thailand		..		..	1998	1.9	4.7	20.0
Togo	1997	0.6	1993	178.8	1998	1.3	4.5	15.8
Trinidad and Tobago	1996	0.6		..	1998	2.5	..	..
Tunisia	1991	2.6	1991	89.5	1998	2.2	7.6	26.5
Turkey	1997	4.5	1993	112.7	1999	3.3	..	..
Turkmenistan	1996	2.3		..	1998	4.1	..	..
Uganda	1997	0.8		..	1998	1.9	1.6	4.6
Ukraine	1996	8.6	1995	30.9	1999	2.9	4.4	25.6
United Arab Emirates		..		..	1998	0.8	1.9	10.7
United Kingdom	1997	10.3		..	1999	5.8	4.7	18.8
United States	1997	7.5	1989	33.0	1999	5.7	5.0	22.5
Uruguay	1996	15.0	1996	64.1	1998	1.9	2.5	11.4
Uzbekistan	1995	5.3	1995	45.8	1998	3.4	..	..
Venezuela, RB	1990	0.5		..	1998	2.6	..	..
Vietnam	1998	1.6		..	1998	0.8	..	..
West Bank and Gaza		..		..	1996	4.9	..	..
Yemen, Rep.	1994	0.1		..	1997	2.4	6.7	31.5
Yugoslavia, FR (Serb./Mont.)		..		..		..	4.2	31.5
Zambia	1993	0.1		..	1998	3.6	2.3	12.0
Zimbabwe		..		..	1999	3.0	10.8	..
World						**5.3 w**	**4.5 m**	**24.3 m**
Low income						0.9	3.4	24.1
Middle income						2.9	4.5	..
Lower middle income						2.7	..	..
Upper middle income						3.2	4.2	17.8
Low & middle income						2.5	4.1	22.2
East Asia & Pacific						1.8	..	..
Europe & Central Asia						4.4	4.4	25.7
Latin America & Carib.						2.8	..	..
Middle East & N. Africa						2.9	..	..
South Asia						0.9	..	..
Sub-Saharan Africa						2.0	3.6	23.4
High income						6.0	5.6	28.4
Europe EMU						6.7	4.8	27.6

a. Break in series between 1997 and 1998 due to change from ISCED76 to ISCED97. b. Data refer to 1999.

About the data

Enhancing security for poor people means reducing their vulnerability to such risks as ill health, providing them the means to manage risk themselves, and strengthening market or public institutions for managing risk. The tools include microfinance programs, old age assistance and pensions, and public provision of basic health care and education.

Public interventions and institutions can provide services directly to poor people, although whether these work well for the poor is debated. State action is often ineffective, in part because governments can influence only a few of the many sources of well-being and in part because of difficulties in delivering goods and services. The effectiveness of public provision is further constrained by the fiscal resources at governments' disposal and the fact that state institutions may not be responsive to the needs of poor people.

Data on public pension spending are from national sources and cover all government expenditures, including the administrative costs of pension programs. They cover noncontributory pensions or social assistance targeted to the elderly and disabled and spending by social insurance schemes for which contributions had previously been made. The pattern of spending in a country is correlated with its demographic structure—spending increases as the population ages.

The lack of consistent national health accounting systems in most developing countries makes cross-country comparisons of health spending difficult. Compiling estimates of public health expenditures is complicated in countries where state or provincial and local governments are involved in health care financing and delivery because the data on public spending often are not aggregated. The data in the table are the product of an effort to collect all available information on health expenditures from national and local government budgets, national accounts, household surveys, insurance publications, international donors, and existing tabulations.

The data on education spending in the table refer solely to public spending—government spending on public education plus subsidies for private education. The data generally exclude foreign aid for education. They may also exclude spending by religious schools, which play a significant role in many developing countries. Data for some countries and for some years refer to spending by the ministry of education only (excluding education expenditures by other ministries and departments, local authorities, and so on). The share of gross domestic product (GDP) devoted to education can be interpreted as reflecting a country's effort in education. It often bears a weak relationship to measures of output of the education system, as reflected in educational attainment. The pattern in this relationship suggests wide variations across countries in the efficiency with which the government's resources are translated into education outcomes.

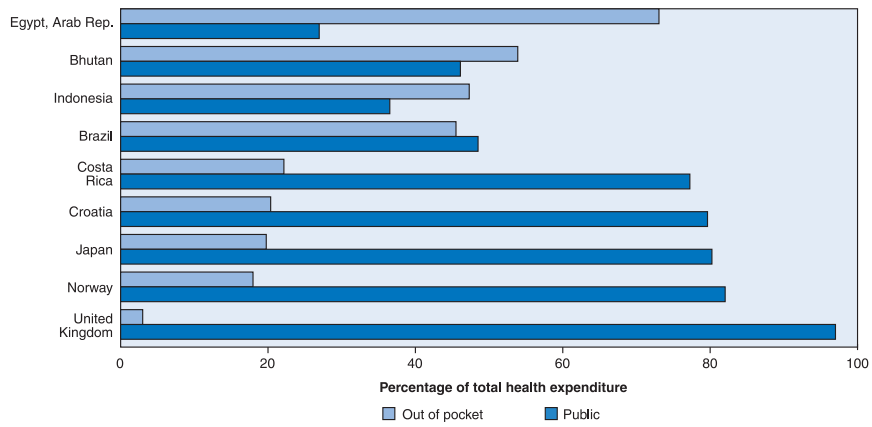
Definitions

• **Public expenditure on pensions** includes all government expenditures on cash transfers to the elderly, the disabled, and survivors and the administrative costs of these programs. • **Average pension** is estimated by dividing total pension expenditure by the number of pensioners. • **Public expenditure on health** consists of recurrent and capital spending from government (central and local) budgets and social (or compulsory) health insurance funds. • **Public expenditure on education** consists of public spending on public education plus subsidies to private education at the primary, secondary, and tertiary levels.

Data sources

The data on pension spending are drawn from Robert Palacios and Montserrat Pallares-Miralles's "International Patterns of Pension Provision" (2000). For updates and further notes and sources go to the World Bank's Web site on pensions (www.worldbank.org/pensions). The estimates of health expenditure come from the World Health Organization's *World Health Report 2000* and *World Health Report 2001,* from the Organisation for Economic Co-operation and Development for its member countries, from National Health Accounts of a country, from the web site *The European Observatory on Health Care Systems* (www.observatory.dk), supplemented by World Bank country and sector studies, including the Human Development Network's *Sector Strategy: Health, Nutrition, and Population* (World Bank 1997a). Data are also drawn from World Bank public expenditure reviews, the International Monetary Fund's Government Finance Statistics database, and other studies. The data on education expenditure are from the UNESCO Institute for Statistics.

Figure 2.10



Source: WHO, *World Health Report 2000.*

Out-of-pocket payments are generally regressive because they have the potential not only to impoverish people but also to deter the poor from obtaining care. Exempting the poor from user fees at public facilities, or imposing a sliding scale, based on socioeconomic characteristics, are attempts to reduce the risks associated with out-of-pocket payments. However, such schemes require relatively high administrative costs to distinguish users, and may end up affecting only a small amount of total risk-related payments.

2.11 | Education inputs

	Expenditure per student						Expenditure on teachers' compensation		Primary teachers with required academic qualifications	Primary pupil-teacher ratio[b]
	Primary % of GDP per capita		Secondary % of GDP per capita		Tertiary % of GDP per capita		% of total current education expenditure		% of total	pupils per teacher
	1980	1997	1980	1997	1980	1997	1980	1997	1992-98[a]	1998
Afghanistan	10.8	..	46.7	..	..	..	46.8	..	18	..
Albania	..	..	..	..	..	..	..	..	..	..
Algeria	8.7	..	23.2	..	..	..	63.6	*74.3* [c]	93	28
Angola	..	..	..	..	..	..	..	..	..	..
Argentina	..	*9.0*	11.0	*16.2*	29.8	..	..	*84.1*	..	21
Armenia	..	..	..	..	..	*26.3*	..	..	89	..
Australia	..	*14.0*	42.5	*15.8*	48.8	*27.9*	..	*54.1* [d]	..	..
Austria	15.4	*21.4*	19.6	*24.4*	36.7	*34.8*	53.1	*61.7*	..	13
Azerbaijan	..	*21.6*	..	..	..	*17.3*	..	..	100	19
Bangladesh	..	..	9.3	..	33.9	..	33.5	..	68	59
Belarus	..	*45.8*	..	*28.6*	..	*17.7*	..	..	100	..
Belgium	..	8.5	32.4	*13.5*	50.3	17.6	73.0	*73.6* [e]	..	..
Benin	..	*11.6*	..	..	..	*244.2*	..	..	100	53
Bolivia	..	*10.9*	..	..	..	*53.3*	..	..	64	..
Bosnia and Herzegovina	..	..	..	..	..	..	..	..	84	..
Botswana	..	..	..	..	..	..	*54.9*	..	..	28
Brazil	..	*11.0*	..	..	..	..	..	..	83	33
Bulgaria	17.2	*29.6*	..	..	50.5	*16.7*	..	..	99	18
Burkina Faso	..	..	102.9	..	2,938.5	..	61.0	*67.8*	100	49
Burundi	..	..	..	..	..	..	*74.3*	..	..	46
Cambodia	..	..	..	..	..	..	..	..	91	48
Cameroon	..	..	..	..	..	..	*65.4*	..	*90*	52
Canada	..	..	..	..	37.7	..	52.2	..	..	18
Central African Republic	..	..	23.9	..	938.8	..	..	..	..	99
Chad	..	*6.3*	..	*24.0*	..	*234.5*	..	*64.4*	..	68
Chile	9.2	*10.5*	15.7	*11.4*	107.8	*19.9*	76.8	..	96	27
China	3.8	*6.5*	12.4	*11.5*	246.2	*65.3*	..	..	95	21
Hong Kong, China	..	*7.8*	8.2	*12.6*	..	..	72.9	..	..	..
Colombia	5.2	..	7.7	*10.3*	43.6	*30.1*	*93.4*	*82.0* [f]	*90*	23
Congo, Dem. Rep.	..	..	..	..	..	..	..	..	..	26
Congo, Rep.	..	*10.7*	15.4	*5.7*	334.4	..	70.8	..	100	61
Costa Rica	..	..	24.5	*17.9*	72.4	..	50.2	..	86	..
Côte d'Ivoire	..	..	..	..	357.4	..	..	..	..	43
Croatia	..	..	..	..	..	..	..	..	94	..
Cuba	..	*16.3*	..	*34.0*	..	*98.2*	38.8	..	100	13
Czech Republic	..	*13.0*	..	*20.8*	..	*33.7*	..	*44.4*	..	18
Denmark	..	*24.1*	11.0	*34.2*	48.7	*49.2*	49.3	*43.1*	..	10
Dominican Republic	..	..	5.8	*4.7*	..	*9.3*	62.2	..	..	37
Ecuador	..	..	12.5	*15.0*	23.0	*34.4*	77.4	..	83	27
Egypt, Arab Rep.	..	..	..	..	54.1	..	..	..	100	23
El Salvador	..	*7.0*	13.9	*5.5*	138.4	*7.7*	..	..	..	..
Eritrea	..	*11.1*	..	*11.9*	..	..	..	..	..	47
Estonia	..	..	..	*45.2*	..	*37.9*	..	..	..	16
Ethiopia	..	*26.5*	..	*71.2*	..	*862.6*	*68.4*	..	..	..
Finland	..	*21.9*	21.2	*26.2*	35.9	*43.5*	50.5	*47.7*	..	17
France	11.7	*15.8*	19.7	*26.4*	28.6	*27.6*	68.1	..	..	19
Gabon	..	..	..	..	..	..	..	..	56	44
Gambia, The	18.4	*13.5*	43.2	*29.0*	..	..	..	..	100	33
Georgia	..	..	..	..	..	..	..	..	94	17
Germany	..	..	..	..	..	*37.0*	..	..	..	17
Ghana	..	..	10.3	..	..	..	60.0	..	..	..
Greece	..	..	..	*15.0*	..	*22.1*	*84.8*	..	..	14
Guatemala	..	*6.1*	..	*5.1*	..	*30.7*	..	*62.8*	..	38
Guinea	..	..	..	*27.9*	..	*421.9*	..	..	89	47
Guinea-Bissau	19.0	..	63.5	..	..	..	73.5	..	..	..
Haiti	..	..	12.8	..	128.6	..	66.9	..	86	31
Honduras	..	..	13.8	..	73.2	*59.4*	71.1	*67.8*	100	..

	Expenditure per student						Expenditure on teachers' compensation		Primary teachers with required academic qualifications	Primary pupil-teacher ratio[b]
	Primary % of GDP per capita		Secondary % of GDP per capita		Tertiary % of GDP per capita		% of total current education expenditure		% of total	pupils per teacher
	1980	1997	1980	1997	1980	1997	1980	1997	1992-98[a]	1998
Hungary	13.7	*17.9*	25.5	*17.6*	83.8	*30.4*	45.2	..	..	11
India	..	*8.4*	15.1	*16.4*	83.3	*92.5*	..	..	88	72
Indonesia	..	..	..	..	..	*12.3*	..	..	94	..
Iran, Islamic Rep.	22.6	*8.0*	36.4	*10.8*	..	*7.4*	..	*47.4* [g]	38	..
Iraq	..	..	6.5	..	87.5	..	..	..	..	22
Ireland	10.7	*11.6*	22.5	*18.2*	55.6	*30.1*	67.6	*73.6* [h]	100	22
Israel	15.6	..	41.7	..	71.6	..	51.2	..	..	13
Italy	..	*21.7*	..	*27.7*	..	*20.6*	..	*67.3* [h]	..	11
Jamaica	12.7	*11.8*	..	..	185.5	..	65.6	*64.1*	100	31
Japan	14.6	..	16.4	..	20.7	..	49.8	..	..	21
Jordan	..	..	..	..	61.7	*75.8*	70.5	*70.4*	47	..
Kazakhstan	..	..	..	..	..	*21.3*	..	..	98	..
Kenya	..	..	35.2	..	899.2	..	..	..	..	28
Korea, Dem. Rep.	..	..	..	..	..	..	..	..	100	..
Korea, Rep.	..	*17.4*	9.1	*11.9*	15.7	*5.5*	*69.2*	..	*100*	..
Kuwait	..	*23.6*	..	*6.6*	43.8	*102.6*	46.5	..	100	..
Kyrgyz Republic	..	..	..	*39.7*	..	*48.2*	..	..	95	24
Lao PDR	..	*6.5*	..	*13.9*	..	*61.0*	..	67.1	87	31
Latvia	..	..	16.1	*51.3*	13.6	*33.1*	..	*40.5*	80	15
Lebanon	..	..	..	..	..	*23.1*	..	..	..	14
Lesotho	12.7	*18.1*	107.3	*70.4*	1,500.8	*1,022.3*	*60.9*	*57.6*	*79*	25
Liberia	..	..	..	..	..	..	..	..	90	39
Libya	..	..	..	..	..	..	..	..	..	8
Lithuania	..	..	..	*27.8*	..	*41.9*	..	..	..	17
Macedonia, FYR	..	..	..	*24.2*	..	*61.5*	..	..	100	22
Madagascar	..	..	..	..	397.9	..	81.8	..	..	47
Malawi	7.0	*8.2*	89.2	*25.4*	1,685.7	*1,492.0*	*43.4*	..	..	..
Malaysia	..	*10.7*	20.5	*17.2*	140.9	*53.6*	57.5	*58.6*	..	22
Mali	29.6	*13.3*	87.3	*28.5*	..	*369.4*	51.0	..	..	62
Mauritania	28.8	*10.1*	167.6	*56.1*	..	*191.2*	..	..	..	47
Mauritius	..	*9.7*	20.2	*15.3*	337.1	*140.6*	31.4	..	100	26
Mexico	4.2	..	10.0	..	25.5	..	..	..	84	27
Moldova	..	..	..	..	..	*60.6*	..	..	..	..
Mongolia	..	..	..	..	95.5	*45.9*	..	..	97	32
Morocco	..	..	53.6	*43.1*	150.3	*67.5*	..	*78.0*	..	28
Mozambique	..	..	..	..	..	..	..	..	..	61
Myanmar	..	..	..	..	..	..	..	..	..	31
Namibia	..	..	..	*34.7*	..	*103.4*	..	..	25	32
Nepal	..	*9.3*	..	*12.1*	274.9	*110.7*	59.2	..	96	39
Netherlands	13.2	*14.1*	22.3	*20.6*	70.1	*45.8*	73.5	..	..	..
New Zealand	14.7	*16.6*	13.4	*22.1*	58.5	*42.4*	82.7	..	..	..
Nicaragua	..	*12.6*	..	*6.4*	..	..	66.7	..	63	..
Niger	..	..	..	*81.0*	..	..	..	..	..	41
Nigeria	..	..	..	..	..	..	..	..	90	..
Norway	..	*27.6*	14.5	*18.7*	37.1	*45.1*	..	..	..	..
Oman	..	*8.9*	..	*16.4*	..	*30.1*	..	..	..	25
Pakistan	..	..	17.1	..	..	..	..	..	99	32
Panama	..	..	10.2	*11.2*	26.5	*39.2*	65.3	..	100	..
Papua New Guinea	..	..	..	..	..	..	..	..	100	36
Paraguay	..	*10.9*	..	*12.0*	..	*90.6*	..	..	59	20
Peru	6.9	*4.8*	8.0	*7.3*	4.7	*16.4*	59.4	*40.1*	74	25
Philippines	..	*9.3*	4.2	*9.8*	13.7	*14.8*	..	..	100	..
Poland	..	*16.7*	..	*15.9*	..	*25.4*	..	..	..	..
Portugal	..	*18.7*	19.2	*20.8*	34.4	*23.7*	..	..	98	..
Puerto Rico	..	..	..	..	..	..	..	..	..	..
Romania	..	*19.9*	..	*8.7*	..	*31.3*	..	..	23	19
Russian Federation	..	..	..	..	..	..	..	..	..	..

2.11 | Education inputs

	Expenditure per student						Expenditure on teachers' compensation		Primary teachers with required academic qualifications	Primary pupil-teacher ratio[b]
	Primary % of GDP per capita		Secondary % of GDP per capita		Tertiary % of GDP per capita		% of total current education expenditure		% of total	pupils per teacher
	1980	1997	1980	1997	1980	1997	1980	1997	1992-98[a]	1998
Rwanda	11.1	..	112.4	..	902.7	..	74.8	..	47	54
Saudi Arabia	..	..	..	..	109.5	*58.1*	..	..	100	12
Senegal	..	..	68.5	*63.8*	432.5	..	..	..	99	49
Sierra Leone	..	..	..	..	..	..	..	..	..	..
Singapore	..	..	12.4	..	41.5	*34.1*	47.5	..	..	25
Slovak Republic	..	*21.8*	..	*9.7*	..	*29.3*	..	*37.9*	79	19
Slovenia	..	*20.6*	..	*24.6*	..	*37.9*	..	*62.2*	..	14
Somalia	..	..	..	..	..	..	..	..	..	..
South Africa	..	..	..	..	..	..	..	*64.5* [c]	..	37
Spain	..	*16.4*	..	*21.1*	..	*16.8*	..	..	..	15
Sri Lanka	..	..	..	..	..	*84.2*	..	..	100	..
Sudan	..	*45.6*	601.0	*38.0*	..	..	..	..	..	26
Swaziland	..	*8.6*	35.3	*23.0*	139.5	*229.8*	*86.3*	..	*100*	33
Sweden	41.7	*26.2*	14.0	*31.4*	33.9	*66.6*	*46.4*	..	..	12
Switzerland	..	*20.1*	31.0	*30.3*	60.8	*47.4*	61.0	*59.9*	..	13
Syrian Arab Republic	..	..	15.1	*14.6*	74.7	..	57.8	..	..	23
Tajikistan	..	..	..	..	..	..	..	..	..	..
Tanzania	..	..	..	..	..	..	..	..	..	38
Thailand	8.8	*11.9*	9.8	*10.5*	59.7	*25.4*	80.3	*56.8* [g]	84	21
Togo	7.7	*8.8*	..	*24.8*	828.7	*455.1*	68.3	*74.2*	..	41
Trinidad and Tobago	..	*4.8*	12.4	..	56.4	..	73.2	..	100	21
Tunisia	..	..	36.4	*20.8*	188.1	*75.0*	81.3	*77.0*	..	24
Turkey	..	..	8.7	..	96.3	..	..	..	100	..
Turkmenistan	..	..	..	..	..	..	..	..	..	..
Uganda	..	..	..	..	..	..	..	..	..	60
Ukraine	2.1	..	1.2	..	2.0	*22.4*	..	..	..	..
United Arab Emirates	..	..	..	..	..	..	..	30.2	..	16
United Kingdom	..	*17.2*	22.2	*20.1*	80.1	*39.9*	52.1	*41.0* [i]	..	19
United States	..	..	17.3	..	47.8	..	..	..	..	15
Uruguay	8.9	..	13.6	*9.3*	27.0	*21.3*	56.9	*41.5*	100	21
Uzbekistan	..	..	..	..	..	..	..	..	..	..
Venezuela, RB	5.8	*2.1*	..	*4.7*	71.4	..	68.8	..	..	..
Vietnam	..	*7.3*	..	..	..	*86.1*	..	66.0	77	30
West Bank and Gaza	..	..	..	..	..	..	..	..	..	..
Yemen, Rep.	..	..	..	..	..	..	..	..	74	30
Yugoslavia, Fed. Rep.	..	..	..	..	..	*71.1*	..	..	..	17
Zambia	9.8	*4.7*	56.4	..	..	..	52.6	..	71	45
Zimbabwe	19.5	*19.3*	103.8	*34.6*	326.8	..	75.2	*91.1*	100	..
W orld	**.. m**	**.. m**	**.. m**	**.. m**	**.. m**	**.. m**	**64.5 m**	**62.0 m**	**89 m**	**25 w**
Low income	..	..	..	..	..	..	66.7	67.5	88	42
Middle income	..	..	..	..	66.5	*40.8*	65.3	58.6	91	22
Lower middle income	..	..	..	..	..	*38.1*	65.6	64.1	91	22
Upper middle income	..	..	..	..	71.4	..	61.4	47.8	87	28
Low & middle income	..	..	..	..	..	..	65.5	64.4	89	38
East Asia & Pacific	..	*8.3*	..	..	..	*42.4*	69.2	62.3	94	23
Europe & Central Asia	..	..	..	..	..	*31.3*	45.2	40.5	..	..
Latin America & Carib.	..	..	12.4	*8.4*	56.4	..	66.7	57.0	84	28
Middle East & N. Africa	..	..	..	..	87.5	..	67.1	74.3	76	24
South Asia	..	..	16.1	..	83.3	*84.2*	46.4	..	87	66
Sub-Saharan Africa	..	..	..	..	..	..	65.4	67.8	..	..
High income	..	*18.7*	19.6	*20.4*	45.8	*36.9*	52.6	57.3	..	17
Europe EMU	..	..	..	..	..	..	67.9	67.4	..	16

a. Data are for the most recent year available. b. Break in series between 1997 and 1998 due to change from ISCED76 to ISCED97. c. Not including tertiary education. d. Not including preprimary education. e. Flemish Community only. f. Ministry of Education only. g. Not including expenditure on universities. h. Data refer to expenditure on public institutions only. i. Not including expenditure on independent private institutions.

About the data

Data on education are compiled by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) from official responses to surveys and from reports provided by education authorities in each country. Such data are used for monitoring, policymaking, and resource allocation. For a variety of reasons, however, education statistics generally fail to provide a complete and accurate picture of a country's education system. Statistics often have two to three years' time lag, but an effort is being made to shorten the delay. Coverage and data collection methods vary across countries and over time within countries and should be interpreted with caution. (For further discussion of the reliability of education data see Behrman and Rosenzweig 1994.)

The data on education spending in the table refer solely to public spending—government spending on public education plus subsidies for private education. The data generally exclude foreign aid for education. They may also exclude spending by religious schools, which play a significant role in many developing countries. Data for some countries and for some years refer to spending by the ministry of education only (excluding education expenditures by other ministries and departments and local authorities).

Many developing countries have sought to supplement public funds for education. Some countries have adopted tuition fees to recover part of the cost of providing education services or to encourage development of private schools. Charging fees raises difficult questions relating to equity, efficiency, access, and taxation, however, and some governments have used scholarships, vouchers, and other methods of public finance to counter this criticism. Data for a few countries include private spending, although national practices vary with respect to whether parents or schools pay for books, uniforms, and other supplies. For greater detail see the country- and indicator-specific notes in the source.

Well-trained and motivated teachers are a critical input to education, but they come at a cost: teachers' compensation (gross salaries and other benefits) typically accounts for two-thirds of education spending. Teachers are defined here as including both full- and part-time teaching staff. Teachers assigned to nonteaching duties are excluded, but country reporting varies. Comparisons should thus be made with caution.

The share of teachers with required academic qualifications measures the quality of the teaching staff available in primary schools. It does not take account of competencies acquired by teachers through their professional experience or self-instruction, or of such factors as work experience, teaching methods and materials, or classroom conditions, all of which may affect the quality of teaching. The qualifications are specified by the national authorities of each country and may not relate specifically to teaching. Since the indicator is based on minimum national qualifications, which may vary greatly, care should be taken in comparing across countries.

The comparability of pupil-teacher ratios across countries is affected by the definition of teachers and by differences in class size by grade and in the number of hours taught. Moreover, the underlying enrollment levels are subject to a variety of reporting errors (for further discussion of enrollment data see *About the data* for table 2.12). While the pupil-teacher ratio is often used to compare the quality of schooling across countries, it is often weakly related to the value added of schooling systems (Behrman and Rosenzweig 1994).

The International Standard Classification of Education 1976 (ISCED76) was used for two decades as an instrument to assemble, compile and present education statistics. In 1998 ISCED97 was introduced and UNESCO's data collection program and country reporting of education statistics were adjusted to this new classification. The adjustments were made to facilitate the international compilation and comparison of educational statistics as well as to take into account new types of learning opportunities and activities available for both children and adults. Thus the time series data up to 1997 are not consistent with data for 1998 and after. Any time series analysis should therefore be made with extreme caution.

ISCED97 introduced a new level 4, "postsecondary nontertiary education". The students who fall into this category are not counted as either secondary or tertiary even though they are in the education system.

Definitions

• **Expenditure per student** is the public current spending on education divided by the total number of students by level, as a percentage of gross domestic product (GDP) per capita. • **Expenditure on teachers' compensation** is the public expenditure on teachers' gross salaries and other benefits as a percentage of the total public current spending on education. • **Primary teachers with required academic qualifications** refer to the percentage of primary school teachers with at least the minimum academic qualifications required by national public authorities for teaching in primary education. • **Primary pupil-teacher ratio** is the number of pupils enrolled in primary school divided by the number of primary school teachers (regardless of their teaching assignment).

Data sources

International data on education are compiled by the UNESCO Institute for Statistics in cooperation with national commissions and national statistical services. Data on qualified teachers come from UNESCO's special data collection for the Education for All initiative.

Table 2.11a

Why the break in data? Comparing ISCED76 with ISCED97.

ISCED76

0 Education preceding the first level
1 Education at the first level
2 Education at the second level, first stage
3 Education at the second level, second stage
5 Education at the third level, first stage, of the type that leads to an award not equivalent to a first university degree
6 Education at the third level, first stage, of the type that leads to a first university degree or equivalent
7 Education at the third level, second stage of the type that leads to a post-graduate university degree or equivalent
9 Education not definable by level

ISCED97

0 Pre-primary education
1 Primary education or first stage of basic education
2 Lower secondary or second stage of basic education (2A, 2B and 2C)
3 Upper secondary education (3A, 3B, 3C)
4 Postsecondary non-tertiary education (4A, 4B)
5 First stage of tertiary education not leading directly to an advanced research qualification (5A, 5B)
6 Second stage of tertiary education leading to an advanced research qualification

ISCED97 provides an improved set of definitions and criteria aiming to ensure international comparability in the classification of educational programs by level and field of education. It includes seven levels of education while the earlier version had eight levels. Other differences are that a new level 4 'post-secondary non-tertiary education' has been introduced while level 9 has been deleted.

2.12 | Participation in education

	Gross enrollment ratio[a]							Net enrollment ratio[a, b]			
	Preprimary % of relevant age group	Primary % of relevant age group		Secondary % of relevant age group		Tertiary % of relevant age group		Primary % of relevant age group		Secondary % of relevant age group	
	1998	1980	1998	1980	1998	1980	1998	1980	1998	1980	1998
Afghanistan	..	34	..	10	..	..	..	29	..	..	..
Albania	..	113	..	67	..	5	..	..	..	..	..
Algeria	2	94	109	33	66	6	15	81	94	31	58
Angola	..	175	91	21	16	0 [c]	1	..	57	..	..
Argentina	57	106	120	56	89	22	47	..	107	..	74
Armenia	..	..	..	..	..	..	..	..	..	..	..
Australia	..	112	..	71	..	25	..	102	..	70	..
Austria	80	99	100	93	96	22	50	87	88	..	..
Azerbaijan	19	115	103	95	84	24	22	..	96	..	82
Bangladesh	31	61	122	18	47	3	5	..	104	..	..
Belarus	..	104	..	98	..	39	..	..	..	..	..
Belgium	..	104	..	91	..	26	..	97	..	..	..
Benin	5	67	84	16	21	1	3	..	..	..	16
Bolivia	..	87	..	37	..	15	..	79	97	16	..
Bosnia and Herzegovina	..	..	..	..	..	..	..	..	..	..	..
Botswana	..	91	105	19	77	1	4	76	81	14	57
Brazil	55	98	154	33	83	11	14	80	98	14	..
Bulgaria	63	98	101	84	87	16	43	96	93	73	81
Burkina Faso	2	17	42	3	10	0 [c]	..	15	34	..	9
Burundi	1	26	51	3	7	0 [c]	1	20	38	..	..
Cambodia	6	139	119	..	22	0 [c]	1	..	104	..	20
Cameroon	12	98	90	18	20	2	5	..	..	15	..
Canada	66	99	97	88	105	57	58	..	96	..	94
Central African Republic	..	71	57	14	..	1	2	56	53	..	..
Chad	..	..	67	..	11	..	..	..	55	..	7
Chile	74	109	106	53	85	12	34	..	88	..	70
China	39	113	107	46	62	2	6	..	91	..	50
Hong Kong, China	..	107	..	64	..	10	..	95	..	61	..
Colombia	35	112	112	39	53	9	..	..	87	..	..
Congo, Dem. Rep.	..	92	46	24	18	1	1	..	32	..	12
Congo, Rep.	2	141	57	74	..	5	..	96	..	..	..
Costa Rica	..	105	..	47	..	21	..	89	..	39	..
Côte d'Ivoire	3	75	78	19	23	3	7	..	59	..	..
Croatia	..	..	..	77	..	19	..	..	..	..	..
Cuba	96	106	100	81	79	17	19	95	97	..	75
Czech Republic	90	95	104	99	82	17	26	..	90	..	79
Denmark	93	95	103	105	126	28	55	95	101	88	89
Dominican Republic	34	118	133	42	66	..	..	..	87	..	53
Ecuador	63	117	113	53	56	35	..	..	97	..	46
Egypt, Arab Rep.	10	73	100	50	81	16	39	..	92	..	..
El Salvador	40	75	111	24	50	9	18	..	81	..	37
Eritrea	5	..	53	..	24	..	1	..	34	..	19
Estonia	90	103	101	127	104	25	47	..	96	..	77
Ethiopia	2	37	63	9	17	0 [c]	1	..	35	..	16
Finland	48	96	99	100	121	32	83	..	99	..	95
France	83	111	105	85	111	25	51	100	100	79	94
Gabon	..	..	154	..	55	..	8	..	..	..	..
Gambia, The	26	53	81	11	31	..	..	50	61	..	23
Georgia	28	93	95	109	79	30	34	..	..	..	78
Germany	94	..	105	..	98	..	46	..	87	..	88
Ghana	..	79	..	41	..	2	..	..	..	..	..
Greece	70	103	97	81	96	17	50	96	95	..	86
Guatemala	47	71	102	19	33	8	..	59	83	13	..
Guinea	..	36	59	17	15	5	..	..	46	..	13
Guinea-Bissau	..	68	..	6	..	..	..	47	..	3	..
Haiti	63	77	152	14	..	1	..	38	80	..	..
Honduras	..	98	..	30	..	7	13	78	..	..	..

	Gross enrollment ratio[a]							Net enrollment ratio[a, b]			
	Preprimary % of relevant age group	Primary % of relevant age group		Secondary % of relevant age group		Tertiary % of relevant age group		Primary % of relevant age group		Secondary % of relevant age group	
	1998	1980	1998	1980	1998	1980	1998	1980	1998	1980	1998
Hungary	106	96	103	70	98	14	34	95	82	..	85
India	29	83	100	30	49	5	..	..	..	..	39
Indonesia	..	107	..	29	..	4	..	88	..	..	..
Iran, Islamic Rep.	..	87	..	42	..	..	..	..	..	..	..
Iraq	11	113	88	57	20	9	13	99	80	47	31
Ireland	3	100	141	90	109	18	45	90	104	78	77
Israel	77	95	107	73	89	29	49	..	95	..	85
Italy	95	100	102	72	95	27	47	..	101	..	88
Jamaica	83	103	98	67	90	7	9	96	92	64	79
Japan	83	101	102	93	102	31	44	101	102	93	..
Jordan	20	82	69	59	66	13	..	73	64	53	60
Kazakhstan	14	84	97	93	87	34	23	..	..	..	74
Kenya	39	115	92	20	31	1	1	91	..	..	..
Korea, Dem. Rep.	..	..	..	..	..	..	..	..	..	..	..
Korea, Rep.	..	110	..	78	..	15	..	104	..	70	..
Kuwait	..	102	..	80	..	11	..	85	..	..	..
Kyrgyz Republic	14	116	104	110	86	16	30	..	85	..	..
Lao PDR	7	113	111	21	33	0 [c]	3	..	76	..	27
Latvia	54	102	103	99	87	24	51	..	94	..	83
Lebanon	64	111	110	59	89	30	38	..	78	..	76
Lesotho	20	103	102	18	32	1	2	67	60	13	14
Liberia	48	48	83	22	24	..	7	..	41	..	..
Libya	4	125	153	76	77	8	57	..	..	62	71
Lithuania	50	79	101	114	90	35	41	..	94	..	85
Macedonia, FYR	27	100	103	61	83	28	22	..	96	..	79
Madagascar	..	130	93	..	16	3	2	..	63	..	13
Malawi	..	60	..	5	..	0 [c]	0	43	..	..	7
Malaysia	55	93	99	48	98	4	..	..	98	..	93
Mali	2	26	53	8	14	1	2	20	42	..	..
Mauritania	..	37	83	11	18	..	6	..	60	..	..
Mauritius	100	93	108	50	71	1	7	79	93	..	63
Mexico	76	120	114	49	71	14	18	..	102	..	56
Moldova	..	83	..	78	..	30	..	..	..	..	..
Mongolia	24	107	94	92	..	22	25	..	85	..	53
Morocco	69	83	97	26	40	6	9	62	79	20	..
Mozambique	..	99	71	5	9	0 [c]	1	36	41	..	7
Myanmar	3	91	114	22	36	5	..	..	..	..	..
Namibia	..	..	126	..	59	..	7	..	86	..	31
Nepal	..	86	114	22	48	3	3	..	..	..	..
Netherlands	98	100	108	93	125 [d]	29	49	93	100	81	93
New Zealand	..	111	..	83	..	27	..	..	..	81	..
Nicaragua	..	94	..	41	..	12	..	70	..	22	..
Niger	1	25	31	5	7	0 [c]	..	21	26	4	6
Nigeria	..	109	..	18	..	3	..	..	..	..	..
Norway	77	99	102	94	121	25	65	98	102	84	96
Oman	10	51	75	12	67	0 [c]	..	43	66	10	58
Pakistan	8	40	86	14	37	..	..	..	..	..	..
Panama	..	106	..	61	..	21	..	89	..	46	..
Papua New Guinea	20	59	85	12	22	2	2	..	85	..	22
Paraguay	77	106	115	27	51	9	..	89	92	..	42
Peru	60	114	126	59	81	17	29	86	103	..	61
Philippines	..	112	..	64	..	24	28	94	..	45	..
Poland	..	100	..	77	..	18	..	98	..	70	..
Portugal	67	123	124	37	113 [d]	11	45	98	108	..	88
Puerto Rico	..	..	..	..	..	42	..	..	..	..	..
Romania	132	104	103	94	80	12	..	..	94	..	76
Russian Federation	..	102	..	96	..	46	..	..	..	..	..

2.12 Participation in education

	Gross enrollment ratio[a]							Net enrollment ratio[a, b]			
	Preprimary % of relevant age group	Primary % of relevant age group		Secondary % of relevant age group		Tertiary % of relevant age group		Primary % of relevant age group		Secondary % of relevant age group	
	1998	1980	1998	1980	1998	1980	1998	1980	1998	1980	1998
Rwanda	..	63	114	3	9	0 [c]	1	59	91	..	..
Saudi Arabia	5	61	71	29	66	7	19	49	59	21	..
Senegal	3	46	70	11	20	3	4	37	59	..	..
Sierra Leone	..	52	..	14	..	1	..	..	..	..	..
Singapore	..	108	92	60	67	8	..	99	..	..	..
Slovak Republic	80	..	101	..	86	..	27	..	..	..	..
Slovenia	72	98	98	..	99	20	53	..	94	..	89
Somalia	..	21	..	9	..	..	..	16	..	5	..
South Africa	26	90	127	..	104	..	17	..	..	..	..
Spain	75	109	108	87	113	23	56	102	105	74	92
Sri Lanka	..	103	111	55	71	3	..	..	102	..	..
Sudan	24	50	56	16	29	2	7	..	46	..	..
Swaziland	..	103	117	38	56	4	5	80	77	..	35
Sweden	77	97	111	88	161 [d]	31	63	..	103	..	100
Switzerland	89	84	102	94	94	18	35	79	94	78	83
Syrian Arab Republic	9	100	104	46	42	17	6	89	93	39	38
Tajikistan	..	..	..	..	..	24	..	..	..	..	..
Tanzania	..	93	65	3	..	0 [c]	1	68	48	..	4
Thailand	92	99	94	29	88	15	30	..	77	..	55
Togo	3	118	124	33	33	2	4	..	88	..	23
Trinidad and Tobago	12	99	102	69	80	4	6	90	93	..	72
Tunisia	14	102	119	27	73	5	17	82	98	23	55
Turkey	7	96	..	35	70	5	14	..	100	..	..
Turkmenistan	..	..	..	..	..	22	..	..	..	..	..
Uganda	..	50	154	5	16	1	2	..	..	..	9
Ukraine	..	102	..	94	..	42	..	..	..	..	..
United Arab Emirates	73	89	94	52	78	3	13	74	83	..	70
United Kingdom	78	103	102	83	156 [d]	19	58	97	102	79	94
United States	59	99	102	91	97	56	77	..	95	..	90
Uruguay	56	107	113	62	88	17	35	..	92	..	66
Uzbekistan	..	81	..	105	..	28	..	..	..	..	..
Venezuela, RB	..	93	..	21	..	21	..	82	..	14	..
Vietnam	39	109	110	42	61	2	11	95	97	..	49
West Bank and Gaza	..	..	..	..	..	..	..	..	..	..	..
Yemen, Rep.	1	..	78	..	45	..	10	..	61	..	35
Yugoslavia, Fed. Rep.	..	..	..	..	..	..	..	..	..	..	..
Zambia	3	90	86	16	27	1	3	77	73	..	22
Zimbabwe	..	85	..	8	..	1	..	..	..	..	..
World	**37 w**	**97 w**	**104 w**	**49 w**	**60 w**	**13 w**	**.. w**	**.. w**	**.. w**	**.. w**	**.. w**
Low income	25	83	96	29	42	6	..	..	..	..	..
Middle income	41	106	111	52	67	10	12	..	92	..	..
Lower middle income	39	107	106	52	63	9	10	..	91	..	51
Upper middle income	48	102	129	50	81	13	19	..	97	..	..
Low & middle income	34	96	104	41	56	8	..	..	..	..	..
East Asia & Pacific	40	111	107	44	62	4	8	..	91	..	51
Europe & Central Asia	..	99	..	86	..	31	..	..	..	..	..
Latin America & Carib.	60	105	130	42	75	14	20	..	97	..	..
Middle East & N. Africa	17	87	97	42	60	11	22	..	83	..	..
South Asia	27	77	101	27	48	5	..	..	..	..	39
Sub-Saharan Africa	..	80	78	15	..	1	4	..	..	..	..
High income	..	102	..	87	..	36	..	..	..	..	..
Europe EMU	..	106	..	81	..	24	..	..	..	..	..

a. Break in series between 1997 and 1998 due to change from ISCED76 to ISCED97. b. Net enrollment ratios exceeding 100 percent indicate discrepancies between estimates of the school-age population and reported enrollment data. c. Less than 0.5. d. Includes training for the unemployed.

About the data

School enrollment data are reported to the United Nations Educational, Scientific, and Cultural Organization (UNESCO) by national education authorities. Enrollment ratios help to monitor two important issues for universal primary education: an international development goal that implies achieving a net primary enrollment ratio of 100 percent; and gross enrollment ratios that help to assess whether an education system has sufficient capacity to meet the needs of universal primary education. Net enrollment ratios also show the proportion of children of primary school age who are enrolled in school and consequently also the proportion who are not in formal education.

Enrollment ratios, while a useful measure of participation in education, also have significant limitations. They are based on data collected during annual school surveys, which are typically conducted at the beginning of the school year. They do not reflect actual rates of attendance or dropouts during the school year. And school administrators may report exaggerated enrollments, especially if there is a financial incentive to do so. Often the number of teachers paid by the government is related to the number of pupils enrolled. Behrman and Rosenzweig (1994), comparing official school enrollment data for Malaysia in 1988 with gross school attendance rates from a household survey, found that the official statistics systematically overstated enrollment.

Overage or underage enrollments frequently occur, particularly when parents prefer, for cultural or economic reasons, to have children start school at other than the official age. Children's age at enrollment may be inaccurately estimated or misstated, especially in communities where registration of births is not strictly enforced. Parents who want to enroll their underage children in primary school may do so by overstating the age of the children. And in some education systems ages for children repeating a grade may be deliberately or inadvertently underreported.

As an international indicator, the gross primary enrollment ratio has been used to indicate broad levels of participation as well as school capacity. It has an inherent weakness: the length of primary education differs significantly across countries. A short duration tends to increase the ratio and a long duration to decrease it (in part because there are more dropouts among older children).

Other problems affecting cross-country comparisons of enrollment data stem from errors in estimates of school-age populations. Age-gender structures from censuses or vital registration systems, the primary sources of data on school-age populations, are commonly subject to underenumeration (especially of young children) aimed at circumventing laws or regulations; errors are also introduced when parents round up children's ages. While census data are often adjusted for age bias, adjustments are rarely made for inadequate vital registration systems. Compounding these problems, pre-and post-census estimates of school-age children are interpolations or projections based on models that may miss important demographic events (see the discussion of demographic data in *About the data* for table 2.1).

In using enrollment data, it is also important to consider repetition rates, which are quite high in some developing countries, leading to a substantial number of overage children enrolled in each grade and raising the gross enrollment ratio. A common error that may also distort enrollment ratios is the lack of distinction between new entrants and repeaters, which, other things equal, leads to underreporting of repeaters and overestimation of dropouts. Thus gross enrollment ratios provide an indication of the capacity of each level of the education system, but a high ratio does not necessarily indicate a successful education system. The net enrollment ratio excludes overage students in an attempt to capture more accurately the system's coverage and internal efficiency. It does not solve the problem completely, however, because some children fall outside the official school age because of late or early entry rather than because of grade repetition. The difference between gross and net enrollment ratios shows the incidence of overage and underage enrollments.

In 1998, ISCED97 was introduced and UNESCO's data collection program and country reporting of education statistics were adjusted to this new classification. This was to facilitate the international compilation and comparison of educational statistics, as well as to take into account new types of learning opportunities and activities available for both children and adults. Thus the time series data up to 1997 are not consistent with data for 1998 and after. Any time series analysis should therefore be made with extreme caution.

ISCED97 introduced a new level 4 labeled "post-secondary non-tertiary education". The students who fall into this category are not counted as either secondary or tertiary although they are in the education system.

The year shown in the table usually indicates the beginning of the school year but in most of the countries school year ends the following year.

Definitions

• **Gross enrollment ratio** is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. • **Net enrollment ratio** is the ratio of the number of children of official school age (as defined by the national education system) who are enrolled in school to the population of the corresponding official school age. Based on the International Standard Classification of Education 1976 (ISCED76) and 1997 (ISCED97), • **Preprimary** education refers to the initial stage of organized instruction, designed primarily to introduce very young children to a school-type environment. • **Primary** education provides children with basic reading, writing, and mathematics skills along with an elementary understanding of such subjects as history, geography, natural science, social science, art, and music. • **Secondary** education completes the provision of basic education that began at the primary level, and aims at laying the foundations for lifelong learning and human development, by offering more subject- or skill-oriented instruction using more specialized teachers. • **Tertiary** education, whether or not leading to an advanced research qualification, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level.

Data sources

The data are from the UNESCO Institute for Statistics.

2.13 | Education efficiency

	Net intake rate in grade 1		Percentage of cohort reaching grade 5				Primary completion rate			Avearge years of schooling		
	% of school-age population		% of grade one students who reach grade 5				% of all children who complete primary school					
	Male	Female	Male		Female		Total	Male	Female	Total	Male	Female
	1998	1998	1980	1997	1980	1997	1992-2000[a]	1992-2000[a]	1992-2000[a]	2000	2000	2000
Afghanistan	..	..	62	..	61	..	8	15	0	1.7	2.6	0.8
Albania	97	103	..	*81*	..	*83*	89	84	95	..	..	..
Algeria	78	75	90	*93*	85	*95*	91	93	88	5.4	6.2	4.5
Angola	27	22	..	..	..	..	..	..	..	..	..	..
Argentina	107	105	..	*70*	..	*70*	96	97	98	8.8	8.8	8.9
Armenia	..	..	..	..	..	..	82	..	..	..	..	..
Australia	..	..	..	..	..	..	..	..	..	10.9	11.2	10.7
Austria	..	..	..	..	..	..	..	..	..	8.4	9.2	7.6
Azerbaijan	12	13	..	..	..	..	101	103	100	..	..	..
Bangladesh	95	91	18	..	26	..	70	68	72	2.6	3.3	1.8
Belarus	..	..	..	..	..	..	93	95	92	..	..	..
Belgium	..	..	75	..	77	..	..	..	..	9.3	9.6	9.1
Benin	..	..	59	*64*	62	*57*	39	52	25	2.3	3.3	1.4
Bolivia	..	..	..	..	..	..	77	80	75	5.6	6.1	5.1
Bosnia and Herzegovina	..	..	..	..	..	..	88	..	..	..	..	..
Botswana	20	23	80	*87*	84	*93*	102	96	107	6.3	6.2	6.3
Brazil	73	65	..	..	..	..	71	..	..	4.9	5.4	4.4
Bulgaria	..	..	..	..	..	..	92	92	92	..	..	..
Burkina Faso	22	15	76	*74*	74	*77*	25	29	20	..	..	..
Burundi	27	23	100	..	96	..	43	45	41	..	..	..
Cambodia	80	77	..	*51*	..	*46*	60	68	51	..	..	..
Cameroon	..	..	70	..	69	..	43	..	..	3.5	4.2	2.9
Canada	..	..	..	..	..	..	..	..	..	11.6	11.7	11.6
Central African Republic	..	..	63	..	50	..	19	..	..	2.5	3.4	1.7
Chad	27	19	..	*62*	..	*53*	19	26	10	..	..	..
Chile	37	38	..	*100*	..	*100*	92	92	92	7.5	7.6	7.5
China	..	..	..	*93*	..	*94*	108	111	106	6.4	7.6	5.1
Hong Kong, China	..	..	98	..	99	..	..	..	..	9.4	9.9	8.9
Colombia	56	55	..	*70*	..	*76*	85	84	87	5.3	4.9	5.7
Congo, Dem. Rep.	20	22	56	..	59	..	40	..	..	3.0	4.1	2.0
Congo, Rep.	11	10	81	*40*	83	*78*	44	45	43	5.1	5.8	4.6
Costa Rica	58	60	77	*86*	82	*89*	89	91	87	6.0	6.1	6.0
Côte d'Ivoire	34	27	..	*77*	..	*71*	40	50	31	..	..	..
Croatia	..	..	..	..	..	..	79	80	79	..	..	..
Cuba	90	90	..	..	..	..	..	..	..	..	..	..
Czech Republic	..	..	..	..	..	..	109	110	107	..	..	..
Denmark	..	..	99	*100*	99	*99*	..	..	..	9.7	9.8	9.5
Dominican Republic	59	60	..	..	..	..	82	78	86	4.9	4.9	5.0
Ecuador	82	83	..	*84*	..	*86*	96	96	96	6.4	6.4	6.4
Egypt, Arab Rep.	..	..	92	..	88	..	99	104	92	5.5	6.5	4.5
El Salvador	54	55	17	*76*	16	*77*	76	77	75	5.2	5.2	5.1
Eritrea	18	16	..	*73*	..	*67*	35	43	28	..	..	..
Estonia	..	..	..	*96*	..	*97*	88	89	86	..	..	..
Ethiopia	25	20	50	*51*	51	*50*	24	31	18	..	..	..
Finland	..	..	..	*100*	..	*100*	..	..	..	10.0	10.2	9.8
France	..	..	..	..	..	..	..	..	..	7.9	8.1	7.6
Gabon	62	63	57	*58*	56	*61*	80	79	80	..	..	..
Gambia, The	10	10	74	*78*	71	*83*	70	80	60	2.3	3.0	1.6
Georgia	..	..	..	..	..	..	90	..	..	..	..	..
Germany	..	..	..	..	..	..	..	..	..	10.2	10.5	9.9
Ghana	..	..	..	..	..	..	64	..	..	3.9	5.7	2.2
Greece	..	..	99	..	98	..	..	..	..	8.7	9.8	7.6
Guatemala	59	56	..	*52*	..	*47*	56	63	50	3.5	3.8	3.1
Guinea	23	20	..	..	..	..	34	49	19	..	..	..
Guinea-Bissau	..	..	25	..	17	..	31	..	..	0.8	0.9	0.7
Haiti	37	48	20	..	21	..	..	..	..	2.8	3.5	2.1
Honduras	46	47	..	..	..	..	67	64	71	4.8	5.6	4.0

	Net intake rate in grade 1		Percentage of cohort reaching grade 5				Primary completion rate			Avearge years of schooling		
	% of school-age population		% of grade one students who reach grade 5				% of all children who complete primary school					
	Male	Female	Male		Female		Total	Male	Female	Total	Male	Female
	1998	1998	1980	1997	1980	1997	1992-2000[a]	1992-2000[a]	1992-2000[a]	2000	2000	2000
Hungary	..	..	96	..	97	..	102	..	..	9.1	9.6	8.7
India	..	..	..	..	..	..	76	88	63	5.1	6.3	3.7
Indonesia	..	..	..	*88*	..	*89*	91	90	92	5.0	5.5	4.5
Iran, Islamic Rep.	..	..	..	..	..	..	92	95	89	5.3	6.1	4.5
Iraq	76	71	..	..	..	..	55	59	51	4.0	4.6	3.3
Ireland	..	..	..	..	..	..	..	..	..	9.4	9.3	9.4
Israel	..	..	..	..	..	..	..	..	..	9.6	9.8	9.4
Italy	..	..	99	*98*	99	*99*	..	..	..	7.2	7.6	6.8
Jamaica	..	..	..	..	..	..	89	85	93	5.3	4.9	5.6
Japan	..	..	100	..	100	..	..	..	..	9.5	9.9	9.1
Jordan	46	47	100	..	98	..	..	..	..	6.9	7.7	6.0
Kazakhstan	..	..	..	..	..	..	100	99	101	..	..	..
Kenya	..	..	60	..	62	..	58	58	57	4.2	4.7	3.7
Korea, Dem. Rep.	..	..	..	..	..	..	..	..	..	..	..	..
Korea, Rep.	..	..	94	*98*	94	*99*	96	95	98	10.8	11.7	10.0
Kuwait	..	..	..	..	..	..	70	69	71	7.1	7.2	6.9
Kyrgyz Republic	..	..	..	..	..	..	100	..	..	..	..	..
Lao PDR	52	50	..	*57*	..	*54*	64	70	59	..	..	..
Latvia	..	..	..	..	..	..	86	..	..	..	..	..
Lebanon	14	14	..	..	..	..	70	..	..	..	..	..
Lesotho	16	15	50	*55*	68	*71*	69	55	83	4.2	3.6	4.8
Liberia	48	31	..	..	..	..	..	..	..	2.5	3.3	1.5
Libya	..	..	..	..	..	..	..	..	..	..	..	..
Lithuania	..	..	..	..	..	..	95	97	94	..	..	..
Macedonia, FYR	..	..	..	*95*	..	*95*	91	94	87	..	..	..
Madagascar	56	46	..	*49*	..	*33*	26	26	27	..	..	..
Malawi	..	..	48	*36*	40	*32*	50	61	40	3.2	3.6	2.8
Malaysia	95	94	97	..	97	..	90	89	90	6.8	7.4	6.2
Mali	..	..	..	*92*	..	*70*	23	33	14	0.9	1.2	0.6
Mauritania	..	..	..	*61*	..	*68*	46	52	39	..	..	..
Mauritius	27	27	..	*98*	..	*99*	111	..	..	6.0	6.5	5.6
Mexico	92	93	..	*85*	..	*86*	89	87	86	7.2	7.6	6.9
Moldova	..	..	..	..	..	..	81	82	81	..	..	..
Mongolia	..	..	..	..	..	..	82	77	88	..	..	..
Morocco	59	55	79	*76*	78	*74*	55	63	47	..	..	..
Mozambique	13	12	..	*52*	..	*39*	36	43	29	1.1	1.4	0.8
Myanmar	..	..	..	..	..	..	..	..	..	2.8	3.0	2.5
Namibia	63	67	..	*76*	..	*82*	90	86	94	..	..	..
Nepal	..	..	..	..	..	..	57	70	42	2.4	3.4	1.5
Netherlands	..	..	94	..	98	..	..	..	..	9.4	9.6	9.1
New Zealand	..	..	93	*97*	94	*97*	..	..	..	11.7	12.0	11.5
Nicaragua	..	..	..	*43*	..	*52*	65	61	70	4.6	4.5	4.6
Niger	32	21	74	*72*	72	*73*	20	25	15	1.0	1.4	0.7
Nigeria	..	..	..	..	..	..	67	75	59	..	..	..
Norway	..	..	100	*100*	100	*100*	..	..	..	11.8	12.2	11.6
Oman	57	56	..	*96*	..	*96*	76	76	76	..	..	..
Pakistan	1	4	..	..	..	..	..	..	..	3.9	5.1	2.5
Panama	83	69	74	..	79	..	..	..	..	8.6	8.6	8.5
Papua New Guinea	108	97	..	*59*	..	*60*	59	64	53	2.9	3.3	2.4
Paraguay	70	72	58	*77*	58	*80*	86	85	87	6.2	6.3	6.1
Peru	97	96	78	..	74	..	90	90	89	7.6	8.0	7.1
Philippines	..	..	..	..	..	..	92	..	..	8.2	8.2	8.2
Poland	..	..	..	..	..	..	96	..	..	9.8	10.0	9.7
Portugal	..	..	..	..	..	..	..	..	..	5.9	6.1	5.7
Puerto Rico	..	..	..	..	..	..	..	..	..	..	..	..
Romania	..	..	..	..	..	..	98	..	..	..	..	..
Russian Federation	..	..	..	..	..	..	90	91	90	..	..	..

2.13 Education efficiency

	Net intake rate in grade 1		Percentage of cohort reaching grade 5				Primary completion rate			Avearge years of schooling		
	% of school-age population		% of grade one students who reach grade 5				% of all children who complete primary school					
	Male	Female	Male		Female		Total	Male	Female	Total	Male	Female
	1998	1998	1980	1997	1980	1997	1992-2000[a]	1992-2000[a]	1992-2000[a]	2000	2000	2000
Rwanda	..	..	69	..	74	..	..	..	..	2.6	3.0	2.2
Saudi Arabia	49	33	82	*87*	86	*92*	69	68	69	..	..	..
Senegal	78	..	89	*89*	82	*85*	41	48	34	2.6	3.1	2.0
Sierra Leone	..	..	..	..	..	..	..	..	..	2.4	3.1	1.7
Singapore	..	..	..	..	..	..	..	..	..	7.0	7.5	6.6
Slovak Republic	..	..	..	..	..	..	97	96	97	9.3	..	..
Slovenia	..	..	..	..	..	..	92	90	94	7.1	..	..
Somalia	..	..	..	..	..	..	..	..	..	..	..	..
South Africa	36	34	..	..	..	..	98	95	100	6.1	5.7	6.6
Spain	..	..	95	..	94	..	..	..	..	7.3	7.4	7.1
Sri Lanka	..	..	..	*83*	..	*84*	100	98	102	6.9	7.2	6.6
Sudan	..	..	68	*75*	71	*73*	35	38	33	2.1	2.7	1.6
Swaziland	41	43	77	*73*	81	*79*	81	78	85	6.0	5.8	6.2
Sweden	..	..	98	*97*	98	*97*	..	..	..	11.4	11.4	11.4
Switzerland	..	..	75	..	74	..	..	..	..	10.5	11.1	9.9
Syrian Arab Republic	62	60	93	*93*	88	*94*	90	95	86	5.8	6.8	4.8
Tajikistan	..	..	..	..	..	..	95	..	..	..	..	..
Tanzania	11	13	89	*78*	90	*84*	59	58	60	2.7	3.1	2.3
Thailand	..	..	..	..	..	..	84	..	..	6.5	7.0	6.0
Togo	43	38	59	*79*	44	*60*	63	86	41	3.3	4.6	2.1
Trinidad and Tobago	86	94	85	*98*	87	*97*	81	79	84	7.8	7.5	8.0
Tunisia	79	80	89	*90*	84	*92*	91	93	90	5.0	5.8	4.2
Turkey	..	..	..	..	..	..	92	95	89	5.3	6.2	4.3
Turkmenistan	..	..	..	..	..	..	..	..	..	..	..	..
Uganda	..	..	..	..	..	..	61	74	49	3.5	4.3	2.7
Ukraine	..	..	..	..	..	..	55	55	55	..	..	..
United Arab Emirates	53	53	100	*83*	100	*84*	80	76	86	..	..	..
United Kingdom	..	..	..	..	..	..	..	..	..	9.4	9.5	9.4
United States	..	..	..	..	..	..	..	..	..	12.0	12.1	12.0
Uruguay	49	49	..	*96*	..	*99*	98	95	101	7.6	7.2	7.9
Uzbekistan	..	..	..	..	..	..	100	..	..	..	..	..
Venezuela, RB	..	..	..	*86*	..	*92*	78	77	79	6.6	6.5	6.8
Vietnam	78	83	..	..	..	..	..	..	..	..	..	..
West Bank and Gaza	..	..	..	..	..	..	..	..	..	..	..	..
Yemen, Rep.	32	21	..	..	..	..	..	..	..	..	..	..
Yugoslavia, Fed. Rep.	..	..	..	..	..	..	96	..	..	..	..	..
Zambia	40	42	88	..	82	..	80	..	..	5.5	6.0	5.0
Zimbabwe	..	..	..	*78*	..	*79*	113	116	111	5.4	6.0	4.7
World	**.. w**	**.. w**	**.. w**	**.. w**	**.. w**	**.. w**	**84 w**	**90 w**	**80 w**	**6.4 w**	**7.2 w**	**5.7 w**
Low income	..	..	..	..	..	..	69	77	61	4.4	5.4	3.3
Middle income	..	..	..	..	..	..	..	..	..	6.4	7.3	5.5
Lower middle income	..	..	..	*91*	..	*92*	101	104	99	6.3	7.3	5.2
Upper middle income	74	70	..	..	..	..	..	..	..	6.9	7.3	6.5
Low & middle income	..	..	..	..	..	..	84	90	80	5.6	6.5	4.6
East Asia & Pacific	..	..	..	*92*	..	*93*	103	107	102	6.3	7.3	5.2
Europe & Central Asia	..	..	..	..	..	..	..	..	..	..	..	..
Latin America & Carib.	77	74	..	..	..	..	..	..	..	6.0	6.3	5.8
Middle East & N. Africa	..	..	..	..	..	..	84	88	80	5.3	6.1	4.4
South Asia	..	..	..	..	..	..	74	84	63	4.7	5.8	3.4
Sub-Saharan Africa	..	..	..	..	..	..	53	59	48	..	..	..
High income	..	..	..	..	..	..	..	..	..	10.0	10.2	9.8
Europe EMU	..	..	..	..	..	..	..	..	..	8.4	8.8	8.1

a. Data are for the most recent year available.

Education efficiency | 2.13

About the data

Indicators of students' progress through school, estimated by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) and the World Bank, measure an education system's success in extending coverage to all students, maintaining the flow of students from one grade to the next, and, ultimately, imparting a particular level of education.

Low net intake rates in grade 1 reflect the fact that many children do not enter primary school at the official age, even though school attendance, at least through the primary level, is mandatory in all countries. Once enrolled, students drop out for a variety of reasons, including the low quality of schooling, discouragement over poor performance, and the direct and indirect costs of schooling. Students' progress to higher grades may also be limited by the availability of teachers, classrooms, and educational materials.

The cohort survival rate is estimated as the proportion of an entering cohort of grade 1 students that eventually reaches grade 5. It measures the holding power and internal efficiency of an education system. Cohort survival rates approaching 100 percent indicate a high level of retention and a low level of dropout.

Cohort survival rates are typically estimated from data on enrollment and repetition by grade for two consecutive years, in a procedure called the reconstructed cohort method. This method makes three simplifying assumptions: dropouts never return to school; promotion, repetition, and dropout rates remain constant over the entire period in which the cohort is enrolled in school; and the same rates apply to all pupils enrolled in a given grade, regardless of whether they previously repeated a grade (Fredricksen 1993). Given these assumptions, cross-country comparisons should be made with caution, because other flows—caused by new entrants, reentrants, grade skipping, migration, or school transfers during the school year—are not considered.

UNESCO measures cohort survival to grade 5 because research suggests that five to six years of schooling is a critical threshold for the achievement of sustainable basic literacy and numeracy skills. However, it should be noted that the cohort survival rate does not guarantee these learning outcomes, and only indirectly reflects the quality of schooling. Measuring actual learning outcomes requires setting curriculum standards and measuring students' learning progress against those standards through standardized assessments, or tests.

The primary completion rate is being used increasingly by the World Bank as a core indicator of education system performance. Because it measures both education system coverage and student attainment, the primary completion rate is a more accurate indicator of human capital formation and school system quality and efficiency than are either gross or net enrollment ratios. It is also the most direct measure of national progress toward the Millennium Development Goal of universal primary education.

The primary completion rate reflects the primary cycle as nationally defined, ranging from a very small number of countries with 3 or 4 years of primary education, to a majority of countries with 5 or 6 years, and a relatively small number of countries with 7 or 8 years. For any given country it is therefore consistent with the gross and net enrollment ratios. The numerator may include overage children who have repeated one or more grades of primary school but are now graduating successfully. For countries where the number of primary graduates is not reported, a proxy primary completion rate is calculated: the total number of students in the final year of primary school, minus the number of students who repeat the grade in a typical year, divided by the total number of children of official graduation age in the population.

Average years of schooling measure the educational attainment of the population ages 15 and over, which provides another indication of the human capital stock of the country. However, the data do not directly measure the human skills obtained in schools and, specifically, do not take account of differences in the quality of schooling across countries. Average years of schooling are computed using a perpetual inventory method. For further details, see Barro and Lee (2000).

Definitions

• **Net intake rate in grade 1** is the number of new entrants in the first grade of primary education who are of official primary school entrance age, expressed as a percentage of the population of the corresponding age. • **Percentage of cohort reaching grade 5** is the share of children enrolled in the first grade of primary school who eventually reach grade 5. The estimate is based on the reconstructed cohort method (see *About the data*). • **Primary completion rate** is the total number of students successfully completing (or graduating from) the last year of primary school in a given year, divided by the total number of children of official graduation age in the population. • **Average years of schooling** are the years of formal schooling received, on average, by adults ages 15 and over. Because of data limitations it is not possible to adjust this number for students who drop out during the final year of school. Thus, proxy rates should be taken as an upper-bound estimate of the likely actual primary completion rate.

Data sources

Data on the net intake rate come from UNESCO's special data collection for the Education for All initiative. The data on the cohort reaching grade 5 are from the UNESCO Institute for Statistics. The data on the primary completion rate are compiled by staff in the education group of the World Bank's Human Development Network. Data on average years of schooling are from Robert Barro and Jong-Wha Lee's *International Data on Educational Attainment Updates and Implications,* (2000).

2.14 | Education outcomes

	Adult illiteracy rate				Youth illiteracy rate				Expected years of schooling			
	Male % ages 15 and over		Female % ages 15 and over		Male % ages 15-24		Female % ages 15-24		Males		Females	
	1990	2000	1990	2000	1990	2000	1990	2000	1990	1998	1990	1998
Afghanistan	..	..	..	..	..	..	..	..	..	..	..	..
Albania	13	8	33	23	3	1	8	4	..	..	..	..
Algeria	36	24	59	43	14	6	32	16	11	11	9	11
Angola	..	..	..	..	..	..	..	..	..	6	..	5
Argentina	4	3	4	3	2	2	2	1	..	14	..	15
Armenia	1	1	4	2	0 [a]	0 [a]	1	0 [a]	..	..	..	..
Australia	..	..	..	..	..	..	..	..	13	..	13	..
Austria	..	..	..	..	..	..	..	..	15	..	14	..
Azerbaijan	..	..	..	..	..	..	..	..	..	11	..	11
Bangladesh	54	48	77	70	45	39	68	60	6	8	4	8
Belarus	0 [a]	0 [a]	1	1	0 [a]	0 [a]	0 [a]	0 [a]	..	..	..	..
Belgium	..	..	..	..	..	..	..	..	14	..	14	..
Benin	62	48	85	76	43	29	75	64	..	8	..	5
Bolivia	13	8	30	21	4	2	11	6	..	13	..	12
Bosnia and Herzegovina	..	..	..	..	..	..	..	..	..	..	..	..
Botswana	34	25	30	20	21	15	13	8	10	12	11	12
Brazil	18	15	20	15	12	9	9	6	..	13	..	13
Bulgaria	2	1	4	2	0 [a]	0 [a]	1	0 [a]	12	..	12	..
Burkina Faso	75	66	92	86	64	54	86	77	3	4	2	3
Burundi	51	44	73	60	42	34	55	38	6	4	4	3
Cambodia	22	20	52	43	19	17	34	25	..	9	..	7
Cameroon	28	18	47	31	10	6	16	7	..	13	..	11
Canada	..	..	..	..	..	..	..	..	17	15	17	15
Central African Republic	53	40	79	65	34	24	61	41	..	6	..	3
Chad	63	48	81	66	42	27	62	40	..	7	..	3
Chile	5	4	6	4	2	1	2	1	..	13	..	13
China	14	8	33	24	3	1	8	4	..	9	..	9
Hong Kong, China	5	3	16	10	2	1	1	0 [a]	..	..	..	..
Colombia	11	8	12	8	6	4	4	2	..	11	..	11
Congo, Dem. Rep.	39	27	66	50	20	12	42	25	..	5	..	4
Congo, Rep.	23	13	42	26	5	2	10	3	..	7	..	5
Costa Rica	6	4	6	4	3	2	2	1	..	11	..	11
Côte d'Ivoire	57	46	77	61	40	30	59	40	..	8	..	5
Croatia	1	1	5	3	0 [a]	0 [a]	0 [a]	0 [a]	..	..	..	..
Cuba	5	3	5	3	1	0 [a]	1	0 [a]	12	11	13	12
Czech Republic	..	..	..	..	..	..	..	..	..	..	..	..
Denmark	..	..	..	..	..	..	..	..	14	..	14	..
Dominican Republic	20	16	21	16	13	10	12	8	..	11	..	12
Ecuador	10	7	15	10	4	2	5	3	..	11	..	11
Egypt, Arab Rep.	40	33	66	56	29	24	49	37	..	12	..	11
El Salvador	24	18	31	24	15	11	17	13	..	11	..	10
Eritrea	42	33	65	55	27	20	51	40	..	5	..	4
Estonia	..	..	..	..	..	..	..	..	12	..	12	..
Ethiopia	62	53	80	69	48	39	66	52	..	5	..	3
Finland	..	..	..	..	..	..	..	..	15	..	16	..
France	..	..	..	..	..	..	..	..	14	..	15	..
Gabon	..	..	..	..	..	..	..	..	..	12	..	11
Gambia, The	68	56	80	71	49	34	66	51	..	8	..	6
Georgia	..	..	..	..	..	..	..	..	..	5	..	5
Germany	..	..	..	..	..	..	..	..	15	..	14	..
Ghana	30	20	53	37	12	6	25	12	..	3	..	2
Greece	2	1	8	4	1	0 [a]	0 [a]	0 [a]	13	..	13	..
Guatemala	31	24	47	39	20	14	34	27	..	10	..	8
Guinea	..	..	..	..	..	..	..	..	..	6	..	3
Guinea-Bissau	57	46	87	77	37	27	74	57	..	8	..	5
Haiti	57	48	63	52	44	36	46	35	..	12	..	12
Honduras	31	25	32	25	22	18	21	15	..	8	..	9

	Adult illiteracy rate				Youth illiteracy rate				Expected years of schooling			
	Male % ages 15 and over		Female % ages 15 and over		Male % ages 15-24		Female % ages 15-24		Males		Females	
	1990	2000	1990	2000	1990	2000	1990	2000	1990	1998	1990	1998
Hungary	1	1	1	1	0 [a]	0 [a]	0 [a]	0 [a]	11	..	11	..
India	38	32	64	55	27	20	46	35	..	9	..	8
Indonesia	13	8	27	18	3	2	7	3	10	..	9	..
Iran, Islamic Rep.	28	17	46	31	8	4	19	8	..	..	..	..
Iraq	43	34	67	54	29	22	48	33	..	9	..	7
Ireland	..	..	..	..	..	..	..	..	12	..	13	..
Israel	5	3	13	8	1	0 [a]	2	1 [a]	..	14	..	15
Italy	2	1	3	2	0 [a]	0 [a]	0 [a]	0 [a]	..	..	..	..
Jamaica	22	17	14	9	13	9	5	3	11	11	11	11
Japan	..	..	..	..	..	..	..	..	..	14	..	14
Jordan	10	5	29	16	2	1	4	1 [a]	9	9	9	9
Kazakhstan	..	..	..	..	..	..	..	..	..	10	..	10
Kenya	19	11	39	24	7	4	13	6	..	8	..	8
Korea, Dem. Rep.	..	..	..	..	..	..	..	..	..	..	..	..
Korea, Rep.	2	1	7	4	0 [a]	0 [a]	0 [a]	0 [a]	14	..	13	..
Kuwait	21	16	27	20	12	8	13	7	7	9	7	10
Kyrgyz Republic	..	..	..	..	..	..	..	..	..	11	..	10
Lao PDR	47	36	80	67	28	17	62	42	9	9	6	7
Latvia	0 [a]	0 [a]	0 [a]	0 [a]	0 [a]	0 [a]	0 [a]	0 [a]	..	..	..	..
Lebanon	12	8	27	20	5	3	11	7	..	13	..	14
Lesotho	35	28	11	6	23	17	3	1	9	9	11	10
Liberia	45	30	77	62	25	15	60	46	..	6	..	4
Libya	17	9	49	32	1	0 [a]	17	7	..	13	..	13
Lithuania	0 [a]	0 [a]	1	1	0 [a]	0 [a]	0 [a]	0 [a]	..	..	..	..
Macedonia, FYR	..	..	..	..	..	..	..	..	..	..	..	..
Madagascar	34	26	50	40	22	16	33	23	..	6	..	6
Malawi	31	26	64	53	24	19	49	39	..	10	..	10
Malaysia	13	9	26	17	5	3	6	2	..	10	..	11
Mali	67	51	81	66	46	28	63	40	3	5	1	3
Mauritania	54	49	76	70	44	43	64	59	..	7	..	6
Mauritius	15	12	25	19	9	7	9	6	..	12	..	12
Mexico	9	7	15	10	4	3	6	3	..	12	..	11
Moldova	1	0 [a]	4	2	0 [a]	0 [a]	0 [a]	0 [a]	..	..	..	..
Mongolia	1	1	2	1	1	1	1	0 [a]	..	7	..	9
Morocco	47	38	75	64	32	24	58	42	..	10	..	8
Mozambique	51	40	82	71	34	25	68	54	4	5	3	4
Myanmar	13	11	26	19	10	9	14	9	..	7	..	8
Namibia	23	17	28	19	14	10	11	7	..	13	..	13
Nepal	52	40	86	76	33	23	73	57	..	10	..	7
Netherlands	..	..	..	..	..	..	..	..	15	..	15	..
New Zealand	..	..	..	..	..	..	..	..	14	10	15	11
Nicaragua	37	34	37	33	32	29	31	28	..	10	..	10
Niger	82	76	95	92	75	68	91	86	..	3	..	2
Nigeria	40	28	62	44	19	10	34	16	..	7	..	5
Norway	..	..	..	..	..	..	..	..	14	..	14	..
Oman	33	20	62	38	5	0 [a]	25	4	10	9	9	8
Pakistan	51	43	80	72	37	29	69	58	..	5	..	3
Panama	10	7	12	9	4	3	5	4	..	12	..	12
Papua New Guinea	36	29	52	43	26	20	38	29	..	9	..	8
Paraguay	8	6	12	8	4	3	5	3	9	10	8	11
Peru	8	5	21	15	3	2	8	5	..	13	..	11
Philippines	7	5	8	5	3	2	3	1	..	1	..	2
Poland	0 [a]	0 [a]	0 [a]	0 [a]	0 [a]	0 [a]	0 [a]	0 [a]	12	..	12	..
Portugal	9	5	16	10	1	0 [a]	0 [a]	0 [a]	13	..	14	..
Puerto Rico	8	6	9	6	5	3	3	2	..	..	..	..
Romania	1	1	4	3	1	0 [a]	1	0 [a]	11	..	11	..
Russian Federation	0 [a]	0 [a]	1	1	0 [a]	0 [a]	0 [a]	0 [a]	..	..	..	..

2.14 Education outcomes

	Adult illiteracy rate				Youth illiteracy rate				Expected years of schooling			
	Male % ages 15 and over		Female % ages 15 and over		Male % ages 15-24		Female % ages 15-24		Males		Females	
	1990	2000	1990	2000	1990	2000	1990	2000	1990	1998	1990	1998
Rwanda	37	26	56	40	22	15	33	19	..	8	..	8
Saudi Arabia	24	17	50	33	9	5	21	10	9	9	7	9
Senegal	62	53	81	72	50	40	70	58	..	6	..	5
Sierra Leone	..	..	..	..	..	..	..	..	..	..	..	..
Singapore	6	4	17	12	1	0 [a]	1	0 [a]	..	..	..	..
Slovak Republic	..	..	..	..	..	..	..	..	..	..	..	..
Slovenia	0 [a]	0 [a]	0 [a]	0 [a]	0 [a]	0 [a]	0 [a]	0 [a]	..	..	..	..
Somalia	..	..	..	..	..	..	..	..	..	..	..	..
South Africa	18	14	20	15	11	9	12	9	13	14	13	14
Spain	2	1	5	3	0 [a]	0 [a]	0 [a]	0 [a]	..	..	..	..
Sri Lanka	7	6	15	11	4	3	6	3	..	11	..	11
Sudan	40	31	68	54	24	17	46	29	..	5	..	5
Swaziland	26	19	30	21	15	10	15	9	11	11	10	10
Sweden	..	..	..	..	..	..	..	..	13	..	13	..
Switzerland	..	..	..	..	..	..	..	..	14	..	13	..
Syrian Arab Republic	18	12	52	40	8	5	33	21	11	9	9	9
Tajikistan	1	0 [a]	3	1	0 [a]	0 [a]	0 [a]	0 [a]	..	..	..	..
Tanzania	24	16	49	33	11	7	23	12	..	5	..	5
Thailand	5	3	11	6	1	1	2	2	..	10	..	11
Togo	39	28	71	58	21	13	52	36	11	12	6	8
Trinidad and Tobago	6	4	11	8	3	2	4	3	11	12	11	12
Tunisia	28	19	53	39	7	3	25	11	11	13	10	12
Turkey	11	7	33	23	3	1	12	6	..	10	..	9
Turkmenistan	..	..	..	..	..	..	..	..	..	..	..	..
Uganda	31	22	57	43	20	14	40	28	..	11	..	10
Ukraine	0 [a]	0 [a]	1	1	0 [a]	0 [a]	0 [a]	0 [a]	..	..	..	..
United Arab Emirates	29	25	29	21	18	13	11	6	10	11	11	11
United Kingdom	..	..	..	..	..	..	..	..	14	..	14	..
United States	..	..	..	..	..	..	..	..	15	16	16	15
Uruguay	4	3	3	2	1	1	1	0 [a]	..	11	..	14
Uzbekistan	1	0 [a]	2	1	0 [a]	0 [a]	0 [a]	0 [a]	..	..	..	..
Venezuela, RB	10	7	12	8	5	3	3	1	..	10	..	11
Vietnam	6	4	13	9	5	3	5	3	..	10	..	10
West Bank and Gaza	..	..	..	..	..	..	..	..	..	..	..	..
Yemen, Rep.	45	32	87	75	26	17	75	54	..	11	..	5
Yugoslavia, Fed. Rep.	..	..	..	..	..	..	..	..	..	..	..	..
Zambia	21	15	41	29	14	9	24	15	..	8	..	7
Zimbabwe	13	7	25	15	3	1	9	4	..	..	..	..
World	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w	.. w
Low income	35	28	56	47	24	18	40	31	..	..	..	..
Middle income	13	9	26	19	5	4	10	6	..	..	..	..
Lower middle income	14	9	29	21	5	3	10	7	..	..	..	..
Upper middle income	11	8	16	12	6	4	7	4	..	..	..	..
Low & middle income	22	18	39	31	13	11	23	19	..	..	..	..
East Asia & Pacific	13	8	29	21	3	2	8	4	..	..	..	..
Europe & Central Asia	2	2	6	5	1	1	3	2	..	..	..	..
Latin America & Carib.	14	11	17	13	8	6	8	6	..	..	..	..
Middle East & N. Africa	34	25	59	46	18	12	37	24	..	..	..	..
South Asia	40	34	66	57	29	23	50	40	..	..	..	..
Sub-Saharan Africa	40	30	60	47	25	17	40	27	..	..	..	..
High income	..	..	..	..	..	..	..	..	15	..	16	..
Europe EMU	..	..	..	..	..	..	..	..	15	..	15	..

a. Less than 0.5.

About the data

Many governments collect and publish statistics that indicate how their education systems are working and developing—statistics on enrollment and on such efficiency indicators as pupil-teacher ratios, repetition rates, and cohort progression through school. But until recently, despite an obvious interest in what education achieves, few systems in high-income or developing countries had systematically collected information on outcomes of education.

Basic student outcomes include achievements in reading and mathematics judged against established standards. In many countries national learning assessments are enabling ministries of education to monitor progress in these outcomes. Internationally, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) has established literacy as an outcome indicator based on an internationally agreed definition. The rate of illiteracy is defined as the percentage of people who cannot, with understanding, read and write a short, simple statement about their everyday life. In practice, illiteracy is difficult to measure. To estimate illiteracy using such a definition requires census or survey measurements under controlled conditions. Many countries estimate the number of illiterate people from self-reported data, or by taking people with no schooling as illiterate.

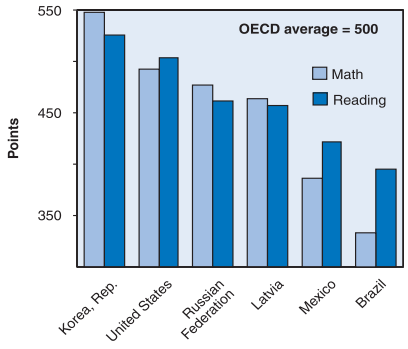
Literacy statistics for most countries cover the population ages 15 and above, by five-year age groups, but some include younger ages or are confined to age ranges that tend to inflate literacy rates. As an alternative, UNESCO has proposed the narrower age range of 15–24, which better captures the ability of participants in the formal education system. The youth illiteracy rate reported in the table measures the accumulated outcomes of primary education over the previous 10 years or so by indicating the proportion of people who have passed through the primary education system (or never entered it) without acquiring basic literacy and numeracy skills. Reasons for this may include difficulties in attending school or dropping out before reaching grade 5 (see *About the data* for table 2.13) and thereby failing to achieve basic learning competencies.

The indicator expected years of schooling is an estimate of the total years of schooling that an average child at the age of school entry will receive, including years spent on repetition, given the current patterns of enrollment across cycles of education. It may also be interpreted as an indicator of the total education resources, measured in school years, that a child will acquire over his or her "lifetime" in school—or as an indicator of an education system's overall level of development.

Because the calculation of this indicator assumes that the probability of a child's being enrolled in school at any future age is equal to the current enrollment ratio for that age, it does not account for changes and trends in future enrollment ratios. The expected number of years and the expected number of grades completed are not necessarily consistent, because the first includes years spent in repetition. Comparability across countries and over time may be affected by differences in the length of the school year or changes in policies on automatic promotions and grade repetition.

Figure 2.14

Reading and mathematical literacy among 15-year-olds, 2000



Source: Programme for International Student Assessment survey.

The absence of regular and reliable measures of education outcomes across countries, especially measures of skills, remains the most signifiant gap in education indicators. The Programme for International Student Assessment (PISA) was carried out by OECD and participating countries to measure skills for life—reading literacy, mathematical literacy, and scientific literacy—among 15-year-old students. Thirty two countries, including eight developing countries, conducted the first PISA survey in 2000. The PISA scale for each literacy area was devised so that across OECD countries the average score is 500 points.

Definitions

• **Adult illiteracy rate** is the percentage of people ages 15 and over who cannot, with understanding, read and write a short, simple statement about their everyday life. • **Youth illiteracy rate** is the illiteracy rate among people ages 15–24. • **Expected years of schooling** are the average number of years of formal schooling that children are expected to receive, including university education and years spent in repetition. They are the sum of the underlying age-specific enrollment ratios for primary, secondary, and tertiary education.

Data sources

The data on illiteracy are based on the UNESCO Institute for Statistics estimates and projections assessed in 2000 and 2002. The data on expected years of schooling are from the UNESCO Institute for Statistics.

2.15 | Health expenditure, services, and use

	Health expenditure			Health expenditure per capita	Physicians		Hospital beds		Inpatient admission rate	Average length of stay	Outpatient visits per capita
	Public % of GDP 1995-99[a]	Private % of GDP 1995-99[a]	Total % of GDP 1995-99[a,b]	$ 1995-99[a]	per 1,000 people 1980	per 1,000 people 1990-99[a]	per 1,000 people 1980	per 1,000 people 1990-99[a]	% of population 1990-99[a]	days 1990-99[a]	1990-99[a]
Afghanistan	..	..	..	..	..	0.1	..	0.2	..	..	..
Albania	2.0	0.9	3.3 [c]	36	..	1.3	..	3.2	..	13	2
Algeria	2.6	1.0	3.6	68	..	1.0	..	2.1	..	..	..
Angola	..	..	..	..	..	0.1	..	1.3	..	..	..
Argentina	2.4	6.1	8.4	654	..	2.7	..	3.3	..	..	..
Armenia	4.0	4.2	7.8	27	3.5	3.2	8.4	0.7	8	15	2
Australia	6.0	2.6	8.6	1,714	1.8	2.5	..	8.5	16	16	6
Austria	5.9	2.3	8.2	2,121	..	3.0	11.2	8.7	29	9	7
Azerbaijan	1.0	0.6	1.8	9	3.4	3.6	9.7	9.7	6	18	1
Bangladesh	1.7	1.9	3.6	12	0.1	0.2	0.2	0.3	..	..	..
Belarus	4.6	1.0	5.6	85	3.4	4.4	12.5	12.2	26	18	11
Belgium	6.3	2.5	8.8	2,137	2.5	3.8	..	7.3	20	11	8
Benin	1.6	1.6	3.3	12	0.1	0.1	1.5	0.2	..	..	..
Bolivia	4.1	2.4	6.5	69	..	1.3	..	1.7	..	..	..
Bosnia and Herzegovina	8.0	..	..	..	..	1.4	..	1.8	..	15	..
Botswana	2.5	1.5	4.0	127	0.1	0.2	2.4	1.6	..	..	..
Brazil	2.9	3.6	6.5	308	..	1.3	..	3.1	0 [e]	..	2
Bulgaria	3.9	0.2	4.1	62	2.5	3.5	11.1	8.6	18	12	5
Burkina Faso	1.5	2.8	4.1	9	0.0 [d]	0.0 [d]	..	1.4	2	3	0 [e]
Burundi	0.6	3.0	3.7	5	..	0.1	..	0.7	..	..	..
Cambodia	0.6	6.3	6.9	17	..	0.3	..	2.1	..	..	..
Cameroon	1.0	4.0	5.0	31	..	0.1	..	2.6	..	..	..
Canada	6.6	2.7	9.3	1,939	..	2.1	..	4.1	10	8	7
Central African Republic	2.0	1.0	3.0	9	0.0 [d]	0.0 [d]	1.6	0.9	..	..	..
Chad	2.3	0.6	2.9	7	..	0.0 [d]	..	0.7	..	..	..
Chile	2.7	3.1	5.9	289	..	1.1	3.4	2.7	..	..	..
China	2.1	3.0	5.1	40	0.9	1.7	2.0	2.4	4	12	..
Hong Kong, China	2.1	2.8	5.0	1,134	0.8	1.3	4.0	..	2	..	1
Colombia	5.2	4.2	9.4	227	..	1.2	1.6	1.5	..	..	..
Congo, Dem. Rep.	..	..	..	..	..	0.1	..	1.4	..	..	.. ..
Congo, Rep.	2.0	3.8	5.8	40	..	0.3	..	3.4	..	..	..
Costa Rica	5.2	1.5	6.7	257	..	0.9	3.3	1.7	9	6	1
Côte d'Ivoire	1.2	2.5	3.7	28	..	0.1	..	0.8	..	..	..
Croatia	9.5	2.0	9.6	440	..	2.3	..	5.9	12	..	..
Cuba	..	..	..	..	..	5.3	..	5.1	..	..	..
Czech Republic	6.6	0.6	7.2	380	..	3.0	..	8.7	20	11	12
Denmark	6.9	1.5	8.4	2,785	..	3.4	..	4.5	20	7	6
Dominican Republic	1.9	3.0	4.8	95	..	2.2	..	1.5	..	..	..
Ecuador	1.7	2.0	3.6	59	..	1.7	1.9	1.6	..	..	..
Egypt, Arab Rep.	1.8	2.0	3.8	48	1.1	1.6	2.0	2.1	3	6	4
El Salvador	2.6	4.6	7.2	143	0.3	1.1	..	1.6	..	..	..
Eritrea	2.9	..	..	..	..	0.0 [d]	..	..	..	..	..
Estonia	5.1	1.3	6.6 [c]	243	4.2	3.0	12.4	7.4	18	9	5
Ethiopia	1.3	2.4	4.1	4	0.0 [d]	0.0 [d]	0.3	0.2	..	..	..
Finland	5.2	1.7	6.8	1,704	1.9	3.1	15.5	7.5	27	11	4
France	7.3	2.0	9.3	2,288	..	3.0	..	8.5	23	11	7
Gabon	2.1	1.0	3.1	122	..	0.2	..	3.2	..	..	..
Gambia, The	2.3	1.9	3.7	13	..	0.0 [d]	..	0.6	..	..	..
Georgia	0.8	2.0	2.8	16	4.8	4.4	10.7	4.8	5	11	1
Germany	7.9	2.6	10.5	2,697	2.2	3.5	..	9.3	21	12	7
Ghana	1.7	2.9	4.7	19	..	0.1	..	1.5	..	..	..
Greece	4.7	3.6	8.4	965	2.4	4.1	6.2	5.0	15	8	..
Guatemala	2.1	2.3	4.3	78	..	0.9	..	1.0	..	..	..
Guinea	2.3	1.5	3.8	19	..	0.1	..	0.6	..	..	..
Guinea-Bissau	..	..	..	..	0.1	0.2	1.9	1.5	..	..	..
Haiti	1.4	2.8	4.2	21	..	0.2	0.7	0.7	..	..	..
Honduras	3.9	4.7	8.6	74	..	0.8	1.3	1.1	..	..	..

	Health expenditure			Health expenditure per capita	Physicians		Hospital beds		Inpatient admission rate	Average length of stay	Outpatient visits per capita
	Public % of GDP 1995-99[a]	Private % of GDP 1995-99[a]	Total % of GDP 1995-99[a,b]	$ 1995-99[a]	per 1,000 people 1980	per 1,000 people 1990-99[a]	per 1,000 people 1980	per 1,000 people 1990-99[a]	% of population 1990-99[a]	days 1990-99[a]	1990-99[a]
Hungary	5.2	1.6	6.8	318	2.5	3.2	9.1	8.3	24	10	15
India	0.8	4.2	5.4	20	0.4	0.4	0.8	0.8	..	..	..
Indonesia	0.8	0.9	1.6	8	..	0.2	..	0.7	..	..	..
Iran, Islamic Rep.	1.7	2.5	4.2	128	..	0.9	1.5	1.6	..	..	..
Iraq	3.8	1.8	5.6	..	0.6	0.5	1.9	1.4	..	..	..
Ireland	5.2	1.6	6.8	1,569	1.3	2.3	9.7	3.7	14	8	..
Israel	6.0	3.6	9.5	1,607	..	3.9	5.1	6.0	..	..	..
Italy	5.6	2.6	8.2	1,676	..	5.9	..	5.5	18	8	5
Jamaica	3.0	2.5	5.5	157	..	1.4	..	2.1	..	..	..
Japan	5.7	1.6	7.2	2,243	..	1.9	11.3	16.4	10	40	16
Jordan	3.6	3.8	8.0 [c]	139	0.8	1.7	1.3	1.8	11	4	3
Kazakhstan	2.7	2.9	5.5	62	3.2	3.5	13.2	8.5	15	16	0 [e]
Kenya	2.4	5.5	7.8	31	..	0.1	..	1.6	..	..	..
Korea, Dem. Rep.	..	..	..	..	..	3.0	..	..	..	..	..
Korea, Rep.	2.4	3.0	5.4	470	0.6	1.3	1.7	5.5	6	12	10
Kuwait	2.9	0.4	3.3	551	1.7	1.9	4.1	2.8	..	..	..
Kyrgyz Republic	2.2	2.2	4.4	11	2.9	3.0	12.0	9.5	21	15	1
Lao PDR	1.2	1.3	2.5	6	..	0.2	..	2.6	..	..	..
Latvia	4.0	2.6	6.7	166	4.1	2.8	13.7	10.3	21	14	4
Lebanon	2.2	9.7	12.1 [c]	469	..	2.1	..	2.7	17	4	..
Lesotho	3.4	2.2	..	..	..	0.1	..	..	..	..	..
Liberia	..	..	..	..	..	0.0 [d]	..	..	..	..	..
Libya	..	..	..	..	1.3	1.3	..	4.3	..	..	..
Lithuania	4.7	1.5	6.3	183	3.9	4.0	12.1	9.2	24	11	7
Macedonia, FYR	5.3	1.0	4.9	90	..	2.2	..	4.7	9	13	3
Madagascar	1.1	1.0	2.1	5	..	0.1	..	0.9	..	..	..
Malawi	2.8	3.5	6.3	11	..	0.0 [d]	..	1.3	..	..	2
Malaysia	1.4	1.0	2.5	81	0.3	0.7	..	2.0	..	..	..
Mali	2.1	2.2	4.3	11	0.0 [d]	0.1	..	0.2	1	7	0 [e]
Mauritania	1.4	3.4	4.8	19	..	0.1	..	0.7	..	..	..
Mauritius	1.8	1.6	3.4	120	0.5	0.9	3.1	3.1	0 [e]	..	4
Mexico	2.6	2.8	5.3	236	..	1.7	..	1.1	6	4	2
Moldova	2.9	2.1	6.4	25	3.1	3.5	12.0	12.1	19	18	8
Mongolia	4.7	..	..	..	..	2.4	11.2	11.5	..	..	..
Morocco	1.2	3.2	4.4	49	..	0.5	..	1.0	3	7	..
Mozambique	2.8	0.7	3.5	8	0.0 [d]	..	1.1	0.9	..	..	..
Myanmar	0.2	1.6	1.8	97	..	0.3	0.9	0.6	..	..	..
Namibia	3.3	3.3	7.0	142	..	0.3	..	..	..	..	..
Nepal	1.3	4.2	5.4	11	0.0 [d]	0.0 [d]	0.2	0.2	..	..	.. ..
Netherlands	6.0	2.8	8.7	2,173	..	3.1	12.5	11.3	11	34	6
New Zealand	6.3	1.8	8.1	1,163	1.6	2.3	..	6.2	13	9	..
Nicaragua	8.5	4.0	12.5	54	0.4	0.9	..	1.5	..	..	..
Niger	1.2	1.4	2.6	5	..	0.0 [d]	..	0.1	28	5	0 [e]
Nigeria	0.8	2.0	2.8	30	0.1	0.2	0.9	1.7	..	..	..
Norway	7.0	2.2	9.2	3,182	1.9	2.8	15.0	14.4	16	9	4
Oman	2.9	0.6	3.5	..	0.5	1.3	1.6	2.2	9	4	4
Pakistan	0.7	3.1	4.0	18	0.3	0.6	0.6	0.7	..	..	3
Panama	4.9	2.3	7.3	246	..	1.7	..	2.2	..	..	..
Papua New Guinea	2.5	0.7	3.2	25	0.1	0.1	5.5	4.0	..	..	..
Paraguay	1.7	3.6	5.2	86	..	1.1	..	1.3	..	..	..
Peru	2.4	3.8	6.2	141	0.7	0.9	..	1.5	1	6	2
Philippines	1.6	2.1	3.6	37	0.1	1.2	1.7	1.1	..	..	..
Poland	4.7	1.5	6.2	248	1.8	2.3	5.6	5.1	15	9	5
Portugal	5.1	2.5	7.7	859	..	3.2	..	4.0	12	9	3
Puerto Rico	..	..	..	..	..	1.7	..	3.3	..	..	..
Romania	3.8	1.5	4.6	86	1.5	1.8	8.8	7.6	18	10	4
Russian Federation	4.6	1.2	4.6	133	4.0	4.2	13.0	12.1	22	17	8

2.15 Health expenditure, services, and use

	Health expenditure			Health expenditure per capita	Physicians		Hospital beds		Inpatient admission rate	Average length of stay	Outpatient visits per capita
	Public % of GDP 1995-99[a]	Private % of GDP 1995-99[a]	Total % of GDP 1995-99[a,b]	$ 1995-99[a]	per 1,000 people 1980	per 1,000 people 1990-99[a]	per 1,000 people 1980	per 1,000 people 1990-99[a]	% of population 1990-99[a]	days 1990-99[a]	1990-99[a]
Rwanda	2.0	2.1	4.1	10	0.0 [d]	0.0 [d]	1.5	1.7	..	..	..
Saudi Arabia	6.4	1.6	8.0	611	..	1.7	..	2.3	11	4	1
Senegal	2.6	1.9	4.5	23	..	0.1	..	0.4	22	10	1
Sierra Leone	0.9	4.4	5.3	8	0.1	0.1	1.2	..	..	..	..
Singapore	1.1	2.1	3.2	678	0.9	1.6	4.0	3.6	12	..	..
Slovak Republic	5.7	1.5	6.5	285	..	3.5	..	7.1	20	9	4
Slovenia	6.7	0.9	7.6	746	..	2.3	7.0	5.7	16	11	..
Somalia	..	..	..	..	0.0 [d]	0.0 [d]	..	0.8	..	..	..
South Africa	3.3	3.8	7.2	230	..	0.6	..	..	..	..	..
Spain	5.4	1.6	7.0	1,043	..	3.1	..	3.9	11	10	..
Sri Lanka	1.7	1.8	3.5	29	0.1	0.4	2.9	2.7	..	..	..
Sudan	0.7	2.6	3.3	119	0.1	0.1	0.9	1.1	..	..	..
Swaziland	2.5	1.0	3.5	46	..	0.2	..	..	..	..	..
Sweden	6.6	1.3	7.9	2,145	2.2	3.1	14.8	3.7	17	7	3
Switzerland	7.6	2.8	10.4	3,857	..	3.4	..	18.1	17	14	11
Syrian Arab Republic	0.9	1.6	2.5	116	0.4	1.3	1.1	1.4	..	..	..
Tajikistan	5.2	0.9	6.1	13	2.4	2.0	10.0	8.8	16	15	..
Tanzania	1.3	1.8	3.0	8	..	0.0 [d]	1.4	0.9	..	..	..
Thailand	1.9	4.1	6.0	112	0.1	0.4	1.5	2.0	..	..	1
Togo	1.3	1.3	2.6	9	0.1	0.1	..	1.5	..	..	..
Trinidad and Tobago	2.5	1.8	4.3	204	0.7	0.8	..	5.1	..	..	..
Tunisia	2.2	2.9	5.1	108	0.3	0.7	2.1	1.7	8	..	..
Turkey	3.3	1.4	4.8	153	0.6	1.2	2.2	2.6	7	6	2
Turkmenistan	4.1	1.1	5.2	30	2.9	3.0	10.6	11.5	17	15	..
Uganda	1.9	4.1	5.9	18	..	0.0 [d]	..	0.9	..	..	..
Ukraine	2.9	1.5	4.4	28	3.7	3.0	12.5	11.8	20	17	10
United Arab Emirates	0.8	7.6	8.4	1,428	1.1	1.8	2.8	2.6	11	5	..
United Kingdom	5.8	1.2	6.9	1,675	..	1.8	9.3	4.1	15	10	6
United States	5.7	7.1	12.9	4,271	1.8	2.7	5.9	3.6	13	7	6
Uruguay	1.9	7.3	9.1	621	..	3.7	..	4.4	..	..	..
Uzbekistan	3.4	0.6	4.1	25	2.9	3.1	11.5	8.3	19	14	..
Venezuela, RB	2.6	1.6	4.2	171	0.8	2.4	0.3	1.5	..	..	..
Vietnam	0.8	4.0	4.8	17	0.2	0.5	3.5	1.7	8	7	3
West Bank and Gaza	4.9	3.7	8.6	82	..	0.5	..	1.2	9	3	4
Yemen, Rep.	2.4	3.2	5.6	18	..	0.2	..	0.6	..	..	..
Yugoslavia, Fed. Rep.	..	..	..	..	..	2.0	..	5.3	8	12	2
Zambia	3.6	3.4	6.9	23	0.1	0.1	..	..	..	..	..
Zimbabwe	3.0	4.0	8.1 [c]	36	0.2	0.1	3.0	0.5	..	..	..
World	**5.3 w**	**3.8 w**	**9.0 w**	**483 w**	**1.0 w**	**1.4 w**	**3.4 w**	**3.2 w**	**9 w**	**13 w**	**6 w**
Low income	0.9	2.7	3.8	21	0.5	0.5	1.7	1.3	13	11	4
Middle income	2.9	2.9	5.7	119	1.2	1.7	3.4	3.4	6	12	4
Lower middle income	2.7	2.6	5.0	62	1.2	1.7	3.4	3.5	6	13	5
Upper middle income	3.2	3.1	6.2	303	..	1.6	..	3.2	6	7	4
Low & middle income	2.5	2.9	5.3	74	0.9	1.1	2.7	2.5	7	12	4
East Asia & Pacific	1.8	2.7	4.5	51	0.8	1.3	2.0	2.5	4	13	4
Europe & Central Asia	4.4	1.4	5.2	126	3.0	3.1	10.4	8.8	17	14	6
Latin America & Carib.	2.8	3.7	6.5	264	..	1.6	..	2.2	2	5	2
Middle East & N. Africa	2.9	2.2	5.1	125	..	1.0	..	1.7	5	6	3
South Asia	0.9	3.8	5.1	19	0.3	0.4	0.7	0.7	..	..	3
Sub-Saharan Africa	2.0	2.8	4.9	41	..	0.1	..	1.1	12	6	1
High income	6.0	4.0	10.1	2,733	..	2.9	..	7.2	15	14	8
Europe EMU	6.7	2.4	9.1	2,029	..	3.8	..	7.4	19	12	6

a. Data are for the most recent year available. b. Data may not sum to total because of rounding and because of differences in the year for which the most recent data are available. c. A country has one more category, external resources, in addition to public and private. d. Less than 0.05.

About the data

National health accounts track financial flows in the health sector, including both public and private expenditures by sources of funding. In contrast with high-income countries, few developing countries have health accounts that are methodologically consistent with national accounting approaches. The difficulties in creating national health accounts go beyond data collection. To establish a national health accounting system, a country needs to define the boundaries of the health care system and a taxonomy of health care delivery institutions. The accounting system should be comprehensive and standardized, providing not only accurate measurements of financial flows, but also information on the equity and efficiency of health financing to inform health policy.

The absence of consistent national health accounting systems in most developing countries makes cross-country comparisons of health spending difficult. Records of private out-of-pocket expenditures are often lacking. And compiling estimates of public health expenditures is complicated in countries where state or provincial and local governments are involved in health care financing and delivery because the data on public spending often are not aggregated. The data in the table are the product of an effort by the World Health Organization (WHO), the Organisation for Economic Co-operation and Development (OECD), and the World Bank to collect all available information on health expenditures from national and local government budgets, national accounts, household surveys, insurance publications, international donors, and existing tabulations.

Health service indicators (physicians and hospital beds per 1,000 people) and health care utilization indicators (inpatient admission rates, average length of stay, and outpatient visits) come from a variety of sources (see *Data sources*). Data are lacking for many countries, and for others comparability is limited by differences in definitions. In estimates of health personnel, for example, some countries incorrectly include retired physicians (because deletions are made only periodically) or those working outside the health sector. There is no universally accepted definition of hospital beds. Moreover, figures on physicians and hospital beds are indicators of availability, not of quality or use. They do not show how well trained the physicians are or how well equipped the hospitals or medical centers are. And physicians and hospital beds tend to be concentrated in urban areas, so these indicators give only a partial view of health services available to the entire population.

The average length of stay in hospitals is an indicator of the efficiency of resource use. Longer stays may reflect a waste of resources if patients are kept in hospitals beyond the time medically required, inflating demand for hospital beds and increasing hospital costs. Aside from differences in cases and financing methods, cross-country variations in average length of stay may result from differences in the role of hospitals. Many developing countries do not have separate extended care facilities, so hospitals become the source of both long-term and acute care. Other factors may also explain the variations. Data for some countries may not include all public and private hospitals. Admission rates may be overstated in some countries if outpatient surgeries are counted as hospital admissions. And in many countries outpatient visits, especially emergency visits, may result in double counting if a patient receives treatment in more than one department.

Definitions

• **Public health expenditure** consists of recurrent and capital spending from government (central and local) budgets and social (or compulsory) health insurance funds. • **Private health expenditure** includes direct household (out-of-pocket) spending, private insurance, spending by non-profit institutions serving households (other than social insurance) and direct service payments by private corporations. • **Total health expenditure** is the sum of public and private health expenditure, plus, for some countries, external sources (mainly foreign assistance). It covers the provision of health services (preventive and curative), family planning activities, nutrition activities, and emergency aid designated for health but does not include provision of water and sanitation. • **Physicians** are defined as graduates of any faculty or school of medicine who are working in the country in any medical field (practice, teaching, research). • **Hospital beds** include inpatient beds available in public, private, general, and specialized hospitals and rehabilitation centers. In most cases beds for both acute and chronic care are included. • **Inpatient admission rate** is the percentage of the population admitted to hospitals during a year. • **Average length of stay** is the average duration of inpatient hospital admissions. • **Outpatient visits per capita** are the number of visits to health care facilities per capita, including repeat visits.

Data sources

The estimates of health expenditure come from the WHO's *World Health Report 2000* and *World Health Report 2001*, from the OECD for its member countries, from national health accounts of a country, from the Web site *The European Observatory on Health Care Systems* (www.observatory.dk), supplemented by World Bank country and sector studies, and poverty assessments, including the Human Development Network's *Sector Strategy: Health, Nutrition, and Population* (World Bank 1997). Data are also drawn from World Bank public expenditure reviews, the International Monetary Fund's Government Finance Statistics database, and other studies. The data on private expenditure in developing countries are largely drawn from household surveys conducted by a government, or statistical or international organizations. The data on physicians, hospital beds, and utilization of health services are from the WHO and OECD, supplemented by country data.

Table 2.15a

How important are the different elements of client responsiveness?

Respect for persons	*Client orientation*
Respect for dignity	Prompt attention
Confidentiality	Quality of amenities
Autonomy	Access to social support networks
	Choice of providers

Source: WHO, *World Health Report 2000.*

Use of health services depends not only on easy access, but on responsiveness to clients by health providers. In a survey of 35 countries the poor were identified as the main disadvantaged group. They were considered to be treated with less respect for their dignity, to have less choice of providers, and to be offered poorer quality amenities than the nonpoor. Rural populations were regarded as being treated worse than urban dwellers, suffering especially from less prompt attention. In several countries women, children or adolescents, and indigenous or tribal groups received worse treatment than the rest of the population.

2.16 | Disease prevention: coverage and quality

	Access to an improved water source		Access to improved sanitation facilities		Tetanus vaccinations	Child immunization rate		Tuberculosis treatment success rate	DOTS detection rate
	% of population		% of population		% of pregnant women	% of children under 12 months			
	1990	2000	1990	2000	1996-2000[a]	measles 1995-99[a]	DPT 1995-99[a]	% of cases 1995-99[a]	% of cases 1995-99[a]
Afghanistan	..	13	..	12	..	40	35	33	5
Albania	..	..	..	..	65	85	97	..	..
Algeria	..	94	..	73	52	83	83	..	..
Angola	..	38	..	44	24	46	22	68	62
Argentina	..	79	..	85	..	99	88	55	18
Armenia	..	..	..	..	..	91	91	81	42
Australia	100	100	100	100	..	89	88	75	23
Austria	100	100	100	100	..	90	90	..	..
Azerbaijan	..	..	..	..	..	99	99	86	9
Bangladesh	91	97	37	53	64	71	72	80	25
Belarus	..	100	..	..	..	98	99	..	..
Belgium	..	..	..	..	..	83	96	..	..
Benin	..	63	20	23	50	79	79	77	31
Bolivia	74	79	55	66	27	79	78	62	77
Bosnia and Herzegovina	..	..	..	..	..	83	90	88	52
Botswana	95	..	61	..	54	86	90	47	65
Brazil	82	87	72	77	45	99	90	91	4
Bulgaria	..	..	..	..	..	96	96	..	..
Burkina Faso	53	..	24	29	33	53	42	59	9
Burundi	65	..	89	..	9	75	74	74	28
Cambodia	..	30	..	18	31	55	49	95	57
Cameroon	52	62	87	92	49	62	48	75	10
Canada	100	100	100	100	..	96	97	..	..
Central African Republic	59	60	30	31	6	39	33	..	..
Chad	..	27	18	29	24	30	21	64	33
Chile	90	94	97	97	..	96	94	83	85
China	71	75	29	38	13	90	90	97	32
Hong Kong, China	..	..	..	..	..	..	..	85	56
Colombia	87	91	82	85	..	75	74	74	30
Congo, Dem. Rep.	..	45	..	20	10	..	..	70	53
Congo, Rep.	..	51	..	..	30	23	29	..	..
Costa Rica	..	98	..	96	..	88	86	..	30
Côte d'Ivoire	65	77	49	..	49	62	62	62	44
Croatia	..	95	..	100	..	92	93	..	..
Cuba	..	95	..	95	..	96	94	94	95
Czech Republic	..	..	..	..	..	95	98	65	51
Denmark	..	100	..	..	..	92	99	..	..
Dominican Republic	78	79	60	71	86	96	73	..	7
Ecuador	..	71	..	59	..	99	80	..	26
Egypt, Arab Rep.	94	95	87	94	36	95	94	87	25
El Salvador	..	74	..	83	..	86	86	77	55
Eritrea	..	46	..	13	34	88	93	73	12
Estonia	..	..	..	..	..	92	95	..	..
Ethiopia	22	24	13	15	17	27	21	74	22
Finland	100	100	100	100	..	96	99	..	..
France	..	..	..	..	..	84	98	..	..
Gabon	..	70	..	21	54	55	37	..	..
Gambia, The	..	62	..	37	96	..	..	..	..
Georgia	..	76	..	99	..	80	90	78	46
Germany	..	..	..	..	..	75	85	..	..
Ghana	56	64	60	63	51	73	72	59	23
Greece	..	..	..	..	..	88	88	..	..
Guatemala	78	92	77	85	39	83	78	79	54
Guinea	45	48	55	58	61	52	46	73	43
Guinea-Bissau	..	49	..	47	46	70	38	..	..
Haiti	46	46	25	28	52	85	43	79	24
Honduras	84	90	..	77	..	98	95	93	15

	Access to an improved water source		Access to improved sanitation facilities		Tetanus vaccinations	Child immunization rate		Tuberculosis treatment success rate	DOTS detection rate
	% of population		% of population		% of pregnant women	% of children under 12 months		% of cases	% of cases
	1990	2000	1990	2000	1996-2000[a]	measles 1995-99[a]	DPT 1995-99[a]	1995-99[a]	1995-99[a]
Hungary	99	99	99	99	..	99	99	80	36
India	78	88	21	31	67	50	55	84	6
Indonesia	69	76	54	66	54	71	72	58	19
Iran, Islamic Rep.	86	95	81	81	75	..	..	83	31
Iraq	..	85	..	79	56	63	76	83	5
Ireland	..	..	..	..	..	77	86	..	..
Israel	..	..	..	..	..	94	96	..	83
Italy	..	..	..	..	..	70	95	72	54
Jamaica	..	71	..	84	..	96	84	89	105
Japan	..	..	..	..	..	94	71	..	..
Jordan	97	96	98	99	15	94	97	92	33
Kazakhstan	..	91	..	99	..	99	98	79	73
Kenya	40	49	84	86	51	79	79	77	53
Korea, Dem. Rep.	..	..	..	..	5	34	37	91	2
Korea, Rep.	..	92	..	63	..	85	74	..	..
Kuwait	..	..	..	..	8	96	94	..	..
Kyrgyz Republic	..	77	..	100	..	97	98	82	60
Lao PDR	..	90	..	46	32	71	56	..	..
Latvia	..	..	..	..	..	97	95	71	52
Lebanon	..	100	..	99	..	88	94	73	72
Lesotho	..	91	..	92	17	77	85	..	..
Liberia	..	..	..	..	..	..	..	..	..
Libya	71	72	97	97	..	..	..	68	134
Lithuania	..	..	..	..	..	97	93	79	2
Macedonia, FYR	..	99	..	99	..	..	..	..	..
Madagascar	44	47	36	42	35	55	55	..	..
Malawi	49	57	73	77	81	83	84	69	42
Malaysia	..	..	..	..	71	88	93	..	..
Mali	55	65	70	69	32	57	52	70	19
Mauritania	37	37	30	33	63	62	40	..	50
Mauritius	100	100	100	99	78	79	85	91	34
Mexico	83	86	69	73	..	95	96	78	38
Moldova	..	100	..	..	..	..	..	..	..
Mongolia	..	60	..	30	..	93	94	84	63
Morocco	75	82	62	75	33	90	91	82	90
Mozambique	..	60	..	43	29	57	61	..	..
Myanmar	64	68	45	46	78	85	83	82	33
Namibia	72	77	33	41	70	66	72	60	105
Nepal	66	81	21	27	33	73	76	89	44
Netherlands	100	100	100	100	..	96	97	65	40
New Zealand	..	..	..	..	..	83	88	..	..
Nicaragua	70	79	76	84	42	99	83	82	80
Niger	53	59	15	20	41	36	28	..	..
Nigeria	49	57	60	63	44	41	26	73	11
Norway	100	100	..	..	..	93	95	69	20
Oman	37	39	84	92	96	99	99	86	106
Pakistan	84	88	34	61	58	54	56	66	2
Panama	..	87	..	94	..	90	92	51	9
Papua New Guinea	42	42	82	82	11	58	56	72	5
Paraguay	63	79	89	95	..	92	66	..	..
Peru	72	77	64	76	59	93	93	92	95
Philippines	87	87	74	83	35	79	79	84	20
Poland	..	..	..	..	..	97	98	75	3
Portugal	..	..	..	..	..	96	97	74	77
Puerto Rico	..	..	..	..	..	..	..	..	..
Romania	..	58	..	53	..	98	97	85	4
Russian Federation	..	99	..	..	..	97	95	68	2

2.16 Disease prevention: coverage and quality

	Access to an improved water source		Access to improved sanitation facilities		Tetanus vaccinations	Child immunization rate		Tuberculosis treatment success rate	DOTS detection rate
	% of population		% of population		% of pregnant women	% of children under 12 months			
	1990	2000	1990	2000	1996-2000[a]	measles 1995-99[a]	DPT 1995-99[a]	% of cases 1995-99[a]	% of cases 1995-99[a]
Rwanda	..	41	..	8	43	87	85	72	37
Saudi Arabia	..	95	..	100	66	94	96	57	22
Senegal	72	78	57	70	64	60	60	48	48
Sierra Leone	..	28	..	28	42	62	46	..	..
Singapore	100	100	100	100	..	93	94	..	..
Slovak Republic	..	100	..	100	..	99	99	85	36
Slovenia	100	100	..	..	..	98	92	78	68
Somalia	..	..	..	..	..	26	18	88	22
South Africa	..	86	..	86	26	82	76	74	68
Spain	..	..	..	..	..	93	94	..	..
Sri Lanka	66	83	82	83	78	95	99	76	76
Sudan	67	75	58	62	55	53	50	65	32
Swaziland	..	..	..	..	..	82	99	..	..
Sweden	100	100	100	100	..	96	99	..	..
Switzerland	100	100	100	100	79	81	94	..	..
Syrian Arab Republic	..	80	..	90	53	97	94	88	17
Tajikistan	..	..	..	..	..	79	81	..	..
Tanzania	50	54	88	90	61	..	..	76	51
Thailand	71	80	86	96	81	96	97	68	40
Togo	51	54	37	34	41	43	41	..	..
Trinidad and Tobago	..	86	..	88	..	91	90	65	123
Tunisia	80	..	76	..	50	84	96	91	79
Turkey	80	83	87	91	30	80	79	..	..
Turkmenistan	..	58	..	100	..	97	98	..	..
Uganda	44	50	84	75	38	53	55	62	59
Ukraine	..	..	..	..	87	99	99	..	..
United Arab Emirates	..	..	..	..	..	95	94	..	..
United Kingdom	100	100	100	100	..	91	93	..	..
United States	100	100	100	100	..	92	96	72	90
Uruguay	..	98	..	95	..	93	93	84	91
Uzbekistan	..	85	..	100	..	96	99	78	2
Venezuela, RB	..	84	..	74	..	82	77	81	82
Vietnam	48	56	73	73	55	93	93	93	80
West Bank and Gaza	..	..	..	..	31	..	..	..	..
Yemen, Rep.	66	69	39	45	9	74	72	..	..
Yugoslavia, Fed. Rep.	..	..	..	..	..	..	..	..	..
Zambia	52	64	63	78	35	90	84	..	..
Zimbabwe	77	85	64	68	58	79	81	70	55
World	**76 w**	**80 w**	**48 w**	**56 w**		**73 w**	**72 w**		
Low income	70	76	36	45		57	57		
Middle income	75	81	47	59		90	89		
Lower middle income	74	80	41	52		89	89		
Upper middle income	..	87	..	81		92	88		
Low & middle income	73	79	42	52		71	70		
East Asia & Pacific	70	75	38	47		85	85		
Europe & Central Asia	..	90	..	..		93	93		
Latin America & Carib.	81	85	72	78		93	87		
Middle East & N. Africa	84	89	78	83		86	88		
South Asia	80	87	25	37		53	57		
Sub-Saharan Africa	49	55	55	55		53	46		
High income	..	..	..	..		89	92		
Europe EMU	..	..	..	..		82	93		

a. Data are for the most recent year available.

Disease prevention: coverage and quality | 2.16

About the data

The indicators in the table are based on data provided to the World Health Organization (WHO) by member states as part of their efforts to monitor and evaluate progress in implementing national health strategies. Because reliable, observation-based statistical data for these indicators do not exist in some developing countries, the data are at times estimated.

People's health is influenced by the environment in which they live. Lack of clean water and basic sanitation is the main reason diseases transmitted by feces are so common in developing countries. Drinking water contaminated by feces deposited near homes and an inadequate water supply cause diseases accounting for 10 percent of the disease burden in developing countries (World Bank 1993c). The data on access to an improved water source measure the share of the population with ready access to water for domestic purposes. The data are based on surveys and estimates provided by governments to the WHO-UNICEF Joint Monitoring Programme. The coverage rates for water and sanitation are based on information from service users on the facilities their households actually use, rather than on information from service providers, who may include nonfunctioning systems. Access to drinking water from an improved source does not ensure that the water is adequate or safe, as these characteristics are not tested at the time of the surveys.

Neonatal tetanus is an important cause of infant mortality in some developing countries. It can be prevented through immunization of the mother during pregnancy. Recommended doses for full protection are generally two tetanus shots during the first pregnancy and one booster shot during each subsequent pregnancy, with five doses considered adequate for lifetime protection. Information on tetanus shots during pregnancy is collected through surveys in which pregnant respondents are asked to show antenatal cards on which tetanus shots have been recorded. Because not all women have antenatal cards, respondents are also asked about their receipt of these injections. Poor recall may result in a downward bias in estimates of the share of births protected. But in settings where receiving injections is common, respondents may erroneously report having received tetanus toxoid.

Governments in developing countries usually finance immunization against measles and diphtheria, pertussis (whooping cough), and tetanus (DPT) as part of the basic public health package. According to the World Bank's *World Development Report 1993: Investing in Health,* these diseases accounted for about 10 percent of the disease burden among children under five in 1990, compared with an expected 23 percent at 1970 levels of vaccination. In many developing countries, however, lack of precise information on the size of the cohort of children under one year of age makes immunization coverage difficult to estimate. The data shown here are based on an assessment of national immunization coverage rates carried out in 2000-01 by the WHO and UNICEF. The assessment considered both administrative data from service providers and household survey data on children's immunization histories. Based on the data available, consideration of potential biases, and contributions of local experts, the most likely true level of immunization coverage was determined for each year.

Data on the success rate of tuberculosis treatment are provided for countries that have implemented the recommended control strategy: directly observed treatment, short course (DOTS). Countries that have not adopted DOTS or have only recently done so are omitted because of lack of data or poor comparability or reliability of reported results. The treatment success rate for tuberculosis provides a useful indicator of the quality of health services. A low rate or no success suggests that infectious patients may not be receiving adequate treatment. An essential complement to the tuberculosis treatment success rate is the DOTS detection rate, which indicates whether there is adequate coverage by the recommended case detection and treatment strategy. A country with a high treatment success rate may still face big challenges if its DOTS detection rate remains low.

Definitions

• **Access to an improved water source** refers to the percentage of the population with reasonable access to an adequate amount of water from an improved source, such as a household connection, public standpipe, borehole, protected well or spring, and rainwater collection. Unimproved sources include vendors, tanker trucks, and unprotected wells and springs. Reasonable access is defined as the availability of at least 20 liters a person a day from a source within one kilometer of the dwelling. • **Access to improved sanitation facilities** refers to the percentage of the population with at least adequate excreta disposal facilities (private or shared, but not public) that can effectively prevent human, animal, and insect contact with excreta. Improved facilities range from simple but protected pit latrines to flush toilets with a sewerage connection. To be effective, facilities must be correctly constructed and properly maintained. • **Tetanus vaccinations** refer to the percentage of pregnant women who receive two tetanus toxoid injections during their first pregnancy and one booster shot during each subsequent pregnancy. • **Child immunization rate** is the percentage of children under one year of age receiving vaccination coverage for four diseases—measles and diphtheria, pertussis (whooping cough), and tetanus (DPT). A child is considered adequately immunized against measles after receiving one dose of vaccine, and against DPT after receiving three doses. • **Tuberculosis treatment success rate** refers to the percentage of new, registered smear-positive (infectious) cases that were cured or in which a full course of treatment was completed. • **DOTS detection rate** is the percentage of estimated new infectious tuberculosis cases detected under the directly observed treatment, short-course (DOTS) case detection and treatment strategy.

Data sources

The table was produced using information provided to the WHO by countries, the WHO's EPI Information System, and its *Global Tuberculosis Control Report 2001;* the United Nations Children's Fund's (UNICEF) *State of the World's Children 2001;* and the WHO and UNICEF's *Global Water Supply and Sanitation Assessment 2000 Report.*

2.17 | Reproductive health

	Total fertility rate		Adolescent fertility rate	Women at risk of unintended pregnancy	Contraceptive prevalence rate	Births attended by skilled health staff		Maternal mortality ratio	
	births per woman		births per 1,000 women ages 15-19	% of married women ages 15-49	% of women ages 15-49	% of total		per 100,000 live births	
	1980	2000	2000	1990-2000[a]	1990-2000[a]	1982	1996-99[a]	National estimates 1990-98[a]	Modelled estimates 1995
Afghanistan	7.0	6.7	153	..	..	..	..	..	..
Albania	3.6	2.1	16	..	..	*99*	..	..	31
Algeria	6.7	3.2	24	..	51	*15*	..	220	150
Angola	6.9	6.6	219	..	..	34	..	..	1,300
Argentina	3.3	2.5	61	..	..	..	..	38	85
Armenia	2.3	1.3	44	..	..	..	96	35	29
Australia	1.9	1.8	18	..	..	99	..	..	6
Austria	1.6	1.3	21	..	..	..	..	..	11
Azerbaijan	3.2	2.0	32	..	..	..	99	43	37
Bangladesh	6.1	3.1	142	15	54	*2*	14	440	600
Belarus	2.0	1.3	28	..	..	..	..	28	33
Belgium	1.7	1.6	11	..	..	..	..	..	8
Benin	7.0	5.5	123	21	16	..	60	500	880
Bolivia	5.5	3.9	80	26	49	..	59	390	550
Bosnia and Herzegovina	2.1	1.6	23	..	..	..	..	10	15
Botswana	6.1	4.0	78	..	..	*61*	..	330	480
Brazil	3.9	2.2	70	7	77	*98*	88	160	260
Bulgaria	2.0	1.3	49	..	..	..	99	15	23
Burkina Faso	7.5	6.5	144	26	12	*12*	27	..	1,400
Burundi	6.8	6.0	55	..	..	*12*	..	..	1,900
Cambodia	5.7	4.0	60	..	24	..	31	470	590
Cameroon	6.4	4.8	142	13	19	*10*	55	430	720
Canada	1.7	1.5	20	..	..	..	..	..	6
Central African Republic	5.8	4.7	140	16	15	..	..	1,100	1,200
Chad	6.9	6.4	194	9	4	*24*	11	830	1,500
Chile	2.8	2.2	49	..	..	*95*	100	20	33
China	2.5	1.9	17	..	83	..	..	55	60
Hong Kong, China	2.0	1.0	7	..	..	*100*	..	..	..
Colombia	3.9	2.6	80	8	77	..	..	80	120
Congo, Dem. Rep.	6.6	6.1	215	..	..	..	..	..	940
Congo, Rep.	6.3	6.0	141	..	..	..	..	..	1,100
Costa Rica	3.6	2.5	85	..	..	..	..	29	35
Côte d'Ivoire	7.4	4.8	130	43	15	*13*	47	600	1,200
Croatia	*1.9*	1.4	19	..	69	..	..	6	18
Cuba	2.0	1.6	65	..	..	..	..	27	24
Czech Republic	2.1	1.2	23	..	69	..	..	9	14
Denmark	1.5	1.7	9	..	..	..	..	10	15
Dominican Republic	4.2	2.7	90	13	64	..	96	230	110
Ecuador	5.0	3.0	72	..	66	62	..	160	210
Egypt, Arab Rep.	5.1	3.3	53	11	56	..	56	170	170
El Salvador	4.9	3.1	10	8	60	*35*	90	120	180
Eritrea	*7.5*	5.4	119	28	8	..	..	1,000	1,100
Estonia	2.0	1.2	25	..	..	..	..	50	80
Ethiopia	6.6	5.6	152	36	8	*58*	..	870	1,800
Finland	1.6	1.7	11	..	..	..	..	6	6
France	1.9	1.9	9	..	71	..	..	10	20
Gabon	4.5	4.2	172	28	33	..	..	520	620
Gambia, The	6.5	5.0	139	..	..	41	..	..	1,100
Georgia	2.3	1.1	47	21	41	..	..	70	22
Germany	1.4	1.4	13	..	..	..	..	8	12
Ghana	6.5	4.2	90	23	22	*47*	44	210	590
Greece	2.2	1.3	18	..	..	*99*	..	1	2
Guatemala	6.3	4.6	117	23	38	*40*	..	190	270
Guinea	6.1	5.2	168	24	6	..	35	670	1,200
Guinea-Bissau	6.0	5.8	190	..	..	..	..	910	910
Haiti	5.9	4.3	80	40	28	34	..	525	1,100
Honduras	6.5	3.9	102	11	50	*50*	55	110	220

	Total fertility rate		Adolescent fertility rate	Women at risk of unintended pregnancy	Contraceptive prevalence rate	Births attended by skilled health staff		Maternal mortality ratio	
	births per woman		births per 1,000 women ages 15-19	% of married women ages 15-49	% of women ages 15-49	% of total		per 100,000 live births National estimates	Modelled estimates
	1980	2000	2000	1990-2000[a]	1990-2000[a]	1982	1996-99[a]	1990-98[a]	1995
Hungary	1.9	1.3	28	..	73	..	..	15	23
India	5.0	3.1	104	16	52	23	..	410	440
Indonesia	4.3	2.5	60	11	57	*31*	43	450	470
Iran, Islamic Rep.	6.7	2.6	45	..	73	..	..	37	130
Iraq	6.4	4.3	38	..	..	..	..	..	370
Ireland	3.2	1.9	14	..	60	..	..	6	9
Israel	3.2	2.8	19	..	..	*99*	..	5	8
Italy	1.6	1.2	8	..	..	*100*	..	7	11
Jamaica	3.7	2.5	84	15	65	*89*	95	120	120
Japan	1.8	1.4	4	..	..	*100*	..	8	12
Jordan	6.8	3.7	33	14	50	*75*	97	41	41
Kazakhstan	2.9	2.0	40	11	66	..	98	70	80
Kenya	7.8	4.4	111	24	39	..	44	590	1,300
Korea, Dem. Rep.	2.8	2.1	2	..	..	*100*	..	110	35
Korea, Rep.	2.6	1.4	4	..	..	70	..	20	20
Kuwait	5.3	2.7	34	..	..	..	98	5	25
Kyrgyz Republic	4.1	2.6	40	12	60	..	98	65	80
Lao PDR	6.7	5.0	91	..	25	..	..	650	650
Latvia	1.9	1.2	32	..	..	..	..	45	70
Lebanon	4.0	2.3	30	..	61	..	95	100	130
Lesotho	5.5	4.4	86	..	23	*28*	..	..	530
Liberia	6.8	6.0	230	..	..	*89*	..	..	..
Libya	7.3	3.5	35	..	45	*76*	94	75	120
Lithuania	2.0	1.3	36	..	..	..	..	18	27
Macedonia, FYR	2.5	1.8	26	..	..	..	..	3	17
Madagascar	6.6	5.4	180	26	19	*62*	47	490	580
Malawi	7.6	6.3	136	30	31	*59*	..	1,120	580
Malaysia	4.2	3.0	25	..	..	*82*	..	39	39
Mali	7.1	6.3	180	26	7	*14*	24	580	630
Mauritania	6.4	5.7	147	..	..	*23*	58	550	870
Mauritius	2.7	2.0	37	..	75	*84*	..	50	45
Mexico	4.7	2.6	64	..	65	..	..	55	65
Moldova	2.4	1.4	57	..	74	..	..	42	65
Mongolia	5.3	2.6	58	10	60	*100*	..	150	65
Morocco	5.4	2.9	50	16	59	*24*	..	230	390
Mozambique	6.5	5.1	172	7	6	*28*	44	1,100	980
Myanmar	4.9	3.0	29	..	..	97	57	230	170
Namibia	5.9	5.0	105	22	29	..	..	230	370
Nepal	6.1	4.3	120	28	29	*10*	10	..	830
Netherlands	1.6	1.7	4	..	75	*100*	..	7	10
New Zealand	2.0	2.0	30	..	..	*99*	..	15	15
Nicaragua	6.3	3.5	135	15	60	..	65	150	250
Niger	8.0	7.2	215	17	8	*20*	18	590	920
Nigeria	6.9	5.3	128	22	15	..	..	700	1,100
Norway	1.7	1.9	12	..	..	*100*	..	6	9
Oman	9.9	4.3	80	..	24	*60*	..	19	120
Pakistan	7.0	4.7	64	32	28	..	..	..	200
Panama	3.7	2.5	75	..	..	*83*	..	70	100
Papua New Guinea	5.8	4.4	77	29	26	*34*	53	370	390
Paraguay	5.2	4.0	75	17	57	*22*	71	190	170
Peru	4.5	2.8	66	10	69	*44*	56	265	240
Philippines	4.8	3.4	33	26	47	*57*	56	170	240
Poland	2.3	1.4	21	..	..	..	..	8	12
Portugal	2.2	1.5	22	..	..	..	100	8	12
Puerto Rico	2.6	1.9	73	..	78	..	..	..	30
Romania	2.4	1.3	36	..	48	*99*	..	41	60
Russian Federation	1.9	1.2	46	..	34	..	99	50	75

2.17 Reproductive health

	Total fertility rate		Adolescent fertility rate	Women at risk of unintended pregnancy	Contraceptive prevalence rate	Births attended by skilled health staff		Maternal mortality ratio	
	births per woman		births per 1,000 women ages 15-19	% of married women ages 15-49	% of women ages 15-49	% of total		per 100,000 live births	
	1980	2000	2000	1990-2000[a]	1990-2000[a]	1982	1996-99[a]	National estimates 1990-98[a]	Modelled estimates 1995
Rwanda	8.3	5.9	56	37	21	*20*	..	..	2,300
Saudi Arabia	7.3	5.5	105	..	21	*74*	91	..	23
Senegal	6.8	5.1	103	33	11	..	47	560	1,200
Sierra Leone	6.5	5.8	212	..	..	*25*	..	..	2,100
Singapore	1.7	1.5	9	..	..	*100*	100	6	9
Slovak Republic	2.3	1.3	26	..	..	..	..	9	14
Slovenia	2.1	1.2	10	..	..	..	..	11	17
Somalia	7.3	7.1	210	..	..	2	..	..	..
South Africa	4.6	2.9	70	..	62	..	84	..	340
Spain	2.2	1.2	9	..	..	*96*	..	6	8
Sri Lanka	3.5	2.1	20	..	..	*87*	95	60	60
Sudan	6.1	4.6	62	25	10	*20*	..	500	1,500
Swaziland	6.2	4.4	121	..	..	*50*	..	..	..
Sweden	1.7	1.6	11	..	..	..	..	5	8
Switzerland	1.5	1.5	5	..	..	..	..	5	8
Syrian Arab Republic	7.4	3.6	44	..	45	*43*	..	110	200
Tajikistan	5.6	3.1	35	..	..	..	..	65	120
Tanzania	6.7	5.3	125	13	25	*74*	35	530	1,100
Thailand	3.5	1.9	65	..	72	*52*	..	44	44
Togo	6.8	5.0	89	..	24	..	51	480	980
Trinidad and Tobago	3.3	1.8	40	..	..	*90*	99	..	65
Tunisia	5.2	2.1	13	..	60	*50*	82	70	70
Turkey	4.3	2.4	60	11	64	*76*	81	130	55
Turkmenistan	4.9	2.3	20	..	..	..	..	65	65
Uganda	7.2	6.2	204	29	15	..	..	510	1,100
Ukraine	2.0	1.2	43	..	68	..	..	27	45
United Arab Emirates	5.4	3.2	73	..	..	*96*	..	3	30
United Kingdom	1.9	1.7	28	..	..	*98*	..	7	10
United States	1.8	2.1	48	..	64	*99*	99	8	12
Uruguay	2.7	2.2	70	..	..	..	..	26	50
Uzbekistan	4.8	2.6	56	14	56	..	98	21	60
Venezuela, RB	4.2	2.8	98	..	..	82	..	60	43
Vietnam	5.0	2.2	31	..	75	100	77	160	95
West Bank and Gaza	..	5.7	90	..	42	..	..	..	..
Yemen, Rep.	7.9	6.2	105	39	21	..	22	350	850
Yugoslavia, Fed. Rep.	2.3	1.7	32	..	..	..	93	10	15
Zambia	7.0	5.3	156	27	26	..	47	650	870
Zimbabwe	6.4	3.8	112	15	54	*69*	84	695	610
World	**3.7 w**	**2.7 w**	**69 w**		**.. w**				
Low income	5.3	3.6	104		..				
Middle income	3.2	2.2	39		..				
Lower middle income	3.0	2.1	32		80				
Upper middle income	3.7	2.3	59		..				
Low & middle income	4.1	2.8	74		..				
East Asia & Pacific	3.0	2.1	28		83				
Europe & Central Asia	2.5	1.6	43		..				
Latin America & Carib.	4.1	2.6	72		..				
Middle East & N. Africa	6.2	3.4	51		..				
South Asia	5.3	3.3	105		52				
Sub-Saharan Africa	6.6	5.2	138		..				
High income	1.8	1.7	25		..				
Europe EMU	1.8	1.5	11		..				

a. Data are for most recent year available.

About the data

Reproductive health is a state of physical and mental well-being in relation to the reproductive system and its functions and processes. Means of achieving reproductive health include education and services during pregnancy and childbirth, provision of safe and effective contraception, and prevention and treatment of sexually transmitted diseases. Health conditions related to sex and reproduction have been estimated to account for 25 percent of the global disease burden in women (Murray and Lopez 1998). Reproductive health services will need to expand rapidly over the next two decades, when the number of women and men of reproductive age is projected to increase by more than 300 million.

Total and adolescent fertility rates are based on data on registered live births from vital registration systems or, in the absence of such systems, from censuses or sample surveys. As long as the surveys are fairly recent, the estimated rates are generally considered reliable measures of fertility in the recent past. In cases where no empirical information on age-specific fertility rates is available, a model is used to estimate the share of births to adolescents. For countries without vital registration systems, fertility rates for 2000 are generally based on extrapolations from trends observed in censuses or surveys from earlier years.

An increasing number of couples in the developing world want to limit or postpone childbearing but are not using effective contraceptive methods. These couples face the risk of unintended pregnancy, shown in the table as the percentage of married women of reproductive age who do not want to become pregnant but are not using contraception (Bulatao 1998). Information on this indicator is collected through surveys and excludes women not exposed to the risk of pregnancy because of postpartum anovulation, menopause, or infertility. Common reasons for not using contraception are lack of knowledge about contraceptive methods and concerns about their possible health side-effects.

Contraceptive prevalence reflects all methods—ineffective traditional methods as well as highly effective modern methods. Contraceptive prevalence rates are obtained mainly from Demographic and Health Surveys and contraceptive prevalence surveys (see *Primary data documentation* for the most recent survey year). Unmarried women are often excluded from such surveys, which may bias the estimates.

The share of births attended by skilled health staff is an indicator of a health system's ability to provide adequate care for pregnant women. Good antenatal and postnatal care improves maternal health and reduces maternal and infant mortality. But data may not reflect such improvements because health information systems are often weak, maternal deaths are underreported, and rates of maternal mortality are difficult to measure.

Maternal mortality ratios are generally of unknown reliability, as are many other cause-specific mortality indicators. Household surveys such as the Demographic and Health Surveys attempt to measure maternal mortality by asking respondents about survivorship of sisters. The main disadvantage of this method is that the estimates of maternal mortality that it produces pertain to 12 years or so before the survey, making them unsuitable for monitoring recent changes or observing the impact of interventions. In addition, measurement of maternal mortality is subject to many types of errors. Even in high-income countries with vital registration systems, misclassification of maternal deaths has been found to lead to serious underestimation.

The maternal mortality ratios shown in the table as reported are estimates based on national surveys, vital registration, or surveillance or are derived from community and hospital records. Those shown as modeled are based on an exercise carried out by the World Health Organization (WHO) and United Nations Children's Fund (UNICEF). In this exercise maternal mortality was estimated with a regression model using information on fertility, birth attendants, and HIV prevalence. Neither set of ratios can be assumed to provide an accurate estimate of maternal mortality in any of the countries in the table.

Definitions

• **Total fertility rate** is the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with current age-specific fertility rates. • **Adolescent fertility rate** is the number of births per 1,000 women ages 15–19. • **Women at risk of unintended pregnancy** are fertile, married women of reproductive age who do not want to become pregnant and are not using contraception. • **Contraceptive prevalence rate** is the percentage of women who are practicing, or whose sexual partners are practicing, any form of contraception. It is usually measured for married women ages 15–49 only. • **Births attended by skilled health staff** are the percentage of deliveries attended by personnel trained to give the necessary supervision, care, and advice to women during pregnancy, labor, and the postpartum period, to conduct deliveries on their own, and to care for newborns. • **Maternal mortality ratio** is the number of women who die during pregnancy and childbirth, per 100,000 live births.

Data sources

The data on reproductive health come from Demographic and Health Surveys, the WHO's *Coverage of Maternity Care* (1997) and other WHO sources, UNICEF, and national statistical offices. Modelled estimates for maternal mortality ratios are from Kenneth Hill, Carla AbouZhar and Tessa Wardlaw's "Estimates of Maternal Mortality for 1995," (2001).

2.18 | Nutrition

	Prevalence of undernourishment		Prevalence of child malnutrition		Prevalence of overweight		Prevalence of anemia	Low-birthweight babies	Breast feeding		Consumption of iodized salt	Vitamin A supplementation
	% of population		Weight for age % of children under 5	% of children under 5	Height for age % of children under 5		% of pregnant women	% of births	exclusive breastfeeding less then 4 months		% of households	% of children 6-59 months
	1990-92	1996-98	1993-2000[a]	1993-2000[a]	Year	%	1985-99[a]	1993-99[a]	Year	%	1992-98[a]	1998-2000
Afghanistan	63	70	49	48	1997	4	..	..	..	..	..	78
Afghanistan	63	70	49	48	1997	4	..	..	..	..	..	78
Albania	14	3	8	15	..	..	..	8	..	..	..	..
Algeria	5	5	13	18	1995	9	42	..	..	..	92	..
Angola	51	43	41	53	..	..	29	..	..	..	10	94
Argentina	..	..	5	12	1994	7	26	7	..	..	90	..
Armenia	..	21	3	12	1998	6	..	..	..	..	70	..
Australia	..	..	0	0	1995-96	5	..	7	..	..	..	..
Austria	..	..	..	..	..	..	..	6	..	..	..	..
Azerbaijan	..	32	17	20	1996	4	..	6	..	..	..	..
Bangladesh	35	38	61	55	1996-97	1	53	50	1996-97	26	55	79
Belarus	..	..	..	..	..	..	..	6	..	..	37	..
Belgium	..	..	..	..	..	..	..	..	..	..	..	..
Benin	21	14	29	25	1996	1	41	9	1996	2	79	100
Bolivia	25	23	8	27	1998	7	54	9	1998	32	91	85
Bosnia and Herzegovina	..	10	..	..	..	..	..	..	..	..	..	..
Botswana	20	27	17	29	..	..	..	..	1988	8	27	..
Brazil	13	10	6	11	1996	5	33	8	1996	20	95	20
Bulgaria	..	13	..	..	..	..	..	7	..	..	..	..
Burkina Faso	32	32	34	37	1992-93	2	24	..	1998-99	6	23	99
Burundi	44	68	..	..	1987	1	68	16	1987	47	80	92
Cambodia	41	33	47	53	..	..	..	18	..	..	7	79
Cameroon	29	19	22	29	1991	3	44	..	1998	5	83	100
Canada	..	..	..	..	1970-72	5	..	6	..	..	..	..
Central African Republic	46	41	23	28	1995	1	67	..	1994-95	0	87	100
Chad	58	38	39	40	..	..	37	..	1996-97	1	55	92
Chile	8	4	1	2	1996	7	13	5	..	..	100	..
China	17	11	10	14	1992	4	52	..	..	..	91	..
Hong Kong, China	..	..	..	..	..	..	..	5	..	..	..	..
Colombia	17	13	8	15	1995	3	24	17	1995	4	92	..
Congo, Dem. Rep.	37	61	34	45	..	..	..	20	..	..	90	78
Congo, Rep.	34	32	..	..	..	..	..	..	..	..	..	74
Costa Rica	6	6	5	6	1996	6	27	6	..	..	97	..
Côte d'Ivoire	15	14	24	24	1994	2	34	..	1994	2	..	..
Croatia	..	12	1	1	1995-96	6	..	..	..	..	90	..
Cuba	4	19	..	..	..	..	47	8	..	..	45	..
Czech Republic	..	..	..	..	1991	4	23	6	..	..	..	..
Denmark	..	..	..	..	..	..	..	..	..	..	..	..
Dominican Republic	29	28	6	11	1996	3	..	14	1996	8	13	53
Ecuador	8	5	..	..	..	..	17	17	1987	20	99	42
Egypt, Arab Rep.	5	4	4	19	1995-96	9	24	..	1995	25	84	..
El Salvador	12	11	12	23	1993	2	14	11	..	..	91	..
Eritrea	..	65	44	38	..	..	..	..	1995	41	80	94
Estonia	..	6	..	..	..	..	..	..	..	..	..	..
Ethiopia	..	49	47	51	..	..	42	9	..	..	0	86
Finland	..	..	..	..	..	..	..	..	..	..	..	..
France	..	..	..	..	..	..	..	6	..	..	..	..
Gabon	11	8	..	..	..	..	..	..	..	..	..	..
Gambia, The	18	16	26	30	..	..	80	..	..	..	9	..
Georgia	..	23	3	12	..	..	..	..	..	..	..	..
Germany	..	..	..	..	..	..	..	..	..	..	..	..
Ghana	29	10	25	26	1993-94	2	64	8	1998	18	28	91
Greece	..	..	..	..	1995	4	..	..	..	..	..	..
Guatemala	14	24	24	46	..	..	45	8	1998-99	27	49	..
Guinea	37	29	23	26	..	..	..	13	1999	10	37	100
Guinea-Bissau	..	..	..	..	..	..	74	..	..	..	..	77
Haiti	64	62	28	32	1994-95	3	64	15	1994-95	1	10	..
Honduras	23	22	25	39	1996	1	14	9	..	..	80	53

	Prevalence of undernourishment		Prevalence of child malnutrition		Prevalence of overweight		Prevalence of anemia	Low-birthweight babies	Breast feeding		Consumption of iodized salt	Vitamin A supplementation
			Weight for age		Height for age							
	% of population		% of children under 5	% of children under 5	% of children under 5		% of pregnant women	% of births	exclusive breastfeeding less then 4 months		% of households	% of children 6-59 months
	1990-92	1996-98	1993-2000[a]	1993-2000[a]	Year	%	1985-99[a]	1993-99[a]	Year	%	1992-98[a]	1998-2000
Hungary	..	..	..	..	1980-88	2	..	8	..	..	..	..
India	26	21	47	46	1992-93	2	88	34	1999	28	70	15
Indonesia	10	6	34	42	1995	4	64	15	1997	20	64	64
Iran, Islamic Rep.	6	6	11	15	1995	3	17	10	..	..	94	..
Iraq	9	17	..	..	..	..	18	24	..	..	10	..
Ireland	..	..	..	..	..	..	..	..	..	..	..	..
Israel	..	..	..	..	..	..	..	8	..	..	..	..
Italy	..	..	..	..	1975-77	4	..	..	..	..	..	..
Jamaica	12	10	4	7	2000	5	40	11	..	..	100	..
Japan	..	..	..	..	1978-81	2	..	8	..	..	..	..
Jordan	4	5	5	8	1990	6	50	2	1997	4	95	..
Kazakhstan	..	5	4	10	1995	4	27	9	1995	4	53	..
Kenya	47	43	22	33	1993	4	35	..	1998	3	100	80
Korea, Dem. Rep.	19	57	32	15	..	..	71	..	..	..	5	100
Korea, Rep.	..	..	..	..	..	..	..	..	..	..	..	..
Kuwait	22	4	2	3	1996-97	6	40	7	..	..	..	..
Kyrgyz Republic	..	17	11	25	..	..	..	6	1997	8	27	..
Lao PDR	31	29	40	47	..	..	62	60	..	..	95	80
Latvia	..	4	..	..	..	..	..	4	..	..	..	..
Lebanon	..	..	3	12	..	..	49	19	..	..	92	..
Lesotho	31	29	16	44	..	..	7	..	..	..	73	..
Liberia	49	46	..	..	..	..	78	..	1986	7	..	93
Libya	..	..	5	15	..	..	..	..	..	..	90	..
Lithuania	..	..	..	..	..	..	..	4	..	..	..	..
Macedonia, FYR	..	7	6	7	..	..	..	8	..	..	..	..
Madagascar	33	40	40	48	1992	1	..	15	1997	17	73	94
Malawi	47	32	30	48	1992	7	55	..	1992	5	58	..
Malaysia	3	..	20	..	..	..	56	8	..	..	..	..
Mali	24	32	27	49	1995-96	1	58	..	1996	3	9	100
Mauritania	15	13	23	44	..	..	24	9	..	..	3	83
Mauritius	6	6	15	10	1995	4	29	..	..	..	0	..
Mexico	5	5	8	18	1988	4	41	9	1987	22	97	..
Moldova	..	11	..	..	..	..	20	5	..	..	..	..
Mongolia	34	45	13	25	1997	4	45	11	..	..	68	87
Morocco	5	5	..	..	1992	7	45	4	1992	30	..	0
Mozambique	67	58	26	36	..	..	58	..	1997	13	62	100
Myanmar	10	7	28	42	..	..	58	..	..	..	65	42
Namibia	27	31	..	..	1992	3	16	..	1992	4	59	83
Nepal	21	28	47	54	1996	1	65	23	1996	52	55	85
Netherlands	..	..	..	..	..	..	..	..	..	..	..	..
New Zealand	..	..	..	..	..	..	..	6	..	..	..	..
Nicaragua	29	31	12	25	1993	3	36	8	1997-98	8	86	63
Niger	42	46	40	40	1992	1	41	..	1998	0	64	100
Nigeria	16	8	27	46	1993	3	55	..	1990	2	98	23
Norway	..	..	..	..	..	..	..	5	..	..	..	..
Oman	..	..	23	23	1994-95	1	54	8	..	..	61	..
Pakistan	26	20	38	36	1990-91	3	37	25	1990-91	20	19	88
Panama	19	16	8	18	1980	4	..	8	..	..	95	..
Papua New Guinea	26	29	..	..	1982-83	2	16	16	..	..	..	..
Paraguay	18	13	..	..	1990	4	44	9	1990	4	83	..
Peru	40	18	8	26	1996	7	53	6	1996	34	93	5
Philippines	24	21	32	32	1993	1	48	11	1998	22	15	78
Poland	..	..	..	..	..	..	..	8	..	..	..	..
Portugal	..	..	..	..	..	..	..	7	..	..	..	..
Puerto Rico	..	..	..	..	1991	2	..	14	..	..	..	..
Romania	3	..	..	..	..	..	31	10	..	..	..	..
Russian Federation	..	6	3	13	..	..	30	..	..	..	30	..

2.18 Nutrition

	Prevalence of undernourishment		Prevalence of child malnutrition		Prevalence of overweight		Prevalence of anemia	Low-birthweight babies	Breast feeding		Consumption of iodized salt	Vitamin A supplementation
			Weight for age		Height for age							
	% of population		% of children under 5	% of children under 5	% of children under 5		% of pregnant women	% of births	exclusive breastfeeding less then 4 months		% of households	% of children 6-59 months
	1990-92	1996-98	1993-2000[a]	1993-2000[a]	Year	%	1985-99[a]	1993-99[a]	Year	%	1992-98[a]	1998-2000
Rwanda	37	39	27	42	1992	2	..	..	1992	76	95	93
Saudi Arabia	3	3	..	..	..	..	..	5	..	..	..	..
Senegal	21	23	13	23	1992-93	3	26	..	1997	3	9	87
Sierra Leone	45	43	..	..	..	..	31	..	..	..	75	80
Singapore	..	..	..	..	1970-77	1	..	7	..	..	..	..
Slovak Republic	..	4	..	..	..	..	..	..	..	..	..	..
Slovenia	..	3	..	..	..	..	..	5	..	..	..	..
Somalia	67	75	26	23	..	..	78	..	..	..	..	63
South Africa	..	..	9	23	1994-95	7	37	..	..	..	62	..
Spain	..	..	..	..	..	..	..	..	..	..	..	..
Sri Lanka	28	25	33	20	1987	0	39	18	1987	4	47	..
Sudan	30	18	34	34	..	..	36	15	1990	10	0	79
Swaziland	9	14	..	..	..	..	..	..	..	..	..	..
Sweden	..	..	..	..	..	..	..	..	..	..	..	..
Switzerland	..	..	..	..	..	..	..	5	..	..	..	..
Syrian Arab Republic	..	..	13	21	..	..	..	7	..	..	40	..
Tajikistan	..	32	..	..	..	..	50	..	..	..	20	..
Tanzania	31	41	29	44	1996	3	59	..	1996	7	74	21
Thailand	31	21	18	13	1987	1	57	7	1987	4	50	..
Togo	29	18	25	22	1988	3	48	..	1998	2	73	100
Trinidad and Tobago	12	13	..	..	1987	3	53	14	1987	7	..	..
Tunisia	..	..	4	8	1988	4	38	16	1988	13	98	..
Turkey	..	..	8	16	1993	3	74	..	1998	2	18	..
Turkmenistan	..	10	..	..	..	..	..	..	..	..	0	..
Uganda	23	30	26	38	1995	3	30	..	1995	35	69	79
Ukraine	..	5	..	..	..	..	..	8	..	..	4	..
United Arab Emirates	..	..	7	..	..	..	..	..	..	..	..	..
United Kingdom	..	..	..	..	1973-79	3	..	6	..	..	..	..
United States	..	..	1	2	1988-94	5	..	7	..	..	..	..
Uruguay	7	4	4	10	1992-93	6	20	8	..	..	..	..
Uzbekistan	..	11	19	31	1996	14	..	..	1996	0	17	..
Venezuela, RB	11	16	4	13	1997	3	29	12	..	..	90	..
Vietnam	28	22	37	39	1998	1	..	11	1997	1	89	55
West Bank and Gaza	..	..	15	..	..	..	..	6	..	..	..	..
Yemen, Rep.	37	35	46	52	1996	4	..	26	1997	7	39	100
Yugoslavia, Fed. Rep.	..	3	2	7	1996	5	..	..	..	..	63	..
Zambia	40	45	24	42	1996-97	3	34	10	1996	4	90	75
Zimbabwe	41	37	13	27	1994	4	..	11	1994	1	80	..

World	21w	18w	..w	..w	55w	..w	67w	..w
Low income	27	24	..	..	69	..	61	50
Middle income	15	11	13	..	44	..	69	..
Lower middle income	17	11	11	17	46	..	87	..
Upper middle income	9	8	..	..	40	..	67	..
Low & middle income	21	18	..	..	55	..	74	..
East Asia & Pacific	17	12	13	18	54	..	25	..
Europe & Central Asia	..	8	..	..	40	..	89	..
Latin America & Carib.	14	12	9	19	34	10	53	..
Middle East & N. Africa	7	8	15	..	28	..	66	..
South Asia	27	24	49	47	78	34	60	34
Sub-Saharan Africa	32	33	..	..	46	..	..	69
High income	..	..	..	..	..	..	..	..
Europe EMU	..	..	..	..	..	..	..	..

a. Data are for the most recent year available.

About the data

Data on undernourishment are produced by the Food and Agriculture Organization (FAO) based on the calories available from local food production, trade, and stocks; the number of calories needed by different age and gender groups; the proportion of the population represented by each age group; and a coefficient of distribution to take account of inequality in access to food (FAO, 2000). From a policy and program standpoint, however, this measure has its limits. First, food insecurity exists even where food availability is not a problem because of inadequate access of poor households to food. Second, food insecurity is an individual or household phenomenon, and the average food available to each person, even corrected for possible effects of low income, is not a good predictor of food insecurity among the population. And third, nutrition security is determined not only by food security, but also by the quality of care of mothers and children and the quality of the household's health environment (Smith and Haddad 2000).

Estimates of child malnutrition, based on both weight for age (underweight) and height for age (stunting), are from national survey data. The proportion of children underweight is the most common indicator of malnutrition. Being underweight, even mildly, increases the risk of death and inhibits cognitive development in children. Moreover, it perpetuates the problem from one generation to the next, as malnourished women are more likely to have low-birthweight babies. Height for age reflects linear growth achieved pre- and postnatally, and a deficit indicates long-term, cumulative effects of inadequacies of health, diet, or care. It is often argued that stunting is a proxy for multifaceted deprivation.

Estimates of children overweight are also from national survey data. Overweight in children has become a matter of growing concern in developing countries. Researchers show an association between obesity in childhood and high prevalences of high blood pressure, diabetes, respiratory disease and psychosocial and orthopedic disorders (de Onis and Blossner, 2000). The survey data were analyzed in a standardized way by the World Health Organization (WHO) to allow comparisons across countries.

Adequate quantities of micronutrients (vitamins and minerals) are essential for healthy growth and development. Studies indicate that more people are deficient in iron (anemic) than any other micronutrient, and most are women of reproductive age. Anemia during pregnancy can harm both the mother and the fetus, causing loss of the baby, premature birth, or low birthweight. Estimates of the prevalence of anemia among pregnant women are generally drawn from clinical data, which suffer from two weaknesses: the sample is based on those who seek care and is therefore not random, and private clinics or hospitals may not be part of the reporting network.

Low birthweight, which is associated with maternal malnutrition, raises the risk of infant mortality and stunts growth in infancy and childhood. Estimates of low-birthweight infants are drawn mostly from hospital records. But many births in developing countries take place at home, and these births are seldom recorded. A hospital birth may indicate higher income and therefore better nutrition, or it could indicate a higher-risk birth, possibly skewing the data on birthweights downward. The data should therefore be treated with caution.

It is estimated that breastfeeding can save some 1.5 million children a year. Breast milk alone contains all the nutrients, antibodies, hormones, and antioxidants an infant needs to thrive. It protects babies from diarrhea and acute respiratory infections, stimulates their immune systems and response to vaccination, and, according to some studies, confers cognitive benefits as well. The data are derived from national surveys.

Iodine deficiency is the single most important cause of preventable mental retardation, and it contributes significantly to the risk of stillbirth and miscarriage. Iodized salt is the best source of iodine, and a global campaign to iodize edible salt is significantly reducing the risks (UNICEF, *The State of the World's Children 1999*).

Vitamin A is essential for the functioning of the immune system. A child deficient in vitamin A faces a 25 percent greater risk of dying from a range of childhood ailments such as measles, malaria, or diarrhea. Improving the vitamin A status of pregnant women may reduce their risk of dying during pregnancy and childbirth, improves their resistance to infection, and helps reduce anemia. Giving vitamin A to new mothers who are breastfeeding helps to protect their children during the first months of life. Food fortification with vitamin A is also being introduced in many developing countries.

Definitions

• **Prevalence of undernourishment** refers to the percentage of the population that is undernourished. • **Prevalence of child malnutrition** is the percentage of children under five whose weight for age and height for age are less than minus two standard deviations from the median for the international reference population ages 0–59 months. For children up to two years of age, height is measured by recumbent length. For older children, height is measured by stature while standing. The reference population, adopted by the WHO in 1983, is based on children from the United States, who are assumed to be well nourished. • **Prevalence of overweight** is the percentage of children under five whose weight for height is greater than two standard deviations from the National Center for Health Statistics and WHO international reference median value, as recommended by a WHO Expert Committee. • **Prevalence of anemia**, or iron deficiency, refers to the percentage of pregnant women with hemoglobin levels less than 11 grams per deciliter. • **Low-birthweight babies** are newborns weighing less than 2,500 grams, with the measurement taken within the first hours of life, before significant postnatal weight loss has occurred. • **Exclusive breastfeeding** is the proportion of children less than 4-6 months old who are fed breast milk alone (no other liquids). • **Consumption of iodized salt** refers to the percentage of households that use edible salt fortified with iodine. • **Vitamin A supplementation** is the percentage of children ages 6-59 months who received at least one high dose vitamin A capsule in the previous six months.

Data sources

Data are drawn from a variety of sources, including FAO's *The State of Food Insecurity in the World 2000*; the United Nations Administrative Committee on Coordination, Subcommittee on Nutrition's *Update on the Nutrition Situation;* the WHO's *World Health Report 2000*; and UNICEF's *State of the World's Children 2001*.

2.19 | Health: risk factors and future challenges

		Prevalence of smoking		Incidence of tuberculosis	Prevalence of HIV		
		% of adults				Young people	
	Year	Males	Females	per 100,000 people **1999**	% of adults **1999**	male % age 15-24 **1999**[a]	female % age 15-24 **1999**[a]
Afghanistan		..	..	325	<0.01	..	..
Albania	1996	44	6	29	<0.01	..	..
Algeria	1998	44	7	45	0.07	..	..
Angola		..	..	271	2.78	1.25	2.72
Argentina	2000	47	34	55	0.69	0.86	0.29
Armenia		..	..	58	0.01	..	..
Australia	1995	27	23	8	0.15	0.14	0.02
Austria	1997	30	19	16	0.23	0.19	0.10
Azerbaijan	1999	30	1	62	<0.01	..	..
Bangladesh	1998	40	10	241	0.02	0.01	0.01
Belarus	1999	55	5	80	0.28	0.40	0.19
Belgium	1999	31	26	15	0.15	0.11	0.11
Benin		..	..	266	2.45	0.89	2.24
Bolivia	1998	43	18	238	0.10	0.13	0.03
Bosnia and Herzegovina		..	..	87	0.04	..	..
Botswana		..	..	702	35.80	15.84	34.31
Brazil	1995	38	29	70	0.57	0.70	0.28
Bulgaria	1996	49	24	46	0.01	..	..
Burkina Faso		..	..	319	6.44	2.31	5.79
Burundi		..	..	382	11.32	5.69	11.60
Cambodia	1994	65	..	560	4.04	2.36	3.51
Cameroon		..	..	335	7.73	3.82	7.78
Canada	1999	27	23	7	0.30	0.29	0.07
Central African Republic		..	..	415	13.84	6.91	14.07
Chad		..	..	270	2.69	1.92	3.03
Chile	1997	26	18	26	0.19	0.29	0.08
China	1996	63	4	103	0.07	0.12	0.02
Hong Kong, China		..	..	91	0.06	0.10	0.05
Colombia	1997	24	21	51	0.31	0.44	0.10
Congo, Dem. Rep.		..	..	301	5.07	2.49	5.07
Congo, Rep.		..	..	318	6.43	3.17	6.46
Costa Rica	1995	29	7	17	0.54	0.65	0.28
Côte d'Ivoire		..	..	375	10.76	3.78	9.51
Croatia		..	..	61	0.02	0.02	0.01
Cuba	1995	48	26	15	0.03	0.06	0.02
Czech Republic	1998	28	12	19	0.04	0.06	0.03
Denmark	1998	32	30	12	0.17	0.16	0.08
Dominican Republic	1993	24	17	135	2.80	2.58	2.78
Ecuador	1991	46	17	172	0.29	0.37	0.08
Egypt, Arab Rep.	1997	43	5	39	0.02	..	..
El Salvador	1989	38	12	67	0.60	0.68	0.27
Eritrea		..	..	272	2.87	..	..
Estonia	1996	48	22	61	0.04	..	..
Ethiopia		..	..	373	10.63	7.50	11.86
Finland	1999	27	20	12	0.05	0.03	0.02
France	1997	39	27	16	0.44	0.33	0.23
Gabon		..	..	289	4.16	2.32	4.72
Gambia, The		..	..	260	1.95	0.86	2.17
Georgia	1999	60	15	72	<0.01	..	..
Germany	1997	43	30	13	0.10	0.09	0.04
Ghana		..	..	281	3.60	1.36	3.42
Greece	1994	46	28	22	0.16	0.12	0.05
Guatemala	1989	38	18	85	1.38	1.16	0.92
Guinea	1998	60	44	255	1.54	0.57	1.43
Guinea-Bissau		..	..	267	2.50	0.99	2.48
Haiti	1990	11	9	361	5.17	4.88	2.91
Honduras	1988	36	11	92	1.92	1.40	1.66

	Year	Prevalence of smoking: % of adults Males	Prevalence of smoking: % of adults Females	Incidence of tuberculosis: per 100,000 people **1999**	Prevalence of HIV: % of adults **1999**	Prevalence of HIV: Young people male % age 15-24 **1999**[a]	Prevalence of HIV: Young people female % age 15-24 **1999**[a]
Hungary	1999	44	27	40	0.05	0.08	0.02
India		..	..	185	0.70	0.36	0.61
Indonesia	1995	69	3	282	0.05	0.03	0.03
Iran, Islamic Rep.	1998	25	5	54	<0.01	..	..
Iraq	1990	40	5	156	<0.01	..	..
Ireland	1998	32	31	15	0.10	0.06	0.05
Israel	1999	33	25	8	0.08	0.06	0.06
Italy	1998	32	17	9	0.35	0.29	0.24
Jamaica		..	..	8	0.71	0.59	0.40
Japan	1998	53	13	29	0.02	0.03	0.01
Jordan	1996	44	5	11	0.02	..	..
Kazakhstan		..	..	130	0.04	0.07	..
Kenya	1995	67	32	417	13.95	6.39	13.02
Korea, Dem. Rep.		..	..	176	<0.01	..	..
Korea, Rep.		..	..	69	0.01	0.02	0.00
Kuwait	1996	34	2	31	0.12	..	..
Kyrgyz Republic	1998	60	16	130	<0.01	..	..
Lao PDR		..	..	171	0.05	0.04	0.05
Latvia	1998	53	18	105	0.11	0.18	0.06
Lebanon		..	..	24	0.09	..	..
Lesotho	1992	39	1	542	23.57	12.05	26.40
Liberia		..	..	271	2.80		
Libya		..	..	24	0.05	..	..
Lithuania	1997	41	9	99	0.02	..	..
Macedonia, FYR		..	..	50	<0.01	..	..
Madagascar		..	..	236	0.14	0.04	0.13
Malawi	1996	20	9	443	15.96	7.04	15.26
Malaysia	1996	49	4	111	0.42	0.57	0.09
Mali		..	..	261	2.03	1.31	2.07
Mauritania		..	..	241	0.52	0.37	0.59
Mauritius	1998	42	3	68	0.08	0.04	0.04
Mexico	1998	51	18	39	0.29	0.40	0.06
Moldova	1998	44	3	130	0.20	0.28	0.11
Mongolia	1999	55	19	205	<0.01	..	..
Morocco	1999	30	10	119	0.03	..	..
Mozambique		..	..	407	13.22	6.73	14.74
Myanmar	1993	74	46	169	1.99	1.04	1.72
Namibia	1994	65	35	490	19.54	9.14	19.80
Nepal	1998	20	15	209	0.29	0.14	0.20
Netherlands	1998	37	30	10	0.19	0.18	0.08
New Zealand	1998	26	24	6	0.06	0.05	0.02
Nicaragua		..	..	88	0.20	0.22	0.06
Niger		..	..	252	1.35	0.95	1.50
Nigeria		..	..	301	5.06	2.52	5.12
Norway	1998	34	32	5	0.07	0.06	0.03
Oman	1995	13	0	10	0.11	..	..
Pakistan	1994	36	9	177	0.10	0.06	0.04
Panama	1993	56	20	54	1.54	1.65	1.36
Papua New Guinea		..	..	250	0.22	0.08	0.25
Paraguay	1990	24	6	68	0.11	0.13	0.04
Peru	1998	42	16	228	0.35	0.39	0.17
Philippines	1999	75	18	314	0.07	0.03	0.06
Poland	1998	39	19	39	0.06	..	..
Portugal	1996	30	7	53	0.74	0.57	0.25
Puerto Rico		..	..	9	..	..	..
Romania	1994	43	15	130	0.02	0.02	0.02
Russian Federation	1996	63	14	123	0.18	0.25	0.12

	Year	Prevalence of smoking % of adults Males	Females	Incidence of tuberculosis per 100,000 people 1999	Prevalence of HIV % of adults 1999	Young people male % age 15-24 1999[a]	female % age 15-24 1999[a]
Rwanda	1994	7	4	381	11.21	5.22	10.63
Saudi Arabia	1994	40	8	45	0.01	..	..
Senegal		..	..	258	1.77	0.71	1.60
Sierra Leone		..	..	274	2.99	1.16	2.92
Singapore	1998	27	3	48	0.19	0.22	0.16
Slovak Republic	1996	55	30	28	<0.01	0.02	0.01
Slovenia	1999	30	20	27	0.02	0.03	0.01
Somalia		..	..	365	..		
South Africa	1998	42	11	495	19.94	11.34	24.82
Spain	1997	42	25	59	0.58	0.48	0.22
Sri Lanka	1998	41	..	59	0.07	0.04	0.05
Sudan	1999	24	2	195	0.99	..	..
Swaziland	1994	25	2	564	25.25		
Sweden	1998	17	22	4	0.08	0.06	0.04
Switzerland	1997	38	27	9	0.46	0.37	0.33
Syrian Arab Republic	2000	53	9	85	0.01	..	..
Tajikistan		..	..	105	<0.01	..	..
Tanzania	1995	50	12	340	8.10	3.96	8.06
Thailand	1999	39	2	141	2.15	1.18	2.32
Togo		..	..	313	5.98	2.20	5.53
Trinidad and Tobago		..	..	12	1.05	0.84	0.59
Tunisia	1996	61	4	37	0.04	..	..
Turkey	1997	51	49	38	0.01	..	..
Turkmenistan	1990	27	1	90	<0.01	..	..
Uganda	1995	52	17	343	8.30	3.84	7.82
Ukraine	2000	58	14	73	0.96	1.29	0.79
United Arab Emirates	1995	24	1	21	0.18	..	..
United Kingdom	1997	29	28	12	0.11	0.09	0.05
United States	1997	28	22	6	0.61	0.50	0.23
Uruguay	1995	32	14	29	0.33	0.41	0.21
Uzbekistan	1991	40	1	97	<0.01	..	..
Venezuela, RB	1992	42	39	42	0.49	0.65	0.15
Vietnam	1995	73	4	189	0.24	0.27	0.09
West Bank and Gaza		..	..	28	..	..	..
Yemen, Rep.	1997	60	29	108	0.01	..	..
Yugoslavia, FR (Serb./Mont.)		..	..	47	0.10	..	..
Zambia	1996	35	10	495	19.95	8.20	17.77
Zimbabwe	1993	34	1	562	25.06	11.31	24.50

World	**47 w**	**12 w**	**142 w**	**1.05 w**	**0.70 w**	**1.07 w**
Low income	43	9	229	2.01	1.13	2.00
Middle income	55	11	104	0.53	0.49	0.59
Lower middle income	58	7	110	0.18	0.21	0.16
Upper middle income	44	26	84	1.84	1.47	2.23
Low & middle income	50	10	163	1.19	0.79	1.25
East Asia & Pacific	64	6	142	0.22	0.19	0.16
Europe & Central Asia	51	20	85	0.18	0.39	..
Latin America & Carib.	37	25	75	0.58	0.67	0.30
Middle East & N. Africa	40	7	66	0.03	..	..
South Asia	40	8	191	0.56	0.29	0.48
Sub-Saharan Africa	..	..	339	8.38	4.54	9.20
High income	35	22	16	0.33	0.28	0.14
Europe EMU	38	25	20	0.31	0.25	0.15

a. Average of high and low estimates.

About the data

The limited availability of data on health status is a major constraint in assessing the health situation in developing countries. Surveillance data are lacking for a number of major public health concerns. Estimates of prevalence and incidence are available for some diseases but are often unreliable and incomplete. National health authorities differ widely in their capacity and willingness to collect or report information. To compensate for the paucity of data and ensure reasonable reliability and international comparability, the World Health Organization (WHO) prepares estimates in accordance with epidemiological models and statistical standards.

Smoking is the most common form of tobacco use in many countries, and the prevalence of smoking is therefore a good measure of the extent of the tobacco epidemic (Corrao and others 2000). While the prevalence of smoking has been declining in some high-income countries, it has been increasing in many low- and middle-income countries. Tobacco use causes heart and other vascular diseases, and cancers of the lung and other organs. Given the long delay between starting to smoke and the onset of disease, the health impact of smoking in developing countries will increase rapidly in the next few decades. Because the data present a one-time estimate, with no information on intensity of smoking or duration, they should be interpreted with caution. The data in the table are based on surveys and other studies compiled in *Tobacco Control Country Profiles* (Corrao and others 2000), issued for the 2000 World Conference on Tobacco or Health.

Tuberculosis is the main cause of death from a single infectious agent among adults in developing countries. In high-income countries tuberculosis has reemerged largely as a result of cases among immigrants. The estimates of tuberculosis incidence in the table are based on a new approach in which reported cases are adjusted using the ratio of case notifications to the estimated share of cases detected by panels of 80 epidemiologists convened by the WHO.

Adult HIV prevalence rates reflect the rate of HIV infection in each country's population. Low national prevalence rates, however, can be very misleading. They often disguise serious epidemics that are initially concentrated in certain localities or among specific population groups and that threaten to spill over into the wider population. In many parts of the developing world the majority of new infections occur in young adults, with young women especially vulnerable. About one-third of those currently living with HIV/AIDS are in the age group 15-24. The estimates of HIV prevalence are based on extrapolations from data collected through surveys and surveillance of small, nonrepresentative groups.

Table 2.19a

Bednets save lives

Percentage of children under five who sleep under a treated bednet

São Tomé and Principe	53
Malawi	38
Niger	35
Gambia, The	35
Vietnam	32
Tajikistan	32
Cameroon	12
Senegal	11
Guyana	11
Azerbaijan	11
Sierra Leone	10
Tanzania	10
Chad	2
Madagascar	1
Lao, PDR	0

Source: UNICEF Multiple Indicator Cluster Surveys, (www.childinfo.org).

Malaria is endemic in the poorest countries in the world, causing 300-500 million clinical cases and more than one million deaths per year. More than 90 percent of malaria deaths occur in Sub-Saharan Africa, and almost all deaths are in children under five. Over the last two decades, morbidity and mortality from malaria have been increasing as a result of growing drug and insecticide resistance, deteriorating health systems, changes in weather patterns, and population displacement.

Roll Back Malaria is a partnership, founded by the WHO, UNICEF, the United Nations Development Programme, and the World Bank in 1998 with the objective of halving the malaria burden world-wide by the year 2010. This goal can be achieved only if a number of strategies that have proven effective, sustainable, and cost-effective are implemented. Among the core strategies is the widespread use of insecticide-treated bednets to limit human-mosquito contact. In areas of Sub-Saharan Africa with high levels of malaria transmission, regular use of an insecticide-treated bednet can reduce mortality in children under five by as much as 30 percent.

Definitions

• **Prevalence of smoking** is the percentage of men and women who smoke cigarettes. The age range varies among countries, but in most is 18 and above or 15 and above. • **Incidence of tuberculosis** is the estimated number of new tuberculosis cases (pulmonary, smear positive, extrapulmonary). • **Prevalence of HIV** refers to the percentage of people who are infected with HIV.

Data sources

The data are drawn from a variety of sources, including the WHO's *World Health Report 2000* and *Global Tuberculosis Control Report 1999;* the NATIONS database (http://apps.nccd.cdc.gov/nations/) and UNAIDS and the WHO's *AIDS Epidemic Update* (2000).

2.20 | Mortality

	Life expectancy at birth		Infant mortality rate		Under-five mortality rate		Child mortality rate		Adult mortality rate		Survival to age 65	
	years		per 1,000 live births		per 1,000		Male per 1,000	Female per 1,000	Male per 1,000	Female per 1,000	% of cohort	
	1980	2000	1980	2000	1980	2000	1988-2000[a]	1988-2000[a]	2000	2000	Male 2000	Female 2000
Afghanistan	40	43	177	163	280	279	..	..	394	353	31	31
Albania	69	74	47	20	57	..	15	15	171	86	76	84
Algeria	59	71	98	33	139	39	..	..	149	127	73	79
Angola	41	47	154	128	261	208	..	..	442	391	34	38
Argentina	70	74	35	17	38	22	..	..	178	89	74	86
Armenia	73	74	26	15	..	17	..	..	171	76	74	86
Australia	74	79	11	5	13	7	..	..	102	54	83	91
Austria	73	78	14	5	17	6	..	..	126	60	81	90
Azerbaijan	69	72	30	13	..	21	..	..	207	103	68	83
Bangladesh	49	61	132	60	211	83	28	38	278	272	57	59
Belarus	71	68	16	11	..	14	..	..	361	128	53	80
Belgium	73	78	12	5	15	7	..	..	129	66	81	90
Benin	48	53	116	87	214	143	89	90	373	322	42	48
Bolivia	52	63	118	57	170	79	26	26	258	214	58	66
Bosnia and Herzegovina	70	73	31	13	..	18	..	..	165	90	73	84
Botswana	58	39	71	58	94	99	18	16	792	747	13	17
Brazil	63	68	71	32	..	39	8	9	252	137	61	78
Bulgaria	71	72	20	13	25	16	..	..	227	106	67	82
Burkina Faso	44	44	134	104	..	206	131	128	557	524	27	31
Burundi	47	42	122	102	193	176	101	114	620	582	25	28
Cambodia	39	54	183	88	330	120	34	30	381	322	41	47
Cameroon	50	50	103	76	173	155	69	75	490	433	34	39
Canada	75	79	10	5	13	7	..	..	105	60	83	91
Central African Republic	46	43	117	96	..	152	63	64	612	561	24	28
Chad	42	48	123	101	235	188	106	99	433	383	37	42
Chile	69	76	32	10	35	12	3	2	153	83	77	87
China	67	70	42	32	65	39	10	11	161	115	71	77
Hong Kong, China	74	80	11	3	..	..	..	..	102	52	84	91
Colombia	66	72	41	20	58	23	4	3	203	114	70	82
Congo, Dem. Rep.	49	46	112	85	210	163	..	..	514	481	30	33
Congo, Rep.	50	51	88	68	125	106	..	..	476	403	35	42
Costa Rica	73	77	19	10	29	13	..	..	120	72	81	89
Côte d'Ivoire	49	46	108	111	170	180	71	58	535	506	30	33
Croatia	70	73	21	8	23	9	..	..	154	117	69	86
Cuba	74	76	20	6	22	9	..	..	121	76	80	87
Czech Republic	70	75	16	4	19	7	..	..	168	78	74	86
Denmark	74	76	8	4	10	6	..	..	132	83	79	87
Dominican Republic	63	67	76	39	92	47	13	13	233	148	61	73
Ecuador	63	70	74	28	101	34	12	9	185	123	70	75
Egypt, Arab Rep.	56	67	121	42	175	52	15	16	189	153	67	73
El Salvador	57	70	84	29	120	35	17	20	243	141	67	80
Eritrea	44	52	..	60	..	103	89	78	466	417	37	41
Estonia	69	71	17	8	25	11	..	..	294	104	58	83
Ethiopia	42	42	155	98	213	179	83	86	575	530	25	29
Finland	73	77	8	4	9	5	..	..	137	60	79	90
France	74	79	10	4	14	6	..	..	138	59	81	91
Gabon	48	53	104	58	..	89	32	33	391	348	44	49
Gambia, The	40	53	159	73	216	..	83	79	436	388	40	46
Georgia	71	73	25	17	..	21	..	..	211	82	70	85
Germany	73	77	12	4	16	6	..	..	127	61	79	89
Ghana	53	57	94	58	157	112	53	51	334	294	46	49
Greece	74	78	18	5	23	8	..	..	114	51	81	89
Guatemala	57	65	84	39	..	49	15	18	288	185	58	70
Guinea	40	46	151	95	..	161	101	98	448	443	31	32
Guinea-Bissau	39	45	169	126	290	211	..	..	473	420	33	37
Haiti	51	53	124	73	200	111	52	54	459	355	38	46
Honduras	60	66	70	35	103	44	..	..	245	152	58	70

	Life expectancy at birth		Infant mortality rate		Under-five mortality rate		Child mortality rate		Adult mortality rate		Survival to age 65	
	years		per 1,000 live births		per 1,000		Male per 1,000	Female per 1,000	Male per 1,000	Female per 1,000	% of cohort	
	1980	2000	1980	2000	1980	2000	1988-2000[a]	1988-2000[a]	2000	2000	Male 2000	Female 2000
Hungary	70	71	23	9	26	11	..	..	272	116	65	83
India	54	63	115	69	177	88	25	37	222	209	60	63
Indonesia	55	66	90	41	125	51	19	20	232	180	62	70
Iran, Islamic Rep.	58	69	98	33	126	41	..	..	166	148	71	74
Iraq	62	61	80	93	95	121	..	..	225	185	62	66
Ireland	73	76	11	6	14	7	..	..	112	67	78	87
Israel	73	78	16	6	19	7	..	..	104	62	83	89
Italy	74	79	15	5	17	7	..	..	113	52	80	91
Jamaica	71	75	33	20	39	24	..	..	127	85	79	86
Japan	76	81	8	4	10	5	..	..	96	44	85	93
Jordan	..	72	41	25	..	30	7	5	153	116	73	79
Kazakhstan	67	65	33	21	..	28	11	6	378	166	49	73
Kenya	55	47	75	78	115	120	36	38	600	558	28	32
Korea, Dem. Rep.	67	61	32	54	43	90	..	..	315	233	53	60
Korea, Rep.	67	73	26	8	27	10	..	..	186	81	71	85
Kuwait	71	77	27	9	35	13	..	..	117	70	81	87
Kyrgyz Republic	65	67	43	23	..	35	10	11	297	136	57	77
Lao PDR	45	54	127	92	200	..	..	..	374	313	43	48
Latvia	69	70	20	10	26	17	..	..	296	121	59	83
Lebanon	65	70	48	26	..	30	..	..	171	127	70	77
Lesotho	53	44	119	91	168	143	..	..	557	523	25	28
Liberia	51	47	153	111	235	185	..	..	431	395	34	38
Libya	60	71	53	26	80	32	6	5	181	135	71	80
Lithuania	71	73	20	9	24	11	..	..	248	86	65	86
Macedonia, FYR	..	73	54	14	69	17	..	..	159	100	74	83
Madagascar	51	55	119	88	216	144	75	68	324	283	48	53
Malawi	44	39	169	103	265	193	101	102	593	574	19	22
Malaysia	67	73	30	8	42	11	4	4	186	110	71	81
Mali	42	42	184	120	..	218	136	138	496	441	25	28
Mauritania	47	52	120	101	188	164	..	..	360	307	44	49
Mauritius	66	72	32	16	40	20	..	..	199	102	69	83
Mexico	67	73	51	29	74	36	15	17	155	94	74	84
Moldova	66	68	35	18	..	22	..	..	306	172	58	74
Mongolia	58	67	82	56	..	71	27	22	196	168	68	73
Morocco	58	67	99	47	152	60	21	19	195	142	66	74
Mozambique	44	42	145	129	..	200	84	82	591	527	24	29
Myanmar	51	56	113	89	134	126	..	..	357	262	44	55
Namibia	53	47	90	62	114	112	30	34	588	542	21	24
Nepal	48	59	132	74	180	105	..	..	260	265	57	54
Netherlands	76	78	9	5	11	7	..	..	100	65	81	89
New Zealand	73	78	13	6	16	7	..	..	119	69	82	89
Nicaragua	59	69	84	33	143	41	12	11	200	136	67	76
Niger	42	46	135	114	317	248	184	202	476	389	30	36
Nigeria	46	47	99	84	196	153	66	69	468	418	32	35
Norway	76	79	8	4	11	5	..	..	107	61	82	90
Oman	60	74	41	17	95	22	..	..	136	101	77	82
Pakistan	55	63	127	83	157	110	22	37	194	164	63	68
Panama	70	75	32	20	36	24	..	..	133	81	77	85
Papua New Guinea	51	59	78	56	..	75	28	21	360	329	49	52
Paraguay	67	70	50	23	61	28	10	12	184	119	68	79
Peru	60	69	81	32	126	41	19	20	193	132	68	77
Philippines	61	69	65	31	81	39	21	19	190	142	68	76
Poland	70	73	26	9	..	11	..	..	221	86	70	86
Portugal	71	76	24	6	31	8	..	..	153	69	76	88
Puerto Rico	74	76	19	10	..	..	..	..	151	57	75	90
Romania	69	70	29	19	36	23	7	5	250	117	63	79
Russian Federation	67	65	22	16	..	19	3	2	416	148	47	75

2.20 Mortality

	Life expectancy at birth		Infant mortality rate		Under-five mortality rate		Child mortality rate		Adult mortality rate		Survival to age 65	
	years		per 1,000 live births		per 1,000		Male per 1,000	Female per 1,000	Male per 1,000	Female per 1,000	% of cohort	
	1980	2000	1980	2000	1980	2000	1988-2000[a]	1988-2000[a]	2000	2000	Male 2000	Female 2000
Rwanda	46	40	128	123	..	203	87	73	614	581	22	24
Saudi Arabia	61	73	65	18	85	23	..	..	155	120	75	81
Senegal	45	52	117	60	..	129	76	74	401	303	32	40
Sierra Leone	35	39	190	154	336	267	..	..	527	477	26	30
Singapore	71	78	12	3	13	6	..	..	122	68	82	88
Slovak Republic	70	73	21	8	23	10	..	..	212	85	69	85
Slovenia	70	75	15	5	18	7	..	..	165	73	75	88
Somalia	43	48	145	117	246	195	..	..	397	340	38	44
South Africa	57	48	67	63	91	79	..	..	549	487	26	32
Spain	76	78	12	4	16	6	..	..	125	52	80	91
Sri Lanka	68	73	34	15	48	18	10	9	161	92	76	83
Sudan	48	56	117	81	145	..	62	63	330	289	51	55
Swaziland	52	46	100	89	151	119	..	..	567	526	25	29
Sweden	76	80	7	3	8	4	..	..	91	56	84	91
Switzerland	76	80	9	4	11	6	..	..	105	58	84	92
Syrian Arab Republic	62	70	56	24	73	29	..	..	180	134	68	77
Tajikistan	66	69	58	21	..	30	..	..	236	142	63	75
Tanzania	50	44	108	93	176	149	61	58	562	521	26	30
Thailand	64	69	49	28	58	33	11	11	229	144	66	75
Togo	49	49	100	75	188	142	75	90	473	431	37	41
Trinidad and Tobago	68	73	35	16	40	19	4	3	181	133	72	80
Tunisia	62	72	69	26	100	30	19	19	166	121	74	81
Turkey	61	70	109	34	133	43	12	14	188	125	68	78
Turkmenistan	64	66	54	27	..	43	..	..	282	157	58	73
Uganda	48	42	116	83	180	161	82	72	604	590	24	27
Ukraine	69	68	17	13	..	16	..	..	335	132	55	79
United Arab Emirates	68	75	55	7	..	10	..	..	127	91	79	84
United Kingdom	74	77	12	6	14	7	..	..	113	66	80	88
United States	74	77	13	7	15	9	..	..	138	81	80	90
Uruguay	70	74	37	14	42	17	..	..	166	74	73	87
Uzbekistan	67	70	47	22	..	27	15	9	226	127	65	78
Venezuela, RB	68	73	36	19	42	24	..	..	176	100	74	84
Vietnam	60	69	57	27	105	34	..	..	206	141	66	76
West Bank and Gaza	..	72	..	22	..	26	10	7	160	103	73	82
Yemen, Rep.	49	56	141	76	198	95	33	36	311	288	49	51
Yugoslavia, Fed. Rep.	70	72	33	13	..	15	..	..	174	105	72	81
Zambia	50	38	90	115	149	186	96	93	655	634	16	20
Zimbabwe	55	40	80	69	108	116	35	31	630	594	18	19
World	**63 w**	**66 w**	**80 w**	**54 w**	**124 w**	**78 w**	**.. w**	**.. w**	**224 w**	**168 w**	**69 w**	**78 w**
Low income	53	59	112	76	176	115	..	..	294	261	64	69
Middle income	66	70	55	31	79	39	..	..	199	127	63	80
Lower middle income	66	69	54	33	81	41	10	11	192	125	61	78
Upper middle income	65	70	57	28	..	35	..	..	224	136	68	82
Low & middle income	60	64	87	58	136	84	..	..	242	187	64	73
East Asia & Pacific	64	69	56	35	82	45	10	11	183	132	69	76
Europe & Central Asia	68	69	41	20	..	25	..	..	298	127	59	80
Latin America & Carib.	65	70	61	29	..	37	..	..	208	121	67	81
Middle East & N. Africa	58	68	98	43	136	54	..	..	183	151	68	73
South Asia	54	62	119	73	179	96	25	37	227	212	62	65
Sub-Saharan Africa	48	47	116	91	187	162	..	..	504	459	40	46
High income	74	78	12	6	15	7	..	..	122	64	81	90
Europe EMU	74	78	13	5	16	6	..	..	125	58	80	90

a. Data are for the most recent year available.

About the data

Mortality rates for different age groups—infants, children, or adults—and overall indicators of mortality—life expectancy at birth or survival to a given age—are important indicators of health status in a country. Because data on the incidence and prevalence of diseases (morbidity data) frequently are unavailable, mortality rates are often used to identify vulnerable populations. And they are among the indicators most frequently used to compare levels of socioeconomic development across countries.

The main sources of mortality data are vital registration systems and direct or indirect estimates based on sample surveys or censuses. A "complete" vital registration system—one covering at least 90 percent of vital events in the population—is the best source of age-specific mortality data. But such systems are fairly uncommon in developing countries. Thus estimates must be obtained from sample surveys or derived by applying indirect estimation techniques to registration, census, or survey data. Survey data are subject to recall error, and surveys estimating infant deaths require large samples because households in which a birth or an infant death has occurred during a given year cannot ordinarily be preselected for sampling. Indirect estimates rely on estimated actuarial ("life") tables that may be inappropriate for the population concerned. Because life expectancy at birth is constructed using infant mortality data and model life tables, similar reliability issues arise for this indicator.

Life expectancy at birth and age-specific mortality rates for 2000 are generally estimates based on vital registration or the most recent census or survey available (see *Primary data documentation*). Extrapolations based on outdated surveys may not be reliable for monitoring changes in health status or for comparative analytical work.

Specific problems arise in calculating infant mortality rates in developing countries, where routine data collection in the health system often omits many infant deaths. In countries where civil registration of deaths is incomplete, many infants dying during the first weeks of life may not even have been registered as having been born. Rates based on civil registration in these countries, or on hospital data covering mainly urban areas, are therefore biased because they reflect the more privileged population. Infant and child mortality rates are higher for boys than for girls in countries in which parental gender preferences are absent. Child mortality captures the effect of gender discrimination better than does infant mortality, as malnutrition and medical interventions are more important in this age group. Where female child mortality is higher, as in some countries in South Asia, it is likely that girls have unequal access to resources.

Adult mortality rates have increased in many countries in Sub-Saharan Africa and Europe and Central Asia. In Sub-Saharan Africa the increase stems from AIDS-related mortality and affects both men and women. In Europe and Central Asia the causes are more diverse and affect men more. They include a high prevalence of smoking, a high-fat diet, excessive alcohol use, and stressful conditions related to the economic transition.

The percentage of a cohort surviving to age 65 reflects both child and adult mortality rates. Like life expectancy, it is a synthetic measure based on current age-specific mortality rates and used in the construction of life tables. It shows that even in countries where mortality is high, a certain share of the current birth cohort will live well beyond the life expectancy at birth, while in low-mortality countries close to 90 percent will reach at least age 65.

Table 2.20a

Differences in life expectancy shrink at older ages

Additional years of life expectancy at age 60, selected countries

	2000 (estimate)	2020 (projection)
Brazil	17.1	18.6
China	17.9	19.5
India	15.6	16.8
Nigeria	15.1	15.8
Russian Federation	15.7	17
Turkey	17.8	19.4

Source: World Bank staff estimates

Changes in life expectancy at birth are strongly influenced by trends in infant and child mortality. The rapid improvements in life expectancy in the second half of the 20th century were the result of declining childhood mortality. Improvements in mortality at the oldest ages add fewer years of life to overall life expectancy, and differences among countries in life expectancy at older ages are therefore considerably smaller than at birth. Nevertheless, mortality at older ages has also declined, and is expected to continue to do so in the next decades. This trend, together with the increasing number of people who are entering the older ages, will result in a rapidly growing elderly population.

Definitions

• **Life expectancy at birth** is the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life. • **Infant mortality rate** is the number of infants dying before reaching the age of one year, per 1,000 live births in a given year. • **Under-five mortality rate** is the probability that a newborn baby will die before reaching age five, if subject to current age-specific mortality rates. • **Child mortality rate** is the probability of dying between the ages of one and five, if subject to current age-specific mortality rates. • **Adult mortality rate** is the probability of dying between the ages of 15 and 60—that is, the probability of a 15-year-old dying before reaching age 60, if subject to current age-specific mortality rates between ages 15 and 60. • **Survival to age 65** refers to the percentage of a cohort of newborn infants that would survive to age 65, if subject to current age-specific mortality rates.

Data sources

The data are from the United Nations Statistics Division's *Population and Vital Statistics Report;* publications and other releases from country statistical offices; Demographic and Health Surveys from national sources and Macro International; and the United Nations Children's Fund's (UNICEF) *State of the World's Children 2000.*