

Assessing quality in ECCE provision is difficult, both conceptually and empirically, and has been insufficiently addressed at the global level

Early childhood care and education

Early childhood care and education (ECCE) refers to a wide range of programmes, all aimed at the physical, cognitive and social development of children before they enter primary school – theoretically from birth to about age 7 or 8. The benefits of ECCE programmes, which extend into adulthood, are well documented, as Chapter 2 shows. They contribute to good child development outcomes that set the foundation for lifelong learning and help in the monitoring of health and nutrition status during this critical period of development.

The provision of ECCE programmes can free members of the household from childcare responsibilities, allowing a parent to work or an older sibling to attend school. Of course, early childhood care also takes place in the context of families. Parenting practices have strong effects on learning and development (Myers, 2004).

Monitoring early childhood care and education

To monitor progress towards the goal stated in the Dakar Framework as ‘expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children’, it is important to distinguish between care and education and to identify the typical age groups that programmes serve and the extent to which statistical reporting covers formal and non-formal programmes.

The International Standard Classification of Education (ISCED) defines pre-primary education, or ISCED level 0, as comprising programmes that offer structured, purposeful learning activities in a school or a centre (as opposed to the home) to children aged at least 3 years (UNESCO, 1997). Such programmes are normally held to include organized learning activities that occupy on average the equivalent of at least two hours per day and 100 days per year.

These criteria may not reflect the full extent of participation in ECCE programmes, as they exclude care and education provided below age 3. Moreover, data collection systems that focus largely on state or state-regulated providers may not cover non-formal care and educational

activities administered by other state authorities or private entities for children aged 3 and up.

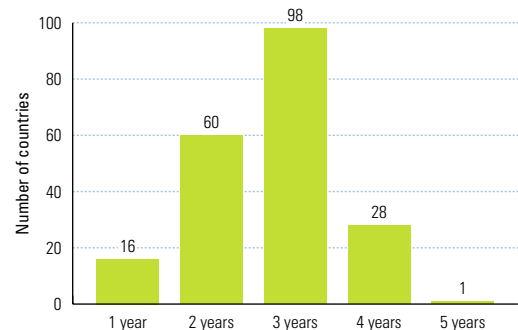
Assessing quality in ECCE provision is difficult, both conceptually and empirically, and has been insufficiently addressed at the global level. There is a real lack of information about inputs and about how they are used to achieve good outcomes in programmes for young children. The use of standards is increasingly the norm in more developed countries, as is the use of assessment instruments to measure outcomes. But learning achievement alone is an inadequate basis on which to judge programme quality, especially in developing countries, where the focus is on ensuring a wider range of child development outcomes.

An important part of assessing ECCE provision is determining how well programmes reach the most vulnerable and disadvantaged children. This has become more feasible with the greater availability of household survey results that allow the disaggregation of participation data by gender, household wealth and rural or urban residence. At the same time, however, these results may underestimate the extent of the differences, as national surveys are not typically used to collect information about the most marginalized populations.

Participation in ECCE programmes

National ECCE systems vary considerably in terms of age group served, number of years provided and content. The intended age group

Figure 3.1: Distribution of countries by the number of years of pre-primary education provided, 2001



Source: Statistical annex, Table 3.

1. The analysis primarily covers 1998–2001; 1998 was selected as a base because it was the latest year covered by the EFA 2000 assessment presented at the 2000 World Education Forum. It was also the first year for which data were collected after the 1997 ISCED revision, so all data from 1998 onward are comparable over time.

for pre-primary programmes varies widely, as Figure 3.1 shows. However, in most countries, participation is not obligatory and children may start programmes at any age. In some cases, programmes can be taken for only one year, as in Sri Lanka and the Philippines. In other cases, they can be taken for up to four years, as in many Central and Eastern European countries, or even five years, as in Mongolia. The most common duration is three years, typically serving ages 3 to 5 or, less frequently, 4 to 6. In a few countries, the year before the official entrance age for primary education is compulsory.

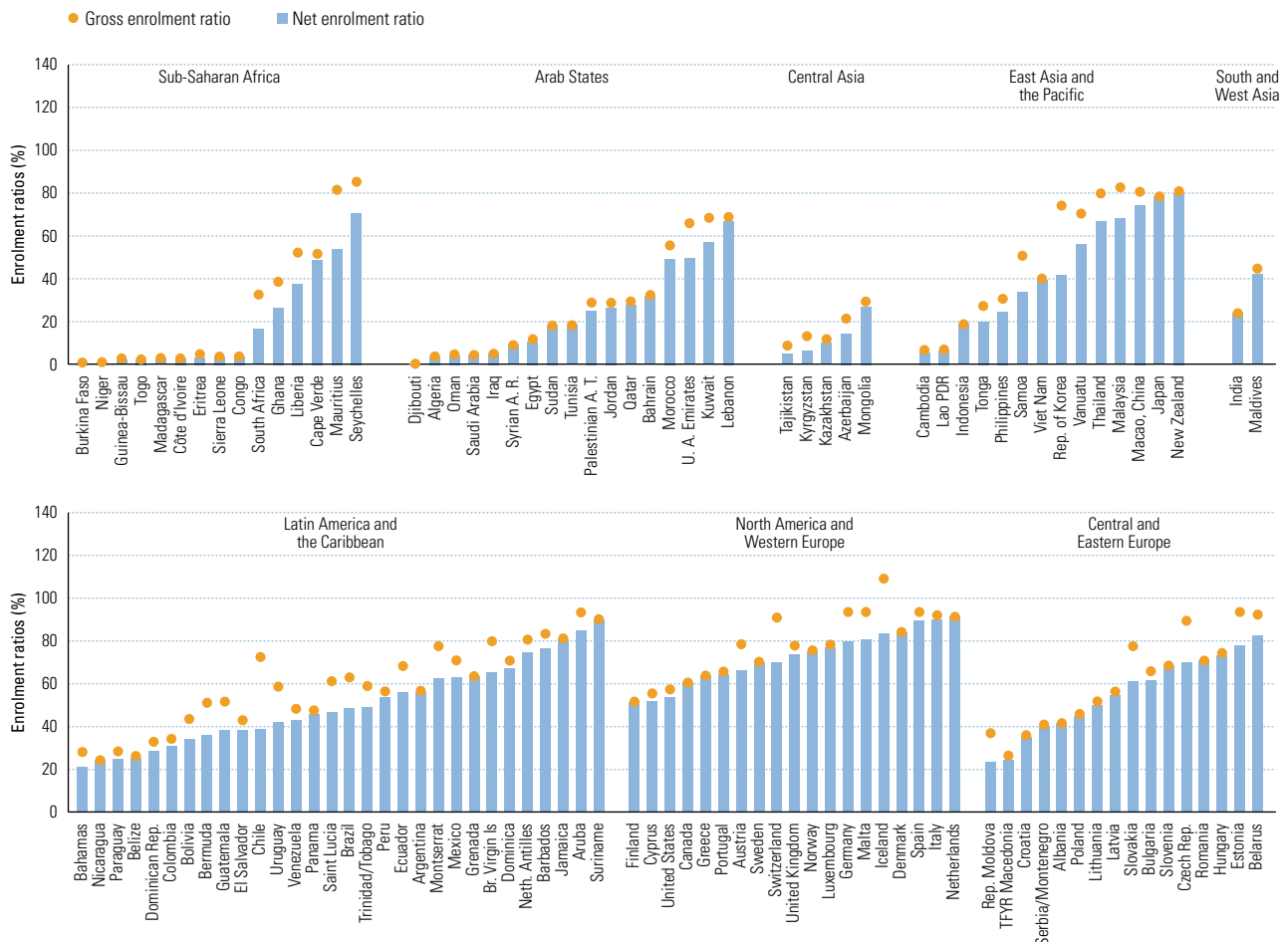
The annual statutory number of hours of pre-primary schooling in developing countries in 1999 ranged from 195 hours in Iraq to more than 1,250 hours in Colombia, Cuba and Saint Kitts

and Nevis – a ratio of 1:8 between minimum and maximum (UNESCO, 2003a). Programmes in about half the countries for which data are available fell in the range of 700 to 999 hours per year. Programmes of longer duration are not necessarily of better quality – their impact on child outcomes also depends on support provided in the home and on the quality of the activities provided.

Gross and net enrolment ratios (GER and NER) – explained in the section below on school participation – are typically used to measure levels of participation in ECCE programmes. The GER should be interpreted within the context of the official age groups for pre-primary education (they are found in the Statistical annex, Table 3). Figure 3.2 shows enrolment ratios in selected

The impact of ECCE programmes depends on support provided in the home and on the quality of the activities provided

Figure 3.2: Gross and net pre-primary enrolment ratios, 2001



Note: See source table for detailed country notes.

Source: Statistical annex, Table 3; UNESCO Institute for Statistics database.

One year of compulsory pre-primary education has become the norm for most European countries

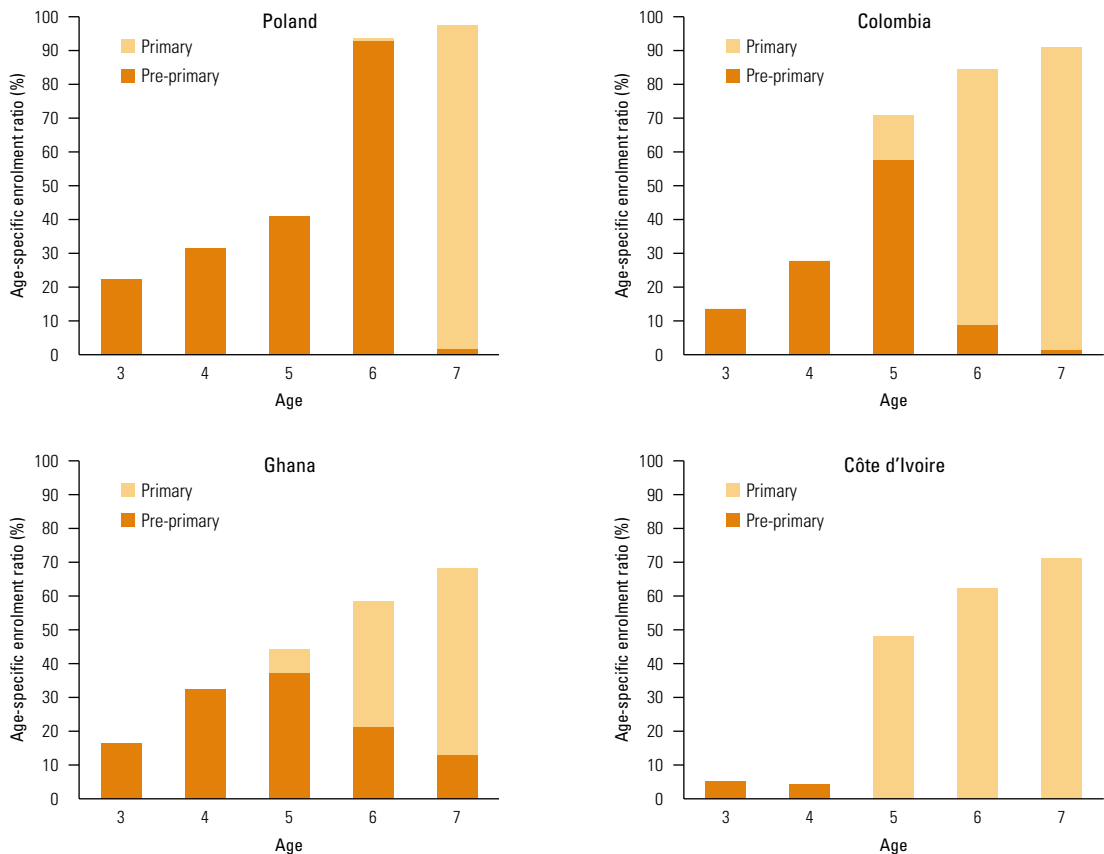
countries for the 2001/2002 school year. Most countries in the EFA² regions of sub-Saharan Africa, the Arab States, Central Asia and South and West Asia have low enrolment levels, while those in the Latin America and the Caribbean region and the North America and Western Europe region have generally higher levels. The considerable difference between the GER and the NER in several countries indicates that a large proportion of those enrolled are outside the intended age group.

The countries shown in Figure 3.3 illustrate three typical patterns in terms of participation by age. In the most common pattern, participation rates increase with age, and peak in the year before entry into primary school. In Poland, the peak covers practically all 6-year-olds, because the last year of pre-primary is compulsory. One year of compulsory pre-primary education has become the norm for most European countries

(OECD, 2001). While almost all children in Poland enter primary school at age 7, in Colombia and Ghana there is a greater mix of pre-primary and primary school participation among children of the same age, even at the official entry age for primary school. By contrast, in Côte d'Ivoire, as in many other sub-Saharan African countries, pre-primary participation levels are extremely low at all ages. Levels of participation in primary school are also relatively low.

Pre-primary school life expectancy summarizes these diverse participation patterns into the average number of years of pre-primary education that a child could expect to receive if current participation rates remain constant. Figure 3.4 shows countries with the highest and lowest levels of ECCE participation in each EFA region, together with the average of a larger group of countries in that region. It indicates that the highest levels of pre-primary school life

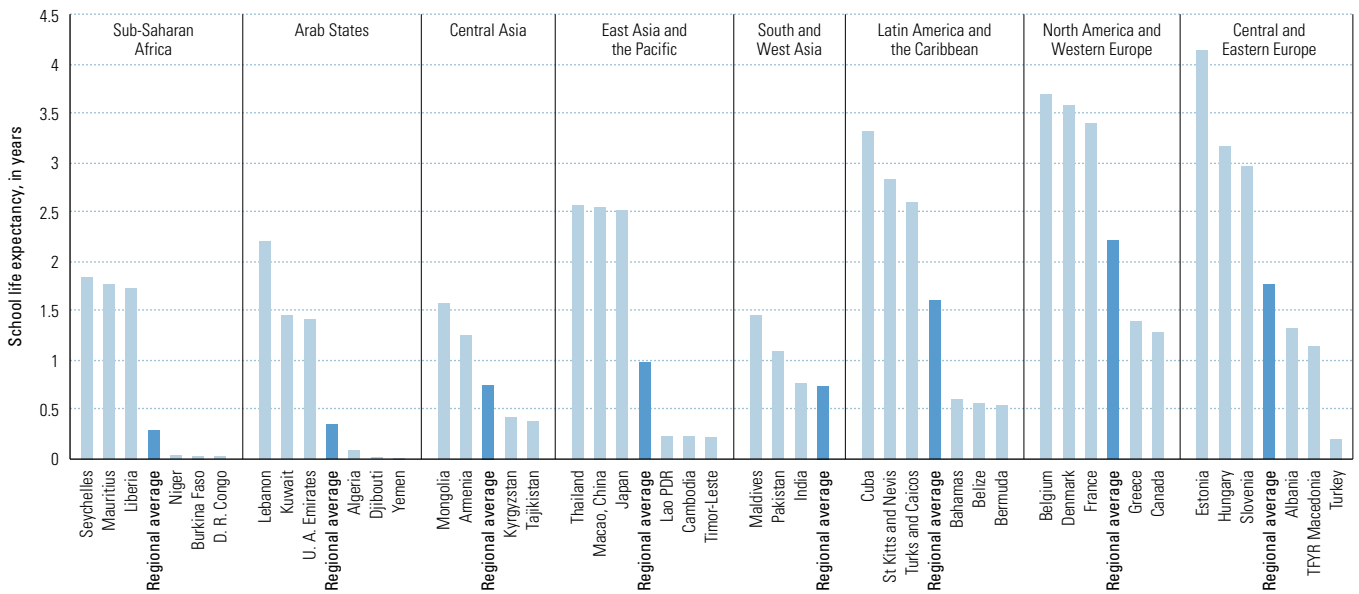
Figure 3.3: Age-specific enrolment ratios for pre-primary and primary education, 2001



Source: UNESCO Institute for Statistics database.

2. See the introduction to the Statistical annex for the composition of the EFA regions.

Figure 3.4: Pre-primary school life expectancy in selected countries by region, 2001
(regional averages and countries with the highest and lowest values)



Notes: Regional averages are unweighted. They are based on the following number of countries: Sub-Saharan Africa: 34; Arab States: 19; Central Asia: 8; East Asia and Pacific: 22; South and West Asia: 8; Latin America and the Caribbean: 3; North America and Western Europe: 23; Central and Eastern Europe: 19.
Source: UNESCO Institute for Statistics database.

expectancy are found in North America and Western Europe (2.2 years), followed by Central and Eastern Europe (1.8 years) and Latin America and the Caribbean (1.6 years). The high rates in Central and Eastern Europe partly reflect the legacy of heavily subsidized pre-primary programmes accompanying high female labour force participation (UNICEF, 1999b). In the best-performing countries of sub-Saharan Africa a child could be expected to attend almost two years of pre-primary programmes, but the numbers drop off sharply and the regional average is only about 0.3 years. Despite high values in Lebanon and Kuwait, the Arab States' regional average closely follows sub-Saharan Africa's. Pre-school life expectancy is a measure of the quantity of programme provision and does not necessarily reflect programme quality, but extremely low participation levels indicate that ECCE in the countries concerned may bring few benefits to society.

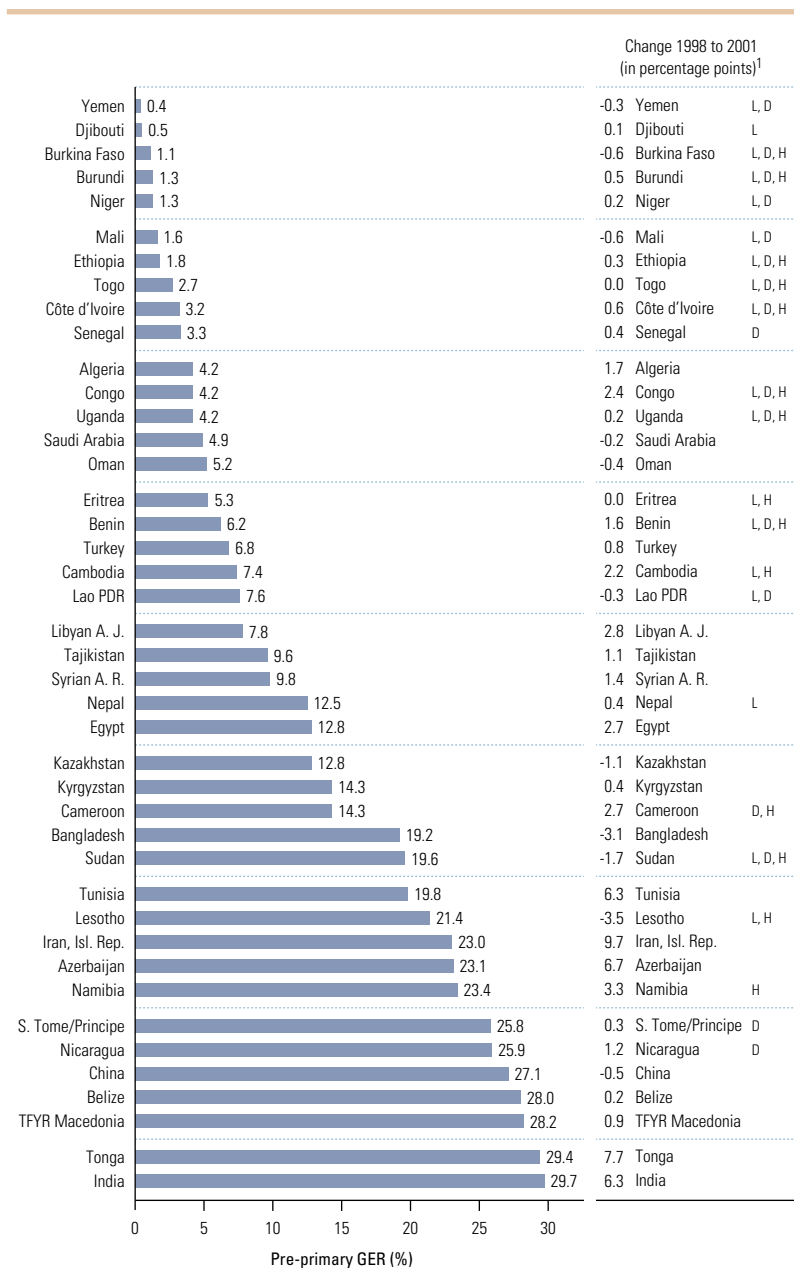
Progress towards wider access to pre-primary programmes since 1998 has been slow. Gross enrolment ratios have increased by more than 10% in fourteen countries of sub-Saharan Africa, although they started from very low levels.

The GER rose by 133% in Congo (from 1.8% to 4.2%), due to recovery after the disruption caused by conflict. Increases above 50% were reported in Algeria, Burundi, the Libyan Arab Jamahiriya and the Islamic Republic of Iran. The decline experienced in countries of Eastern Europe and Central Asia during the 1990s has stabilized and the situation has started to improve in most countries (UNESCO, 2003a).

Figure 3.5 shows the rates of change in participation for countries with GERs of less than 30%. The biggest gains were in countries with an established base to build on (GER between 20% and 30%): Azerbaijan, India, the Islamic Republic of Iran, Tonga and Tunisia. However, in other countries in the same group, such as China and Lesotho, levels were stable or declined. Most sub-Saharan African and other 'least-developed' countries showed low participation levels (often below 10%) and, in some cases, declines. Most of these countries belong to the 'heavily indebted poor countries' group and are generally affected by the HIV/AIDS pandemic and high levels of poverty. They face the greatest challenge when it comes to achieving the good care, health, education and development of young children.

Most sub-Saharan African and other 'least-developed' countries showed low participation levels (often below 10%) in pre-primary enrolments

Figure 3.5: Pre-primary gross enrolment ratios in 2001 and change since 1998 (countries with GER below 30%)



Note: See source tables for detailed country notes.

1. L = least developed countries, D = highly indebted poor countries (HIPC), H = HIV prevalence in adults (ages 15–49) >2%.

Source: Statistical annex, Tables 1 and 3; HIPC classification available at www.worldbank.org/hipc.

suggests that one of the main ways for poor countries to increase ECCE is by expanding the role of the private sector via community-based provision. One danger of such a strategy, however, is greater inequality, since generally only the better-off communities and households are able to invest in ECCE programmes.

Achieving gender equality in access and provision is especially important during this critical period of child development. The countries for which data are available are divided almost evenly between those where gender disparities in pre-primary education, as measured by the gender parity index (GPI),³ favour boys and those where they favour girls. The disparities in favour of boys are generally less striking than those for primary education in South and West Asia, sub-Saharan Africa and certain Arab States. One possible explanation is the degree of civil society participation in ECCE provision (UNESCO, 2003a). Many non-governmental organizations (NGOs) and other associations are concerned with the interests of women and young children and seek to ensure that girls participate at least as much as boys. Nevertheless, in some countries, such as Morocco and Pakistan, the GER for girls is still no more than three-quarters of the ratio for boys. In the British Virgin Islands, Nepal, Oman, Tajikistan and the Turks and Caicos Islands, girls' participation remains 12%–15% below that of boys.

Table 3.1 presents data on attendance in early childhood programmes by 3- and 4-year-olds, collected in household surveys. The UNICEF Multiple Indicator Cluster Surveys (MICS), conducted in or around 2000, collected data on the percentage of children aged 3 and 4 who attended organized learning or early childhood education programmes, along with the average number of hours attended in the week before the survey.

The number of hours attended ranged from ten or fewer in sub-Saharan African countries such as Burundi, Chad, Guinea-Bissau and Sierra Leone to more than thirty in Azerbaijan, Mongolia and Tajikistan. Countries whose attendance rates and hours attended were both relatively high included the Dominican Republic, the Republic of Moldova, Suriname, Trinidad and Tobago and Viet Nam. By contrast, in Burundi, Chad, the Central African Republic, the Democratic Republic of the Congo, Guinea-Bissau and the Niger, only a

The difficulty of expanding access to ECCE programmes in the least developed countries is the focus of a recent World Bank study (Jaramillo and Mingat, 2003). Almost half of the 133 developing countries considered in the study would not achieve a pre-primary GER of even 25% by 2015, based on current trends. The study

3. The GPI is the ratio of female to male values of a given indicator. A GPI of 1 indicates parity between sexes; a GPI between 0 and 1 means a disparity in favour of boys/men; a GPI greater than 1 indicates a disparity in favour of girls/women.

small proportion of 3- and 4-year-olds attended and for only a few hours per week.

Who benefits from ECCE programmes?

While countries providing GERs are evenly divided between those favouring boys and those favouring girls, disparity in net attendance rates among 3- and 4-year-olds in the surveyed countries is more often in favour of girls. In almost two thirds of the surveyed countries, they attend ECCE programmes more than boys. Furthermore, disparities in favour of either sex are more pronounced for attendance rates than for GERs. The disparity in favour of girls is highest in the Lao People's Democratic Republic, the Philippines and Botswana; the disparity in favour of boys is highest in Chad, the Niger and Tajikistan.

Attendance rates in pre-primary programmes are considerably higher for urban children than for those living in rural areas (Figure 3.6) and higher for children from better-off households than poor ones (Figure 3.7). Countries with higher-than-average attendance rates that have minimized differences in urban versus rural attendance include Equatorial Guinea and Suriname. The greatest differences in attendance between rich and poor were found in the Dominican Republic, Viet Nam and the Republic of Moldova. Research has shown that children from the poorest backgrounds benefit the most from ECCE provision in terms of care, health and education (Jarousse, Mingat and Richard, 1992), yet UNICEF MICS and other studies show that they are also more likely to be excluded from it.

Assessing the quality and cost of ECCE

It is difficult to assess the quality of ECCE provision, as outcomes are hard to measure, although projects using increasingly refined instruments are being carried out.⁴ Most such studies measure the impact of ECCE participation on the progression of pupils through the primary school grades and on their overall achievement. Chapter 2 of this report discusses evidence from developed and developing countries (see also Myers, 2004). Indicators that can assist in assessing the quality of early childhood programmes cover such aspects as physical environments, staff training and qualification levels and numbers of children per class and

Table 3.1: Net ECCE attendance rates for 3- and 4-year-olds by gender and number of hours attended, 2000

Country	Net attendance rate				Mean number of hours attended ¹
	Net attendance rate (%)			GPI (F/M)	
	Total	Male	Female		
Albania	16.1	15.9	16.2	1.02	14.9
Angola	6.7	6.8	6.7	0.99	...
Azerbaijan	11.6	12.3	10.9	0.89	32.5
Bolivia	17.6	16.9	18.2	1.08	19.1
Bosnia/Herzeg.	8.9	8.3	9.7	1.17	21.8
Botswana	14.5	11.8	17.0	1.44	...
Burundi	4.5	3.9	5.0	1.28	8.4
Cameroon	15.9	16.7	18.4	1.10	...
C. A. R.	2.8	2.7	2.9	1.07	13.0
Chad	0.8	1.0	0.6	0.60	7.3
Comoros	16.5	15.7	17.3	1.10	13.4
Côte d'Ivoire	6.6	7.2	5.9	0.82	16.6
D. R. Congo	3.0	3.1	2.9	0.94	15.1
Dominican Rep.	49.8	48.3	51.5	1.07	16.1
Equat. Guinea	45.8	46.5	44.9	0.97	15.5
Gambia	17.2	16.6	17.6	1.06	20.1
Guinea-Bissau	6.7	7.2	6.1	0.85	9.4
Guyana	36.1	36.9	35.1	0.95	...
Kenya	17.9	15.9	19.9	1.25	28.5
Lao PDR	7.0	5.2	8.9	1.71	25.0
Lesotho	22.6	21.6	23.7	1.10	19.6
Madagascar	5.6	5.6	5.5	0.98	15.5
Mongolia	21.8	21.7	21.8	1.00	32.7
Myanmar	9.7	9.1	10.4	1.14	22.5
Niger	2.6	3.4	1.7	0.50	19.9
Philippines ²	10.9	8.6	13.3	1.55	...
Rep. Moldova	30.3	28.7	32.1	1.12	27.0
Rwanda	2.7	2.5	2.9	1.16	...
S. Tome/Principe	19.4	20.3	19.3	0.95	15.2
Senegal	9.1	9.7	8.6	0.89	17.7
Sierra Leone	11.5	11.4	11.5	1.01	10.0
Suriname ²	40.1	42.2	38.1	0.90	19.8
Swaziland	12.6	11.7	13.7	1.17	16.0
Tajikistan	4.1	4.6	3.5	0.76	32.2
Togo	8.6	8.3	8.9	1.07	...
Trinidad/Tobago	71.5	67.9	75.4	1.11	24.7
Uzbekistan	20.7	18.2	23.3	1.28	17.3
Venezuela	33.1	32.5	33.9	1.04	...
Viet Nam	32.5	30.6	34.6	1.13	24.4
Zambia ²	8.0	7.6	8.5	1.12	...
Average	17.1	16.6	17.7	1.06	19.1

1. Number of hours attended in the week preceding the interview.

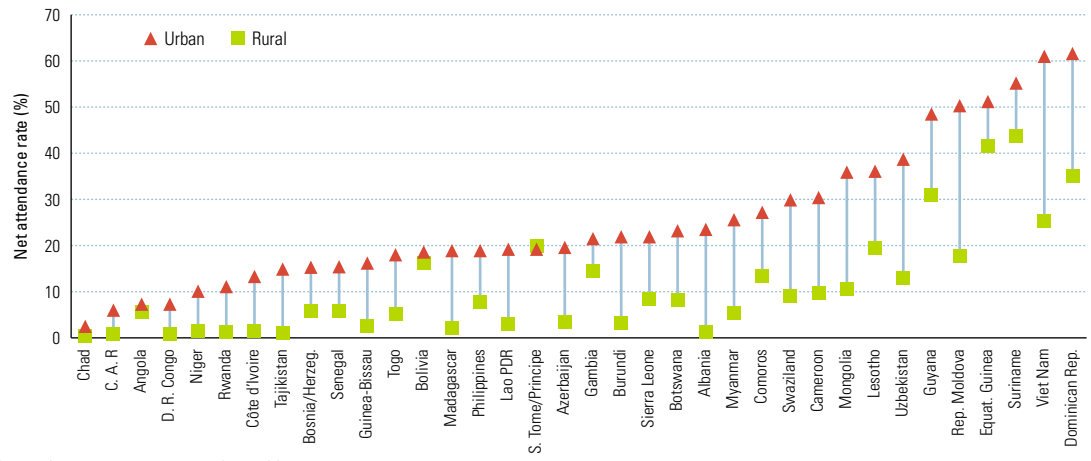
2. Data are for 1999.

Source: Calculations based on UNICEF MICS database.

per caregiver. The characteristics of how provision is organized and managed, the clarity of curricular goals and the quality of the education process are also keys to good child development outcomes. But data for these indicators are often difficult to collect and interpret in a comparative framework.

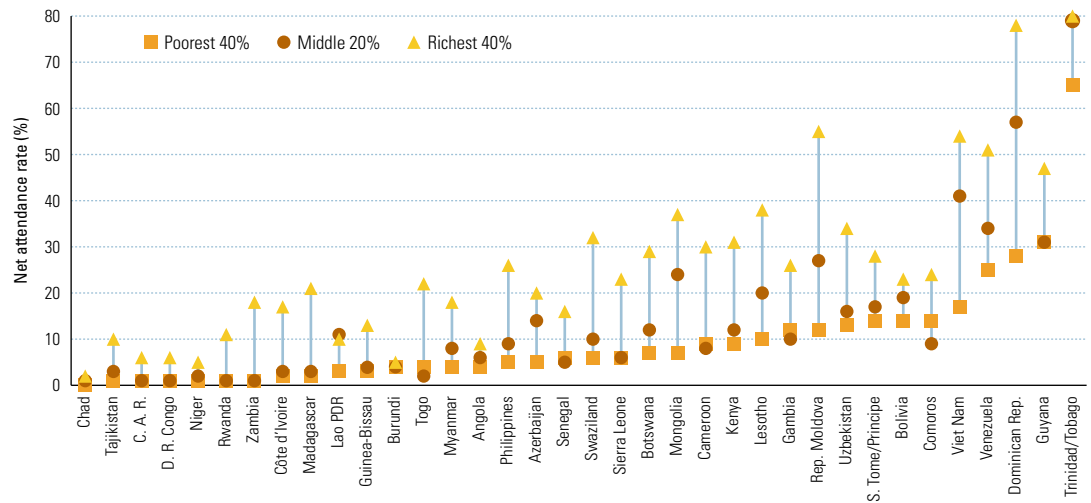
4. An example is the Pre-Primary Project of the International Association for the Evaluation of Educational Achievement (IEA). This longitudinal study is designed to explore the quality of life of pre-school children in various care and education environments. The recently completed final phase examined the relationship between experiences at age 4 and cognitive and language development at age 7 (Weikart, Montie and Xiang, 2004).

Figure 3.6: Net ECCE attendance rates for 3- and 4-year-olds by urban or rural residence, 2000



Source: Calculations based on UNICEF MICS database.

Figure 3.7: Net ECCE attendance rates for 3- and 4-year-olds by household wealth, 2000



Source: Calculations based on UNICEF MICS database.

Many teachers are employed on a contract basis, receive low salaries and have limited or no professional training

Pupil/teacher ratios (PTRs) vary greatly in pre-primary education. The PTR is the ratio of the total number of pupils to the total number of teachers at a given level. PTRs are highest in sub-Saharan Africa, where 40% of the countries for which data are available have between twenty-five and thirty-four children per teacher, and lowest in Central and Eastern Europe and Central Asia, where the ratio is below 15:1 in seven out of ten countries. In general, PTRs tend to be higher in primary than in pre-primary

education, as younger children need more individual care and attention. For instance, in sub-Saharan Africa, over three-quarters of the countries have PTRs over 35:1 in primary education, while only one in ten does at the pre-primary level. In Central and Eastern Europe and Central Asia, over 70% of the countries have fewer than fifteen pupils per teacher in pre-primary but fifteen to twenty-four in primary. This pattern is less clear-cut in the Arab States and in North America and Western Europe.

These averages represent only rough indications of the quality of processes and outcomes. A recent study, covering mostly industrialized countries, reports that ten out of twenty-one countries had child/staff ratios that differed according to children's age, socio-economic background, home location, staff qualifications and location of institution (Bertram and Pascal, 2002). These ratios varied from an average of 25–30:1 for 5- and 6-year-olds to 15:1 for 3- and 4-year-olds. Crèches, catering to 0- to 2-year-olds, generally had fewer than eight children per adult. For 4- to 6-year-olds, the average ratio was as low as 15:1 in programmes targeting the socially and economically disadvantaged. According to another source, national standards for child/staff ratios in OECD countries for 0- to 3-year-olds range from 3:1 in Denmark to 10:1 in Portugal, and for 3- to 6-year-olds from 6:1 in Denmark and Sweden to 20–28:1 in Italy (OECD, 2001).

The quality of ECCE programmes is limited in some countries by low staff qualifications. Many teachers are employed on a contract basis, receive low salaries and have limited or no professional training. Among sixty-nine countries providing data, 20% report that all ECCE teachers have received training, while in another 20% fewer than half are trained. Trained personnel make up less than one quarter of teaching staff in Trinidad and Tobago, Cape Verde and Ghana (see Statistical annex, Table 13A). In three quarters of these sixty-nine countries, the proportion of untrained teachers at pre-primary level is higher, and sometimes much higher, than at primary level.

In OECD countries, pre-primary staff are generally well qualified. In most Western European countries and Japan, staff need university qualification, while in the United States lower qualification is sufficient (CERI, 1999). A review of staff qualifications in nineteen developed countries conveys a picture of pre-primary programmes delivered by highly qualified staff (Bertram and Pascal, 2002). Recent changes to qualification requirements pointed to increasing professionalization. Staff dealing with 4-year-olds in all but two of the countries had qualifications similar to those of primary school teachers – usually at least three years of university training.

Among middle-income countries for which data are available, teacher qualification standards and salary levels (entry level with minimum qualification) do not differ greatly between pre-primary and primary levels. In lower-income developing countries, qualifications and salaries are lower at pre-primary than at primary level. Minimum salaries at both levels are reported to be similar in, for instance, India, Indonesia, Malaysia, Paraguay and the Philippines, but the number of hours of instruction is lower in pre-primary than in primary school, which results in higher pre-primary unit costs. Pre-primary expenditure per child is also higher where pre-primary PTRs are lower than in primary school, e.g. in Brazil, Chile, Indonesia, the Philippines and Tunisia (UNESCO Institute for Statistics/OECD, 2003).

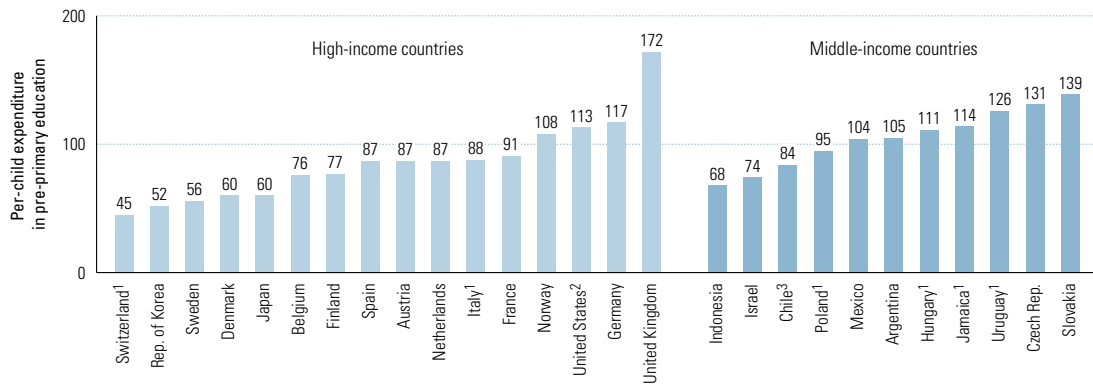
As Figure 3.8 shows, pre-primary unit costs are also substantially higher than primary costs in the Czech Republic, Slovakia and the United Kingdom. While in Slovakia pupil/teacher ratios (10:1 in pre-primary, 19:1 in primary) may explain the cost level, this explanation may not hold true in the United Kingdom, which has PTRs of 24:1 in pre-primary and 17:1 in primary school. Nevertheless, it can be seen that unit costs are lower at pre-primary level than at primary level in almost two thirds of the countries providing data (sixteen countries out of twenty-seven).

Conclusion

Progress towards the ECCE goal has been slow, especially as it relates to reaching marginalized populations. The number of countries reporting GERs lower than 15% has changed little since 1998. Increases are found in particular among countries with an established base of participation, but some countries in this group report decreases. Participation as measured by GER is more gender-balanced than in primary school, though girls are still at a disadvantage in several countries. The evidence of household surveys, however, suggests that girls' attendance is higher than boys' (Table 3.1). ECCE programmes are unequally accessible within countries, with provision biased towards urban dwellers and richer households. In several countries, GER and NER differ considerably, indicating that a large proportion of those enrolled are outside the official age group.

Progress towards the ECCE goal has been slow, especially as it relates to reaching marginalized populations

Figure 3.8: Comparison of per-child expenditure at pre-primary and primary levels, 2001 (primary education = 100)



Note: Calculation based on expenditure per child in US dollars at PPP, using full-time equivalents.
 1. Public institutions only.
 2. Public and independent private institutions only.
 3. Based on 2002 data.
Source: UNESCO Institute for Statistics database.

In terms of defining and monitoring ECCE programme quality, much unexplored territory remains. More evidence is required to assess progress towards the goal in terms of quality in low-income countries.

School participation

Universal primary education (UPE) means that all children of primary-school age participate in the school system and complete primary school

This section focuses on pupil participation at primary level and briefly discusses participation at secondary and tertiary levels. Universal primary education (UPE) means that all children of primary-school age participate in the school system and complete primary school. This requires initial enrolment at the officially prescribed age, regular attendance and the progression of most pupils from one grade to another at the appropriate time, so that everyone completes the curriculum. Such results are possible only if the school system has the capacity to accommodate entire cohorts of children and deliver decent-quality teaching. Timely completion of primary schooling with a reasonable degree of mastery of the curriculum – notably basic cognitive skills such as literacy and numeracy – appears to be necessary for primary education to yield the expected benefits over the long run, and is obviously a condition for successful participation in post-primary education.

As far as UPE is concerned, quantitative and qualitative objectives are inseparable. For example, improving school quality is one way to increase demand for education and improve school participation. The returns accruing to children from a given amount of schooling will also be crucially affected by its quality.

How close is the world to universal primary education?

Enrolment

Enrolment is the most basic element of school participation. It is also the most easily measurable indicator of progress towards UPE. As noted earlier, two enrolment ratios are usually distinguished. The gross enrolment ratio (GER) is the ratio of the number of children enrolled at a given level (e.g. in primary school), whatever their age, to the number in the age range officially corresponding to that level (e.g. ages 6 to 12). The GER is expressed as a percentage. It can exceed 100%, because of early or, more frequently, delayed enrolment, as well as grade repetition – which result in children other than those of the official age(s) being enrolled at a given level. GERs measure the overall capacity of school systems in purely quantitative terms, though wide differences in levels of resources per pupil often make broad comparisons difficult.

Table 3.2: Grouping of countries by levels of primary net and gross enrolment ratios, 2001

		Level of NER				
		<50%	50.1%-70%	70.1%-90%	90.1%-100%	NER not available
GER < 100%	Sub-Saharan Africa	Burkina Faso, Eritrea, Ethiopia, Guinea-Bissau, Niger	Burundi, Chad, Côte d'Ivoire, Ghana, Guinea, Kenya, Mozambique, Senegal, United Republic of Tanzania, Zambia	Gambia, Zimbabwe		Central African Republic, Comoros, Congo, Mali, Nigeria, Sierra Leone
	Arab States	Djibouti	Mauritania, Saudi Arabia, Yemen	Kuwait, Oman, United Arab Emirates	Bahrain, Egypt, Iraq, Jordan	Sudan
	Central Asia			Armenia, Azerbaijan, Kazakhstan, Mongolia	Georgia	
	East Asia and the Pacific			Myanmar, Papua N. Guinea, Thailand, Cook Islands	Malaysia, New Zealand	
	South and West Asia		Pakistan	Bangladesh, India, Islamic Republic of Iran		Afghanistan
	Latin America and the Caribbean			Bahamas	Anguilla	
	North America and Western Europe				Canada, Cyprus, Greece, Iceland, United States	
	Central and Eastern Europe			Croatia, Latvia, Rep. Moldova, Romania, Serbia/Montenegro, Turkey, Ukraine	Bulgaria, Poland, TFYR Macedonia	
GER > 100%	Sub-Saharan Africa		Liberia, Madagascar	Benin, Botswana, Equatorial Guinea, Gabon, Lesotho, Malawi, Namibia, Rwanda, South Africa, Swaziland	Cape Verde, Mauritius, S. Tome/Principe, Seychelles, Togo	Cameroon, Uganda
	Arab States			Lebanon, Morocco	Algeria, Palestinian A. T., Qatar, Syrian A. R., Tunisia	Libyan A. J.
	Central Asia				Kyrgyzstan, Tajikistan	Uzbekistan
	East Asia and the Pacific			Cambodia, Lao PDR, Macao (China)	Australia, China, Fiji, Indonesia, Japan, Niue, Palau, Philippines, Rep. of Korea, Samoa, Tonga, Vanuatu, Viet Nam	Brunei Darussalam, Timor-Leste
	South and West Asia			Nepal	Maldives, Sri Lanka	
	Latin America and the Caribbean			Chile, Colombia, El Salvador, Guatemala, Honduras, Netherlands Antilles, Nicaragua, Turks and Caicos Islands, Uruguay	Argentina, Aruba, Barbados, Belize, Bermuda, Bolivia, Brazil, Br. Virgin Is, Costa Rica, Cuba, Dominican Republic, Ecuador, Guyana, Jamaica, Mexico, Montserrat, Panama, Paraguay, Peru, Saint Lucia, Saint Vincent/Grenadines, Suriname, Trinidad and Tobago, Venezuela	
	North America and Western Europe			Austria	Belgium, Denmark, Finland, France, Ireland, Israel, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom	Germany
	Central and Eastern Europe			Czech Republic, Slovakia	Albania, Belarus, Estonia, Hungary, Lithuania, Slovenia	Russian Federation

Note: See source table for detailed country notes.

Source: Statistical annex, Table 5.

The greatest concentration of educational deprivation (and poverty in general) is found in Africa and South Asia

The net enrolment ratio (NER) only takes into account enrolled children who belong to the official age range (e.g. 6- to 12-year-olds enrolled in primary school), regardless of whether younger or older children are also enrolled; thus it cannot exceed 100%. As a measure of the coverage of children in the age range officially associated with a given level of education, the NER comes closer to being an indicator of school quality. UPE implies a NER at or near 100%. A high GER is not necessarily a sign of progress towards UPE if the NER is much lower.⁵

Table 3.2 groups countries according to their GERs and NERs in primary education in 2001. Figure 3.9 displays GERs and NERs for the 100-plus countries that had not reached an NER of 95% by 2001. More than one-third of the countries for which data are available still have GERs below 100%, although those with NERs above 90% may have sufficient capacity for UPE.

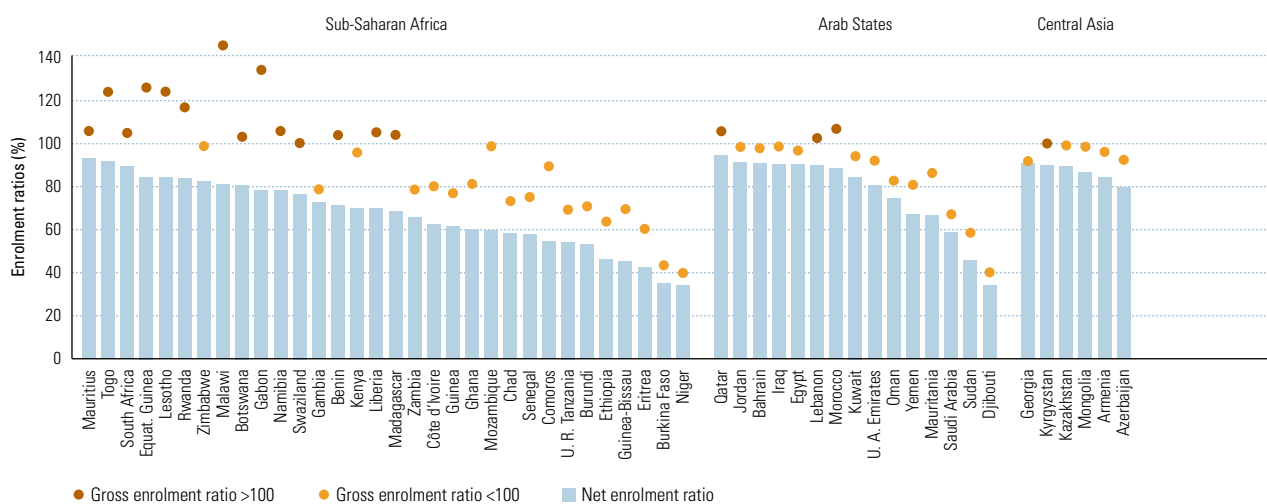
In the more than forty countries with GERs below 100% and NERs below 90%, capacity will need to increase strongly for UPE to be reached. Figure 3.9 further suggests that the gap between GER and NER is often large for countries with low NERs. This shows that lack of coverage and inefficiency in primary education tend to occur together.

Striking regional patterns emerge. The greatest concentration of educational deprivation (and poverty in general) is found in Africa and South Asia. In sub-Saharan Africa, only a handful of small countries both reach GERs of 100% or more and have NERs above 90%. Some larger countries combine GERs below 100% with NERs below 70% or even below 50%. The only other countries reporting NERs below 70% are a few Arab States and Pakistan. Just six countries, all in Africa, have primary education NERs below 50%. Dealing with these data at the country level, however, masks the extent of educational deprivation in South and West Asia. There, despite somewhat higher national GERs and NERs, highly populated regions within countries have lower enrolment levels than do many African states.

Most of the world's countries, however, have attained NERs of at least 70%, and in North America and Western Europe, Latin America and the Caribbean and East Asia and the Pacific, most countries combine GERs above 100% with NERs above 90%. In Central and Eastern Europe, however, the situation is problematic: more than half the countries in the region have GERs below 100%, and some have NERs between 70% and 90%.

Unsatisfactory as the current situation may be, there was much progress in enrolment during

Figure 3.9: Net and gross enrolment ratios in primary education for countries with NER below 95%, 2001



Note: See source table for detailed country notes.

Source: Statistical annex, Table 5.

5. For example, GERs in primary education exceed 120% in Cambodia, Equatorial Guinea, Gabon, Lesotho, Malawi, Nepal and Togo, but all those countries have NERs between 70% and 89% except Togo, whose NER is above 90% (see Table 3.2). Countries in such a situation probably need to improve the coverage of primary education while reducing delayed enrolment and grade repetition. Thus, contrary to what the high GERs might suggest, major changes in school system organization and improvements in teaching quality may be needed in such countries.

the 1990s, both over the whole decade (1990–2001) and its last third (1998–2001), as Figure 3.10 shows. By 2001, NERs had increased in nearly all countries that started the decade below 70%, leading to some convergence at the global level – NERs in primary education ranged from 16% to 100% in 1990, but from 34% to 100% in 2001. In twenty countries NERs increased beyond 90% and several countries that still had not reached 90% in 2001 nevertheless showed dramatic progress since 1998, with increases of over 10 percentage points (Burundi, Ethiopia, Guinea, Lesotho, Morocco, Mozambique and Sao Tome and Principe).

On the other hand, in about one fifth of all countries providing data, NERs declined more than two percentage points between 1990 and 2001. In many cases these were Central and Eastern European or Central Asian countries that had had relatively high NERs at the beginning of the period. Others were developing countries, especially in sub-Saharan Africa, that experienced prolonged economic crisis during the decade. In Nepal, the Republic of Moldova and Zambia, whose NERs were already below 90% in 1990, enrolment had dropped by more than 10 percentage points by 2001.

Similar changes occurred between 1998 and 2001, although on a smaller scale. As things

stand, the world appears divided between a large group of countries with high and stable NERs and a smaller (but still relatively large) group of countries with low NERs, only some of which are making quick progress towards joining the first group. This is definitely a cause for concern, as is the fact that significant fractions of the population remain excluded from primary school in countries with higher NERs, especially in disadvantaged areas or communities.

By definition, achieving UPE entails achieving gender parity in enrolment. When initial enrolment is low, its growth is often gender-imbalanced, with enrolment ratios for males increasing much earlier than those for females. Figure 3.11 displays the evolution from 1990 to 1998 and to 2001 of the gender parity index, which is the ratio of the GER for girls to that for boys. A GPI between 0.97 and 1.03 is considered as reflecting gender parity. Figure 3.11 focuses on countries that had GPIs below 0.97 in 1998 or 2001, or both, reflecting a gender imbalance in favour of boys. In 2001, there were seventy-one such countries, or about 40% of the countries for which data are available.

Gender disparity in enrolment is characteristic of many of the countries with low overall enrolment. All but three of the countries with a GPI below 0.90 are in sub-Saharan Africa

Gender disparity in enrolment is characteristic of many of the countries with low overall enrolment

Figure 3.9 (continued)

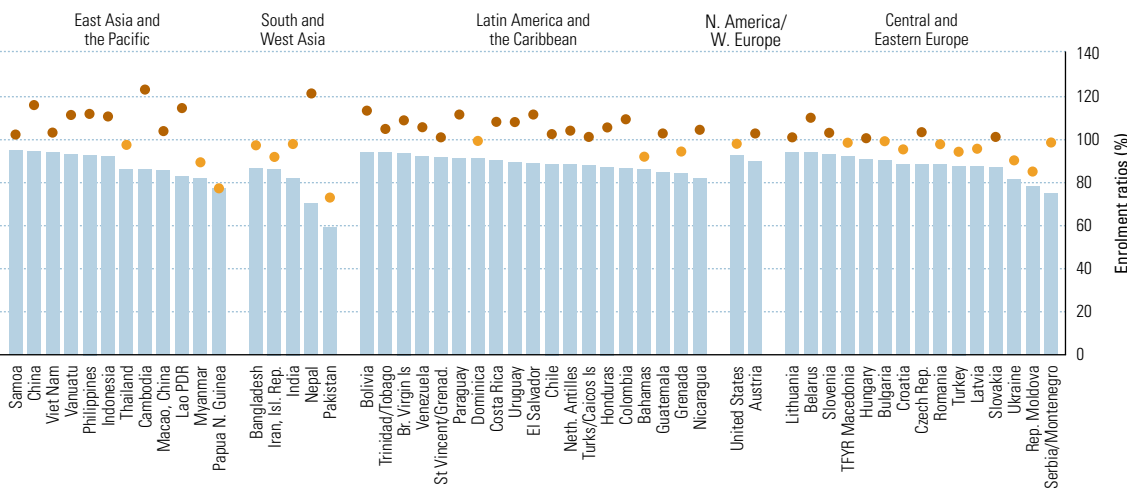
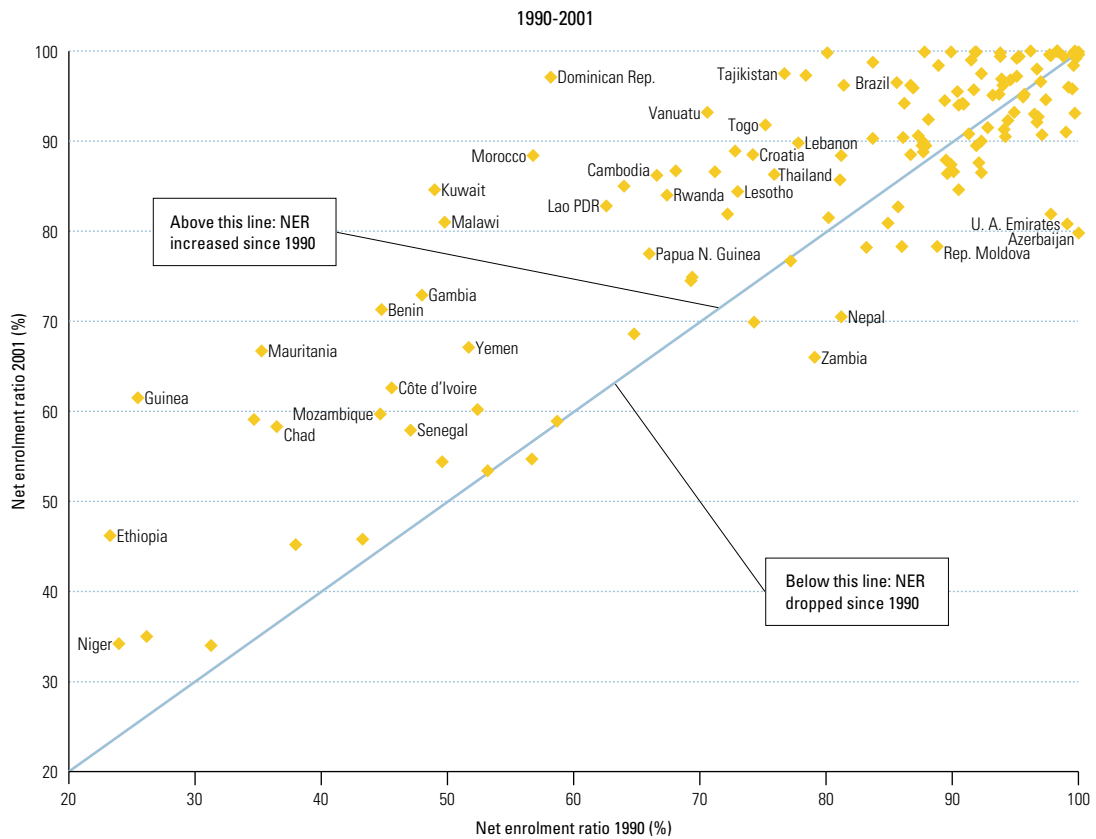


Figure 3.10: Net enrolment ratios in primary education, 1990-2001 and 1998-2001



Note: See source table for detailed country notes.
Source: Statistical annex, Table 15.

Enrolment ratios are not increasing quickly enough for universal enrolment to be achieved in the short or even medium term

(notably West Africa), the Arab States, and South and West Asia. Progress towards gender parity was notable since 1990 and the trend has continued in 1998–2001. Thus, quick progress in gender parity can be achieved even in poor countries with low enrolment ratios.⁶ Nevertheless, the GPI fell recently in several countries.

Out-of-school children

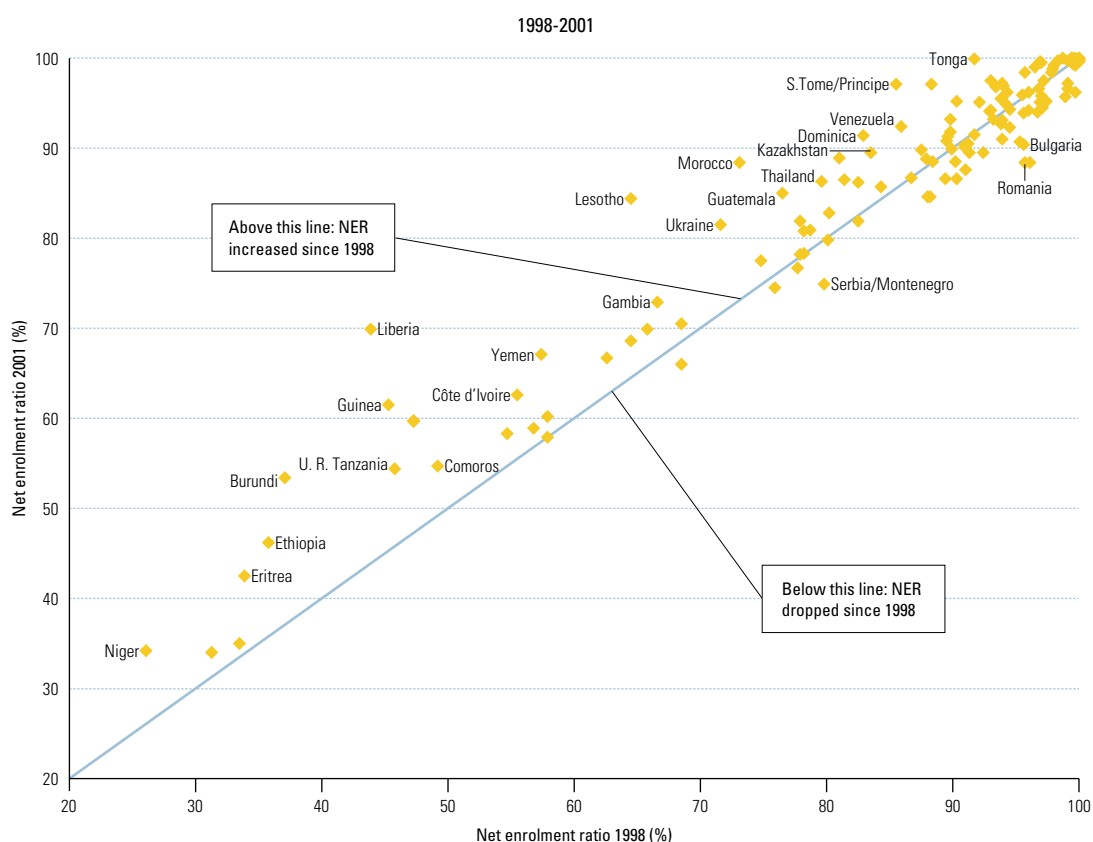
Despite the progress in enrolment made throughout the 1990s in a majority of developing countries, large numbers of children of primary-school age are still not participating. The most easily available estimate of the number of these ‘out-of-school children’ is calculated from the NER, although, since some children of primary age are enrolled in pre-primary schooling and, occasionally, at secondary level, this method slightly overestimates the actual number of children who are out of the school system.

Table 3.3 presents estimates of the number of out-of-school children in 1998 and 2001.⁷ Worldwide, there were about 103 million of them in 2001, after a slow decline since 1998 (106.9 million) and 2000 (104.1 million). Clearly, enrolment ratios are not increasing quickly enough for universal enrolment to be achieved in the short or even medium term. At the world level, the NER rose from 81.7% in 1990 to 84% in 2001. Should this trend continue, the NER would reach 85% in 2005 and 87% in 2015. The regional distribution of out-of-school children naturally reflects NER and population figures. Some 96% of out-of-school children live in developing countries. Sub-Saharan Africa and South and West Asia together account for almost three quarters of unenrolled children. About 57% of such children are girls. The proportion is 60% or higher in the Arab States and South and West Asia.

6. See the extensive discussion of these issues in UNESCO, 2003a.

7. The numbers of out-of-school children are 2004 UIS estimates based on the latest data revision. For an explanation of previous estimate revisions, see UNESCO, 2003a: 49.

Figure 3.10 (continued)



Sub-Saharan Africa and South and West Asia together account for almost three quarters of unenrolled children

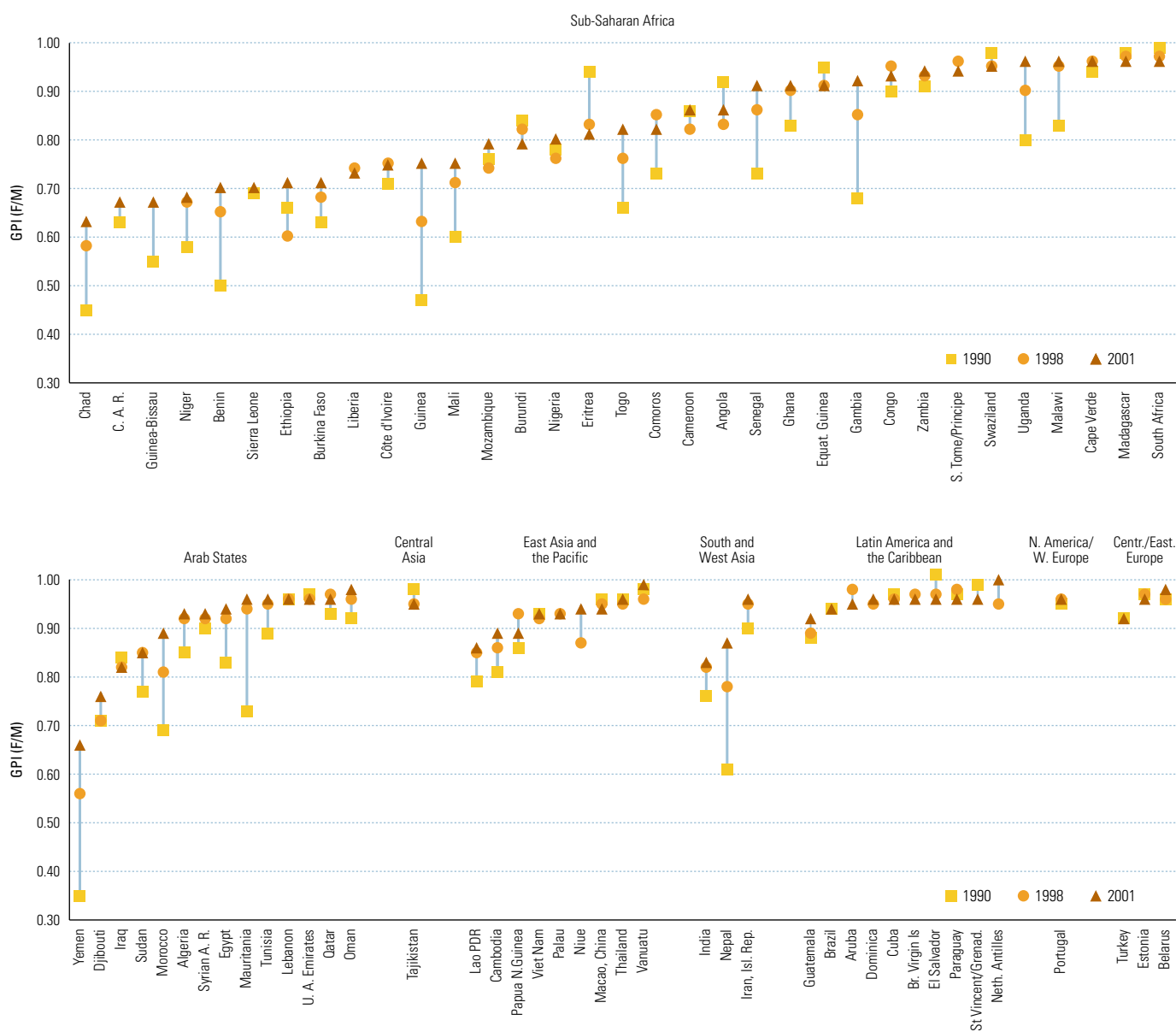
Table 3.3: Number of out-of-school children by region, 1998 and 2001

	1998				2001			
	Total	Male	Female	% female	Total	Male	Female	% female
	Thousands				Thousands			
World	106 916	44 062	62 853	59	103 466	44 985	58 481	57
Developing countries	101 905	41 537	60 368	59	99 056	42 667	56 389	57
Developed countries	2 447	1 251	1 196	49	2 992	1 612	1 380	46
Countries in transition	2 563	1 274	1 289	50	1 419	706	713	50
Sub-Saharan Africa	43 082	19 736	23 346	54	40 291	18 301	21 990	55
Arab States	8 491	3 501	4 991	59	7 441	2 992	4 450	60
Central Asia	879	429	450	51	390	169	222	57
East Asia and the Pacific	7 830	3 912	3 917	50	11 993	6 159	5 835	49
South and West Asia	37 410	12 179	25 231	67	35 808	13 518	22 289	62
Latin America and the Caribbean	3 759	1 699	2 059	55	2 468	1 300	1 168	47
North America and Western Europe	1 884	967	917	49	2 386	1 301	1 085	45
Central and Eastern Europe	3 581	1 640	1 941	54	2 688	1 245	1 443	54

Note: Figures may not add to totals, because of rounding.

Source: Statistical annex, Table 5.

Figure 3.11: Gender disparities in gross enrolment ratio in primary education, 1990, 1998 and 2001
(countries with GPI below 0.97 in 1998 or 2001)



Note: See source table for detailed country notes.

Source: Statistical annex, Table 16.

Pupil progression: where quantity and quality meet

Reaching universal enrolment in primary schools is necessary for UPE, though not in itself sufficient. UPE also requires universal (or, more realistically, near-universal) completion of the primary curriculum, which can be achieved only if schools are of sufficient quality. Assessing the

progression of pupils through primary schooling provides information on further quantitative aspects of the school system, as well as a first approach to assessing quality.

Late enrolment

One initial issue is the age at which children are enrolled for the first time. While primary education is officially meant to start at age 5

Box 3.1 Late entry into schooling and concerns about equity

Household surveys, such as the DHS EdData surveys conducted in Uganda in 2001 and in Zambia in 2002, provide information on individual children's school careers and reflect the socio-demographic characteristics of children who enter school late. Although data are not available for many countries, the findings from these surveys indicate that late entry is an important equity issue.

Figure 3.12 compares late entry rates among various population groups. It considers children (6- to 18-year-olds in Zambia and 6- to 14-year-olds in Uganda) who started late and are still in school and those who have already left school. In Uganda, children living in rural areas are more than twice as likely to start late than are urban children. In Zambia, rural children are three times as likely to start late. National averages mask significant sub-national differences in school capacity and demand for education.

Late entry is also linked to household wealth. In Uganda, the proportion of children from poor households who start school late is five times higher than the proportion among the richest households. In Zambia, the share is ten times higher.

Why do children start late? When parents and guardians of late entrants in Uganda were asked, they cited cost of schooling as an important factor for about half the children who started late. The second most cited reason – that the school was too far away – affected 22% of rural children who started late, compared to 11% in urban areas. A further 20% of children who started school late did so at least partly because the household needed them to work.

Figure 3.12: Characteristics of pupils entering school late in Uganda and Zambia



Sources: Uganda Bureau of Statistics and ORC Macro (2002); Zambia Central Statistical Office and ORC Macro (2003).

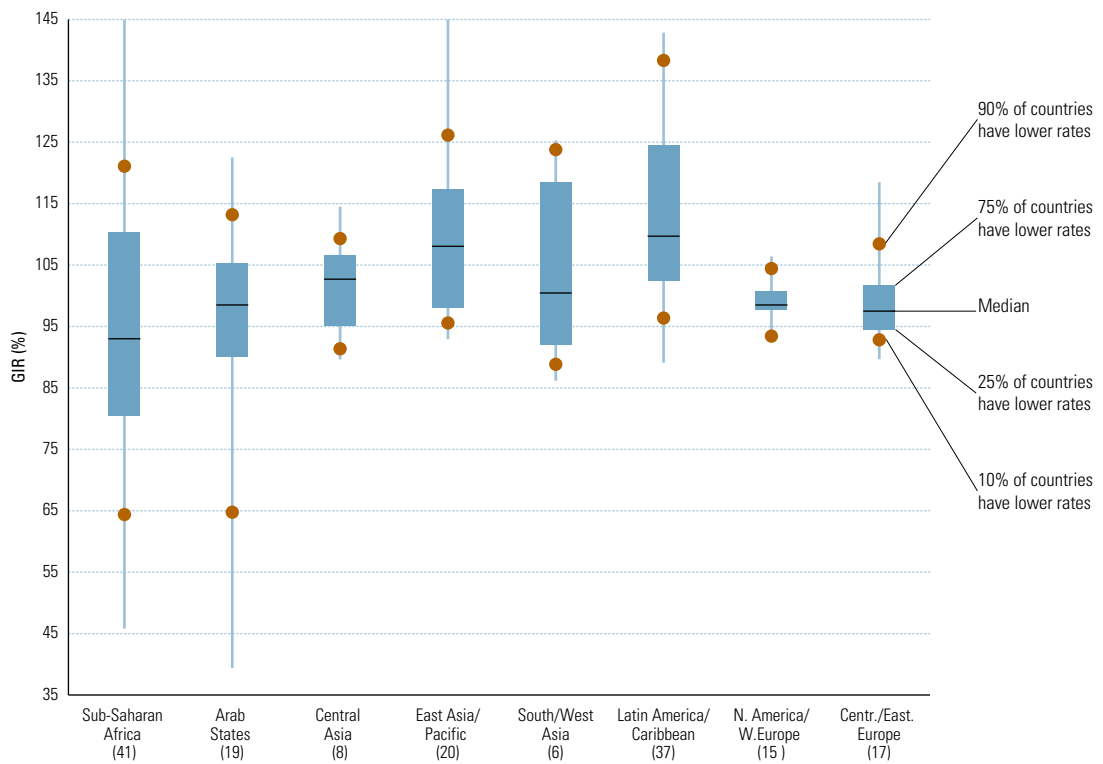
or 6 in most countries, late enrolment is common throughout the developing world, for a variety of reasons, e.g. children's participation in family economic activities and the difficulty of walking to distant schools. Box 3.1 examines the patterns and causes of late enrolment in two countries of sub-Saharan Africa.

Late enrolment means children would be completing their primary education at an age when constraints on school participation become stronger than during early childhood: more opportunities or pressure to work or get married and more limitations on girls' mobility, may reduce the probability of completing primary

school. Moreover, late mastery of basic cognitive skills provides weaker foundations for further learning.

Intake rates can be used to assess the extent of late versus timely enrolment. The gross intake rate (GIR) is the number of new entrants to the first grade of primary school, regardless of age, as a percentage of the number of children at the official primary-school entrance age. The net intake rate (NIR) takes into account only those new entrants who are of the official entrance age. Like the NER, the NIR cannot exceed 100%, while the GIR can, where early or late enrolment is common. Figure 3.13 shows the distribution of

Figure 3.13: Distribution of countries by GIR, medians, quartiles and highest and lowest deciles, by region, 2001



Notes: The boxes represent the range in which the middle 50% of countries are found. The number of countries providing data is given in parentheses for each region. *Source:* Statistical annex, Table 4.

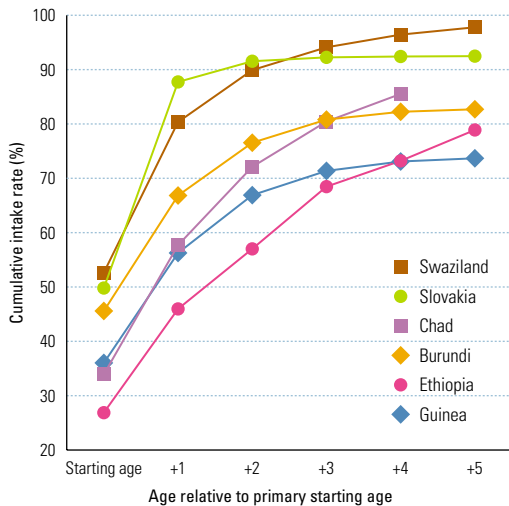
Once children are enrolled, it is crucial to ensure that they remain at school long enough to complete the curriculum and acquire basic skills

GIRs among the regions. It is remarkably complex. All Western European and North American countries have GIRs close to 100%, indicating school systems with the capacity to enrol all children and where the official age for initial enrolment is enforced. To some extent, the same situation prevails in Central and Eastern Europe and Central Asia, although with somewhat higher GIRs. Countries of East Asia and the Pacific and of Latin America and the Caribbean have generally higher GIRs – with a median above 105% and hardly any country having a GIR below 95% – indicating either that insufficient access to pre-primary schooling leads to early enrolment, or that many children enrol late, or both. The situation is similar in South and West Asia, although with lower rates. The Arab States and, especially, sub-Saharan Africa include some countries with very high GIRs and some with very low ones. Many school systems in these two regions have probably not yet reached the capacity to enrol all children in the first grade, while others are overloaded

with late enrollees. Low GIRs are, by and large, specific to these two regions; out of the 107 countries for which data are available, the only ones outside these regions with GIRs below 90% are Azerbaijan, the Islamic Republic of Iran, Latvia and the Netherlands Antilles. The rate falls below 65% in eight countries: Burkina Faso, the Central African Republic, Congo, Eritrea, Mali and the Niger in sub-Saharan Africa and Djibouti and Sudan in the Arab States.

More direct evidence on late enrolment can be gained by examining NIRs. Figure 3.14 illustrates the situation of five countries of sub-Saharan Africa and one of Central and Eastern Europe, displaying the evolution of the NIRs as children older than the official first-grade age are progressively taken into account. Slovakia's profile is typical of most high- and middle-income countries: 90% of the children enrolled in the first grade are the official age or one year older. Against this benchmark, the extent of late enrolment in sub-Saharan African countries

Figure 3.14: Cumulative net intake rates by age, in selected countries, 2001



Note: Children entering early are included in the cumulative rate for the starting age.
Source: UNESCO Institute for Statistics database.

appears clearly: children two or more years older than the official age represent about 20% to 40% of first-grade pupils.

Retention

Once children are enrolled, it is crucial to ensure that they remain at school long enough to complete the curriculum and acquire basic skills. For a variety of school- or family-related reasons, large numbers of children drop out of school, or more accurately, are 'pushed out' (e.g. by the costs of schooling or by a child-unfriendly environment in the classroom) or 'drawn out' (to participate in household economic activities) before completing the fifth grade. These children are likely to be those who found it most difficult to cope with school and whose achievement levels are especially low. The returns they will have from a couple of unsuccessful years of school attendance may be insignificant, compared with those that completion of primary schooling would bring. Reducing dropout rates is thus crucial.

Figure 3.15, covering ninety-one countries, shows that the survival rate to grade 5 (the proportion of children enrolled in grade 1 who eventually reach grade 5) varies considerably and is especially low in sub-Saharan Africa. The survival rate is below 75% in thirty countries and below 66% in half of the sub-Saharan African countries for which data

are available. The figure further shows the relationship between survival rate and the number of grades reached before dropping out: the latter typically varies between 1.5 and 2.5 when the former is below 80%. There is much more variation in countries with high survival rates, however.

Survival rates tend to be higher for girls than for boys, in all regions. This fact is not inconsistent with the typical gender gap in enrolment; in countries where parental preference for sons is strong and/or the school system and society discriminate against girls, families that manage to send their daughters to school tend to be more advantaged than those who send only their sons. Thus, on average, female pupils have more favourable family backgrounds than male pupils.⁸ Survival rates increased in many countries during the 1990s (see Statistical annex, Table 17). For example, between 1998 and 2001, the increase was about 10 percentage points in Cambodia, Djibouti, the Lao People's Democratic Republic, Malawi, Mozambique, Namibia and Samoa. At the same time, however, substantial declines were registered in Chad, Colombia, Eritrea, Ghana,⁹ Madagascar, Mauritania, Rwanda and South Africa.

Grade repetition

Grade repetition is another indicator of pupils' progress, although it can be difficult to interpret, because it depends on policy: some countries systematically promote pupils to the next grade while others apply stringent achievement criteria. Where grade repetition is possible, however, its incidence is a measure of the proportion of children who do not master the curriculum (e.g. because school quality was insufficient). A high level of grade repetition is a sign of a dysfunctional school system often exacerbating dropout and resulting in overcrowded schools. In Senegal, where 14% of primary school pupils repeat grades, a cohort study of some 2,000 pupils in nearly 100 schools (1995 to 2000) found that repeating a grade at an early stage increased the risk of dropping out the following year by 11% (CONFEMEN, 2004).

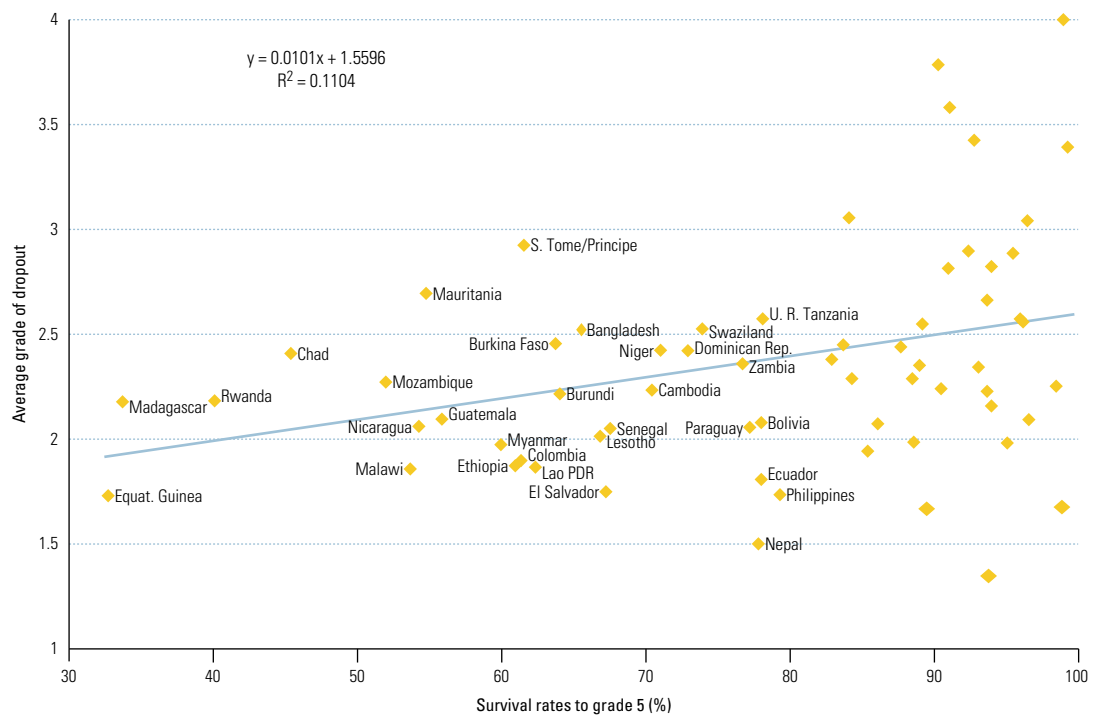
Figure 3.16 displays the percentage of repeaters in primary education in 1991 and 2001 for eighty-one countries. Relatively few countries are affected by very high levels of grade repetition: two-thirds of the countries displayed have rates

A high level of grade repetition is a sign of a dysfunctional school system

8. For more discussion of this and related matters, see UNESCO (2003a).

9. The survival rate in this country went from 98% in 1998 to 66% in 2000. It seems, however, that the 1998 value is inflated, because substantially more children were reported in several grades in 1999 than 1998. This suggests that relatively large numbers of children who had previously dropped out re-entered school that year.

Figure 3.15: Survival rates to grade 5 and average number of grades reached when dropping out of primary school, 2001



Notes: The average number of grades reached before dropping out of primary school is weighted by the proportion of a school cohort that drops out at that grade. The proportion is estimated from survival rates by single grade based on the reconstructed cohort method. Countries with survival rates below 80% are labelled. Countries with survival rates distorted by migration are excluded. See source table for detailed country notes.
Source: Statistical annex, Table 7; UNESCO Institute for Statistics database.

Education for All extends well beyond primary education

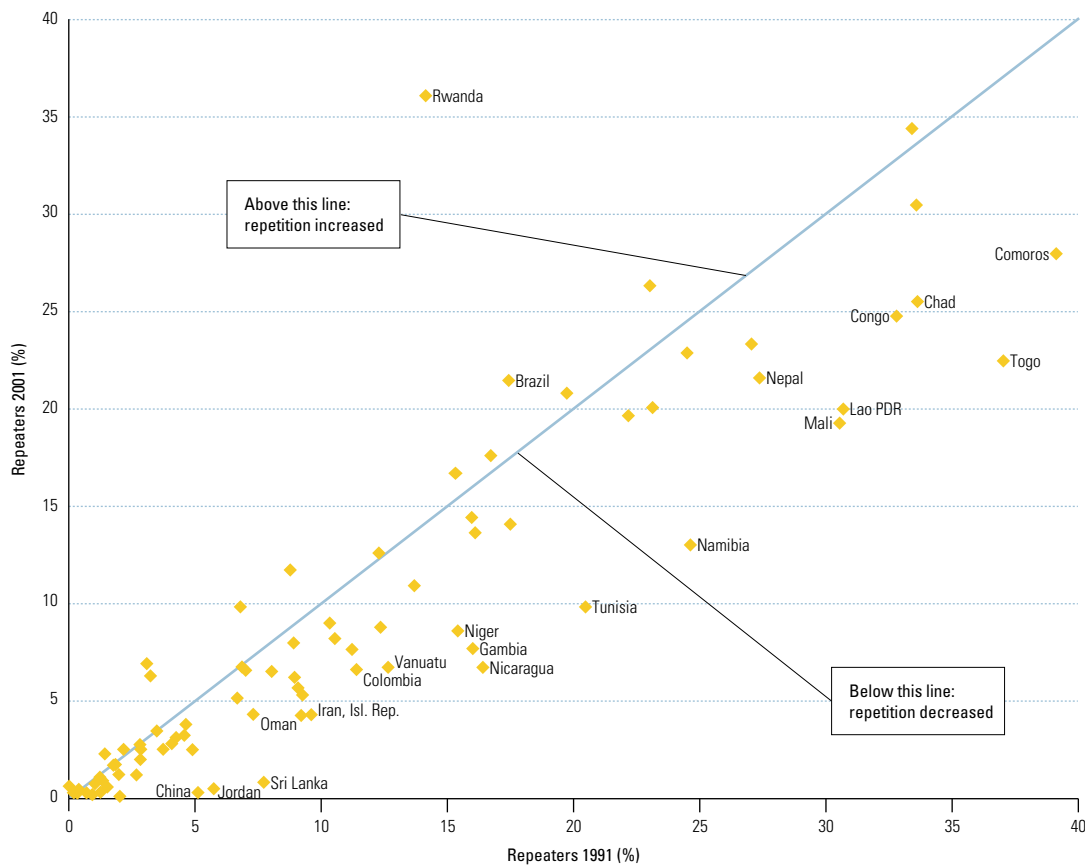
below 10%. There is much diversity among the remaining countries, however, and in those where more than a quarter of pupils are repeating grades (such as Chad, Comoros, Gabon, Madagascar and Rwanda), repetition is equivalent to an additional year of participation per child (UNESCO Institute for Statistics, 2004a). The figure further suggests that grade repetition became less frequent during the 1990s, but this may be a result of changes in promotion rules as well as of improved learning achievements.

Finally, the condition of a primary education system is best judged by the proportion of children of each age cohort who complete the cycle and the level and distribution of their learning achievement. The latter is discussed in the fourth section of this chapter. The former is more difficult to measure than the other indicators mentioned in this subsection. Box 3.2 discusses efforts to arrive at internationally comparable measures of primary education completion.

Meeting learning needs beyond primary education

Education for All extends well beyond primary education. Secondary education has been the standard minimum level of education for many years in most high-income countries and is increasingly required in developing countries for access to most jobs. Developing good-quality secondary school systems is thus an important policy objective, especially for countries that, by and large, have achieved UPE.

At least some secondary education is compulsory in 144 of the 183 countries for which data are available (most of the exceptions are countries of sub-Saharan Africa and South and West Asia). However, the rules are not enforced in many countries and international standards are less explicit for secondary than for primary education. For example, the 1950 Constitution of India (a country that is still far from having reached UPE)

Figure 3.16: Percentage of repeaters in primary schools, 1991 and 2001

Notes: Countries where change exceeded 4 percentage points are labelled.

See source table for detailed country notes

Source: Statistical annex, Table 6; UNESCO Institute for Statistics database.

mandates free and compulsory education up to age 14. A recent constitutional amendment made education for ages 6 to 14 a 'fundamental right'.

In most developing countries, a large proportion of primary-school graduates do not make the transition to post-primary education. Among countries in which lower-secondary education is supposed to be compulsory, only one-third have secondary-level GERs higher than 80%. Unfortunately, data on secondary and higher education are less available than those pertaining to primary education. The following discussion focuses on enrolment.

As Table 3.2 and Figure 3.9 suggest, most countries in the world had reached primary GERs of 80% or more by 2001, with exceptions in sub-Saharan Africa, South and West Asia and the

Arab States. By contrast, the median secondary GER for developing countries in 2001 (57%) was about half that for developed countries (106%), and the only developing countries with GERs above the developed-country median were Brazil and Seychelles (see Statistical annex, Table 8).

Figure 3.17 shows that regional patterns are similar to those observed for primary education, but the contrasts are sharper. The industrialized countries of Western Europe and North America have almost reached universal secondary education, with GERs often above 100% and NERs above 90% (see also Statistical annex, Table 8). Secondary education is also well advanced in Central and Eastern Europe, where most GERs range from 80% to 100%. These levels are also reached by a few countries of East Asia and the Pacific, Latin America and the

In most developing countries, a large proportion of primary-school graduates do not make the transition to post-primary education

The vast majority of the youth in sub-Saharan Africa has little access to secondary education

Box 3.2 Towards a better international measure of primary education completion

The World Bank and the UNESCO Institute for Statistics (UIS) are endeavouring to improve comparative measures for monitoring primary school completion. A principal goal of Education for All is for all children to access and complete school and acquire basic skills – reading, writing and numeracy – to improve both individual and societal outcomes. In the Millennium Development Goals, Target 3 reads: ‘Ensure that by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.’ While completing primary school appears to be a condition for achieving and retaining basic cognitive skills, it is often not sufficient; where school quality is inadequate, many children complete the primary cycle without mastering basic skills or the rest of the curriculum.

The indicator currently used to measure primary school completion is a proxy that expresses the number of pupils in the last primary grade minus repeaters in this grade as a proportion of the number of children at the expected graduation age. A better proxy would express the number of pupils graduating from the last grade of primary school as a proportion of the total number of children at the typical graduation age. But countries often do not report the number of primary graduates.

As earlier monitoring reports noted, there are several important limitations related to the proxy measure of completion. For instance, it ignores pupils who drop out during the final year of primary school, and thus may overestimate completion levels (UNESCO, 2003a). To address this issue, the UIS is collecting data on final-year dropout.

While a national measure based on graduates could provide a reasonable estimate of completion, it would entail two limitations in terms of comparisons among countries. First, the criteria used to define graduation can differ markedly. Pupils may need to meet a variety of requirements to be recognized as ‘graduates’. Among eighty-seven countries responding to a UIS survey, 67% indicated that

passing a final exam was a requirement for graduation. Other criteria included teacher evaluation (29%) and accumulation of a designated number of course hours (18%). Thirteen countries indicated that there were still other criteria. In fifteen of the countries (17%), pupils enrolled in the last grade of primary were automatically promoted to secondary school (UNESCO Institute for Statistics, 2004a).

Second, it is difficult to reconcile the national definitions of primary education duration in an international comparative framework, such as the ISCED. Among countries responding to a UIS survey, 54% indicated that grade 6 was the final year of primary school in their national system. The range in other countries, however, was from grade 3 to grade 10.

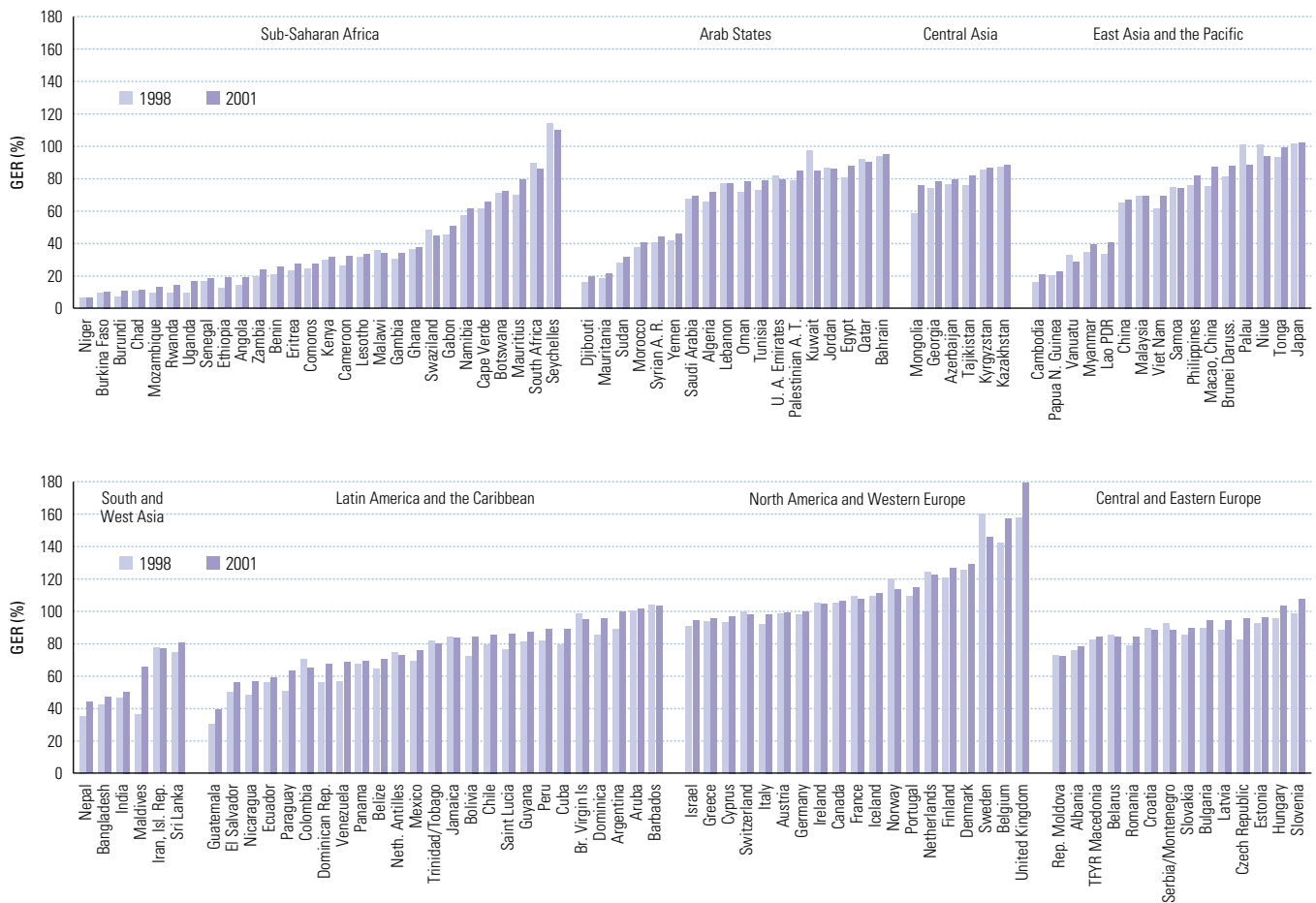
While indicators based on administrative data are being improved, other efforts to examine trends in completion rates have focused on household survey data. Here, one main limitation has been related to the age group under study. Initially, primary completion rates were examined among all adults (Bruns, Mingat and Rakotomalala, 2003), or adults in the labour force. Such assessments, however, reflect the education system a decade or more in the past and are of limited use in guiding current policy. To address this issue, other studies have projected completion rates from adult cohorts to younger age cohorts (Guadalupe and Louzano, 2003) or analysed younger age cohorts, such as 16- and 17-year-olds. These measures better reflect more recent trends in the education system, though the fact that many youths aged 16 and older are still in primary school in developing countries will affect their accuracy.

Work continues, using a range of data sources and approaches, to improve the calculation and interpretation of the primary completion rate, together with indicators of participation and progression, for the purpose of monitoring progress towards UPE.

Caribbean and the Arab States, but those regions also include many countries with GERs around or even below 60%. Meanwhile, there is extreme diversity within sub-Saharan Africa, which, like South and West Asia, some Arab States and a few countries of East Asia and the Pacific, has a concentration of countries with GERs below 40%.

With the notable exception of South Africa, sub-Saharan African countries with high secondary GERs have small populations. The vast majority of the sub-continent’s youth thus have little access to secondary education. Much the same is true for South and West Asia, where the countries with larger populations, such as

Figure 3.17: Secondary gross enrolment ratios, 1998 and 2001



Notes: Only countries with comparable data for both years are included.
See source table for detailed country notes.
Source: Statistical annex, Table 8.

Bangladesh, India and Pakistan, have secondary GERs between 24% and 50%.

Figure 3.18 shows tertiary enrolment ratios. Here the gap between developed and developing countries is even more pronounced: the median GER is 55% among the former, 11% among the latter (see Statistical annex, Table 9). With a few exceptions, countries in Western Europe and North America achieve ratios of 40% or more, as do some countries in Central and Eastern Europe and a handful of developed countries in East Asia and the Pacific. Elsewhere, higher education systems are far less developed. China's and India's tertiary GERs are substantially below 15%. In more than a third of all developing countries for which data are available, GERs are below 5%.

This is the case in most sub-Saharan African countries. By and large, widespread access to higher education remains a privilege of high-income-country residents.

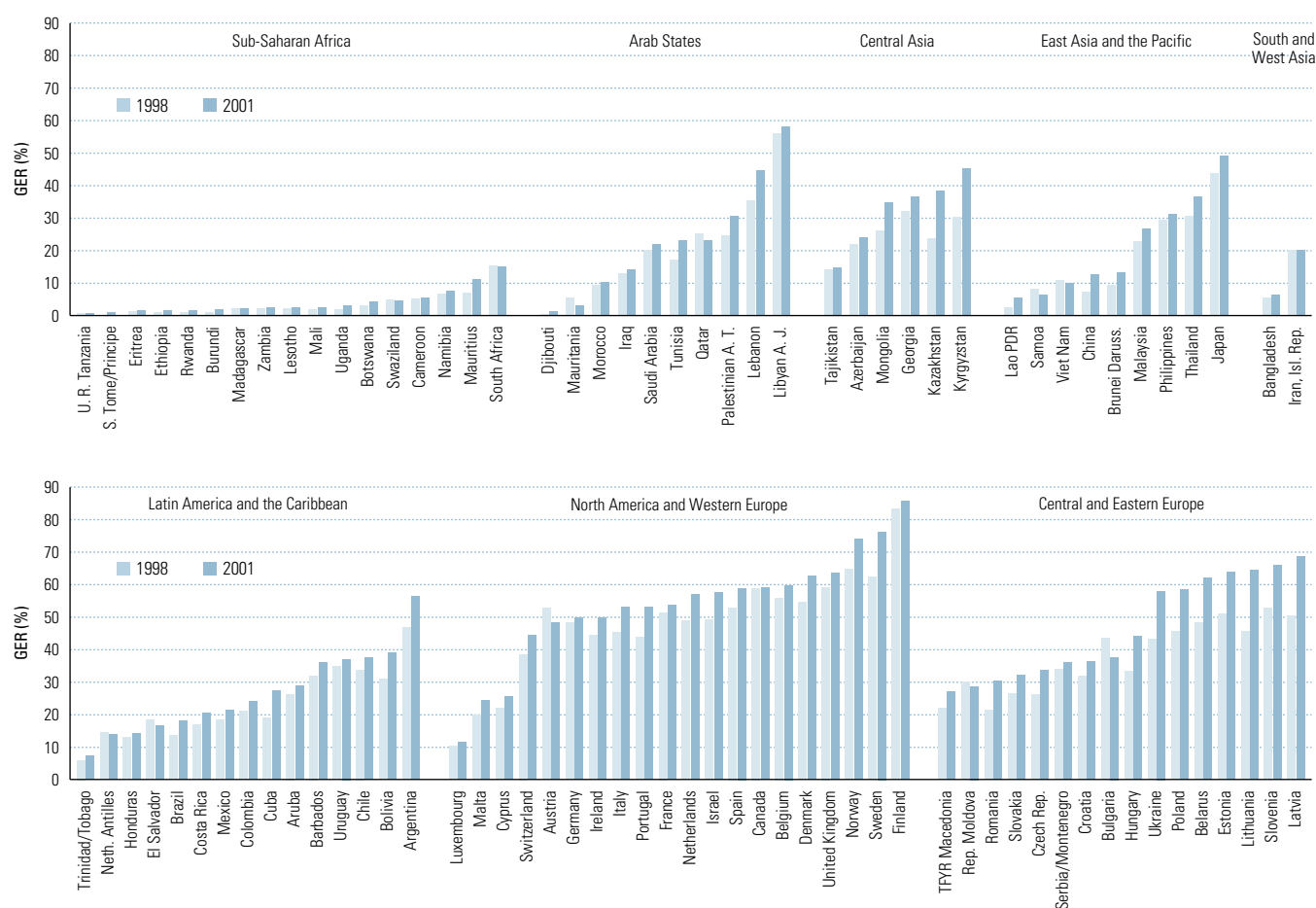
On the other hand, participation in secondary and tertiary education is growing, in many countries. Between 1998 and 2001, GERs rose by more than 2 percentage points in 80 out of 131 countries at the secondary level and 56 out of 95 countries at the tertiary level.

Gender disparities in secondary and higher education

Disparities between the sexes are even more prevalent in secondary and higher education than in primary education. Among the eighty-three

By and large, widespread access to higher education remains a privilege of high-income-country residents

Figure 3.18: Tertiary gross enrolment ratios, 1998 and 2001



Notes: Only countries with comparable data for both years are included.

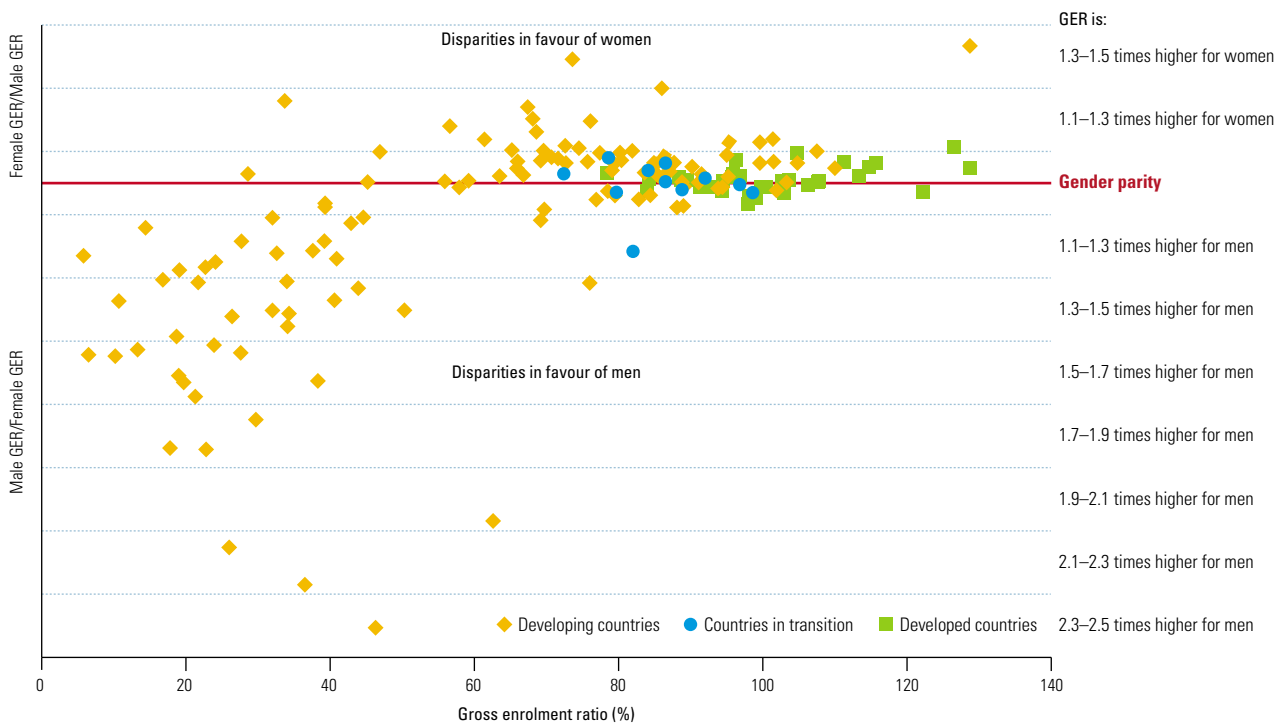
See source table for detailed country notes.

Source: Statistical annex, Table 9.

Only four of eighty-three developing countries have achieved gender parity in higher education

developing countries for which data are available for all three levels, about 50% have achieved gender parity (i.e. GPIs falling between 0.97 and 1.03) in gross enrolment in primary education. The share drops, however, to less than 20% in secondary education and barely 5% in higher education. Of the thirty-seven developed countries with data, some 95% (all except Estonia and Portugal) have achieved gender parity in primary education, around 66% have achieved it in secondary education and about 60% in higher education. Finally, of the ten countries in transition for which data are available, all except Tajikistan have achieved parity at both primary and secondary levels, and half have done so in tertiary education.

Figure 3.19 displays ratios of female to male and male to female GERs in secondary education and Figure 3.20 does the same for GERs in higher education. A large group has low enrolment combined with gender imbalance (in favour of men) of widely differing magnitude – there is little association between enrolment and the *depth* of gender disparity at low levels of enrolment. Of the forty-six countries with secondary-level GERs below 50%, forty-two show gender disparity favouring men. On the other hand, a large group of countries has a gender imbalance in favour of women, associated in most cases with high overall enrolment: most of the fifty-three countries with GERs above 90% show gender disparity in favour of women. The picture is very similar at the tertiary level.

Figure 3.19: Gender parity and secondary gross enrolment ratios, 2001

Note: Disparities are presented on a comparable scale for both sexes: those favouring women are expressed as the ratio of the female GER to the male GER while those favouring men are expressed as the ratio of the male GER to the female GER.

Source: Statistical annex, Table 8.

School life expectancy

A good synthetic measure of enrolment patterns can be obtained by combining enrolment ratios by age at the different levels of the education system. The resulting indicator, school life expectancy (SLE), represents the average number of years of schooling that individuals can expect to receive.

Caution is required when using SLE, however; like GER, it is sensitive to the extent of grade repetition. In at least twenty countries, repetition contributes more than one year to school life expectancy – and up to two years in Algeria, Brazil, Gabon, Rwanda and Togo (UNESCO Institute for Statistics, 2004b).

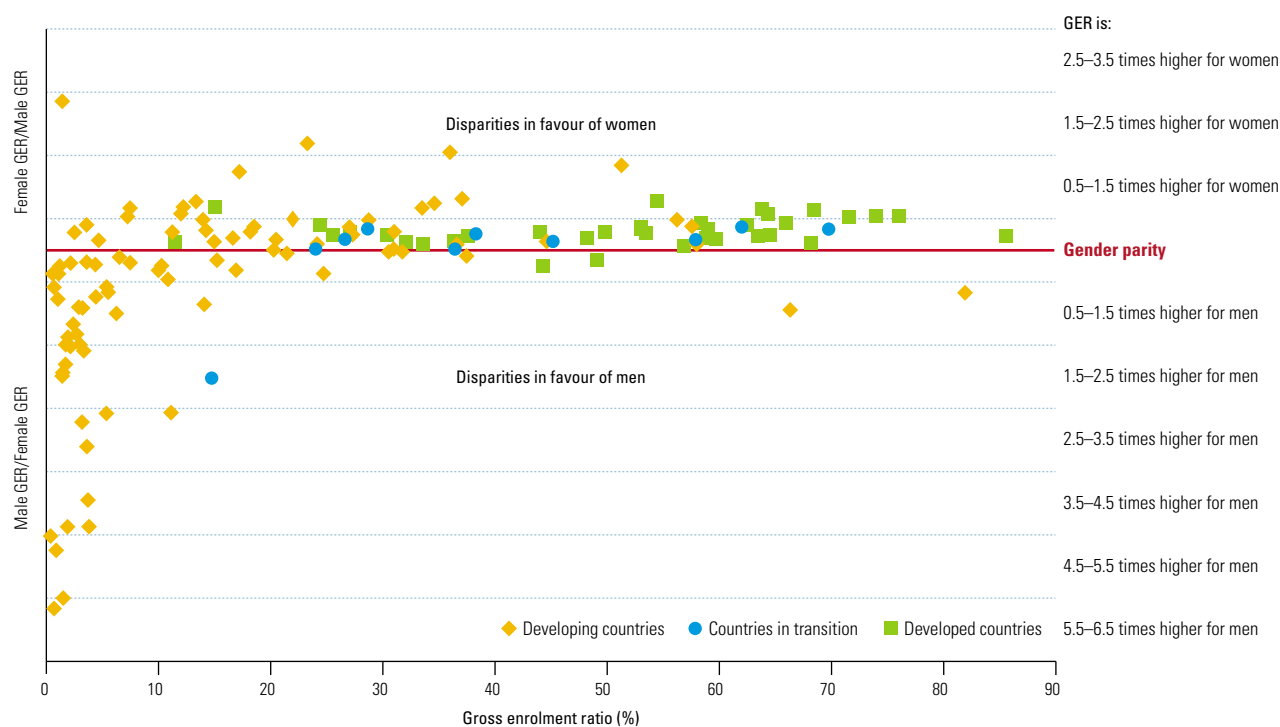
Figure 3.21 displays regional SLE averages and the countries with the highest and lowest values, both for primary and secondary education and for post-secondary education.

Regional patterns are consistent with those discussed earlier: a child in sub-Saharan Africa can expect to attend an average of five to six fewer years of primary and secondary schooling than a child in Western Europe or the Americas. Dramatic subregional disparities are found in sub-Saharan Africa and the Arab States, the difference between the countries with the highest and lowest SLEs being up to fivefold.

The world average is 10.3 years – 9.2 years of primary plus secondary and 1.1 of post-secondary education – as shown in Table 3.4, which also presents the change in SLE between 1990 and 2001 and between 1998 and 2001. Globally, the world's children gained a year of school life expectancy during the 1990s. Progress was quickest in regions with already high SLEs, such as Latin America and the Caribbean (where grade repetition is very common) and North America and Western Europe. Less progress was registered in sub-Saharan Africa, and South and West Asia. Unsurprisingly, most of the progress

A child in sub-Saharan Africa can expect to attend five to six fewer years of primary and secondary schooling than a child in Western Europe or the Americas

Figure 3.20: Gender parity and tertiary gross enrolment ratios, 2001



Note: See note for Figure 3.19.

Source: Statistical annex, Table 9.

Table 3.4: Expected years of schooling by region, 2001, and change since 1990

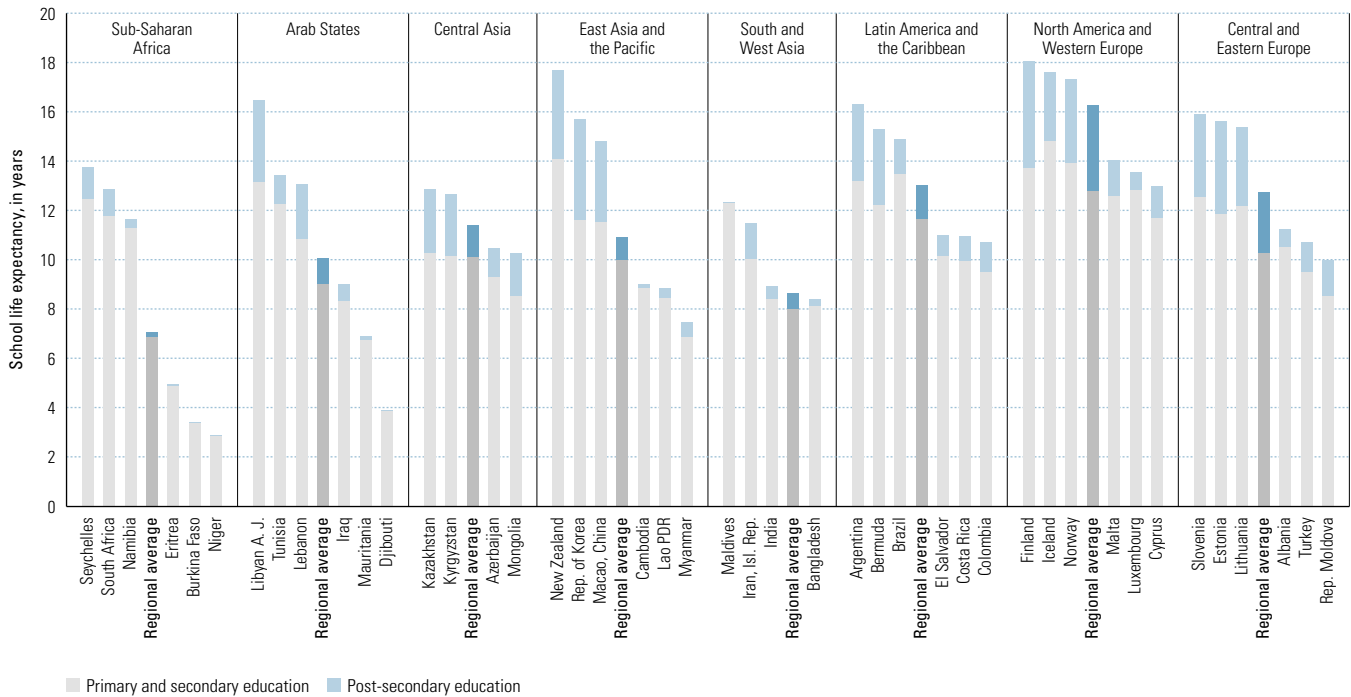
	School life expectancy, in years						
	2001			Change since 1990			Change since 1998
	Primary/secondary	Post-secondary	All levels	Primary/secondary	Post-secondary	All levels	All levels
Sub-Saharan Africa	6.8	0.2	7.1	+0.9	+0.1	+1.0	+0.3
Arab States	9.0	1.0	10.0	+1.0	+0.4	+1.4	+0.2
Central Asia	10.1	1.3	11.4	+0.0	-0.1	-0.2	+0.3
East Asia/Pacific	10.0	1.0	10.9	+0.7	+0.6	+1.3	+0.4
South/West Asia	8.0	0.6	8.6	+0.5	+0.5	+1.0	+0.2
Latin America/Caribbean	11.6	1.4	13.0	+2.1	+0.5	+2.6	+0.9
N. America/W. Europe	12.8	3.5	16.3	+0.7	+0.8	+1.5	+0.1
Central/Eastern Europe	10.2	2.5	12.7	+0.5	+0.8	+1.3	+0.9
World	9.2	1.1	10.3	+0.6	+0.4	+1.0	+0.3

Source: Statistical annex, Table 17; UNESCO Institute for Statistics database.

took place in primary and secondary education in developing countries and in higher education in developed countries.

Conclusion

While the world average of 10.3 years of education per child in 2001 is relatively high, participation is very unevenly distributed. Severe educational deprivation persists in sub-Saharan Africa, South and West Asia and some Arab States, where UPE is far from being reached. The dual task of targeting specific sections of society that still lack access to primary education, while expanding the general supply of secondary education, is growing urgent in Latin America and the Caribbean as well as in many developing countries of East Asia and the Pacific. Finally, while higher education might appear a lesser priority in developing countries – especially as it has often received a disproportionate share of education expenditure – the extremely low tertiary-level enrolment ratios in some developing countries are a cause for concern.

Figure 3.21: School life expectancy by region, 2001 (regional averages and countries with the highest and lowest values)

Notes: Regional averages are weighted by population of children aged 5. 194 countries and 99.7% of world population are covered. All regions are covered by more than 98% of their population. See source table for detailed country notes.

Source: Statistical annex, Table 17; UNESCO Institute for Statistics database.

Teachers, finance and quality

The relatively high primary-school enrolment ratios around the world today are the result of rapid expansion of school supply over the twentieth century, especially in the second half. There is much debate about the relationship between, on the one hand, the rapid increases in enrolment and in the quantity of education provided (in terms of years of school completed), and, on the other, the quality of that education, whether in terms of a school system's characteristics or of the achievement of its pupils. The view that emphasis on access to education has led to inadequate attention being paid to quality, and that improving the quality of existing schools should now be a policy priority, is gaining ground. But even if some trade-off exists between the coverage and the level of per-pupil funding of a school system, this does not necessarily imply that developing countries have to choose between further expanding access to primary schooling and improving its quality.

When expressed as a percentage of GDP, the increase in education expenditure required to improve both coverage and per-pupil funding is not insurmountable when seen in light of total government expenditure. The real issue is the political economy of allocating public expenditure among sectors, rather than constraints on education budgets per se. Moreover, there is much scope for reducing inefficiency in existing school systems. In particular, developing ECCE programmes while improving the functioning of primary schools is likely to result in more timely entry into the school system and less grade repetition, thus allowing additional enrolment. And while per-pupil funding may not increase as quickly as enrolment when, for instance, major school construction programmes are under way, some countries may have both higher enrolment ratios and better schools than others, as a result of policies giving priority to education.

Increased concern for education quality has been reflected in growing pressure to collect data on,

There is much scope for reducing inefficiency in existing school systems

How teachers are prepared for teaching is a critical indicator of education quality

and develop adequate indicators of, school quality. Some of this pressure results from global initiatives such as Education for All. Change is also taking place at the national level, where policy-makers need better understanding of the factors that are most effective in improving learning outcomes. Given the discussion of the concept of the quality of education in Chapter 1, it should be clear that no single or simple set of indicators will enable policy-makers to assess progress towards improved quality. Instead, a range of indicators is needed to capture the complex, multi-level nature of the concept. Moreover, some aspects of a broadened vision of education quality are difficult to quantify in internationally comparable ways.

This section looks at indicators related to quality that are readily available and internationally comparable. It thus tends to focus on inputs, such as numbers and characteristics of teachers, and the level and allocation of education funding. Many other aspects, such as teaching practices and teacher incentives, are known to matter just as much (see Chapter 2), but data on them are insufficient. Resources, however, are a necessary

albeit insufficient condition for learning, and the inadequate resource levels found in many developing countries imply that school reform should include additional funding, alongside attention to more complex considerations. Considerable evidence indicates not only that children from poor families have less access to education than those who are better off, but also that those who do participate receive a lower-quality education. Even countries that have achieved some degree of equity in terms of overall access still tend to favour certain population groups or areas in the allocation of education resources.

Monitoring the quality of teachers and teaching

As Chapter 2 demonstrates, teacher and teaching quality, broadly defined, have often been identified as the most important organizational factors associated with student achievement. Unfortunately, they are difficult to measure and monitor, as Box 3.3 shows.

How teachers are prepared for teaching is a critical indicator of education quality. Preparing teachers for the challenges of a changing world means equipping them with subject-specific expertise, effective teaching practices, an understanding of technology and the ability to work collaboratively with other teachers, members of the community and parents.

Teacher qualifications, training and content knowledge in primary education

Available data suggest that large proportions of primary-school teachers lack adequate academic qualifications, training and content knowledge, especially in developing countries. This suggests that much pre-service training may be ineffective. Pre-service training usually combines theoretical and content knowledge with teaching practice in schools but there are wide variations in the relative weight given to these two elements and in their modes of delivery. In some countries, where there is a pressure to recruit new teachers quickly, the length of college-based training is shortening and the sequencing of practical and academic training changing (Lewin, 1999).

As a starting point, Figure 3.22 shows the level of education (classified according to ISCED levels)

Box 3.3 How can we measure teacher quality?

Teacher quality is extremely difficult to define, as it depends not only on observable and stable indicators but also on behaviour and the nature of the relationship teachers maintain with their pupils or students. Teaching qualifications, however, are administratively defined; they are grounded on relatively objective assessments of skills, abilities and knowledge that are recognized as important (though this is subject to continuous debate). Moreover, despite the measurement limitations and data challenges, 'teacher qualifications' is conceptually and practically more approachable than 'teacher quality' or 'teaching quality'.

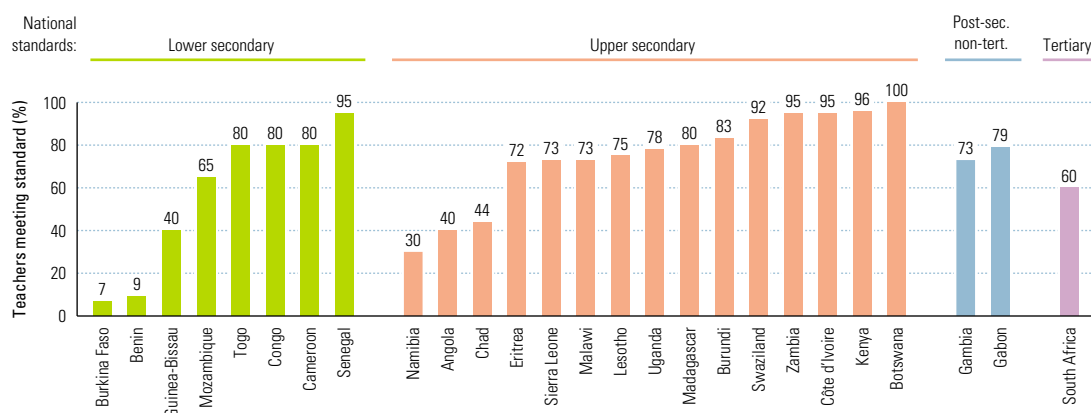
Potential indicators deal with:

- academic qualification;
- pedagogical training;
- years of service/experience;
- ability or aptitude;
- content knowledge.

The last two can be measured through individual assessment.

These indicators have the advantage that they can be governed by policy. Governments can set and regulate standards on academic qualifications, adjust salary scales so that experience is rewarded and improve teacher development and motivation through testing and rewarding of competence.

Source: Kasprzyk (1999)

Figure 3.22: Percentage of primary-school teachers meeting national qualification standards in sub-Saharan Africa, 2001

Notes: Lower secondary = ISCED 2; Upper secondary = ISCED 3; Post-secondary non-tertiary = ISCED 4; Tertiary = ISCED 5.

Source: UNESCO Institute for Statistics (2001)

required by national qualification standards for entering primary school teaching and the proportion of the teaching force that meets this requirement, in twenty-six sub-Saharan African countries. National standards vary considerably, from lower secondary (equivalent to nine or ten grades of basic schooling plus one or two years of training) to a tertiary degree (in South Africa). The average number of years of academic study and teacher training required to become a primary school teacher ranges from just over twelve years among countries where the standard is lower secondary to seventeen years where it is higher education.

How well countries meet their own standards can also vary considerably. Less than 10% of the teaching force meets even the low minimum standard of lower secondary in Benin or Burkina Faso, and many other countries fall short of standards set at the upper secondary level, notably Angola, Chad and Namibia. In Botswana, Côte d'Ivoire, Kenya and Zambia, however, almost the entire teaching force reaches the upper secondary standard.

Furthermore, while the growing supply of educated youth in most countries may be thought to imply that newly recruited teachers will have higher qualification levels, the proportion of new primary-school teachers meeting national standards has actually been falling in several countries. For example, only 30% of teachers in their first year of experience met the standards

(post-secondary non-tertiary) in the Gambia. The proportions were even lower in Botswana (10%), Lesotho (11%) and Chad (19%), where the standard was an upper-secondary qualification, and in Togo (2%), Guinea-Bissau (15%) and Cameroon (15%), where it was lower-secondary. This phenomenon may reflect the increasingly common practice of recruiting teachers without the necessary qualifications in response to pressures caused by expanding levels of enrolment.

Further evidence comes from primary-school surveys conducted in 1995 in fourteen of the

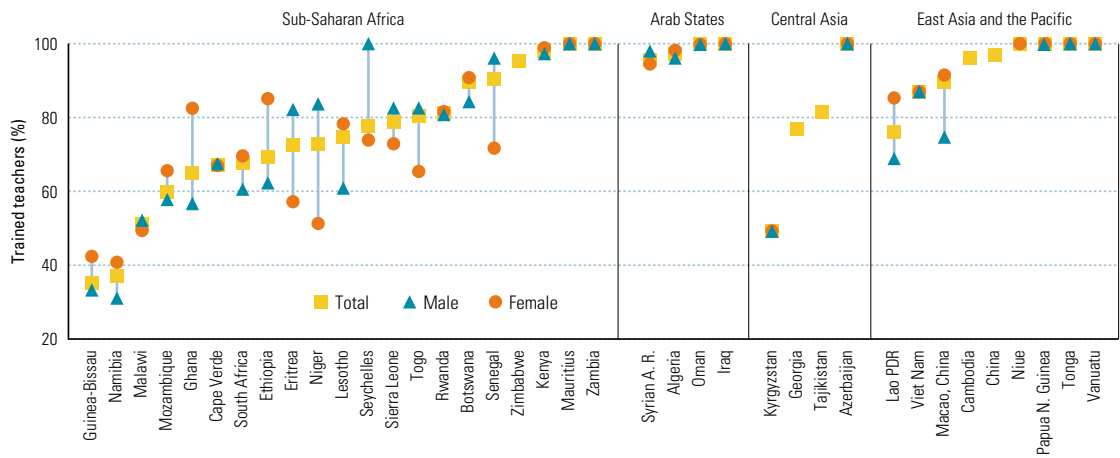
The proportion of new primary-school teachers meeting national standards has actually been falling in several countries

Table 3.5: Primary teacher qualification and training levels in fourteen low-income countries, 1995

	Teachers with nine years of education or less (%)	Teachers with no training (%)
Bangladesh	44	18
Benin	92	1
Bhutan	30	8
Burkina Faso	70	27
Cape Verde	87	35
Equat. Guinea	77	8
Ethiopia	0	13
Madagascar	46	10
Maldives	89	22
Nepal	32	3
Togo	77	41
Uganda	91	50
U. R. Tanzania	91	0
Zambia	24	14

Source: Schleicher, Siniscalco and Postlethwaite (1995)

Figure 3.23: Trained teachers in primary education, 2001



Note: See source table for detailed country notes.
Source: Statistical annex, Table 13A.

In Brazil, most trained teachers tend to be in the parts of the country that need them least

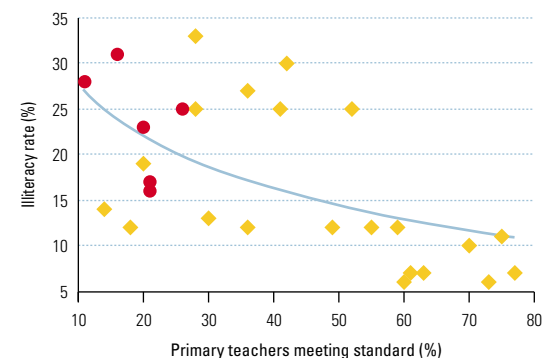
world's poorest countries – in sub-Saharan Africa and South and West Asia. Table 3.5 shows variable but generally low levels of education and training among primary-school teachers in these countries. Interestingly, in most of them a majority of teachers had received at least some training even though they had very low academic qualifications (an extreme case is Benin, where 92% of primary-school teachers had less than ten years of education but 99% had received training). Ethiopia and Uganda stand out, the former owing to above average and the latter to below average proportions of educated and trained teachers.

Figure 3.23 broadens the picture, as it covers seventy-two countries with data on teacher training for 2001. Although the coverage is insufficient for general patterns to emerge (e.g. no data are available for OECD countries or most large countries of Latin America and the Caribbean), large disparities between countries can be seen; a minority of countries provide training to almost all their teachers. Several countries, notably in sub-Saharan Africa, feature large gender gaps, though sometimes it is women who are favoured (this is the case to some extent in one-third of the sample).

Having low average levels of teacher qualification and training leaves much scope for unequal distribution within countries. As a striking

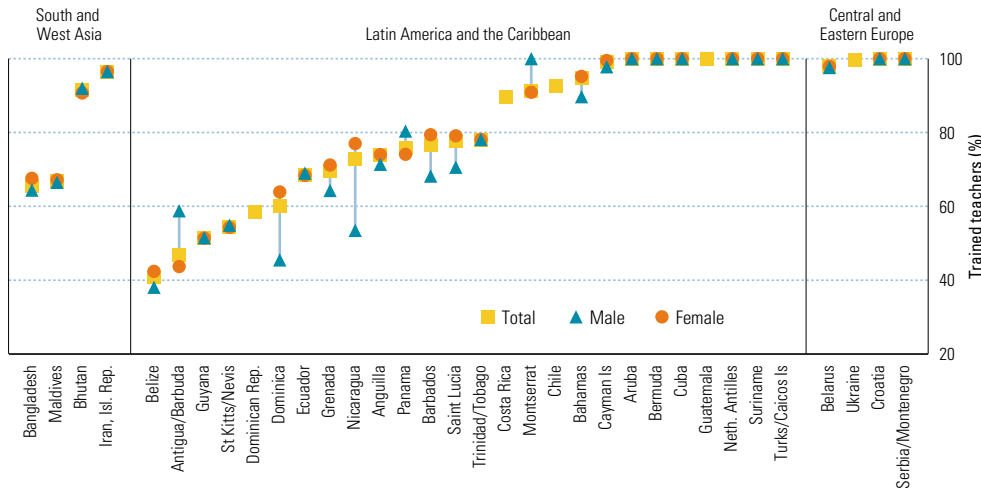
example, Figure 3.24 displays the relationship between the proportion of primary-school teachers who meet national qualification standards and the adult illiteracy rate for the twenty-seven states of Brazil. High levels of adult illiteracy are a good indicator of socio-economic and educational deprivation, for they reflect the history of local school systems as well as what families invest in children's education. Most trained teachers tend to be in the parts of the country that need them least. In the states with, at worst, 12% illiteracy, 60% or more of the teachers meet the national training standards,

Figure 3.24: Primary teachers meeting national standards and adult illiteracy in Brazil, by state, 2000



Note: Red dots represent the states of the Nordeste region.
Source: INEP (2002)

Figure 3.23 (continued)



but elsewhere the situation is extremely variable. The six states of the Nordeste region, generally the most disadvantaged area of Brazil, have among the lowest proportions of trained teachers.

Teachers' formal qualifications however may not reflect teacher quality as adequately as the ability

to make the best use of learning materials, students' work and their own subject knowledge. These skills are even more salient in especially difficult situations, such as countries in conflict (see Box 3.4).

Box 3.4 Determining and promoting good-quality teaching in especially difficult circumstances

In many conflict and post-conflict countries, the education system cannot provide for all children. The system may have collapsed or, in a situation like that of Afghanistan, the Ministry of Education's post-conflict reconstruction process cannot keep pace with increased demand. In addition, refugee children, especially those living in camps, are unlikely to be served directly by the state education system. In such situations, communities, often with the support of international bodies, may take the situation into their own hands and recruit community members as teachers. Although they may receive some training, many will have completed only primary schooling.

Can good-quality teaching and learning take place in such situations, where traditional indicators of teacher quality such as academic qualifications seem less relevant? The International Rescue Committee (IRC) - an NGO based in the United States that works with refugees - helps underqualified teachers set locally appropriate objectives for quality teaching and identify indicators (teacher methodologies, behaviours and activities) that can help them assess whether these objectives are met.

In a refugee camp school in northern Ethiopia, where the IRC runs education and other programmes, few teachers have completed secondary school or feel confident in a role for which they are underqualified, though self-confidence is an important aspect of being a good teacher. Other elements of good teaching that are critical in classrooms where children have been affected by war are creativity and the promotion of social cohesion. Where children of different ethnic groups with different languages, backgrounds and experiences are living and attending school together, it is important to promote understanding - for instance by having some children translate to ensure that all have understood. Such creativity is not only important in encouraging children's freedom of expression, it can also be more generally important in resource-poor environments. Teaching a science lesson with minimal resources and with only locally available materials often requires great originality.

Source: Kirk and Winthrop (2004)

Teacher subject knowledge is crucial and has been shown to be a good predictor of student achievement

Teacher subject knowledge is crucial and has been shown to be a good predictor of student achievement (Darling-Hammond, 2000). In many developing countries, levels of subject knowledge are a problem. A recent study in seven southern African countries finds that some primary-school mathematics teachers possess only basic numeracy, actually scoring less in tests than students (Postlethwaite, 2004). Provision of training and other forms of support based on relevant quality indicators can help build the confidence of undertrained teachers and enable them to become more competent.

Teacher absenteeism

Teacher absenteeism, a persistent problem in many countries, reduces the quality of education and results in a waste of resources. In 2003, investigators for a World Bank study who made random visits to 200 primary schools in India found no teaching activity in half of them. Up to 45% of teachers in Ethiopia had been absent at least one day in the week before a visit – 10% of them for three days or more, and in Uganda and Zambia the shares of teachers who had been absent in the previous week were 26% and 17%, respectively (World Bank, 2004j). This continues to confirm the findings of school surveys conducted in fourteen low-income countries in

1995, which showed high rates of absenteeism, especially in sub-Saharan African countries, e.g. the United Republic of Tanzania (38%), Uganda (30%) and Zambia (25%), and in South and West Asia, e.g. Bhutan (14%), Nepal (11%) and Bangladesh (8%), (Schleicher, Siniscalco and Postlethwaite, 1995).

High levels of teacher absenteeism generally indicate severe dysfunctions in the school system, but they may have many different direct causes. Lax professional standards and lack of support and control by education authorities are major issues in many countries. Education policy deficiencies can also play a role, for instance where teachers are reassigned to other classrooms or schools (Jessee et al., 2003), must travel to obtain their monthly pay (Moses, 2000), or need to take a second job to supplement insufficient salaries (Michaelowa, 2002). Appropriate support and better incentive structures may help reduce levels of teacher absenteeism.

The high level of prevalence of HIV/AIDS in a growing number of developing countries, especially in sub-Saharan Africa, is a major factor influencing teacher absenteeism and lack of effectiveness, sometimes leading to high teaching-staff attrition rates (see Box 3.5).

Box 3.5 HIV/AIDS and teacher attrition trends in Kenya

The impact of the HIV/AIDS epidemic on the teaching force has at least three dimensions. First, teacher mortality rate is likely to grow over time, assuming the infection rate is similar to that in the general population. Second, since the private sector has traditionally recruited skilled human resources from the teaching profession, AIDS deaths in the general workforce could result in a further drain on the availability of skilled teachers. Third, the long, debilitating illness that generally precedes death from AIDS implies loss of teacher contact time, quality, continuity and experience (Badcock-Walters et al., 2003).

The first aspect is perhaps the easiest to quantify. In Kenya, for example, the Ministry of Health has stated that HIV/AIDS has impaired the effectiveness of the education sector by increasing the rate of teachers' deaths and attrition over the past decade. According to the Teachers Service Commission, the

reported number of teacher deaths rose from 450 in 1995 to 1,400 in 1999. Although data on causes of teacher mortality are not kept, the high increase is probably due to HIV/AIDS.

A survey in four districts in Kenya found that in Kisumu, the district most affected by HIV/AIDS, the primary teacher attrition rate had risen from 1% in 1998 to around 5% in 1999 and had remained at that level since. At that rate, a quarter of the teaching force would disappear within five years. While it is difficult to say for certain how many deaths are AIDS-related, most are occurring in districts with high HIV prevalence rates, supporting the hypothesis that AIDS is a major cause of mortality. The retirement rate also increased, from less than 0.5% in 1998 to 2% in 2001. The hypothesis that some of the extra retirements were on medical grounds is quite plausible.

Source: Carr-Hill (2004)

Table 3.6: Distribution of countries according to primary pupil/teacher ratios, 2001

Regions	Levels of pupil/teacher ratios					
	Below 15	15-24	25-34	35-44	45-54	55 and above
Sub-Saharan Africa	Seychelles (1)	Mauritius (1)	Botswana, Cape Verde, Ghana, Kenya, Namibia, Sao Tome and Principe, Swaziland (7)	Togo, Angola, South Africa, Sierra Leone, Gambia, Zimbabwe, Liberia, Comoros, Nigeria, Niger, Equat. Guinea, Côte d'Ivoire, Eritrea (13)	Guinea-Bissau, Zambia, U. Rep. Tanzania, Guinea, Burkina Faso, Lesotho, Madagascar, Senegal, Burundi, Gabon, Benin, Uganda (12)	Congo, Mali, Ethiopia, Rwanda, Cameroon, Malawi, Mozambique, Chad, Central African Republic (9)
Arab States	Libyan A. J., Saudi Arabia, Qatar, Kuwait (4)	U. A. Emirates, Bahrain, Lebanon, Jordan, Iraq, Tunisia, Egypt, Oman, Syrian A. R. (9)	Algeria, Morocco, Palestinian A. T., Djibouti (4)	Mauritania (1)		
Central Asia	Georgia (1)	Azerbaijan, Armenia, Kazakhstan, Tajikistan, Kyrgyzstan (5)	Mongolia (1)			
East Asia and the Pacific	Brunei Darussalam (1)	Marshall Is, New Zealand, Palau, Cook Islands, Niue, Thailand, China, Malaysia, Japan, Tonga, Indonesia (11)	Samoa, Tuvalu, Viet Nam, Macao (China), Fiji, Vanuatu, Lao PDR, Rep. of Korea, Myanmar (9)	Papua New Guinea, Philippines (2)	Timor-Leste (1)	Cambodia (1)
South and West Asia		Maldives, Islamic Republic of Iran (2)		Bhutan, Nepal, India, Afghanistan, Pakistan (5)		Bangladesh (1)
Latin America and the Caribbean	Bermuda, Cuba, Cayman Islands (3)	Barbados, St Kitts/Nevis, Bahamas, Br. Virgin Is, Anguilla, St Vincent/Grenadines, Turks/Caicos Is, Dominica, Antigua/Barbuda, Aruba, Trinidad/Tobago, Suriname, Montserrat, Argentina, Neth. Antilles, Uruguay, Grenada, Belize, Brazil, Saint Lucia, Costa Rica, Panama, Ecuador (23)	Boliva, El Salvador, Colombia, Guyana, Mexico, Peru, Guatemala, Chile, Jamaica, Honduras (10)	Nicaragua, Dominican Rep. (2)		
North America and Western Europe	San Marino, Netherlands, Denmark, Italy, Portugal, Iceland, Sweden, Luxembourg, Andorra, Belgium, Israel, Greece, Austria, Switzerland, Spain, Germany (16)	United States, Finland, United Kingdom, Canada, France, Cyprus, Malta, Ireland, Monaco (9)				
Central and Eastern Europe	Hungary, Slovenia, Estonia, Latvia, Poland (5)	Lithuania, Belarus, Bulgaria, Russian Fed., Czech Rep., Romania, Croatia, Slovakia, Rep. Moldova, Ukraine, Serbia/Montenegro, TFYR Macedonia, Albania (13)				
Total number of countries 182	31	74	30	23	13	11

Note: In each box, countries are listed in increasing order of pupil/teacher ratio.

Source: Statistical annex, Table 13A.

About 815 primary-school teachers in Zambia died from AIDS in 2000 – the equivalent of 45% of the teachers trained that year

The impact on efforts to extend or improve the national school system can be dramatic. For example, it is estimated that 815 primary-school teachers in Zambia died from AIDS in 2000 – the equivalent of 45% of the teachers trained that year. The disease’s impact on school systems is a major reason that HIV/AIDS has wide-ranging effects over the long run. With epidemics developing in many countries of South and West Asia, East Asia and the Pacific, Central Asia, and Central and Eastern Europe, HIV/AIDS is a major global constraint on the provision of good-quality education.

Teacher deployment and education outcomes

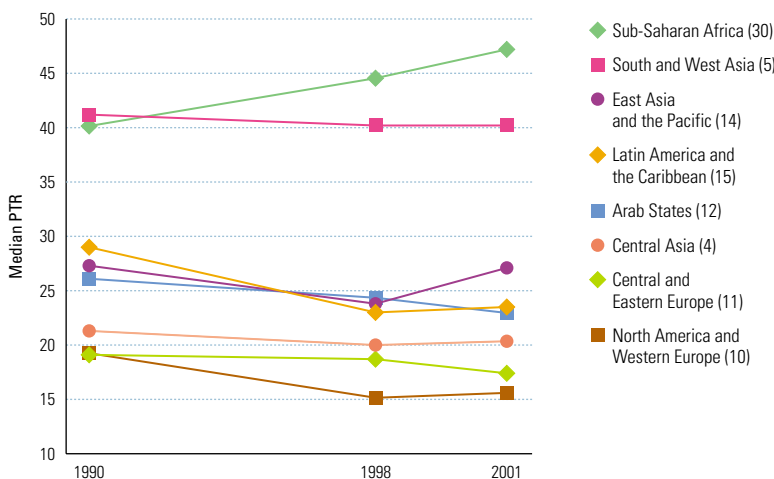
Besides qualifications and training, the number and distribution of teachers are important policy parameters helping to determine the quality of education pupils and students receive. At the school level, the most visible element of teacher deployment is class size, or the number of pupils a teacher has to teach. While the impact of class size on educational outcomes remains a matter of debate (see Chapter 2) and depends on the pedagogy used, the very large class sizes observed in primary schools in many developing countries are clearly not conducive to adequate learning. Children in areas not yet covered by primary-school systems probably need smaller

class sizes than the average because they are often first-generation learners from underprivileged social groups and are more likely to belong to a minority whose language is not used as a medium of instruction. Furthermore, curricula are usually divided into grades, requiring one teacher per grade for effective teaching or requiring special training in the case of multigrade teaching. While data on class sizes and the number of teachers per grade in each school are not widely available, teacher deployment policies can be approached through the pupil/teacher ratio.

High PTRs may signify an overstretched teaching staff, while low ratios may mean there is additional capacity. However, the PTR measured at the national level can mask disparities among regions and schools. For instance, the national primary PTR in Mauritania is 35:1, but some schools may have one teacher for every ten pupils while others have one for every sixty pupils. Moreover, the ratio depends on an accurate count of teachers who have classroom responsibilities, and should be adjusted, as far as possible, to account for part-time teaching, teaching in shifts and multigrade classes.

Keeping in mind these caveats, Table 3.6 provides a classification of countries according to national PTR. The ratios are low (less than 20:1) in regions where enrolment ratios are high – in particular North America and Western Europe, Central and Eastern Europe, and Central Asia – and high in regions where enrolments are low, notably South and West Asia and sub-Saharan Africa, with median values of 40:1 and 44:1, respectively. This implies that teacher numbers are a problem in the very countries that most need more teachers in order to increase significantly the coverage of their primary school systems. In the Arab States, East Asia and the Pacific and in Latin America and the Caribbean, most countries have fifteen to thirty-four pupils per teacher. Unacceptably high PTRs exist in many schools and districts of individual countries, of course, but this is more a matter of the distribution of teachers than of their total number.

Figure 3.25: Median pupil/teacher ratios in primary education by region, 1990, 1998 and 2001 (countries with data for all three years; number per region in brackets)



Source: Statistical annex, Table 17.

Figure 3.25, which shows the evolution of the median PTR by region from 1990 to 1998 and 2001, for countries with data available for all three years, makes these regional patterns even

Box 3.6 Expanding access to primary education: quantity and quality factors

How do trends in enrolment, teacher recruitment and pupil/teacher ratios relate? The experience of three countries sheds some light on the kind of trade-offs policy-makers face, e.g. between expanding the school system and maintaining stable PTRs, or between improving education quality by reducing the PTR or increasing expenditure on other items. Between 1998 and 2001, the number of primary-school pupils in Cambodia rose substantially, by 28%, and the primary-school NER increased from 82% to 86%. The number of teachers increased by only 9%, so the PTR rose from 48:1 to 56:1. Although public spending on education increased steadily, education policies sought to improve education quality by channelling existing funding into retraining teachers, buying more up-to-date textbooks, reforming evaluation methods and improving infrastructure. Hence teacher recruitment was limited and teachers could not keep pace with the growth in enrolment (Cambodia, 1999).

In Ethiopia during the same period, the number of pupils rose by 40%, boosting the primary-school

NER from 36% to 46%. Policy decisions led to the primary PTR rising by 24%, from 46:1 to 57:1, as the number of teachers increased by only 13%. The Ministry of Education decided to allow class size to increase in order to reallocate funding to books, desks and other needs, with the aim of increasing the effectiveness of existing teachers and the efficiency of the overall system (Ethiopia Ministry of Education, 1999).

Unlike most sub-Saharan African countries, Togo experienced a substantial decrease in the primary PTR between 1998 and 2001, from 41:1 to 35:1, while its NER rose from 90% to 92%. While total education expenditure is reported to have increased by 18% between 1998 and 2000, one-fourth of all new teachers were placed on short-term contracts that paid significantly less than those of their permanent counterparts (Kigotho, 2004). While the decision to hire more teachers resulted in declining PTRs, which should improve overall instructional and educational quality, a study conducted in Togo suggests that the contract teachers were less effective than other teachers (Vegas and De Laat, 2003).

clearer. It shows PTRs that are relatively low and have been declining or fairly stable in all regions except sub-Saharan Africa, where the median rose from 40:1 in 1990 to 47:1 in 2001. The situation in this region may be explained by demography: high population growth translates into larger cohorts of potential primary-school pupils and increasing enrolment – with which the school system cannot keep pace. In three sub-Saharan countries that saw an especially steep rise in PTRs between 1998 and 2001 – Ethiopia (23%), Nigeria (28%) and the United Republic of Tanzania (22%) – efforts to widen access to primary education partly explain the rise. Indeed, the PTR increased in almost every country where the net enrolment ratio increased, e.g. in Ethiopia from 46:1 to 57:1 and the United Republic of Tanzania from 38:1 to 46:1. More generally, in sub-Saharan African countries whose PTR grew over the decade, that growth slightly accelerated after 1998. The PTR also increased between 1998 and 2001 in East Asia and the Pacific (from 24:1 to 27:1), reversing the trend of the early and mid-1990s.

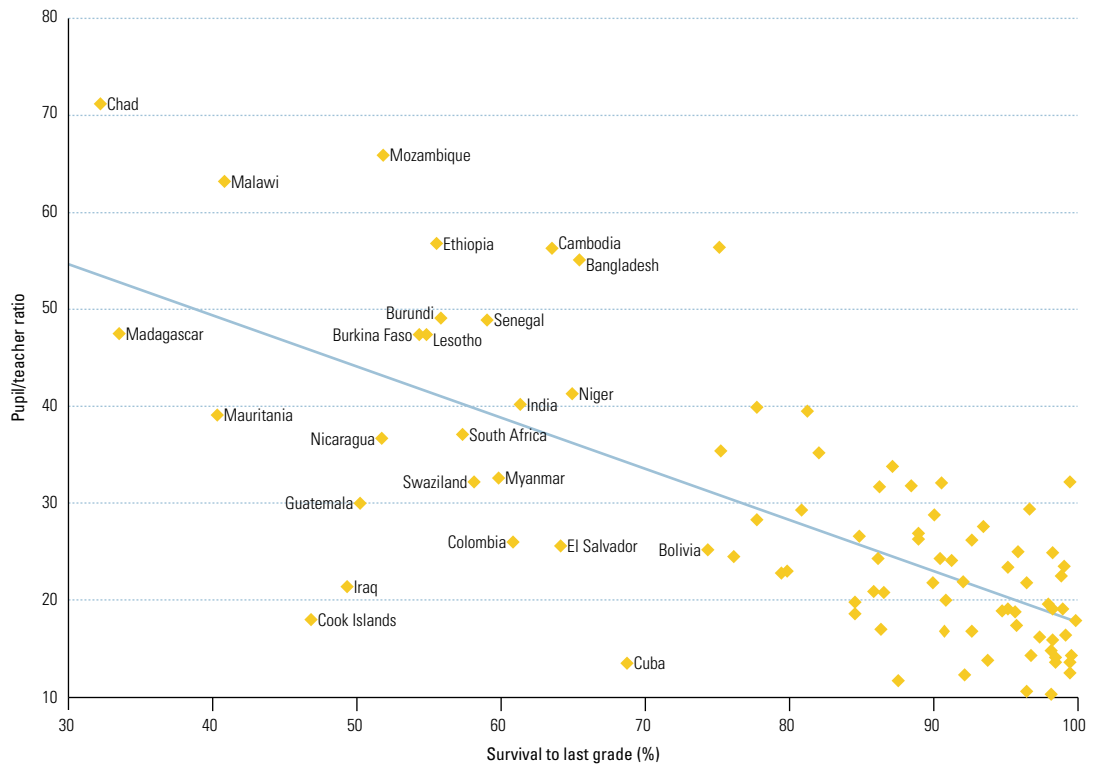
Once again, while countries with a strong political commitment towards education have

both high enrolment and low PTRs, those starting with low enrolment ratios may face severe quantity/quality trade-offs, in the short run. These can be avoided only if countries can mobilize substantially more resources for education or recruit additional teachers at lower salaries without compromising teaching quality. The latter course has been tried in many countries, but more evidence as to its effectiveness is needed than is yet available (see also Chapter 4). Indeed, expansion of educational opportunity and the concomitant demand for teachers tend to put quality at risk if entry requirements for teachers are relaxed and/or the workload of the current teaching force increases (see Box 3.6). In countries where PTRs are already very high, further demands on teachers could be detrimental to teacher capacity and morale and result in diminished learning outcomes among students (see the Appendix, which shows the relationship between PTRs and learning outcomes).

Figure 3.26 shows that, in general, low PTRs are associated with high survival rates to the last grade of primary school. However, the dispersion in the survival rate is higher within the group of

High population growth causes increasing enrolment, with which the school system cannot keep pace

Figure 3.26: Primary education: pupil/teacher ratios and survival to the last grade, 2001



Notes: Countries with a survival rate of less than 75% are labelled.
 See source tables for detailed country notes.
Source: Statistical annex, Tables 7 and 13A.

In Chad, only one in three pupils starting school reaches the final grade

countries with high PTRs than within that with low PTRs. Thus, the negative relationship appears to be between these two groups rather than within them. The PTR here should be interpreted more as a general indicator of the state of the school system than as a cause of low survival rates, as countries with comparable PTRs achieve dramatically different survival rates. Many other factors enter the picture. On the other hand, it is difficult to believe that high PTRs are not an issue in countries such as Chad, where the PTR exceeds 70:1 and where only one in three pupils starting school reaches the final grade.

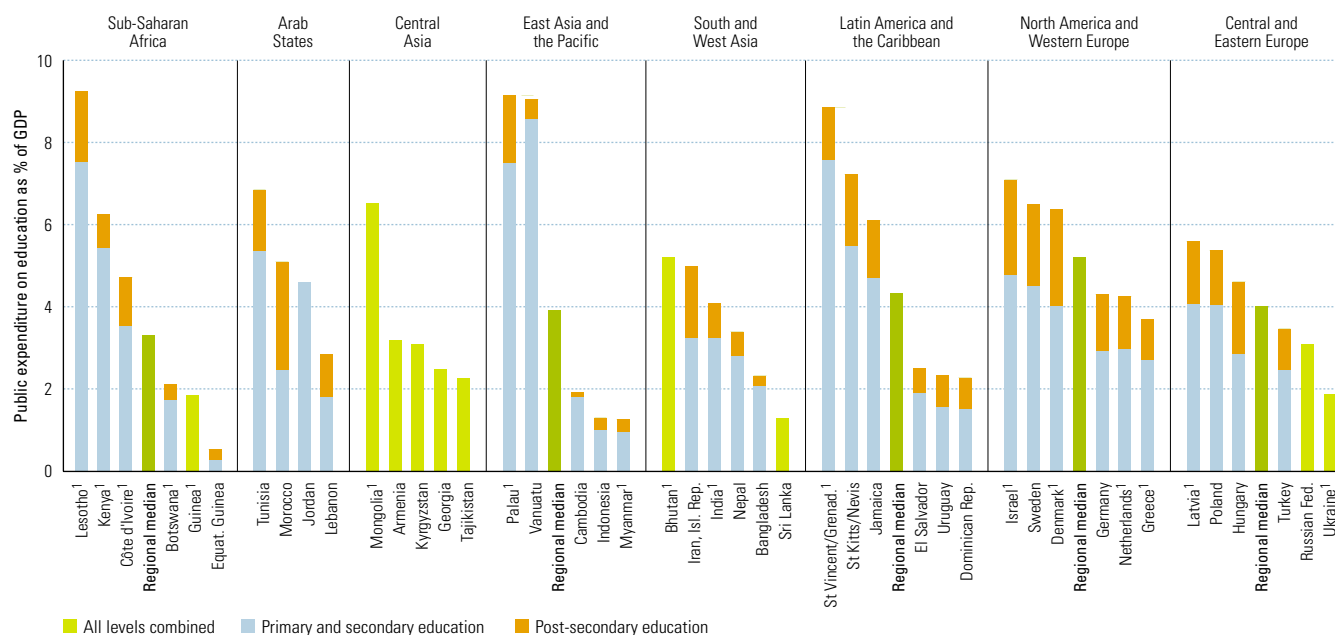
When money matters: investing in education

While teachers are the most important resource in education, it is worth looking at other resources available to schools that have an important impact on prospects for high-quality

teaching. Detailed data on factors such as school buildings and equipment or teaching/learning materials may not be available for a large sample of countries, nor would they be very informative on their own. Aggregate expenditure on education, however, is a good indicator of policy-makers' commitment to education quality.

Figure 3.27 presents total public expenditure on education as a percentage of GDP, showing regional medians and the highest and lowest country figures. This indicator of policy preferences may not have the same significance everywhere. Differences in relative prices of education inputs, allocation of funding between teacher salaries and other inputs, and demographic structure mean different countries may have to spend at different levels to achieve comparable quality. For example, Germany and India spend comparable proportions of their GDP on education (slightly more than 4%) but Germany's wealthy, ageing population has

Figure 3.27: Public expenditure on education as a percentage of GDP, by education level, 2001
(regional medians and countries with the highest and lowest values)



Note: Regional medians based on the following country numbers: sub-Saharan Africa: 19; East Asia and the Pacific: 17; Latin America and the Caribbean: 20; North America and Western Europe: 17; Central and Eastern Europe: 8. Regional medians not calculated for Arab States, Central Asia, and South and West Asia because data were available for too few countries.

1. Data are for 2000.

Source: UNESCO Institute for Statistics (2004b)

access to a completely different education system than India's poor, young and still quickly growing population. Regional patterns are consistent with those observed for enrolment ratios and teacher deployment: the highest median is that of North America and Western Europe and the lowest that of sub-Saharan Africa. Given differences in GDP levels and the proportions of school-age children in the population, this implies dramatic differences in per-pupil resources between the two regions. Several large countries of South and West Asia and of East Asia and the Pacific are also notable for low levels of expenditure. The high levels found in a few island states can be explained by specific factors. For example, the GDP of the countries may be small, or they do not benefit from economies of scale because their school-age population is small, or students have to leave the country for higher education, implying substantial costs if this is subsidized by the state.

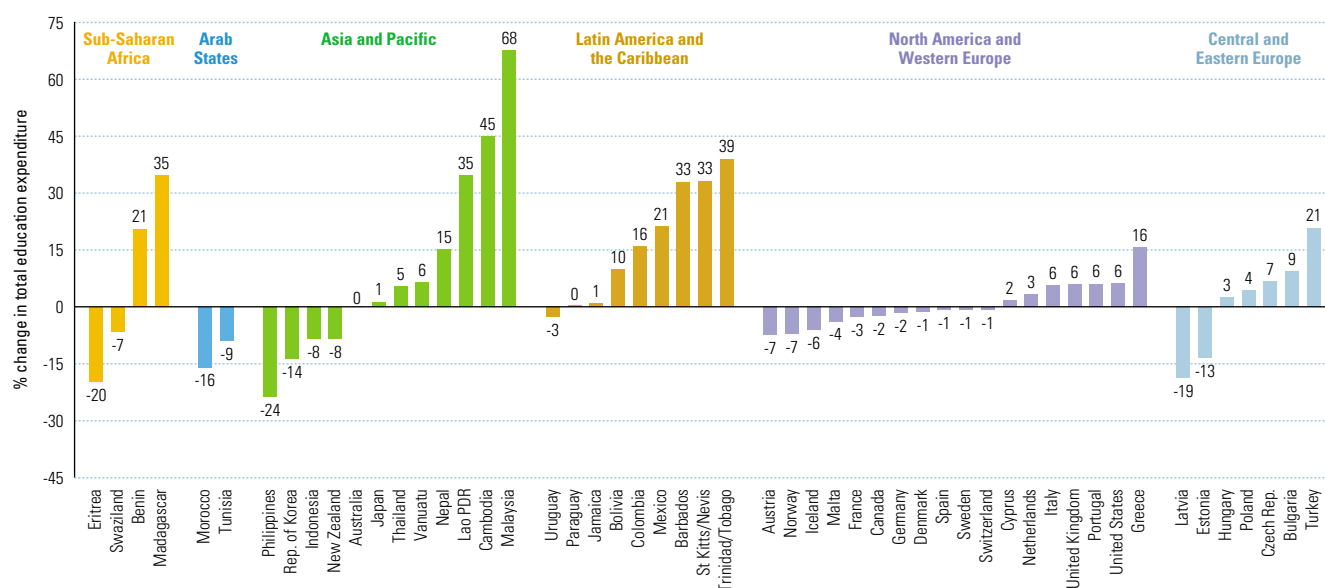
While most countries have predominantly public education systems, government expenditure is

not total expenditure. A different picture would emerge if data on private expenditure on education were available. Countries have different mixes of public and private schooling, and a shift of emphasis from what *governments* invest in education to what *societies* invest is needed to take this into account. Household expenditure on education, for instance, is generally substantial even in many countries where at least primary schooling is officially provided free by the state. The share of private expenditure in primary and secondary education has been estimated at 42% in Jamaica, 33% in the Philippines, 30% in Chile, 24% in Indonesia and 21% in Colombia, to take but a few examples (UNESCO Institute for Statistics/OECD, 2003).

Figure 3.28 tracks trends in public expenditure on education during the late 1990s, showing changes in real expenditure in the relatively few countries that provided data for both 1998 and 2001. Spending levels were generally stable in North America and Western Europe but quite a few developing countries increased spending

Household expenditure on education is generally substantial even in countries where primary education is free

Figure 3.28: Change in total education expenditure in real terms, selected countries, 1998 to 2001



Sources: UNESCO Institute for Statistics database; World Bank (2003b).

Public/private partnerships raise quality and equity issues

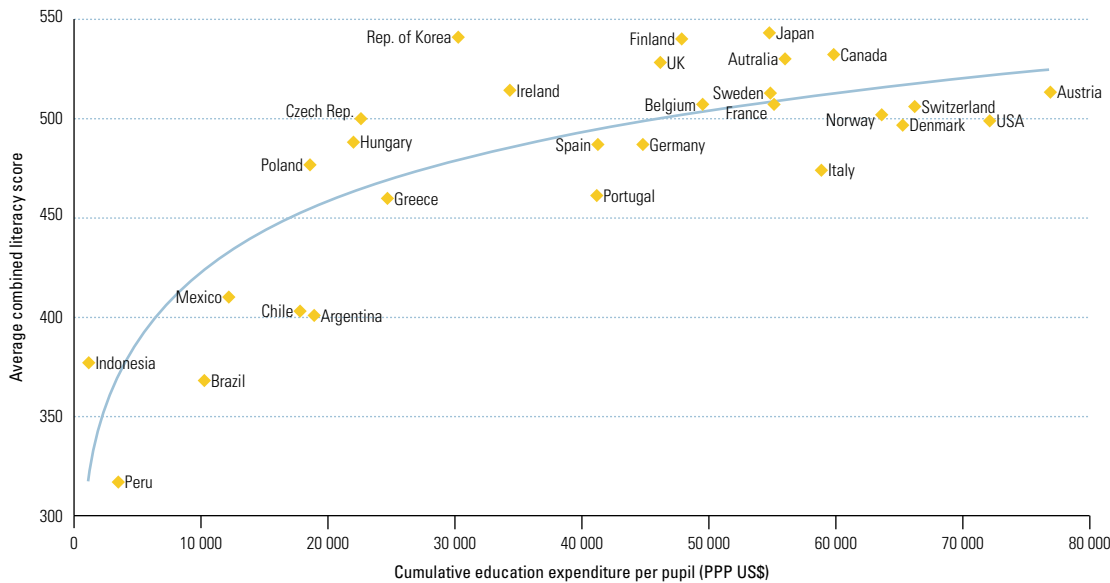
considerably, notably in East Asia and the Pacific, and Latin America and the Caribbean. A few large countries reduced expenditure significantly, however, e.g. the Philippines (-24%) and Indonesia (-8%).

Public and private expenditures on education are often intertwined and complementary, notably where governments provide partial funding to private institutions. For instance, in Zimbabwe, 80% of primary-school pupils attend government-dependent private schools whose teachers are paid by the government, while other costs are borne by local communities. Such public/private partnerships are being promoted increasingly as a way to mitigate the impact of uncertainties and insufficiencies in public expenditure. They raise quality and equity issues, however, since communities differ in their ability to attract government expenditure as well as raise private funds.

The allocation of education expenditure matters a great deal in translating funds into education outcomes. Teachers' salaries tend to account for by far the greatest item of expenditure, especially in developing countries. Debates have been raging about differences in salary costs among countries and whether high salaries impede

efforts to expand and improve school systems so as to achieve EFA goals. Data on the share of primary teachers' salaries in total public current expenditure for primary education are available for fifty-one countries; among these, the shares exceed 90% in eleven countries. By comparison, figures for the share of textbooks and other teaching materials in public current expenditure for primary education, among the twenty countries providing such data, range from 0.8% in Belize to 12% in the Republic of Moldova. Clearly, teachers' salaries are a central issue in the political economy of education. More generally, it has been suggested that teacher-related inputs receive a disproportionate share of expenditure. Designing adequate salary and non-salary incentives to motivate teachers appears to be a priority, as the need to save resources for other inputs has to be balanced against the need to pay teachers well enough to attract and retain qualified individuals.

While the degree of causal relationship between education expenditure and outcomes has proved difficult to estimate (see Chapter 2), the two are clearly related. Based on results of tests administered to 15-year-old students as part of the Programme for International Student Assessment (PISA), Figure 3.29 shows that

Figure 3.29: Combined literacy performance and cumulative education expenditure to age 15, PISA, 2000/2001

Source: UNESCO Institute for Statistics, based on OECD/UNESCO Institute for Statistics (2003)

students in countries that invest more in education (measured as cumulative per-pupil expenditure up to age 15) tend to have better literacy skills. The relationship is most evident for the few developing countries participating in the study, countries of Central and Eastern Europe and countries of Western Europe with relatively low expenditure levels, such as Greece and Ireland. Among other countries of Western Europe, variation in literacy scores is limited even as expenditure doubles from about PPP US\$40,000 to about PPP US\$80,000.¹⁰ This suggests that resources can have a strong impact on outcomes when initial spending is low, but that the impact levels off as spending increases: additional resources might be wasted or devoted to other purposes than improving the kind of performance measured by literacy tests.

As the graph does not take into account factors such as the efficiency of resource allocation and use or family background, large differences in literacy scores may be observed between countries with similar spending levels, e.g. Poland and Chile or Argentina. Note also, that Mexico, Chile and Argentina reach similar average scores, even though Mexico spends only PPP US\$12,189 per student, compared with PPP US\$17,820 in Chile and PPP \$18,893 in

Argentina. The graph is also silent about whether there is a causal relationship or just a correlation between expenditure and performance. What matters is rather the consistency of regional patterns regarding the variables analysed in this chapter. Some countries have high achievement levels coupled with high enrolment ratios and high expenditure; others combine low enrolment with low expenditure and low achievement. Thus, while it is true that increasing resources remains fundamental in many countries, it is unlikely to improve performance significantly if other factors behind the differences are not addressed.

Quality and equality of learning

School systems are meant to produce a multitude of outputs, from equipping students with knowledge and cognitive skills to cultivating creative minds and fostering civic and moral values. Assessing their success in doing so is difficult, for two reasons. First, different stakeholders assign their own values to different objectives (World Bank, 2004j), and maximizing one kind of output may not be consistent with maximizing others: e.g. creative thinking may conflict with values emphasized by authoritarian

Increasing resources remains fundamental, but is unlikely to significantly improve performance if other factors are not addressed

10. PPP means purchasing power parity. See glossary in Annexes.

curricula. Comparing school systems on the basis of one type of output may not do justice to those who emphasize other types. Second, some outputs are easier to measure and compare than others. It is relatively straightforward to measure mastery of simple skills through standardized testing, but more difficult to do the same for critical thinking and creativity.

Although knowledge and cognitive skills have not necessarily been the only priority of many government school systems, they have received the lion's share of attention in assessment exercises that have provided internationally comparable data. While each country has its own

system of classroom-based assessment and public examinations, national and international assessments of student learning through standardized tests are increasingly used to monitor and evaluate the overall quality of education systems, to diagnose their relative strengths and weaknesses and to shed light on policy options that could enable good-quality learning for all (Kellaghan and Greaney, 2001). This section focuses on the evidence emerging from such assessments. It should be noted that although cognitive skills can be measured, defining which achievement levels can be deemed satisfactory is a complex issue (see Box 3.7).

Box 3.7 Defining low achievement

A number of studies have explicitly defined achievement or proficiency levels reflecting targets and expectations represented by national curricula or international standards. Where such definitions are available, the lowest band of test scores represents low achievement. Examples of such assessments include national assessments in four Latin American countries (Figure 3.30), the Southern and Eastern African Consortium for Monitoring Educational Quality (SACMEQ) (Figure 3.31) and the Programme for International Student Assessment (PISA), mentioned earlier (Figure 3.34).

Two other assessments, the *Programme d'Analyse des Systèmes Éducatifs de la CONFEMEN** (PASEC) (Figure 3.32) and the Progress in International Reading Literacy Study (PIRLS) (Figure 3.33), do not provide explicit achievement levels. For these assessments, students performing at or below the 25th percentile on the achievement scale are considered low achievers. For example, in PASEC, fewer than half of such students could correctly perform the following task:

Sort the numbers from highest to lowest value
 35.7 25.9 35.8 35.6

The SACMEQ study was first carried out in 1995 in seven countries. Fifty-nine items were used to test the reading literacy of grade 6 pupils in three types of text: narrative and expository texts and documents. National experts selected a subset of 'essential items' and established 'minimum' and 'desirable' performance levels based on how many essential items students answered correctly. The number of essential items and the cut-off-points for proficiency levels varied by country.

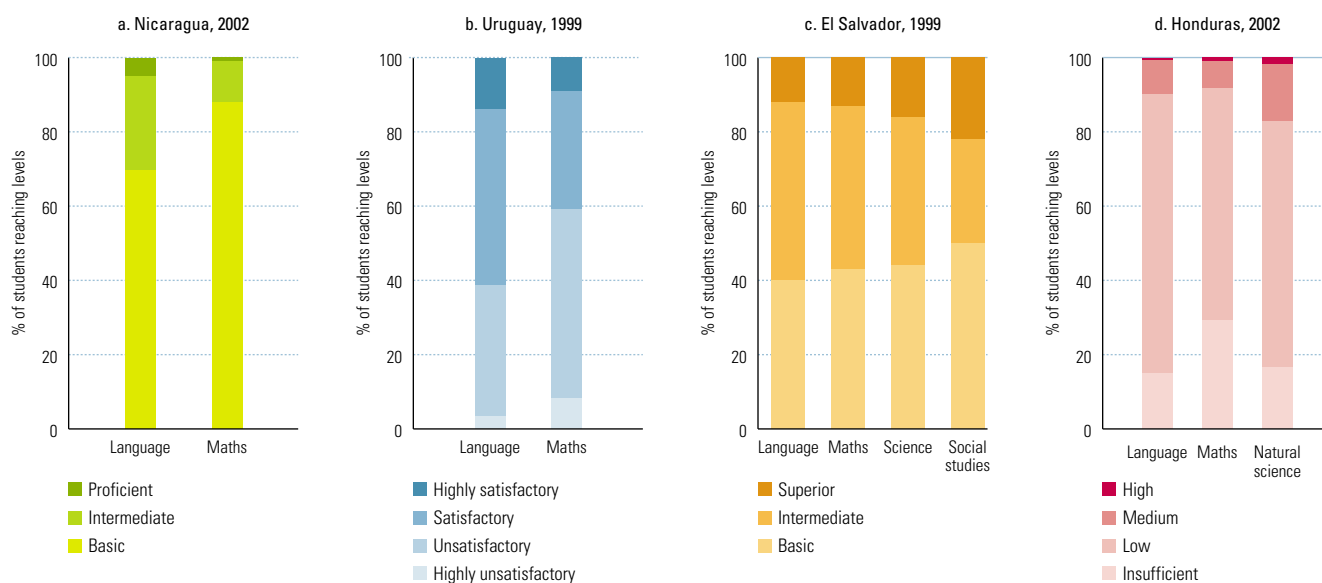
For example:

	Essential items	Number of correct answers required	
		Minimum level	Desirable level
Zimbabwe	34	14	17
Zambia	46	23	37

PIRLS was carried out in thirty-five countries in 2001, under the auspices of the International Association for the Evaluation of Educational Achievement. It assessed a range of reading comprehension strategies among grade 4 pupils in literary and informational texts. More than half the questions required students to generate and write answers; the rest were multiple-choice items. The 25th percentile on the reading literacy score is used as the cut-off point. The study report noted that items at or below this level required 'retrieval of explicitly stated details from the various literary and informational texts' and that 'generally this process needs little or no inferring or interpreting' (Mullis et al., 2003).

PISA studies the 'preparedness for adult life' of 15-year-olds, who are near the end of compulsory schooling in most OECD countries and a number of non-OECD countries. It assesses literacy, knowledge and skills in reading, mathematics and science. PISA aims to measure how well students can use what they have learned in school in real-life situations. The first PISA assessment, carried out in 2000 and 2002 in forty-three countries, focused on reading literacy. PISA divides reading proficiency performance into five levels, based on the complexity and difficulty of the tasks, with level 1 being the lowest level of reading ability and level 5 the highest. Students performing at level 1 may be able to complete only the most basic reading tasks.

* CONFEMEN stands for *Conférence des ministres de l'Éducation des pays ayant le français en partage* (Conference of Education Ministers of French-speaking Countries).

Figure 3.30: Grade 6 assessment results in four Latin American countries, various years

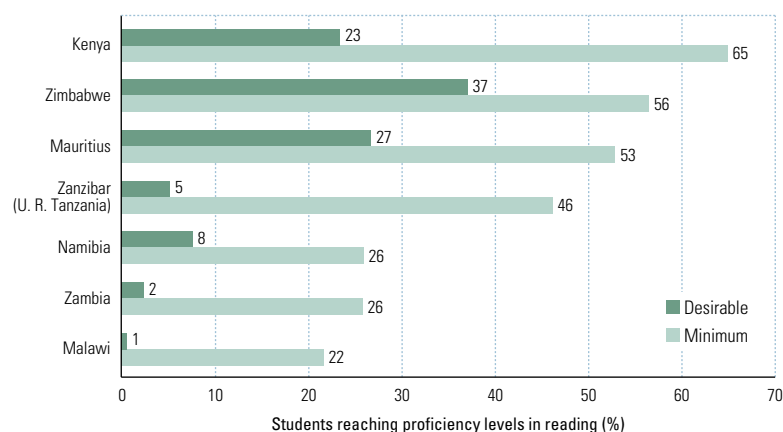
Sources: a. Nicaragua Ministry of Education (2003); b. Ravela (2002); c. El Salvador (2003); d. Honduras Ministry of Education (2003).

National and international assessments of cognitive skills

National assessment exercises such as those described in Box 3.7 are not easily comparable among countries, but they indicate how educational authorities evaluate the results of the system they manage. Figure 3.30 displays the percentage of pupils around the end of primary schooling who reached nationally defined performance levels in four countries of Latin America. In Nicaragua in 2002, 70% of students reached only the 'basic' level in language and more than 80% did so in mathematics. In Uruguay in 1999, the performance of 40% of sixth-graders was considered 'unsatisfactory' or 'highly unsatisfactory' in language and the share was 60% in mathematics. In El Salvador in 1999, 40% of sixth-graders reached only the 'basic' level in language, mathematics, science and social studies. In Honduras in 2002, 90% of sixth-graders performed at 'low' or 'insufficient' level in language and mathematics. Thus, whatever the relevance of the criteria used, all four countries consider the overall performance of their school system unsatisfactory.

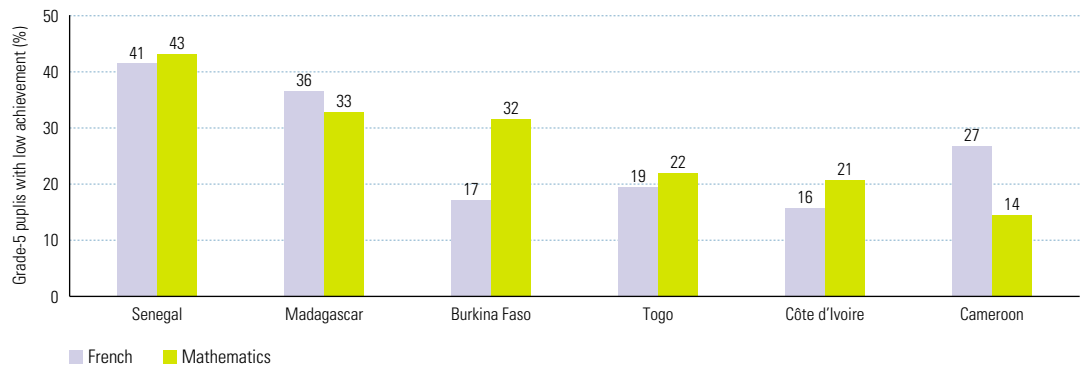
The SACMEQ study showed poor performance among primary school students in reading

literacy, according to standards established by national reading experts and sixth-grade teachers. In four out of seven countries, fewer than half of sixth-graders achieved the minimum level in reading (see Figure 3.31). Only 1% of sixth-graders tested in Malawi and 37% in

Figure 3.31: SACMEQ. Percentage of grade 6 pupils reaching proficiency levels in reading in seven African countries, 1995-1998

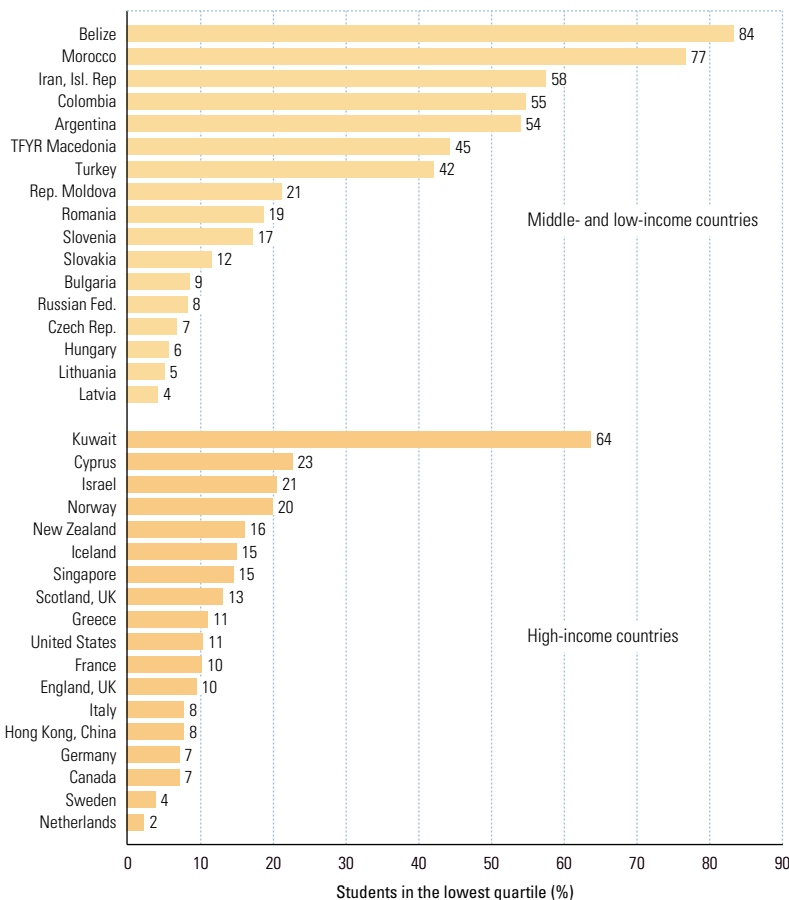
Note: Countries are ranked by proportion of pupils meeting minimum proficiency levels.
Sources: Kulpoo (1998); Machingaidze, Pfkani and Shumba (1998); Milner et al. (2001); Nassor and Mohammed (1998); Nkamba and Kanyika (1998); Nzomo, Kariuki and Guantai (2001); Voigts (1998).

Figure 3.32: PASEC. Percentage of grade 5 pupils with low achievement in six African countries, 1996-2001



Notes: The assessment was carried out in Burkina Faso, Cameroon, Côte d'Ivoire and Senegal in 1995/1996, in Madagascar in 1997/1998 and in Togo in 2000/2001. Countries are ranked by proportion of low-achieving pupils in mathematics. Low achievement is defined as a score below the 25th percentile on reading and mathematics.
Sources: Bernard (2003); Michaelowa (2004).

Figure 3.33: PIRLS. Percentage of grade 4 pupils in the lowest quartile of the international reading literacy scale, 2001



Note: The classification by income level is based on World Bank, 2003.
Source: Mullis et al. (2003)

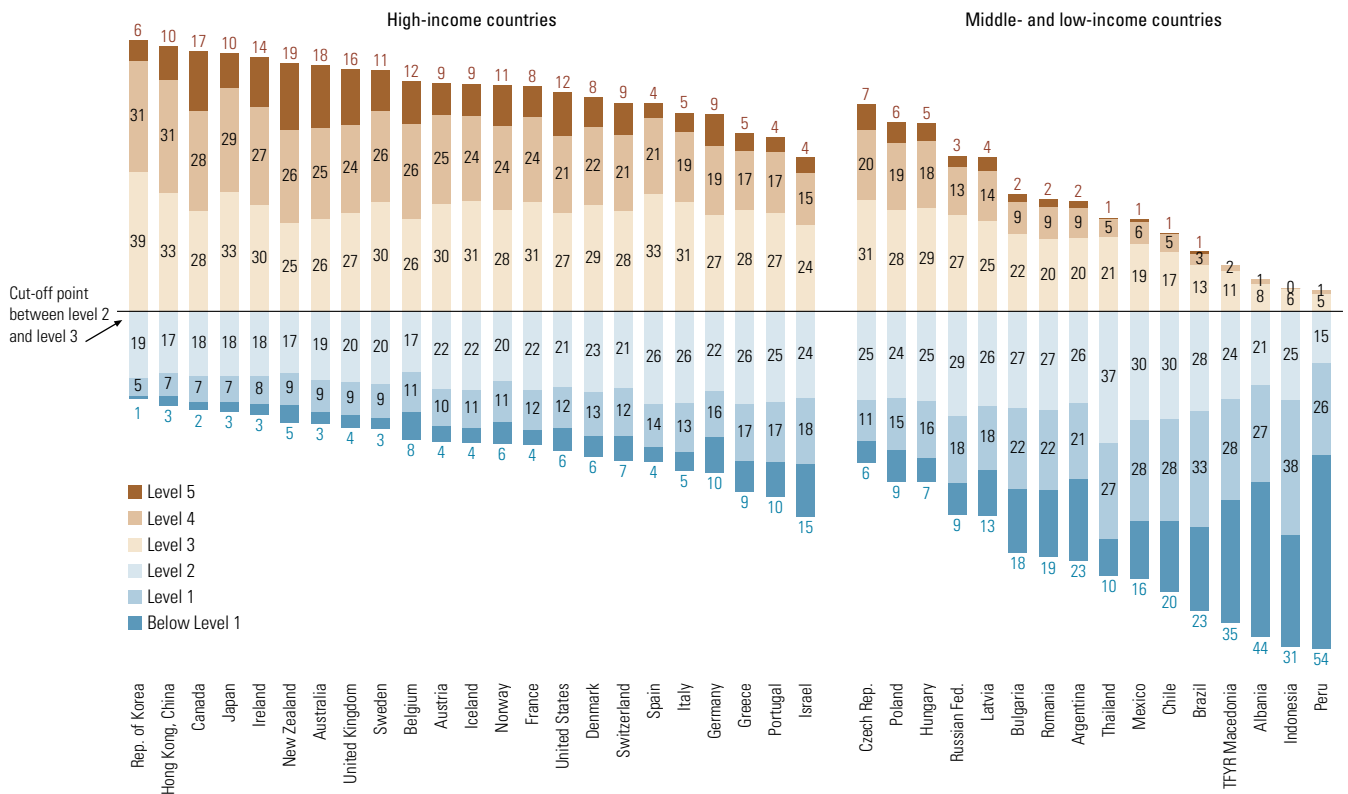
Zimbabwe achieved the desirable level in reading. Thus, no country in this study met the target suggested in 1990 at Jomtien for 2000 (at least 80% of students reaching a defined minimum achievement level) with respect to reading skills.

Low achievement is also evident from the PASEC study (Figure 3.32), which shows, for example, that over 40% of grade 5 pupils in Senegal had difficulty with the problem shown in Box 3.8: ordering numbers with one decimal point.

Although average achievement is much higher in developed than in developing countries, low achievement is an issue in many middle-income countries and affects significant minorities of the population in high-income countries. The PIRLS results indicate that large numbers of fourth-graders in several of the thirty-five countries participating in the study have limited reading skills (see Figure 3.33). More than half the students failed to reach the bottom quartile (the international benchmark) in Argentina, Belize, Colombia, the Islamic Republic of Iran and Morocco, among the middle-income countries, and in Kuwait, among the high-income countries – which typically have a less-than-20% share of low achievers.

According to PISA, 18% of 15-year-old students in the OECD as a whole (mostly high-income countries and a few middle-income ones) performed at or below level 1, indicating very low

Figure 3.34: PISA. Percentage of 15-year-old students in five proficiency levels for reading, 2000-2002 (selected countries)



Note: The classification by income level is based on World Bank, 2003.

Source: OECD/UNESCO Institute for Statistics (2003)

reading ability. Among students in middle- and low-income countries, 40% or more performed at or below level 1 – for example, more than 60% in Albania, Indonesia and the former Yugoslav Republic of Macedonia, and as high as 80% in Peru (see Figure 3.34).

Disparities in achievement within countries

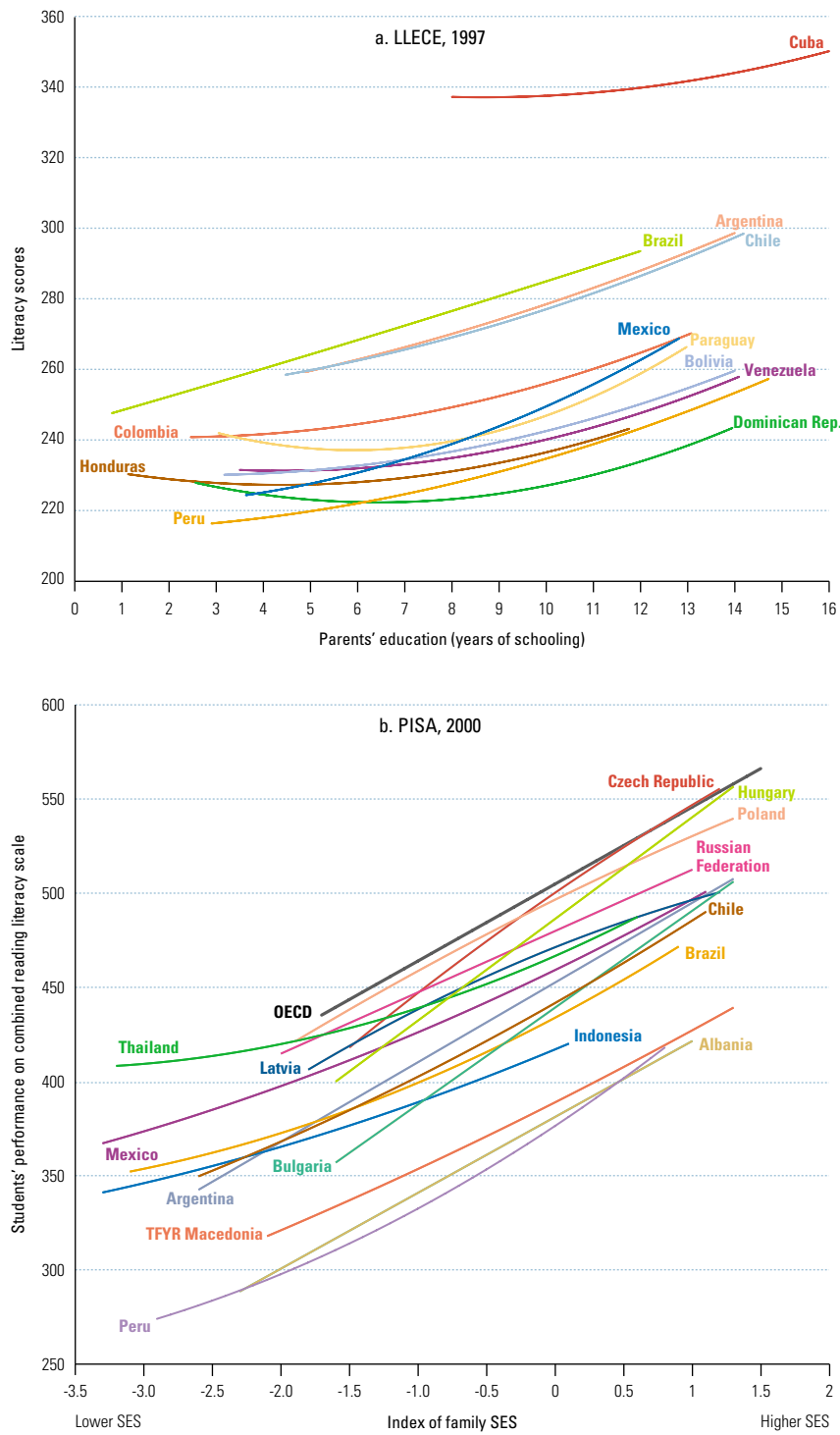
The data presented above consistently suggest that low achievement is widespread and that it most seriously affects countries whose school systems are weak in terms of enrolment and resources. The distribution of achievement levels within countries is another cause for concern, as low-achieving pupils never represent a random sample of the population. Although the specific determinants of low achievement are best examined in a national context, results from national and international assessments suggest

that pupils from rural areas and from socio-economically disadvantaged backgrounds are particularly vulnerable.

Learning disparities associated with socio-economic status begin in the early grades and continue through all levels of education. Children with low academic achievement may be more vulnerable to grade repetition and dropout. Since most school subjects build on fundamentals introduced in early grades, low-achieving primary school pupils may also face difficulties in later grades. Indeed, poor learning outcomes in early school years are often a good predictor of educational, social and economic disadvantages in adulthood.

The relationship between academic performance and socio-economic status varies by country as much as average achievement itself. Figure 3.35 displays this relationship for twelve Latin American

Figure 3.35: Socio-economic gradients for literacy performance¹



Note: SES: socio-economic status.

1. The gradients, or "learning bars", are the best-fitting lines. This means that points on the line do not necessarily represent an empirical observation. Rather, the lines indicate the association between students' academic achievement and family background for each country. The *slope* of each gradient line is an indication of the extent of inequality in academic achievement attributable to family background. The *length* of each gradient line is determined by the range of the family background measure used in each study and by the slope. It indicates how the student population varies in terms of family background.

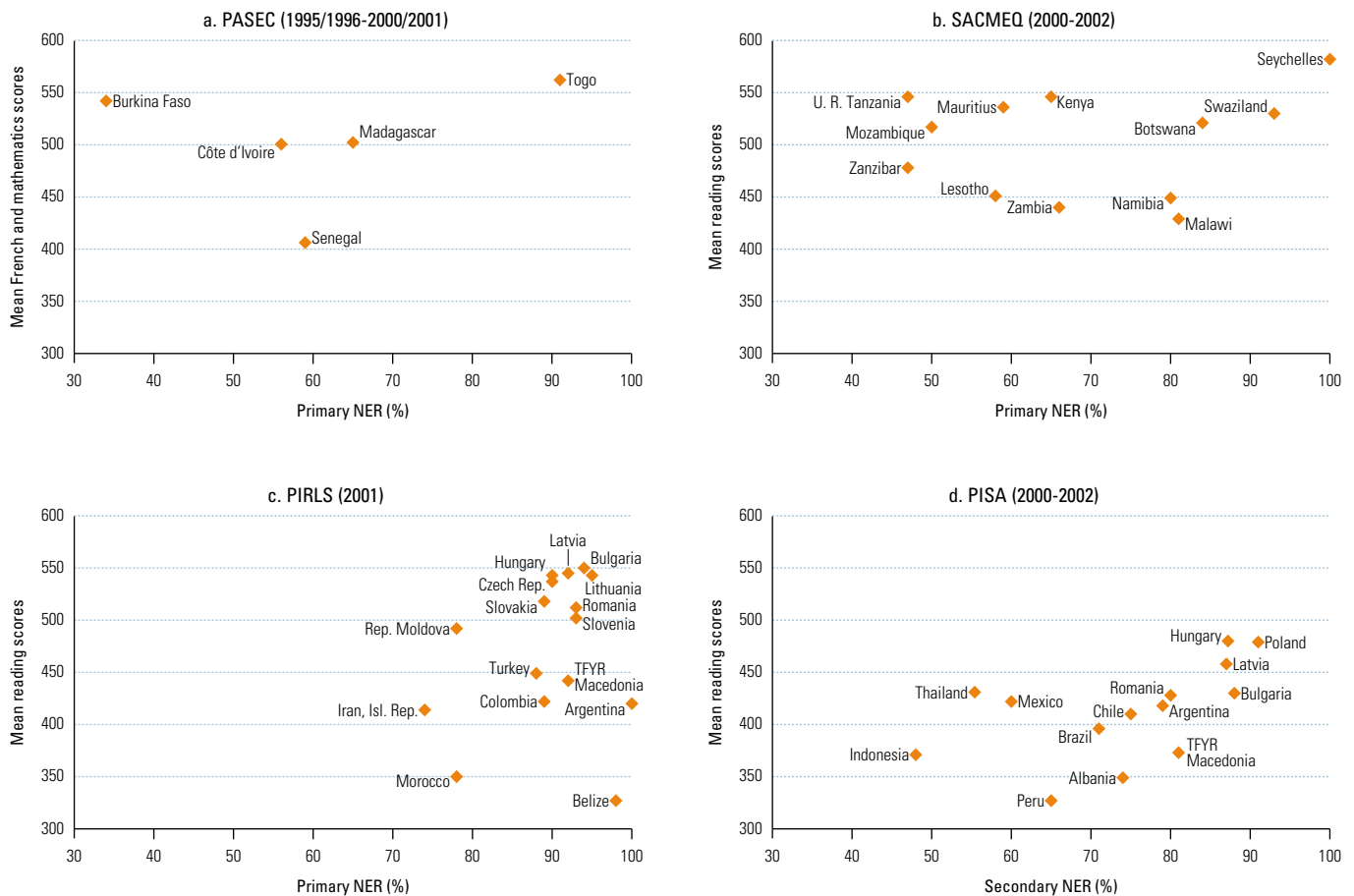
Sources: a. Willms and Somers (2001); b. OECD/UNESCO Institute for Statistics (2003).

and Caribbean countries that participated in a study conducted in 1997 by the *Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación* (LLECE), and for a group of middle-income countries that participated in PISA in 2000. The relationship is sometimes termed a ‘socio-economic gradient’ or ‘learning bar’ (Willms, 2003; OECD/UNESCO Institute for Statistics, 2003). In the graph illustrating the LLECE results, the learning bars show the relationship between reading achievement of third and fourth graders and the years of schooling completed by their parents. The PISA graph shows the relationship between reading performance and a statistical composite indicating socio-economic status (SES), made up

of the parents’ level of education and occupation and indices of the family’s material, educational and cultural possessions.

As noted above, socio-economic gradients vary considerably among countries. In the LLECE study, Cuba had the highest level of student achievement and the smallest variation in parents’ educational attainment. Detailed analyses of the LLECE data revealed several factors in Cuba’s success, including universal day care, more prevalence of home educational activities, smaller class sizes, higher levels of school and classroom material resources, better-trained teachers, greater parental involvement in school, a strong classroom disciplinary climate and relatively few multigrade

Figure 3.36: Which countries meet the goals of quantity and quality of education?



Notes: a. Primary NERs are for 1998/1999 except: Togo (2000/2001). b. Primary NERs are for 1999/2000 except: Malawi (2001/2002) and Seychelles (2000/2001). c. Primary NERs are for to 2000/2001 except: Turkey (2001/2002). d. Secondary NERs are for 2000/2001 except: Indonesia and TFYR Macedonia (1999/2000). Sources: NER data: UNESCO Institute for Statistics database; learning achievement data: a. Bernard (2003) and Michaelowa (2004); b. Dolata, Ikeda and Murimba (2004); c. Mullis et al. (2003); d. OECD/UNESCO Institute for Statistics (2003).

Quickly expanding a school system without reducing its quality may be difficult

or ability-grouped classes (Willms and Somers, 2001). Figure 3.35 shows that students in middle-income countries perform below the OECD average corresponding to their socio-economic status. In several large countries, such as Indonesia, on average, students from the most favourable backgrounds perform worse than OECD students from the least favourable backgrounds, clearly suggesting unsatisfactory performance of the school system itself.

Assuring quality while expanding access: a dual challenge

Achieving good-quality learning for all requires that all school-age children have access to learning opportunities and that all students receive good-quality schooling. In reality, countries achieve various mixes of attainment and achievement. Figure 3.36 presents proxies for these, with scatter diagrams of net enrolment ratios and mean test scores, again based on SACMEQ, PASEC, PIRLS and PISA data. Four scenarios may be distinguished: some school systems combine quantity and quality, others fail either on quantity or on quality and others combine low quantity with unsatisfactory quality. Policy priorities may vary accordingly, from mere adjustments to further improvement of already high-quality schooling to complete reshaping of the system. The standard notion of a quantity-quality trade-off is often thought of as implying that countries cannot combine high quantity and high quality, but the concept is probably more relevant in a short-term, dynamic perspective. Thus within a country, quickly expanding the school system without reducing its quality, or immediately achieving high quality in new schools, may be difficult.

Indeed, no trade-off appears on any of the panels. There is no clear pattern for SACMEQ and PASEC, and PIRLS countries achieve widely variable quality for comparably high enrolment ratios. There is more variation in the PISA sample, in which it appears clearly, once again, that countries with stronger school systems combine better quality and quantity than others. The key question for achieving EFA, then, is not whether existing school systems should be expanded, given that this may put quality at risk, but rather how countries that combine high quantity and quality have arrived at this satisfactory situation.

Conclusion

This section concludes the discussion of schooling that started with the sections on participation patterns and on teachers and other school resources. In summary, the various indicators that depict progress towards EFA, whether quantitative or qualitative, are positively correlated: regions where access to primary education is still restricted to a fraction of the population – in particular sub-Saharan Africa, South and West Asia and some of the Arab States – need holistic policies to rebuild their school systems, while other countries may focus on specific aspects of education policies, notably achievement or access for disadvantaged segments of the population. The next section shifts the emphasis away from formal education, discussing literacy programmes and skill development for youth and adults.

Literacy and skills development

The spread of basic cognitive skills such as literacy and numeracy is key to individual and societal development. Universalizing quality education implies that the children who benefit from it will become literate adults, though, of course, elementary education should include more than the mere mastery of basic cognitive skills. But much can also be done outside the formal school system to help youth and adults who have never been enrolled or have not completed enough schooling to become literate. Whether the immediate benefits of adult literacy programmes are of the same magnitude as the future benefits of formal schooling is a difficult question, but opportunities to reduce the proportion of the adult population that is illiterate should not be neglected, as this is an important complement to EFA in the child population. The spread of literacy is a major societal change, but its nature is bound to be country-specific, given the history of each written language and the individual and collective uses of literacy that will arise. Literacy thus depends not only on efforts by governments, international organizations and NGOs to provide primary schooling and literacy education, but also on individuals' family and socio-cultural context and their attitudes towards written matter. A related process is the teaching of life skills, which are meant to help individuals function effectively in society.

Defining and measuring literacy

Measuring EFA and other international goals concerning literacy requires agreement on operational definitions of the literacy status of an individual. As Box 3.8 explains, this is a difficult exercise and several indicators are in use. Data typically originate in censuses or, more rarely, household surveys. As a general principle, these indicators are predicated on the traditional UNESCO definition of literacy, i.e. 'the ability to read and write, with understanding, a short simple sentence about one's everyday life'. Other definitions are also used. (For details on UNESCO Institute for Statistics reporting of literacy data, see the Introduction to the Statistical annex).

A recent shift in the discourse of international organizations, from a dichotomous approach (literate and illiterate) to recognition of the existence of a continuum of literacy levels, is reflected in the notion of 'good-quality literacy', discussed in Box 3.9. This notion tries to take into account the range of functional skills applicable in a variety of situations (e.g. reading a legal contract or a newspaper or using a computer) and the fact that what ultimately matters is the ability to grasp the meaning(s) of a text and develop critical judgement.

Most discussions of literacy emphasize reading, but the ability to write correctly is as important,

and complementary numeracy skills should not be overlooked. The literacy data currently available are too narrowly focused to reflect a set of skills that includes much more than the ability to decipher a text.

One of the practical difficulties met with when assessing literacy is that different methods may yield different literacy rates. Sometimes a test is administered in which respondents have to read a sentence from a printed card and the interviewer judges whether they can read it aloud correctly. Most available data sets, however, rely on the respondent's answer to a question regarding his or her own literacy (sometimes quoting the UNESCO definition). Often the head of the household responds for all members of the household. Significant distortions may arise because, for instance, respondents consider themselves literate since they can write their name or are reluctant to admit they cannot read. In a study in rural Bangladesh, more than half of those who asserted that they could write were not recognized as being able to do so according to a minimum standard (Greaney, Khandker and Alam, 1999).

Many countries do not collect national literacy data, but use educational attainment levels as a proxy. For example, in some countries, all those who have completed a certain number of years of school or reached a particular grade are considered literate. Using attainment as a proxy

Most available data sets rely on the respondent's answer to a question regarding his or her own literacy

Box 3.8 International goals and indicators

The United Nations Literacy Decade was launched in 2003 to renew the commitment and efforts to improve literacy around the world. The Decade takes place in the context of the Education for All compact, which sets targets for literacy (EFA goal 4): 'achieving a 50% improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults'. In a country with an adult literacy rate of 40%, the goal for 2015 would be to achieve a rate of 60%. For countries with rates above 66%, the goal for 2015 is universal literacy.

Progress towards this goal is monitored through three indicators:

- youth literacy rate (ages 15 to 24);
- adult literacy rate (age 15 and over);
- ratio of female to male literacy rates.

Similarly, the Millennium Development Goals, which cover not just education but also health, economic well-being, gender equality and other basic human needs or rights, use two literacy indicators:

- youth literacy rate (same as for the EFA goal);
- ratio of literate females to males among 15- to 24-year-olds.

The usefulness of these indicators is limited because they suggest a dichotomy between literate and illiterate individuals when the reality is a continuum of proficiency or competence. They do not account for levels of literacy skills (e.g. reading speed) that are fundamental in everyday life, nor do they reflect the different types of literacy skills needed in various situations, e.g. at work or at home. Global literacy measures are in critical need of improvement.

Box 3.9 Measuring 'good-quality literacy' in developing countries

To quantify the idea of 'good-quality literacy', many countries turn to assessment surveys rather than traditional data collection methods. Through the Literacy Assessment Monitoring Programme (LAMP), the UNESCO Institute for Statistics aims to promote literacy assessment surveys that can yield comparable results even given differing socio-cultural and linguistic backgrounds, and that rely on a robust and technically sound methodology. LAMP builds upon the methods used in the International Adult Literacy Survey (IALS) - a literacy assessment conducted in developed countries.

LAMP has developed data collection instruments that are particularly sensitive to the lower end of the proficiency scale, partly in response to issues related to the broadness of the lowest proficiency level in IALS (about 40% of adults in Chile and Poland, for instance, read at that level). To compile

a meaningful picture of literacy in developing countries it is important to distinguish various levels or components of literacy skills at this end of the scale.

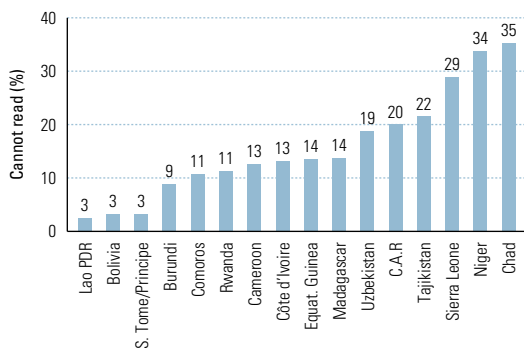
LAMP assesses functional skills. The assessment instruments are designed to present the respondent with real-life situations, as much as possible, within practical limits. Certain parts of the test measure speed, in order to gather data indicative of word recognition and fluency. LAMP also collects information on the languages the respondent speaks and writes, in order to document issues related to dominant and more local languages. While practical constraints prevent a full assessment of writing skills, the test does require some writing, in an attempt, however limited, to take writing skills into account in acknowledgment of their importance.

Source: UNESCO Institute for Statistics.

The measured increase in literacy over the 1990s is highly dependent on the method used

for literacy, however, can result in a sharp underestimation of illiteracy levels, since it is not uncommon for residents of countries with weak education systems to attend or even complete primary school without acquiring lasting literacy skills. For example, Figure 3.37 presents household survey data showing that more than one in three adults with a fifth-grade education in Chad and the Niger reported that they could not read.

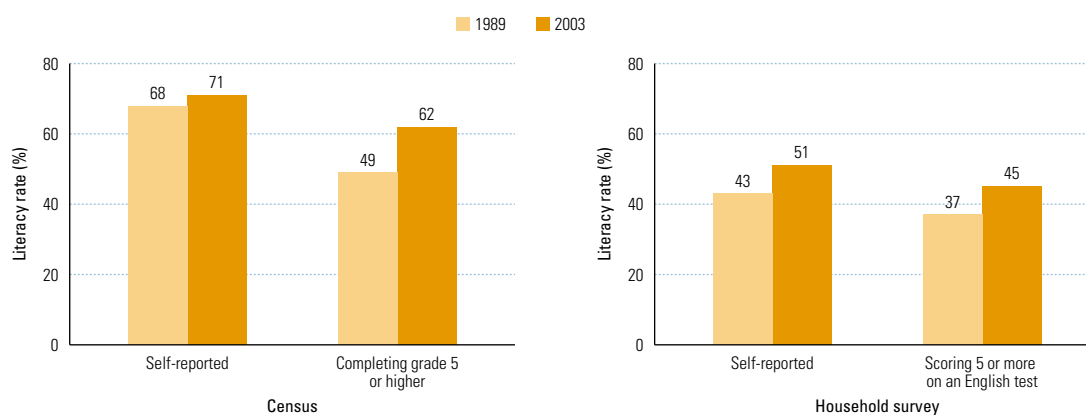
Figure 3.37: Adults with primary as their highest education level who report being unable to read, 2000



Source: Calculations based on UNICEF MICS database.

The case of Ghana, shown in Figure 3.38, illustrates the difficulty of reaching an unambiguous measure of literacy. Not only do census- and survey-based figures pertaining to the early 1990s and 2000s differ from each other, but self-reported literacy also differs from grade 5 completion and a language test. Both sources suggest that self-reported literacy is higher than the actual figure, and the language test, which may be considered the most accurate of the three measures, yields the lowest literacy levels. The measured increase in literacy over the 1990s is also highly dependent on the method used; by self-reporting on the census the increase is 3 percentage points, compared with 8 percentage points according to a language test in the household survey.

The above examples illustrate the diversity of current definitions and measurements, which contributes to the difficulties in making comparisons and drawing conclusions about the global state of literacy. These caveats should be kept in mind when examining available literacy figures, as in the following subsection.

Figure 3.38: Measures of literacy in Ghana among people aged 15 and over, 1989 and 2003

Notes: Census data are from January 1990 and February 2000. Survey data were calculated from Ghana Living Standards Survey 2 and Ghana Statistical Service/OED survey. In comparing census and survey results, it is important to note that the questions used to collect data, along with coverage and the target group, may differ.

Source: White (2004)

Table 3.7: Adult literacy (age 15 and over) by gender and region, 2000-2004¹

	Adult literacy rates				Adult illiterates	
	Total	Male	Female	GPI (F/M)	Total (thousands)	% female
World	82	87	77	0.88	799 147	64
Developing countries	76	83	69	0.83	788 999	64
Developed countries	99	99	99	1.00	9 151	62
Countries in transition	100	100	99	1.00	998	70
Sub-Saharan Africa	62	70	54	0.77	137 000	61
Arab States	62	73	51	0.69	69 298	64
Central Asia	99	100	99	1.00	333	70
East Asia and the Pacific	91	95	88	0.92	134 978	71
South and West Asia	58	71	45	0.63	402 744	64
Latin America and the Caribbean	89	90	88	0.98	39 383	55
North America and Western Europe	99	99	99	1.00	6 946	61
Central and Eastern Europe	97	99	96	0.97	8 464	77

Note: Figures may not add to totals because of rounding.

1. 2000-2004 data are derived from the March 2004 literacy assessment by the UNESCO Institute for Statistics, which uses directly reported national figures together with UIS estimates. For countries that did not report literacy data for the 2000-2004 reference period, UIS estimates for 2002 were used. See introduction to the Statistical annex for further details on the estimation of literacy data.

Source: Statistical annex, Table 2.

Global estimates of adult and youth literacy

Patterns of adult literacy

Table 3.7 displays the latest available estimates (based on data from the early 2000s) of literacy rates and numbers of adult illiterates by gender, for the world and the EFA regions, with adult defined as age 15 and above and literacy defined as the ability to read and write, with understanding, a simple statement about one's everyday life.

According to these estimates, there are nearly 800 million adult illiterates in the world, representing 18% of the adult population.¹¹ Two facts stand out. First, 64% of adult illiterates are women. The proportion varies widely by region, from 55% in Latin America and the Caribbean to 77% in Central and Eastern Europe and close to the world average in sub-Saharan Africa, the Arab States and South and West Asia. Absolute numbers may be influenced by demographic characteristics, however; the ratio of the literacy rate for females to that for males (i.e. the gender

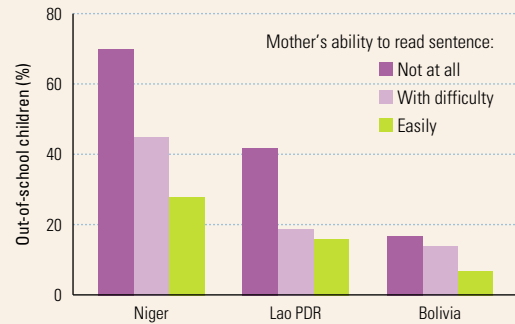
11. The number of illiterates has been re-estimated by UIS in 2004 based on the latest data revisions. The present estimate of nearly 800 million adult illiterates in the reference period 2000-2004 is considerably lower than the estimate of 862 million for 2000 given by the *EFA Global Monitoring Report 2003/4*. (UNESCO 2003a: 86). This is a consequence of several factors notably the release of recent literacy data from the latest census and survey in a number of countries. For instance, the China 2000 census results in a decrease in the number of adult illiterates of over 50 million compared to the previous UIS estimate for that country.

Box 3.10 Links between mothers' literacy skills and child schooling status

Adult literacy skills are linked to progress towards UPE. The education level or literacy skills of a mother or caregiver can increase the probability of a child participating in or completing primary education. Among the factors probably involved are those of increased income levels (which lower opportunity costs or enable payment of school fees), greater appreciation of the value of education, and ability to help children learn. Household surveys provide evidence that mothers' literacy skills are often associated with their school-age children's participation in education.

Figure 3.39 shows, for the Niger, the Lao People's Democratic Republic and Bolivia, the relationship between the mother's (or caregiver's) self-reported literacy status and the risk of the children not attending school. In each case, the risk is highest among mothers with low literacy skills. In the Niger, 70% of the primary school-age children of illiterate mothers are not in school, compared to 30% among those whose mothers are able to read easily.

Figure 3.39: Mothers' literacy and schooling status in the Niger, the Lao PDR and Bolivia, 2000



Source: Calculations based on the UNICEF MICS database.

About a quarter of the adult population of the developing world is illiterate

parity index) is a better measure of gender disparities. It ranges from 0.63 to 0.77 in South and West Asia, the Arab States and sub-Saharan Africa, and is above 0.90 in the rest of the world. Indeed, the GPI is lowest where average literacy is also lowest, e.g. 0.53 in Pakistan and below 0.50 in countries such as Benin, Burkina Faso, Mali, Nepal, the Niger and Yemen, where total adult literacy is below 50% (see Table 2 of the Statistical annex). Given the impact of literacy on female well-being, autonomy and empowerment, actions aimed at achieving gender parity are urgently needed. They would yield comprehensive benefits in the long run as well, given the relationship between women's education, their fertility and the development of their children (see Box 3.10).

The second striking fact that emerges from Table 3.7 is that adult illiteracy is very unevenly distributed geographically, though it is almost exclusively a developing-country phenomenon: developed countries and countries in transition have literacy rates close to 99%, and together account for just 1.3% of the world's illiterates. About a quarter of the adult population of the developing world is illiterate. Latin America and the Caribbean and East Asia and the Pacific both have literacy rates in the neighbourhood of 90% but, as relatively populous regions, they account

for 22% of the world's illiterates. Truly severe illiteracy is concentrated in the three regions whose school systems have been shown in previous sections to be the weakest: sub-Saharan Africa, the Arab States and South and West Asia, which have literacy rates of around 60%. These regions account for three-quarters of the world's illiterates. South and West Asia alone, with its very large population, accounts for more than half. Literacy rates below 60% are found in 22 of the 119 countries for which data are available. With the exception of Haiti, all are located in those three regions. The lowest rates are found in Burkina Faso (13%), the Niger (17%) and Mali (19%), in sub-Saharan Africa. Note that some sub-national entities in South and West Asia have populations and literacy rates comparable to those of these entire countries.

Of the world's adult illiterates, over 70%, or 562 million persons, live in only nine countries, as Figure 3.40 shows, with some 34% in India alone. The other countries are either countries of sub-Saharan Africa, the Arab States or South and West Asia with low literacy rates (below 70%) and sizeable populations (Bangladesh, Egypt, Pakistan, Nigeria, Ethiopia), or populous countries of Latin America and the Caribbean and East Asia and the Pacific with high literacy rates but large absolute numbers of illiterates

(mostly China, with a literacy rate of 91%, but also Indonesia and Brazil, both with a literacy rate of 88%).

There has been significant progress in levels of literacy over the 1990s, as exemplified by census results available for five countries that account for 46% of the world's population and 56% of the world's adult illiterates (Table 3.8). China has dramatically reduced female illiteracy through early and sustained efforts promoting school for girls and women, and the gender gap has shrunk from 18.9 to 8.6 percentage points. It has started narrowing in India, where male and female literacy rates increased quickly between the last two censuses.¹² Yet a striking contrast remains between, on the one hand, Pakistan (where literacy essentially stagnated, especially among men) and, on the other, Brazil, China and Indonesia, with literacy now above 80% for both sexes.

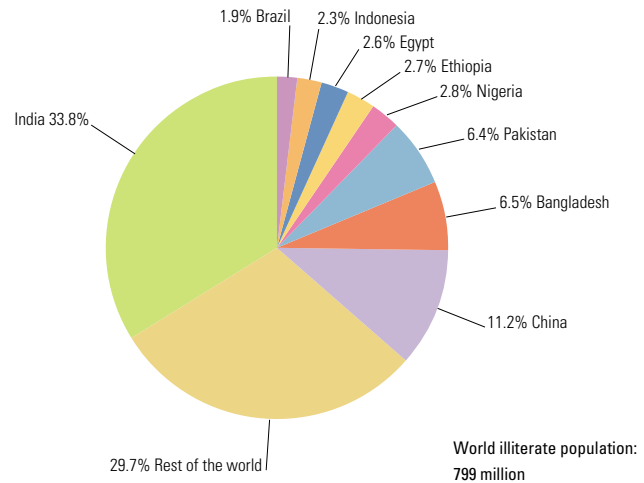
Youth literacy

The literacy rate among the population aged 15 to 24 is another indicator of progress towards Education for All and the Millennium Development Goals. Youth literacy reflects the education system's ability to deliver basic literacy skills, as well as the extent of literacy-related activities and other forms of support that children and youth receive at home (see Box 3.11).

In general, literacy rates tend to be higher among youth than adults, because of recent expansion of access to basic education. The latest available estimates indicate that there are nearly 137 million illiterate youths in the world (17% of all adult illiterates), 85 million of them (63%) female. As Table 3.9 shows, youth literacy rates are above 70% in all regions, though individual countries fall below the average. In developing regions, youth illiteracy rates range from 2% in East Asia and the Pacific to 28% in South and West Asia. Gender disparities are generally less pronounced in youth literacy than in adult literacy, but regional variations follow the same line as for adults, with gaps between men and women still notable among youth in South and West Asia, the Arab States and sub-Saharan Africa.

While national literacy rates vary widely by region and country, even greater variation exists in their distribution within countries. Figure 3.41 looks at

Figure 3.40: World adult illiterate population, percentage by country, 2000-2004¹



1. See Note 1 in Table 3.7.

Source: Statistical annex, Table 2.

Table 3.8: Adult literacy rates in five high-population countries by gender, 1990-1994 and 2000-2004¹

	Men			Women		
	Literacy rates (%)		Change (percentage points)	Literacy rates (%)		Change (percentage points)
	1990-1994	2000-2004		1990-1994	2000-2004	
Brazil	80.1	88.0	7.9	79.7	88.3	8.6
China	87.0	95.1	8.1	68.1	86.5	18.4
India	61.6	33.7
Indonesia	88.0	92.5	4.5	75.3	83.4	8.1
Pakistan	52.8	53.4	0.6	23.8	28.5	4.7

1. See Note 1 in Table 3.7.

Sources: 2000-2004: Statistical annex, Table 2; 1990-1994: national estimates provided to the UNESCO Institute for Statistics.

differences in self-reported literacy of young women and men in urban and rural areas of twelve sub-Saharan African countries. In small island states such as Sao Tome and Principe and Comoros, there are very minor differences in the literacy status of young women and men, particularly in urban areas. In larger, more heterogeneous countries, the gaps between women and men and between rural and urban are considerable.

In the six countries with relatively high primary enrolment ratios (Cameroon, Comoros, Equatorial Guinea, Madagascar, Rwanda,

12. Literacy rates among the population aged 7 and above increased by 11.2 percentage points for men/boys and 14.4 points for women/girls between the 1991 and 2001 censuses.

Box 3.11 Literacy-related activities in the home: cross-national evidence from PIRLS

The Progress in International Reading Literacy Study (a cross-national assessment of reading literacy among fourth-grade students in thirty-five countries) also sought to measure literacy-related activities in the home by devising an index based on parents' reporting of how often they took part in the following activities with their pre-school child: reading books, telling stories, singing songs, playing with alphabet toys, playing word games and reading aloud signs and labels. The highest levels were reported in England and Scotland, where more than 80% of students were in the high early activity category. Among the countries where parents reported lower levels of engagement were Turkey, the Islamic Republic of Iran and Hong Kong (China), with parents of 30% or more of students in the low category, meaning they reported that they never or almost never engaged in these activities before children began school.

Countries with the highest average reading scores (Sweden and the Netherlands) were not necessarily those with the highest percentages of students in the high early activity category. Nevertheless, there was a positive relationship between engaging in early literacy activities and reading performance in every country. On average, internationally, students in the high index category enjoyed a twenty-point advantage in reading performance over those in the medium category, who in turn scored about twenty points above students in the low category. Countries where students in the high category had the greatest advantage over those in the medium category (thirty points or more) included England, New Zealand, Belize, Singapore and the Islamic Republic of Iran.

Source: Mullis et al. (2003)

Table 3.9: Youth literacy (15-24) by gender and region, 2000-2004¹

	Youth literacy rates				Youth illiterates	
	Total	Male	Female	GPI (F/M)	Total (thousands)	% female
World	88	91	84	0.92	136 710	63
Developing countries	85	89	81	0.91	136 052	63
Developed countries	100	100	100	1.00	354	49
Countries in transition	99	99	99	1.00	304	50
Sub-Saharan Africa	77	81	72	0.89	31 135	59
Arab states	78	84	72	0.85	12 946	64
Central Asia	98	98	98	1.00	257	50
East Asia and the Pacific	98	98	97	0.99	7 446	58
South and West Asia	72	82	63	0.77	79 344	65
Latin America and the Caribbean	96	95	96	1.01	4 589	46
North America and Western Europe	100	100	100	1.00	203	49
Central and Eastern Europe	99	99	98	0.99	790	69

Note: Figures may not add to totals, because of rounding.

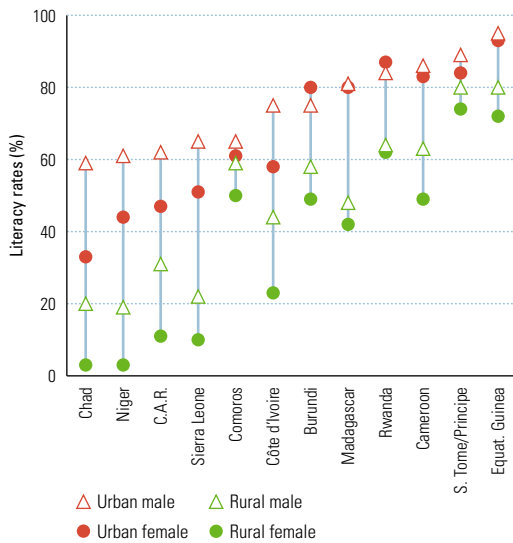
1. See Note 1 in Table 3.7.

Source: Statistical annex, Table 2.

Sao Tome and Principe, with GER close to, or above, 90%), the differences in literacy rates by gender are relatively minor. Nevertheless, there are enormous rural-urban differences, e.g. in Madagascar, Cameroon and Rwanda. In the remaining six countries, overall youth literacy rates are lower and the rates by gender and rural residence are startlingly different, except in Burundi. There are more likely to be differences

between urban youth by gender. For instance: literacy rates are 10 to 20 percentage points less for urban girls than for urban boys. In the Central African Republic, Sierra Leone, Chad and the Niger, fewer than one in four rural youths are literate, compared to one in ten young women, or fewer. These data reflect narrow, stratified access to learning opportunities and underline the importance of going beyond national

Figure 3.41: Literacy rates for ages 15 to 24 by gender and rural or urban residence in sub-Saharan Africa, 2000



Source: Calculations based on UNICEF MICS database.

averages to identify populations that are marginalized by low literacy skills.

Skills development in four countries

Goal 3 of the Dakar Framework for Action addresses the learning needs of all young people and adults, especially those who missed out on a good basic education. It concerns various sorts of skills: the generic skills, more context-specific skills (including livelihood skills) and vocational skills, which are usually acquired in more formal settings.¹³ Efforts to systematically enhance these skills are increasingly referred to collectively as skills development.¹⁴ Literacy is not always seen as part of skills development, though as Chapter 2 shows there are important links between the two.¹⁵

Four countries recently reviewed their skills development activities. Assisted by UNESCO and its International Institute for Educational Planning (IIEP), the Lao People's Democratic Republic, Mali, Nepal and Senegal have developed a common framework to assess youth and adult learning needs and the provision of relevant learning opportunities. The aim is to identify gaps between the two and, after consultative meetings, prepare an Education for

All Skills Development Plan.¹⁶ This approach is intended to be applied in the near future in other countries, in the first instance the Pacific subregion, so that a more or less standardized instrument emerges for the monitoring of goal 3.¹⁷

In all four countries, national review teams found that governments tend to give little attention to disadvantaged and vulnerable young people who are not in school. Their needs are commonly left to NGOs. Many initiatives exist to reach and empower the marginalized through non-formal vocational skills training, but they are often locally based, may be short-lived and are not part of a comprehensive national strategy. Government-sponsored skills training is often scattered in nature and not well coordinated, involving not only the ministry dealing with education but also those handling other sectors and issues (e.g. labour, agriculture, women, youth).

Young people who drop out of primary school or never attended one are a major target group for skills development

Defining skills development programmes

The four countries looked at the following issues:

- Who are the target groups?
- What skills are relevant in specific contexts?
- What programmes are being provided in formal and non-formal settings, public and private?
- Which training methods work best in centre-based programmes, which in community-based programmes and which in distance education?
- What are the roles of government and NGOs?
- Who are the trainers? How can they be better recruited, trained and supported?
- What languages should be used?
- What are the financing sources and mechanisms for skills development?
- How can skills development strategies and programmes best be monitored and evaluated?

The rest of this section summarizes some of the findings.

Young people who drop out of primary school or never attended one are a major target group for skills development (although in countries or regions where most children complete primary school, secondary-school dropouts can have a relative disadvantage). Irrespective of educational

13. Generic skills include problem-solving, working in teams, networking, communicating, negotiating, etc. For a more extensive discussion of all these skills, often referred to as 'life skills', see UNESCO (2003a): 84–86.

14. See, for instance, Working Group for International Cooperation in Skills Development (2002).

15. See the section titled 'The quality of ECCE and literacy programmes' in Chapter 2.

16. UNESCO/IIEP (2004) describes the project briefly. The information in this section is largely derived from Atchoarena and Nozawa (2004) – a commissioned paper based on the four country reports.

17. Other countries may issue reports with a view to making skills development more transparent, even if they do not follow the UNESCO/IIEP format.

In Nepal, some 80% of adolescents are neither in school nor in a training institution

background, certain groups have been identified as vulnerable. These mainly include those living in a difficult environment (Lao People’s Democratic Republic); sensitive occupational groups, e.g. apprentices in the informal sector (Mali and Senegal); marginalized minority groups (low-caste persons in Nepal); various ethnic minorities (Lao People’s Democratic Republic and Nepal); street children (Mali and Senegal) and disabled youth (all four countries).

Only scattered indications of the size of these out-of-school groups are available, as reliable data are scarce. In Nepal, some 80% of adolescents are neither in school nor in a training institution. In the Lao People’s Democratic Republic, about 53% of 15-year-olds, 67% of 16-year-olds and 75% of 17-year-olds are out of school (Figure 3.42).

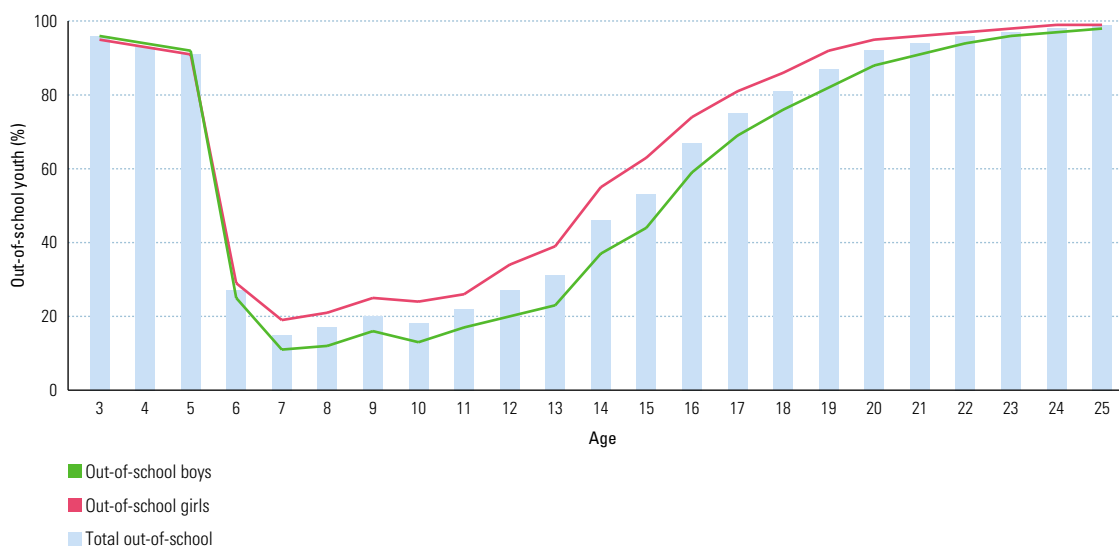
In each country, the review teams identified a set of skills important for social inclusion and poverty reduction in the local context. Agricultural and artisan skills were particularly emphasized. In many cases, especially in poor rural areas, wage employment is rare so skills development must focus on livelihoods – the activities and means by which individuals make a living independently. Household and community needs have to be taken into account. In an effort

to improve the impact of skills development programmes, countries (e.g. the Lao People’s Democratic Republic) sometimes include post-training microcredit initiatives, which pose additional challenges for programme management and the development of monitoring and evaluation tools.

Countries can begin to design national skills development strategies only if there is adequate information on programme providers, course content and duration, enrolment, costs and fees. Among the many ministries that may be involved, those in charge of education tend to have the best data on skills development. As regards NGO participation, some programmes are supported by large international organizations and others by local, community-based groups. In all four countries, the latter type makes up the larger part of the NGO sector, but data are usually scarce. The former type, while smaller, is generally more transparent.

In Mali and Senegal, contracting to NGOs is an important means of implementing skills development programmes, particularly those aimed at reaching apprentices in the informal sector. Nepal is considering this approach, possibly via a skills development fund. The involvement of subcontractors increases the

Figure 3.42: Lao PDR. Out-of-school youth by age and gender, 2001



Source: Lao PDR Ministry of Education, 2001 school census.

need for tight monitoring. The allocation of public resources to private providers normally necessitates the establishment of mechanisms to assure quality, efficiency and transparency. Such control is easier when some support functions are publicly provided, such as funding or training of trainers.

Locating the most vulnerable groups is another challenge, especially in large and culturally diverse countries with strong disparities between richer and poorer areas. The Lao People's Democratic Republic is using a geographical information system to chart the areas where poverty, school dropout rates and gender disparities need most urgently to be addressed and where there is a risk of learning opportunities being insufficient.

Assessing skills development programmes

As with other educational programmes, efficiency of skills development programmes can be measured by dropout and completion rates, while effectiveness should be measured through direct assessment of the skills and knowledge acquired. However, as with literacy programmes, such data are seldom available. Short skills programmes are rarely followed by an exam, and where they are, the results are not often recorded.

Nevertheless, in Mali and Nepal there is increasing interest in awarding certificates for successful completion of longer programmes, and the Lao People's Democratic Republic is also interested in defining the equivalence of such certificates to formal qualifications. Equivalence policies should allow learners to build their own pathways, for instance by first attending non-formal learning and then making a transition (back) to school (an option that is mainly realistic for younger members of target groups). Discussions in the Lao People's Democratic Republic and Nepal on establishing a national qualification framework suggest that eventually more systematic data collection on achievement will be possible.

Non-formal skills development programmes tend to cost less than formal vocational education, though precise information about costs is difficult to obtain, because such programmes are often subsidized by external donors and not covered by national statistics.

Furthermore, the diversity of programmes offered by a given provider (long-term/short-term, centre-based/community-based, agricultural skills/industrial skills) often makes it difficult to assess unit cost. The government of Nepal estimates that 47,000 students are enrolled in training programmes offered by ministries other than the Ministry of Education. Although cost data are available, they are not related to course length and thus are difficult to compare with costs in formal education.

The Lao Ministry of Education has estimated the unit costs of non-formal basic vocational skills programmes, vocational programmes delivered by community learning centres and outreach programmes conducted by technical and vocational schools. These estimates are being used in an EFA simulation model that allows various policy options' cost implications and likely results to be assessed.

Skills development represents a marginal share of national education budgets in the four countries. In Mali and Nepal, non-formal education accounts for less than 1% of public current expenditure on education. Technical and vocational education constitutes 2.6% of the education budget in the Lao People's Democratic Republic and 1.4% in Nepal. As in most countries, this segment of educational provision continues to be very much a junior partner of the formal system.

Decentralization is under way in the four countries, and the provincial and district levels enjoy increasing responsibilities. Given the contextual nature of many learning needs, there is every reason to differentiate skills development programmes at local level. Information systems at the grass roots, however, do not easily provide the summary information that national policy-makers need for effective monitoring, evaluation and policy development. Locally relevant data need to be aggregated to be of use in analytical and diagnostic tools at the national level. The Lao People's Democratic Republic and Senegal are working on this step.

Locating the most vulnerable groups is a challenge, especially in large and culturally diverse countries with strong disparities between richer and poorer areas

The Education for All Development Index

At the Dakar Forum in 2000, participating countries and agencies committed themselves to achieving the six EFA goals by 2015. While all these goals are important individually, it is useful to have a summary means of indicating progress towards EFA as a whole. The EFA Development Index (EDI), a composite of relevant indicators, provides one way of doing this.

There are well-known problems associated with the construction and interpretation of indices. These relate to which elements and indicators to select, how they should be aggregated and weighted across different fields and how the results should be used. For example, the constituents of a human development index can be debated in terms of the meaning of the concept, what should constitute its most important elements, the possible proxies for these elements and, more fundamentally, whether there are more important objectives of development policy that vitiate the need for such an index. In the case of EFA, some of these problems are less pressing. The international community has defined EFA in terms of a set of six time-bound goals. At least some of these goals can be quantified and a set of indicators has been agreed as regards what variables best proxy their attainment. Thus, in the case of the EFA development index, some of the problems of indicator selection, weighting and interpretation are less difficult to resolve.

The constituents of the EDI should ideally reflect all six Dakar goals, but this is difficult in practice. Goal 3 on learning and life-skills programmes is not easy to quantify, while goal 1 on ECCE cannot be incorporated yet because national enrolment data are available for only a few countries and are insufficiently standardized. Thus the EDI currently incorporates indicators for UPE, adult literacy, gender parity and education quality.

All the EFA goals are considered equally important, so, in order to give the same weight to each of the four EDI components, each is represented by one proxy indicator. The EDI value for a particular country is the arithmetical mean of the observed values for each of these

indicators. The EDI's value falls between 0 and 1. The closer it is to the latter, the higher the country's EFA achievement.

The EDI constituents and related indicators¹⁸ are:

- universal primary education: net enrolment ratio;
- adult literacy: literacy rate of the group aged 15 and over;
- gender: gender-specific EFA index (GEI, the arithmetical mean of the GPIs for the primary and secondary gross enrolment ratios and the adult literacy rate);
- education quality: survival rate to grade 5.

The data used are for 1998 and 2001 (or 2000 where more recent data are not available). Only those countries with a complete set of the indicators required to calculate the EDI are included in this analysis. Although the number of such countries rose from 94 to 127 between 2000 and 2001, coverage is still incomplete, so no comprehensive global overview of progress towards the goals can be given as yet.

How close are we to EFA?

The EDI can be calculated for 2001 for 127 countries, i.e. nearly two-thirds of the world's countries. Table 1 of the Appendix presents the index values for these countries. Table 3.10 summarizes the values for the EFA regions. Estimates are available for one-half to four-fifths of the countries in all eight regions. A special effort was made to include more OECD countries and more Central and Eastern Europe countries by filling the gaps in their data for adult literacy and survival to grade 5. The Appendix discusses the methodology further.

Forty-one countries, or one-third of those with data, have either achieved the four most quantifiable EFA goals or are close to doing so. Not surprisingly, most of these countries are in North America and Western Europe and Central and Eastern Europe – regions where compulsory education has been in force for more than a century in some cases. No country from the Arab States is close to achieving the goals. Countries that have achieved the goals or are close to doing so include several in Latin America and the Caribbean and in Central Asia that have a long-established tradition of emphasizing widespread

The EDI can be calculated for 2001 for 127 countries, i.e. nearly two-thirds of the world's countries

18. The Appendix explains why these particular indicators were chosen.

Table 3.10: Distribution of countries by their mean distance from the EFA goals in 2001

	Achieved EDI: 0.98-1.00	Close to the goals EDI: 0.95-0.97	Intermediate position EDI: 0.80-0.94	Far from the goals EDI: less than 0.80	Subtotal sample	Total number of countries
Arab States			12	4	16	20
Central and Eastern Europe	3	8	3		14	20
Central Asia		3	4		7	9
East Asia and the Pacific	1	1	9	3	14	33
Latin America and the Caribbean	1	4	15	2	22	41
North America and Western Europe	11	7			18	26
South and West Asia		1	1	4	6	9
Sub-Saharan Africa		1	7	22	30	45
Total	16	25	51	35	127	203

Source: Appendix, Table 1.

participation in basic education. They also include Fiji in East Asia and the Pacific, Maldives in South and West Asia and Seychelles in sub-Saharan Africa.

Fifty-one countries have intermediate EDI values (0.80–0.94). They are found in all regions except North America and Western Europe. Clearly several of them do not perform equally in all the EFA goals represented in the EDI. Often the expansion of education does not balance the attention being given to its quality: in almost half the countries with EDIs at intermediate level (mostly in Latin America), education quality as measured by survival rate to grade 5 lags behind. In these cases, many children who have access to school leave prematurely, partly because of poor education quality.

Thirty-five countries, or more than 25% of those with EDI data, are very far from achieving the EFA goals, with EDI values lower than 0.80. As many as twenty-two of these low-EDI countries (more than 60% of the category) are in sub-Saharan Africa. The category also includes three participants in UNESCO's E-9 initiative of high-population countries: Bangladesh, India and Pakistan. Table 1 of the Appendix reveals that most of these thirty-five countries are characterized by low achievement on each of the four EFA goals. Primary-school enrolments are low, gender ratios are highly unequal, illiteracy is widespread and education quality is poor, leading to high dropout rates, which means many pupils never reach grade 5. Countries in the low-EDI group face multiple challenges that must be tackled simultaneously if EFA is to be reached (Box 3.12).

Progress towards EFA from 1998 to 2001

The EDI's value depends on the levels of its constituents, and changes in it can be explained by countries' progress, or lack of progress, towards the four goals. How are countries moving towards EFA since Dakar? Are they paying equal attention to all the EFA goals, as the Dakar Framework for Action recommends?

A trend analysis of the EFA Development Index is possible only for the seventy-four countries having data on all four constituents for both 1998 and 2001. Table 3.11 demonstrates that there is a clear general movement towards achievement of EFA. For fifty-four of these countries, or nearly three-quarters of those in the sample, the EDI has risen. Progress has been relatively important, in particular for countries with low EDI or those that are far from EFA, such as the Comoros, Liberia, Mozambique, Togo and Yemen,

Thirty-five countries, or more than 25% of those with EDI data, are very far from achieving the EFA goals

Table 3.11: Distribution of countries by change in their mean distance vis-à-vis the EFA goals from 1998 to 2001

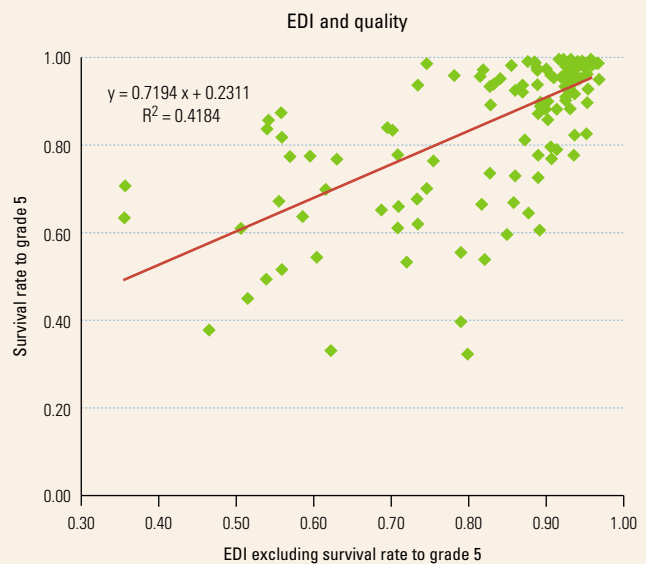
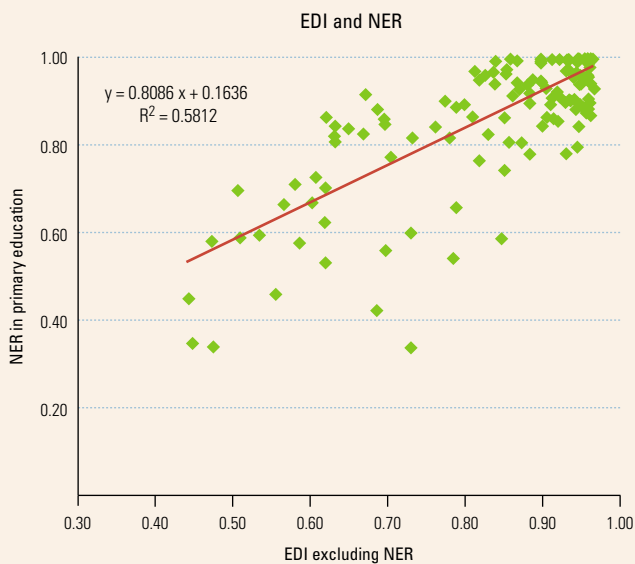
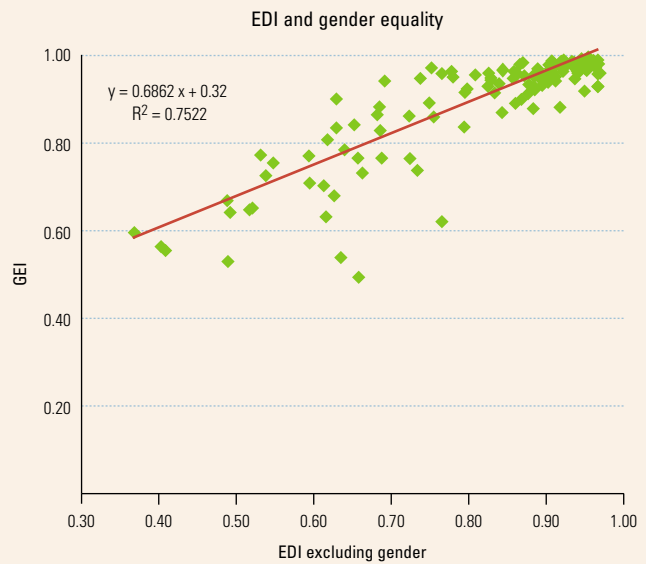
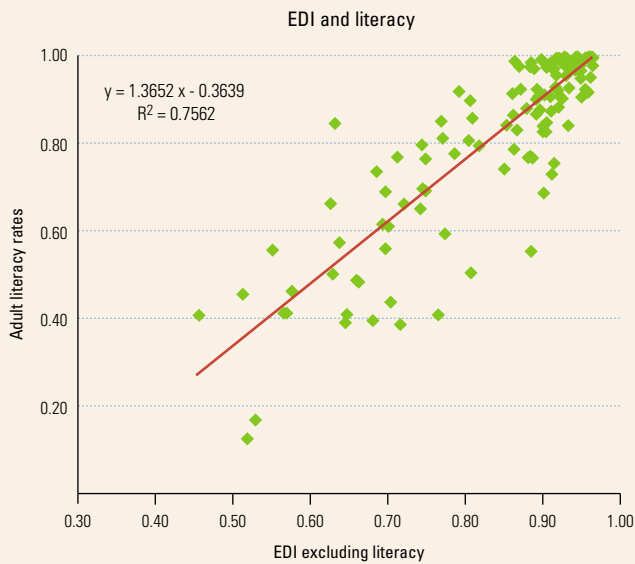
	Towards the EFA goals EDI has increased	Away from the EFA goals EDI has declined	Total
Achieved [EDI: 0.98-1.00]	1	1	2
Close to the goals [EDI: 0.95-0.97]	6	5	11
Intermediate position [EDI: 0.80-0.94]	26	8	34
Far from the goals [EDI: less than 0.80]	21	6	27
Total	54	20	74

Source: Appendix, Table 3.

Box 3.12 Reducing illiteracy and improving gender parity are the best predictors of progress towards EFA

The extent to which achieving any one EFA goal is intertwined with achieving the rest can easily be demonstrated. The graphs below show how variation in each EDI constituent is associated with variation in the other three. In general, countries doing well on one EFA goal also tend to do well on the others. This also implies, however, that countries at low levels of EFA achievement face multiple aspects of educational deprivation, severely complicating the tasks they must carry out to meet time-bound goals.

The results also show that the indicators that have the strongest associations with other EDI constituents are the GEI and adult literacy.* Each of these variables explains more than 75% of the variance of the combined mean scores of the others. NER and survival rate to grade 5 are somewhat less strongly associated with the other elements, explaining 58% and 42% of their respective variance.



* The higher correlation between literacy and the three other EDI components compared with that presented in the *EFA Global Monitoring Report 2003/4* is mainly due to changes in adult literacy rate values for a number of countries and to improved literacy data coverage, in particular for OECD countries.

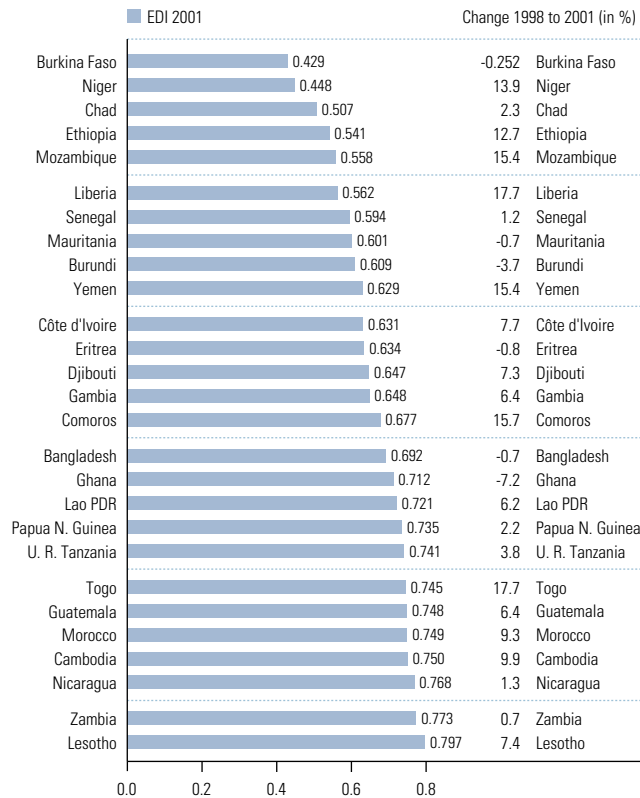
each of which saw an increase of 15% or more between 1998 and 2001 (Figure 3.43).

In the remaining twenty countries, however, the EDI declined over the period. The change was small in most cases, but in South Africa, Ghana and Burundi the value of the index fell by between 3% and 7%, with the rate of survival to grade 5 being a particularly weak point.¹⁹

Countries' overall EDI ranking did not change markedly and most of those in the high, medium and low EDI categories stayed in those groupings. Venezuela, Namibia and Togo improved their rankings by more than five places, showing that even poor countries that are far from achieving the goals can make rapid progress towards EFA. Only Ghana, South Africa, Mongolia, Azerbaijan and Georgia fell in rank by more than five places. In general, the extent of movement in the EDI over the period was relatively small: the (unweighted) index as a whole rose by 2.2% and the mean individual change per country (positive or negative) was 2.8%. In some cases, countries making rapid progress on some indicators did so at the expense of other indicators. As Table 3 in the Appendix shows, in almost two-thirds of the countries (forty-eight out of seventy-four), at least one indicator moved in the opposite direction to the others.

This implies that, when monitoring overall progress towards EFA, one needs to return to the individual EDI constituents to understand how progress is being made. Most countries where EFA has been achieved pay equal attention to questions of access and participation in education, to the gender parity issue, to literacy and to retention of children in school.²⁰ The right to education in these countries goes beyond rhetoric; compulsory education is a long-established and rigorously enforced institution and schooling is free. In many countries that are still far from the goal, both the EDI and trends in the EDI mask significant variations between its constituents that result partly from a lack of balance in education policies. Where education is expanded without due attention to quality or to enrolling the poorest, it is harder to achieve and maintain EFA. It is possible, however, to avoid such a lack of balance. Yemen, for instance, was able to increase the value of its EDI by more than 15%, from 0.546 in 1998 to 0.629 in 2001, by

Figure 3.43: EFA Development Index in 2001 and change since 1998 (countries with EDI less than 0.80 in 2001)



Source: Appendix, Table 3.

improving all four EDI components, achieving strong increases in its primary-level NER, adult literacy rate, GPI and survival rate to grade 5 over the three years. This and other examples show that attention to all goals is not incompatible with achieving and sustaining sharp gains in EDI. ■

19. For an explanation of the change in survival rate in Ghana, see footnote 9, p. 99.

20. The main exception in the industrialized countries concerns gender. In several countries, girls have consistently been outperforming boys in the upper levels of schooling, so these countries remain some distance from achieving gender parity. For further discussion of this issue, see UNESCO (2003a).