ACHIEVING SCHOOLING FOR ALL:

BUDGETARY EXPENDITURES ON EDUCATION IN

SUB-SAHARAN AFRICA AND SOUTH ASIA [*]

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SUMMARY

This paper analyses public spending on education in Sub-Saharan Africa and South Asia over recent years, with a particular focus upon primary schooling. It identifies regional expenditure trends since 1980, and provides more detailed comparative data for selected countries over the 1990-95 period. It shows that the achievement of high enrolment ratios has been associated not only with high priority being assigned to public expenditures on primary schooling, but also with the presence of modest unit costs of schooling. Both supply-side and demand-side constraints are important. The paper argues that schooling for all is achievable, even in countries which are amongst the poorest, and where school enrolments are presently very low, provided governments are willing to reform both the private and public costs and efficiency of school systems, and to give expenditures on primary schooling their proper priority.

INTRODUCTION

This paper analyses public spending on education in Sub-Saharan Africa and South Asia over recent years, with a particular focus upon primary schooling. It identifies regional expenditure trends since 1980, and provides more detailed comparative data for selected countries over the 1990-95 period. The paper reviews the cost and expenditure characteristics of education spending, distinguishing between low and high-cost countries. It shows that high enrolments have generally been associated with a strong commitment by governments to public spending on education, and with the presence of relatively low unit costs of schooling. Unfortunately, in many countries, if school quality is to increase so as to support demand and reach schooling for all (SFA), unit costs may initially have to rise. However, recent work in three African countries shows that SFA can be achieved - even in countries which are amongst the poorest, and which have the lowest school enrolments - provided governments are willing to improve the efficiency of schooling, to reform cost structures so as to reduce both the private and public unit costs of provision, and to give public spending on primary schooling its proper priority.[1]

REGIONAL ENROLMENT AND EXPENDITURE TRENDS

Table 1 shows regional averages for the primary gross enrolment ratio since 1980. Enrolment rates in developing countries grew during the early eighties, but at a slower rate than previously. After 1985, however, average enrolment rates stagnated for the next ten years. Nevertheless, by 1995 the developing country average approached 100 per cent, implying that there were, in principle, enough school places to enrol all children of primary school age. However due to the incidence of over-age enrolment (either because of repetition or late enrolment) this did not imply that all children of primary school age were actually in school. In East Asia and Oceania, for example, the number of primary school places has been at least 10 per cent higher than the number necessary to enrol all children of primary school age.

The developing country average hides substantial inter-regional differences in gross enrolment ratios. Most developing country regions saw the gross enrolment ratio increase over the period. The exception to this is Sub-Saharan Africa where the interaction of economic decline and continued high rates of population growth meant that the proportion of the school age population in school declined by 10 per cent, although the actual numbers going to school increased from approximately 48 million in 1980 to 58 million in 1990.[2] Since 1990, enrolment has increased at a more rapid rate than population and the GER in SSA is reported to have reached 74 per cent in 1995.[3] Despite this, the proportion of the age-group in primary school in SSA is still lower than in 1980. This region still has the lowest GER of any region in the world, and it has the capacity to enrol only approximately three quarters of its school-aged population.

Table 1: Regional Gross Enrolment Ratios and Gender Gaps in Primary Education 1980–1995 (percentages)

Region	1980		1985		1990		1995	
	GER	g.gap	GER	g.gap	GER	g.gap	GER	g.gap
Developed	101	99	102	100	102	98	105	99
Transition Countries	-	-	99	99	-	-	98	99
Developing Countries	95	82	99	84	98	87	99	88
Least Developed Countries	56	66	66	74	65	78	70	78
Sub-Saharan Africa	78	77	76	81	68	81	74	83
Arab States	76	73	80	76	83	80	84	82
Latin America and the Caribbean	105	97	105	96	107	97	110	97
East Asia and Oceania	110	88	118	89	119	94	115	98
South Asia	76	66	85	72	89	76	94	78

Source: World Education Reports 1993 and 1998.
Notes: g.gap – gender gap, defined as the female GER expressed as a proportion of the male GER.

The trends in GERs for South Asian countries have been somewhat different. In 1980 South Asia had a slightly lower gross enrolment ratio than SSA, but, unlike SSA, the GER grew monotonically over the eighties and early nineties to reach 94 per cent by 1995. It has achieved the highest enrolment growth of any world region during this period. Absolute enrolments in South Asia have risen by approximately 60 million during the period compared to 29 million in SSA.

Both SSA and South Asia have wider gender gaps than the developing country average (Table 1). The gender gap narrowed only marginally over the fifteen year period in SSA compared to a much more rapid improvement in South Asia. But in 1995, South Asia still had the widest gender gap in the world.

Table 2 shows regional averages for the proportion of GNP devoted to public expenditure on education. Interestingly, Table 2 appears to be in contradiction to the enrolment trends shown in Table 2. SSA countries, for example, devote a greater proportion of their GNP to education than most other regions, including the developed countries, but have the lowest enrolment rates. South Asia, on the other hand, has experienced increases in enrolment rates at a time when public expenditure on education as a proportion of GNP was falling.

The 1980s were a period of economic decline for SSA, and GNP per capita fell during this period. The average annual growth rate of GNP per capita for the region as a whole was –1.2 per cent over the decade.[4] The implication of this is that the resources available for education (and other services) were not keeping pace with population growth, and it was, therefore, difficult to provide the number of school places necessary to maintain enrolment rates at past levels, let alone to raise them. The situation was likely to have been further exacerbated by declining household incomes and hence a reduced demand for education. Some households withdrew their children as they could no longer afford to send their children to school. The situation in South Asia during this time was somewhat different. Growth in GNP per capita during the 1980s occurred at an average annual rate of 3.8 per cent and school age population growth was much slower.[5] The decline in the proportion of GNP

allocated to education would have therefore been offset by rising GNP per capita and low school age population growth rates.

Table 2: Public Expenditure on Education as % of GNP

	1980	1985	1990	1995
Sub-Saharan Africa	5.1	4.8	5.1	5.6
Arab States	4.1	5.8	5.2	5.2
Latin America and the Caribbean	3.8	3.9	4.1	4.5
Eastern Asia and Oceania	2.8	3.1	3.0	3.0
Southern Asia	4.1	3.3	3.9	4.3
All Developing Countries	3.8	3.9	3.9	4.1
Least Developed Countries	2.9	3.0	2.7	2.5
Developed Countries	5.2	5.0	5.0	5.1

Source: World Education Report 1998

Whilst the figures in Table 2 can partly help to explain the trends in enrolment in Table 1 there are many other factors that affect the relationship between public expenditures on education and the resulting gross enrolment ratios.

DETERMINANTS OF THE GROSS ENROLMENT RATIO

It is possible to define the gross enrolment ratio in terms of the costs of schooling per child and public expenditures on education.[6]

$$GER = \frac{ep}{ac} \tag{1}$$

where e = total education spend as a proportion of GNP.

p = proportion of total education spend going to primary education.

a = the primary school age population as a proportion of the total population.

c = the primary unit cost as a proportion of GNP per capita.

Equation 1 above can be used to explain in part the differences in the enrolment rates between South Asia and SSA in Table 1 above. It will be recalled that the GER in South Asia is larger but that *e* is lower than in SSA. Looking at equation 1 there are four possibilities that may explain the difference.

1. The proportion of total education spending going to primary schooling (*p*) in South Asia is much greater than in SSA.

2. The proportion of the population that is of primary school age (*a*) is greater in SSA than it is in South Asia

3. The primary unit cost as a proportion of GNP per capita (*c*) is greater in SSA than in South Asia.

4. A combination of the three above.

From the averages shown in Tables 3 and 5 it seems clear that the reasons for the different GERs in the two regions are that SSA has proportionately larger school age populations and unit costs than South Asia.[7] However these averages hide wide variations in country circumstances. The next two sections look at the parameters of equation 1 for those countries in SSA and South Asia having the necessary data. The analysis updates some of that given in Colclough with Lewin 1993: Ch2.

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Tables 3 and 5 provide data on the parameters of equation 1 and other related characteristics for Sub-Saharan Africa in 1990. The year 1990 is used because data are available for a large number of SSA countries. For more recent years the information is more patchy. However Appendix one gives comparable data for 1995 for a smaller sample of countries.[8] Table 3 shows data for countries in SSA that have not achieved universal primary education (UPE) and Table 5 shows data for countries that have. In each table the countries are ranked according to the primary unit cost as a proportion of GNP per capita (c_g). Low cost cases are those in which c_g is less than the SSA average and high-cost cases are countries where c_g is greater than the SSA average. In most groups of countries shown in Tables 3 and 5 the proportion of the population that is of school going age (*a*) is 17 per cent. Thus the different GERs of these country groups are not caused by their having large differences in the proportion of school-age children (although there are national differences, which vary from 14 to 20 per cent of the population).

The last three rows of Tables 3 and 5 show averages of the characteristics for Francophone and Anglophone countries as well as for SSA as a whole. It can be seen that the primary unit cost expressed as a percentage of GNP per capita is much higher in Francophone than Anglophone Africa. Given that the average GNP per capita is higher in Francophone countries this implies that the absolute value of expenditures per pupil in Francophone countries is also higher. The differences in per pupil expenditures at the primary level between the two sub-regions are accounted for primarily by the much higher average teacher salaries in Francophone compared to Anglophone countries (see column 10 of Table 3). Thus, whilst the proportion of GNP allocated by the government to primary schooling (x_g) is similar in both regions, the average GER is able to be much higher in Anglophone countries (91 per cent compared to 69 per cent) owing to primary unit costs which are little more than half those of the Francophone countries.

Table 3: SSA countries with GERs less than 100 in 1990, public expenditures on primary schooling and related characteristics

	c_g	e_g	p_g	x_g	a^*	ger	Public spend on education as % total	GNP per capita (US$)	female ger as % of male ger	Military spend as % GNP	Av. teacher's salary as a multiple of GNP per capita	Debt service ratio as %GNP	x_g required for GER =100	Education spend as a % of total govt spend implied for GER=100
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Low-Cost cases														
Sierra Leone	3	1.4	21	0.3	18	48		240	70	1.1		2.7	0.6	
Uganda	4	2.9	20	0.6	19	80	23	220		2.4		3.5	0.7	23.6
Zambia	4	2.9	32	0.9	18	97	9	420	91	2.7		5.7	0.9	8.8
Zaire	4	0.9	55	0.5	18	76	6	230	74			4.1	0.6	7.5
Ghana	5	3.3	29	1.0	17	77	24	390	83	0.5	0.91	6.4	1.3	26.4
Malawi	7	3.4	42	1.4	20	66	10	200	82	1.3	2.22	7.3	2.2	12.5
Chad	10	2.3	47	1.1	16	57		190	44		3.93	1.0	1.9	
Gambia	11	3.8	42	1.6	14	64	11	260	71	0.9	1.50	13.6	2.5	13.6
Tanzania	11	5.8	42	2.4	20	69	11	120	99	3.5	2.07	4.4	3.5	13.5
Central African Rep.	11	2.8	53	1.5	15	68		390	61	1.6	6.74	2.0	2.2	
Average	7	3.0	38	1.1	17	70	13	266	75	1.8	2.89	5.1	1.6	15.1
High-cost cases														
Kenya	13	6.8	57	3.9	24	95	17	370	96	2.9		9.7	4.1	17.2
Burundi	14	3.5	47	1.6	16	73	17	210	84	2.4	5.47	3.8	2.2	19.6
Senegal	15	3.7	39	1.5	16	58	24	710	72	2.1		5.9	2.5	31.0
Burkina Faso	17	2.3	42	1.0	16	37	18	330	62	3.1	5.23	1.2	2.6	29.9
Rwanda	17	4.2	68	2.8	20	71	25	310	97	4.2	7.82	0.8	4.0	32.4
Mauritania	18	4.7	30	1.4	17	51	22	500	74	4.2	6.06	15.2	2.8	28.3
Mozambique	23	6.3	50	3.1	14	64	12	80	69	9.2	9.42	6.1	4.9	15.4
Djibouti	26	3.3	58	1.9	16	44	11		68	7.1	7.83		4.4	18.3
Ethiopia	43	4.8	54	2.6	16	39	9	120	64	11.0		3.5	6.6	17.3
Average	21	4.4	49	2.2	17	59	17	329	76	5.1	6.97	5.8	3.8	23.3
Francophone Average	14	3.4	48	1.6	16	69	19	417	72	3.5	5.79	4.1	2.6	23.3
Anglophone Average	8	4.9	36	1.9	18	91	15	649	95	2.5	2.41	6.0	2.0	16.5
SSA Average	12	4.3	42	1.8	17	79	16	512	83	3.5	4.30	5.1	2.7	19.9

Source: World Education Reports (various years)

Notes: c_g - primary and pre-primary current expenditure per pupil as a percentage of GNP.

e_g - public expenditure on education as a percentage of GNP.

p_g - primary and pre-primary current expenditure as a percentage of total current expenditure on education.

x_g - primary and pre-primary current expenditure as a percentage of GNP ($e_g * p_g$).

a - school age population as a percentage of total population. Data is for 1992.

Non-UPE low cost countries

The low cost cases shown in Table 3 have an average primary unit cost of seven per cent of GNP per capita. This is much lower than the SSA average of 12 per cent. Column eleven of Table 3 gives the average teacher's salary as a multiple of GNP per capita. On average, in these low-cost countries, teacher's salaries are at a

multiple to per capita income of about 2.9 - substantially lower than the SSA average (4.3). Teachers' salaries make up a large part of the unit cost of primary schooling, and partly explain why these ten countries are low-cost cases. Table 3 also shows that the average GNP per capita for these countries is less than half of the SSA average. This group therefore includes some of the poorest countries in the region.

In addition to the unit cost of primary education being lower in these countries, it can be seen from column 2 that the allocation of public resources to education is also lower (3 per cent) than the SSA average (4.3 per cent). These low-cost countries allocate a smaller proportion of education resources to primary education, in turn implying that the proportion of GNP allocated to primary education is approximately 60 per cent lower in these countries than the SSA average. Out of all of the low cost cases in Table 3, Tanzania is the only country that allocates a larger proportion of GNP to education than the SSA average.

The small proportion of GNP allocated to education by these countries may be due to government expenditure comprising only a small proportion of GNP or to government spending on education accounting for a small proportion of total public spending. The latter seems to be the case for the low-cost countries shown in Table 3. These countries have an average allocation to education, as a proportion of total government expenditure, of 13 per cent. This is approximately three per cent lower than the SSA average, suggesting that there is scope in these low-cost countries for increased allocations to education within government expenditure.

It may be the case that in these countries other government expenditures have crowded out government expenditure on education. Table 3 shows two areas of public expenditure that are thought to crowd out social expenditures; debt service repayments and military expenditures (Colclough with Lewin, 1993). The average debt service ratio for the low cost countries is lower than the SSA average. The debt service ratio in Gambia, Ghana, Malawi and Madagascar is very high, and may to some extent be crowding out public allocations to education. But Kenya and Zimbabwe also have higher than average debt service ratios but allocate substantial resources to primary education. In the case of military expenditures all of the low cost countries are well below the SSA average for military expenditure, except for Tanzania which is just equal to it. Public spending on debt servicing or military expenditure does not seem to necessarily crowd out expenditure on primary education. However, resources to education could always be supplemented by shifting resources away from military expenditure and towards education; whether or not this is practical will depend on specific country circumstances.

Table 3 indicates that the low-cost countries tend to have fairly low commitments to education when measured by the allocation of resources to education and to primary education in particular. The penultimate column in Table 3 shows the percentage of GNP that would need to be allocated to primary schooling to achieve a gross enrolment ratio of 100 per cent and hence achieve Universal Primary Education (UPE). This column assumes that the unit cost (c_g) and the school age population proportion (a) remain unchanged. The column shows that UPE could be achieved in these countries with an average allocation to primary of 1.6 per cent. In the cases of Sierra Leone, Zaire (Democratic Peoples Republic of Congo), Uganda and Zambia UPE could be achieved with allocations of less than one per cent, much lower than the average allocation in SSA currently. On

average achieving UPE in these countries would imply a modest increase of 0.5 per cent of GNP allocated to primary education.

The final column of this table shows the percentage of total government resources that would need to be allocated to education in each country to achieve UPE. This column assumes that the allocation of resources between education levels remains the same. For the low-cost countries 15 per cent of total government resources would be needed to achieve UPE, approximately one per cent lower that the average allocation in SSA currently. Therefore, achieving UPE in these low cost countries would only imply modest increases in the proportion of GNP spent on primary education and the amount of public resources that need to be allocated.

Below average unit costs in these low-cost countries may imply that the quality of the primary schooling currently provided is poor. The projections in the final columns assume that the unit costs stay the same, providing a cost estimate of UPE, but not a cost estimate for achieving schooling for all (SFA) defined as indicated earlier.

Table 4: Public expenditures on primary schooling and related characteristics in Malawi

	c_g	e_g	p_g	x_g	a^*	ger	Public spend on education as % total	GNP per capita (US\$)	female ger as % of male ger	Military spend as % GNP	Av. teacher's salary as a multiple of GNP per capita	Debt service ratio as %GNP
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Malawi 1990	7	3.4	42	1.4	20	66	10	200	1	1.3	2.22	7.3
Malawi 1995	9	5.7	59	3.4	22	135	15	170	1	1.6		8.6

Source: Table 3 and Appendix 1, Table 2

Notes: c_g - primary and pre-primary current expenditure per pupil as a percentage of GNP.

e_g - public expenditure on education as a percentage of GNP.

p_g - primary and pre-primary current expenditure as a percentage of total current expenditure on education.

x_g - primary and pre-primary current expenditure as a percentage of GNP (e_g*p_g).

a - school age population as a percentage of total population.

In this context, it is interesting to examine the case of Malawi, a low unit-cost country which over the period 1990-95 increased its primary GER from 66 per cent to 135 per cent. Thus, UPE was achieved with dramatic speed – primarily by removing the obligation for parents to pay school fees. Table 4 summarises the cost and enrolment characteristics of the Malawian primary system for 1990 and 1995. It can be seen (column 2) that the enrolment increases were associated with very large increases in public expenditures on education: they rose from 3.4 per cent to six per cent of GNP over the five years; furthermore, public spending on primary schooling

increased from 42 per cent to 59 per cent of the education budget (column 3) over the same period. Thus there was a marked increase in the priority assigned by Government to education expenditure (column 7) and, within it, to primary schooling. Unit costs also rose (column 1) as a result of the expansion, but not sufficiently to be able to tackle the serious qualitative problems – very large class sizes, poorly trained teachers, shortages of books and materials – which continue to characterise the Malawian primary school system.

Non-UPE high cost countries

The second section of Table 3 looks at countries who have not achieved UPE and where the primary unit cost as a proportion of GNP per capita is high (i.e. greater than 12 per cent, the SSA average). The average unit cost for these nine countries is 21 per cent, almost double the average cost for the region as a whole, with Ethiopia standing out as a country with remarkably high unit costs, at over three times the SSA average. Average GNP per capita for these countries is higher than for the low-cost countries but still substantially less than the SSA average.

Six of the nine high-cost countries in Table 3 are francophone countries, and the high costs are mainly due to high primary teacher costs, with the average teacher salary approximately seven times the SSA average. High-cost countries also spend approximately 20% more on education as a proportion of GNP than the SSA average, and a larger proportion of this goes to primary. These high-cost countries also tend to allocate slightly more government resources to education than the SSA average. Using equation one it appears that the reason why these high-cost countries have an average GER 11 per cent lower than the low-cost countries and 20 per cent lower than the SSA average is due to the high unit costs of primary education.

Given these high unit costs it is unsurprising to find that the proportion of GNP needed to achieve UPE is large for this group of countries. The penultimate column shows that in these countries approximately four per cent of GNP would have to be allocated to primary education to achieve a GER of 100 per cent. High primary costs in Ethiopia mean that 6.6 per cent of GNP would have to be allocated to primary to achieve UPE. Slightly higher unit costs than the SSA average in Kenya, where the population of primary school going age (*a*) is much higher than the average, would mean that the proportion of GNP required to achieve UPE is 4.1 per cent, significantly higher than the SSA average.

Despite the high allocation of GNP to primary education in these countries, relative to others in SSA, high primary unit costs severely constrain attempts to achieve UPE. It should be noted that in these countries military expenditure and the debt service ratio are high compared to the SSA average. Military expenditures are particularly high in Ethiopia and Mozambique, countries which in 1990 were still engaged in civil war. However, as before, these expenditures do not seem to have crowded out expenditures on education as both Mozambique and Ethiopia had public allocations to primary education as a proportion of GNP greater than the SSA average in 1990.

Table 5: SSA countries with GERs greater than 100 in 1990, public expenditures on primary schooling and related characteristics

	c_g	e_g	p_g	x_g	a^*	ger	Public spend on education as % total	GNP per capita (US$)	female ger as % of male ger	Military spend as % GNP	Av. teacher's salary as a multiple of GNP per capita	Debt service ratio as %GNP
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Low-cost cases												
Namibia	4	4.7	21	1.0	18	119			113	1.9		
Lesotho	7	3.8	42	1.6	19	107	14	470	120	5.3	2.86	2.2
Swaziland	8	6.4	33	2.1	20	108	23	820	99	1.7	1.63	5.5
Botswana	9	8.4	31	2.6	19	117	16	2040	104	5.5	1.25	3.2
Togo	9	5.7	30	1.7	17	111	25	410	65	3.1	3.24	5.4
Mauritius	10	3.7	41	1.5	11	106	12	2250	104	0.3	1.13	5.9
Cape verde	10	4.1	55	2.2	15	115	20	890	93			1.9
Average	8	5.3	36	1.8	17	112	18	1147	100	3.0	2.02	4.0
High-cost case												
Zimbabwe	21	10.6	54	5.7	19	116		640	99	5.3	8.17	7.2
Francophone Average	14	3.4	48	1.6	16	69	19	417	72	3.5	5.79	4.1
Anglophone Average	8	4.9	36	1.9	18	91	15	649	95	2.5	2.41	6.0
SSA Average	12	4.3	42	1.8	17	79	16	512.4	83	3.5	4.30	5.1

Source: World Education Reports (various years)

Notes: c_g - primary and pre-primary current expenditure per pupil as a percentage of GNP.

e_g - public expenditure on education as a percentage of GNP.

p_g - primary and pre-primary current expenditure as a percentage of total current expenditure on education.

x_g - primary and pre-primary current expenditure as a percentage of GNP (e_g*p_g).

a - school age population as a percentage of total population. Data is for 1992.

UPE countries

Table 5 shows the same information as Table 3 for countries that by 1990 had achieved UPE. Again the table is split between low and high-cost countries. In both high and low-cost cases the table shows that GNP per capita in countries that have achieved UPE is much greater than the SSA average. It is also clear from the table that almost all (the exception being Zimbabwe) of the countries that have achieved UPE in SSA have done so with primary unit costs well below the SSA average.

In the low cost countries shown in Table 5 the percentage of GNP allocated to education is one per cent higher than average (column 2). However, this group of countries allocates a smaller proportion of these

resources to primary, and the proportion of GNP allocated to primary education is the same as the average for SSA (column 4). The proportion of GNP allocated to primary education in four of the seven low-cost countries in Table 5 is less than the SSA average, suggesting that in these countries, at least, there is some scope for increasing the allocation to primary schooling, so as to achieve improvements in the quality of education.

Zimbabwe stands alone as a country where UPE has been achieved despite having relatively high primary unit costs. Again the average teachers salary' as a multiple of GNP per capita is a major determinant of the high primary unit costs. However, high enrolments have been achieved by allocating 5.7 per cent of its GNP to primary education - more than three times the average for SSA.

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Table 6 shows similar information for countries in South Asia. Due to the small number of countries in this region and the lack of data for the parameters of equation one, the countries are not split into low and high-cost cases.[9]

The available data suggest that the primary unit cost as a proportion of GNP per capita in South Asia is less than the SSA average. The proportion of GNP allocated to education and also to primary education is less than in SSA for the three countries shown in Table 6. The proportion of the population that is of primary school age is less in these three countries than the SSA average, so that while the denominator in equation 1 for these South Asian countries is smaller than for countries in SSA on average, the numerator is also smaller. This leads to different outcomes for GERs in South Asia.

Table 6: South Asia Countries: public expenditures on primary schooling and related characteristics, 1990

	c_g	e_g	p_g	x_g	a^*	ger	Public spend on education as % total	GNP per capita (US$)	female ger as % of male ger	Military spend as % GNP	Av. teacher's salary as a multiple of GNP per capita	Debt service ratio as %GNP	x_g required for GER =100	Education spend as a % of total govt spend implied for GER=100
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Bangladesh	6	2.0	46	0.9	13	77	10	200	86	1.5	2.10	3.6	1.2	11.7
India	11	3.5	42	1.5	12	99	11	350	75	2.9	3.63	2.8	1.5	11.2
Pakistan	13	3.4	37	1.2	14	42		380	56	7.1		4.6	3.0	
Average	10	3.0	41	1.2	13	73	11	310	72	3.8	2.87	3.7	1.9	11.5

Source: World Education Reports (various years)

Notes: c_g - primary and pre-primary current expenditure per pupil as a percentage of GNP.

e_g - public expenditure on education as a percentage of GNP.

p_g - primary and pre-primary current expenditure as a percentage of total current expenditure on education.

x_g - primary and pre-primary current expenditure as a percentage of GNP ($e_g * p_g$)

a - school age population as a percentage of total population. Data is for 1992.

The primary unit cost in Bangladesh is particularly low, compared to other countries in the region, as well as in SSA. This implies that Bangladesh would require only small increases in the proportion of GNP allocated to education to achieve UPE. Pakistan's primary unit costs, on the other hand, are more than double those in Bangladesh, and this partly explains why the allocation of resources would need to be more than doubled to achieve UPE.

For SSA, it will be recalled that countries that had not achieved UPE were split into two groups. In the low-cost group it was generally found that UPE at current levels of primary unit cost could be achieved with modest increases in public allocations of GNP to primary education. In the high-cost countries, achieving UPE would require larger than average allocations to primary education. In addition to this, with the exception of Zimbabwe, countries in SSA that had achieved UPE (Table 5) had done so at smaller primary unit costs than those exhibited by the second group of countries.

Whilst these data give some indication of the feasibility of achieving UPE under current circumstances, a number of gaps remain. For example, although Zimbabwe has achieved UPE there is still a need to increase expenditure on primary schooling to improve its quality, particularly in disadvantaged areas of the country (Colclough with Lewin 1993: Ch3). Data on public unit costs and expenditures do not include information on the type of school inputs which are funded, nor the quality of primary schooling provided. In many countries in SSA, public expenditure is allocated almost exclusively to personnel costs, with little available for the teaching and learning materials needed for effective learning. An assessment of the costs of enrolling all children of primary school age in schools of acceptable quality thus requires a more disaggregated approach.

ACHIEVING SCHOOLING FOR ALL: THREE CASE STUDIES

There are no insurmountable obstacles to achieving full enrolment of all children in schools of acceptable quality – even in countries which are presently far from achieving SFA. However, in order to achieve this, the critical changes are not necessarily limited to increasing public expenditures, but also involve the introduction of a range of reforms to the ways in which schools are organised, resourced and financed. This is demonstrated by three studies which were carried out in Ethiopia, Guinea and Tanzania in 1995/96 to examine the causes of low participation, persistence and performance of girls and boys in primary schools, and to identify promising policy choices to achieve schooling for all within these countries (Rose *et al* 1997, Tembon *et al* 1997, Peasgood *et al* 1997). The resource implications of achieving schooling for all under different policy choices were then analysed using a simulation model (Al-Samarrai 1997).

Table 7 shows some key characteristics of the primary school systems in these three countries. In 1993 the GER in Ethiopia was very low with less than a quarter of the primary-school-age population attending school. Primary education was inefficient because repetition was high and drop-out rates were very large in the first grade. Guinea was in a similar position with GERs well below the SSA average, and low internal efficiency as reflected by the very high proportion of repeaters in the primary system. In both Guinea and Ethiopia the gender

gap in both enrolment and persistence in school suggested that a diagnosis of the reasons for such differences would be needed, in order to address the constraints preventing the achievement of schooling for all. Tanzania, on the other hand, was very different to these two countries. It had a relatively high GER, and enrolment comprised roughly of equal numbers of boys and girls. As can be seen from Table 7, drop-out and repetition rates in Tanzania were low compared to the other two countries. Whilst there were very few gender differences in access to and persistence in school, gender differences in Tanzania were nevertheless evident in the exam performance of girls compared to boys (as it was in the other two countries) (Peasgood *et al* 1997).

Table 7: Key data on the education systems of Ethiopia, Guinea and Tanzania

	Ethiopia			Guinea			Tanzania		
	total	male	female	total	male	female	total	Male	female
GER 1993/94 (%)	24	30	19	38	52	24	78	80	77
Percentage of Repeaters	8.8	7.7	10.6	21.8	20.6	24.4	3.1	3.0	3.2
Drop-out rate in Grade 1	25.2	23.6	27.6	3.2	1.7	5.9	6.2	6.4	6.0
Drop-out Rate in grade 3	3.7	3.0	4.7	6.7	7.0	6.0	3.8	4.2	3.3

Source: Rose *et al* 1997, Tembon *et al* 1997, Peasgood *et al* 1997

The three country reports identified broadly similar categories of constraints to primary schooling, although their detail, and relative importance for boys and girls, differed between countries. Key constraints included the direct costs and opportunity costs to the household of sending their children to school, together with a broad set of cultural conditions which tended to have adverse implications for the schooling of girls. Having identified the constraints to schooling the studies identified promising policy options to address them. Those policy reforms having cost implications for the government were modelled using the simulation model.[10] The objective of the modelling exercise was to assess the financial feasibility of achieving schooling for all within a 15 year time frame.[11]

Figure 1 summarises the results of the simulations carried out from these studies. The simulations projected the cost and resource implications, in each country, of reaching schooling for all within fifteen years. The diagram shows the ratio between required recurrent expenditures and resources available to fund this expenditure. Resources available were calculated on the assumptions that they would increase at the same rate as the growth of the primary school-age group. Thus a balance between expenditures and resources is indicated by a value of unity on the vertical axis. Higher values indicate a shortage of resources to fund expenditures. The base year for these projections in all countries was 1993/94. The first point on the diagram shows that in 1993/94 the balance between resources and expenditure was equal to one, implying that recurrent expenditure was equal to the resources allocated to meet this expenditure. The second point on the horizontal axis of the diagram shows the situation in 2008/09, if the parameters of the education system were to remain the same (i.e.

if the base year Grade one admission rate were to be maintained and no change made to drop-out, repetition rates etc.) and if no other reforms were introduced. Under these circumstances, in Ethiopia and Guinea, expenditure would, by that date, exceed the available resources by 63 and 97 per cent respectively. This imbalance primarily arises from increases in admission rates that had not worked through the entire education system by 1993/94.[12] This implied that, at the levels of real per capita resourcing in 1993/94, the education systems in Ethiopia and Guinea were unsustainable.

Figure 1: Simulation Results for Ethiopia, Guinea and Tanzania
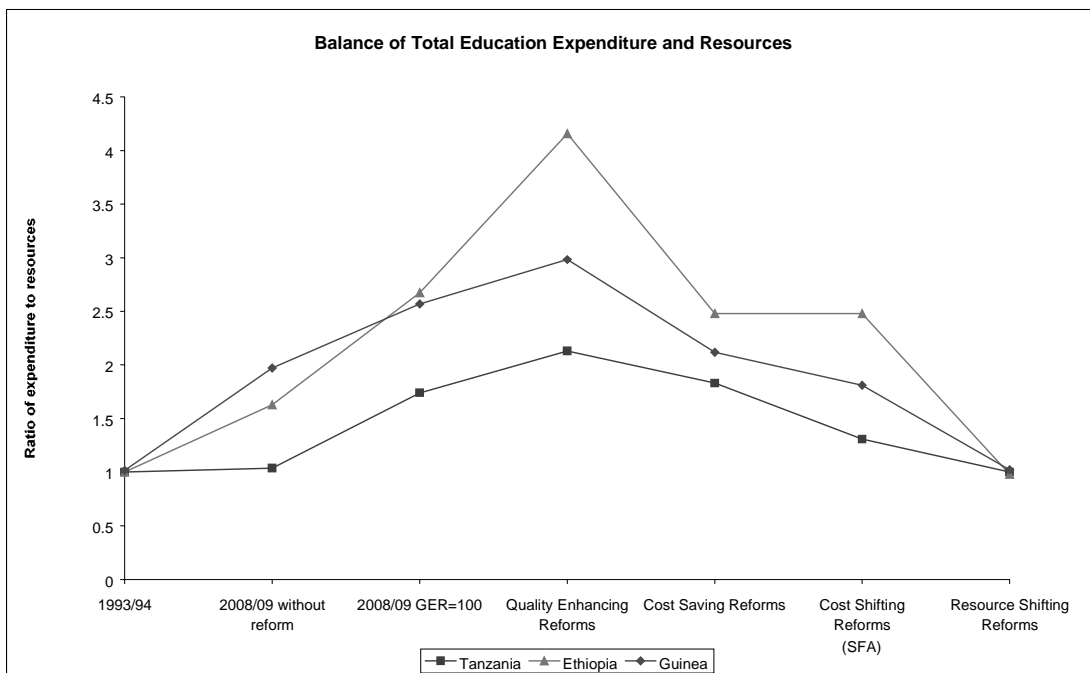
The third point along the horizontal axis of Figure 1 shows the relationship between expenditure and resources when admission into primary is increased so as to achieve UPE. As can be seen from the graph, the gap between resources and expenditure grows in each country. The increase in costs associated with achieving UPE at this point are calculated assuming no change in the unit cost of primary schooling. In this sense the projections are similar to those in Tables 3, 5 and 6.

All three studies identified the poor quality of primary schooling as a particular constraint leading to low pupil-performance and low demand for schooling. In order to achieve schooling for all, suggestions were made for quality improvements at the primary level. In all countries increased resources were needed for learning materials at the primary level. Other suggested reforms to improve quality and bolster demand included providing subsidies for rural girls to reduce the direct costs of schooling, improving teacher motivation and qualifications, and reducing class sizes where these were larger than 45. The impact of these quality enhancing reforms is shown in the third set of points in Figure 1.[13] As can be seen this increases the costs of schooling for

all dramatically in Ethiopia and to a lesser extent in Guinea and Tanzania. At this point the required expenditure in Ethiopia exceeds the resources available by over 400 per cent whilst in Guinea the figure is approximately 300 per cent.

The improvements in quality are expected to lead to reductions in the high repetition rates seen in Table 7. Reductions in repetition imply that children move more quickly through the system and hence reduce the total costs of primary education. In addition to this reduction in costs the studies also suggest a number of other cost-saving reforms. In Tanzania and Guinea the impact of increasing the number of pupils per class to 45 was investigated. It was also suggested, in the studies for Ethiopia and Guinea, that automatic promotion, in the first three grades of primary school, should be introduced and that double shifting should be increased. The effect of the cost saving reforms on the balance of education expenditures and resources is shown in Figure 1. In both Guinea and Ethiopia it can be seen that the cost-saving reforms reduce the gap between resources and expenditure to a level below that which held prior to the introduction of the quality enhancing reforms, whilst in Tanzania the gap remained approximately unchanged.

Further to the cost-saving reforms suggested, a number of cost-shifting reforms were also modelled for Guinea and Tanzania. These included limiting the growth of other parts of the education system, and encouraging the growth of the private sector. The effects of these reforms are shown in Figure 1. They further reduce the gap between expenditure and resources implied by the move to schooling for all.

Whilst the cost-saving and cost-shifting reforms modelled in these studies reduced dramatically the costs of schooling for all, a gap between expenditure and resources remained.[14] Therefore the resources allocated to education and particularly to primary education, would need to be increased in order to achieve schooling for all. In Ethiopia and Guinea it was demonstrated that this resource gap could be closed through increasing the proportion of total government expenditure going to education and, within that, increasing the proportion spent on primary education.[15] The conclusions of all three reports suggest that schooling for all can be achieved by a mix of educational and efficiency reforms, and by modest increases in education expenditure, which are judged feasible in all three countries.

CONCLUSIONS

This paper has shown on the basis of public expenditure data for the world's main geographical regions, that between three and six per cent of GNP is typically allocated to education. How much education this buys, in both quantitative and qualitative terms depends upon national wealth. Thus, although SSA has been consistently spending around five per cent of GNP on education via the public budget – a proportion similar to industrialised countries - it has school systems with the lowest quality, and coverage, on average, of any world region.

Taken alone, trend data showing public expenditures on schooling has limited explanatory value. This is because the progress made by countries towards achieving UPE depends upon several variables:

- The proportion of the population of school age (i.e. the relative population burden);
- The proportion of GNP spent by households on primary schooling;
- The proportion of GNP spent by government on primary schooling;
- The unit costs per child in school as a proportion of GNP per capita (relative unit costs).

Within Africa the last two of these items tend to vary more than the first – differing by more than ten-fold as between the lowest and highest cost and expenditure cases. Data are not available to estimate the size and variability of household expenditures – the second item listed.

The paper has examined those countries in SSA which have not yet achieved universal primary enrolment in two groups, according to whether their unit schooling costs are lower or higher than the average for SSA as a whole.

Countries with low unit costs include Sierra Leone, Uganda, Zaire, Malawi, Chad and Tanzania - some of the poorest in the region. Here, costs are low mainly because teachers' salaries (in comparison with GNP per capita) are lower than elsewhere. Because relative costs per child are lower, these countries can allocate a smaller proportion of GNP to education for given levels of GER. In general, these countries could afford to increase expenditures, so as to hasten the move to SFA. Universal enrolment – assuming no change in unit costs – in most of the ten low-cost countries identified, could be afforded by increasing public spending on primary schooling, as a proportion of GNP, to the average level for SSA as a whole. In the case of Malawi, this had happened by 1995.

The countries with high unit costs tend to have lower GERs than other countries, notwithstanding the fact that they allocate a greater proportion of GNP to primary schooling. In these countries, which include Kenya, Rwanda, Mozambique, Ethiopia, more than four per cent of GNP would need to be allocated to primary education, in order to secure universal enrolment – in the absence of other cost and efficiency reforms.

The countries which have already achieved UPE tend to have higher GNP per capita than the average for SSA. However, they generally have lower unit costs, and are spending a greater proportion of GNP on primary schooling than the average for SSA. In general, a combination of moderate unit costs and/or high commitment to education in these countries (which include Namibia, Lesotho, Swaziland, Botswana, Zimbabwe, Togo and Mauritius) have secured universal enrolment.

Comparisons with South Asia showed that there, both unit costs and the proportion of GNP allocated to primary schooling are less than in SSA. However there is also a considerably smaller school-age population (relative to the total population) in South Asia than in SSA, which makes the schooling burden easier to finance.

In general, the cross-country data suggest that an affordable allocation of public expenditure to primary schooling would be around three per cent of GNP. Most African countries are spending about half of that amount, or less. In recent years only Kenya, Namibia, Zimbabwe and Malawi have exceeded it – usually in the context of accelerated attempts to achieve UPE.

However, the paper has shown that both the unit costs of primary schooling and the broader incidence of educational costs as between government and households, critically affect the ability of public spending to deliver schooling for all. There are no insurmountable constraints preventing the achievement of SFA in Africa. But it will, in many countries, require not merely enhanced public spending but also the introduction of a range of efficiency, distributional and gender focussed reforms to lower the unit costs of provision and to change their incidence.

NOTES

[1] Throughout the paper we distinguish between the achievement of universal primary education (UPE) and of schooling for all (SFA). The former is defined as the achievement of a gross enrolment ratio of 100, i.e. the point at which the number of children enrolled in primary schooling is equal to the number of eligible school-age children. It will be clear from the definition that UPE is consistent with some eligible children remaining out of school, to the extent that some primary school pupils are older or younger than the official age group. SFA, we define as the circumstance of having a school system in which all eligible children are enrolled in schools of at least minimally acceptable quality. This would be equivalent to achieving a net (age-adjusted) ratio of 100, in the context of school conditions which are generally better than those which presently exist in SSA and South Asia. Thus, SFA is a more demanding target than UPE in both quantitative and qualitative dimensions. For further discussion see Colclough with Lewin (1993: 41).

[2] Between 1990 and 1995 the gross enrolment ratio also declined in East Asia and Oceania. However, since the enrolment ratio was much higher than 100 per cent this fall was more likely to do with reductions in over-age enrolment than children of school going age dropping out.

[3] Between 1980 and 1995 the number of primary school places has been growing at approximately 3.2 per cent annually. Although this is a similar growth rate to South Asia the GER rose in South Asia because population growth has been much slower (approximately half) over the period.

[4] Calculations using World Development Indicators 1998 CD ROM.

[5] Calculations using World Development Indicators 1998 CD ROM.

[6] This equation takes no account of household expenditure on education which will increase the proportion of GNP allocated to education. It is assumed that changes in public expenditures will always lead to net changes in the total level of expenditure on education. For a fuller discussion see Colclough with Lewin (1993: 46).

[7] The reason for the difference in the average GERs and average education expenditure reported in Tables 1,2 and the other tables is that Tables 1 and 2 are population weighted averages and the other tables are not.

[8] The data for c_g and p_g also include expenditure at the pre-primary level so the data in the tables will not equate exactly with the relationship shown in equation 1. Most countries that have government funded pre-primary education do not report expenditures separately for primary and pre-primary. Approximately two thirds of the countries in SSA do not have government funded pre-primary education. In addition to this, in countries with

state funded pre-primary education the levels of expenditure are very low. Therefore, the inclusion of this expenditure is unlikely to alter the values of the parameters in these tables significantly.

[9] The available information for all countries in South Asia for 1995 is shown in appendix 1. The information contained in these tables has been taken from the tables in appendix 2. Appendix 2 provides data for all countries within SSA and South Asia (where available) on e_g, c_g, and p_g for all levels of education between 1980 and 1995.

[10] It should be noted that in each report there are a significant amount of suggested policy reforms that do not have direct cost implications for the government and are therefore not modelled.

[11] Given the very low starting point in Ethiopia the simulations modelled a GER of 100 per cent in the first four grades of primary and 80 per cent for the whole primary system by the end of the fifteen year projection period.

[12] It is assumed that over the projection period resources grow at the same rate as population growth.

[13] It is assumed that the quality improvements will lead to reductions in drop-out which will also increase costs. These increased costs are also included at this point.

[14] It should be noted however, that in all three countries the gap between available resources and costs is smaller when schooling for all has been achieved than when UPE is achieved without any reform.

[15] The Tanzania report did not explicitly model the resource shifts needed to achieve schooling for all but discussed the possibilities. See Peasgood *et al* 1997 Chapter 6 for a fuller account. It has been assumed throughout that there has been no per capita economic growth. At this point, the assumption is relaxed, and in Ethiopia it is assumed that per capita GNP grows by one per cent per annum and in Guinea it is assumed to grow by one to two per cent.

Table A1.1: SSA countries with GERs less than 100: public expenditures on primary schooling and related characteristics, 1995

	c_g	e_g	p_g	x_g	a^*	ger	Public spend on education as % total	GNP per capita (US$)	female ger as % of male ger	Military spend as % GNP	Av. teacher's salary as a multiple of GNP per capita	Debt service ratio as % GNP	x_g required for GER =100	Education spend as a % of total govt spend implied for GER =100
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Low-cost cases														
Zambia	4	1.8	42	0.7	21	89		400	93	2.8		82.6	0.8	
Comoros	8	3.9	37	1.4	16	78	21	470	84		2.36	0.4	1.8	23.3
Chad	10	2.2	42	0.9	16	55		180	49	3.1	4.01	1.6	1.7	
Gambia	12	5.5	45	2.5	14	73	16	320	86	4.6	1.84	7.5	3.4	18.7
Mauritania	12	5.0	40	2.0	16	78	16	460	85	3.2	3.24	11.3	2.6	17.9
Burundi	13	2.8	42	1.2	15	70		160	82	4.4	4.74	3.2	1.7	
Average	10	3.5	41	1.5	16	74	18	332	80	3.6	3.24	17.8	2.0	20.0
High-cost cases														
Lesotho	14	5.9	51	3.0	18	99		770	114	1.9	4.47	3.2	3.0	
Kenya	15	7.4	62	4.6	24	85		280	100	2.3		10.5	5.4	
Mali	17	2.2	46	1.0	16	32		250	64	1.8	6.41	3.6	3.2	
Ethiopia	37	4.7	54	2.5	15	31	13	100	62	2.2		2.9	8.1	28.5
Average	21	5.1	53	2.8	18	62	13	350	85	2.1	5.44	5.0	4.9	28.5
Francophone Average	12	3.6	41	1.4	16	71	19	272	70	3.0	4.29	4.4	2.2	20.6
Anglophone Average	13	6.5	49	3.3	19	107	19	706	97	2.7	2.88	17.8	3.2	18.7
SSA Average	14	5.2	46	2.5	18	88	18	505	85	2.8	3.60	10.7	3.2	22.1

Source: World Education Reports (various years)

Notes: c_g -   primary and pre-primary current expenditure per pupil as a percentage of GNP.
e_g -   public expenditure on education as a percentage of GNP.
p_g -   primary and pre-primary current expenditure as a percentage of total current expenditure on education.
x_g -   primary and pre-primary current expenditure as a percentage of GNP (e_g*p_g).
a -   school age population as a percentage of total population.

Table A1.2: SSA countries with GERs greater than 100: public expenditures on primary schooling and related characteristics, 1995

	c_g	e_g	p_g	x_g	a^*	ger	Public spend on education as % total	GNP per capita (US$)	female ger as % of male ger	Military spend as % GNP	Av. teacher's salary as a multiple of GNP per capita	Debt service ratio as %GNP
	(1)	(2)	(3)	(4)	(5)	(6)	(7)		(9)	(10)	(11)	(12)
Low-cost cases												
Malawi	9	5.7	59	3.4	22	135	15	170	90	1.6		8.6
Swaziland	10	8.1	37	3.0	18	122	22	1170	95	2.6	2.33	1.9
Togo	10	5.6	35	2.0	17	118	19	310	69	2.3	3.03	2.3
Average	10	6.5	44	2.8	19	125	19	550	85	2.2	2.68	4.3
High-cost cases												
Namibia	17	9.4	48	4.5	18	133	21	2000	102	2.1		
Zimbabwe	22	8.5	52	4.4	19	116		540	97	4.0		10.3
Average	20	9.0	50	4.5	19	125	21	1270	99	3.1	-	10.3
Francophone Average	12	3.6	41	1.4	16	71	19	272	70	3.0	4.29	4.4
Anglophone Average	13	6.5	49	3.3	19	107	19	706	97	2.7	2.88	17.8
SSA Average	14	5.2	46	2.5	18	88	18	505	85	2.8	3.60	10.7

Source: World Education Reports (various years)

Notes: c_g -   primary and pre-primary current expenditure per pupil as a percentage of GNP.

e_g -   public expenditure on education as a percentage of GNP.

p_g -   primary and pre-primary current expenditure as a percentage of total current expenditure on education.

x_g -   primary and pre-primary current expenditure as a percentage of GNP ($e_g * p_g$).

a -   school age population as a percentage of total population.

Table A1.3: South Asia Countries: Public Expenditures on Primary Schooling and related Characteristics, 1995

	c_g	e_g	p_g	x_g	a^*	ger	Public spend on education as % total	GNP per capita (US$)	female ger as % of male ger	Military spend as % GNP	Av. teacher's salary as a multiple of GNP per capita	Debt service ratio as %GNP
	(1)	(2)	(3)	(4)	(5)	(6)	(7)		(9)	(10)	(11)	(12)
India	7	3.5	38	1.3	12	100	12	340	82	2.4		4.1
Maldives	8	8.4	67	5.6	14	134	14	990	97			4.3
Average	8	6.0	53	3.5	13	117		665	89	2.4		4.2

Source: World Education Reports (various years)

Notes:
c_g - primary and pre-primary current expenditure per pupil as a percentage of GNP.
e_g - public expenditure on education as a percentage of GNP.
p_g - primary and pre-primary current expenditure as a percentage of total current expenditure on education.
x_g - primary and pre-primary current expenditure as a percentage of GNP (e_g*p_g).
a - school age population as a percentage of total population.

APPENDIX 2

Table A2.1: Current Expenditure per Pupil as a percentage of GNP per capita in SSA

	1980			1985			1990			1995		
	pre prim. and first level	2nd level	3rd level	pre prim. and first level	2nd level	3rd level	pre prim. and first level	2nd level	3rd level	pre prim. and first level	2nd level	3rd level
Angola				25%*		402%						
Benin										11%	22%	240%
Botswana	15%	69%	704%	9%	65%	515%	9%	51%	284%			
Burkina Faso	23%	103%	2943%	16%	57%	1137%	17%	56%	1127%			
Burundi	24%	222%	1480%	13%	139%	796%	14%	123%	1151%	13%	69%	941%
Cameroon	9%*		360%	9%*		362%	10%*		315%			
Cape verde				11%	32%		10%	27%				
Central African Rep.	21%	27%	672%	13%	23%	503%	11%	21%	407%			
Chad							10%	35%	191%	10%	33%	234%
Comoros										8%	39%	1168%
Congo	10%	17%	370%	9%*		290%						
Djibouti				26%	35%		26%	33%				
Equatorial Guinea												
Ethiopia	20%	69%	1333%	21%	42%	538%	43%	64%	714%	37%	62%	592%
Gabon												
Gambia	20%	45%		12%	26%		11%	26%		12%	28%	235%
Ghana	3%	10%		3%	7%	135%	5%	17%	250%			
Guinea				5%	18%	106%				11%	38%	498%
Guinea-Bissau	32%	108%										
Cote d'Ivoire	22%	81%	365%	21%	94%	495%						
Kenya	15%	34%	982%	13%	46%	677%	13%	47%	680%	15%	47%	540%
Lesotho	9%	72%	629%	6%	44%	766%	7%	43%	192%	14%	51%	399%
Liberia	6%	36%	361%									
Madagascar	8%	20%	399%	8%	17%	209%	6%	18%				
Malawi	8%	133%	1371%	8%	107%	1076%	7%	94%	1032%	9%	145%	979%
Mali	39%	81%	998%	38%	86%	589%				17%	35%	522%
Mauritania	30%	177%	524%	26%	122%	559%	18%	86%	428%	12%	59%	157%
Mauritius	14%	20%	339%	10%	18%	171%	10%	18%	117%			
Mozambique							23%	56%	2224%			
Namibia							4%	37%	164%	17%	44%	86%
Niger	25%	170%	1509%				25%	70%				
Nigeria	5%	54%	555%									
Rwanda	11%	112%	902%	16%	67%	1210%	17%	57%	1275%			
Sao Tome and Principe												
Senegal	25%	70%	487%	23%	52%	384%	15%	33%	344%			
Seychelles				11%	92%		10%	56%		13%	15%	
Sierra Leone				6%	22%	172%	3%	17%	366%			
Somalia												
Sudan	24%	66%	590%									
Swaziland	11%	39%	152%	9%	30%	296%	8%	28%	262%	10%	29%	302%
Tanzania	11%	204%	1915%	15%	180%	2131%	11%	193%	2843%			
Togo	8%	33%	892%	9%	43%	527%	9%	38%	676%	10%	42%	521%
Uganda	4%	205%	916%	8%	61%	499%	4%	95%	465%			
Zaire	7%	21%	774%	4%*		218%	4%	7%	138%			
Zambia	11%	61%	585%	9%	53%	441%	4%	33%	207%	4%	9%	160%
Zimbabwe	25%	131%	413%	20%	41%	193%	21%	40%	137%	22%	39%	234%

Source: World Education Reports (various years)
Notes: * - includes second level education.

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Table A2.2: Current Expenditure per Pupil as a percentage of GNP per capita in South Asia

	1980			1985			1990			1995		
	pre prim. and first level	2nd level	3rd level	pre prim. and first level	2nd level	3rd level	pre prim. and first level	2nd level	3rd level	pre prim. and first level	2nd level	3rd level
Afghanistan												
Bangladesh	5%	13%	48%	6%	16%	33%	6%	22%	37%	6%	23%	30%
Bhutan												
India	9%	14%	72%	11%	14%	87%	11%	15%	83%	11%	13%	78%
Maldives										17%	24%	
Nepal	10%[*]		247%	8%	17%	207%				8%	12%	156%
Pakistan	9%	18%	134%	9%	21%	126%	13%	29%	157%			
Sri Lanka	9%[*]		72%	8%[*]		58%	6%[*]		53%	7%[*]		64%

Source: World Education Reports (various years)
Notes: [*] - includes second level education.

Table A2.3: Percentage Distribution of Current Expenditure by level in SSA

	1980			1985			1990			1995		
	pre prim. and first level	2nd level	3rd level	pre prim. and first level	2nd level	3rd level	pre prim. and first level	2nd level	3rd level	pre prim. and first level	2nd level	3rd level
Angola				86.8%*		5%	96.3%*		4%			
Benin										59%	22%	19%
Botswana	52%	29%	13%	36%	41%	17%	31%	49%	12%			
Burkina Faso	32%	20%	34%	38%	20%	31%	42%	26%	32%			
Burundi	39%	35%	24%	45%	32%	20%	47%	29%	22%	42%	30%	28%
Cameroon	76%*		24%	72.6%*		27%	70.5%*		30%			
Cape verde				62%	16%		55%	18%	3%			
Central African Rep.	55%	14%	16%	55%	18%	19%	53%	15%	22%			
Chad							47%	21%	8%	42%	22%	8%
Comoros										37%	35%	17%
Congo	36%	29%	24%	65.6%*		34%				62%*		28%
Djibouti	58%	18%	19%	64%	24%		58%	22%	12%			
Equatorial Guinea												
Ethiopia	42%	30%	19%	52%	28%	14%	54%	28%	12%	54%	28%	11%
Gabon												
Gambia	49%	24%	11%	49%	21%	14%	42%	21%	18%	45%	25%	11%
Ghana				25%	30%	13%	29%	34%	11%			
Guinea	25%	29%	32%	31%	37%	24%	23%	19%	31%	35%	29%	18%
Guinea-Bissau	76%	16%										
Cote d'Ivoire	47%	37%	15%	40%	43%	17%						
Kenya	64%	15%	14%	60%	18%	12%	57%	19%	15%	62%	19%	14%
Lesotho	39%	33%	22%	39%	33%	22%	42%	34%	18%	51%	31%	17%
Liberia	18%	27%	19%									
Madagascar	41%	26%	28%	42%	27%	27%						
Malawi	39%	16%	30%	41%	15%	23%	42%	13%	30%	59%	16%	17%
Mali	42%	22%	16%	48%	23%	13%				46%	22%	18%
Mauritania	35%	50%	14%	25%	30%	18%	30%	36%	24%	40%	36%	20%
Mauritius	44%	37%	8%	45%	38%	6%	41%	40%	7%			
Mozambique							50%	16%	10%			
Namibia							21%	36%	10%	48%	33%	7%
Niger	37%	46%	17%									
Nigeria	17%	40%	25%									
Rwanda	67%	20%	10%	68%	15%	12%	68%	14%	16%			
Sao Tome and Principe				56%	27%							
Senegal	43%	28%	25%	50%	25%	19%	39%	21%	23%			
Seychelles				30%	54%		32%	46%		38%	31%	13%
Sierra Leone				41%	32%	15%	21%	32%	35%			
Somalia												
Sudan	48%	31%	21%									
Swaziland	46%	34%	11%	37%	27%	21%	33%	29%	21%	37%	26%	28%
Tanzania	54%	21%	11%	58%	21%	13%	42%	32%	17%			
Togo	30%	31%	30%	34%	29%	23%	30%	26%	29%	35%	30%	27%
Uganda	16%	58%	18%	45%	33%	13%	20%	61%	13%			
Zaire	42%	27%	32%	71.3%*		29%	55%	22%	23%			
Zambia	45%	26%	18%	44%	27%	18%	32%	35%	17%	42%	18%	23%
Zimbabwe	67%	21%	8%	58%	28%	9%	54%	31%	10%	52%	26%	17%

Source: World Education Reports (various years)
Notes: * - includes second level education.

Table A2.4: Percentage Distribution of Current Expenditure by level in South Asia

	1980			1985			1990			1995		
	pre prim. and first level	2nd level	3rd level	pre prim. and first level	2nd level	3rd level	pre prim. and first level	2nd level	3rd level	pre prim. and first level	2nd level	3rd level
Afghanistan	44%	22%	18%				87.6%[*]		12%			
Bangladesh	45%	39%	13%	46%	35%	10%	46%	42%	9%	44%	43%	8%
Bhutan												
India	37%	24%	14%	37%	25%	16%	42%	29%	17%	38%	26%	14%
Maldives										67%	32%	
Nepal	58.8%[*]		35%	36%	20%	33%				45%	18%	28%
Pakistan	39%	31%	19%	36%	33%	18%	37%	33%	18%			
Sri Lanka	91.1%[*]		9%	90.2%[*]		10%	84.3%[*]		13%	72.7%[*]		12%

Source: World Education Reports (various years)
Notes: [*] - includes second level education.

Table A2.5: Public Expenditure on Education as % of GNP in SSA

	1980	1985	1990	1995
Angola				
Benin				
Botswana	8%	7%	8%	10%
Burkina Faso	3%	3%	2%	4%
Burundi	3%	3%	4%	3%
Cameroon	3%	3%	3%	
Cape verde		4%	4%	
Central African Rep.	4%	5%	3%	
Chad			2%	2%
Comoros	5%	4%		4%
Congo	8%	5%	6%	6%
Djibouti	3%	3%	3%	
Equatorial Guinea			2%	2%
Ethiopia	2%	4%	5%	5%
Gabon	2%	3%	6%	
Gambia	3%	4%	4%	6%
Ghana	4%	2%	3%	
Guinea				
Guinea-Bissau		3%	3%	
Cote d'Ivoire	7%			
Kenya	6%	6%	7%	7%
Lesotho	5%	9%	4%	6%
Liberia	4%	6%		
Madagascar	5%	4%		
Malawi	3%	3%	3%	6%
Mali	7%	4%	3%	2%
Mauritania	4%		5%	5%
Mauritius	5%	5%	4%	4%
Mozambique	4%	6%	6%	6%
Namibia	2%		5%	9%
Niger	3%	3%		
Nigeria	3%	2%		
Rwanda	2%	3%	4%	
Sao Tome and Principe	8%	5%		
Senegal	5%		4%	4%
Seychelles	6%		9%	8%
Sierra Leone	4%	4%	1%	
Somalia				
Sudan	5%	5%		
Swaziland	5%	6%	6%	8%
Tanzania	5%	4%	6%	
Togo	6%	6%	6%	6%
Uganda	2%	2%	3%	
Zaire	3%		1%	
Zambia	6%	5%	3%	2%
Zimbabwe	4%	7%	11%	9%

Source: UNESCO Statistical Yearbooks and World Education Report (various years)

Table A2.6: Public Expenditure on Education as % of GNP in South Asia

	1980	1985	1990	1995
Afghanistan				
Bangladesh	1%	2%	2%	2%
Bhutan			4%	
India	3%	3%	4%	4%
Maldives		4%	9%	8%
Nepal	2%	3%		3%
Pakistan	2%	2%	3%	
Sri Lanka	2%	3%	3%	3%

Source: UNESCO Statistical Yearbooks and World Education Report (various years)

Table A2.7: Public Expenditure on Education as % of total government expenditure in SSA

	1980	1985	1990	1995
Angola		11%	11%	
Benin				15%
Botswana	16%	15%	16%	21%
Burkina Faso	20%		18%	11%
Burundi	18%	16%	17%	
Cameroon	20%	15%	20%	
Cape verde			20%	
Central African Rep.	21%			
Chad				
Comoros		23%		21%
Congo	24%	10%	14%	15%
Djibouti	12%	8%	11%	
Equatorial Guinea			4%	6%
Ethiopia	10%	10%	9%	13%
Gabon		9%		
Gambia	9%		11%	16%
Ghana	17%	19%	24%	
Guinea		15%	22%	
Guinea-Bissau		11%		
Cote d'Ivoire	23%			
Kenya	18%		17%	
Lesotho	12%		14%	
Liberia	24%			
Madagascar				
Malawi	8%	10%	10%	15%
Mali	31%		17%	
Mauritania			22%	16%
Mauritius	12%	10%	12%	17%
Mozambique	12%	23%	12%	23%
Namibia				21%
Niger	23%			
Nigeria				
Rwanda	22%		25%	
Sao Tome and Principe		19%		
Senegal	24%		24%	33%
Seychelles	14%	21%	12%	16%
Sierra Leone	12%	12%		
Somalia				
Sudan	9%			
Swaziland		20%	23%	22%
Tanzania	11%	14%	11%	
Togo	19%	19%	25%	19%
Uganda	11%		23%	
Zaire	24%	7%	6%	
Zambia	8%	13%	9%	
Zimbabwe	14%	15%		

Source: World Education Reports (various years)

Table A2.8: Public Expenditure on Education as % of total government expenditure in South Asia

	1980	1985	1990	1995
Afghanistan				
Bangladesh	8%	10%	10%	9%
Bhutan				
India	10%	9%	11%	12%
Maldives		7%	10%	14%
Nepal	14%	13%		13%
Pakistan	5%			
Sri Lanka	8%	7%	8%	8%

Source: World Education Reports (various years)

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