CALCULATING THE HUMAN DEVELOPMENT INDICES
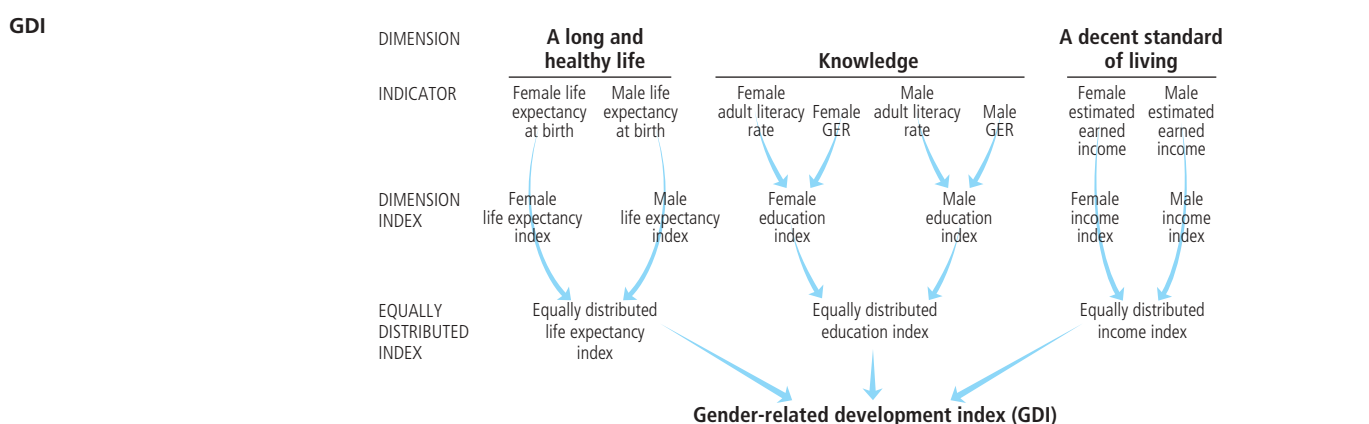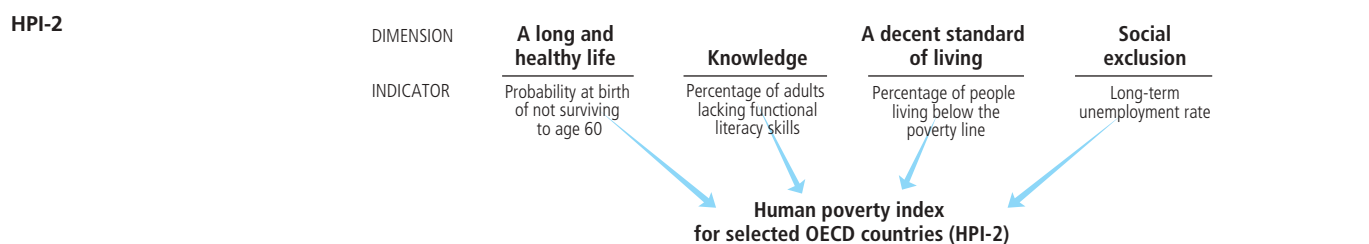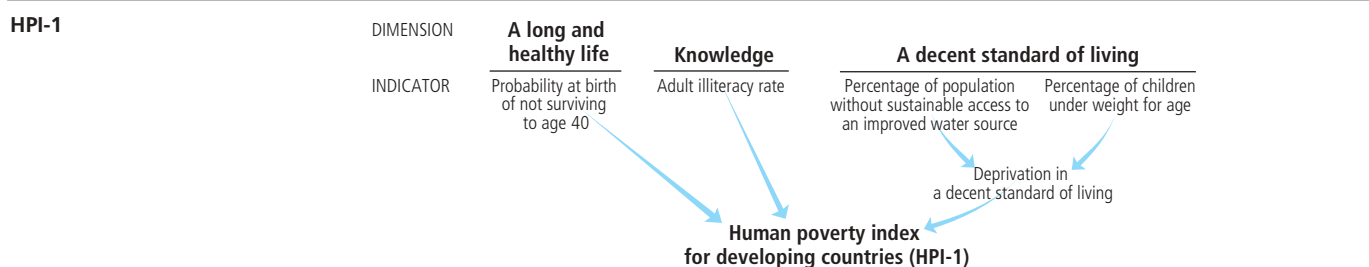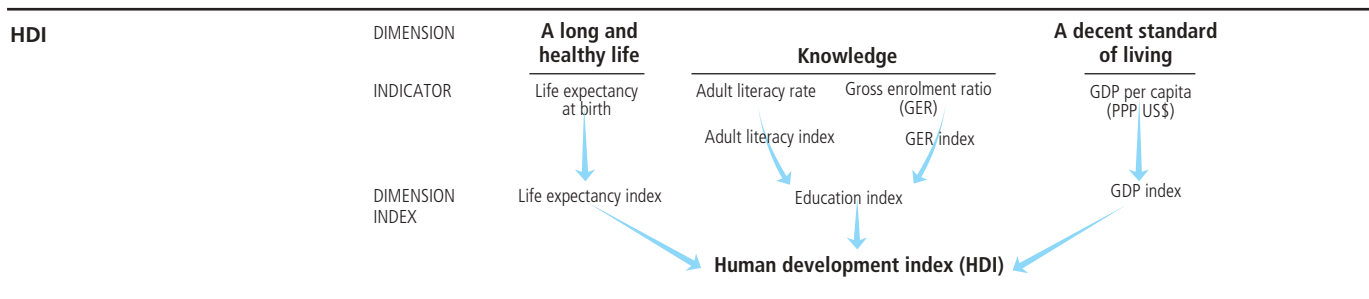
The diagrams here offer a clear overview of how the five human development indices
used in the *Human Development Report* are constructed, highlighting both their similarities
and their differences. The text on the following pages provides a detailed explanation.

HDI

	A long and healthy life	Knowledge		A decent standard of living
DIMENSION	A long and healthy life	Knowledge		A decent standard of living
INDICATOR	Life expectancy at birth	Adult literacy rate / Adult literacy index	Gross enrolment ratio (GER) / GER index	GDP per capita (PPP US$)
DIMENSION INDEX	Life expectancy index	Education index		GDP index

Human development index (HDI)

HPI-1

	A long and healthy life	Knowledge	A decent standard of living	
DIMENSION	A long and healthy life	Knowledge	A decent standard of living	
INDICATOR	Probability at birth of not surviving to age 40	Adult illiteracy rate	Percentage of population without sustainable access to an improved water source	Percentage of children under weight for age
			Deprivation in a decent standard of living	

Human poverty index for developing countries (HPI-1)

HPI-2

	A long and healthy life	Knowledge	A decent standard of living	Social exclusion
DIMENSION	A long and healthy life	Knowledge	A decent standard of living	Social exclusion
INDICATOR	Probability at birth of not surviving to age 60	Percentage of adults lacking functional literacy skills	Percentage of people living below the poverty line	Long-term unemployment rate

Human poverty index for selected OECD countries (HPI-2)

GDI

	A long and healthy life	Knowledge	A decent standard of living
DIMENSION	A long and healthy life	Knowledge	A decent standard of living
INDICATOR	Female life expectancy at birth / Male life expectancy at birth	Female adult literacy rate / Female GER / Male adult literacy rate / Male GER	Female estimated earned income / Male estimated earned income
DIMENSION INDEX	Female life expectancy index / Male life expectancy index	Female education index / Male education index	Female income index / Male income index
EQUALLY DISTRIBUTED INDEX	Equally distributed life expectancy index	Equally distributed education index	Equally distributed income index

Gender-related development index (GDI)

GEM

|	Political participation and decision-making	Economic participation and decision-making	Power over economic resources
DIMENSION	Political participation and decision-making	Economic participation and decision-making	Power over economic resources
INDICATOR	Female and male shares of parliamentary seats	Female and male shares of positions as legislators, senior officials and managers / Female and male shares of professional and technical positions	Female and male estimated earned income
EQUALLY DISTRIBUTED EQUIVALENT PERCENTAGE (EDEP)	EDEP for parliamentary representation	EDEP for economic participation	EDEP for income

Gender empowerment measure (GEM)

The human development index (HDI)

The HDI is a summary measure of human development. It measures the average achievements in a country in three basic dimensions of human development:

- A long and healthy life, as measured by life expectancy at birth.
- Knowledge, as measured by the adult literacy rate (with two-thirds weight) and the combined primary, secondary and tertiary gross enrolment ratio (with one-third weight).
- A decent standard of living, as measured by GDP per capita (PPP US$).

Before the HDI itself is calculated, an index needs to be created for each of these dimensions. To calculate these dimension indices —the life expectancy, education and GDP indices—minimum and maximum values (goalposts) are chosen for each underlying indicator.
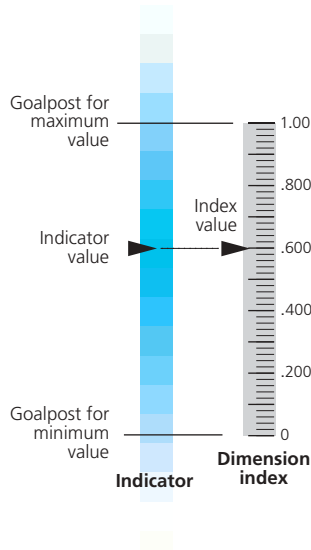
Performance in each dimension is expressed as a value between 0 and 1 by applying the following general formula:

$$\text{Dimension index} = \frac{\text{actual value } - \text{ minimum value}}{\text{maximum value } - \text{ minimum value}}$$

The HDI is then calculated as a simple average of the dimension indices. The box at right illustrates the calculation of the HDI for a sample country.

Goalposts for calculating the HDI

Indicator	Maximum value	Minimum value
Life expectancy at birth (years)	85	25
Adult literacy rate (%)	100	0
Combined gross enrolment ratio (%)	100	0
GDP per capita (PPP US$)	40,000	100

Calculating the HDI

This illustration of the calculation of the HDI uses data for Albania.

1. Calculating the life expectancy index
The life expectancy index measures the relative achievement of a country in life expectancy at birth. For Albania, with a life expectancy of 73.4 years in 2001, the life expectancy index is 0.807.

$$\text{Life expectancy index} = \frac{73.4 - 25}{85 - 25} = \mathbf{0.807}$$
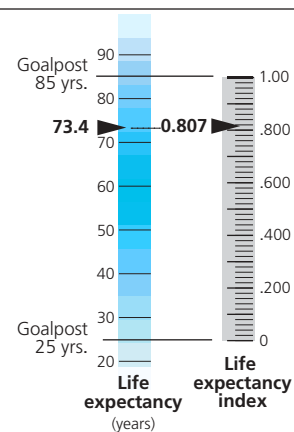
2. Calculating the education index
The education index measures a country's relative achievement in both adult literacy and combined primary, secondary and tertiary gross enrolment. First, an index for adult literacy and one for combined gross enrolment are calculated. Then these two indices are combined to create the education index, with two-thirds weight given to adult literacy and one-third weight to combined gross enrolment. For Albania, with an adult literacy rate of 85.3% in 2001 and a combined gross enrolment ratio of 69% in the school year 2000/01, the education index is 0.798.

$$\text{Adult literacy index} = \frac{85.3 - 0}{100 - 0} = 0.853$$

$$\text{Gross enrolment index} = \frac{69 - 0}{100 - 0} = 0.690$$

$$\text{Education index} = 2/3 \text{ (adult literacy index)} + 1/3 \text{ (gross enrolment index)}$$
$$= 2/3 \text{ (0.853)} + 1/3 \text{ (0.690)} = \mathbf{0.798}$$
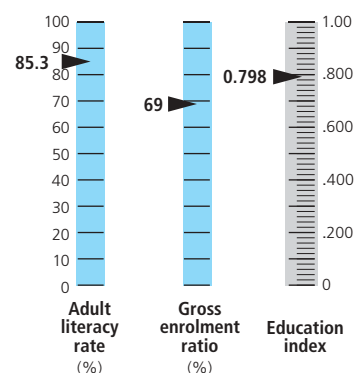
3. Calculating the GDP index
The GDP index is calculated using adjusted GDP per capita (PPP US$). In the HDI income serves as a surrogate for all the dimensions of human development not reflected in a long and healthy life and in knowledge. Income is adjusted because achieving a respectable level of human development does not require unlimited income. Accordingly, the logarithm of income is used. For Albania, with a GDP per capita of $3,680 (PPP US$) in 2001, the GDP index is 0.602.
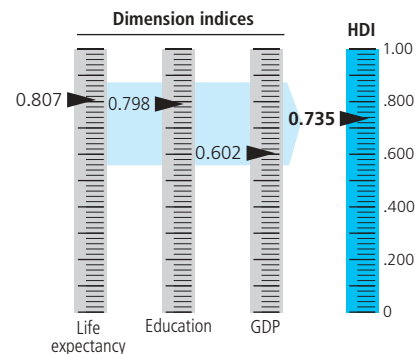

$$\text{GDP index} = \frac{\log (3,680) - \log (100)}{\log (40,000) - \log (100)} = \mathbf{0.602}$$
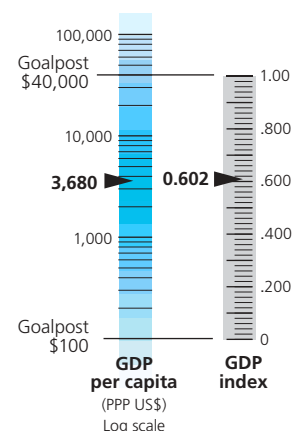
4. Calculating the HDI
Once the dimension indices have been calculated, determining the HDI is straightforward. It is a simple average of the three dimension indices.

$$\text{HDI} = 1/3 \text{ (life expectancy index)} + 1/3 \text{ (education index)}$$
$$+ 1/3 \text{ (GDP index)}$$
$$= 1/3 \text{ (0.807)} + 1/3 \text{ (0.798)} + 1/3 \text{ (0.602)} = \mathbf{0.735}$$

The human poverty index for developing countries (HPI-1)

While the HDI measures average achievement, the HPI-1 measures *deprivations* in the three basic dimensions of human development captured in the HDI:

- A long and healthy life—vulnerability to death at a relatively early age, as measured by the probability at birth of not surviving to age 40.
- Knowledge—exclusion from the world of reading and communications, as measured by the adult illiteracy rate.
- A decent standard of living—lack of access to overall economic provisioning, as measured by the unweighted average of two indicators, the percentage of the population without sustainable access to an improved water source and the percentage of children under weight for age.

Calculating the HPI-1 is more straightforward than calculating the HDI. The indicators used to measure the deprivations are already normalized between 0 and 100 (because they are expressed as percentages), so there is no need to create dimension indices as for the HDI.

Originally, the measure of deprivation in a decent standard of living also included an indicator of access to health services. But because reliable data on access to health services are lacking for recent years, in this year's Report deprivation in a decent standard of living is measured by two rather than three indicators—the percentage of the population without sustainable access to an improved water source and the percentage of children under weight for age.

The human poverty index for selected OECD countries (HPI-2)

The HPI-2 measures deprivations in the same dimensions as the HPI-1 and also captures social exclusion. Thus it reflects deprivations in four dimensions:

- A long and healthy life—vulnerability to death at a relatively early age, as measured by the probability at birth of not surviving to age 60.
- Knowledge—exclusion from the world of reading and communications, as measured by the percentage of adults (aged 16–65) lacking functional literacy skills.
- A decent standard of living—as measured by the percentage of people living below the income poverty line (50% of the median adjusted household disposable income).
- Social exclusion—as measured by the rate of long-term unemployment (12 months or more).

Calculating the HPI-1

1. Measuring deprivation in a decent standard of living
An unweighted average of two indicators is used to measure deprivation in a decent standard of living.

$$\text{Unweighted average} = 1/2 \text{ (population without sustainable access to an improved water source)} + 1/2 \text{ (children under weight for age)}$$

A sample calculation: Central African Republic
Population without sustainable access to an improved water source = 30%
Children under weight for age = 23%

$$\text{Unweighted average} = 1/2 \,(30) + 1/2 \,(23) = 26.5\%$$

2. Calculating the HPI-1
The formula for calculating the HPI-1 is as follows:

$$\text{HPI-1} = [1/3\,(P_1^{\alpha} + P_2^{\alpha} + P_3^{\alpha})]^{1/\alpha}$$

Where:
P_1 = Probability at birth of not surviving to age 40 (times 100)
P_2 = Adult illiteracy rate
P_3 = Unweighted average of population without sustainable access to an improved water source and children under weight for age
α = 3

A sample calculation: Central African Republic
P_1 = 55.3%
P_2 = 51.8%
P_3 = 26.5%

$$\text{HPI-1} = [1/3\,(55.3^3 + 51.8^3 + 26.5^3)]^{1/3} = \textbf{47.8}$$

Calculating the HPI-2

The formula for calculating the HPI-2 is as follows:

$$\text{HPI-2} = [1/4\,(P_1^{\alpha} + P_2^{\alpha} + P_3^{\alpha} + P_4^{\alpha})]^{1/\alpha}$$

Where:
P_1 = Probability at birth of not surviving to age 60 (times 100)
P_2 = Adults lacking functional literacy skills
P_3 = Population below income poverty line (50% of median adjusted household disposable income)
P_4 = Rate of long-term unemployment (lasting 12 months or more)
α = 3

A sample calculation: United Kingdom
P_1 = 8.9%
P_2 = 21.8%
P_3 = 12.5%
P_4 = 1.3%

$$\text{HPI-2} = [1/4\,(8.9^3 + 21.8^3 + 12.5^3 + 1.3^3)]^{1/3} = \textbf{14.8}$$

Why α = 3 in calculating the HPI-1 and HPI-2

The value of α has an important impact on the value of the HPI. If α = 1, the HPI is the average of its dimensions. As α rises, greater weight is given to the dimension in which there is the most deprivation. Thus as α increases towards infinity, the HPI will tend towards the value of the dimension in which deprivation is greatest (for the Central African Republic, the example used for calculating the HPI-1, it would be 55.3%, equal to the probability at birth of not surviving to age 40.

In this Report the value 3 is used to give additional but not overwhelming weight to areas of more acute deprivation. For a detailed analysis of the HPI's mathematical formulation, see Sudhir Anand and Amartya Sen's "Concepts of Human Development and Poverty: A Multidimensional Perspective" and the technical note in *Human Development Report 1997* (see the list of selected readings at the end of this technical note).

The gender-related development index (GDI)

While the HDI measures average achievement, the GDI adjusts the average achievement to reflect the *inequalities* between men and women in the following dimensions:

• A long and healthy life, as measured by life expectancy at birth.
• Knowledge, as measured by the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio.
• A decent standard of living, as measured by estimated earned income (PPP US$).

The calculation of the GDI involves three steps. First, female and male indices in each dimension are calculated according to this general formula:

$$\text{Dimension index} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

Second, the female and male indices in each dimension are combined in a way that penalizes differences in achievement between men and women. The resulting index, referred to as the equally distributed index, is calculated according to this general formula:

Equally distributed index
= {[female population share (female index$^{1-\epsilon}$)]
+ [male population share (male index$^{1-\epsilon}$)]}$^{1/1-\epsilon}$

ϵ measures the aversion to inequality. In the GDI $\epsilon = 2$. Thus the general equation becomes:

Equally distributed index
= {[female population share (female index^{-1})]
+ [male population share (male index^{-1})]}$^{-1}$

which gives the harmonic mean of the female and male indices.

Third, the GDI is calculated by combining the three equally distributed indices in an unweighted average.

Goalposts for calculating the GDI

Indicator	Maximum value	Minimum value
Female life expectancy at birth (years)	87.5	27.5
Male life expectancy at birth (years)	82.5	22.5
Adult literacy rate (%)	100	0
Combined gross enrolment ratio (%)	100	0
Estimated earned income (PPP US$)	40,000	100

Note: The maximum and minimum values (goalposts) for life expectancy are five years higher for women to take into account their longer life expectancy.

Calculating the GDI

This illustration of the calculation of the GDI uses data for Thailand.

1. Calculating the equally distributed life expectancy index
The first step is to calculate separate indices for female and male achievements in life expectancy, using the general formula for dimension indices.

FEMALE
Life expectancy: 73.2 years

Life expectancy index $= \dfrac{73.2 - 27.5}{87.5 - 27.5} = 0.762$

MALE
Life expectancy: 64.9 years

Life expectancy index $= \dfrac{64.9 - 22.5}{82.5 - 22.5} = 0.707$

Next, the female and male indices are combined to create the equally distributed life expectancy index, using the general formula for equally distributed indices.

FEMALE
Population share: 0.508
Life expectancy index: 0.762

MALE
Population share: 0.492
Life expectancy index: 0.707

Equally distributed life expectancy index = {[0.508 (0.762^{-1})] + [0.492 (0.707^{-1})]}$^{-1}$ = **0.734**

2. Calculating the equally distributed education index
First, indices for the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio are calculated separately for females and males. Calculating these indices is straightforward, since the indicators used are already normalized between 0 and 100.

FEMALE
Adult literacy rate: 94.1%
Adult literacy index: 0.941
Gross enrolment ratio: 69.3%
Gross enrolment index: 0.693

MALE
Adult literacy rate: 97.3%
Adult literacy index: 0.973
Gross enrolment ratio: 74.6%
Gross enrolment index: 0.746

Second, the education index, which gives two-thirds weight to the adult literacy index and one-third weight to the gross enrolment index, is computed separately for females and males.

Education index = 2/3 (adult literacy index) + 1/3 (gross enrolment index)

Female education index = 2/3 (0.941) + 1/3 (0.693) = 0.858

Male education index = 2/3 (0.973) + 1/3 (0.746) = 0.897

Finally, the female and male education indices are combined to create the equally distributed education index.

FEMALE
Population share: 0.508
Education index: 0.858

MALE
Population share: 0.492
Education index: 0.897

Equally distributed education index = {[0.508 (0.858^{-1})] + [0.492 (0.897^{-1})]}$^{-1}$ = **0.877**

3. Calculating the equally distributed income index
First, female and male earned income (PPP US$) are estimated (for details on this calculation, see the addendum to this technical note). Then the income index is calculated for each gender. As for the HDI, income is adjusted by taking the logarithm of estimated earned income (PPP US$):

$$\text{Income index} = \frac{\log(\text{actual value}) - \log(\text{minimum value})}{\log(\text{maximum value}) - \log(\text{minimum value})}$$

FEMALE
Estimated earned income (PPP US$): 4,875

MALE
Estimated earned income (PPP US$): 7,975

Income index $= \dfrac{\log(4{,}875) - \log(100)}{\log(40{,}000) - \log(100)} = 0.649$

Income index $= \dfrac{\log(7{,}975) - \log(100)}{\log(40{,}000) - \log(100)} = 0.731$

Calculating the GDI (continued)

Second, the female and male income indices are combined to create the equally distributed income index:

FEMALE
Population share: 0.508
Income index: 0.649

MALE
Population share: 0.492
Income index: 0.731

Equally distributed income index = $\{[0.508 \, (0.649^{-1})] + [0.492 \, (0.731^{-1})]\}^{-1}$ = **0.687**

4. Calculating the GDI
Calculating the GDI is straightforward. It is simply the unweighted average of the three component indices—the equally distributed life expectancy index, the equally distributed education index and the equally distributed income index.

GDI = 1/3 (life expectancy index) + 1/3 (education index) + 1/3 (income index)
= 1/3 (0.734) + 1/3 (0.877) + 1/3 (0.687) = **0.766**

Why ϵ = 2 in calculating the GDI

The value of ϵ is the size of the penalty for gender inequality. The larger the value, the more heavily a society is penalized for having inequalities.

If ϵ = 0, gender inequality is not penalized (in this case the GDI would have the same value as the HDI). As ϵ increases towards infinity, more and more weight is given to the lesser achieving group.

The value 2 is used in calculating the GDI (as well as the GEM). This value places a moderate penalty on gender inequality in achievement.

For a detailed analysis of the GDI's mathematical formulation, see Sudhir Anand and Amartya Sen's "Gender Inequality in Human Development: Theories and Measurement," Kalpana Bardhan and Stephan Klasen's "UNDP's Gender-Related Indices: A Critical Review" and the technical notes in *Human Development Report 1995* and *Human Development Report 1999* (see the list of selected readings at the end of this technical note).

The gender empowerment measure (GEM)

Focusing on women's opportunities rather than their capabilities, the GEM captures gender inequality in three key areas:

• Political participation and decision-making power, as measured by women's and men's percentage shares of parliamentary seats.
• Economic participation and decision-making power, as measured by two indicators—women's and men's percentage shares of positions as legislators, senior officials and managers and women's and men's percentage shares of professional and technical positions.
• Power over economic resources, as measured by women's and men's estimated earned income (PPP US$).

For each of these three dimensions, an equally distributed equivalent percentage (EDEP) is calculated, as a population-weighted average, according to the following general formula:

$$\text{EDEP} = \{[\text{female population share (female index}^{1-\epsilon})] + [\text{male population share (male index}^{1-\epsilon})]\}^{1/1-\epsilon}$$

ϵ measures the aversion to inequality. In the GEM (as in the GDI) $\epsilon = 2$, which places a moderate penalty on inequality. The formula is thus:

$$\text{EDEP} = \{[\text{female population share (female index}^{-1})] + [\text{male population share (male index}^{-1})]\}^{-1}$$

For political and economic participation and decision-making, the EDEP is then indexed by dividing it by 50. The rationale for this indexation: in an ideal society, with equal empowerment of the sexes, the GEM variables would equal 50%—that is, women's share would equal men's share for each variable.

Finally, the GEM is calculated as a simple average of the three indexed EDEPs.

Calculating the GEM

This illustration of the calculation of the GEM uses data for Venezuela.

1. Calculating the EDEP for parliamentary representation
The EDEP for parliamentary representation measures the relative empowerment of women in terms of their political participation. The EDEP is calculated using the female and male shares of the population and female and male percentage shares of parliamentary seats according to the general formula.

FEMALE	MALE
Population share: 0.497	Population share: 0.503
Parliamentary share: 9.7%	Parliamentary share: 90.3%

$$\text{EDEP for parliamentary representation} = \{[0.497 \, (9.7^{-1})] + [0.503 \, (90.3^{-1})]\}^{-1} = 17.60$$

Then this initial EDEP is indexed to an ideal value of 50%.

$$\text{Indexed EDEP for parliamentary representation} = \frac{17.60}{50} = \textbf{0.352}$$

2. Calculating the EDEP for economic participation
Using the general formula, an EDEP is calculated for women's and men's percentage shares of positions as legislators, senior officials and managers, and another for women's and men's percentage shares of professional and technical positions. The simple average of the two measures gives the EDEP for economic participation.

FEMALE	MALE
Population share: 0.497	Population share: 0.503
Percentage share of positions as legislators, senior officials and managers: 24.3%	Percentage share of positions as legislators, senior officials and managers: 75.7%
Percentage share of professional and technical positions: 57.6%	Percentage share of professional and technical positions: 42.4%

$$\text{EDEP for positions as legislators, senior officials and managers} = \{[0.497 \, (24.3^{-1})] + [0.503 \, (75.7^{-1})]\}^{-1} = 36.90$$

$$\text{Indexed EDEP for positions as legislators, senior officials and managers} = \frac{36.90}{50} = 0.738$$

$$\text{EDEP for professional and technical positions} = \{[0.497 \, (57.6^{-1})] + [0.503 \, (42.4^{-1})]\}^{-1} = 48.80$$

$$\text{Indexed EDEP for professional and technical positions} = \frac{48.80}{50} = 0.976$$

The two indexed EDEPs are averaged to create the EDEP for economic participation:

$$\text{EDEP for economic participation} = \frac{0.738 + 0.976}{2} = \textbf{0.857}$$

3. Calculating the EDEP for income
Earned income (PPP US$) is estimated for women and men separately and then indexed to goalposts as for the HDI and the GDI. For the GEM, however, the income index is based on unadjusted values, not the logarithm of estimated earned income. (For details on the estimation of earned income for men and women, see the addendum to this technical note.)

FEMALE	MALE
Population share: 0.497	Population share: 0.503
Estimated earned income (PPP US$): 3,288	Estimated earned income (PPP US$): 8,021

$$\text{Income index} = \frac{3,288 - 100}{40,000 - 100} = 0.080 \qquad \text{Income index} = \frac{8,021 - 100}{40,000 - 100} = 0.199$$

The female and male indices are then combined to create the equally distributed index:

$$\text{EDEP for income} = \{[0.497 \, (0.080^{-1})] + [0.503 \, (0.199^{-1})]\}^{-1} = \textbf{0.114}$$

4. Calculating the GEM
Once the EDEP has been calculated for the three dimensions of the GEM, determining the GEM is straightforward. It is a simple average of the three EDEP indices.

$$\text{GEM} = \frac{0.352 + 0.857 + 0.114}{3} = \textbf{0.441}$$

Female and male earned income

Despite the importance of having gender-disaggregated data on income, direct measures are unavailable. For this Report crude estimates of female and male earned income have therefore been derived.

Income can be seen in two ways: as a resource for consumption and as earnings by individuals. The use measure is difficult to disaggregate between men and women because they share resources within a family unit. By contrast, earnings are separable because different members of a family tend to have separate earned incomes.

The income measure used in the GDI and the GEM indicates a person's capacity to earn income. It is used in the GDI to capture the disparities between men and women in command over resources and in the GEM to capture women's economic independence. (For conceptual and methodological issues relating to this approach, see Sudhir Anand and Amartya Sen's "Gender Inequality in Human Development" and, in *Human Development Report 1995,* chapter 3 and technical notes 1 and 2; see the list of selected readings at the end of this technical note.)

Female and male earned income (PPP US$) are estimated using the following data:

- Ratio of the female non-agricultural wage to the male non-agricultural wage.
- Male and female shares of the economically active population.
- Total female and male population.
- GDP per capita (PPP US$).

Key

W_f / W_m = ratio of female non-agricultural wage to male non-agricultural wage
EA_f = female share of economically active population
EA_m = male share of economically active population
S_f = female share of wage bill
Y = total GDP (PPP US$)
N_f = total female population
N_m = total male population
Y_f = estimated female earned income (PPP US$)
Y_m = estimated male earned income (PPP US$)

Note

Calculations based on data in the technical note may yield results that differ from those in the indicator tables because of rounding.

Estimating female and male earned income

This illustration of the estimation of female and male earned income uses 2001 data for Ethiopia.

1. Calculating total GDP (PPP US$)

Total GDP (PPP US$) is calculated by multiplying the total population by GDP per capita (PPP US$).

Total population: 67,266 (thousand)
GDP per capita (PPP US$): 810
Total GDP (PPP US$) = 810 (67,266) = 54,485,460 (thousand)

2. Calculating the female share of the wage bill

Because data on wages in rural areas and in the informal sector are rare, the Report has used non-agricultural wages and assumed that the ratio of female wages to male wages in the non-agricultural sector applies to the rest of the economy. The female share of the wage bill is calculated using the ratio of the female non-agricultural wage to the male non-agricultural wage and the female and male percentage shares of the economically active population. Where data on the wage ratio are not available, a value of 75% is used.

Ratio of female to male non-agricultural wage (W_f/W_m) = 0.75
Female percentage share of economically active population (EA_f) = 40.9%
Male percentage share of economically active population (EA_m) = 59.1%

$$\text{Female share of wage bill } (S_f) = \frac{W_f/W_m\,(EA_f)}{[W_f/W_m\,(EA_f)] + EA_m} = \frac{0.75\,(40.9)}{[0.75\,(40.9)] + 59.1} = \mathbf{0.342}$$

3. Calculating female and male earned income (PPP US$)

An assumption has to be made that the female share of the wage bill is equal to the female share of GDP.

Female share of wage bill (S_f) = 0.342
Total GDP (PPP US$) ($Y$) = 54,485,460 (thousand)
Female population (N_f) = 33,892 (thousand)

$$\text{Estimated female earned income (PPP US\$) } (Y_f) = \frac{S_f(Y)}{N_f} = \frac{0.342\,(54,485,460)}{33,892} = \mathbf{550}$$

Male population (N_m) = 33,374 (thousand)

$$\text{Estimated male earned income (PPP US\$) } (Y_m) = \frac{Y - S_f(Y)}{N_m} = \frac{54,485,460 - [0.342\,(54,485,460)]}{33,374} = \mathbf{1,074}$$

Selected readings

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IDENTIFYING TOP PRIORITY AND HIGH PRIORITY COUNTRIES FOR THE MILLENNIUM DEVELOPMENT GOALS

This year's *Human Development Report* identifies countries that are *top priority* and *high priority* for each Millennium Development Goal for which there are sufficient data, based on human poverty in each Goal and trends in the 1990s. Based on the Goal-by-Goal analysis, the Report then identifies countries that are top priority and high priority overall.

Assessing countries as top priority and high priority for each Goal

For each Millennium Development Goal the assessment of a country is based both on its progress towards the Goal—slow or reversing, moderate, fast—and on its level of human poverty in the Goal—extreme, medium, low (technical note tables 2.1 and 2.2). Progress is measured against the targets and using the indicators defined for the Millennium Development Goals.

Top priority countries for each Goal
A country is designated top priority for a Goal if it has both extreme human poverty in that Goal and slow or reversing progress towards it (technical note figure 2.1).

High priority countries for each Goal
A country is designated high priority for a Goal if:
• It has extreme human poverty in that Goal and moderate progress towards it.

• Or it has medium human poverty in that Goal and slow or reversing progress towards it.

Assessing countries as top priority and high priority across all the Goals

The assessment of whether a country is top priority or high priority for all the Goals is based on the number of Goals for which the country is top priority or high priority. (This overall assessment includes data for the HIV/AIDS target, though it is not assessed separately).

Top priority countries across all the Goals
A country is designated top priority across all the Goals if:
• It is top priority for at least three Goals.
• Or it is top priority for half or more of the Goals for which at least three data points are available for that country.
• Or, where data are available for only two Goals, it is top priority for both.

High priority countries across all the Goals
A country is designated high priority across all the Goals if it does not fall into the top priority category but:
• It is top or high priority for at least three Goals.
• Or it is top priority for two Goals.
• Or it is top or high priority for half or more of the Goals for which at least three data points are available for that country.
• Or, where data are available for only two Goals, it is top or high priority for both.

Technical note table 2.1
Defining progress towards the Millennium Development Goals

Rate of progress	Definition
Slow or reversing	Actual progress towards the Goal is *less than half* the approximate progress required to meet the target if current trends prevail until 2015.
Moderate	Actual progress towards the Goal is *more than half but less than* the approximate progress required to meet the target if current trends prevail until 2015.
Fast	Actual progress towards the Goal is *equal to or greater than* the approximate progress required to meet the target if current trends prevail until 2015.

Note: The year in which the target is to be met is 2015 for all except gender equality in education, for which it is 2005.

Technical note table 2.2
Defining the level of human poverty in the Millennium Development Goals

Target	Indicator	Level of human poverty (x = value of indicator)			Source
		Extreme	Medium	Low	
Halve the proportion of people whose income is less than $1 a day	GDP per capita (PPP US$)[a]	$x < 3{,}500$	$3{,}500 ≤ x < 7{,}000$	$x ≥ 7{,}000$	World Bank
Halve the proportion of people who suffer from hunger	Undernourished people (%)	$x > 25$	$10 < x ≤ 25$	$x ≤ 10$	Food and Agriculture Organization
Ensure that children everywhere will be able to complete a full course of primary schooling	Net primary enrolment ratio (%)	$x < 75$	$75 ≤ x < 90$	$x ≥ 90$	United Nations Educational, Scientific and Cultural Organization (UNESCO)
Achieve gender equality in education	Ratio of girls to boys in primary and secondary education (%)	$x < 80$	$80 ≤ x < 90$	$x ≥ 90$	UNESCO
Reduce under-five mortality by two-thirds	Under-five mortality rate (per 1,000 live births)	$x > 100$	$30 < x ≤ 100$	$x ≤ 30$	World Bank
Halve the proportion of people without sustainable access to safe drinking water	Population with sustainable access to an improved water source (%)	$x < 75$	$75 ≤ x < 90$	$x ≥ 90$	United Nations Children's Fund (UNICEF) and World Health Organization (WHO)
Halve the proportion of people without access to improved sanitation	Population with sustainable access to improved sanitation (%)	$x < 75$	$75 ≤ x < 90$	$x ≥ 90$	UNICEF and WHO

a. The average annual GDP per capita growth rate is used as the trend measure.

Technical note figure 2.1
Identifying top priority and high priority countries
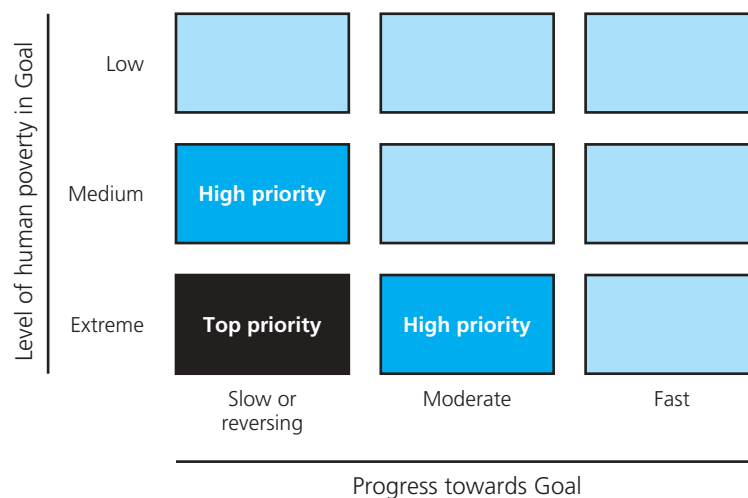
Calculating progress towards each Goal

Progress towards each Goal is assessed by comparing actual annual progress if current trends were to prevail until 2015 with the annual progress needed to meet the target, under the assumption of linear progress.

Assessing actual progress
The actual annual rate of progress is calculated using the general formula:

$$\text{Actual annual rate of progress} = \frac{(x_{t_1} - x_{t_0})/x_{t_0}}{t_1 - t_0}$$

where t_0 is 1990 or the year closest to 1990 for which data are available; t_1 is the most recent year for which data are available, generally 2001; and x_{t_0} and x_{t_1} are the values of the indicator for those years. For rates of hunger, poverty and under-five mortality, for which the most desirable value is 0, the formula is applied without modification.

For the net primary enrolment ratio, gender equality in education (ratio of girls to boys) and the proportion of the population with access to safe water and sanitation, for which the most desirable value is 100%, progress is expressed as "shortfall reduction" according to the following formula:

$$\text{Actual annual rate of progress} = \frac{(x_{t_1} - x_{t_0})/(100 - x_{t_0})}{t_1 - t_0}$$

Assessing required progress
The rate of progress required to meet a target by 2015 (by 2005 for gender equality in education) is dictated by the target: $/$ is –1/2 for poverty and hunger, 1/2 for safe water and sanitation, –2/3 for under-five mortality and 1 for primary enrolment and gender equality in education. The annual rate of progress required is then calculated by simply dividing $/$ by the number of years between t_{MDG}, the year by which the target is to be met, and t_0, the year closest to 1990 for which data are available:

$$\text{Required annual rate of progress} = \frac{/}{t_{MDG} - t_0}$$

Determining priority status: an example

This illustration of determining priority status uses data on the under-five mortality rate for Chad.

Calculating progress
Data for the under-five mortality rate are available for 1990 and 2001:
$t_0 = 1990$
$t_1 = 2001$

The under-five mortality rate is 203 per 1,000 live births for 1990 and 200 for 2001:
$x_{t_0} = 203$
$x_{t_1} = 200$

The required reduction is two-thirds:
$r = -2/3$

Therefore:

$$\text{Actual annual rate of progress} = \frac{(200 - 203) / 203}{2001 - 1990} = -0.13\%$$

$$\text{Required annual rate of progress} = \frac{-2/3}{2015 - 1990} = -2.67\%$$

The actual progress towards the Goal is less than half the approximate progress required to meet the target.
  Therefore, Chad is making slow or reversing progress towards the Goal of reducing under-five mortality.

Determining the level of human poverty
The under-five mortality rate for Chad in 2001 is 200 per 1,000 live births.
  Therefore, Chad has an extreme level of human poverty in under-five mortality (see technical note table 2.2).

Determining the priority status for under-five mortality
Chad has an extreme level of human poverty in under-five mortality and slow or reversing progress.
  Therefore, Chad is categorized as top priority for the Goal of reducing under-five mortality.

Determining the priority status across all Goals
Of the eight indicators for which Chad has data, it is identified as top priority for five and high priority for another two.
  Therefore, Chad is categorized as a top priority country overall.

Note

To measure progress in income poverty, the GDP per capita growth rate in 1990–2001 is used. It is estimated that average annual growth of 1.4% is required in 1990–2015 to meet the income poverty target. Accordingly, the threshold for slow or reversing progress is annual per capita income growth of less than 0.7%; for moderate progress, 0.7% to 1.4%; and for fast progress, 1.4% or more.
Trend data for the prevalence of HIV/AIDS among adults (age 15 and above) in 1990 and 2000 are also used in the overall assessment of countries as top priority and high priority (UNAIDS and WHO 2003). For determining the level of human poverty in HIV/AIDS, a prevalence rate of more than 3% is considered extreme; 3% or less but greater than 1%, medium; and 1% or less, low. Since the target is to halt and begin to reverse the spread of HIV/AIDS, an increase in the prevalence rate of less than 1 percentage point is considered fast progress; an increase of 1 percentage point or more but less than 3, moderate progress; and an increase of 3 percentage points or more, slow or reversing progress.

Definitions of statistical terms

Agriculture, OECD country support to domestic Transfers from taxpayers and consumers arising from policy measures that support agriculture (net of the associated budgetary receipts), regardless of their objectives and impacts on farm production and income or on consumption of farm products.

Armed forces, total Strategic, land, naval, air, command, administrative and support forces. Also included are paramilitary forces such as the gendarmerie, customs service and border guard, if these are trained in military tactics.

Arms transfers, conventional Refers to the voluntary transfer by the supplier (and thus excludes captured weapons and weapons obtained through defectors) of weapons with a military purpose destined for the armed forces, paramilitary forces or intelligence agencies of another country. These include major conventional weapons or systems in six categories: ships, aircraft, missiles, artillery, armoured vehicles and guidance and radar systems (excluded are trucks, services, ammunition, small arms, support items, components and component technology and towed or naval artillery under 100-millimetre calibre).

Births attended by skilled health personnel The percentage of deliveries attended by personnel (including doctors, nurses and midwives) trained to give the necessary care, supervision and advice to women during pregnancy, labour and the postpartum period, to conduct deliveries on their own and to care for newborns.

Birth-weight, infants with low The percentage of infants with a birth-weight of less than 2,500 grams.

Carbon dioxide emissions Anthropogenic (human-originated) carbon dioxide emissions stemming from the burning of fossil fuels, gas flaring and the production of cement. Emissions are calculated from data on the consumption of solid, liquid and gaseous fuels, gas flaring and the production of cement.

Cellular subscribers (also referred to as cellular mobile subscribers) Subscribers to an automatic public mobile telephone service that provides access to the public switched telephone network using cellular technology. Systems can be analogue or digital.

Children reaching grade 5 The percentage of children starting primary school who eventually attain grade 5 (grade 4 if the duration of primary school is four years). The estimates are based on the reconstructed cohort method, which uses data on enrolment and repeaters for two consecutive years.

Chlorofluorocarbons, consumption of ozone depleting The sum of production and imports minus exports of chlorofluorocarbons (CFCs) controlled under the Montreal Protocol on Substances That Deplete the Ozone Layer. CFCs are synthetic compounds formerly used as refrigerants and aerosol propellants and known to be harmful to the ozone layer of the atmosphere. Under the Montreal Protocol, the CFCs to be measured are those found in prepolymers; aerosol products; portable fire extinguishers; vehicle air conditioning units; insulation boards, panels and pipe covers; and domestic and commercial refrigeration, air conditioning and heat pump equipment.

Cigarette consumption per adult The sum of production and imports minus exports of cigarettes divided by the population aged 15 and above.

Computers in use, personal Self-contained computers in use that are designed to be operated by a single user at a time.

Consumer price index Reflects changes in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or may change at specified intervals.

Contraceptive prevalence The percentage of married women (including women in union) aged 15–49 who are using, or whose partners are using, any form of contraception, whether modern or traditional.

Contributing family worker Defined according to the 1993 International Classification by Status in

Employment (ICSE) as a person who works without pay in an economic enterprise operated by a related person living in the same household.

Crime, people victimized by The percentage of the population who perceive that they have been victimized by certain types of crime in the preceding year, based on responses to the International Crime Victims Survey.

Debt relief committed under HIPC initiative Forgiveness of loans as a component of official development assistance under the Debt Initiative for Heavily Indebted Poor Countries (HIPCs). The initiative is the first comprehensive approach to reducing the external debt of the world's poorest, most heavily indebted countries, which total 42 in number.

Debt service, total The sum of principal repayments and interest actually paid in foreign currency, goods or services on long-term debt (having a maturity of more than one year), interest paid on short-term debt and repayments to the International Monetary Fund.

Drugs, affordable essential, population with sustainable access to The estimated percentage of the population for whom a minimum of 20 of the most essential drugs—those that satisfy the health care needs of the majority of the population—are continuously and affordably available at public or private health facilities or drug outlets within one hour's travel from home.

Earned income (PPP US$), estimated (female and male) Roughly derived on the basis of the ratio of the female non-agricultural wage to the male non-agricultural wage, the female and male shares of the economically active population, total female and male population and GDP per capita (PPP US$). For details on this estimation, see technical note 1.

Earned income, ratio of estimated female to male The ratio of estimated female earned income to estimated male earned income. See *earned income (PPP US$), estimated (female and male).*

Economic activity rate The share of the population aged 15 and above who supply, or are available to supply, labour for the production of goods and services.

Education expenditure, public Includes both capital expenditures (spending on construction, renovation, major repairs and purchase of heavy equipment or vehicles) and current expenditures (spending on goods and services that are consumed within the cur-

rent year and would need to be renewed the following year). It covers such expenditures as staff salaries and benefits, contracted or purchased services, books and teaching materials, welfare services, furniture and equipment, minor repairs, fuel, insurance, rents, telecommunications and travel. See *education levels.*

Education index One of the three indices on which the human development index is built. It is based on the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio. For details on how the index is calculated, see technical note 1.

Education levels Categorized as pre-primary, primary, secondary or tertiary in accordance with the International Standard Classification of Education (ISCED). *Pre-primary education* (ISCED level 0) is provided at such schools as kindergartens and nursery and infant schools and is intended for children not old enough to enter school at the primary level. *Primary education* (ISCED level 1) provides the basic elements of education at such establishments as primary and elementary schools. *Secondary education* (ISCED levels 2 and 3) is based on at least four years of previous instruction at the first level and provides general or specialized instruction, or both, at such institutions as middle schools, secondary schools, high schools, teacher training schools at this level and vocational or technical schools. *Tertiary education* (ISCED levels 5–7) refers to education at such institutions as universities, teachers colleges and higher-level professional schools—requiring as a minimum condition of admission the successful completion of education at the second level or evidence of the attainment of an equivalent level of knowledge.

Electricity consumption per capita Refers to gross production, in per capita terms, which includes consumption by station auxiliaries and any losses in the transformers that are considered integral parts of the station. Also included is total electric energy produced by pumping installations without deduction of electric energy absorbed by pumping.

Employment by economic activity Employment in industry, agriculture or services as defined according to the International Standard Industrial Classification (ISIC) system (revisions 2 and 3). *Industry* refers to mining and quarrying, manufacturing, construction and public utilities (gas, water and electricity). *Agriculture* refers to activities in agriculture, hunting, forestry and fishing. *Services* refer to wholesale and retail trade; restaurants and hotels; transport, storage and communications; finance, insurance, real estate and business services; and community, social and personal services.

Energy use, GDP per unit of The ratio of GDP (PPP US$) to commercial energy use, measured in kilograms of oil equivalent. This ratio provides a measure of energy efficiency by showing comparable and consistent estimates of real GDP across countries relative to physical inputs (units of energy use). See *GDP (gross domestic product)* and *PPP (purchasing power parity).*

Enrolment ratio, gross The number of students enrolled in a level of education, regardless of age, as a percentage of the population of official school age for that level. The gross enrolment ratio can be greater than 100% as a result of grade repetition and entry at ages younger or older than the typical age at that grade level. See *education levels.*

Enrolment ratio, net The number of students enrolled in a level of education who are of official school age for that level, as a percentage of the population of official school age for that level. See *education levels.*

Exports, high technology Exports of products with a high intensity of research and development. They include high-technology products such as in aerospace, computers, pharmaceuticals, scientific instruments and electrical machinery.

Exports, manufactured Defined according to the Standard International Trade Classification to include exports of chemicals, basic manufactures, machinery and transport equipment and other miscellaneous manufactured goods.

Exports of goods and services The value of all goods and other market services provided to the rest of the world. Included is the value of merchandise, freight, insurance, transport, travel, royalties, licence fees and other services, such as communication, construction, financial, information, business, personal and government services. Excluded are labour and property income and transfer payments.

Exports, primary Defined according to the Standard International Trade Classification to include exports of food, agricultural raw materials, fuels and ores and metals.

Fertility rate, total The number of children that would be born to each woman if she were to live to the end of her child-bearing years and bear children at each age in accordance with prevailing age-specific fertility rates.

Foreign direct investment, net inflows of Net inflows of investment to acquire a lasting management interest (10% or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital and short-term capital.

Fuel consumption, traditional Estimated consumption of fuel wood, charcoal, bagasse (sugar cane waste) and animal and vegetable wastes. Total energy use comprises commercial energy use and traditional fuel use.

GDP (gross domestic product) The sum of value added by all resident producers in the economy plus any product taxes (less subsidies) not included in the valuation of output. It is calculated without making deductions for depreciation of fabricated capital assets or for depletion and degradation of natural resources. Value added is the net output of an industry after adding up all outputs and subtracting intermediate inputs.

GDP (US$) GDP converted to US dollars using the average official exchange rate reported by the International Monetary Fund. An alternative conversion factor is applied if the official exchange rate is judged to diverge by an exceptionally large margin from the rate effectively applied to transactions in foreign currencies and traded products. See *GDP (gross domestic product).*

GDP index One of the three indices on which the human development index is built. It is based on GDP per capita (PPP US$). For details on how the index is calculated, see technical note 1.

GDP per capita (PPP US$) See *GDP (gross domestic product)* and *PPP (purchasing power parity).*

GDP per capita (US$) GDP (US$) divided by midyear population. See *GDP (US$).*

GDP per capita annual growth rate Least squares annual growth rate, calculated from constant price GDP per capita in local currency units.

Gender empowerment measure (GEM) A composite index measuring gender inequality in three basic dimensions of empowerment—economic participation and decision-making, political participation and decision-making and power over economic resources. For details on how the index is calculated, see technical note 1.

Gender-related development index (GDI) A composite index measuring average achievement in the three basic dimensions captured in the human development index—a long and healthy life, knowledge

and a decent standard of living—adjusted to account for inequalities between men and women. For details on how the index is calculated, see technical note 1.

Gini index Measures the extent to which the distribution of income (or consumption) among individuals or households within a country 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. A value of 0 represents perfect equality, a value of 100 perfect inequality.

GNI (gross national income) The sum of value added by all resident producers in the economy plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad. Value added is the net output of an industry after adding up all outputs and subtracting intermediate inputs. Data are in current US dollars converted using the World Bank Atlas method.

Grants by NGOs, net Resource transfers by national non-governmental organizations (private non-profit-making agencies) to developing countries or territories identified in part I of the Development Assistance Committee (DAC) list of recipient countries. They are calculated as gross outflows from NGOs minus resource transfers received from the official sector (which are already counted in official development assistance).

Health expenditure per capita (PPP US$) The sum of public and private expenditure (in PPP US$), divided by the population. Health expenditure includes the provision of health services (preventive and curative), family planning activities, nutrition activities and emergency aid designated for health, but excludes the provision of water and sanitation. See *health expenditure, private; health expenditure, public;* and *PPP (purchasing power parity).*

Health expenditure, private Direct household (out of pocket) spending, private insurance, spending by non-profit institutions serving households and direct service payments by private corporations. Together with public health expenditure, it makes up total health expenditure. See *health expenditure per capita (PPP US$)* and *health expenditure, public.*

Health expenditure, public Current and capital spending from government (central and local) budgets, external borrowings and grants (including donations from international agencies and non-governmental organizations) and social (or compulsory) health insurance funds. Together with private health expenditure, it makes up total health expenditure. See *health expenditure per capita (PPP US$)* and *health expenditure, private.*

HIPC completion point The date at which a country included in the Debt Initiative for Heavily Indebted Poor Countries (HIPCs) successfully completes the key structural reforms agreed on at the HIPC decision point, including developing and implementing a poverty reduction strategy. The country then receives the bulk of its debt relief under the HIPC initiative without further policy conditions.

HIPC decision point The date at which a heavily indebted poor country with an established track record of good performance under adjustment programmes supported by the International Monetary Fund and the World Bank commits, under the Debt Initiative for Heavily Indebted Poor Countries (HIPCs), to undertake additional reforms and to develop and implement a poverty reduction strategy.

HIV/AIDS, people living with The estimated number of people living with HIV/AIDS at the end of the year specified.

HIV prevalence among pregnant women The percentage of pregnant women in the specified age group who are infected with HIV.

Human development index (HDI) A composite index measuring average achievement in three basic dimensions of human development—a long and healthy life, knowledge and a decent standard of living. For details on how the index is calculated, see technical note 1.

Human poverty index (HPI-1) for developing countries A composite index measuring deprivations in the three basic dimensions captured in the human development index—a long and healthy life, knowledge and a decent standard of living. For details on how the index is calculated, see technical note 1.

Human poverty index (HPI-2) for selected OECD countries A composite index measuring deprivations in the three basic dimensions captured in the human development index—a long and healthy life, knowledge and a decent standard of living—and also capturing social exclusion. For details on how the index is calculated, see technical note 1.

Illiteracy rate, adult Calculated as 100 minus the adult literacy rate. See *literacy rate, adult.*

Immunization, one-year-olds fully immunized against measles or tuberculosis One-year-olds injected with an antigen or a serum containing specific antibodies against measles or tuberculosis.

Imports from developing countries admitted free of duties The value of exports of goods (excluding arms) from developing countries that are admitted without a tariff.

Imports of goods and services The value of all goods and other market services received from the rest of the world. Included is the value of merchandise, freight, insurance, transport, travel, royalties, licence fees and other services, such as communication, construction, financial, information, business, personal and government services. Excluded are labour and property income and transfer payments.

Income poverty line, population below The percentage of the population living below the specified poverty line:
- $1 a day—at 1985 international prices (equivalent to $1.08 at 1993 international prices), adjusted for purchasing power parity.
- $2 a day—at 1985 international prices (equivalent to $2.15 at 1993 international prices), adjusted for purchasing power parity.
- $4 a day—at 1990 international prices, adjusted for purchasing power parity.
- $11 a day (per person for a family of three)—at 1994 international prices, adjusted for purchasing power parity.
- National poverty line—the poverty line deemed appropriate for a country by its authorities. National estimates are based on population-weighted subgroup estimates from household surveys.
- 50% of median income—50% of the median adjusted household disposable income.

See *PPP (purchasing power parity).*

Income or consumption, national, share of poorest 20% in The share of income or consumption accruing to the poorest 20% of the population. Data on personal or household income or consumption come from nationally representative household surveys.

Income or consumption, shares of The shares of income or consumption accruing to subgroups of population indicated by deciles or quintiles, based on national household surveys covering various years. Consumption surveys produce results showing lower levels of inequality between poor and rich than do income surveys, as poor people generally consume a greater share of their income. Because data come from surveys covering different years and using different methodologies, comparisons between countries must be made with caution.

Infant mortality rate The probability of dying between birth and exactly one year of age, expressed per 1,000 live births.

Internally displaced people People who are displaced within their own country and to whom the United Nations High Commissioner for Refugees (UNHCR) extends protection or assistance, or both, generally pursuant to a special request by a competent organ of the United Nations.

Internet users People with access to the worldwide network.

Labour force All those employed (including people above a specified age who, during the reference period, were in paid employment, at work, self-employed or with a job but not at work) and unemployed (including people above a specified age who, during the reference period, were without work, currently available for work and seeking work).

Land covered by forest Forest and other wooded land, as defined in the Food and Agriculture Organization's *Global Forest Resources Assessment 2000* (FAO 2001), as a share of the total land area.

Legislators, senior officials and managers, female Women's share of positions defined according to the International Standard Classification of Occupations (ISCO-88) to include legislators, senior government officials, traditional chiefs and heads of villages, senior officials of special interest organizations, corporate managers, directors and chief executives, production and operations department managers and other department and general managers.

Life expectancy at birth The number of years a newborn infant would live if prevailing patterns of age-specific mortality rates at the time of birth were to stay the same throughout the child's life.

Life expectancy index One of the three indices on which the human development index is built. For details on how the index is calculated, see technical note 1.

Literacy rate, adult The percentage of people aged 15 and above who can, with understanding, both

read and write a short, simple statement related to their everyday life.

Literacy rate, youth The percentage of people aged 15–24 who can, with understanding, both read and write a short, simple statement related to their everyday life.

Literacy skills, functional, people lacking The share of the population aged 16–65 scoring at level 1 on the prose literacy scale of the International Adult Literacy Survey. Most tasks at this level require the reader to locate a piece of information in the text that is identical to or synonymous with the information given in the directive.

Malaria cases The total number of malaria cases reported to the World Health Organization by countries in which malaria is endemic. Many countries report only laboratory-confirmed cases, but many in Sub-Saharan Africa report clinically diagnosed cases as well.

Malaria prevention, children under five The percentage of children under five sleeping under insecticide-treated bed nets.

Malaria-related mortality rate The total number of deaths caused by malaria per 100,000 people.

Malaria treatment, children under five with fever The percentage of children under five who were ill with fever in the two weeks before the survey and received antimalarial drugs.

Market activities Defined according to the 1993 revised UN System of National Accounts to include employment in establishments, primary production not in establishments, services for income and other production of goods not in establishments. See *non-market activities* and *work time, total.*

Maternal mortality ratio The annual number of deaths of women from pregnancy-related causes per 100,000 live births.

Military expenditure All expenditures of the defence ministry and other ministries on recruiting and training military personnel as well as on construction and purchase of military supplies and equipment. Military assistance is included in the expenditures of the donor country.

Non-market activities Defined according to the 1993 revised UN System of National Accounts to include household maintenance (cleaning, laundry and meal preparation and cleanup), management and shopping for own household; care for children, the sick, the elderly and the disabled in own household; and community services. See *market activities* and *work time, total.*

Official aid Grants or loans that meet the same standards as for official development assistance (ODA) except that recipient countries do not qualify as recipients of ODA. These countries are identified in part II of the Development Assistance Committee (DAC) list of recipient countries, which includes more advanced countries of Central and Eastern Europe, the countries of the former Soviet Union and certain advanced developing countries and territories.

Official development assistance (ODA), net Disbursements of loans made on concessional terms (net of repayments of principal) and grants by official agencies of the members of the Development Assistance Committee (DAC), by multilateral institutions and by non-DAC countries to promote economic development and welfare in countries and territories in part I of the DAC list of aid recipients. It includes loans with a grant element of at least 25% (calculated at a rate of discount of 10%).

Official development assistance (ODA) provided to help build trade capacity ODA directed to activities intended to enhance the ability of the recipient country to formulate and implement a trade development strategy and create an enabling environment for increasing the volume and value added of exports, diversifying export products and markets and increasing foreign investment to generate jobs and trade; stimulate trade by domestic firms and encourage investment in trade-oriented industries; or participate in and benefit from the institutions, negotiations and processes that shape national trade policy and the rules and practices of international commerce.

Official development assistance (ODA) to basic social services ODA directed to basic social services, which include basic education (primary education, early childhood education and basic life skills for youth and adults), basic health (including basic health care, basic health infrastructure, basic nutrition, infectious disease control, health education and health personnel development) and population policies and programmes and reproductive health (population policy and administrative management, reproductive health care, family planning, control of sexually transmitted diseases, including HIV/AIDS, and personnel development for population and reproductive health). Aid to water supply and sanitation is included only if it has a poverty focus.

Official development assistance (ODA) to least developed countries See *official development assistance (ODA), net* and country classifications for least developed countries.

Official development assistance (ODA), untied bilateral ODA for which the associated goods and services may be fully and freely procured in substantially all countries and that is given by one country to another.

Oral rehydration therapy use rate The percentage of all cases of diarrhoea in children under age five in which the child received increased fluids and continued feeding.

Orphans' school attendance rate As reported in household surveys, the proportion of children aged 10–14 who have lost both natural parents and are currently attending school. It is shown as a percentage of the proportion of non-orphaned children of the same age who live with at least one parent and are attending school.

Patents granted to residents Refers to documents issued by a government office that describe an invention and create a legal situation in which the patented invention can normally be exploited (made, used, sold, imported) only by or with the authorization of the patentee. The protection of inventions is generally limited to 20 years from the filing date of the application for the grant of a patent.

Physicians Includes graduates of a faculty or school of medicine who are working in any medical field (including teaching, research and practice).

Population growth rate, annual Refers to the average annual exponential growth rate for the period indicated. See *population, total.*

Population, total Refers to the de facto population, which includes all people actually present in a given area at a given time.

Poverty gap ratio The mean distance below the $1 (1993 PPP US$) a day poverty line, expressed as a percentage of the poverty line. The mean is taken over the entire population, counting the non-poor as having zero poverty gap. The measure reflects the depth of poverty as well as its incidence.

PPP (purchasing power parity) A rate of exchange that accounts for price differences across countries, allowing international comparisons of real output and incomes. At the PPP US$ rate (as used in this Report),

PPP US$1 has the same purchasing power in the domestic economy as $1 has in the United States.

Private flows, other A category combining non-debt-creating portfolio equity investment flows (the sum of country funds, depository receipts and direct purchases of shares by foreign investors), portfolio debt flows (bond issues purchased by foreign investors) and bank and trade-related lending (commercial bank lending and other commercial credits).

Probability at birth of not surviving to a specified age Calculated as 1 minus the probability of surviving to a specified age for a given cohort. See *probability at birth of surviving to a specified age.*

Probability at birth of surviving to a specified age The probability of a newborn infant surviving to a specified age if subject to prevailing patterns of age-specific mortality rates.

Professional and technical workers, female Women's share of positions defined according to the International Standard Classification of Occupations (ISCO-88) to include physical, mathematical and engineering science professionals (and associate professionals), life science and health professionals (and associate professionals), teaching professionals (and associate professionals) and other professionals and associate professionals.

Protected area, as a ratio to surface area Refers to totally or partially protected areas of at least 1,000 hectares that are designated as national parks, natural monuments, nature reserves or wildlife sanctuaries, protected landscapes and seascapes or scientific reserves with limited public access. The data do not include sites protected under local or provincial law.

Refugees People who have fled their country because of a well-founded fear of persecution for reasons of their race, religion, nationality, political opinion or membership in a particular social group and who cannot or do not want to return. *Country of asylum* is the country in which a refugee has filed a claim of asylum but has not yet received a decision or is otherwise registered as an asylum seeker. *Country of origin* refers to the claimant's nationality or country of citizenship.

Research and development expenditures Current and capital expenditures (including overhead) on creative, systematic activity intended to increase the stock of knowledge. Included are fundamental and

applied research and experimental development work leading to new devices, products or processes.

Royalties and licence fees, receipts of Receipts by residents from non-residents for the authorized use of intangible, non-produced, non-financial assets and proprietary rights (such as patents, trademarks, copyrights, franchises and industrial processes) and for the use, through licensing agreements, of produced originals of prototypes (such as films and manuscripts). Data are based on the balance of payments.

Sanitation facilities, population with access to improved The percentage of the population with access to adequate excreta disposal facilities, such as a connection to a sewer or septic tank system, a pourflush latrine, a simple pit latrine or a ventilated improved pit latrine. An excreta disposal system is considered adequate if it is private or shared (but not public) and if it can effectively prevent human, animal and insect contact with excreta.

Science, math and engineering, tertiary students in The share of tertiary students enrolled in natural sciences; engineering; mathematics and computer sciences; architecture and town planning; transport and communications; trade, craft and industrial programmes; and agriculture, forestry and fisheries. See *education levels.*

Scientists and engineers in R&D People trained to work in any field of science who are engaged in professional research and development (R&D) activity. Most such jobs require the completion of tertiary education.

Seats in parliament held by women Refers to seats held by women in a lower or single house or an upper house or senate, where relevant.

Solid fuels, population using The share of the population using solid fuels, which include traditional fuels such as fuel wood, charcoal, bagasse (sugar cane waste) and animal and vegetable wastes.

Tariffs on agricultural products, textiles and clothing from developing countries, average The simple average of all ad valorem tariff rates applied to imports of agricultural products (plant and animal products, including tree crops but excluding timber and fish products), textiles and clothing (including natural and man-made fibres and fabrics and articles of clothing made from them) from developing countries. The tariff rates used are the available ad valorem rates, including most favoured nation (MFN) and non-MFN (largely preferential) rates.

Telephone mainlines Telephone lines connecting a customer's equipment to the public switched telephone network.

Tenure, households with access to secure Households that own or are purchasing their homes, are renting privately or are in social housing or subtenancy.

Terms of trade The ratio of the export price index to the import price index measured relative to a base year. A value of more than 100 means that the price of exports has risen relative to the price of imports.

Tuberculosis cases The total number of tuberculosis cases reported to the World Health Organization. A tuberculosis case is defined as a patient in whom tuberculosis has been bacteriologically confirmed or diagnosed by a clinician.

Tuberculosis cases cured under DOTS The percentage of estimated new infectious tuberculosis cases cured under the directly observed treatment, short course (DOTS) case detection and treatment strategy.

Tuberculosis cases detected under DOTS The percentage of estimated new infectious tuberculosis cases detected (diagnosed in a given period) under the directly observed treatment, short course (DOTS) case detection and treatment strategy.

Tuberculosis-related mortality rate The total number of deaths caused by tuberculosis per 100,000 people. The data are compiled from reports provided at registration of death.

Under-five mortality rate The probability of dying between birth and exactly five years of age, expressed per 1,000 live births.

Under height for age, children under age five Includes moderate and severe stunting, defined as more than two standard deviations below the median height for age of the reference population.

Undernourished people People whose food intake is chronically insufficient to meet their minimum energy requirements.

Under weight for age, children under age five Includes moderate underweight, defined as more than two standard deviations below the median weight for age of the reference population, and severe underweight, defined as more than three standard deviations below the median weight.

Unemployment Refers to all people above a specified age who are not in paid employment or self-employed, but are available for work and have taken specific steps to seek paid employment or self-employment.

Unemployment, long term Unemployment lasting 12 months or longer. See *unemployment*.

Unemployment rate The unemployed divided by the labour force (those employed plus the unemployed).

Unemployment, youth Refers to unemployment between the ages of 15 or 16 and 24, depending on the national definition. See *unemployment*.

Urban population The midyear population of areas classified as urban according to the criteria used by each country, as reported to the United Nations. See *population, total*.

Water source, improved, population without sustainable access to Calculated as 100 minus the percentage of the population with sustainable access to an improved water source. Unimproved sources include vendors, bottled water, tanker trucks and unprotected wells and springs. See *water source, improved, population with sustainable access to*.

Water source, improved, population with sustainable access to The share of the population with reasonable access to any of the following types of water supply for drinking: household connections, public standpipes, boreholes, protected dug wells, protected springs and rainwater collection. *Reasonable access* is defined as the availability of at least 20 litres a person per day from a source within one kilometre of the user's dwelling.

Women in government at ministerial level Defined according to each state's definition of a national executive and may include women serving as ministers and vice ministers and those holding other ministerial positions, including parliamentary secretaries.

Work time, total Time spent on market and non-market activities as defined according to the 1993 revised UN System of National Accounts. See *market activities* and *non-market activities*.

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Classification of countries

Countries in the human development aggregates [a]

High human development
(HDI 0.800 and above)

Argentina
Australia
Austria
Bahamas
Bahrain
Barbados
Belarus
Belgium
Brunei Darussalam
Canada
Chile
Costa Rica
Croatia
Cuba
Cyprus
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
Hong Kong, China (SAR)
Hungary
Iceland
Ireland
Israel
Italy
Japan
Korea, Rep. of
Kuwait
Latvia
Lithuania
Luxembourg
Malta
Mexico
Netherlands
New Zealand
Norway
Poland
Portugal
Qatar
Saint Kitts and Nevis
Seychelles
Singapore
Slovakia
Slovenia
Spain
Sweden
Switzerland
Trinidad and Tobago
United Arab Emirates
United Kingdom
United States
Uruguay
(55 countries or areas)

Medium human development
(HDI 0.500–0.799)

Albania
Algeria
Antigua and Barbuda
Armenia
Azerbaijan
Bangladesh
Belize
Bhutan
Bolivia
Bosnia and Herzegovina
Botswana
Brazil
Bulgaria
Cambodia
Cape Verde
China
Colombia
Comoros
Congo
Dominica
Dominican Republic
Ecuador
Egypt
El Salvador
Equatorial Guinea
Fiji
Gabon
Georgia
Ghana
Grenada
Guatemala
Guyana
Honduras
India
Indonesia
Iran, Islamic Rep. of
Jamaica
Jordan
Kazakhstan
Kyrgyzstan
Lao People's Dem. Rep.
Lebanon
Lesotho
Libyan Arab Jamahiriya
Macedonia, TFYR
Malaysia
Maldives
Mauritius
Moldova, Rep. of
Mongolia
Morocco
Myanmar
Namibia
Nicaragua
Occupied Palestinian Territories
Oman
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Romania
Russian Federation
Saint Lucia
Saint Vincent and
    the Grenadines
Samoa (Western)
São Tomé and Principe
Saudi Arabia
Solomon Islands
South Africa
Sri Lanka
Sudan
Suriname
Swaziland
Syrian Arab Republic
Tajikistan
Thailand
Togo
Tunisia
Turkey
Turkmenistan
Ukraine
Uzbekistan
Vanuatu
Venezuela
Viet Nam
(86 countries or areas)

Low human development
(HDI below 0.500)

Angola
Benin
Burkina Faso
Burundi
Cameroon
Central African Republic
Chad
Congo, Dem. Rep. of the
Côte d'Ivoire
Djibouti
Eritrea
Ethiopia
Gambia
Guinea
Guinea-Bissau
Haiti
Kenya
Madagascar
Malawi
Mali
Mauritania
Mozambique
Nepal
Niger
Nigeria
Pakistan
Rwanda
Senegal
Sierra Leone
Tanzania, U. Rep. of
Uganda
Yemen
Zambia
Zimbabwe
(34 countries or areas)

a. Excludes the following UN member countries for which the HDI cannot be computed: Afghanistan, Andorra, Iraq, Kiribati, the Democratic Republic of Korea, Liberia, Liechtenstein, the Marshall Islands, the Federated States of Micronesia, Monaco, Nauru, Palau, San Marino, Serbia and Montenegro, Somalia, Timor-Leste, Tonga and Tuvalu.

Countries in the income aggregates ^a

*High income
(GNI per capita of
$9,206 or more in 2001)*

Andorra
Australia
Austria
Bahamas
Bahrain
Belgium
Brunei Darussalam
Canada
Cyprus
Denmark
Finland
France
Germany
Greece
Hong Kong, China (SAR)
Iceland
Ireland
Israel
Italy
Japan
Korea, Rep. of
Kuwait
Liechtenstein
Luxembourg
Monaco
Netherlands
New Zealand
Norway
Portugal
Qatar
San Marino
Singapore
Slovenia
Spain
Sweden
Switzerland
United Arab Emirates
United Kingdom
United States
(39 countries or areas)

*Middle income
(GNI per capita of
$746–9,205 in 2001)*

Albania
Algeria
Antigua and Barbuda
Argentina
Barbados
Belarus
Belize
Bolivia
Bosnia and Herzegovina
Botswana
Brazil
Bulgaria
Cape Verde
Chile
China
Colombia
Costa Rica
Croatia
Cuba
Czech Republic
Djibouti
Dominica
Dominican Republic
Ecuador
Egypt
El Salvador
Estonia
Fiji
Gabon
Grenada
Guatemala
Guyana
Honduras
Hungary
Iran, Islamic Rep. of
Iraq
Jamaica
Jordan
Kazakhstan
Kiribati
Latvia
Lebanon
Libyan Arab Jamahiriya
Lithuania

Macedonia, TFYR
Malaysia
Maldives
Malta
Marshall Islands
Mauritius
Mexico
Micronesia, Fed. Sts.
Morocco
Namibia
Occupied Palestinian Territories
Oman
Palau
Panama
Paraguay
Peru
Philippines
Poland
Romania
Russian Federation
Saint Kitts and Nevis
Saint Lucia
Saint Vincent and
   the Grenadines
Samoa (Western)
Saudi Arabia
Serbia and Montenegro
Seychelles
Slovakia
South Africa
Sri Lanka
Suriname
Swaziland
Syrian Arab Republic
Thailand
Tonga
Trinidad and Tobago
Tunisia
Turkey
Turkmenistan
Uruguay
Vanuatu
Venezuela
(86 countries or areas)

*Low income
(GNI per capita of
$745 or less in 2001)*

Afghanistan
Angola
Armenia
Azerbaijan
Bangladesh
Benin
Bhutan
Burkina Faso
Burundi
Cambodia
Cameroon
Central African Republic
Chad
Comoros
Congo
Congo, Dem. Rep. of the
Côte d'Ivoire
Equatorial Guinea
Eritrea
Ethiopia
Gambia
Georgia
Ghana
Guinea
Guinea-Bissau
Haiti
India
Indonesia
Kenya
Korea, Dem. Rep. of
Kyrgyzstan
Lao People's Dem. Rep.
Lesotho
Liberia
Madagascar
Malawi
Mali
Mauritania
Moldova, Rep. of
Mongolia
Mozambique
Myanmar
Nepal
Nicaragua

Niger
Nigeria
Pakistan
Papua New Guinea
Rwanda
São Tomé and Principe
Senegal
Sierra Leone
Solomon Islands
Somalia
Sudan
Tajikistan
Tanzania, U. Rep. of
Timor-Leste
Togo
Uganda
Ukraine
Uzbekistan
Viet Nam
Yemen
Zambia
Zimbabwe
(66 countries or areas)

a. World Bank classification (effective as of 1 July 2002) based on gross national income (GNI) per capita. Excludes Nauru and Tuvalu because of lack of data.

Developing countries

Afghanistan
Algeria
Angola
Antigua and Barbuda
Argentina
Bahamas
Bahrain
Bangladesh
Barbados
Belize
Benin
Bhutan
Bolivia
Botswana
Brazil
Brunei Darussalam
Burkina Faso
Burundi
Cambodia
Cameroon
Cape Verde
Central African Republic
Chad
Chile
China
Colombia
Comoros
Congo
Congo, Dem. Rep. of the
Costa Rica
Côte d'Ivoire
Cuba
Cyprus
Djibouti
Dominica
Dominican Republic
Ecuador
Egypt
El Salvador
Equatorial Guinea
Eritrea
Ethiopia
Fiji
Gabon
Gambia
Ghana
Grenada
Guatemala
Guinea
Guinea-Bissau
Guyana
Haiti

Honduras
Hong Kong, China (SAR)
India
Indonesia
Iran, Islamic Rep. of
Iraq
Jamaica
Jordan
Kenya
Kiribati
Korea, Dem. Rep. of
Korea, Rep. of
Kuwait
Lao People's Dem. Rep.
Lebanon
Lesotho
Liberia
Libyan Arab Jamahiriya
Madagascar
Malawi
Malaysia
Maldives
Mali
Marshall Islands
Mauritania
Mauritius
Mexico
Micronesia, Fed. Sts.
Mongolia
Morocco
Mozambique
Myanmar
Namibia
Nauru
Nepal
Nicaragua
Niger
Nigeria
Occupied Palestinian
 Territories
Oman
Pakistan
Palau
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Qatar
Rwanda
Saint Kitts and Nevis
Saint Lucia

Saint Vincent and
 the Grenadines
Samoa (Western)
São Tomé and Principe
Saudi Arabia
Senegal
Seychelles
Sierra Leone
Singapore
Solomon Islands
Somalia
South Africa
Sri Lanka
Sudan
Suriname
Swaziland
Syrian Arab Republic
Tanzania, U. Rep. of
Thailand
Timor-Leste
Togo
Tonga
Trinidad and Tobago
Tunisia
Turkey
Tuvalu
Uganda
United Arab Emirates
Uruguay
Vanuatu
Venezuela
Viet Nam
Yemen
Zambia
Zimbabwe
(137 countries or areas)

**Least developed
countries**
Afghanistan
Angola
Bangladesh
Benin
Bhutan
Burkina Faso
Burundi
Cambodia
Cape Verde
Central African Republic
Chad
Comoros
Congo, Dem. Rep. of the

Djibouti
Equatorial Guinea
Eritrea
Ethiopia
Gambia
Guinea
Guinea-Bissau
Haiti
Kiribati
Lao People's Dem. Rep.
Lesotho
Liberia
Madagascar
Malawi
Maldives
Mali
Mauritania
Mozambique
Myanmar
Nepal
Niger
Rwanda
Samoa (Western)
São Tomé and Principe
Senegal
Sierra Leone
Solomon Islands
Somalia
Sudan
Tanzania, U. Rep. of
Togo
Tuvalu
Uganda
Vanuatu
Yemen
Zambia
(49 countries or areas)

Central and Eastern Europe and the Commonwealth of Independent States (CIS)

Albania
Armenia
Azerbaijan
Belarus
Bosnia and Herzegovina
Bulgaria

Croatia
Czech Republic
Estonia
Georgia
Hungary
Kazakhstan
Kyrgyzstan
Latvia
Lithuania
Macedonia, TFYR
Moldova, Rep. of
Poland
Romania
Russian Federation
Serbia and Montenegro
Slovakia
Slovenia
Tajikistan
Turkmenistan
Ukraine
Uzbekistan
(27 countries or areas)

OECD

Australia
Austria
Belgium
Canada
Czech Republic
Denmark
Finland
France
Germany
Greece
Hungary
Iceland
Ireland
Italy
Japan
Korea, Rep. of
Luxembourg
Mexico
Netherlands
New Zealand
Norway
Poland
Portugal
Slovakia
Spain
Sweden
Switzerland

Turkey
United Kingdom
United States
(30 countries or areas)

**High-income
OECD countries**[a]
Australia
Austria
Belgium
Canada
Denmark
Finland
France
Germany
Greece
Iceland
Ireland
Italy
Japan
Korea, Rep. of
Luxembourg
Netherlands
New Zealand
Norway
Portugal
Spain
Sweden
Switzerland
United Kingdom
United States
(24 countries or areas)

a. Excludes the Czech Republic, Hungary, Mexico, Poland, Slovakia and Turkey.

Developing countries in the regional aggregates

Arab States

Algeria
Bahrain
Djibouti
Egypt
Iraq
Jordan
Kuwait
Lebanon
Libyan Arab Jamahiriya
Morocco
Occupied Palestinian
　Territories
Oman
Qatar
Saudi Arabia
Somalia
Sudan
Syrian Arab Republic
Tunisia
United Arab Emirates
Yemen
(20 countries or areas)

Asia and the Pacific

East Asia and the Pacific
Brunei Darussalam
Cambodia
China
Fiji
Hong Kong, China (SAR)
Indonesia
Kiribati
Korea, Dem. Rep. of
Korea, Rep. of
Lao People's Dem. Rep.
Malaysia
Marshall Islands
Micronesia, Fed. Sts.
Mongolia
Myanmar
Nauru
Palau
Papua New Guinea
Philippines
Samoa (Western)
Singapore
Solomon Islands
Thailand
Timor-Leste
Tonga
Tuvalu
Vanuatu
Viet Nam
(28 countries or areas)

South Asia
Afghanistan
Bangladesh
Bhutan
India
Iran, Islamic Rep. of
Maldives
Nepal
Pakistan
Sri Lanka
(9 countries or areas)

Latin America and the Caribbean

Antigua and Barbuda
Argentina
Bahamas
Barbados
Belize
Bolivia
Brazil
Chile
Colombia
Costa Rica
Cuba
Dominica
Dominican Republic
Ecuador
El Salvador
Grenada
Guatemala
Guyana
Haiti
Honduras
Jamaica
Mexico
Nicaragua
Panama
Paraguay
Peru
Saint Kitts and Nevis
Saint Lucia
Saint Vincent and
　the Grenadines
Suriname
Trinidad and Tobago
Uruguay
Venezuela
(33 countries or areas)

Southern Europe

Cyprus
Turkey
(2 countries or areas)

Sub-Saharan Africa

Angola
Benin
Botswana
Burkina Faso
Burundi
Cameroon
Cape Verde
Central African Republic
Chad
Comoros
Congo
Congo, Dem. Rep. of the
Côte d'Ivoire
Equatorial Guinea
Eritrea
Ethiopia
Gabon
Gambia
Ghana
Guinea
Guinea-Bissau
Kenya
Lesotho
Liberia
Madagascar
Malawi
Mali
Mauritania
Mauritius
Mozambique
Namibia
Niger
Nigeria
Rwanda
São Tomé and Principe
Senegal
Seychelles
Sierra Leone
South Africa
Swaziland
Tanzania, U. Rep. of
Togo
Uganda
Zambia
Zimbabwe
(45 countries or areas)