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# Social Disparities in Education in Sub-Saharan African Countries
## Gender, geographical location and family income

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In this paper we have two complementary objectives: the first consists in proposing a description of the magnitude of social disparities that exist in the systems of education of Sub-Saharan African countries; we focus on recent data but we put also these data in a time perspective. The second objective aims at identifying some of the factors that may explain these disparities or the impact of the actions targeted to their reduction.

Social disparities in education may be read according to various dimensions. They may concern i) the schooling careers of individuals belonging to different social groups or ii) the volume of public resources appropriated by the individuals as a consequence of their schooling careers, or iii) the level of learning of the students. Besides, the magnitude of social disparities as well as their social meaning may differ according to the level of schooling. In this paper, we focus on the social dimension of schooling careers allowing for variations across levels of education from primary to higher education.

Two types of empirical data can be used to describe the phenomenon under interest: i) the first are administrative in nature and concern the school censuses carried out more or less every year by ministries of education of most African countries; these data are compiled annually by the Unesco Institute of Statistics; ii) the second type of data comes from the household surveys that are carried out now on a more or less regular basis in a large number of countries. These surveys (conducted by the national institutes of statistics, often times with technical and financial support of international organizations) provide relatively rich information on various social dimensions (population, health, poverty, education ...).

While administrative data are in principle exhaustive in terms of coverage, they are often times limited on the social dimensions that are documented; only gender is indeed available. Besides, since the unit of observation is the school and not the individual, the inference between the geographical location of the school and that of the pupils is not necessarily warranted. In primary education this inference is not problematic, but this is not the case when it comes to secondary education. Finally, administrative data concern only the children that are enrolled with no direct access to out of school children. By contrast, household surveys concern only a sample of the total population (even though representative with numbers that are large enough to ensure that the sampling errors remain small for not too specific groups of population). But their main strength is that they provide data on individuals that are fairly detailed on a number of social dimensions; they provide also a documentation on all children irrespective of their schooling status at the time of the survey (enrolled or not - which grade-), with documentation of the previous schooling career for those who are not in school at the time of the survey (ever enrolled -or not- and highest grade attained).

Till the middle (even the end) of the 90s, most of the research on social disparities in school in low income countries was based on administrative data. Since, the increasing availability of survey data has changed the picture, paving the way for richer descriptions and analyses. In this section, we first present estimates of social disparities in education on the basis of Unesco data, to move thereafter on using a large number of household survey data. However, before focusing on social disparities, it is of interest to document the magnitude of the structural disparities that may exist in education in African systems of education, and this, irrespective of the magnitude of social disparities.

I. The quantitative context and the magnitude of structural disparities in African Education

This aspect according to which the structure of education system carries in itself inequalities is often neglected or treated in an implicit manner. Our assessment is that this way of proceeding is an inappropriate limitation of the analysis. To illustrate the point, we use a simple illustration in which the systems of education are basically characterized by a double and inverted pyramid:

i) the first pyramid concerns the enrolments and the coverage of the system; its base is generally wide (but not necessarily universal in primary grade 1) and a top, very thin in the last segments of higher education. All countries in the world (and in particular those in Africa) share a common shape of their pyramid of enrollments and coverage, even though the base, the top and the middle part may be more or less wide or thin;

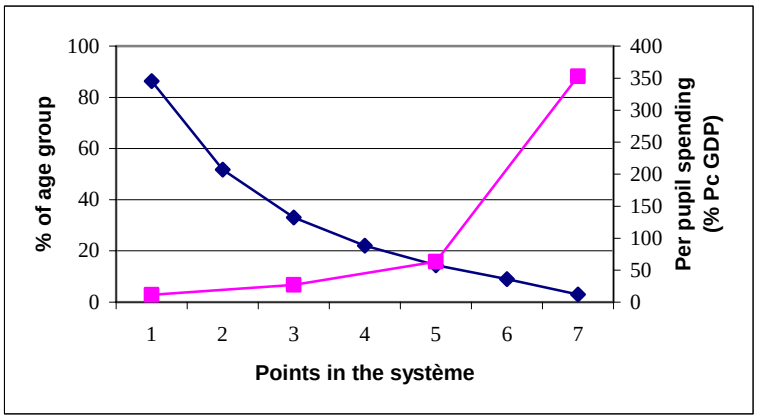
ii) the second pyramid concerns the amount of public spending per student; its shape is inverted by reference to that of enrollments. It is indeed in primary education that unit costs are lowest and in higher education that they are highest (but also where enrollments are relatively limited). The global shape of that pyramid is similar across countries but also with significant variations from one country to another. Table 1 illustrates the global shape (and inter country variations) of the two pyramids for Sub-Saharan African countries.

Table 1: Average pyramid of coverage and unit cost in African Sub-Saharan countries and dispersion across countries (year 2003 or close)

| | IDA countries (GDP/capita < USD 785) | | Non Ida Countries |
|---|---|---|---|
| | Average | Dispersion | Average |
| **Coverage** (% of age group at different points in the system) | | | |
| 1. Access to Primary Grade 1 | 86.4 | 61- 100 | 95.6 |
| 2. Completion of primary education | 51.7 | 27 – 81 | 76.3 |
| 3. Access to Secondary Form 1 | 33.1 | 9 – 63 | 66.4 |
| 4. Completion of lower secondary education | 22.1 | 6 – 58 | 53.2 |
| 5. Access to upper secondary schooling | 14.4 | 2 – 41 | 40.8 |
| 6. Completion of upper secondary education | 9.0 | 2 – 21 | 28.0 |
| 7. Number of students / 100,000 population (coverage %) | 286 (3) | 55 – 784 | 628 |
| **Public spending per student** (Per capita GDP) | | | |
| 1. Primary education | 11.7 | 6 – 24 | 13.6 |
| 3. Lower secondary | 27.3 | 13 – 49 | 16.5 |
| 5. Upper secondary | 63.4 | 18 – 157 | 38.4 |
| 7. Higher | 353 | 83 – 980 | 125 |

Graph 1, provides a visual illustration for an average IDA country of the region (IDA countries have a per capita GDP below USD 785).

Graph 1: Coverage and public spending per student by level of schooling




The graph depicts the double and inverted pattern that prevails on average in low income Sub-Saharan African countries. But two points are worth mentioning i) the wide variability across countries in both dimensions[1] and ii) the large differences across countries in their strategic choices vis-à-vis both coverage and per pupil spending at the different levels of schooling. To illustrate, we observe that the unit cost of higher education is more than 70 times that of primary education in Burundi, Ethiopia, Mozambique or Rwanda while it is hardly more than 10 times in Benin, Cameroon, Côte-d'Ivoire, Mauritania or Zimbabwe. Besides, within the first group of countries (high cost of higher education by comparison to that of primary education), we observe that Mozambique has a low coverage of higher education (55 students per 100,000 population) while Ethiopia has a coverage at the higher level that is about four fold. Similar differences are seen in the second group of countries. At the end, very different patterns are observed in low income Sub-Saharan countries[2].

The variations in these patterns are such that they lead to substantial differences in the degree of concentration of public resources in education in the different countries of the region. The reason is that we consider that the individuals enrolled at a given level of education during a given year appropriate de facto the corresponding unit cost of the services they receive. Given the pyramidal structure of enrolments, this implies wide differences in the number of years of education that individuals get when exiting the system; some individuals have no schooling while some others have been more than 15 years in the system before entering the active period of their life. Those with no schooling have not appropriated any public

[1]. For example, the primary completion rate varies from 27 to 81 percent while the number of students per 100,000 population spans from 55 to 780; Similar variations are recorded in the unit cost that varies from 6 to 24 percent of per capita GDP in primary education and from 0.83 to 9.8 times per capita GDP in higher education.

[2]. Generally speaking, non IDA countries (South Africa, Namibia, Mauritius, and Gabon) are characterized by a much better coverage than that of low income countries; their unit costs are higher in primary education but their relative costs (in per capita GDP unit) are significantly lower in post primary education, and in particular in higher education.

resources, but the longer the studies the larger is the amount of public resources an individual has been able to appropriate. Since unit costs are rapidly increasing with the level of schooling, it follows that the happy few that get to the top of the enrolment pyramid may have accumulated very large amounts of public resources.

For the system as a whole and for a given age cohort, it is clear that on has to expect a certain degree of concentration in the distribution of public resources on education. Besides, as the two pyramids (that of enrolment and that of per pupil spending) do differ substantially from one country to another, one expects now that this degree of concentration of public resources on education differs also substantially across the different countries of Sub-Saharan Africa.

To measure this degree of concentration in the appropriation of public resources in education, a common practice consists in estimating for each country i) the distribution of the terminal level of schooling in a given cohort, ii) the amount of public resources accumulated by an individual according to its terminal level of schooling and to construct iii) the Lorenz curve of the global distribution of public resources for the sector. On this basis, two synthetic indicators are generally reckoned: first the Gini coefficient and second the proportion of total public resources for the sector appropriated by the 10 percent best educated within the cohort. The numerical values of these two indicators are relatively well correlated ($R^2$ around 0.75).

Table 2, below, present the average values of the two indicators, as well as the magnitude of their dispersion between the different countries of the region

Table 2: Degree of concentration of public resources in education in Sub-Saharan African Countries (year 2003 and time comparison)

| | Average | Variations |
|---|---|---|
| IDA countries | | |
| Gini coefficient | 0.52 | 0.29 – 0.69 |
| % of public resources for 10 % + educated | | |
| in 2003 | 43.0 | 23 – 68 |
| in 1992 | 56.0 | |
| in 1975 | 63.2 | |
| Non IDA countries (2003) | | |
| Gini coefficient | 0.30 | |
| % of public resources for 10 % + educated | 24.8 | |

The Gini coefficient can a priori vary on an interval spanning from 0 (characterizing an equitable distribution in which x % of the population appropriate exactly x % of public resources, this holding for any value of X) and 1 (characterizing a theoretical case in which one single individual appropriates all of the public resources for the sector; maximal degree of concentration). This indicator is the most often used but we prefer however focus on the proportion of total resources appropriated by the (conventionally) 10 percent best educated of the cohort; this measure has indeed more social meaning that the Gini coefficient which interpretation is very abstract. The estimates made in low income Sub-Saharan countries shows that on average the 10 percent bets educated get, in 2003, 43 percent of the total

amount of resources for the sector. They show also that, as expected, this statistics varies quite substantially across countries (more or less between one fourth and two thirds) given the wide variability in the structural choices described above. In about one country out of three, more than half of public resources in education are appropriated by only 10 percent of the population of the country; these figures depict a quite high level of concentration of public resources on education in low income Sub-Saharan countries.

This statement is somehow confirmed by the comparison between the case of low income and middle income countries of the region: while the average figure is 0.43 for the former it is only 0.25 for the latter. However, it is also relevant to put the case of low income countries in a time dimension; one can then observe that significant progress has been accomplished since 1975, the indicator showing a decline from 0.63 in 1975 to 0.56 in 1992 (0.43 in 2002). This evolution is the outcome of an application of the law of the sociology of education according to which when the coverage of a system increases, inequalities tend to diminish. This law comes from the fact that the systems with a low coverage are (tautologically) appropriated by a small segment of the population (we will see below that this segment is made of the most privileged individual but we do not need this argument at this stage) and that, with expansion, a larger proportion of the population is included, reducing de facto the degree of exclusiveness of the first served. This tends to be all the more so as it is observed that the structure of unit costs, which is often characterized by very wide disparities across levels of education in countries with a low coverage, tends to even when they expand.

In this section, we have established i) on average, the existence of relatively strong structural disparities in Sub-Saharan African countries, and ii) significant differences on this count from one country to another. But these disparities do not have in themselves a social dimension. One can for example imagine a very elitist system but with a very equitable access to the most desired segment of the system with no social bias; but it is within this structural shell that likely social disparities can emerge and there is obviously a possibility that a system with a degree of structural inequality carries also a high level of social disparities. The focus of the analysis is now on the description of the social aspects of the disparities at school. We use first the administrative data to conduct the description and the analyses. Then we turn to using household surveys.

## II. Disparities according to gender using administrative data

As long as coverage at a given point in the system is not universal, possibilities do exist that some groups be advantaged or disadvantaged in a systematical way. The disparities according to gender have received a special attention over the last twenty years. There are obviously many good reasons to justify this interest with arguments ranging from aspects in terms of rights to aspects of efficiency, given the demonstrated impact of girls' education upon population and health dimensions (behaviors and outcomes) at adult age. This is why gender disparity have attracted the attention of both researchers who wanted to describe and analyze them and practitioners (national policy makers, international organizations - among which Unicef -, constituencies for the cause of girls and women) who wanted to act towards their reduction. But a reason of opportunity has also played a significant role since the gender dimension was largely the single dimension for which a wide documentation was available;

the urban/rural dimension or the distinction between rich and poor is not accessible with administrative data[3].

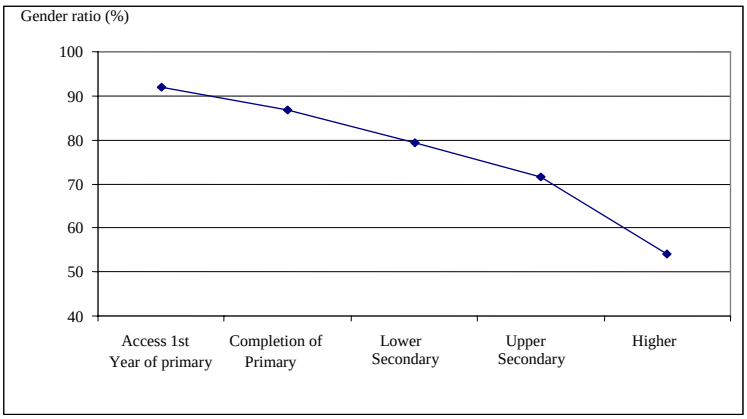
Table 3, below, presents the basic data concerning gender at the different levels of education in a large selection de Sub-Saharan African Countries, both for the years 1990 and 2002 (or close to these years). The main conclusions that emerge from the analysis of these data are the following: i) gender disparities are often present in primary education, but they tend get larger as we consider higher levels of education; ii) gender disparities have been on average substantially reduced over the last 15 years and iii) wide differences do exist between country in the magnitude of gender disparities in their system of schooling.

### II.1 A relatively strong overall pattern

To start with, one can observe as a global picture that gender disparities do exist in the different countries of the region in 2002, and that girls are generally discriminated. If we focus first on primary completion, that is considered a minimal reference for poverty reduction and the MDGs (let remind the reader that only 52 percent of a cohort reach the last grade of primary education in low income Sub-Saharan countries), we observe an average gender ratio of 0.867, meaning that for 100 boys completing primary education we find only 87 girls (which means in turn that the majority of girls of these countries do not even complete primary education). Complementarily, we observe that it is a bit more in terms of access to primary grade 1 (gender ratio of 0.92) than in terms of retention (gender ratio of 0.94) that girls lag behind boys in the chances to complete primary education.

Disparities between boys and girls do exist at the primary level but it is mostly in secondary education that the gap widens significantly, as visualized in Graph 2 below.

Graph 2: Girls to boys ratio at the different levels of schooling
(Average for the Sub-Saharan low income countries, 2002)




[3]. The dimensions of disparities that administrative data allow to measure are mostly the gender and the region (or provinces). Only gender disparities are generic enough to be assessed on a comparative basis across countries. This is not the case for regions or provinces as they are specific to each country. This does not mean that they do not exist or that there would be no interest in their description and understanding.

Table 3: Gender disparities in education in Sub-Saharan African countries, 1990-2002

| Countries | Year | Primary Education | | | | | | | | | | Lower Secondary | | | Upper Secondary | | | Higher | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | GER (%) | | | Access rate (%) | | | Completion (%) | | | Retention | GER (%) | | | TBS (%) | | | Students/100.000 Pop. | | |
| | | M | F | F/M | M | F | F/M | M | F | F/M | F/M | M | F | F/M | M | F | F/M | M | F | F/GM |
| Angola | 1990 | 96 | 88 | 91.7 | 133 | 119 | 89.5 | 42 | 35 | 83.3 | 0.931 | | | | | | | 51 | 10 | 19.7 |
| | 2002 | 118 | 85 | 72.0 | | | | | | | | | | | | | | 61 | 35 | 58.0 |
| Benin | 1990 | 78 | 39 | 50.0 | 104 | 50 | 48.1 | 30 | 14 | 46.7 | 0.971 | 19 | 8 | 43.2 | 8 | 2 | 24.2 | 166 | 32 | 19.3 |
| | 2002 | 127 | 92 | 72.4 | 128 | 102 | 79.7 | 65 | 37 | 56.9 | 0.714 | 35 | 25 | 71.4 | 12 | 4 | 31.4 | 215 | 53 | 24.7 |
| Botswana | 1990 | 99 | 197 | 101.8 | 109 | 111 | 101.8 | 82 | 99 | 120.7 | 1.186 | 37 | 46 | 121.9 | 17 | 15 | 90.4 | 212 | 154 | 72.6 |
| | 2002 | 103 | 103 | 100.0 | 114 | 110 | 96.5 | 87 | 96 | 110.3 | 1.143 | 81 | 86 | 106.2 | 40 | 46 | 115.6 | 285 | 232 | 81.4 |
| Burkina Faso | 1990 | 40 | 25 | 62.5 | 39 | 25 | 64.1 | 24 | 14 | 58.3 | 0.910 | 12 | 7 | 54.4 | 3 | 1 | 32.0 | 65 | 19 | 29.2 |
| | 2002 | 53 | 39 | 73.6 | 61 | 45 | 73.8 | 34 | 24 | 70.6 | 0.957 | 19 | 13 | 68.4 | 6 | 2 | 40.0 | 100 | 34 | 34.0 |
| Burundi | 1990 | 78 | 65 | 83.3 | 72 | 62 | 86.1 | 50 | 43 | 86.0 | 0.999 | 8 | 5 | 64.1 | 3 | 1 | 43.5 | 49 | 17 | 34.1 |
| | 2002 | 86 | 69 | 80.2 | 93 | 80 | 86.0 | 36 | 26 | 72.2 | 0.840 | 14 | 12 | 85.7 | 6 | 4 | 65.5 | 122 | 53 | 43.4 |
| Cameroon | 1990 | 107 | 92 | 86.0 | 88 | 78 | 88.6 | 60 | 52 | 86.7 | 0.979 | 31 | 24 | 76.7 | 19 | 10 | 53.0 | | | |
| | 2002 | 116 | 99 | 85.3 | 107 | 93 | 86.9 | 65 | 55 | 84.6 | 0.974 | 33 | 30 | 90.9 | 19 | 15 | 81.7 | 322 | 204 | 63.4 |
| Cape Verde | 1990 | 117 | 110 | 94.0 | 123 | 117 | 95.1 | | | | | 29 | 29 | 101.8 | 14 | 13 | 94.8 | | | |
| | 2002 | 124 | 118 | 95.2 | 109 | 106 | 97.2 | 88 | 105 | 119.3 | 1.227 | 92 | 106 | 115.2 | 44 | 50 | 114.3 | 249 | 220 | 88.4 |
| C.A.R. | 1990 | 80 | 51 | 63.8 | 70 | 51 | 72.9 | 36 | 19 | 52.8 | 0.724 | 20 | 8 | 42.2 | 9 | 2 | 28.0 | 102 | 18 | 17.6 |
| | 2002 | 78 | 53 | 67.9 | | | | 22 | 15 | 68.2 | | | | | | | | 143 | 28 | 19.6 |
| Chad | 1990 | 76 | 34 | 44.7 | 74 | 44 | 59.5 | 31 | 7 | 22.6 | 0.380 | 14 | 3 | 20.5 | 6 | 1 | 11.5 | 45 | 7 | 16.1 |
| | 2002 | 95 | 61 | 64.2 | 105 | 77 | 73.3 | 34 | 16 | 47.1 | 0.643 | 20 | 6 | 30.0 | 12 | 3 | 22.6 | 63 | 11 | 17.5 |
| Congo | 1990 | 123 | 111 | 90.2 | 87 | 78 | 89.7 | 60 | 48 | 80.0 | 0.892 | 63 | 52 | 83.0 | 26 | 10 | 36.8 | 380 | 89 | 23.4 |
| | 2002 | 83 | 77 | 92.8 | 57 | 54 | 94.7 | 49 | 45 | 91.8 | 0.969 | 48 | 30 | 62.5 | 15 | 8 | 53.9 | 310 | 58 | 18.7 |
| Côte-d'Ivoire | 1990 | 76 | 54 | 71.1 | 63 | 48 | 76.2 | 58 | 34 | 58.6 | 0.769 | 32 | 17 | 51.0 | 17 | 6 | 33.8 | 179 | 50 | 28.1 |
| | 2002 | 86 | 69 | 80.2 | 82 | 75 | 91.5 | 61 | 40 | 65.6 | 0.717 | 38 | 22 | 57.9 | 21 | 10 | 45.9 | 446 | 159 | 35.7 |
| Congo Demo. | 1990 | 81 | 60 | 74.1 | 77 | 64 | 83.1 | 59 | 35 | 59.3 | 0.714 | 16 | 9 | 58.6 | 12 | 4 | 32.8 | | | |
| | 2002 | | | | | | | | | | | | | | | | | | | |
| Equatorial Guinea | 1990 | | | | | | | | | | | 49 | 30 | 60.5 | 12 | 2 | 15.4 | 143 | 21 | 14.5 |
| | 2002 | | | | | | | | | | | | | | 48 | 25 | 52.3 | | | |
| Eritrea | 1990 | 22 | 21 | 95.5 | | | | | | | | 22 | 18 | 81.8 | 12 | 9 | 74.5 | | | |
| | 2002 | 70 | 57 | 81.4 | 65 | 55 | 84.6 | 42 | 30 | 71.4 | 0.844 | 52 | 38 | 73.1 | 26 | 15 | 55.7 | 123 | 19 | 15.4 |
| Ethiopia | 1990 | 38 | 25 | 65.8 | 59 | 38 | 64.4 | 19 | 9 | 47.4 | 0.736 | 18 | 14 | 80.1 | 11 | 7 | 65.6 | 80 | 19 | 23.8 |
| | 2002 | 76 | 55 | 72.4 | 92 | 74 | 80.4 | 48 | 37 | 54.2 | 0.674 | 31 | 19 | 61.3 | 11 | 7 | 65.8 | 151 | 54 | 35.8 |
| Gabon | 1990 | 143 | 141 | 98.6 | 151 | 151 | 100.0 | 64 | 71 | 110.9 | 1.109 | 48 | 50 | 102.7 | 22 | 19 | 84.7 | 310 | 137 | 44.1 |
| | 2002 | 133 | 132 | 99.8 | 96 | 96 | 100.0 | 72 | 76 | 105.6 | 1.056 | | | | | | | 396 | 220 | 55.6 |
| Gambia | 1990 | 73 | 50 | 68.5 | 80 | 59 | 73.8 | 57 | 34 | 59.6 | 0.808 | 34 | 19 | 56.2 | 15 | 5 | 43.3 | 94 | 53 | 56.3 |
| | 2002 | 86 | 84 | 97.7 | 85 | 89 | 104.7 | 80 | 80 | 100.0 | 0.955 | 55 | 43 | 78.2 | 27 | 16 | 59.1 | | | |
| Ghana | 1990 | 79 | 66 | 83.5 | 85 | 76 | 89.4 | 70 | 53 | 75.7 | 0.847 | 75 | 51 | 67.3 | 9 | 4 | 48.6 | 78 | 23 | 29.4 |
| | 2002 | 81 | 77 | 95.1 | 89 | 86 | 96.6 | 60 | 63 | 105.0 | 1.087 | 60 | 52 | 86.7 | 22 | 18 | 83.0 | 245 | 94 | 38.4 |
| Guinea | 1990 | 46 | 22 | 47.8 | 53 | 26 | 49.1 | 25 | 9 | 36.0 | 0.733 | 16 | 6 | 36.2 | 7 | 1 | 20.0 | 76 | 5 | 6.6 |
| | 2002 | 92 | 71 | 77.2 | 86 | 76 | 88.4 | 51 | 31 | 60.8 | 0.688 | 37 | 29 | 78.4 | 21 | 8 | 40.3 | 303 | 37 | 12.2 |
| Bissau Guinea | 1990 | 65 | 35 | 53.8 | | | | 21 | 12 | 57.1 | | 9 | 5 | 57.9 | 3 | 1 | 23.3 | 40 | 3 | 6.3 |
| | 2002 | | | | | | | 40 | 24 | 60.0 | | 29 | 16 | 55.2 | 12 | 7 | 57.1 | 29 | 5 | 17.2 |
| Kenya | 1990 | 97 | 92 | 94.8 | 119 | 113 | 95.0 | 69 | 57 | 82.6 | 0.869 | 29 | 23 | 79.2 | 7 | 4 | 50.9 | 97 | 41 | 41.7 |
| | 2002 | 95 | 90 | 94.7 | 97 | 95 | 97.9 | 76 | 73 | 90.8 | 0.927 | 40 | 38 | 95.0 | 25 | 22 | 88.3 | 205 | 109 | 53.2 |
| Lesotho | 1990 | 101 | 113 | 111.9 | 110 | 112 | 101.8 | 48 | 82 | 170.8 | 1.678 | 24 | 38 | 154.1 | 11 | 13 | 121.2 | 54 | 77 | 142.6 |
| | 2002 | 125 | 127 | 101.6 | 134 | 129 | 92.5 | 57 | 67 | 135.1 | 1.461 | 35 | 46 | 131.4 | 18 | 23 | 122.6 | 142 | 197 | 138.7 |
| Madagascar | 1990 | 95 | 92 | 96.8 | 92 | 95 | 103.3 | 34 | 35 | 102.9 | 0.996 | 22 | 22 | 100.6 | 9 | 8 | 93.6 | 184 | 150 | 81.5 |
| | 2002 | 122 | 117 | 95.9 | 130 | 125 | 96.2 | 40 | 41 | 102.5 | 1.065 | 21 | 21 | 100 | 7 | 7 | 99.6 | 104 | 86 | 82.7 |
| Malawi | 1990 | 74 | 62 | 83.8 | 107 | 98 | 91.6 | 40 | 31 | 77.5 | 0.846 | 5 | 3 | 51.2 | | | | 37 | 14 | 37.8 |
| | 2002 | 143 | 137 | 95.8 | | | | 71 | 68 | 95.8 | | 57 | 43 | 75.4 | 29 | 17 | 57.8 | 21 | 8 | 38.1 |
| Mali | 1990 | 32 | 19 | 59.4 | 32 | 19 | 59.4 | 14 | 9 | 64.3 | 1.082 | 12 | 7 | 58.8 | 2 | 1 | 35.7 | 59 | 10 | 16.9 |
| | 2002 | 66 | 50 | 75.8 | 63 | 53 | 84.1 | 47 | 30 | 63.8 | 0.759 | 28 | 16 | 57.1 | 13 | 7 | 53.8 | 371 | 200 | 53.9 |

| Countries | Year | Primary Education | | | | | | | | | | Lower Secondary | | | Upper Secondary | | | Higher | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | GER (%) | | | Access rate (%) | | | Completion (%) | | | Retention | GER (%) | | | TBS (%) | | | Students/100.000 pop. | | |
| | | M | F | F/M | M | F | F/M | M | F | F/M | F/M | M | F | F/M | M | F | F/M | M | F | F/M |
| Mauritania | 1990 | 58 | 43 | 74.1 | 64 | 48 | 75.0 | 40 | 26 | 65.0 | 0.867 | 19 | 9 | 49.5 | 16 | 7 | 46.4 | 239 | 42 | 17.6 |
| | 2002 | 89 | 87 | 97.8 | 103 | 103 | 100.0 | 49 | 44 | 89.8 | 0.898 | 28 | 22 | 78.6 | 19 | 15 | 76.8 | 245 | 66 | 26.9 |
| Mauritius | 1990 | 109 | 109 | 100.0 | 99 | 99 | 100.0 | 103 | 102 | 99.0 | 0.990 | 63 | 66 | 105.3 | 45 | 44 | 97.5 | 223 | 155 | 69.5 |
| | 2002 | 104 | 105 | 101.0 | 92 | 94 | 102.2 | 105 | 104 | 99.0 | 0.969 | 82 | 80 | 97.6 | 60 | 66 | 110.1 | 612 | 774 | 128.5 |
| Mozambique | 1990 | 73 | 55 | 75.3 | 80 | 65 | 81.3 | 34 | 22 | 64.7 | 0.796 | 20 | 13 | 63.1 | 3 | 1 | 40.1 | 24 | 8 | 33.3 |
| | 2002 | 114 | 93 | 81.6 | 120 | 110 | 91.7 | 57 | 38 | 66.7 | 0.727 | 41 | 27 | 65.9 | 9 | 6 | 70.8 | 30 | 23 | 76.7 |
| Namibia | 1990 | 119 | 120 | 100.8 | 195 | 194 | 99.5 | 70 | 85 | 121.4 | 1.220 | | | | | | | 103 | 183 | 177.7 |
| | 2002 | 105 | 106 | 101.0 | 98 | 97 | 98.0 | 87 | 93 | 106.9 | 1.091 | 72 | 82 | 113.9 | 32 | 32 | 98.5 | 376 | 315 | 83.8 |
| Niger | 1990 | 35 | 20 | 57.1 | 33 | 20 | 60.6 | 23 | 13 | 56.5 | 0.932 | 11 | 5 | 47.7 | 3 | 1 | 24.7 | 43 | 9 | 20.4 |
| | 2002 | 51 | 36 | 70.6 | 68 | 50 | 73.5 | 24 | 17 | 70.8 | 0.963 | 11 | 7 | 63.6 | 3 | 2 | 55.5 | 85 | 28 | 32.9 |
| Nigeria | 1990 | 103 | 81 | 78.6 | 126 | 100 | 79.4 | 82 | 62 | 75.6 | 0.952 | 33 | 25 | 76.2 | 20 | 16 | 78.6 | 289 | 92 | 31.9 |
| | 2002 | 132 | 107 | 81.1 | 132 | 107 | 81.1 | 92 | 73 | 79.3 | 0.978 | | | | | | | | | |
| Rwanda | 1990 | 72 | 71 | 98.6 | 97 | 95 | 97.9 | 44 | 44 | 100.0 | 1.021 | 3 | 2 | 60.2 | 2 | 1 | 46.3 | 39 | 9 | 23.2 |
| | 2002 | 122 | 122 | 100.0 | 166 | 167 | 100.6 | 38 | 36 | 94.7 | 0.941 | 11 | 11 | 100.0 | 3 | 2 | 65.0 | 157 | 80 | 51.0 |
| Sao Tomé | 1990 | | | | | | | | | | | 79 | 75 | 94.6 | 40 | 33 | 82.3 | | | |
| | 2002 | | | | | | | 55 | 66 | 120.0 | | 69 | 58 | 84.2 | 24 | 21 | 90.4 | | | |
| Senegal | 1990 | 66 | 49 | 74.2 | 61 | 49 | 80.3 | 51 | 33 | 64.7 | 0.806 | 24 | 13 | 55.5 | 12 | 6 | 49.4 | | | |
| | 2002 | 83 | 77 | 92.8 | 95 | 94 | 98.9 | 53 | 43 | 81.1 | 0.820 | 26 | 18 | 69.2 | 11 | 7 | 61.1 | | | |
| Seychelles | 1990 | | | | | | | | | | | 76 | 75 | 98.6 | 80 | 75 | 94.2 | | | |
| | 2002 | 115 | 114 | 99.1 | 102 | 102 | 100.0 | 120 | 116 | 96.7 | 0.967 | | | | | | | | | |
| Sierra Leone | 1990 | 60 | 41 | 68.3 | | | | | | | | 35 | 21 | 59.3 | 16 | 8 | 47.4 | 88 | 28 | 31.6 |
| | 2002 | 69 | 57 | 82.6 | 55 | 48 | 87.3 | 42 | 36 | 85.7 | 0.982 | 35 | 23 | 65.7 | 22 | 17 | 78.4 | 138 | 56 | 40.6 |
| Somalia | 1990 | 14 | 7 | 50.0 | | | | | | | | | | | | | | | | |
| | 2002 | | | | | | | | | | | | | | | | | | | |
| South Africa | 1990 | 107 | 106 | 99.1 | 151 | 140 | 92.7 | 76 | 85 | 111.8 | 1.206 | 78 | 91 | 116.7 | 54 | 65 | 120.4 | 667 | 568 | 85.2 |
| | 2002 | 108 | 104 | 96.3 | 118 | 114 | 96.6 | 96 | 102 | 106.3 | 1.100 | 100 | 105 | 105.0 | 65 | 77 | 117.2 | 675 | 775 | 114.8 |
| Sudan | 1990 | 59 | 45 | 76.3 | 67 | 51 | 76.1 | 48 | 39 | 81.3 | 1.068 | 28 | 22 | 77.0 | 17 | 14 | 86.9 | 141 | 95 | 67.2 |
| | 2002 | 64 | 56 | 87.5 | 69 | 61 | 88.4 | 53 | 45 | 84.9 | 0.960 | 56 | 42 | 75.0 | | | | 336 | 300 | 89.3 |
| Swaziland | 1990 | 99 | 97 | 98.0 | 108 | 107 | 99.1 | 66 | 72 | 109.1 | 1.101 | 48 | 49 | 101.2 | 27 | 24 | 88.0 | 192 | 171 | 89.1 |
| | 2002 | 102 | 94 | 92.2 | 97 | 92 | 94.8 | 73 | 77 | 105.5 | 1.113 | 50 | 51 | 102.0 | 30 | 28 | 94.8 | 229 | 275 | 120.1 |
| Togo | 1990 | 133 | 87 | 65.4 | 113 | 86 | 76.1 | 55 | 26 | 47.3 | 0.622 | 37 | 14 | 36.9 | 13 | 3 | 19.3 | 221 | 30 | 13.6 |
| | 2002 | 132 | 110 | 83.3 | 110 | 99 | 90.0 | 92 | 63 | 68.5 | 0.761 | 66 | 36 | 54.5 | 20 | 6 | 28.2 | 243 | 49 | 20.2 |
| Uganda | 1990 | 76 | 61 | 69.0 | 116 | 100 | 86.2 | 49 | 30 | 61.2 | 0.710 | 16 | 10 | 62.1 | 4 | 2 | 39.8 | 83 | 32 | 38.6 |
| | 2002 | 142 | 139 | 97.9 | 187 | 192 | 102.7 | 69 | 59 | 85.5 | 0.833 | 21 | 18 | 84.7 | 6 | 4 | 61.2 | 187 | 98 | 52.4 |
| Tanzania | 1990 | 68 | 67 | 98.5 | 78 | 77 | 98.7 | 61 | 63 | 103.3 | 1.047 | 7 | 5 | 76.4 | 1 | 0.4 | 29.1 | 23 | 4 | 17.4 |
| | 2002 | 86 | 83 | 96.5 | 149 | 142 | 95.3 | 57 | 59 | 103.5 | 1.086 | 49 | 8 | 16.3 | 2 | 1 | 49.9 | 65 | 21 | 32.3 |
| Zambia | 1990 | 98 | 89 | 90.8 | 96 | 95 | 99.0 | 110 | 84 | 76.4 | 0.772 | 35 | 24 | 68.1 | 15 | 8 | 53.1 | 132 | 51 | 38.3 |
| | 2002 | 85 | 79 | 92.9 | 86 | 86 | 100.0 | 66 | 55 | 83.3 | 0.833 | 41 | 36 | 87.8 | 19 | 15 | 81.2 | 200 | 93 | 46.5 |
| Zimbabwe | 1990 | 104 | 103 | 99.0 | 120 | 120 | 100.0 | 99 | 93 | 93.9 | 0.939 | 70 | 69 | 99.2 | 35 | 26 | 74.8 | 321 | 158 | 49.2 |
| | 2002 | 95 | 93 | 97.9 | 114 | 111 | 97.4 | 88 | 78 | 94.0 | 0.965 | 63 | 58 | 92.1 | 32 | 27 | 84.7 | 298 | 173 | 58.1 |
| **Average** **Direct** | **1990** | **80.2** | **69.4** | **79.7** | **92.9** | **81.1** | **83.8** | **52.7** | **44.2** | **78.2** | **0.924** | **31.6** | **25.8** | **72.7** | **16.0** | **11.6** | **55.5** | **144** | **70** | **42.3** |
| **Truncated** | **1990** | **76.3** | **66.7** | | **82.8** | **73.6** | | **52.4** | **44.2** | | | | | | | | | | | |
| **Direct** | **2002** | **98.9** | **88.1** | **88.1** | **101.5** | **94.3** | **92.0** | **62.0** | **55.7** | **86.7** | **0.937** | **44.5** | **37.1** | **79.4** | **21.6** | **17.6** | **71.6** | **220** | **140** | **54.1** |
| **Truncated** | **2002** | **89.2** | **82.1** | | **89.9** | **85.6** | | **61.4** | **55.0** | | | | | | | | | | | |

* Average figures for the gender ratios at the bottom of the table are the means of that indicator in the different countries, not the ratio between the regional averages for males and females. The averages are “direct” when they use the gross figures reported for each country, even if these exceed, in certain countries, 100 percent (access rate of 149 percent in Tanzania or of 166 percent in Rwanda en 2002); the “truncated” average is calculated after all figures exceeding 100 percent have been brought down to 100 percent. However, the gender ratios are always calculated on the basis on non truncated figures.

While the numerical value of the gender ratio is 0.87 at the end of the primary cycle, it jumps to 0.79 in lower secondary education and to 0.72 at the upper level, indicating a progressive increase in the disadvantage of girls vis-à-vis boys. When it comes to higher education, the figures suggest a strong increase in the disadvantage of females with an average gender ratio that stands at only 0.54 in 2002; while we find more or less three girls for one boy in upper secondary education, there is on average only one female for two males in higher education.

**II.2 Wide differences across countries: common pattern versus country specificities?**

The average pattern described briefly above leads often to generic explanations that do not take into account the possibility that things may be different from one country to another. This is indeed what is effectively observed, which obviously leads to less clear cut and more contextualized statements.

We focus first on the case of the completion of primary education. The regional average of the gender ratio (female to male) at this point in the system is estimated at 0.87 in 2002; but the figure for individual countries ranges from 0.47 to 1.35. Even though any grouping of countries is always somehow conventional, one can suggest that out of the 41 countries for which the data are available, 14 can be said to suffer from a fairly high degree of gender disparities (gender ratio below 0.75); however, one counts 15 countries for which the argument of a disadvantage of the girls is not empirically valid (as far as the completion of primary education is concerned) since the gender ratio exceeds 0.95 (it even exceeds 1 in 10 countries where boys are lagging behind girls). In between these two groups, 12 countries have a gender ratio between 0.79 and 0.95; in this group of countries, girls are lagging behind boys but with a relatively moderate magnitude. In spite of the conventional character of the country grouping, it remains that there is no doubt that the countries of Sub-Saharan Africa do different significantly in terms of their gender disparities.

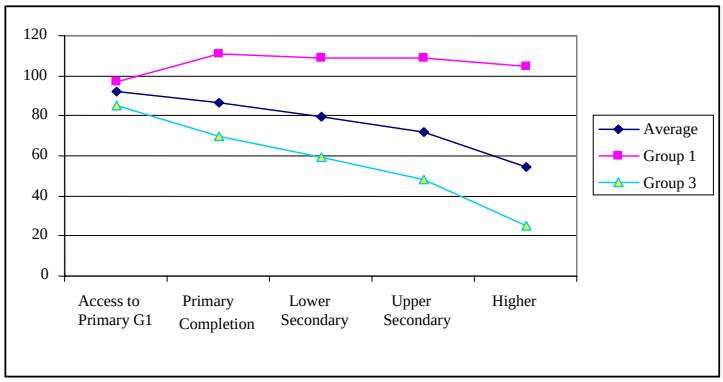
These observations call for two types of question: the first is to whether what has just be documented for primary completion has some validity for the system as a whole; the second questions the origin of the differences, which leads to examine the respective roles of i) real country specificities vis-à-vis the schooling of girls, and ii) the level of coverage of the education system which is necessarily to influence the magnitude of gender disparities.

* Concerning the first point, we observe high levels of correlations between the gender ratio at primary completion with that calculated for example in upper secondary education or in higher education. Similarly, a global indicator calculated over the whole system of schooling leads to a country grouping which is very close to that constructed on the basis of the data taken only at primary completion.

These results suggest that country specificity do exist and that in some countries, “things” are such that strong forces go against the schooling of girls, while in other countries these forces do not exist at all or exist with a much lower strength (or come in to exert an influence only at higher levels of education). Among the countries where there is no disadvantage for girls (group 1 in graph 3 below), we find South Africa, Botswana, Cape Verde, Lesotho, Madagascar, Mauritius, Namibia and Swaziland (mostly countries from Southern Africa).

The group 3 of countries, where disparities against girls is strongest, regroups countries such as Benin, Burkina Faso, Chad, Congo, Côte-d'Ivoire, Eritrea, Mali, Mauritania, Niger, Tanzania and Togo[4] (group 3 is made mostly of francophone countries). Graph 3 contrasts the average pattern of gender disparities at the different levels of schooling of groups 1 and 3 (all the other countries are in group 2 which behavior is close to that of a country in the average of the region.

Graph 3: Wide variability across African countries in terms of gender disparities in school




See the countries in groups 1 and 3 in the text;
All other countries are in group 2 close to the regional average

* Concerning now the second point, and after that the magnitude of gender disparities have been identified at the country level, one can try to determine the extent to which they are linked to the quantitative coverage of the system of schooling. If we take an extreme perspective, we know that social disparities, whatever they are, are linked with coverage since when coverage is universal, there is room left for them. It is only when the provision is not universal that the characteristics of those who are included may differ from those of the individuals who are excluded. Beyond this truism, one can anticipate that social disparities in general, gender disparities in particular be on average all the more intense as coverage is low.

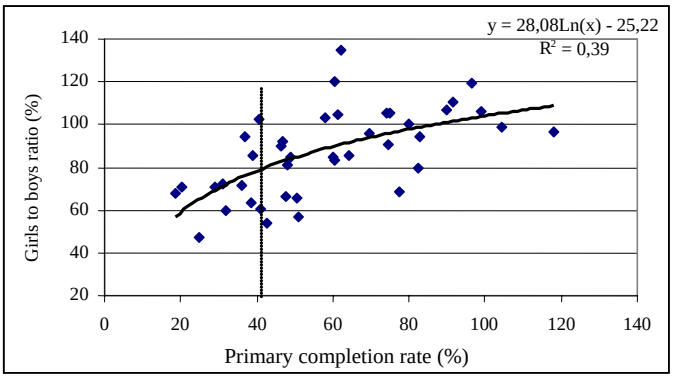
On the basis on this argument, one can think that the differences reported across countries in gender disparities may be linked partly to differences in coverage and partly to other factors (that can be themselves country specific or not). The analysis can for example be conducted at the completion of primary education. Graph 4 below shows the case of the different countries of the region both in terms of the proportion of the age group that complete primary education, and of the magnitude of gender disparities at this point in the system.

The graph is relatively clear: on the one hand, there exists a trend according to which gender disparities are more intense when coverage is lower (the trend is materialized by the curve in the graph); on the other and complementarily, we identify strong differentiations in gender disparities between countries standing at similar level of coverage (suggesting the existence of country specificity given the analysis conducted). For example, countries such as Ethiopia,

[4]. For Mauritania and Tanzania, the disadvantage of girls appears mostly after the end of primary education.

Guinea, Madagascar, Mali and Rwanda have all completion rates around 40 percent in 2002, but they differ strongly on the magnitude of gender disparities: for example, while Ethiopia, Guinea and Mali have a gender ratio around 60 percent, it stands at almost 100 percent in Madagascar and Rwanda. One can therefore conclude to the existence of a mixed pattern compounding country specific factors with a general factor implying that in general, the lower the coverage of the system, the larger tend to be gender disparities (and probably other disparities as well).

Graph 4: Gender equity versus global coverage at the end of primary education, 2002




The same type of argument may be developed to describe the disparities between boys and girls in secondary education as well as the difference of their magnitude between the different cycles of study. An immediate observation (table 3 and graph 2, above) is that the magnitude of gender disparities increases between primary and secondary education and that, within secondary education it is larger in the second cycle than in the first one. Beyond the explanations traditionally proposed on this theme[5], it remains possible that the difference in the magnitude of gender disparities between these cycles of study be linked to the fact that coverage of primary education is always larger that that of secondary education. We start then from the conjecture that the pattern of gender inequality is similar for primary and secondary education. More precisely, we put the hypothesis that:

i) the average level of gender disparities in a cycle of study is not associated to the fact that we consider individuals in primary or in secondary education but to the coverage of the cycle, that is to the global degree of exclusion of individuals that the level of coverage implies. In other words, the hypothesis is that there exists a general and single relationship between gender disparity and coverage that would hold both for primary and the two cycles of secondary education. Along this line of argument, gender disparities in a given country could differ substantially in primary and secondary education (disparities being larger in secondary

[5]. The explanations that are commonly used to account for this pattern are that the access to secondary education corresponds to the age of puberty and also implies (in particular for children in rural areas) that children move to a school located far away for home. Without mentioning the prevalence of precocious marriage, it is suggested that the females are more exposed at this age and that parents are reticent to let them go to school in a context more risky if the girl must leave home to get enrolled; besides, enrolment far away from home implies a loss for the family given the fact that the girl is less likely to contribute to the household economy.

than in primary education) but these differences would primarily reflect the fact that coverage is generally much smaller at the secondary than at the primary level; the same type of relationship could hold also to account for the evolution of gender disparities over time.

ii) the country specific dimension of gender disparities is homogenous and country specificities express themselves in a more or less similar way at the different levels of schooling.

These two points have the status of a hypothesis that we hold for potentially valid but that we need to test on empirical grounds to assess their distance with the reality.

A very straightforward way of testing the hypothesis of uniqueness across levels of education of the relationship between the magnitude of gender disparity and coverage city consists in regrouping in a single file (by concatenation) the data on both coverage and gender ratio for primary, lower and upper secondary education[6]. The following model is then estimated:

$$\textbf{Gender ratio} = a_0 + a_1 * \text{Ln (GER)} + a_2 * \text{Sec1} + a_2 * \text{Sec2}$$

In this expression, the dependant variable is the gender ratio (in percentage) in the GER at the different levels of schooling. Explanatory variables are on the one hand the Logarithm of the GER of each country at each of the three levels of schooling under consideration (primary education, lower and upper secondary education) and on the other two dummy variables (numerical value of 0 or 1) used to authorize the possibility of a difference between primary education and each of the two cycles of secondary education in the magnitude of gender disparities in a context where the level of coverage of the system is controlled for (that is when reasoning at similar levels of coverage). The results are as follows:

$$\textbf{Gender ratio} = 26.3 + \underset{(t=5.0)}{13.9} * \text{Ln (GER)} + \underset{(t=0.7)}{3.9} * \text{Sec1} + \underset{(t=1.6)}{11.1} * \text{Sec2} \qquad R^2=0.24$$

These results call for various comments:

i) this equation allows first to identify the general law according to which disparities in education (here gender disparities) tend to be larger when coverage is lower.

ii) the estimate suggests also that there is no significant difference between primary and lower secondary schooling in the magnitude of gender disparities when controlling for coverage at the two levels of schooling. This means that the increase in gender disparities between the two levels of schooling is on average essentially the outcome of a lesser coverage in lower secondary than in primary education. (GER of 42 percent in lower secondary education against 92 percent in primary education). A consequence is that is there is no need to recourse to cultural arguments (supposed to play in one country, but not in another), to account for the increase in gender disparities when the children get access to lower secondary education.

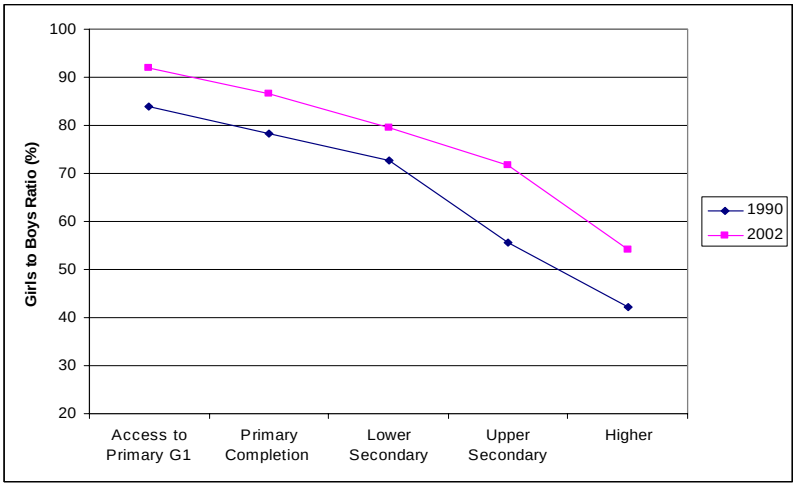
[6]. In this file, each country is represented by three observations, corresponding to its data on GER and coverage at the three levels of schooling. The country file counting about 40 countries, the file analyzed here has therefore about 120 observations.

iii) if we focus now on upper secondary education, the raw picture (as seen in graph 2 above) is that gender disparities are clearly stronger than in primary education. In the model presented above, the coefficient of the dummy variable for upper secondary education instead of being negative is positive (and somehow statistically significant; 10 percent level). There is no contradiction between these two observations, even though it may be relevant to bring another empirical argument to the discussion. First, there is no contradiction since in the reality the coverage of upper secondary education is much lower (19.6 percent) than that of primary education (92 percent); a consequence is that it is expected that the picture offered by the coefficient of the Sec2 variable in the model differs from what is visible in graph 2 since i) the model indicates that coverage has a significant influence on the phenomenon under study and ii) the control is indeed done indicating that the difference in coverage is accounted for. This being said, this does not explain why the coefficient of Sec2 is positive, implying that, controlling for coverage, gender disparities are even lower in upper secondary than in primary education. A likely explanation is (as we will see later on in this paper) that the population in school in the upper secondary is socially much better-off than that of primary education, and that gender disparities tend to be stronger when the family is poor that when it is rich.

### II.3 a positive evolution over time but little impact of the targeted policies set in place

Table 2 above presents data on gender disparities at the different levels of schooling for both 1990 and 2002. It helps therefore to describe the evolutions over time. Graph 5 allows visualizing the evolutions that took place over that period.

Graph 5: Disparities between girls and boys by level of education, 1990 and 2002




A sizeable reduction in gender disparities is clearly observed over the period 1990 to 2002 and this is visible at all levels of schooling. For example, gender ratio (girls to boys) increases from 0.84 to 0.92 in the access to primary education and from 0.78 to 0.87 at completion of that cycle. In secondary education, similar improvements are witnessed, gender ratio improving from 0.73 to 0.79 over the period at the lower level and from 0.56 to 0.72 at the

upper level. One needs to keep in mind that the data reported in graph 5 are cross sectional for each level of schooling at the two points in time (for example, the group of individuals for which we observe the gender ratio in secondary education does not belong to the same generation than that of the group of the individuals enrolled in primary education at the same date). Given the cross sectional nature of these data, the results suggest that the gender gap within a given generation widen less than it is apparent in the graph. Besides, we can visually observe from graph 5 that the magnitude of gender disparities, at a given level of schooling in 2002, is very similar to that observed 10 years earlier at the preceding level of schooling (for example, gender disparities in upper secondary education in 2002 have more or less the same magnitude as these observed at the lower secondary level in 1990.

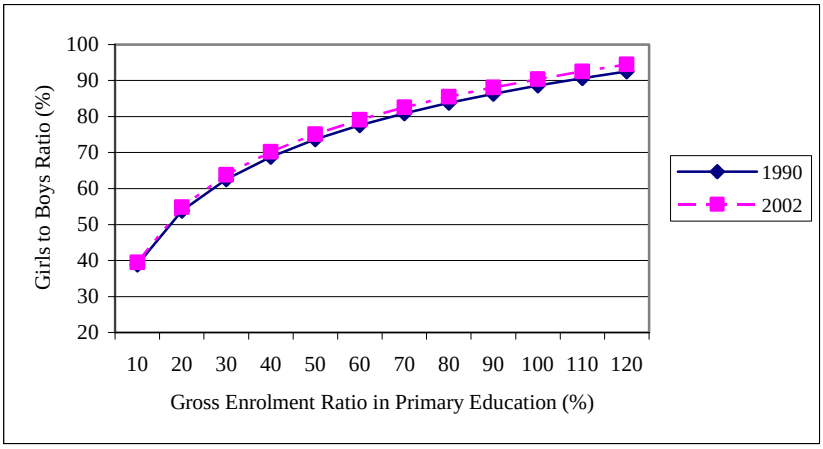
In as much as the reduction of gender disparities has mobilized a lot of energy and resources over the last 20 years (creation of the Forum of African Women for Education, of the Unesco International Center for Girls Education in Africa, of the Cedeao Network for Girls Education, of the UN Initiative for Girls Education, Multiple direct actions and advocacy campaigns by Unicef, creation of units for girls education in most African countries, mobilization of resources targeted on the reduction of gender disparities in most bilateral and multilateral projects, …), it is tempting to suggest that the reduction in gender disparities displayed in graph 5 is the outcome of all these actions; but this is however not proven. The reason, as previously seen in that text, is that the magnitude of gender disparities tends on average to decline as coverage increases and that if the magnitude of gender disparities has declined between 1990 and 2002, coverage of education has also, on average, improved.

In this context, we are led to distinguish two components to account for the evolutions reported: i) the first is somehow mechanical and would be associated to the increase in coverage and linked to general educational policies to expand it; ii) the second component would be specific and correspond to the impact of the actions developed to improve the chances of girls in school. If we focus on the first component, we move over time along the relationship between coverage and gender disparities as coverage improves. If we focus now on the second component, we anticipate a shift up in the relationship with an improvement of the chances of girls for a given level of coverage. To separate out the two components, two empirical methods can be used: one consists in analyzing separately the data for 1990 and 2002 and contrast the two estimates; another consists in analyzing together the data set for the two years and to test the existence and magnitude of a systematic difference between the two sets of data. We use these two methods.

1. We estimate, separately for the years 1990 and 2002, the average relationship between the gender ratio and the logarithm of the coverage (we do that first for primary education). Then, on the basis of the equation estimated for the two dates, we run a numerical simulation and plot the curve obtained for each of them into a single graph (graph 6 below).

A straightforward visual examination shows that the two curves are very close suggesting that the specific component is at best weak, and that most of the progress reported in gender disparities between 1990 and 2002 results from the positive evolution in the quantitative coverage of the system. But beyond this visual, but strong, first impression, it is relevant to get to a more objective test; this is what is proposed with the second method.

Graph 6: Average relationship between coverage and gender ratio in primary education, Years 1990 and 2002




2. We regroup in a single file the data for the different countries and the two dates, 1990 and 2002, and we test the existence of a general relationship between coverage and the gender index, using also a dummy variable that identifies whether the data is for the year 1990 or 2002. With this method, the coefficient of the dummy variable, and its level of statistical significance, indicate the magnitude of the impact of the specific actions undertaken for girls' education over the period under consideration. The result is that the coefficient, which numerical value is very small (less than 1 percent), is in fact not different from zero. It is therefore safe to conclude that the progress recorded in gender disparities over the 1990-2002 in primary education results mostly from the evolution in coverage and from the policies that have made it possible, and very little from the specific policies geared to girls' education.

A similar type of analysis has been conducted for lower secondary education; the results obtained are similar to those reported above for primary education. In total, it seems safe to conclude that specific targeted policies for girls' education have not carried the benefits they anticipated. These results have obviously some bearing for further thinking and action in this domain.

### II.4 A synthesis on gender disparities

We try now to summarize briefly the results obtained so far on gender disparities in education:

1. Gender disparities can be substantial in Sub-Saharan Africa, but this is not true for all countries. In some countries, in particular in the southern part of the continent, girls are not really lagging behind boys, while this is the case in most of the others with a particular intensity in some of them (mostly francophone countries); this suggests that caution should be used in making generic statements about girls' education in the countries of the region;

2. In the countries where girls are indeed a group at a disadvantage, the girls are all the more lagging behind as coverage is limited;

3. If coverage constitutes indeed a context that proves to be more or less favorable, sizeable differences also exist across countries in terms of gender disparities, when controlling for coverage; this suggests that cultural and societal contexts, or specific education policies in individual countries, do also play a role;

4. Besides, if we observe that gender disparities are indeed getting larger when higher levels of education are considered, this is largely the outcome of the fact that coverage gets smaller as we get higher on the educational ladder (and that, in general, social disparities are larger when coverage is smaller). The arguments in terms of cultural and societal behaviors (often times called for) are not necessary to account for the pattern of increasing gender disparities with the level of education.

5. When we give a time dimension to the description, it is observed that gender disparities have declined significantly between 1990 and 2002; this statement holds for all levels of education; a joint observation is that the magnitude of the lag of girls vis-à-vis boys at a given level of schooling in 2002 is more or less similar to that observed 10 years before at the level of schooling immediately below;

6. Finally, it is shown that the progress recorded between 1990 and 2002 in gender disparities in both primary and secondary education are essentially associated to the increase in coverage and to the general educational policies to this end; virtually no impact of the girls' specific policies undertaken is on average identified.

## III. Social disparities go beyond gender: the contribution of household surveys

Over the last 10 years, and in association with the focus on poverty, a large number of household surveys have been conducted in Sub-Saharan African countries. Even though the focus is not on education per se, they provide valuable information on (past or present) schooling of all members of a large number of households in samples that are representative of a country's population; in particular, they provide a large array of data on the economic and social characteristics of the households and of their members.

Table 4, below, presents a compilation for 26 pays[7] of the results of a very straightforward description of the social distribution of individuals of the 5 to 24 age-group according to both the schooling status on the one hand, and to gender, geographical location (urban/rural) and family income (quintiles of income or wealth), on the other.

[7]. These surveys are either DHS (Demographic and Health Surveys) or MICS (Multiple Index Cluster Surveys) that have been conducted since the year 2000). The data presented here concern a consolidation of similar analyses conducted on the following countries: Angola, Benin, Burkina Faso, Cameroon, Central African republic, Congo, Côte-d'Ivoire, Ethiopia, Gabon, Gambia, Ghana, Guinea, Equatorial Guinea, Kenya, Malawi, Mali, Namibia, Niger, Nigeria, Uganda, Rwanda, Senegal, Sudan, Tanzania, Zambia and Zimbabwe.

Table 4: Distribution of individuals 5 to 24 according to gender, geographical location, family income and level of schooling at the time of survey (consolidation 26 countries, 2000-2005)

| Population Group | Level of schooling at time of survey | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Not enrolled | | Primary | | Lower secondary | | Upper secondary | | Higher | | Total | |
| | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % |
| **Quintile of income** | | | | | | | | | | | | |
| Lowest | 72 097 | 23.7 | 30 114 | 16.5 | 2 004 | 7.2 | 233 | 3.6 | 30 | 2.2 | 104 478 | 20.0 |
| Second lowest | 66 019 | 21.7 | 34 615 | 19.0 | 3 320 | 12.0 | 468 | 7.2 | 48 | 3.5 | 104 471 | 20.0 |
| *2 lowest quintiles* | | *45.4* | | *35.5* | | *19.2* | | *10.8* | | *7.7* | | *40.0* |
| Average | 62 595 | 20.6 | 36 729 | 20.1 | 4 361 | 15.7 | 698 | 10.8 | 91 | 6.7 | 104 476 | 20.0 |
| Fourth quintile | 57 078 | 18.8 | 39 816 | 21.8 | 6 185 | 22.3 | 1 172 | 18.2 | 223 | 16.4 | 104 473 | 20.0 |
| Highest | 46 518 | 15.3 | 41 269 | 22.6 | 11 858 | 42.8 | 3 880 | 60.1 | 964 | 71.1 | 104 487 | 20.0 |
| *2 highest quintile* | | *34.1* | | *44.4* | | *65.1* | | *78.3* | | *87.5* | | *40.0* |
| **Total** | 304 307 | 100.0 | 182 543 | 100.0 | 27 728 | 100.0 | 6 451 | 100.0 | 1 356 | 100.0 | 522 385 | 100.0 |
| **Gender** | | | | | | | | | | | | |
| Female | 163 061 | 54.0 | 89 176 | 48.5 | 13 437 | 47.1 | 2 826 | 41.8 | 587 | 42.5 | 266 113 | 50.9 |
| Male | 138 880 | 46.0 | 94 693 | 51.5 | 15 072 | 52.9 | 3 929 | 58.2 | 794 | 57.5 | 256 341 | 49.1 |
| **Total** | 301 941 | 100.0 | 183 870 | 100.0 | 28 508 | 100.0 | 6 754 | 100.0 | 1 382 | 100.0 | 522 454 | 100.0 |
| **Geographical Location** | | | | | | | | | | | | |
| Rural | 213 717 | 70.8 | 114 314 | 62.2 | 10 855 | 38.1 | 1 946 | 28.8 | 358 | 25.9 | 341 190 | 65.3 |
| Urban | 88 258 | 29.2 | 69 568 | 37.8 | 17 652 | 61.9 | 4 807 | 71.2 | 1 024 | 74.1 | 181 309 | 34.7 |
| **Total** | 301 974 | 100.0 | 183 882 | 100.0 | 28 508 | 100.0 | 6 754 | 100.0 | 1 382 | 100.0 | 522 500 | 100.0 |

Table 4 provides an overview of social disparities in education and helps weigh the role of gender, geographical location and family income as factors of social discrimination. It helps also describe how much disparities widen as we consider higher levels of schooling.

It is always delicate to compare directly the impact of the different factors on disparities since this would require that we use similar partitions of the population to conduct the comparison. To convince the reader of the relevance of that point, we focus on the variable “income”. If we aim at assessing the extent to which family income is associated with disparities in the chances to be enrolled, one is led to choose a grouping of households and to compare average chances across the groups that have been identified; but if there is a priori no clear indication on how to build the grouping, it is however very clear that the instrumental choice made in grouping the individual has a strong bearing on the magnitude of the disparities. So, if one contrasts the case of children belonging to the 1 percent richest of the population to that of children belonging to the 1 percent poorest, it is likely that the gap in the chances of being enrolled will be very large. However, within the same population, the gap would probably have been much smaller if the analysis had amounted to compare the chances of being enrolled of the 10 percent richest to those of the 10 percent poorest; the gap would probably be further reduced if the grouping of households had concern the 40 percent richest to the 40 percent poorest. In each case, it can be said that an estimate of income disparities in education has been performed, but one need to remain conscious that the measure obtained is basically contingent on the size of the groups conventionally chosen to run the calculations.

In the case under consideration, the grouping is both natural and exogenous for gender and geographical location. For gender there is no choice out of comparing boys to girls and the

two groups represent more or less 50 percent of the population; for geographical location, the distinction between urban and rural is obviously partly a convention, but it has been operated in the making of the survey[8] and not much can be done out of using what we have when we conduct a secondary analysis of the data. On the consolidated sample of the 26 countries analyzed, rural setting represents about 65 percent[9] (35 percent for urban). With a choice constrained at 35-65 percent for geographical location and 49-51 percent for gender, we have opted for income for a formula 40-40 percent that contrasts the case of children in the 40 percent richest and poorest (lowest and highest two quintiles), so as to remain in a partition of the population that is close to that of the two other variables.

On the basis of theses three partitions of the population, it is possible both to examine how the magnitude of the disparities varies with the level of education, and to compare the magnitude of these disparities across the three factors. Even from a casual observation, there is no doubt that geographical location and income generate much wider disparities than gender does. For example, if we focus on upper secondary education, the children from rural area represent only 29 percent of enrolments while they make 65 percent of the population. Similarly, children from the lowest two quintiles, who represent 40 percent of population, account for only 10 percent of enrolments; by contrast, the children from the 40 percent richest of the population account for 78 percent of enrolments. By reference to these figures, the variations according to gender appear much narrower.

To document this issue in a more synthetic manner, it is convenient to calculate the relative chances of getting in school in the two groups of population considered in the three factors considered here. Table 5 below presents the relevant figures.

Table 5: Relative chances of being in school at the different levels of schooling in the different social groups (consolidation 26 pays, 2000-2005)

| Population group | Primary | Lower secondary | Upper secondary | Higher |
|---|---|---|---|---|
| **Income** | | | | |
| 40 % poorest | 1 | 1 | 1 | 1 |
| 40 % richest | 1.25 | 3.39 | 7.21 | 15.21 |
| **Gender** | | | | |
| Female | 1 | 1 | 1 | 1 |
| Male | 1.10 | 1.16 | 1.44 | 1.40 |
| **Geographical location** | | | | |
| Rural | 1 | 1 | 1 | 1 |
| Urban | 1.15 | 3.06 | 4.65 | 5.39 |

We find again that gender disparities increase with the level of education, and this pattern holds also for the two other social dimensions, strengthening the validity of the general sociological law according to which the scarcer a good (the scarcity contributing in granting

[8]. The criteria chosen in the different surveys are not necessarily exactly the same in the different surveys.
[9]. But these proportions vary strongly from a country to another (urban represent about 15 percent in the household survey for Ethiopia but 70 percent for Gabon), both for objective reasons and as an outcome of differences in the conventions that may have been used in the different countries to separate out urban and rural.

it its social value), the more it tends to be appropriated by the most advantaged strata of the population. But the really new element brought by this table concerns the relative order of magnitude of social disparities whether they refer to gender, geographical location or income. It is clear that if gender disparities cannot be neglected, those according to geographical location are significantly more intense, while those linked to income even larger[10]. Children from a family in the 40 percent poorest have for example 7.2 times less chances to get enrolled in upper secondary education than their counterparts coming from a family whose income puts them in the 40 richest percent of the population.

Obviously, larger differences may be found when the three criteria are compounded[11]; the category most disadvantaged being, with no surprise, the girls from poor families living in rural setting. But the accumulation of unfavorable factors leads to greater impact than the additive influence of the three variables, the disadvantage of girls being noticeably stronger when the family is traditional and economically disadvantaged than when it is urban, rich and educated.

IV. Complements and perspectives for action

**IV.1 Some interesting structural relationships**

1. In the first section of that paper, we have emphasized both the existence of substantial structural disparities in the distribution of public resources in education and a wide variety across the different countries of the region on this count. At this point, we had mentioned that the degree of elitism of the systems of education did not have a social dimension and that an elitist system was not in principle incompatible with a high degree of social equity in the chances of being enrolled. It remains however that the structural dimension is the context into which social disparities are generated; and one can reasonably anticipate that more elitist systems are propitious to the constitution of more intense social disparities, in particular because socially advantaged groups are probably more able to compete for the scarce places in the most demanded segments of the systems of schooling.

To put this hypothesis to test, we have first calculated (for each country for which a household survey has been analyzed) a synthetic index of social disparities in education; this index is calculated as follows; it is the average of the ratios of the chances of enrolments of the advantaged (boys, urban, two highest quintiles of income) to the disadvantaged (girls, rural, two lowest quintiles) group, calculated also as the average over primary and secondary education. This index does not carry in itself any specific property but it gives probably a reasonable idea of the magnitude of social disparities in education in the different countries of

[10]. We have opted for a definition of wide groups of income; it is to be underscored that a choice of smaller and more specific groups would have led to stronger differentiations. Given the decision to contrast the two lowest and highest quintiles (table 5), the relative chances to be enrolled of the second group are 3.4, 7.2 and 15.2 times larger than those of the first one, respectively in secondary (lower and upper) and higher education; these figures would have been respectively 5.9, 16.6 and 31.8 is we had opposed the first and fifth quintiles of income.

[11]. It is to be noted that if gender is largely orthogonal to the other two criteria (girls and boys are in similar proportion both in urban and rural setting as well as in rich and poor families), the other two criteria are not statistically independent. If a vast majority of rich are urban and most of poor are rural, some families living in poverty are urban and some families living in rural setting are not among the poor.

the region. The average value of the index is 2.62, but it varies widely from 1.05 (low level of social disparities in primary and secondary education) to 5.47 (a very high level of social disparities in the chances of schooling). The index is below 1.5 in countries such as Namibia, Kenya or Zimbabwe, but it is above 4 in Burkina Faso, Ethiopia, Mali and Niger.

When we contrast (using a graph or a statistical analysis) this index of social disparities with that of structural disparities (presented in the first part of that paper), we get a confirmation that more structurally elitist systems of education tend also to be characterized by higher levels of social disparities; the $R^2$ of the direct relationship between the two indexes is 0.71, a relatively high value manifesting a fairly tight relationship between the two variables). It is then now tempting to try to determine which aspects of educational policy influence the level of the structural index in an attempt to identify the conditions which, other things being equal are more or less propitious to the emergence of social disparities in education.

2. To progress in that direction, it is to be reminded that the structural index is relatively strongly associated with the characteristics of primary education, in particular of its coverage and per pupil spending; the equation that makes a link between these elements shows that coverage is by far the most the most crucial variable; the reason for that is the high correlation between coverage and per pupil spending that derives itself from the fact that when unit costs are high coverage is low as a consequence of the budgetary constraint. The $R^2$ between the structural index and the indicator most used to account for the coverage of a system of education (the School Life Expectancy, SLE, calculated as the average number of years of schooling of a cohort) is estimated at 0.75.

The SLE statistics can then be analyzed as potentially dependant of three main factors characterizing different aspect of a country's educational policy: i) the volume of public resources mobilized for the sector (as measured by the share of public spending on education in GDP, EDGDP[12]), and the point is that the more are the public resources for the sector, the more likely is the overall coverage of the sector; ii) the level at which teachers are remunerated (TEAPAY[13]); we make the hypothesis that when teachers are better paid it is easier to recruit good and motivated candidates, but at the end that fewer teaches are recruited given the budgetary constraint; iii) the pupil-teacher ratio (PTR), the hypothesis being that, other things being equal, lower levels of PTR[14] help increase the coverage of the system.

For practical reasons, teacher pay and pupil teacher ratio are taken in primary education (suffix P after TEAPAY and PTR) since there is a strong correlation in these variables across levels, and since it is mostly for primary education that data are available. The results of the statistical estimation are as follows:

[12]. It varies more or less from 1.5 to 7 percent across African countries; the specific value is analyzed as resulting on the one hand from the general fiscal capacity (largely exogenous, but varies from 8 to 35 percent of GDP) and on the other from the priority (endogenous, but varies also more or less from less than 8 percent to more than 35 percent of total public spending) granted by each country to its education sector.

[13]. The level of teacher's pay is highly variable across Sub-Saharan countries. For example in primary education, it varies from less than 1.5 times the per capita GDP in some countries to more than 8 times in others.

[14]. This statistics is also characterized by a high level of variability across countries. In primary education, the pupil-teacher ratio varies between 24 and 80; in secondary and higher education, the variations are only slightly less than in primary education.

$$SLE = 9.1 + 0.42*EDGDP - 0.82*TEAPAYP - 0.21*PTRP \qquad R^2=0.75$$
$$(t=2.3) \qquad (t=4.5) \qquad (t=0.7)$$

This equation, which explanatory power is high ($R^2$=0.75), shows i) that the amount of public resources plays a role, but ii) that the level of teacher remuneration exerts a particularly strong influence. The pupil-teacher ratio has no significant impact given its relationship with the other variables included in the model. The reason is on the one hand that countries who mobilize more resources for the sector tend to use them to reduce PTR and, on the other, that countries that pay well their teachers tend to increase class size to counterbalance its negative influence on coverage.

3. At the end, one can conclude i) that social disparities tend be large in structurally elitist systems of education which overall coverage is relatively limited and ii) that the level of remuneration of teachers is an aspect of educational policy that has a strong impact on the level of social disparities in a system of education[15].

### IV.2 Some further considerations at a more micro level

Beyond these observations made at the level of macro educational policies, let examine now some complementary elements at the micro level that have an influence on the magnitude of social disparities in Sub-Saharan African countries.

Generally speaking, effective schooling is the result of a successful match between a demand from the family and a supply of educational services, generally from the State[16]. Some children may be at a disadvantage vis-à-vis schooling either because there is an inadequate supply of services (or no service available at all), or because there is not enough demand of schooling from their parents. Let explore quickly these issues from both a theoretical and empirical point of view.

Concerning the supply of educational services, a general observation is that education systems, as most social services, tend to expand through a kind of "concentric" process that is initiated by what is easy, to move progressively towards what is more difficult (and leave for the end what is really very difficult). This means that urban areas (and in particular the capital city) are served first, where the density of population and a strong demand concur to make easy the production of services; it is also there, that are the political and sociological supports to governments. Then, when these populations have been served, the expansion of the system concerns smaller locations and the rural areas relatively easy to reach. It is only "at the end" that the populations difficult to reach, scattered and not spontaneously open to modern schooling are included. To add to the difficulty, teachers are often times reluctant to be deployed in these zones. The process that has just been sketched is obviously stylized and

[15]. Teachers should know that the objective to get a better pay (that can be understood) implies, in a context of scarcity of resources, a pressure that leads to reduce coverage, and in fine, to an increase in social disparities (this is contradictory to the universal values they also carry).

[16]. This is probably the most common case; but it is to be noted that an inadequate supply (in terms of availability of services at a reasonable distance but also in terms of their quality) from the State can lead the parents to set in place and finance community services, to pay services in private schools, or to pay additional teachers ("parents' teachers") in public schools.

describes only general trends; but many are the examples that could be used to illustrate the tendency. A typical case is that even in countries with a very low global coverage, enrolment rate in urban areas are very high[17].

A convenient method to assess the availability of educational services consists in analyzing the distance between home and the nearest primary school. In urban areas, this distance is (almost) always small, facilitating the access to school. By contrast, at a given point in time, this distance can go from 0 to 15 kilometers in rural areas. The analyzes conducted on household surveys (when data are available) show that the distance to school has a significant impact: i) the chances to have access to school shrink strongly more or less after 2.5 km, to become very small after 5 km, this been true in all countries, but ii) the proportion of children for which the school is farther to this reference of 2.5 km varies strongly from one country to another. A point that strengthens the argument made above is that we find a high proportion of population living in poverty within those for which the supply of school is far away. The geographical distribution of school places contributes therefore to account for the existence of social disparities in the chances of being in school.

It is finally of interest to introduce a time dimension to the analysis. We use the case of Mali. A basic observation is that over the last 15 years, the proportion of children for which the nearest school is farther than 2.5 km, has declined from over 50 percent to less than 25 percent of population. This manifests a significant improvement on the supply side of services and this movement has witness a substantial increase in the proportion of children effectively enrolled. But the analysis of a household survey of 2004 points also the limits of this type of educational policy; the point is that if the existence of a school at less than 2.5 km is a necessary condition for schooling, this does not make a sufficient condition for it. When focusing on the population for which the nearest school is located at less than 1 km from home, the fact is that about 35 percent of the children do not have access to schooling. This suggests that factors on the demand side probably play a significant role. It is probably all the more so because if this is the case for 20 percent of boys coming from a family whose income is above average, it is 60 percent that stay home (in spite of the availability of a school near home) in the group of the girls whose family income is in the lowest quintile. Some proportion of the social disparities in education is rooted on the demand side.

These observations suggest, and this is valid (possibly at various degrees) for all Sub-Saharan African countries i) that standard supply side policies are obviously necessary, but ii) that they abut, often very much before getting to universal coverage, on an insufficient demand of schooling of the “last” populations to put in school. This “last” population may account up to one third of the total age group, and their characteristics do not make them easy to enroll.

In order to progress further, it may be useful to come back to the basic paradigm of the demand for schooling: To make it simple, we start from the idea that the individuals demand education services in as much as the benefits they anticipate are larger than the costs they

[17]. For example, in Niger in 1998, the gross enrolment ratio of primary education was about 30 percent; but it was 75 percent in urban setting (100 percent in Niamey) but only 20 percent in rural areas as a whole, and much less in rural deprived zones.

have to bear. This formulation allows to propose the distinction (a bit schematic but probably useful) of two components to account for the socially unequal demand for schooling: i) the first component is that families may not have difficulty with the school in general but that the services offered do not carry enough relevance for them; in other words, they do not value enough the particular type de school they are offered; ii) the second component is attached to the families themselves and to their economic and social specific circumstances, the degree of poverty or the characteristics of the household economy being important dimensions to consider.

The first component somehow links up with the supply side dimension because it is the characteristics of the education services that are at the heart of the "refusal" to enroll. It is however to be pointed out that the characteristics that are seen as relevant for the families that have a strong demand for schooling (those concerned by the initial expansion of the system), may not be relevant for these more traditional and deprived families whose inclusion is necessary to move towards universal coverage of primary education. These characteristics may be grouped in three categories:

i) the first is related to cash contribution that parents need to pay to get their children enrolled in school (school fees, parents' associations, purchase of textbooks, uniforms …). Directs costs may sometimes be very substantial, in particular when parents need to finance some teachers, even in public schools as in Cameroon, Chad, Togo or Mali; but even if the cash contribution may appear small for a distant eye, it may in fact prove to be unbearable for families living in poverty in a context where cash is scarce. Natural experiments such as the suppression of school fees in primary education in Uganda or Cameroon are illustrative. In Uganda, the law for free education brought in one year over a million children to school, while in Cameroon, the abolition of fees (only about three dollars per pupil and per year) led to an increase of 60 percent of the number of new entrants in Grade 1. There is no doubt that the price elasticity of the demand for schooling is larger than spontaneously assumed, in particular when socially disadvantaged population are concerned;

i) the second component concerns the content of what is taught in school. As far as contents are concerned, school is always confronted to a dilemma: one the one hand school needs to comply with the demands from families, which means continuity with concrete life and reference to traditions and, on the other schools needs also to somehow introduce a breaking to be a vector of modernity and of social and economic progress. For the segment of the population who has a strong demand for education, the fact that the cursor be positioned on the modernity side is judged positive; but it happens that this position of the cursor does not match well enough the demands of the traditional and socially disadvantaged strata of the population that has been left out of the system and that it is now essential to include to move towards universal coverage. This aspect presents various dimensions and among them, that of the language of instruction or, in some countries (Sahelian in particular) the place given to religion in curricula.

iii) the third component concerns the modalities by which the services are organized. This may concern the dimension of time and of the manner with which the time is used. Time itself can concern the official school calendar over the year, the week or the day, which may

(or may not) match the wishes of parents in the context of the household economy[18]. Now, it is known that it is precisely those families that are socially and economically deprived that are especially sensitive to these aspects of the operation of schools. But time may also concern the deficit existing between official and actual school calendar with deficits concerning more than proportionally the remote areas where the most deprived populations live[19]. Concerning now the characteristics of the services offered, it is to be noted that the schools located in deprived areas tend themselves to be deprived in terms of teachers' credential or textbook availability. Besides, if it has been empirically proven that female teachers are more able to retain children, and in particular girls, in school (probably as an outcome of a greater confidence from mothers), it is also documented that female teachers work mostly in urban areas; it is in the contexts where most disadvantaged girls are located that female teachers are the least present.

## V. To conclude

The theme of social disparities in education at the scale of a continent as large as Sub-Saharan Africa is obviously an endless enterprise. The choice has been made here to analyze the issue from a global perspective without entering the wealth and specificities of the thousand works on this theme over the last 20 years. We have stuck to a vision in which we emphasize more what is general and structural, than what is specific or at large cultural. This implies that we loose in specificity, but it remains likely that we gain also something by having made that choice.

In term of results, what comes first is the great importance of the systemic context as the shell in which social disparities are generated. The difference in the magnitude of social disparities in education in Mali and Zimbabwe is explained first because the systems of schooling differ in their structure, financing and coverage. Similarly, the evolution of social disparities in the system of education of a given country over a certain period of time is accounted primarily by the structural evolutions that have taken place over that period. For example a crucial factor to account for the reduction in social disparities in Cameroon between 2000 and 2003 is the abolition of the fees that has been implemented between the two dates. Now, this does imply there would be no difference or specificity between Mali and Zimbabwe, nor that it not be interesting to analyze the evolution of the mentalities vis-à-vis education in Cameron; but one has probably to admit that neglecting the structural dimension may lead to errors in the diagnostic and on the relevance of the actions that have been undertaken in the past or could be undertaken in the future.

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[18]. School sometimes is open at the very moment where the contribution of children is crucial in the fields, while it is closed when the need of children in the fields is minimal; similarly, the school day may be between 7am and 1pm, while the tradition is for girls to go and fetch water in the morning to be available only at 9.30am and remain so till 3pm; an easy to implement change in school hours would improve the chances of girls to be enrolled (cf. BRAC schools in Bangladesh).

[19]. Due to deficiencies in the process of assignment and payment of teachers to schools and to the reluctance of teachers to work in remote areas, it is frequent i) that the effective beginning of the school year be postponed, ii) that some teachers are simply missing and iii) that some teachers spend a week every month to collect their salary, leaving their class unattended during that time. These conditions have necessarily some negative consequence on the demand of parents for such a deficient school.

A second important result of the data mobilized and of the analyses conducted is that if gender disparities are a dimension that warrants attention, the quasi exclusive focus of research work as well as of the national and international actors on this aspect of social disparities is, with no doubt, somehow outrageous. The argument of the availability of data is obviously not considered a totally acceptable excuse. In terms of research and action, the poverty dimension cannot be neglected. In the African context, poverty of parents matter much more in education than the gender of the child. Today, when all the international community claims universal completion of primary education in the context of the millennium goals, if it is true that it will be difficult to include those who are currently excluded, one has to remind two things: i) the challenge of inclusion concern first the population in poverty and ii) the challenge is unlikely to be met using only the traditional type of actions (in particular supply side actions) and new sets of actions (in particular exerting an impact on the demand) are to be considered. This calls also for a mobilization of new research work focused on this object.